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ABSTRACTS BIBLIOGRAPHY:	A CONTINUING	
BIBLIOGRAPHY. SECTION 2:	INDEXES (NASA)	
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# NASA

# PATENT ABSTRACTS BIBLIOGRAPHY

## A CONTINUING BIBLIOGRAPHY

Section 2 • Indexes

JANUARY 1975



NATIONAL AERONAUTICS AND SPACE ADMINISTRATION

## ACCESSION NUMBER RANGES

<i>Bibliography Number</i>	<i>STAR Accession Numbers</i>
NASA SP-7039(04)	N69-20701—N73-33931
NASA SP-7039(05)	N74-10001—N74-21629
NASA SP-7039(06)	N74-21630—N74-35363

NASA

PATENT  
ABSTRACTS  
BIBLIOGRAPHY

A CONTINUING BIBLIOGRAPHY

Section 2 • Indexes

Indexes for the annotated references to NASA-owned inventions covered by U.S. patents and applications for patent that were announced in *Scientific and Technical Aerospace Reports (STAR)* between May 1969 and December 1974. This issue supersedes all previous Index Sections.



*Scientific and Technical Information Office*

NATIONAL AERONAUTICS AND SPACE ADMINISTRATION

JANUARY 1975

Washington, D.C.

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NASA PATENT ABSTRACTS BIBLIOGRAPHY: A  
CONTINUING BIBLIOGRAPHY. SECTION 2:  
INDEXES

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NASA-SP-7039(06)-SECT-2

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# INTRODUCTION

Several thousand inventions result each year from the aeronautical and space research supported by the National Aeronautics and Space Administration. The inventions having important use in government programs or significant commercial potential are usually patented by NASA. These inventions cover practically all fields of technology and include many that have useful and valuable commercial application.

NASA inventions best serve the interests of the United States when their benefits are available to the public. In many instances, the granting of nonexclusive or exclusive licenses for the practice of these inventions may assist in the accomplishment of this objective. This bibliography is published as a service to companies, firms, and individuals seeking new, licensable products for the commercial market.

The *NASA Patent Abstracts Bibliography (NASA PAB)* is a semiannual NASA publication containing comprehensive abstracts and indexes of NASA-owned inventions covered by U.S. patents and applications for patent. The citations included in *NASA PAB* were originally published in NASA's *Scientific and Technical Aerospace Reports (STAR)* and cover *STAR* announcements made since May 1969.

For the convenience of the user, each issue of *NASA PAB* has a separately bound Abstract Section (Section 1) and Index Section (Section 2). Although each Abstract Section covers only the indicated six-month period, the Index Section is cumulative covering all NASA-owned inventions announced in *STAR* since May 1969. Thus a complete set of *NASA PAB* would consist of the Abstract Section of Issue 04 (January 1974), the Abstract Section for all subsequent issues, and the Index Section for the most recent issue.

The 193 citations published in this issue of the Abstract Section cover the period July 1974 through December 1974. The Index Section contains references to the 2757 citations covering the period May 1969 through December 1974.

## ABSTRACT SECTION (SECTION 1)

The Abstract Section is divided into 34 subject categories (See Table of Contents for scope note of each category) under which are grouped appropriate NASA inventions. Each entry in the Abstract Section consists of a *STAR* citation accompanied by an abstract and a key illustration taken from the patent or application for patent drawing. Entries are arranged in subject category in order of the ascending NASA Accession Number originally assigned in *STAR* to the invention. The range of NASA Accession Numbers within each issue is printed on the inside front cover.

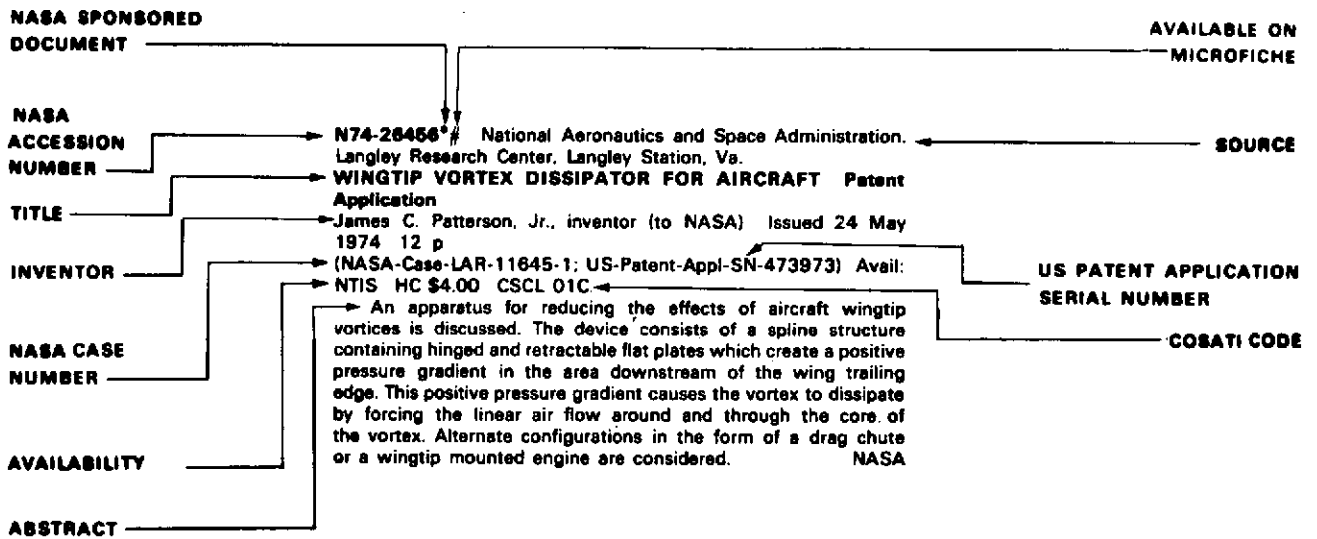
*Abstract Citation Data Elements:* Each of the abstract citations has several data elements useful for identification and indexing purposes, as follows:

NASA Accession Number  
NASA Case Number  
Inventor's Name

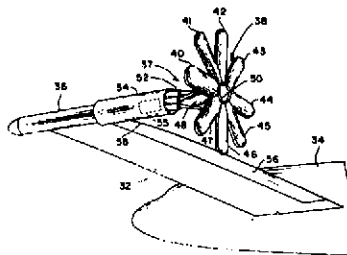
- Title of Invention
- U.S. Patent Application Serial Number
- U.S. Patent Number (for issued patents only)
- U.S. Patent Office Classification Number(s)  
(for issued patents only)

These data elements appear in the citation of the abstract as depicted in the Typical Citation and Abstract reproduced below and are also used in the several indexes.

## TYPICAL CITATION AND ABSTRACT FROM *PATENT ABSTRACTS BIBLIOGRAPHY*



→ An apparatus for reducing the effects of aircraft wingtip vortices is discussed. The device consists of a spline structure containing hinged and retractable flat plates which create a positive pressure gradient in the area downstream of the wing trailing edge. This positive pressure gradient causes the vortex to dissipate by forcing the linear air flow around and through the core of the vortex. Alternate configurations in the form of a drag chute or a wingtip mounted engine are considered. NASA



**KEY ILLUSTRATION**

## INDEX SECTION (SECTION 2)

The Index Section is divided into five indexes which are cross-indexed and are useful in locating a single invention or groups of inventions.

Each of the five indexes utilizes basic data elements: (1) Subject Category Number, (2) NASA Accession Number, and (3) NASA Case Number, in addition to other specific index terms.

**Subject Index:** Lists all inventions according to appropriate alphabetized technical term and indicates the related NASA Case Number, the Subject Category Number, and the NASA Accession Number.

**Inventor Index:** Lists all inventions according to alphabetized names of inventors and indicates the related NASA Case Number, the Subject Category Number, and the NASA Accession Number.

**Source Index:** Lists all inventions according to alphabetized source of invention (i.e., name of contractor or government installation where invention was made) and indicates the related NASA Case Number, the Subject Category Number, and the NASA Accession Number.

**Number Index:** Lists inventions in order of ascending (1) NASA Case Number, (2) U.S. Patent Application Serial Number, (3) U.S. Patent Classification Number, and (4) U.S. Patent Number and indicates the related Subject Category Number and the NASA Accession Number.

**Accession Number Index:** Lists all inventions in order of ascending NASA Accession Number and indicates the related Subject Category Number, the NASA Case Number, the U.S. Patent Application Serial Number, the U.S. Patent Classification Number, and the U.S. Patent Number.

## HOW TO USE THIS PUBLICATION TO IDENTIFY NASA INVENTIONS

To identify one or more NASA inventions within a specific technical field or subject, several techniques are possible when using the flexibility incorporated into the *NASA PAB*.

(1) *Using Subject Category:* To identify all NASA inventions in any one of the 34 subject categories in this issue of *NASA PAB*, select the desired Subject Category in the Abstract Section and find the inventions abstracted thereunder. The abstracts are arranged in each Subject Category in order of the ascending Accession Number originally assigned in *STAR* to each invention.

(2) *Using Subject Index:* To identify all NASA inventions listed under a desired technical subject index term, (A) turn to the cumulative Subject Index in the Index Section and find the invention(s) listed under the desired technical subject term. (B) Note the indicated

Accession Number and the Subject Category Number. (C) Using the indicated Accession Number, turn to the inside front cover of the Index Section to determine which issue of the Abstract Section includes the Accession Number desired. (D) To find the abstract of the particular invention in the issue of the Abstract Section selected. (i) use the Subject Category Number to locate the Subject Category and (ii) use the Accession Number to locate the desired invention within the Subject Category listing.

(3) *Using Patent Classification Index:* To identify all inventions covered by issued NASA patents (does not include applications for patent) within a desired Patent Office Classification. (A) turn to the Patent Classification Number in the Number Index of Section 2 and find the associated invention(s) and (B) follow the instructions outlined in (2)(B), and (D) above.

## PUBLIC AVAILABILITY OF COPIES OF PATENTS AND PATENT APPLICATIONS

Copies of U.S. patents may be purchased directly from the U.S. Patent Office, Washington, D.C. 20231, for fifty cents a copy.

Copies of pending NASA applications for patent abstracted in *NASA PAB* are sold by the National Technical Information Service, Springfield, Virginia 22151, at the price shown in the citation. Microfiche are sold at the established unit price of \$2.25. When ordering copies of an application for patent from NTIS, the U.S. Patent Application Serial Number listed in the index or shown in the citation for each abstract should be used to identify the desired application for patent.

### LICENSES FOR COMMERCIAL USE: INQUIRIES AND APPLICATIONS FOR LICENSE

NASA inventions, abstracted in *NASA PAB*, are available for nonexclusive or exclusive licensing in accordance with the NASA Patent Licensing Regulations. It is significant that all licenses for NASA inventions shall be by express written instruments and that no license will be granted or implied in a NASA invention except as provided in the NASA Patent Licensing Regulations.

Inquiries concerning the NASA Patent Licensing Program or the availability of licenses for the commercial use of NASA-owned inventions covered by U.S. patents or pending applications for patent should be forwarded to the NASA Patent Counsel of the NASA installation having cognizance of the specific invention, or the Assistant General Counsel for Patent Matters, Code GP, National Aeronautics and Space Administration, Washington, D.C. 20546. Inquiries should refer to the NASA Case Number, the Title of the Invention, and the U.S. Patent Number or the U.S. Application Serial Number assigned to the invention as shown in *NASA PAB*.

The NASA Patent Counsel having cognizance of the invention is determined by the first three letters or prefix of the NASA Case Number assigned to the invention. The addresses of NASA Patent Counsels are listed alongside the NASA Case Number prefix letters in the following table. Formal application of license must be submitted on the NASA Form, Application for NASA Patent License, which is available upon request from any NASA Patent Counsel.

**NASA Case  
Number Pre-  
fix Letters**

ARC-xxxxx  
XAR-xxxxx

ERC-xxxxx  
XER-xxxxx  
HQN-xxxxx  
XHQ-xxxxx

GSC-xxxxx  
XGS-xxxxx

KSC-xxxxx  
XKS-xxxxx

LAR-xxxxx  
XLA-xxxxx

LEW-xxxxx  
XLE-xxxxx

MSC-xxxxx  
XMS-xxxxx

MFS-xxxxx  
XMF-xxxxx

NPO-xxxxx  
XNP-xxxxx  
FRC-xxxxx  
XFR-xxxxx  
WOO-xxxxx

**Address of Cognizant  
NASA Patent Counsel**

Ames Research Center  
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NASA Headquarters  
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Telephone: (202)755-3954

Goddard Space Flight Center  
Mail Code: 204  
Greenbelt, Maryland 20771  
Telephone: (301)982-2351

John F. Kennedy Space Center  
Mail Code: AA-PAT  
Kennedy Space Center, Florida 32899  
Telephone: (305)867-2544

Langley Research Center  
Mail Code: 456  
Langley Station  
Hampton, Virginia 23365  
Telephone: (804)827-3725

Lewis Research Center  
Mail Code: 500-311  
21000 Brookpark Road  
Cleveland, Ohio 44135  
Telephone: (216)433-6346

Lyndon B. Johnson Space Center  
Mail Code: AM  
Houston, Texas 77058  
Telephone: (713)483-4871

George C. Marshall Space Flight Center  
Mail Code: CCO1  
Huntsville, Alabama 35812  
Telephone: (205)453-0020

NASA Pasadena Office  
Mail Code: 180-601  
4800 Oak Grove Drive  
Pasadena, California 91103  
Telephone: (213)354-2700

# PATENT LICENSING REGULATIONS

## Title 14—AERONAUTICS AND SPACE

### Chapter V—National Aeronautics and Space Administration

#### PART 1245—PATENTS

##### Subpart 2—Patent Licensing Regulations

1. Subpart 2 is revised in its entirety as follows:

Sec.	
1245.200	Scope of subpart.
1245.201	Definitions.
1245.202	Basic considerations.
1245.203	Licenses for practical application of inventions.
1245.204	Other licenses.
1245.205	Publication of NASA inventions available for license.
1245.206	Application for nonexclusive license.
1245.207	Application for exclusive license.
1245.208	Processing applications for license.
1245.209	Royalties and fees.
1245.210	Reports.
1245.211	Revocation of licenses.
1245.212	Appeals.
1245.213	Litigation.
1245.214	Address of communications.

**AUTHORITY:** The provisions of this Subpart 2 issued under 42 U.S.C. 2457, 2478(b)(3).

##### § 1245.200 Scope of subpart.

This Subpart 2 prescribes the terms, conditions, and procedures for licensing inventions covered by U.S. patents and patent applications for which the Administrator of the National Aeronautics and Space Administration holds title on behalf of the United States.

##### § 1245.201 Definitions.

For the purpose of this subpart, the following definitions apply:

(a) "Invention" means an invention covered by a U.S. patent or patent application for which the Administrator of NASA holds title on behalf of the United States and which is designated by the Administration as appropriate for the grant of license(s) in accordance with this subpart.

(b) "To practice an invention" means to make or have made, use or have used, sell or have sold, or otherwise dispose of according to law any machine, article of manufacture or composition of matter physically embodying the invention, or to use or have used the process or method comprising the invention.

(c) "Practical application" means the manufacture in the case of a composition of matter or product, the use in the case of a process, or the operation in the case of a machine, under such conditions as to establish that the invention is being utilized and that its benefits are reasonably accessible to the public.

(d) "Special invention" means any invention designated by the NASA Assistant General Counsel for Patent Matters to be subject to short-form licensing procedures. An invention may be designated as a special invention when a determination is made that:

(1) Practical application has occurred and is likely to continue for the life of

the patent and for which an exclusive license is not in force, or

(2) The public interest would be served by the expeditious granting of a nonexclusive license for practice of the invention by the public.

(e) The "Administrator" means the Administrator of the National Aeronautics and Space Administration, or his designee.

(f) "Government" means the Government of the United States of America.

(g) The "Inventions and Contributions Board" means the NASA Inventions and Contributions Board established by the Administrator of NASA within the Administration in accordance with section 305 of the National Aeronautics and Space Act of 1958 as amended (42 U.S.C. 2457).

##### § 1245.202 Basic considerations.

(a) Much of the new technology resulting from NASA sponsored research and development in aeronautical and space activities has application in other fields. NASA has special authority and responsibility under the National Aeronautics and Space Act of 1958, as amended (42 U.S.C. 2451), to provide for the widest practical dissemination and utilization of this new technology. In addition, NASA has been given unique requirements to protect the inventions resulting from NASA activities and to promulgate licensing regulations to encourage commercial use of these inventions.

(b) NASA-owned inventions will best serve the interests of the United States when they are brought to practical application in the shortest time possible. Although NASA encourages the nonexclusive licensing of its inventions to promote competition and achieve their widest possible utilization, the commercial development of certain inventions calls for a substantial capital investment which private manufacturers may be unwilling to risk under a nonexclusive license. It is the policy of NASA to seek exclusive licensees when such licenses will provide the necessary incentive to the licensee to achieve early practical application of the invention.

(c) The Administrator, in determining whether to grant an exclusive license, will evaluate all relevant information submitted by applicants and all other persons and will consider the necessity for further technical and market development of the invention, the capabilities of prospective licensees, their proposed plans to undertake the required investment and development, the impact on competitors, and the benefits of the license to the Government and to the public. Preference for exclusive license shall be given to U.S. citizens or companies who intend to manufacture or use, in the case of a process, the invention in the United States of America, its territories and possessions. Consideration may also be given to assisting small businesses and minority business enterprises, as well as economically depressed, low income and labor surplus areas.

(d) All licenses for inventions shall

be by express written instruments. No license shall be granted either expressly or by implication, for a NASA invention except as provided for in §§ 1245.203 and 1245.204 and in any existing or future treaty or agreement between the United States and any foreign government.

(e) Licenses for inventions covered by NASA-owned foreign patents and patent applications shall be granted in accordance with the NASA Foreign Patent Licensing Regulations (§ 1245.4).

##### § 1245.203 Licenses for practical application of inventions.

(a) *General.* As an incentive to encourage practical application of inventions, licenses will be granted to responsible applicants according to the circumstances and conditions set forth in this section.

(b) *Nonexclusive licenses.* (1) Each invention will be made available to responsible applicants for nonexclusive, revocable licensing in accordance with § 1245.206, consistent with the provisions of any existing exclusive license.

(2) The duration of the license shall be for a period as specified in the license.

(3) The license shall require the licensee to achieve the practical application of the invention and to then practice the invention for the duration of the license.

(4) The license may be granted for all or less than all fields of use of the invention and throughout the United States of America, its territories and possessions, Puerto Rico, and the District of Columbia, or in any lesser geographic portion thereof.

(5) The license shall extend to the subsidiaries and affiliates of the licensee and shall be nonassignable without approval of the Administrator, NASA, except to the successor of that part of the licensee's business to which the invention pertains.

(c) *Short-form nonexclusive licenses.* A nonexclusive, revocable license for a special invention, as defined in § 1245.201 (d), shall be granted upon written request, to any applicant by the Patent Counsel of the NASA installation having cognizance of the invention.

(d) *Exclusive licenses.* (1) A limited exclusive license may be granted on an invention available for such licensing provided that:

(i) The Administrator has determined that: (a) The invention has not been brought to practical application by a nonexclusive licensee in the fields of use or in the geographical locations covered by the application for the exclusive license, (b) practical application of the invention in the fields of use or geographical locations covered by the application for the exclusive license is not likely to be achieved expeditiously by the further funding of the invention by the Government or under a nonexclusive license requested by any applicant pursuant to these regulations, and (c) the exclusive license will provide the necessary incentive to the licensee to achieve the practical application of the invention; and

(ii) Either a notice pursuant to

## PATENT LICENSING REGULATIONS

§ 1245.205 listing the invention as available for licensing has been published in the FEDERAL REGISTER for at least 9 months; or a patent covering the invention has been issued for at least 6 months. However, a limited exclusive license may be granted prior to the periods specified above if the Administrator determines that the public interest will best be served by the earlier grant of an exclusive license.

(2) The license may be granted for all or less than all fields of use of the invention, and throughout the United States of America, its territories and possessions, Puerto Rico, and the District of Columbia, or in any lesser geographic portion thereof.

(3) The exclusive period of the license shall be negotiated, but shall be for less than the terminal portion of the patent, and shall be related to the period necessary to provide a reasonable incentive to invest the necessary risk capital.

(4) The license shall require the licensee to practice the invention within a period specified in the license and then to achieve practical application of the invention.

(5) The license shall require the licensee to expend a specified minimum sum of money and/or to take other specified actions, within indicated period(s) after the effective date of the license, in an effort to achieve practical application of the invention.

(6) The license shall be subject to at least an irrevocable royalty-free right of the Government of the United States to practice and have practiced the invention throughout the world by or on behalf of the Government of the United States and on behalf of any foreign government pursuant to any existing or future treaty or agreement with the United States.

(7) The license may reserve to the Administrator, NASA, under the following circumstances, the right to require the granting of a sublicense to responsible applicant(s) on terms that are considered reasonable by the Administrator, taking into consideration the current royalty rates under similar patents and other pertinent facts: (i) To the extent that the invention is required for public use by Government regulation, or (ii) as may be necessary to fulfill health or safety needs, or (iii) for other purposes stipulated in the license.

(8) The license shall be nontransferable except to the successor of that part of the licensee's business to which the invention pertains.

(9) Subject to the approval of the Administrator, the licensee may grant sublicenses under the license. Each sublicense granted by an exclusive licensee shall make reference to and shall provide that the sublicense is subject to the terms of the exclusive license including the rights retained by the Government under the exclusive license. A copy of each sublicense shall be furnished to the Administrator.

(10) The license may be subject to such other reservations as may be in the public interest.

### § 1245.204 Other licenses.

(a) *License to contractor.* There is

hereby granted to the contractor reporting an invention made in the performance of work under a contract of NASA in the manner specified in section 305(a) (1) or (2) of the National Aeronautics and Space Act of 1958 as amended (42 U.S.C. 2457(a) (1) or (2)), a revocable, nonexclusive, royalty-free license for the practice of such invention, together with the right to grant sublicenses of the same scope to the extent the contractor was legally obligated to do so at the time the contract was awarded. Such license and right is nontransferable except to the successor of that part of the contractor's business to which the invention pertains.

(b) *Miscellaneous licenses.* Subject to any outstanding licenses, nothing in this subpart 2 shall preclude the Administrator from granting other licenses for inventions, when he determines that do so would provide for an equitable distribution of rights. The following exemplify circumstances wherein such licenses may be granted:

(1) In consideration of the settlement of an interference;

(2) In consideration of a release of a claim of infringement; or

(3) In exchange for or as part of the consideration for a license under adversely held patent(s).

### § 1245.205 Publication of NASA inventions available for license.

(a) A notice will be periodically published in the FEDERAL REGISTER listing inventions available for licensing. Abstracts of the inventions will also be published in the NASA Scientific and Technical Aerospace Reports (STAR) and other NASA publications.

(b) Copies of pending patent applications for inventions abstracted in STAR may be purchased from the National Technical Information Service, Springfield, Va. 22151.

### § 1245.206 Application for nonexclusive license.

(a) *Submission of application.* An application for nonexclusive license under § 1245.203(b) or a short-form nonexclusive license for special inventions under § 1245.203(c) shall be addressed to the NASA Patent Counsel of the NASA installation having cognizance over the NASA invention for which a license is desired or to the NASA Assistant General Counsel for Patent Matters.

(b) *Contents of an application for nonexclusive license.* An application for nonexclusive license under § 1245.203(b) shall include:

(1) Identification of invention for which license is desired, including the NASA patent case number, patent application serial number of patent number, title and date, if known;

(2) Name and address of the person, company or organization applying for license and whether the applicant is a U.S. citizen or a U.S. corporation;

(3) Name and address of representative of applicant to whom correspondence should be sent;

(4) Nature and type of applicant's business;

(5) Number of employees;

(6) Purpose for which license is desired;

(7) A statement that contains the applicant's best knowledge of the extent to which the invention is being practiced by private industry and the Government;

(8) A description of applicant's capability and plan to undertake the development and marketing required to achieve the practical application of the invention, including the geographical location where the applicant plans to manufacture or use, in the case of a process, the invention; and

(9) A statement indicating the minimum term of years the applicant desires to be licensed.

(c) *Contents of an application for a short-form nonexclusive license.* An application for a short-form nonexclusive license under § 1245.203(c) for a special invention shall include:

(1) Identification of invention for which license is desired, including the NASA patent case number, patent application serial number or patent number, title and date, if known;

(2) Name and address of company or organization applying for license; and

(3) Name and address of representative of applicant to whom correspondence should be sent.

### § 1245.207 Application for exclusive license.

(a) *Submission of application.* An application for exclusive license under § 1245.203(d) may be submitted to NASA at any time. An application for exclusive license shall be addressed to the NASA Assistant General Counsel for Patent Matters.

(b) *Contents of an application for exclusive license.* In addition to the requirements set forth in § 1245.206(b), the application for an exclusive license shall include:

(1) Applicant's status, if any, in any one or more of the following categories:

(i) Small business firm;

(ii) Minority business enterprise;

(iii) Location in a surplus labor area;

(iv) Location in a low-income urban area; and

(v) Location in an area designed by the Government as economically depressed.

(2) A statement indicating the time, expenditure, and other acts which the applicant considers necessary to achieve practical application of the invention, and the applicant's offer to invest that sum and to perform such acts if the license is granted;

(3) A statement whether the applicant would be willing to accept a license for all or less than all fields of use of the invention throughout the United States of America, its territories and possessions, Puerto Rico, and the District of Columbia, or in any lesser geographic portion thereof.

(4) A statement indicating the amount of royalty fees or other consideration, if any, the applicant would be willing to pay the Government for the exclusive license; and

(5) Any other facts which the applicant believes to show it to be in the interests of the United States of America for the Administrator to grant an exclusive license rather than a nonexclusive li-

## PATENT LICENSING REGULATIONS

cense and that such an exclusive license should be granted to the applicant.

### § 1245.208 Processing applications for license.

(a) *Initial review.* Applications for nonexclusive and exclusive licenses under §§ 1245.206 and 1245.207 will be reviewed by the Patent Counsel of the NASA installation having cognizance of the invention and the NASA Assistant General Counsel for Patent Matters, to determine the conformity and appropriateness of the application for license and the availability of the specific invention for the license requested. The Assistant General Counsel for Patent Matters will forward all applications for license conforming to §§ 1245.206(b) and 1245.207(b) to the NASA Inventions and Contributions Board when the invention is available for consideration of the requested license. Prior to forwarding applications for exclusive licenses to the Inventions and Contributions Board, notice in writing will be given to each nonexclusive licensee for the specific invention advising of the receipt of the application for the exclusive license and providing each nonexclusive licensee with a 30-day period for submitting either evidence that practical application of the invention has occurred or is about to occur or, an application for an exclusive license for the invention.

(b) *Recommendations of Inventions and Contributions Board.* The Inventions and Contributions Board shall, in accordance with the basic considerations set forth in §§ 1245.202 and 1245.203, evaluate all applications for license forwarded by the Assistant General Counsel for Patent Matters. Based upon the facts presented to the Inventions and Contributions Board in the application and any other facts in its possession, the Inventions and Contributions Board shall recommend to the Administrator: (1) Whether a nonexclusive or exclusive license should be granted, (2) the identity of the licensee, and (3) any special terms or conditions of the license.

(c) *Determination of Administrator and grant of nonexclusive licenses.* The Administrator shall review the recommendations of the Inventions and Contributions Board and shall determine whether to grant the nonexclusive license as recommended by the Board. If the Administrator determines to grant the license, the license will be granted upon the negotiation of the appropriate terms and conditions of the Office of General Counsel.

(d) *Determination of Administrator and grant of exclusive licenses—(1) Notice.* If the Administrator determines that the best interest of the United States will be served by the granting of an exclusive license in accordance with the basic considerations set forth in §§ 1245.202 and 1245.203, a notice shall be published in the FEDERAL REGISTER announcing the intent to grant the exclusive license, the identification of the invention, special terms or conditions of the proposed license, and a statement that NASA will grant the exclusive license unless within 30 days of the publication of such notice the Inventions and Contributions Board receives in writing

any of the following together with supporting documentation:

(i) A statement from any person setting forth reasons why it would not be in the best interest of the United States to grant the proposed exclusive license; or

(ii) An application for a nonexclusive license under such invention, in accordance with § 1245.206(b), in which applicant states that he has already brought or is likely to bring the invention to practical application within a reasonable period.

The Inventions and Contributions Board shall, upon receipt of a written request within the 30 days' notice period, grant an extension of 30 days for the submission of the documents designated above.

(2) *Recommendation of Inventions and Contributions Board.* Upon the expiration of the period required by subparagraph (1) of this paragraph, the Board shall review all written responses to the notice and shall then recommend to the Administrator whether to grant the exclusive license as the Board initially recommended or whether a different form of license, if any, should instead be granted.

(3) *Grant of exclusive licenses.* The Administrator shall review the Board's recommendation and shall determine if the interest of the United States would best be served by the grant of an exclusive license as recommended by the Board. If the Administrator determines to grant the exclusive license, the license will be granted upon the negotiation of the appropriate terms and conditions by the Office of General Counsel.

### § 1245.209 Royalties and fees.

(a) Normally, a nonexclusive license for the practical application of an invention granted to a U.S. citizen or company will not require the payment of royalties; however, NASA may require other consideration.

(b) An exclusive license for an invention may require the payment of royalties, fees or other consideration when the licensing circumstances and the basic considerations in § 1245.202, considered together, indicate that it is in the public interest to do so.

### § 1245.210 Reports.

A license shall require the licensee to submit periodic reports of his efforts to work the invention. The reports shall contain information within his knowledge, or which he may acquire under normal business practice, pertaining to the commercial use that is being made of the invention and such other information which the Administrator may determine pertinent to the licensing program and which is specified in the license.

### § 1245.211 Revocation of licenses.

(a) Any license granted pursuant to § 1245.203 may be revoked, either in part or in its entirety, by the Administrator if in his opinion the licensee at any time shall fail to use adequate efforts to bring to or achieve practical application of the invention in accordance with the terms of the license, or if the licensee at any

time shall default in making any report required by the license, or shall make any false report, or shall commit any breach of any covenant or agreement therein contained, and shall fail to remedy any such default, false report, or breach within 30 days after written notice, or if the patent is deemed unenforceable either by the Attorney General or a final decision of a U.S. court.

(b) Any license granted pursuant to § 1245.204(a) may be revoked, either in part or in its entirety, by the Administrator if in his opinion such revocation is necessary to achieve the earliest practical application of the invention pursuant to an application for exclusive license submitted in accordance with § 1245.207, or the licensee at any time shall breach any covenant or agreement contained in the license, and shall fail to remedy any such breach within 30 days after written notice thereof.

(c) Before revoking any license granted pursuant to this Subpart 2 for any cause, there will be furnished to the licensee a written notice of intention to revoke the license, and the licensee will be allowed 30 days after such notice in which to appeal and request a hearing before the Inventions and Contributions Board on the question of revocation. After a hearing, the Inventions and Contributions Board shall transmit to the Administrator the record of proceedings, its findings of fact, and its recommendation whether the license should be revoked either in part or in its entirety. The Administrator shall review the recommendation of the Board and determine whether to revoke the license in part or in its entirety. Revocation of a license shall include revocation of all sublicenses which have been granted.

### § 1245.212 Appeals.

Any person desiring to file an appeal pursuant to § 1245.211(c) shall address the appeal to Chairman, Inventions and Contributions Board. Any person filing an appeal shall be afforded an opportunity to be heard before the Inventions and Contributions Board, and to offer evidence in support of his appeal. The procedures to be followed in any such matter shall be determined by the Administrator. The Board shall make findings of fact and recommendations with respect to disposition of the appeal. The decision on the appeal shall be made by the Administrator, and such decision shall be final and conclusive, except on questions of law, unless determined by a court of competent jurisdiction to have been fraudulent, or capricious, or arbitrary, or so grossly erroneous as necessarily to imply bad faith, or not supported by substantial evidence.

### § 1245.213 Litigation.

An exclusive licensee shall be granted the right to sue at his own expense any party who infringes the rights set forth in his license and covered by the licensed patent. The licensee may join the Government, upon consent of the Attorney General, as a party complainant in such suit, but without expense to the Government and the licensee shall pay costs and any final judgment or decree that may be rendered against the Govern-



## PATENT LICENSING REGULATIONS

ment in such suit. The Government shall also have an absolute right to intervene in any such suit at its own expense. The licensee shall be obligated to promptly furnish to the Government, upon request, copies of all pleadings and other papers filed in any such suit and of evidence adduced in proceedings relating to the licensed patent including, but not limited to, negotiations for settlement and agreements settling claims by a licensee based on the licensed patent, and all other books, documents, papers, and

records pertaining to such suit. If, as a result of any such litigation, the patent shall be declared invalid, the licensee shall have the right to surrender his license and be relieved from any further obligation thereunder.

### § 1245.214 Address of communications.

(a) Communications to the Assistant General Counsel for Patent Matters in accordance with §§ 1245.206 and 1245.207 and requests for information concerning licenses for NASA inventions should be

addressed to the Assistant General Counsel for Patent Matters, Code GP, National Aeronautics and Space Administration, Washington, D.C. 20546.

(b) Communications to the Inventions and Contributions Board in accordance with §§ 1245.208, 1245.211, and 1245.212 should be addressed to Chairman, Inventions and Contributions Board, National Aeronautics and Space Administration, Washington, D.C. 20546.

*Effective date.* The regulations set forth in this subpart 2 are effective April 1, 1972.

JAMES C. FLETCHER,  
Administrator.

## NASA FOREIGN PATENT LICENSING REGULATIONS

Selected NASA inventions are also available for licensing in countries other than the United States in accordance with the NASA Foreign Patent Licensing Regulation (14 C.F.R. 1245.4), a copy of which is available from any NASA Patent Counsel.

# TABLE OF CONTENTS

## Section 1 • Abstracts

### Subject Categories

*Abstracts in the bibliography are grouped under the following categories:*

#### **01 Aerodynamics**

Includes aerodynamics of bodies, combinations, internal flow in ducts and turbomachinery; wings, rotors, and control surfaces. For applications see: 02 Aircraft and 32 Space Vehicles. For related information see also: 12 Fluid Mechanics; and 33 Thermodynamics and Combustion.

#### **02 Aircraft**

Includes fixed-wing airplanes, helicopters, gliders, balloons, ornithopters, etc.; and specific types of complete aircraft (e.g., ground effect machines, STOL, and VTOL); flight tests; operating problems (e.g., sonic boom); safety and safety devices; economics; and stability and control. For basic research see: 01 Aerodynamics. For related information see also: 31 Space Vehicles; and 32 Structural Mechanics.

#### **03 Auxiliary Systems**

Includes fuel cells, energy conversion cells, and solar cells; auxiliary gas turbines; hydraulic, pneumatic and electrical systems; actuators; and inverters. For related information see also: 09 Electronic Equipment; 22 Nuclear Engineering; and 28 Propulsion Systems.

#### **04 Biosciences**

Includes aerospace medicine, exobiology, radiation effects on biological systems; physiological and psychological factors. For related information see also: 05 Biotechnology.

#### **05 Biotechnology**

Includes life support systems, human engineering, protective clothing and equipment; crew training and evaluation, and piloting. For related information see also: 04 Biosciences.

#### **06 Chemistry**

Includes chemical analysis and identification (e.g., spectroscopy). For applications see: 17 Materials, Metallic; 18 Materials, Nonmetallic; and 27 Propellants.

#### **07 Communications**

Includes communications equipment and techniques, noise; radio and communications blackout; modulation telemetry; tracking radar and optical observation; and wave propagation. For basic research see: 23 Physics, General; and 21 Navigation.

#### **08 Computers**

Includes computer operation and programming; and data processing. For applications, see specific categories. For related information see also: 19 Mathematics.

#### **09 Electronic Equipment**

Includes electronic test equipment and maintainability; component parts, e.g., electron tubes, tunnel diodes, transistors, integrated circuitry; microminiaturization. For basic research see: 10 Electronics. For related information see also: 07 Communications and 21 Navigation.

#### **10 Electronics**

Includes circuit theory; and feedback and control theory. For applications see: 09 Electronic Equipment. For related information see specific Physics categories.

#### **11 Facilities, Research and Support**

Includes airports; lunar and planetary bases including associated vehicles; ground support systems; related logistics; simulators; test facilities (e.g., rocket engine test stands, shock tubes, and wind tunnels); test ranges; and tracking stations.

#### **12 Fluid Mechanics**

Includes boundary-layer flow; compressible flow; gas dynamics; hydrodynamics; and turbulence. For related information see also: 01 Aerodynamics; and 33 Thermodynamics and Combustion.

#### **13 Geophysics**

Includes aeronomy; upper and lower atmosphere studies; oceanography; cartography; and geodesy. For related information see also: 20 Meteorology; 29 Space Radiation; and 30 Space Sciences.

#### **14 Instrumentation and Photography**

Includes design, installation, and testing of instrumentation systems; gyroscopes; measuring instruments and gages; recorders, transducers; aerial photography; and telescopes and cameras.

#### **15 Machine Elements and Processes**

Includes bearings, seals, pumps, and other mechanical equipment; lubrication, friction, and wear; manufacturing processes and quality control; reliability; drafting; and materials fabrication, handling, and inspection.

#### **16 Masers**

Includes applications of masers and lasers. For basic research see: 26 Physics, Solid-State.

#### **17 Materials, Metallic**

Includes cermets; corrosion; physical and mechanical properties of materials; metallurgy; and applications as structural materials. For basic research see: 06 Chemistry. For related information see also: 18 Materials, Nonmetallic; and 32 Structural Mechanics.

### **18 Materials, Nonmetallic**

Includes corrosion; physical and mechanical properties of materials (e.g., plastics); and elastomers, hydraulic fluids, etc. For basic research see: 08 Chemistry. For related information see also: 17 Materials, Metallic; 27 Propellants; and 32 Structural Mechanics.

### **19 Mathematics**

Includes calculation methods and theory; and numerical analysis. For applications see specific categories. For related information see also: 08 Computers.

### **20 Meteorology**

Includes climatology; weather forecasting; and visibility studies. For related information see also: 13 Geophysics; and 30 Space Sciences.

### **21 Navigation**

Includes guidance; autopilots; star and planet tracking; inertial platforms; and air traffic control. For related information see also: 07 Communications.

### **22 Nuclear Engineering**

Includes nuclear reactors and nuclear heat sources used for propulsion and auxiliary power. For basic research see: 24 Physics, Atomic, Molecular, and Nuclear. For related information see also: 03 Auxiliary Systems; and 28 Propulsion Systems.

### **23 Physics, General**

Includes acoustics, Cryogenics, mechanics, and optics. For astrophysics see: 30 Space Sciences. For geophysics and related information see also: 13 Geophysics, 20 Meteorology, and 29 Space Radiation.

### **24 Physics, Atomic, Molecular, and Nuclear**

Includes atomic, molecular and nuclear physics. For applications see: 22 Nuclear Engineering. For related information see also: 29 Space Radiation.

### **25 Physics, Plasma**

Includes magnetohydrodynamics. For applications see: 28 Propulsion Systems.

### **26 Physics, Solid-State**

Includes semiconductor theory; and superconductivity. For applications see: 16 Masers. For related information see also: 10 Electronics.

### **27 Propellants**

Includes fuels; igniters; and oxidizers. For basic re-

search see: 06 Chemistry; and 33 Thermodynamics and Combustion. For related information see also: 28 Propulsion Systems.

### **28 Propulsion Systems**

Includes air breathing, electric, liquid, solid, and magnetohydrodynamic propulsion. For nuclear propulsion see: 22 Nuclear Engineering. For basic research see: 23 Physics, General; and 33 Thermodynamics and Combustion. For applications see: 31 Space Vehicles. For related information see also: 27 Propellants.

### **29 Space Radiation**

Includes cosmic radiation; solar flares; solar radiation; and Van Allen radiation belts. For related information see also: 13 Geophysics, and 24 Physics, Atomic, Molecular, and Nuclear.

### **30 Space Sciences**

Includes astronomy and astrophysics; cosmology; lunar and planetary flight and exploration; and theoretical analysis of orbits and trajectories. For related information see also: 11 Facilities, Research and Support; and 31 Space Vehicles.

### **31 Space Vehicles**

Includes launch vehicles; manned space capsules; clustered and multistage rockets; satellites; sounding rockets and probes; and operating problems. For basic research see: 30 Space Sciences. For related information see also: 28 Propulsion Systems; and 32 Structural Mechanics.

### **32 Structural Mechanics**

Includes structural element design and weight analysis; fatigue; thermal stress; impact phenomena; vibration; flutter; inflatable structures; and structural tests. For related information see also: 17 Materials, Metallic; and 18 Materials, Nonmetallic.

### **33 Thermodynamics and Combustion**

Includes ablation, cooling, heating, heat transfer, thermal balance, and other thermal effects; and combustion theory. For related information see also: 12 Fluid Mechanics; and 27 Propellants.

### **34 General**

Includes information of a broad nature related to industrial applications and technology, and to basic research; defense aspects; information retrieval; management; law and related legal matters; and legislative hearings and documents.

## **Section 2 • Indexes**

	<i>page</i>
SUBJECT INDEX .....	I-1
INVENTOR INDEX .....	I-201
SOURCE INDEX .....	I-279
NUMBER INDEX .....	I-321
ACCESSION NUMBER INDEX .....	I-391

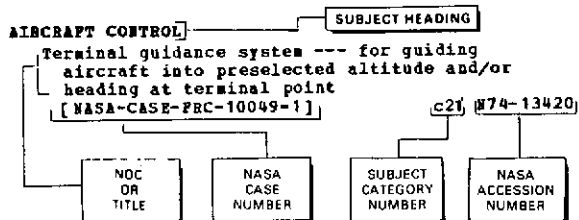
# Subject Index

NASA PATENT ABSTRACTS BIBLIOGRAPHY

JANUARY 1975

## Section 2

### Typical Subject Index Listing



The subject heading is the key to the subject content of the document. A brief description of the document, e.g., title, title plus a title extension, or Notation of Content (NOC), is included for each subject entry to indicate the subject heading context; these descriptions are arranged under each subject heading in ascending accession number order. The NASA Case Number serves as the prime access number to the patent documents. The Subject Category Number indicates the category in Section 1 (Abstracts) in which the patent citation and abstract are located. The NASA accession number denotes the number by which the citation is identified within the subject category.

## A

### ABLATION

- Transpirationally cooled heat ablation system for interplanetary spacecraft reentry shielding [NASA-CASE-XMS-02677] c31 N70-42075
- Hypersonic test facility for studying ablation in models under high pressure and high temperature [NASA-CASE-XLA-00378] c11 N71-15925
- Design of hypersonic test facility for ablation tests and performance tests of vehicles under conditions of high temperature and pressure [NASA-CASE-XLA-05378] c11 N71-21475
- Ablation sensor for measuring char layer recession rate using electric wires [NASA-CASE-XLA-01794] c33 N71-21586
- Ablation sensor for measuring surface ablation rate of material on vehicles entering earths atmosphere on entry into planetary atmospheres [NASA-CASE-XLA-01791] c14 N71-22991
- Ablative system with liquid carrying ablative material bodies and forming self-replacing ablative surface [NASA-CASE-LEW-10359] c33 N72-25911

### ABLATIVE MATERIALS

- Filling honeycomb matrix with deaerated paste filler [NASA-CASE-XMS-01108] c15 N69-24322
- Sensor device with switches for measuring surface recession of charring and noncharring ablators [NASA-CASE-XLA-01781] c14 N69-39975
- Vacuum method for molding thermosetting compounds used as ablative materials [NASA-CASE-XLA-01091] c15 N71-10672
- Ablative resins used for retarding regression in ablative material [NASA-CASE-XLE-05913] c33 N71-14032
- Design, development, and characteristics of ablation structures [NASA-CASE-XMS-01816] c33 N71-15623
- Method and apparatus for fabrication of heat insulating and ablative reentry structure [NASA-CASE-XMS-02009] c33 N71-20834
- Production and application of sprayable fiber reinforced ablation material [NASA-CASE-XLA-04251] c18 N71-26100
- Ablative heat shield for protection from aerodynamic heating of reentry spacecraft [NASA-CASE-MSC-12143-1] c33 N72-17947
- Ablative system with liquid carrying ablative material bodies and forming self-replacing

- ablative surface [NASA-CASE-LEW-10359] c33 N72-25911
- Carrier liquid system containing bodies of ablative material [NASA-CASE-LEW-10359-2] c33 N73-25952
- Ablation article and surface for analyzing flow transition on ablative surface [NASA-CASE-LAR-10439-1] c33 N73-27796
- Dual measurement ablation sensor [NASA-CASE-LAR-10105-1] c33 N74-15652
- ABORT APPARATUS**
  - Coupling device for linear shaped charge for space vehicle abort system [NASA-CASE-XLA-00189] c33 N70-36846
- ABRASION RESISTANCE**
  - Zinc dust formulation for abrasion resistant steel coatings [NASA-CASE-GSC-10361-1] c10 N72-23581
- ABSORBENTS**
  - Absorbent apparatus for separating gas from liquid-gas stream used in environmental control under zero gravity conditions [NASA-CASE-XMS-01492] c05 N70-41297
  - Fluid flow control valve for regulating fluids in molecular quantities [NASA-CASE-XLE-00703] c15 N71-15967
  - Noncontaminating swab with absorbent end covered with netted envelope to prevent egress of absorbent material [NASA-CASE-MFS-18100] c15 N72-11390
  - Protein sterilization of firefly luciferase without denaturation [NASA-CASE-GSC-10225-1] c06 N73-27086
- ABSORBERS (MATERIALS)**
  - Broadband chokes and absorbers to reduce spurious radiation patterns of antenna array caused by support structures [NASA-CASE-XMS-05303] c07 N69-27462
  - Analytical photoionization mass spectrometer with argon gas filter between light source and monochromator [NASA-CASE-LAR-10180-1] c06 N71-13461
  - Development of filter system for control of outgas contamination in vacuum conditions using absorbent beds of molecular sieve zeolite, silica gel, and charcoal [NASA-CASE-MFS-14711] c15 N71-26185
  - Development and characteristics of calorimeter with integral heat sink for maintenance of constant temperature [NASA-CASE-XMP-04208] c33 N71-29051
- ABSORPTION**
  - Cross linked polymer system for oil or fat absorption properties [NASA-CASE-NPO-11609-1] c06 N72-22114
- ABSORPTION CROSS SECTIONS**
  - Radiation source and detection system for measuring amount of liquid inside tanks independently of liquid configuration [NASA-CASE-MSC-12280] c27 N71-16348
- ABSORPTION SPECTRA**
  - A method and apparatus for compensating reflection losses in a path length modulated absorption-absorption trace gas detector [NASA-CASE-ARC-10631-1] c14 N74-34864
- AC GENERATORS**
  - Alternating current signal generator providing plurality of amplitude modulated output signals [NASA-CASE-XNP-05612] c09 N69-21468
  - Improved alternator with windings of superconducting materials acting as permanent magnet [NASA-CASE-XLE-02824] c03 N69-39890
  - Superconducting alternator design with cryogenic fluid for cooling windings below critical

SUBJECT

## ACCELERATION

## SUBJECT INDEX

temperature  
[NASA-CASE-XLE-02823] c09 N71-23443

**ACCELERATION**  
Single grid accelerator system for electron bombardment type ion thruster  
[NASA-CASE-XLE-10453-2] c28 N73-27699

**ACCELERATION (PHYSICS)**  
Centrifuge mounted motion simulator with elevator mechanism  
[NASA-CASE-XAC-00399] c11 N70-34815  
Gravity device for accurate and rapid indication of relative gravity conditions aboard accelerating carrier  
[NASA-CASE-XMP-00424] c11 N70-38196  
Development of method for producing artificial gravity in manned spacecraft  
[NASA-CASE-XNP-02595] c31 N71-21881  
Vibration control of flexible bodies in steady accelerating environment  
[NASA-CASE-LAR-10106-1] c15 N71-27169  
Apparatus for applying simulator g-forces to an arm of an aircraft simulator pilot  
[NASA-CASE-LAR-10550-1] c11 N74-30597

**ACCELERATION PROTECTION**  
Astronaut restraint suit for high acceleration protection  
[NASA-CASE-XAC-00405] c05 N70-41819  
Conditioning suit for normal function of astronaut cardiovascular system in gravity environment  
[NASA-CASE-XLA-02898] c05 N71-20268

**ACCELERATION STRESSES (PHYSIOLOGY)**  
Development of method for producing artificial gravity in manned spacecraft  
[NASA-CASE-XNP-02595] c31 N71-21881

**ACCELERATION TOLERANCE**  
Electronic detection system for peak acceleration limits in vibrational testing of spacecraft components  
[NASA-CASE-NPO-10556] c14 N71-27185

**ACCELEROMETERS**  
Superconductive accelerometer employing variable force principle to determine acceleration of bodies  
[NASA-CASE-XMP-01099] c14 N71-15969  
Describing device for velocity control of electromechanical drive mechanism of scanning mirror of interferometer  
[NASA-CASE-XGS-03532] c14 N71-17627  
Omnidirectional liquid filled accelerometer design with liquid and housing temperature compensation  
[NASA-CASE-HQN-10780] c14 N71-30265  
Development of combined velocimeter and accelerometer based on color changes in liquid crystalline material subjected to shear stresses  
[NASA-CASE-ERC-10292] c14 N72-25470  
Temperature compensated digital inertial sensor --- circuit for maintaining inertial element of gyroscope or accelerometer at constant position  
[NASA-CASE-NPO-13044-1] c14 N74-15094  
Recording apparatus  
[NASA-CASE-LAR-11353-1] c14 N74-20020

**ACCUMULATORS**  
Direct radiation cooling of linear beam collector tubes  
[NASA-CASE-INP-09227] c15 N69-24319  
Regenerative cooling system for small rocket engine having restart capability and using noncryogenic hypergolic propellants  
[NASA-CASE-XLE-00685] c28 N70-41992  
Small plasma probe using tungsten wire collector in tubular shield  
[NASA-CASE-XLE-02578] c25 N71-20747  
Electrostatic charged particle collector containing stacked electrodes for microwave tube  
[NASA-CASE-LEW-11192-1] c09 N73-13208

**ACETALS**  
Synthesis of schiff bases for heat shields by acetal amine reactions  
[NASA-CASE-XMP-08652] c06 N71-11243

**ACETYLENE**  
Preparation of dicyanoacetylene and vinylidene copolymers using organic compounds  
[NASA-CASE-XNP-03250] c06 N71-23500

**ACOUSTIC DUCTS**  
Noise suppressor --- for turbofan engine by incorporating annular acoustically porous elements in exhaust and inlet ducts  
[NASA-CASE-LAR-11141-1] c02 N74-32418

**ACOUSTIC IMPEDANCE**  
Method and transducer device for detecting presence of hydrogen gas  
[NASA-CASE-XMP-03873] c06 N69-39733

**ACOUSTIC PROPAGATION**  
Application of acoustic transducers for suspending object at center of chamber under near weightless conditions  
[NASA-CASE-NPO-13263-1] c15 N73-31443

**ACOUSTIC PROPERTIES**  
Development of wind tunnel microphone structure to minimize effects of vibrations and eliminate unwanted signals in microphone output  
[NASA-CASE-XNP-00250] c11 N71-28779  
Acoustical transducer calibrating system including differential pressure activating device  
[NASA-CASE-FRC-10060-1] c14 N73-27379

**ACOUSTO-OPTICS**  
Acoustic vibration test apparatus for wiring harnesses  
[NASA-CASE-MSC-15158-1] c14 N72-17325

**ACRYLATES**  
Ablative resins used for retarding regression in ablative material  
[NASA-CASE-XLE-05913] c33 N71-14032

**ACTIVATION ENERGY**  
Heat activated emf cells with aluminum anode  
[NASA-CASE-LEW-11359] c03 N71-28579  
Heat activated cell with aluminum anode  
[NASA-CASE-LEW-11359-2] c03 N72-20034

**ACTIVITY (BIOLOGY)**  
Measurement of gas production of microorganisms  
[NASA-CASE-LAR-11326-1] c04 N74-32518

**ACTUATOR DISKS**  
Cryogenic gyroscope housing --- with annular disks for gas spin-up  
[NASA-CASE-MPS-21136-1] c23 N74-18323

**ACTUATORS**  
Electromechanical actuator and its use in rocket thrust control valve  
[NASA-CASE-XNP-05975] c15 N69-23185  
Power controlled bimetallic electromechanical actuator for accurate, timely, and reliable response to remote control signal  
[NASA-CASE-XNP-09776] c09 N69-39929  
Patent data on gas actuated bolt disconnect assembly  
[NASA-CASE-XLA-00326] c03 N70-34667  
Hermetically sealed explosive release mechanism for actuator device  
[NASA-CASE-XGS-00824] c15 N71-16078  
Burst diaphragm flow initiator for installation in short duration wind tunnels  
[NASA-CASE-MPS-12915] c11 N71-17600  
Hand controller operable about three respectively perpendicular axes and capable of actuating signal generators for attitude control devices  
[NASA-CASE-XMS-07487] c15 N71-23255  
Mechanical actuator wherein linear motion changes to rotational motion  
[NASA-CASE-XGS-04548] c15 N71-24045  
Hydraulic actuator design for space deployment of heat radiators  
[NASA-CASE-MSC-11817-1] c15 N71-26611  
Electromechanical control actuator system using double differential screws  
[NASA-CASE-ERC-10022] c15 N71-26635  
System to control speed of hydraulically movable members by limiting energy applied to actuators with hydraulic servo loop  
[NASA-CASE-ARC-10131-1] c15 N71-27754  
Zero power telemetry actuated switch for biomedical equipment  
[NASA-CASE-ARC-10105] c09 N72-17153  
Mechanically operated hand which can depress trigger using touch control device  
[NASA-CASE-MPS-20413] c15 N72-21463  
Hermetically sealed elbow actuator for use in severe environments  
[NASA-CASE-MPS-14710] c09 N72-22195  
Characteristics of lightweight actuator for imparting linear motion using elongated output shaft  
[NASA-CASE-NPO-11222] c15 N72-25456

- Rotary actuator for use in environments with no rolling and sliding friction  
[NASA-CASE-NPO-10244] c15 N72-26371
- Gas-operated actuator with cyclic motion of expansion chamber  
[NASA-CASE-NPO-11340] c15 N72-33477
- Redundant hydraulic control system for actuators with three main valve combination  
[NASA-CASE-NPS-20944] c15 N73-13466
- Actuator operated by electrolytic drive gas generator and evacuator  
[NASA-CASE-NPO-11369] c15 N73-13467
- Manual actuator --- for spacecraft exercising machines  
[NASA-CASE-NPS-21481-1] c15 N74-18127
- Optically actuated two position mechanical mover  
[NASA-CASE-NPO-13105-1] c15 N74-21060
- Miniature hydraulic actuator --- for control surfaces on airfoils  
[NASA-CASE-LAR-11522-1] c15 N74-34881
- ADAPTERS**
- Camera adapter design for image magnification including lens and illuminator  
[NASA-CASE-XMP-03844-1] c14 N71-26474
- ADAPTIVE CONTROL**
- Self testing and repairing computer comprising control and diagnostic unit and rollback points for error correction  
[NASA-CASE-NPO-10567] c08 N71-24633
- Synchronous dc direct-drive system comprising multiple-loop hybrid control system controlling load directly connected to actuator  
[NASA-CASE-GSC-10065-1] c10 N71-27136
- Versatile ergometer with work load control  
[NASA-CASE-NPS-21109-1] c05 N73-27941
- Adaptive voting computer system  
[NASA-CASE-MSC-13932-1] c08 N74-14920
- ADAPTIVE FILTERS**
- Adaptive notch filter, using modulation techniques for reversed phase noise signal  
[NASA-CASE-XMF-01892] c10 N71-22986
- ADDING CIRCUITS**
- Circuit diagram and operation of full binary adder  
[NASA-CASE-XGS-00689] c08 N70-34787
- Error correction circuitry for binary signal channels  
[NASA-CASE-XNP-03263] c09 N71-18843
- ADDITIVES**
- Ammonium perchlorate composite propellant with organic Cu/II/ chelate catalytic additive  
[NASA-CASE-LAR-10173-1] c27 N71-14090
- ADENOSINE TRIPHOSPHATE (ATP)**
- Use of enzyme hexokinase and glucose to reduce inherent light levels of ATP in luciferase compositions  
[NASA-CASE-XGS-05533] c04 N69-27487
- Detection instrument for light emitted from ATP biochemical reaction  
[NASA-CASE-XGS-05534] c23 N71-16355
- Describing method for lyophilization of luciferase containing mixtures for use in life detection reactions  
[NASA-CASE-XGS-05532] c06 N71-17705
- Automatic device for assaying urine on bacterial adenosine triphosphate content  
[NASA-CASE-GSC-11169-2] c05 N73-32011
- ADHESION**
- Tool for mounting and removing studs with adhesive coated head portion  
[NASA-CASE-NPS-20299] c15 N72-11392
- ADHESION TESTS**
- Apparatus for determining quality of bond between high density material and low density material  
[NASA-CASE-NPS-13686] c15 N71-18132
- ADHESIVE BONDING**
- Fabrication of solar cell banks for attaching solar cells to base members or substrates  
[NASA-CASE-XNP-00826] c03 N71-20895
- Method for honeycomb panel bonding by thermosetting film adhesive with electrical heat means  
[NASA-CASE-XMP-01402] c18 N71-21651
- Etching aluminum alloys with aqueous solution containing sulfuric acid, hydrofluoric acid, and an alkali metal dichromate for adhesive bonding  
[NASA-CASE-XMP-02303] c17 N71-23828
- Adhesive spray process for attaching biomedical skin electrodes  
[NASA-CASE-XPR-07658-1] c05 N71-26293
- ADJUSTING**
- Centering device with ultrafine adjustment for use with roundness measuring apparatus  
[NASA-CASE-XMP-00480] c14 N70-39898
- Slotted fine-adjustment support for optical devices  
[NASA-CASE-NPS-20249] c15 N72-11386
- Adjustable support device with jacket screw for altering distance between base and supported member  
[NASA-CASE-NPO-10721] c15 N72-27484
- Clock setter  
[NASA-CASE-LAR-11458-1] c14 N74-32882
- AERODYNAMIC BRAKES**
- Bluff-shaped annular configuration for supersonic decelerator for reentry vehicles  
[NASA-CASE-XLE-00222] c02 N70-37939
- Lightweight, variable solidity knitted parachute fabric --- for aerodynamic decelerators  
[NASA-CASE-LAR-10776-1] c02 N74-10034
- AERODYNAMIC CHARACTERISTICS**
- Variable aspect ratio and variable sweep delta wing planforms for supersonic aircraft  
[NASA-CASE-XLA-00221] c02 N70-33266
- Designing spacecraft for flight into space, atmospheric reentry, and landing at selected sites  
[NASA-CASE-XAC-02058] c02 N71-16087
- Spacecraft configurations and aerodynamic characteristics of space shuttle systems with two reusable stages  
[NASA-CASE-MSC-12433] c31 N73-14854
- Characteristics of system for providing yaw control of vehicles at high supersonic and hypersonic speeds by deflecting flaps mounted on upper wing surface  
[NASA-CASE-LAR-11140-1] c02 N73-20008
- AERODYNAMIC CONFIGURATIONS**
- Supersonic aircraft configuration providing for variable aspect ratio and variable sweep wings  
[NASA-CASE-XLA-00166] c02 N70-34178
- Aerodynamic configuration for aircraft capable of high speed flight and low drag for low speed takeoff or landing upon presently existing airfields  
[NASA-CASE-XLA-00806] c02 N70-34858
- Manned space capsule configuration for orbital flight and atmospheric reentry  
[NASA-CASE-XLA-00149] c31 N70-37938
- Aerodynamic configuration of reentry vehicle heat shield to provide longitudinal and directional stability at hypersonic velocities  
[NASA-CASE-XMS-04142] c31 N70-41631
- Development and characteristics of translating horizontal tail assembly for supersonic aircraft  
[NASA-CASE-XLA-08801-1] c02 N71-11043
- Variable geometry manned orbital vehicle having high aerodynamic efficiency over wide speed range and incorporating auxiliary pivotal wings  
[NASA-CASE-XLA-03691] c31 N71-15674
- Afterburner-equipped jet engine nacelle with slotted configuration afterbody  
[NASA-CASE-XLA-10450] c28 N71-21493
- Variable geometry rotor system for direct control over wake vortex  
[NASA-CASE-LAR-10557] c02 N72-11018
- Development of auxiliary lifting system to provide ferry capability for entry vehicles  
[NASA-CASE-LAR-10574-1] c11 N73-13257
- Multistage aerospace craft --- perspective drawings of conceptual design  
[NASA-CASE-XMP-02263] c02 N74-10907
- Supersonic fan blading --- noise reduction in turbofan engines  
[NASA-CASE-LEW-11402-1] c28 N74-28226
- AERODYNAMIC HEATING**
- Development of thermal insulation system for wing and control surfaces of hypersonic aircraft and reentry vehicles  
[NASA-CASE-XLA-00892] c33 N71-17897
- Heat flux sensor adapted for mounting on aircraft or spacecraft to measure aerodynamic heat flux inflow to aircraft skin  
[NASA-CASE-XPR-03802] c33 N71-23085
- Ablative heat shield for protection from aerodynamic heating of reentry spacecraft

- [NASA-CASE-MSC-12143-1] c33 N72-17947
- AERODYNAMIC LOADS**  
Directed fluid stream for propeller blade loading control  
[NASA-CASE-XAC-00139] c02 N70-34856
- AERODYNAMIC STABILITY**  
Aerodynamically stable meteorological balloon using surface roughness effect  
[NASA-CASE-XMP-04163] c02 N71-23007  
Pressure sensor network for measuring liquid dynamic response in flight including fuel tank acceleration, liquid slosh amplitude, and fuel depth monitoring  
[NASA-CASE-XLA-05541] c12 N71-26387  
Spacecraft design with single point aerodynamic and hydrodynamic stability for emergency transport of men from space station to splashdown  
[NASA-CASE-MSC-13281] c31 N72-18859  
Hingeless helicopter rotor with improved stability  
[NASA-CASE-ARC-10807-1] c02 N74-34475
- AERONAUTICAL ENGINEERING**  
Differential pressure cell insensitive to changes in ambient temperature and extreme overload  
[NASA-CASE-XAC-00042] c14 N70-34816
- AEROSOLS**  
Liquid aerosol dispenser with explosively driven piston to compress light gas to extremely high pressure  
[NASA-CASE-MFS-20829] c12 N72-21310  
Remote detection and measurement of clear air turbulence using pulsed laser radar  
[NASA-CASE-MFS-21244-1] c20 N73-21523  
Particulate and aerosol detector --- based on discharge characteristics of charged capacitor under particle impact  
[NASA-CASE-LAR-11434-1] c14 N74-22112
- AEROSPACE ENGINEERING**  
Modifying existing solar cells for temperature control  
[NASA-CASE-NFO-10109] c03 N71-11049  
Metallic film diffusion for boundary lubrication in aerospace engineering  
[NASA-CASE-XLE-10337] c15 N71-24046  
Soldering device particularly suited to making high quality wiring joints for aerospace engineering utilizing capillary attraction to regulate flow of solder  
[NASA-CASE-XLA-08911] c15 N71-27214
- AEROSPACE ENVIRONMENTS**  
High voltage insulators for direct current in acceleration system of electrostatic thruster  
[NASA-CASE-XLE-01902] c28 N71-10574  
Metallic film diffusion into metal or ceramic surfaces for boundary lubrication in aerospace environments  
[NASA-CASE-XLE-01765] c18 N71-10772  
Preparation of inorganic solid film lubricants with long wear life and stability in aerospace environments  
[NASA-CASE-XMP-03988] c15 N71-21403  
Momentum-velocity analyzer for measuring minute space particles  
[NASA-CASE-XMS-04201] c14 N71-22990  
Metal alloy bearing materials for space applications  
[NASA-CASE-XLE-05033] c15 N71-23810  
Method and apparatus for adjusting thermal conductance in electronic components for space use  
[NASA-CASE-XMP-05524] c33 N71-24876  
Space environment simulator for testing spacecraft components under aerospace conditions  
[NASA-CASE-NFO-10141] c11 N71-24964  
High dc switch for causing abrupt, cyclic, decreases of current to operate under zero or varying gravity conditions  
[NASA-CASE-LEW-10155-1] c09 N71-29035
- AEROSPACE MEDICINE**  
Piston device for producing known constant positive pressure within lungs by using thoracic muscles  
[NASA-CASE-XMS-01615] c05 N70-41329
- AEROSPACE SYSTEMS**  
Polyimides of ether-linked aryl tetracarboxylic dianhydrides  
[NASA-CASE-MFS-22355] c06 N74-29480
- AEROSPACE VEHICLES**  
Aerospace configuration with low and high aspect ratio variability for high and low speed flight  
[NASA-CASE-XLA-00142] c02 N70-33286  
Landing pad assembly for aerospace vehicles  
[NASA-CASE-XMP-02853] c31 N70-36654  
Aerospace vehicle with variable planform for hypersonic and subsonic flight  
[NASA-CASE-XLA-00805] c31 N70-38010  
Development of resilient fastener for attaching skin of aerospace vehicles to permit movement of skin relative to framework  
[NASA-CASE-XLA-01027] c31 N71-24035  
Chemical spot tests for identification of titanium and titanium alloys used in aerospace vehicles  
[NASA-CASE-LAR-10539-1] c17 N73-12547
- AEROSPACEPLANES**  
Multistage aerospace craft --- perspective drawings of conceptual design  
[NASA-CASE-XMP-02263] c02 N74-10907
- AFTERBODIES**  
Afterburner-equipped jet engine nacelle with slotted configuration afterbody  
[NASA-CASE-XLA-10450] c28 N71-21493
- AFTERBURNING**  
Exhaust nozzle with afterburning for generating thrust  
[NASA-CASE-XLA-00154] c28 N70-33374
- AILERONS**  
Device for controlling rotary potentiometer mounted on aircraft steering wheel or aileron control  
[NASA-CASE-XAC-10019] c15 N71-23809
- AIR**  
Gas purged dry box glove reducing permeation of air or moisture into dry box or isolator by diffusion through glove  
[NASA-CASE-XLE-02531] c05 N71-23080  
Superconducting magnetic field trapping device for producing magnetic field in air  
[NASA-CASE-XMP-01185] c26 N73-28710
- AIR CONDITIONING EQUIPMENT**  
Portable apparatus producing high velocity, annular air column surrounding low velocity, filtered, superclean air central core for industrial clean room environmental control  
[NASA-CASE-XMP-03212] c15 N71-22721  
Air conditioning system and component therefore distributing air flow from opposite directions  
[NASA-CASE-GSC-11445-1] c15 N74-27902
- AIR COOLING**  
Modification and improvement of turbine blades for maximum cooling efficiency  
[NASA-CASE-XLE-00092] c15 N70-33264
- AIR DUCTS**  
Cascade plug nozzle  
[NASA-CASE-LAR-11674-1] c28 N74-33220
- AIR FILTERS**  
Development of filter apparatus for gas separation and characteristics of filter cell support frame for improved operation  
[NASA-CASE-MSC-12297] c14 N72-23457
- AIR FLOW**  
Wind tunnel air flow modulating device and apparatus for selectively generating wave motion in wind tunnel airstream  
[NASA-CASE-XLA-00112] c11 N70-33287  
Photographing surface flow patterns on wind tunnel test models  
[NASA-CASE-XLA-01353] c14 N70-41366  
Method for maintaining good performance in gas turbine during air flow distortion  
[NASA-CASE-LEW-10286-1] c28 N71-28915  
Airflow distribution control in gas turbine engines  
[NASA-CASE-LEW-11593-1] c28 N73-25816  
Apparatus and method for generating large mass flow of high temperature air at hypersonic speeds  
[NASA-CASE-LAR-10612-1] c12 N73-28144  
Air conditioning system and component therefore distributing air flow from opposite directions  
[NASA-CASE-GSC-11445-1] c15 N74-27902
- AIR INTAKES**  
Aeroflexible wing structure with air scoop for inflating stiffeners with ram air  
[NASA-CASE-XLA-06095] c01 N69-39981

- Adjustable airfoil for reversable cowl flap inlet thrust augmentation  
[NASA-CASE-ARC-10754-1] c28 N73-32624
- Shock position sensor for supersonic inlets --- development of system to measure pressure in throat of supersonic inlet and operate bypass valve  
[NASA-CASE-LEW-11915-1] c12 N74-25805
- AIR LOCKS**  
Spacecraft air lock system to provide ingress and egress of astronaut without subjecting vehicular environment to vacuum of space  
[NASA-CASE-XLA-02050] c31 N71-22968
- System for removing and repairing spacecraft control thrusters by use of portable air locks  
[NASA-CASE-MPS-20325] c28 N71-27095
- Airlock for waste transferal from pressurized enclosure aboard space vehicle to waste receiver at negative pressure  
[NASA-CASE-MPS-20922] c31 N72-20840
- Airlock  
[NASA-CASE-MPS-20922-1] c15 N74-22136
- Apparatus for inserting and removing specimens from high temperature vacuum furnaces  
[NASA-CASE-LAR-10841-1] c15 N74-27900
- AIR POLLUTION**  
Analytical photoionization mass spectrometer with argon gas filter between light source and monochrometer  
[NASA-CASE-LAR-10180-1] c06 N71-13461
- Contamination free separation nut eliminating combustion products from ambient surroundings generated by squib firing  
[NASA-CASE-XGS-01971] c15 N71-15922
- Monitoring atmospheric pollutants with a heterodyne radiometer transmitter-receiver  
[NASA-CASE-NPO-11919-1] c14 N74-11284
- Fluorescence detector for monitoring atmospheric pollutants  
[NASA-CASE-NPO-13231-1] c14 N74-25932
- AIR PURIFICATION**  
Developing high pressure gas purification and filtration system for use in test operations of space vehicles  
[NASA-CASE-MPS-12806] c14 N71-17588
- Portable apparatus producing high velocity annular air column surrounding low velocity, filtered, superclean air central core for industrial clean room environmental control  
[NASA-CASE-YMP-03212] c15 N71-22721
- AIR SAMPLING**  
Pressure probe for sensing ambient static air pressures  
[NASA-CASE-XLA-00481] c14 N70-36824
- AIR TRAFFIC CONTROL**  
Traffic control system for supersonic transports using synchronous satellite for data relay between vehicles and ground station  
[NASA-CASE-GSC-10087-1] c02 N71-19287
- Satellite aided aircraft collision avoidance system effective for large number of aircraft  
[NASA-CASE-ERC-10090] c21 N71-24948
- System and method for position locating for air traffic control involving supersonic transports  
[NASA-CASE-GSC-10087-3] c07 N72-12080
- AIRBORNE EQUIPMENT**  
Inflatable radar reflector unit - lightweight, highly reflective to electromagnetic radiation, and adaptable for erection and deployment with minimum effort and time  
[NASA-CASE-XMS-00893] c07 N70-40063
- AIRBORNE/SPACEBORNE COMPUTERS**  
Logic circuit to ripple add and subtract binary counters for spaceborne computers  
[NASA-CASE-XGS-04766] c08 N71-18602
- Shared memory for a fault-tolerant computer  
[NASA-CASE-NPO-13139-1] c08 N74-17911
- AIRCRAFT**  
Combined shoulder harness and lap belt restraint system for use in aircraft or automobiles  
[NASA-CASE-ARC-10519-1] c05 N72-31117
- Pilot warning indicator system of intruder aircraft  
[NASA-CASE-ERC-10226-1] c14 N73-16483
- Apparatus for span loading to alleviate wake-vortex hazard behind aircraft  
[NASA-CASE-ARC-10801-1] c02 N74-32428
- AIRCRAFT ACCIDENTS**  
Satellite aided aircraft collision avoidance system effective for large number of aircraft  
[NASA-CASE-ERC-10090] c21 N71-24948
- AIRCRAFT APPROACH SPACING**  
Economical satellite aided vehicle avoidance system for preventing midair collisions  
[NASA-CASE-ERC-10419] c21 N72-21631
- AIRCRAFT CONFIGURATIONS**  
Variable sweep wing configuration for supersonic aircraft  
[NASA-CASE-XLA-00230] c02 N70-33255
- Television simulation for aircraft and space flight  
[NASA-CASE-XPR-03107] c09 N71-19449
- Design of dual fuselage aircraft with pivoting wing and horizontal stabilizer to permit yawing of wing in flight for high speed operation  
[NASA-CASE-ARC-10470-1] c02 N73-26005
- Aircraft configuration for reducing effects of nose-down pitching moments due to high lift forces, loss of trim lift, and engine-out yawing moments  
[NASA-CASE-LAR-11252-1] c02 N73-26007
- Development of aircraft configuration for reduction of jet aircraft noise by exhausting engine gases over upper surface of wing  
[NASA-CASE-LAR-11087-1] c02 N73-26008
- AIRCRAFT CONTROL**  
Development and characteristics of control system for flexible wings  
[NASA-CASE-XLA-06958] c02 N71-11038
- Development of attitude control system for vertical takeoff aircraft using reaction nozzles displaced from various axes of aircraft  
[NASA-CASE-XAC-08972] c02 N71-20570
- Device for controlling rotary potentiometer mounted on aircraft steering wheel or aileron control  
[NASA-CASE-XAC-10019] c15 N71-23809
- Direct lift control system having flaps with slots adjacent to their leading edge and particularly adapted for lightweight aircraft  
[NASA-CASE-LAR-10249-1] c02 N71-26110
- Supersonic or hypersonic vehicle control system comprising elevons with hinge line sweep and free of adverse aerodynamic cross coupling  
[NASA-CASE-XLA-08967] c02 N71-27088
- Development of aircraft control system with high performance electrically controlled and mechanically operated hydraulic valves for precise flight operation  
[NASA-CASE-XAC-00048] c02 N71-29128
- Development of thrust control system for application to control of aircraft and spacecraft  
[NASA-CASE-HSC-13397-1] c21 N72-25595
- Aircraft control system for rotary wing aircraft  
[NASA-CASE-ERC-10439] c02 N73-19004
- Situational display system of cathode ray tubes to assist pilot in aircraft control  
[NASA-CASE-ERC-10350] c14 N73-20474
- Development of aerodynamic control system to control flutter over large range of oscillatory frequencies using stability augmentation techniques  
[NASA-CASE-LAR-10682-1] c02 N73-26004
- Aircraft configuration for reducing effects of nose-down pitching moments due to high lift forces, loss of trim lift, and engine-out yawing moments  
[NASA-CASE-LAR-11252-1] c02 N73-26007
- Development and characteristics of system for integrated control of engine power and aerodynamic configuration of aircraft during landing approach  
[NASA-CASE-ARC-10456-1] c02 N73-30938
- Terminal guidance system --- for guiding aircraft into preselected altitude and/or heading at terminal point  
[NASA-CASE-PRC-10049-1] c21 N74-13420
- AIRCRAFT DESIGN**  
Design of supersonic aircraft with novel fixed, swept wing planform  
[NASA-CASE-ILA-04451] c02 N71-12243
- Design of dual fuselage aircraft with pivoting wing and horizontal stabilizer to permit yawing of wing in flight for high speed operation  
[NASA-CASE-ARC-10470-1] c02 N73-26005



- Aircraft configuration for reducing effects of nose-down pitching moments due to high lift forces, loss of trim lift, and engine-out yawing moments  
[NASA-CASE-LAR-11252-1] c02 N73-26007
- Multistage aerospace craft --- perspective drawings of conceptual design  
[NASA-CASE-XMF-02263] c02 N74-10907
- AIRCRAFT DETECTION**  
Surface based altitude measuring system for accurately measuring altitude of airborne vehicle  
[NASA-CASE-ERC-10412-1] c09 N73-12211
- AIRCRAFT ENGINES**  
Noise suppressor --- for turbofan engine by incorporating annular acoustically porous elements in exhaust and inlet ducts  
[NASA-CASE-LAR-11141-1] c02 N74-32418
- AIRCRAFT EQUIPMENT**  
Development of radiometric sensor to warn aircraft pilots of region of clear air turbulence along flight path  
[NASA-CASE-ERC-10081] c14 N72-28437
- Wingtip vortex dissipator for aircraft  
[NASA-CASE-LAR-11645-1] c02 N74-26456
- AIRCRAFT HAZARDS**  
Deflector for preventing objects from entering nacelle inlets of jet aircraft  
[NASA-CASE-XLA-00388] c28 N70-34788
- AIRCRAFT HYDRAULIC SYSTEMS**  
Variable-orifice hydraulic mechanism for aircraft gas turbine engine fuel control  
[NASA-CASE-LBW-11187-1] c28 N73-19793
- AIRCRAFT INSTRUMENTS**  
Aircraft instrument for indicating malfunctions during takeoff  
[NASA-CASE-XLA-00100] c14 N70-36807
- Pressure probe for sensing ambient static air pressures  
[NASA-CASE-XLA-00481] c14 N70-36824
- Aircraft indicator for pilot control of takeoff roll, climbout path and verticle flight path in poor visibility conditions  
[NASA-CASE-XLA-00487] c14 N70-40157
- Optical projector system for establishing optimum arrangement of instrument displays in aircraft, spacecraft, other vehicles, and industrial instrument consoles  
[NASA-CASE-XMP-03853] c23 N71-21882
- Combined optical attitude and altitude indicating instrument for use in aircraft or spacecraft  
[NASA-CASE-XLA-01907] c14 N71-23268
- Aircraft horizon and vertical indicator  
[NASA-CASE-ERC-10392] c21 N73-14692
- AIRCRAFT LANDING**  
Aerodynamic configuration for aircraft capable of high speed flight and low drag for low speed takeoff or landing upon presently existing airfields  
[NASA-CASE-XLA-00806] c02 N70-34858
- Magnetic method for detection of aircraft position relative to runway  
[NASA-CASE-ARC-10179-1] c21 N72-22619
- Development and characteristics of system for integrated control of engine power and aerodynamic configuration of aircraft during landing approach  
[NASA-CASE-ARC-10456-1] c02 N73-30938
- AIRCRAFT MODELS**  
Free flight suspension system for use with aircraft models in wind tunnel tests  
[NASA-CASE-XLA-00939] c11 N71-15926
- Variable geometry wind tunnel for testing aircraft models at subsonic speeds  
[NASA-CASE-XLA-07430] c11 N72-22246
- AIRCRAFT PERFORMANCE**  
Development of auxiliary lifting system to provide ferry capability for entry vehicles  
[NASA-CASE-LAR-10574-1] c11 N73-13257
- AIRCRAFT PILOTS**  
Apparatus for applying simulator g-forces to an arm of an aircraft simulator pilot  
[NASA-CASE-LAR-10550-1] c11 N74-30597
- AIRCRAFT SAFETY**  
Aircraft instrument for indicating malfunctions during takeoff  
[NASA-CASE-XLA-00100] c14 N70-36807
- Development and operating principles of collision warning system for aircraft accident prevention  
[NASA-CASE-HQN-10703] c21 N73-13643
- Deployable flexible ventral fins for use as an emergency spin recovery device in aircraft  
[NASA-CASE-LAR-10753-1] c02 N74-30421
- AIRCRAFT STABILITY**  
Mechanical stabilization system for VTOL aircraft  
[NASA-CASE-XLA-06339] c02 N71-13422
- Development of aerodynamic control system to control flutter over large range of oscillatory frequencies using stability augmentation techniques  
[NASA-CASE-LAR-10682-1] c02 N73-26004
- AIRCRAFT STRUCTURES**  
Fatigue testing device applying random discrete load levels to test specimen and applicable to aircraft structures  
[NASA-CASE-XLA-02131] c32 N70-42003
- Heat flux sensor adapted for mounting on aircraft or spacecraft to measure aerodynamic heat flux inflow to aircraft skin  
[NASA-CASE-XPR-03802] c33 N71-23085
- Three-axis adjustable loading structure  
[NASA-CASE-FRC-10051-1] c14 N74-13129
- Transparent fire resistant polymeric structures  
[NASA-CASE-ARC-10813-1] c18 N74-16249
- AIRFOIL PROFILES**  
Airfoil with cambered trailing edge section for supersonic flight  
[NASA-CASE-LAR-10585-1] c01 N73-14981
- AIRFOILS**  
Electric analog for measuring induced drag on nonplanar airfoils  
[NASA-CASE-XLA-00755] c01 N71-13410
- Electric analog for measuring induced drag on nonplanar airfoils  
[NASA-CASE-XLA-05828] c01 N71-13411
- Single wing supersonic aircraft --- with pivotal attachment of airfoil  
[NASA-CASE-ARC-10470-3] c01 N74-30414
- Miniature hydraulic actuator --- for control surfaces on airfoils  
[NASA-CASE-LAR-11522-1] c15 N74-34881
- AIRFRAMES**  
Design of dual fuselage aircraft with pivoting wing and horizontal stabilizer to permit yawing of wing in flight for high speed operation  
[NASA-CASE-ARC-10470-1] c02 N73-26005
- Aircraft configuration for reducing effects of nose-down pitching moments due to high lift forces, loss of trim lift, and engine-out yawing moments  
[NASA-CASE-LAR-11252-1] c02 N73-26007
- AIR SPEED**  
Aerodynamic configuration for aircraft capable of high speed flight and low drag for low speed takeoff or landing upon presently existing airfields  
[NASA-CASE-XLA-00806] c02 N70-34858
- ALCOHOLS**  
New trifunctional alcohol derived from trimer acid and novel method of preparation  
[NASA-CASE-NPO-10714] c06 N69-31244
- Cooling and radiation protection of ruby lasers using copper sulfate solution in alcohol  
[NASA-CASE-MPS-20180] c16 N72-12440
- ALDEHYDES**  
Direct synthesis of polymeric schiff bases from two amines and two aldehydes  
[NASA-CASE-XMF-08655] c06 N71-11239
- Synthesis of azine polymers for heat shields by azine-aromatic aldehyde reaction  
[NASA-CASE-XMF-08656] c06 N71-11242
- Synthesis of aromatic diamines and dialdehyde polymers using Schiff base  
[NASA-CASE-XMF-03074] c06 N71-24740
- ALIGNMENT**  
Centering device with ultrafine adjustment for use with roundness measuring apparatus  
[NASA-CASE-XMF-00480] c14 N70-39898
- Portable device for aligning surfaces of two adjacent wall or sheet sections for joining at point of junction  
[NASA-CASE-XMF-01452] c15 N70-41371
- Electro-optical/computer system for aligning large structural members and maintaining

- correct position  
[NASA-CASE-XNP-02029] c14 N70-41955
- Electrical and electromechanical trigonometric computation assembly and space vehicle guidance system for aligning perpendicular axes of two sets of three-axis coordinate references  
[NASA-CASE-XNP-00684] c21 N71-21688
- Description of device for aligning stacked sheets of paper for repetitive cutting  
[NASA-CASE-XNS-04178] c15 N71-22798
- Laser beam projector for continuous, precise alignment between target, laser generator, and astronomical telescopes during tracking  
[NASA-CASE-NPO-11087] c23 N71-29125
- Measuring roll alignment of test body with respect to reference body  
[NASA-CASE-GSC-10514-1] c14 N72-20379
- Guide accessories for correctly aligning paper in typewriter to correct typographical errors  
[NASA-CASE-MPS-15218-1] c15 N73-31438
- Design of precision vertical alignment system using laser with gravitationally sensitive cavity  
[NASA-CASE-ARC-10444-1] c16 N73-33397
- ALKALI METALS**
- Ultraviolet radiation resistant alkali-metal silicate coatings for temperature control of spacecraft  
[NASA-CASE-YGS-04119] c18 N69-39979
- Analytical test apparatus and method for determining oxygen content in alkali liquid metal  
[NASA-CASE-XLE-01997] c06 N71-23527
- Composition and production method of alkali metal silicate paint with ultraviolet reflection properties  
[NASA-CASE-XGS-04799] c18 N71-24183
- Design and characteristics of heat activated electric cell with anode made from one or more alkali metals and cathode made from oxidizing material  
[NASA-CASE-LEW-11358] c03 N71-26084
- Method for producing alkali metal dispersions of high purity  
[NASA-CASE-XNP-08876] c17 N73-28573
- ALKALINE BATTERIES**
- Method for determining state of charge of alkali batteries by using tritium as tracer  
[NASA-CASE-XNP-01464] c03 N71-10728
- Alkaline-type coulometer cell for primary charge control in secondary battery recharge circuits  
[NASA-CASE-IGS-05434] c03 N71-20491
- ALKYL COMPOUNDS**
- Preparation of fluorohydroxy ethers by reacting fluoroalkylene oxides with alkali salt of polyfluoroalkylene diol  
[NASA-CASE-MPS-10507] c06 N73-30101
- ALLOYS**
- Brazing alloy adapted for brazing corrosion resistant steel to refractory metals, also for brazing refractory metals to other refractory metals  
[NASA-CASE-INP-03063] c17 N71-23365
- Metal alloy bearing materials for space applications  
[NASA-CASE-XLE-05033] c15 N71-23810
- High thermal emittance black surface coatings and process for applying to metal and metal alloy surfaces used in radiative cooling of spacecraft  
[NASA-CASE-XLA-06199] c15 N71-24875
- Adjustable rigid mount for trihedral mirror formed of alloy with small coefficient of thermal expansion supporting screws and spring-biased plates  
[NASA-CASE-XNP-08907] c23 N71-29123
- Metallic alloy and aluminide coating for metallic base system  
[NASA-CASE-LEW-11696-1] c15 N73-10502
- Two-step diffusion welding process of unrecrystallized alloys  
[NASA-CASE-LEW-11388-1] c15 N73-32358
- Duplex aluminized coatings  
[NASA-CASE-LEW-11696-2] c18 N74-18197
- ALLYL COMPOUNDS**
- Monomer polymerization by plasma discharge as thin film for water purification membrane  
[NASA-CASE-ARC-10643-1] c06 N73-29074
- ALPHANUMERIC CHARACTERS**
- Alphanumeric character display device for oscilloscopes  
[NASA-CASE-GSC-11582-1] c09 N73-32120
- ALTERNATING CURRENT**
- Characteristics of high power, low distortion, alternating current power amplifier  
[NASA-CASE-LAR-10218-1] c09 N70-34559
- Frequency control network for current feedback oscillators converting dc voltage to ac or higher dc voltages  
[NASA-CASE-GSC-10041-1] c10 N71-19418
- Blood pressure measuring system for separately recording dc and ac pressure signals of Korotkoff sounds  
[NASA-CASE-XNS-06061] c05 N71-23317
- Solid state circuit for switching alternating current input signal as function of direct current gating transistor  
[NASA-CASE-XNP-06505] c10 N71-24799
- Device for voltage conversion using controlled pulse widths and arrangements to generate ac output voltage  
[NASA-CASE-MPS-10068] c10 N71-25139
- Inverters for changing direct current to alternating current  
[NASA-CASE-XGS-06226] c10 N71-25950
- Dc to ac to dc converter with transistor driven synchronous rectifiers  
[NASA-CASE-GSC-11126-1] c09 N72-25253
- Phase protection system for ac power lines  
[NASA-CASE-MSC-17832-1] c10 N74-14956
- ALTITUDE**
- Combined optical attitude and altitude indicating instrument for use in aircraft or spacecraft  
[NASA-CASE-XLA-01907] c14 N71-23268
- ALTITUDE CONTROL**
- Ambient atmospheric pressure sensing device for determining altitude of flight vehicles  
[NASA-CASE-XLA-00128] c15 N70-37925
- ALUMINUM**
- Joining aluminum to stainless steel by bonding aluminum coatings onto titanium coated stainless steel and brazing aluminum to aluminum/titanium coated steel  
[NASA-CASE-MPS-07369] c15 N71-20443
- Low concentration alkaline solution treatment of aluminum with metal phosphate surface coatings to improve chemical bonding and reduce coating weight  
[NASA-CASE-XLA-01995] c18 N71-23047
- Etching aluminum alloys with aqueous solution containing sulfuric acid, hydrofluoric acid, and an alkali metal dichromate for adhesive bonding  
[NASA-CASE-INP-02303] c17 N71-23828
- Process for producing dispersion strengthened nickel with aluminum comprising metallic matrices embedded with oxides or other hyperfine compounds  
[NASA-CASE-XLE-06969] c17 N71-24142
- Nickel plating onto etched aluminum castings  
[NASA-CASE-XNP-04148] c17 N71-24830
- Method of plating copper on aluminum to permit conventional soldering of structural aluminum bodies  
[NASA-CASE-XLA-08966-1] c17 N71-25903
- Heat activated emf cells with aluminum anode  
[NASA-CASE-LEW-11359] c03 N71-28579
- Heat activated cell with aluminum anode  
[NASA-CASE-LEW-11359-2] c03 N72-20034
- Graded band gap p-n junction gallium arsenide/gallium aluminum arsenide solar cell  
[NASA-CASE-LAR-11174-1] c03 N73-26047
- A panel for selectively absorbing solar thermal energy and the method for manufacturing the panel  
[NASA-CASE-MPS-22562-1] c03 N74-19700
- ALUMINUM ALLOYS**
- High strength aluminum casting alloy for cryogenic applications in aerospace engineering  
[NASA-CASE-XNP-02786] c17 N71-20743
- Etching aluminum alloys with aqueous solution containing sulfuric acid, hydrofluoric acid, and an alkali metal dichromate for adhesive bonding  
[NASA-CASE-INP-02303] c17 N71-23828

- Method of fluxless brazing and diffusion bonding of aluminum containing components  
[NASA-CASE-NSC-14435-1] c15 N74-20071
- ALUMINUM COATINGS**  
Metallic alloy and aluminate coating for metallic base system  
[NASA-CASE-LEW-11696-1] c15 N73-10502  
Intermetallic chromium containing nickel aluminate for high temperature corrosion protection of stainless steels  
[NASA-CASE-LEW-11267-1] c17 N73-32414  
Duplex aluminized coatings  
[NASA-CASE-LEW-11696-2] c18 N74-18197  
Coating superalloys  
[NASA-CASE-LEW-11696-3] c17 N74-27963  
Preparing oxidizer coated metal fuel particles  
[NASA-CASE-NPO-11975-1] c27 N74-33209
- ALUMINUM OXIDES**  
Bonding of sapphire to sapphire by eutectic mixture of aluminum oxide and zirconium oxide  
[NASA-CASE-GSC-11577-2] c15 N74-34002
- ALUMINUM SILICATES**  
White paint production by heating impure aluminum silicate clay having low solar absorptance  
[NASA-CASE-XMP-02139] c18 N71-24184
- AMBULANCES**  
Communication system for transmitting biomedical information obtained from patient in moving ambulance to hospital for diagnosis  
[NASA-CASE-PRC-10031] c05 N70-20717
- AMINES**  
Direct synthesis of polymeric schiff bases from two amines and two aldehydes  
[NASA-CASE-XMP-08655] c06 N71-11239  
Synthesis of schiff bases for heat shields by acetal amine reactions  
[NASA-CASE-XMP-08652] c06 N71-11243  
Automated system for monitoring oxidative metabolites of aromatic amines  
[NASA-CASE-ARC-10469-1] c06 N72-31145  
Polyimide foam for the thermal insulation and fire protection  
[NASA-CASE-ARC-10468-1] c06 N74-12812
- AMMONIA**  
Solid state chemical source for ammonia beam lasers  
[NASA-CASE-XGS-01504] c16 N70-41578
- AMMONIUM PERCHLORATES**  
Ammonium perchlorate composite propellant with organic Cu/II/ chelate catalytic additive  
[NASA-CASE-LAB-10173-1] c27 N71-14090
- AMPLIFICATION**  
Automatic measuring and recording of gain and zero drift characteristics of electronic amplifier  
[NASA-CASE-XMS-05562-1] c09 N69-39986  
Clamped amplifier circuit for horizon scanner enabling amplification and accurate measurement of specified parameters  
[NASA-CASE-XGS-01784] c10 N71-20782  
Diversity receiving system with diversity phase lock  
[NASA-CASE-XGS-01222] c10 N71-20841  
Design of active RC network capable of operating at high Q values with reduced sensitivity to gain amplification and number of passive components  
[NASA-CASE-ARC-10042-2] c10 N72-11256  
Amplifying circuit with constant current source for accumulator load and high gain voltage amplification  
[NASA-CASE-NPO-11023] c09 N72-17155
- AMPLIFIER DESIGN**  
Automatic gain control amplifier system  
[NASA-CASE-XMS-05307] c09 N69-24330  
Isolated dc amplifier for bioelectric measurements  
[NASA-CASE-ARC-10596-1] c09 N72-27233  
Bio-isolated dc operational amplifier --- for bioelectric measurements  
[NASA-CASE-ARC-10596-1] c09 N74-21851
- AMPLIFIERS**  
Development of stable electronic amplifier adaptable for monolithic and thin film construction  
[NASA-CASE-XGS-02812] c09 N71-19466  
Bar oximeter for monitoring blood oxygenation and pressure, pulse rate, and pressure pulse curve, using dc and ac amplifiers  
[NASA-CASE-XAC-05422] c04 N71-23185  
Comb type traveling wave maser amplifier for improved high gain broadband output  
[NASA-CASE-NPO-10548] c16 N71-24831  
Vibrophonocardiograph comprising low weight and small volume piezoelectric microphone with amplifier having high input impedance for high sensitivity and low frequency response  
[NASA-CASE-XPR-07172] c05 N71-27234  
Digital data handling circuits for pulse amplifiers  
[NASA-CASE-XMP-01068] c10 N71-28739  
Active RC filter networks and amplifiers for deep space magnetic field measurement  
[NASA-CASE-XAC-05462-2] c10 N72-17171  
Full wave modulator-demodulator amplifier apparatus --- for generating rectified output signal  
[NASA-CASE-PRC-10072-1] c09 N74-14939
- AMPLITUDE DISTRIBUTION ANALYSIS**  
Monitoring system for signal amplitude ranges over predetermined time interval  
[NASA-CASE-XMS-04061-1] c09 N69-39885  
Cathode ray oscilloscope for analyzing electrical waveforms representing amplitude distribution of time function  
[NASA-CASE-INP-01383] c09 N71-10659  
Analog to digital converter circuit for pulse height analysis  
[NASA-CASE-XMP-00477] c08 N73-28045
- AMPLITUDE MODULATION**  
Alternating current signal generator providing plurality of amplitude modulated output signals  
[NASA-CASE-XMP-05612] c09 N69-21468  
Development of demodulation system for removing amplitude modulation from two quadrature displaced data bearing signals  
[NASA-CASE-XAC-04030] c10 N71-19472  
Development of apparatus for amplitude modulation of diode laser by periodic discharge of direct current power supply  
[NASA-CASE-XMS-04269] c16 N71-22895  
Vibrating element electrometer producing high conversion gain by input current control of elements resonant frequency displacement amplitude  
[NASA-CASE-XAC-02807] c09 N71-23021  
Scanning signal phase and amplitude electronic control device with hybrid T waveguide junction  
[NASA-CASE-NPO-10302] c10 N71-26142  
High efficiency transformerless amplitude modulator coupled to RF power amplifier  
[NASA-CASE-GSC-10668-1] c07 N71-28430  
Gated compressor, distortionless signal limiter  
[NASA-CASE-NPO-11820-1] c07 N74-19788  
Amplitude steered array  
[NASA-CASE-GSC-11446-1] c09 N74-20860
- AMPLITUDES**  
Circuits for amplitude limiting of random noise inputs  
[NASA-CASE-NPO-10169] c10 N71-24844
- ANALOG CIRCUITS**  
Electric network for monitoring temperatures, detecting critical temperatures, and indicating critical time duration  
[NASA-CASE-XMP-01097] c10 N71-16058  
Automatic closed circuit television arc guidance control for welding joints  
[NASA-CASE-MFS-13046] c07 N71-19433  
Electronic divider and multiplier for analog electric signals  
[NASA-CASE-XPR-05637] c09 N71-19480
- ANALOG COMPUTERS**  
Analog spatial maneuver computer with three output angles for obtaining desired spatial attitude  
[NASA-CASE-GSC-10880-1] c08 N72-11172
- ANALOG DATA**  
Data compression processor for monitoring analog signals by sampling procedure  
[NASA-CASE-NPO-10068] c08 N71-19288  
Wide range analog data compression system  
[NASA-CASE-IGS-02612] c08 N71-19435  
Analog signal to discrete time converter  
[NASA-CASE-ERC-10048] c09 N72-25251
- ANALOG TO DIGITAL CONVERTERS**  
Conversion system for increasing resolution of analog to digital converters  
[NASA-CASE-XAC-00404] c08 N70-40125

## SUBJECT INDEX

## ANTENNA ARRAYS.

Analog to digital converter for converting pulses to frequencies  
 [NASA-CASE-XLA-00670] c08 N71-12501  
 Describing continuous analog to digital converter with parallel digital output and nonlinear feedback  
 [NASA-CASE-YAC-04031] c08 N71-18594  
 Voltage drift compensation circuit for analog-to-digital converter  
 [NASA-CASE-XNP-04780] c08 N71-19687  
 Development and characteristics of fluid oscillator analog to digital converter with variable frequency controlled by signal passing through conditioning circuit  
 [NASA-CASE-LEW-10345-1] c10 N71-25899  
 Data acquisition system for converting displayed analog signal to digital values  
 [NASA-CASE-NPO-10344] c10 N71-26544  
 Apparatus for automatically testing analog to digital converters for open and short circuits  
 [NASA-CASE-XLA-06713] c14 N71-28991  
 Wide range analog to digital converter with variable gain amplifier  
 [NASA-CASE-NPO-11018] c08 N72-21200  
 Analog to digital converter using offset voltage to eliminate errors  
 [NASA-CASE-MS-C-13110-1] c08 N72-22163  
 Analog to digital converter analyzing system  
 [NASA-CASE-NPO-10560] c08 N72-22166  
 Control and information system for digital telemetry data using analog converter to digitize sensed parameter values  
 [NASA-CASE-NPO-11016] c08 N72-31226  
 Nonrecursive counting digital filter containing shift register  
 [NASA-CASE-NPO-11821-1] c08 N73-26175  
 Analog to digital converter circuit for pulse height analysis  
 [NASA-CASE-XNP-00477] c08 N73-28045  
 Analog to digital converter  
 [NASA-CASE-NPO-13385-1] c08 N74-32646  
**ANALOGS**  
 Continuous Fourier transform method and apparatus  
 [NASA-CASE-ARC-10466-1] c08 N73-21199  
**ANALYZERS**  
 Mixed liquid and vapor phase analyzer design with thermocouples for relative heat transfer measurement  
 [NASA-CASE-NPO-10691] c14 N71-26199  
 Automated fluid chemical analyzer for microchemical analysis of small quantities of liquids by use of selected reagents and analyzer units  
 [NASA-CASE-XNP-09451] c06 N71-26754  
 Micrometeoroid analyzer using arrays of interconnected capacitors and ion detector  
 [NASA-CASE-ARC-10443-1] c14 N73-20477  
 An NDIR gas analyzer based on absorption modulation ratios for known and unknown samples  
 [NASA-CASE-ARC-10802-1] c14 N74-28933  
 Cosmic dust analyzer  
 [NASA-CASE-MS-C-13802-2] c14 N74-32883  
**ANEMOMETERS**  
 Anemometer with braking mechanism to prevent rotation of wind driven elements  
 [NASA-CASE-IMF-05224] c14 N71-23726  
 Maxometers for measuring peak wind speeds during severe environmental conditions  
 [NASA-CASE-MFS-20916] c14 N73-25460  
**ANGLES (GEOMETRY)**  
 Gage for measuring internal angle of flare on end of tube  
 [NASA-CASE-IMF-04415] c14 N71-24693  
 Optical device containing rotatable prism and reflecting mirror for generating precise angles  
 [NASA-CASE-YGS-04173] c19 N71-26674  
 Rotating raster generator  
 [NASA-CASE-FRC-10071-1] c07 N74-20813  
**ANGULAR ACCELERATION**  
 Strain gage accelerometer for angular acceleration measurement  
 [NASA-CASE-IMS-05936] c14 N70-41682  
**ANGULAR CORRELATION**  
 Device for determining relative angular position of spacecraft and radiating celestial body  
 [NASA-CASE-GSC-11444-1] c14 N73-28490  
**ANGULAR MOMENTUM**  
 Stretch Yo-Yo mechanism for reducing initial spin rate of space vehicle  
 [NASA-CASE-YGS-00619] c30 N70-40016  
**ANGULAR RESOLUTION**  
 Characteristics and performance of electrical system to determine angular rotation  
 [NASA-CASE-IMF-00447] c14 N70-33179  
**ANGULAR VELOCITY**  
 Describing angular position and velocity sensing apparatus  
 [NASA-CASE-XGS-05680] c14 N71-17585  
**ANILINE**  
 Synthesis of high purity dianilinosilanes  
 [NASA-CASE-IMF-06409] c06 N71-23230  
**ANIMALS**  
 Automatic real-time pair-feeding system for animals  
 [NASA-CASE-ARC-10302-1] c04 N74-15778  
**ANNEALING**  
 Recovering efficiency of solar cells damaged by environmental radiation through thermal annealing  
 [NASA-CASE-YGS-04047-2] c03 N72-11062  
**ANNULAR NOZZLES**  
 Large area-ratio nozzles for rocket motor thrust chambers  
 [NASA-CASE-ILE-00145] c28 N70-36806  
 Electrostatic microthrust propulsion system with annular slit colloid thruster  
 [NASA-CASE-GSC-10709-1] c28 N71-25213  
**ANNULAR PLATES**  
 Bluff-shaped annular configuration for supersonic decelerator for reentry vehicles  
 [NASA-CASE-ILE-00222] c02 N70-37939  
**ANODES**  
 Design and characteristics of heat activated electric cell with anode made from one or more alkali metals and cathode made from oxidizing material  
 [NASA-CASE-LEW-11358] c03 N71-26084  
 Storage battery comprising negative plates of a wedge shaped configuration --- for preventing shape change induced malfunctions  
 [NASA-CASE-NPO-11806-1] c03 N74-19693  
**ANODIC COATINGS**  
 Anodizing method for providing metal surfaces with temperature reducing coatings against flames  
 [NASA-CASE-ILE-00035] c33 N71-29151  
**ANTENNA ARRAYS**  
 Monopole antenna system for maximum omnidirectional efficiency for use on satellites  
 [NASA-CASE-XLA-00414] c07 N70-38200  
 Radio receiver with array of independently steerable antennas for deep space communication  
 [NASA-CASE-XLA-00901] c07 N71-10775  
 Characteristics of antenna horn feeds consisting of central horn with overlapping peripheral horns  
 [NASA-CASE-GSC-10452] c07 N71-12396  
 Tracking antenna system with array for synchronous satellite or ground based radar  
 [NASA-CASE-GSC-10553-1] c07 N71-19854  
 Interferometric tuning acquisition and tracking radar antenna system  
 [NASA-CASE-IMS-09610] c07 N71-24625  
 Development of electronic circuit for combining input signals on two separate antennas to form two processed signals  
 [NASA-CASE-MS-C-12205-1] c07 N71-27056  
 Antenna array at focal plane of reflector with coupling network for beam switching  
 [NASA-CASE-GSC-10220-1] c07 N71-27233  
 Pattern and impedance matching improvements in transversely polarized triaxial antenna  
 [NASA-CASE-YGS-02290] c07 N71-28809  
 Planar array circularly polarized antenna with wall slot excitation  
 [NASA-CASE-NPO-10301] c07 N72-11148  
 Vertically stacked collinear array of independently fed omnidirectional antennas for use in collision warning systems on commercial aircraft  
 [NASA-CASE-LAR-10545-1] c09 N72-21244  
 Circularly polarized antenna with linearly polarized pair of elements  
 [NASA-CASE-ERC-10214] c09 N72-31235  
 Development of phase control coupling for use with phased array antenna  
 [NASA-CASE-ERC-10285] c10 N73-16206

- Plural beam antenna with parabolic reflectors  
[NASA-CASE-GSC-11013-1] c09 N73-19234
- Position determination systems --- using orbital  
antenna scan of celestial body  
[NASA-CASE-MSC-12593-1] c09 N74-14942
- Amplitude steered array  
[NASA-CASE-GSC-11446-1] c09 N74-20860
- ANTENNA COMPONENTS**
- Digital servo controller --- for rotating  
antenna shaft  
[NASA-CASE-RSC-10769-1] c09 N74-29556
- ANTENNA DESIGN**
- Development and characteristics of low-noise  
multimode monopulse antenna feed system for  
use with microwave communication equipment  
[NASA-CASE-INP-01735] c07 N71-22750
- Nose cone mounted heat resistant antenna  
comprising plurality of adjacent layers of  
silica not introducing paths of high thermal  
conductivity through ablative shield  
[NASA-CASE-XMS-04312] c07 N71-22984
- Development of electronic circuit for combining  
input signals on two separate antennas to form  
two processed signals  
[NASA-CASE-MSC-12205-1] c07 N71-27056
- Development and characteristics of extensible  
dipole antenna using deformable tubular  
metallic strip element  
[NASA-CASE-HQM-00937] c07 N71-28979
- Development of method for suppressing excitation  
of electromagnetic surface waves on dielectric  
converter antenna  
[NASA-CASE-XLA-10772] c07 N71-28980
- Target acquisition antenna feed with reflector  
system  
[NASA-CASE-GSC-10064-1] c10 N72-22235
- Collapsible high gain antenna which can be  
automatically expanded to operating state  
[NASA-CASE-RSC-10392] c07 N73-26117
- Dish antenna having switching beamwidth with  
truncated concave ellipsoid subreflector  
[NASA-CASE-GSC-11760-1] c09 N73-32116
- Horn antenna having V-shaped corrugated slots  
[NASA-CASE-LAR-11112-1] c09 N74-29575
- ANTENNA FEEDS**
- Design and operation of multi-feed cone  
Cassegrain antenna  
[NASA-CASE-NPO-10539] c07 N71-11285
- Characteristics of antenna horn feeds consisting  
of central horn with overlapping peripheral  
horns  
[NASA-CASE-GSC-10452] c07 N71-12396
- Target acquisition antenna feed with reflector  
system  
[NASA-CASE-GSC-10064-1] c10 N72-22235
- Multimode antenna feed system for microwave and  
broadband communication  
[NASA-CASE-GSC-11046-1] c07 N73-28013
- Low loss dichroic plate  
[NASA-CASE-NPO-13171-1] c07 N74-11000
- High efficiency multifrequency feed  
[NASA-CASE-GSC-11317-3] c09 N74-20863
- Two feed dish antenna having switchable beamwidth  
[NASA-CASE-GSC-11968-1] c09 N74-34649
- ANTENNA RADIATION PATTERNS**
- Broadband chokes and absorbers to reduce  
spurious radiation patterns of antenna array  
caused by support structures  
[NASA-CASE-XMS-05303] c07 N69-27462
- Multiple mode horn antenna with radiation  
pattern of equal beamwidths and suppressed  
sidelobes  
[NASA-CASE-INP-01057] c07 N71-15907
- Monopulse scanning network for scanning  
volumetric antenna pattern  
[NASA-CASE-GSC-10299-1] c09 N71-24804
- High impact antennas with high radiating  
efficiency  
[NASA-CASE-NPO-10231] c07 N71-26101
- Pattern and impedance matching improvements in  
transversely polarized triaxial antenna  
[NASA-CASE-XGS-02290] c07 N71-28809
- Dielectric loaded aperture antenna with  
directive radiation pattern from waveguide  
[NASA-CASE-LAR-11084-1] c09 N73-12216
- System for locating lightning strokes by  
coordination of directional antenna signals  
[NASA-CASE-RSC-10729-1] c09 N73-32110
- ANTENNAS**
- Antenna design with self erecting mesh reflector  
[NASA-CASE-XGS-09190] c31 N71-16102
- High impact antennas with high radiating  
efficiency  
[NASA-CASE-NPO-10231] c07 N71-26101
- Collapsible antenna boom and coaxial  
transmission line having inflatable inner tube  
[NASA-CASE-MFS-20068] c07 N71-27191
- Conical reflector antenna with feed  
approximating line source  
[NASA-CASE-NPO-10303] c07 N72-22127
- ANTIFRICTION BEARINGS**
- Development of hybrid bearing lubrication system  
with combination of standard type lubrication  
and magnetic flux field for earth atmosphere  
and space environment operation  
[NASA-CASE-INP-01641] c15 N71-22997
- Development of rolling element bearing for  
operation in ultrahigh vacuum environment  
[NASA-CASE-XLE-09527-2] c15 N71-26189
- Development of optical system for detecting  
defective components in rotating machinery  
with emphasis on bearing assemblies  
[NASA-CASE-RSC-10752-1] c15 N73-27407
- Fatigue life of hybrid antifriction bearings at  
ultrahigh speeds  
[NASA-CASE-LEW-11152-1] c15 N73-32359
- Hollow high strength rolling elements for  
antifriction bearings fabricated from  
preformed components  
[NASA-CASE-LEW-11026-1] c15 N73-33383
- ANTISEPTICS**
- Chemical synthesis of formaldehyde based  
disinfectants without penetrating odor and eye  
and ear irritation properties  
[NASA-CASE-NPO-12115-1] c06 N73-17153
- ANVILS**
- Exponential horn, copper plate, magnetic hammer,  
and anvil in apparatus for making diamonds  
[NASA-CASE-MFS-20698] c15 N72-20446
- APERTURES**
- Apertured electrode focusing system for ion  
sources with nonuniform plasma density  
[NASA-CASE-INP-03332] c09 N71-10618
- Threadless fastener apparatus comprising  
receiving apertures for plurality of articles,  
self-locked condition, and capable of using  
nonmalleable materials in both ends  
[NASA-CASE-XPR-05302] c15 N71-23254
- Electron microscope and method of making annular  
objective aperture  
[NASA-CASE-ARC-10448-1] c14 N72-21421
- Apparatus for on-film optical recording of  
camera lens aperture and focus setting  
[NASA-CASE-MSC-12363-1] c14 N73-26431
- Electron microscope aperture system  
[NASA-CASE-ARC-10448-2] c14 N74-12190
- Electron microscope aperture system  
[NASA-CASE-ARC-10448-3] c14 N74-12191
- Method of making an apertured casting  
[NASA-CASE-LEW-11169-1] c15 N74-18131
- APOLLO PROJECT**
- Intra- and extravehicular life support space  
suite for Apollo astronauts  
[NASA-CASE-MSC-12609-1] c05 N73-32012
- APOLLO SPACECRAFT**
- Low onset rate energy absorber in form of strut  
assembly for crew couch of Apollo command module  
[NASA-CASE-MSC-12279-1] c15 N70-35679
- Energy absorbing crew couch strut for Apollo  
command module  
[NASA-CASE-MSC-12279] c15 N72-17450
- APPLICATIONS OF MATHEMATICS**
- Apparatus for computing square roots  
[NASA-CASE-XGS-04768] c08 N71-19437
- APPLICATIONS TECHNOLOGY SATELLITES**
- Doppler frequency shift correction device for  
multiplex communication with Applications  
Technology Satellites  
[NASA-CASE-XGS-02749] c07 N69-39976
- AQUEOUS SOLUTIONS**
- Fuel system for thermal nuclear reactor which  
uses inorganic ion exchanger  
[NASA-CASE-LEW-11645-2] c22 N73-28660
- ARC DISCHARGES**
- Development of device to prevent high voltage  
arcing in electron beam welding  
[NASA-CASE-INP-08522] c15 N71-19486

- Direct current powered self repeating plasma accelerator with interconnected annular and linear discharge channels  
[NASA-CASE-XLA-03103] c25 N71-21693
- Method and apparatus for nondestructive testing --- using high frequency arc discharges  
[NASA-CASE-MFS-21233-1] c23 N74-15395
- ARC BEATING**  
Magnetically diffused radial electric arc heater  
[NASA-CASE-XLA-00330] c33 N70-34540  
Electric arc device for minimizing electrode ablation and heating gases to supersonic or hypersonic wind tunnel temperatures  
[NASA-CASE-XAC-00319] c25 N70-41628
- ARC JET ENGINES**  
Improving performance of magnetoplasmadynamic arc rocket engine  
[NASA-CASE-LEW-11180-1] c25 N73-25760
- ARC LAMPS**  
Starting circuit design for initiating and maintaining arcs in vapor lamps  
[NASA-CASE-XMP-01058] c09 N71-12540
- ARC WELDING**  
Emission spectroscopy method for contamination monitoring of inert gas metal arc welding  
[NASA-CASE-XMP-02039] c15 N71-15871  
Automatic closed circuit television arc guidance control for welding joints  
[NASA-CASE-MFS-13046] c07 N71-19433  
Development of device to prevent high voltage arcing in electron beam welding  
[NASA-CASE-XMP-08522] c15 N71-19486  
Development of apparatus for automatically changing carriage speed of welding machine to obtain constant speed of torch along work surface  
[NASA-CASE-XMP-07069] c15 N71-23815  
Refinement control in TIG arc welding  
[NASA-CASE-MSC-19095-1] c15 N74-32925
- ARCHITECTURE**  
Development of construction block in form of container folded from flat sheet and filled with solid material for architectural purposes  
[NASA-CASE-MSC-12233-2] c32 N73-13921
- ARM (ANATOMY)**  
Orthotic arm joint --- for manipulating objects in response to electrical signals  
[NASA-CASE-MFS-21611-1] c05 N74-10100  
Apparatus for applying simulator g-forces to an arm of an aircraft simulator pilot  
[NASA-CASE-LAR-10550-1] c11 N74-30597
- ARMATURES**  
Design and development of electric motor with stationary field and armature windings which operates on direct current  
[NASA-CASE-XGS-05290] c09 N71-25999  
Solenoid valve including guide for armature and valve member  
[NASA-CASE-GSC-10607-1] c15 N72-20442  
Direct current motor including stationary field windings and stationary armature winding  
[NASA-CASE-XGS-07805] c15 N72-33476
- AROMATIC COMPOUNDS**  
Ultraviolet and thermally stable polymer compositions --- poly/(diarylsiloxy)/arylazines  
[NASA-CASE-ARC-10592-2] c06 N74-11926  
Aromatic polyimide preparation --- with low softening temperatures  
[NASA-CASE-LAR-11372-1] c06 N74-19772  
Ultraviolet and thermally stable polymer compositions  
[NASA-CASE-ARC-10592-1] c18 N74-21156  
Ether-linked aryl tetracarboxylic dianhydrides  
[NASA-CASE-MFS-22356-1] c06 N74-29479
- ARTERIES**  
Arterial pulse wave pressure transducer  
[NASA-CASE-GSC-11531-1] c05 N74-27566
- ARTIFICIAL CLOUDS**  
Chemical system for releasing barium to create ion clouds in upper atmosphere and interplanetary space  
[NASA-CASE-LAR-10670-1] c06 N73-30097
- ARTIFICIAL GRAVITY**  
Artificial gravity system for simulating self-locomotion capability of astronauts in rotating environments  
[NASA-CASE-XLA-03127] c11 N71-10776  
Development of method for producing artificial gravity in manned spacecraft  
[NASA-CASE-XMP-02595] c31 N71-21881  
Spacecraft with artificial gravity and earthlike atmosphere  
[NASA-CASE-LEW-11101-1] c31 N73-32750
- ARTIFICIAL SATELLITES**  
Gravity gradient attitude control system with gravity gradiometer and reaction wheels for artificial satellite attitude control  
[NASA-CASE-GSC-10555-1] c21 N71-27324
- ASBESTOS**  
Method for producing asbestos matrix suitable for use in fuel cell or electrolysis cell  
[NASA-CASE-MSC-12568-1] c18 N73-16577
- ASPECT RATIO**  
Variable aspect ratio and variable sweep delta wing planform for supersonic aircraft  
[NASA-CASE-XLA-00221] c02 N70-33266  
Supersonic aircraft configuration providing for variable aspect ratio and variable sweep wings  
[NASA-CASE-XLA-00166] c02 N70-34178  
Supersonic aircraft variable sweep wing planform for varying aspect ratio  
[NASA-CASE-XLA-00350] c02 N70-38011
- ASSEMBLIES**  
Multiple Belleville spring assembly with even load distribution  
[NASA-CASE-XMP-00840] c15 N70-38225
- ASTRONAUT LOCOMOTION**  
Artificial gravity system for simulating self-locomotion capability of astronauts in rotating environments  
[NASA-CASE-XLA-03127] c11 N71-10776  
Space suit with pressure-volume compensator system  
[NASA-CASE-XLA-05332] c05 N71-11194  
Equipotential space suits utilizing mechanical aids to minimize astronaut energy at bending joints  
[NASA-CASE-LAR-10007-1] c05 N71-11195  
Space suit using nonflexible material with low leakage and providing protection against thermal extremes, physical punctures, and radiation with high mobility articulation  
[NASA-CASE-XAC-07043] c05 N71-23161  
Development of improved convolute section for pressurized suits to provide high degree of mobility in response to minimum of applied torque  
[NASA-CASE-XMS-09637-1] c05 N71-24730  
Gravity environment simulation by locomotion and restraint aid for studying manual operation performance of astronauts at zero gravity  
[NASA-CASE-ARC-10153] c05 N71-28619
- ASTRONAUT MANEUVERING EQUIPMENT**  
Hand-held maneuvering unit for propulsion and attitude control of astronauts in zero or reduced gravity environment  
[NASA-CASE-XMS-05304] c05 N71-12336  
Space environmental work simulator with portions of space suit mounted to vacuum chamber wall  
[NASA-CASE-XMP-07488] c11 N71-18773  
Lightweight propulsion unit for movement of personnel and equipment across lunar surface  
[NASA-CASE-MFS-20130] c28 N71-27585
- ASTRONAUT PERFORMANCE**  
Gravity environment simulation by locomotion and restraint aid for studying manual operation performance of astronauts at zero gravity  
[NASA-CASE-ARC-10153] c05 N71-28619
- ASTRONAUT TRAINING**  
Attitude control training device for astronauts permitting friction-free movement with five degrees of freedom  
[NASA-CASE-INS-02977] c11 N71-10746  
Low and zero gravity simulator for astronaut training  
[NASA-CASE-MFS-10555] c11 N71-19494  
Apparatus for training astronaut crews to perform on simulated lunar surface under conditions of lunar gravity  
[NASA-CASE-XMS-04798] c11 N71-21474
- ASTRONAUTS**  
Three transceiver lunar emergency system to relay voice communication of astronaut  
[NASA-CASE-MFS-21042] c07 N72-25171  
Manual actuator --- for spacecraft exercising machines  
[NASA-CASE-MFS-21481-1] c15 N74-18127
- ASTRONAVIGATION**  
Guidance analyzer having suspended spacecraft

- simulating sphere for astronavigation  
[NASA-CASE-IMP-09572] c14 N71-15621
- ASTRONOMICAL PHOTOGRAPHY**  
Cameras for photographing meteors in selected sky area  
[NASA-CASE-LAR-10226-1] c14 N73-19419
- ASTRONOMICAL TELESCOPES**  
Light sensitive control system for automatically opening and closing dome of solar optical telescope  
[NASA-CASE-NSC-10966] c14 N71-19568  
Laser beam projector for continuous, precise alignment between target, laser generator, and astronomical telescope during tracking  
[NASA-CASE-NPO-11087] c23 N71-29125  
Star image motion compensator using telescope for maintaining fixed images  
[NASA-CASE-LAR-10523-1] c14 N72-22444
- ATMOSPHERIC COMPOSITION**  
Design and development of two types of atmosphere sampling chambers  
[NASA-CASE-NPO-11373] c13 N72-25323  
Development and operation of apparatus for sampling particulates in gases in upper atmosphere  
[NASA-CASE-HQN-10037-1] c14 N73-27376  
Monitoring atmospheric pollutants with a heterodyne radiometer transmitter-receiver  
[NASA-CASE-NPO-11919-1] c14 N74-11284
- ATMOSPHERIC ENTRY**  
Designing spacecraft for flight into space, atmospheric reentry, and landing at selected sites  
[NASA-CASE-IAC-02058] c02 N71-16087  
Development of method for measuring electron density gradients of plasma sheath around space vehicle during atmospheric entry  
[NASA-CASE-XLA-06232] c25 N71-20563  
Orbital and entry tracking accessory for globes --- to provide range requirements for reentry vehicles to any landing site  
[NASA-CASE-LAR-10626-1] c14 N74-21015
- ATMOSPHERIC ENTRY SIMULATION**  
Crossed-field plasma accelerator for laboratory simulation of atmospheric reentry conditions  
[NASA-CASE-XLA-00675] c25 N70-33267  
Wind tunnel method for simulating flow fields around blunt vehicles entering planetary atmospheres without involving high temperatures  
[NASA-CASE-LAR-11138] c12 N71-20436
- ATMOSPHERIC PHYSICS**  
Development and characteristics of apparatus for measuring intensity of electric field in atmosphere  
[NASA-CASE-KSC-10730-1] c14 N73-32318
- ATMOSPHERIC RADIATION**  
Radiometric measuring system for solar activity and atmospheric attenuation and emission  
[NASA-CASE-ERC-10276] c14 N73-26432
- ATMOSPHERIC TURBULENCE**  
Passive optical wind and turbulence remote detection system  
[NASA-CASE-IMP-14032] c20 N71-16340
- ATOMIZERS**  
Portable cryogenic cooling system design including turbine pump, cooling chamber, and atomizer  
[NASA-CASE-NPO-10467] c23 N71-26654
- ATOMS**  
Atomic standard with variable storage volume --- in cylindrical, flexible bellows  
[NASA-CASE-GSC-11895-1] c15 N74-33997
- ATTACHMENT**  
Silicon carbide backward diode with coated lead attachment  
[NASA-CASE-ERC-10224-2] c09 N73-27150
- ATTENUATORS**  
Rotary vane attenuator with two stators and intermediary rotor, using resistive and orthogonally disposed cards  
[NASA-CASE-NPO-11418-1] c14 N73-13420
- ATTITUDE (INCLINATION)**  
Analog spatial maneuver computer with three output angles for obtaining desired spatial attitude  
[NASA-CASE-GSC-10880-1] c08 N72-11172  
Spacecraft attitude sensing system design with narrow field of view sensor rotating about spacecraft x-y axis  
[NASA-CASE-GSC-10890-1] c21 N73-30640
- ATTITUDE CONTROL**  
Visual target luminaires for retrofire attitude control  
[NASA-CASE-IMS-12158-1] c31 N69-27499  
Unitary three-axis controller for flight vehicles within or outside atmosphere  
[NASA-CASE-XFR-00181] c21 N70-33279  
Sensing method and device for determining orientation of space vehicle or satellite by using particle traps  
[NASA-CASE-XGS-00466] c21 N70-34297  
Attitude and propellant flow control system for liquid propellant rocket vehicles  
[NASA-CASE-IMP-00185] c21 N70-34539  
Spacecraft attitude control system using solar and earth sensors, gyroscopes, and jet actuators  
[NASA-CASE-IMP-00465] c21 N70-35395  
Attitude control device for space vehicles  
[NASA-CASE-IMP-00294] c21 N70-36938  
Attitude orientation control of spin stabilized final stage space vehicles, using horizon scanners  
[NASA-CASE-XLA-00281] c21 N70-36943  
Automatic ejection valve for attitude control and midcourse guidance of space vehicles  
[NASA-CASE-IMP-00676] c15 N70-38996  
Three-axis controller operated by hand-wrist motion for yaw, pitch, and roll control  
[NASA-CASE-IAC-01404] c05 N70-41581  
Attitude control training device for astronauts permitting friction-free movement with five degrees of freedom  
[NASA-CASE-IMS-02977] c11 N71-10746  
Photomultiplier detector of Canopus for spacecraft attitude control  
[NASA-CASE-IMP-03914] c21 N71-10771  
Automatic balancing device for use on frictionless supported attitude-controlled test platforms  
[NASA-CASE-LAR-10774] c10 N71-13545  
Development of spacecraft experiment pointing and attitude control system  
[NASA-CASE-XLA-05464] c21 N71-14132  
Development of attitude control system for spacecraft orientation  
[NASA-CASE-IGS-04393] c21 N71-14159  
System for aerodynamic control of rocket vehicles by secondary injection of fluid into nozzle exhaust stream  
[NASA-CASE-XLA-01163] c21 N71-15582  
Drive mechanism for operating reactance attitude control system for aerospace bodies  
[NASA-CASE-IMP-01598] c21 N71-15583  
Attitude detection system using stellar references for three-axis control and spin stabilized spacecraft  
[NASA-CASE-XGS-03431] c21 N71-15642  
Remote control device operated by movement of finger tips for manual control of spacecraft attitude  
[NASA-CASE-IAC-02405] c09 N71-16089  
Thrust and attitude control apparatus using jet nozzle in movable canard surface or fin configuration  
[NASA-CASE-XLE-03583] c31 N71-17629  
Attitude sensor with scanning mirrors for detecting orientation of space vehicle with respect to planet  
[NASA-CASE-XLA-00793] c21 N71-22880  
Development of attitude control system for sounding rocket stabilization during ballistic phase of flight  
[NASA-CASE-XGS-01654] c31 N71-24750  
Development of voice operated controller for controlling reaction jets of spacecraft  
[NASA-CASE-XLA-04063] c31 N71-33160  
Attitude sensor  
[NASA-CASE-LAR-10586-1] c14 N74-15089  
Temperature compensated digital inertial sensor --- circuit for maintaining inertial element of gyroscope or accelerometer at constant position  
[NASA-CASE-NPO-13044-1] c14 N74-15094
- ATTITUDE GYROS**  
Spacecraft attitude control system using solar and earth sensors, gyroscopes, and jet actuators  
[NASA-CASE-IMP-00465] c21 N70-35395

- An attitude control system  
[NASA-CASE-MFS-22787-1] c21 N74-35096
- ATTITUDE INDICATORS**  
Photosensitive light source device for detecting unmanned spacecraft deviation from reference attitude  
[NASA-CASE-XNP-00438] c21 N70-35089  
Hand controller operable about three respectively perpendicular axes and capable of actuating signal generators for attitude control devices  
[NASA-CASE-XMS-07487] c15 N71-23255  
Combined optical attitude and altitude indicating instrument for use in aircraft or spacecraft  
[NASA-CASE-XLA-01907] c14 N71-23268  
Aircraft horizon and vertical indicator  
[NASA-CASE-ERC-10392] c21 N73-14692  
Attitude sensor  
[NASA-CASE-LAR-10586-1] c14 N74-15089
- ATTITUDE STABILITY**  
Dynamic precession damping of spin-stabilized vehicles by using rate gyroscope and angular accelerometer  
[NASA-CASE-XLA-01989] c21 N70-34295  
Attitude stabilizer for nonguided missile or vehicle with respect to trajectory  
[NASA-CASE-ARC-10134] c30 N72-17873  
Strapped down gyroscope aligned with sun and star tracker optical axis calibrating roll, yaw and pitch values  
[NASA-CASE-ARC-10716-1] c31 N73-32784
- AUDIO EQUIPMENT**  
Audio equipment for removing impulse noise from audio signals  
[NASA-CASE-NPO-11631] c10 N73-12244
- AUDIO FREQUENCIES**  
High efficiency transformerless amplitude modulator coupled to RF power amplifier  
[NASA-CASE-GSC-10668-1] c07 N71-28430  
Audio frequency analysis circuit for determining, displaying, and recording frequency of sweeping audio frequency signal  
[NASA-CASE-NPO-11147] c14 N72-27408
- AUDITORY PERCEPTION**  
Auditory display for the blind  
[NASA-CASE-HQN-10832-1] c14 N74-21014
- AUDITORY SIGNALS**  
Audio signal processing system for noise surge elimination at low amplitude audio input  
[NASA-CASE-HSC-12223-1] c07 N71-26181  
Audio equipment for removing impulse noise from audio signals  
[NASA-CASE-NPO-11631] c10 N73-12244
- AUDITORY STIMULI**  
Auditory display for the blind  
[NASA-CASE-HQN-10832-1] c14 N74-21014
- AUSTENITIC STAINLESS STEELS**  
Intermetallic chromium containing nickel aluminide for high temperature corrosion protection of stainless steels  
[NASA-CASE-LEW-11267-1] c17 N73-32414
- AUTOCORRELATION**  
Linear three-tap feedback shift register  
[NASA-CASE-NPO-10351] c08 N71-12503  
Circuitry for developing autocorrelation function continuously within signal receiving period  
[NASA-CASE-XNP-00746] c07 N71-21476
- AUTOMATIC CONTROL**  
Automatic control of voltage supply to direct current motor  
[NASA-CASE-XMS-04215-1] c09 N69-39987  
Electro-optical/computer system for aligning large structural members and maintaining correct position  
[NASA-CASE-INP-02029] c14 N70-41955  
Pulsed energy power system for application of combustible gases to turbine controlling ac voltage generator  
[NASA-CASE-HSC-13112] c03 N71-11057  
Automatic balancing device for use on frictionless supported attitude-controlled test platforms  
[NASA-CASE-LAR-10774] c10 N71-13545  
Computer controlled apparatus for maintaining welding torch angle and velocity during seam tracking  
[NASA-CASE-INP-03287] c15 N71-15607
- Fluid leakage detection system with automatic monitoring capability  
[NASA-CASE-LAR-10323-1] c12 N71-17573  
Light sensitive control system for automatically opening and closing dome of solar optical telescope  
[NASA-CASE-HSC-10966] c14 N71-19568  
Welding torch with automatic speed controller using speed sensing wheel and closed servo system  
[NASA-CASE-INP-01730] c15 N71-23050  
Microwave waveguide switch with rotor position control  
[NASA-CASE-XNP-06507] c09 N71-23548  
Automatically reciprocating, high pressure pump for use in spacecraft cryogenic propellants  
[NASA-CASE-XNP-04731] c15 N71-24042  
Automatic controlled thermal fatigue testing apparatus  
[NASA-CASE-XLA-02059] c33 N71-24276  
Automatically charging battery of electric storage cells  
[NASA-CASE-XNP-04758] c03 N71-24605  
Electric motor control system with pulse width modulation for providing automatic null seeking servo  
[NASA-CASE-INP-05195] c10 N71-24861  
Indexing mechanism for cathode array substitution in electron beam tube  
[NASA-CASE-NPO-10625] c09 N71-26182  
Voltage range selection apparatus for sensing and applying voltages to electronic instruments without loading signal source  
[NASA-CASE-XMS-06497] c14 N71-26244  
Automated fluid chemical analyzer for microchemical analysis of small quantities of liquids by use of selected reagents and analyzer units  
[NASA-CASE-INP-09451] c06 N71-26754  
Automatic control device for regulating inlet water temperature of liquid cooled spacesuit  
[NASA-CASE-HSC-13917-1] c05 N72-15098  
Optimal control system for automatic speed regulation of electric driven motor vehicle  
[NASA-CASE-NPO-11210] c11 N72-20244  
Plotter device for automatically drawing equipotential lines on sheet of resistance paper  
[NASA-CASE-NPO-11134] c09 N72-21246  
Automatic shunting of ion thruster magnetic field when thruster is not operating  
[NASA-CASE-LEW-10835-1] c28 N72-22771  
Automated system for monitoring oxidative metabolites of aromatic amines  
[NASA-CASE-ARC-10469-1] c06 N72-31145  
Automatic temperature control for liquid cooled space suit  
[NASA-CASE-ARC-10599-1] c05 N73-26071  
Automatically operable self-leveling load table with plurality of solenoid valves  
[NASA-CASE-MFS-22039-1] c14 N73-30428  
Speed control system for dc motor equipped with brushless Hall effect device  
[NASA-CASE-MFS-20207-1] c09 N73-32107  
Automatic focus control for facsimile cameras  
[NASA-CASE-LAR-11213-1] c14 N74-10420  
Programmable physiological infusion  
[NASA-CASE-ARC-10447-1] c05 N74-22771
- AUTOMATIC CONTROL VALVES**  
Ambient atmospheric pressure sensing device for determining altitude of flight vehicles  
[NASA-CASE-XLA-00128] c15 N70-37925  
Describing metal valve pintle with encapsulated elastomeric body  
[NASA-CASE-HSC-12116-1] c15 N71-17648  
Sectoroidal diaphragm cavitating flow control valve  
[NASA-CASE-XNP-09704] c12 N71-18615  
Reliability of automatic refilling valving device for cryogenic liquid systems  
[NASA-CASE-NPO-11177] c15 N72-17453
- AUTOMATIC FREQUENCY CONTROL**  
System for phase locking onto carrier frequency signal located within receiver bandpass  
[NASA-CASE-XGS-04994] c09 N69-21543  
Audio signal processing system for noise surge elimination at low amplitude audio input  
[NASA-CASE-HSC-12223-1] c07 N71-26181  
Automatic frequency control device for providing frequency reference for voltage controlled



oscillator  
[NASA-CASE-KSC-10393] c09 N72-21247  
Self-tuning electronic filter for maintaining  
constant bandwidth and center frequency gain  
[NASA-CASE-ARC-10264-1] c09 N73-20231

**AUTOMATIC GAIN CONTROL**  
Automatic gain control amplifier system  
[NASA-CASE-XNS-05307] c09 N69-24330  
Automatic measuring and recording of gain and  
zero drift characteristics of electronic  
amplifier  
[NASA-CASE-XNS-05562-1] c09 N69-39986  
Self-tuning electronic filter for maintaining  
constant bandwidth and center frequency gain  
[NASA-CASE-ARC-10264-1] c09 N73-20231

**AUTOMATIC TEST EQUIPMENT**  
Automated visual sensitivity tester for  
determining visual field sensitivity and blind  
spot size  
[NASA-CASE-ARC-10329-1] c05 N73-26072  
Automatic microbial transfer device  
[NASA-CASE-LAR-11354-1] c14 N74-10422

**AUTOMOBILES**  
Combined shoulder harness and lap belt restraint  
system for use in aircraft or automobiles  
[NASA-CASE-ARC-10519-1] c05 N72-31117

**AXES (REFERENCE LINES)**  
Test fixture for measuring moment of inertia of  
irregularly shaped body with multiple axes  
[NASA-CASE-IGS-01023] c14 N71-22992  
Mechanism for restraining universal joints to  
prevent separation while allowing bending,  
angulation, and lateral offset in any position  
about axis  
[NASA-CASE-XNP-02278] c15 N71-28951

**AXES OF ROTATION**  
Unitary three-axis controller for flight  
vehicles within or outside atmosphere  
[NASA-CASE-IFR-00181] c21 N70-33279  
Proportional controller for regulating aircraft  
or spacecraft motion about three axes  
[NASA-CASE-XAC-03392] c03 N70-41954  
Electrical and electromechanical trigonometric  
computation assembly and space vehicle  
guidance system for aligning perpendicular  
axes of two sets of three-axes coordinate  
references  
[NASA-CASE-IMP-00684] c21 N71-21688  
Hand controller operable about three  
respectively perpendicular axes and capable of  
actuating signal generators for attitude  
control devices  
[NASA-CASE-XMS-07487] c15 N71-23255  
Journal bearings  
[NASA-CASE-LEW-11076-4] c15 N74-18134

**AXIAL COMPRESSION LOADS**  
Development and characteristics of device for  
indicating and recording magnitude of force  
applied in axial direction  
[NASA-CASE-HSC-15626-1] c14 N72-25411

**AXIAL FLOW TURBINES**  
Multistage multiple reentry axial flow reaction  
turbine with reverse flow reentry ducting  
[NASA-CASE-XLE-00170] c15 N70-36412  
Multistage, multiple reentry, single rotor,  
axial flow turbine  
[NASA-CASE-XLE-00085] c28 N70-39895

**AXIAL LOADS**  
Ball locking device which releases in response  
to small forces when subjected to high axial  
loads  
[NASA-CASE-XNP-01371] c15 N70-41829

**AZIMUTH**  
Tracking mount for laser telescope employed in  
tracking large rockets and space vehicles to  
give information regarding azimuth and elevation  
[NASA-CASE-MPS-14017] c14 N71-26627  
Long range laser traversing system  
[NASA-CASE-GSC-11262-1] c16 N74-21091

**AZINES**  
Synthesis of azine polymers for heat shields by  
azine-aromatic aldehyde reaction  
[NASA-CASE-IMP-08656] c06 N71-11242  
Ultraviolet and thermally stable polymer  
compositions --- poly/(diarylsiloxy)/arylazines  
[NASA-CASE-ARC-10592-2] c06 N74-11926  
Ultraviolet and thermally stable polymer  
compositions  
[NASA-CASE-ARC-10592-1] c18 N74-21156

**AZO COMPOUNDS**

Holding process for imidazopyrrolone polymers  
[NASA-CASE-LAR-10547-1] c15 N74-13177

**B****BACKGROUND NOISE**

Electronic background suppression field scanning  
sensor for detecting point source targets  
[NASA-CASE-IGS-05211] c07 N69-39980

**BACKSCATTERING**

Apparatus for measuring backscatter and  
transmission characteristics of sample segment  
of large spherical passive satellites  
[NASA-CASE-IGS-02608] c07 N70-41678  
Mossbauer spectrometer radiation detector  
[NASA-CASE-LAR-11155-1] c14 N74-15091

**BACKUPS**

Flexible backup bar for welding awkwardly shaped  
structures  
[NASA-CASE-XNP-00722] c15 N70-40204  
Reliable electrical element heater using plural  
wire system and backup power sources  
[NASA-CASE-MFS-21462-1] c09 N74-14935

**BACTERIA**

Decontamination of petroleum products with honey  
[NASA-CASE-IMP-03835] c06 N71-23499  
Portable tester for monitoring bacterial  
contamination by adenosine triphosphate light  
reaction  
[NASA-CASE-GSC-10879-1] c14 N72-25413  
Enzymatic luminescent bioassay method for  
determining bacterial levels in urine  
[NASA-CASE-GSC-11092-2] c04 N73-27052  
Lyophilized spore dispenser  
[NASA-CASE-LAR-10544-1] c15 N74-13178  
Improved method of detecting and counting bacteria  
[NASA-CASE-GSC-11917-1] c04 N74-26619

**BACTERIOLOGY**

Detection of bacteria in biological fluids and  
foods  
[NASA-CASE-GSC-11533-1] c14 N73-13435

**BAFFLES**

Light radiation direction indicator with baffle  
of two parallel grids  
[NASA-CASE-XNP-03930] c14 N69-24331  
Light baffle with oblate hemispheroid surface  
and shading flange  
[NASA-CASE-NPO-10337] c14 N71-15604  
Flexible ring slosh damping baffle for  
spacecraft fuel tank  
[NASA-CASE-LAR-10317-1] c32 N71-16103  
Submerged fuel tank baffles to prevent sloshing  
in liquid propellant rocket flight  
[NASA-CASE-XLA-04605] c32 N71-16106  
Floating baffle for tank drain  
[NASA-CASE-KSC-10639] c15 N73-26472

**BAGS**

Fecal waste disposal container  
[NASA-CASE-XMS-06761] c05 N69-23192

**BALANCE**

Thermoprotective device for balances  
[NASA-CASE-IAC-00648] c14 N70-40400  
Device for monitoring a change in mass in  
varying gravimetric environments  
[NASA-CASE-MFS-21556-1] c14 N74-26945

**BALANCING**

Automatic balancing device for use on  
frictionless supported attitude-controlled  
test platforms  
[NASA-CASE-LAR-10774] c10 N71-13545  
Force balanced throttle valve for fuel control  
in rocket engines  
[NASA-CASE-NPO-10808] c15 N71-27432  
Static force balancing system attached to  
lifting body  
[NASA-CASE-LAR-10348-1] c11 N73-12264

**BALL BEARINGS**

Combination guide and rotary bearing for freely  
moving shaft  
[NASA-CASE-XLA-00013] c15 N71-29136  
Method for reducing mass of ball bearings for  
long life operation at high speed  
[NASA-CASE-LEW-10856-1] c15 N72-22490  
Low mass rolling element bearing assembly  
[NASA-CASE-LEW-11087-1] c15 N73-30458  
Drilled ball bearing with a one piece  
anti-tipping cage assembly  
[NASA-CASE-LEW-11925-1] c15 N74-18133

- Hollow rolling element bearings  
[NASA-CASE-LEW-11087-3] c15 N74-21064
- BALLAST (MASS)**  
Inflatable stabilizing system for use on life raft to reduce rocking and preclude capsizing  
[NASA-CASE-MSC-12393-1] c02 N73-26006
- BALLASTS (IMPEDANCES)**  
Apparatus for ballasting high frequency transistors  
[NASA-CASE-XGS-05003] c09 N69-24318
- BALLISTICS**  
Fiber modified polyurethane foam for ballistic protection  
[NASA-CASE-ARC-10714-1] c18 N74-11366
- BALLOON SOUNDING**  
Apparatus for controlling the temperature of balloon-borne equipment  
[NASA-CASE-GSC-11620-1] c14 N74-23039
- BALLOONS**  
Development and characteristics of hot air balloon deceleration and recovery system  
[NASA-CASE-XLA-06824-2] c02 N71-11037  
Inflation system for balloon type satellites  
[NASA-CASE-XGS-03351] c31 N71-16081  
System for controlling torque buildup in suspension of gondola connected to balloon by parachute shroud lines  
[NASA-CASE-GSC-11077-1] c02 N73-13008
- BALLS**  
Two axis flight controller with potentiometer control shafts directly coupled to rotatable ball members  
[NASA-CASE-XPR-04104] c03 N70-42073
- BANDPASS FILTERS**  
Helical coaxial resonator RF filter  
[NASA-CASE-XGS-02816] c07 N69-24323  
Phase locked demodulator with bandwidth switching amplifier circuit  
[NASA-CASE-XNP-01107] c10 N71-28859  
Signal to noise ratio determination circuit using bandpass limiter  
[NASA-CASE-GSC-11239-1] c10 N73-25241  
Selective bandpass resonators using bandstop resonator pairs for microwave frequency operation  
[NASA-CASE-GSC-10990-1] c09 N73-26195  
Dichroic plate  
[NASA-CASE-NPO-13506-1] c09 N74-27690
- BANDWIDTH**  
Improvements in receiver of narrow bandwidth television system  
[NASA-CASE-XMS-06740-1] c07 N71-26579  
Self-tuning electronic filter for maintaining constant bandwidth and center frequency gain  
[NASA-CASE-ARC-10264-1] c09 N73-20231
- BARIUM**  
Chemical system for releasing barium to create ion clouds in upper atmosphere and interplanetary space  
[NASA-CASE-LAR-10670-1] c06 N73-30097
- BARIUM COMPOUNDS**  
Improved cathode containing barium carbonate block and heated tungsten screen for electron bombardment ion thruster  
[NASA-CASE-XLE-07087] c06 N69-39889
- BARIUM FLUORIDES**  
Production of barium fluoride-calcium fluoride composite lubricant for bearings or seals  
[NASA-CASE-XLE-08511-2] c18 N71-16105
- BARIUM ION CLOUDS**  
Rocket having barium release system to create ion clouds in the upper atmosphere  
[NASA-CASE-LAR-10670-2] c31 N74-27360
- BARIUM TITANATES**  
Memory device employing semiconductor and ferroelectric properties of single crystal barium titanate  
[NASA-CASE-ERC-10307] c08 N72-21198
- BARRIER LAYERS**  
High voltage, high current Schottky barrier solar cell  
[NASA-CASE-NPO-13482-1] c03 N74-30448
- BARRIERS**  
Short range laser obstacle detector --- for surface vehicles using laser diode array  
[NASA-CASE-NPO-11856-1] c16 N74-15145
- BASIS (CHEMICAL)**  
Low concentration alkaline solution treatment of aluminum with metal phosphate surface coatings to improve chemical bonding and reduce coating weight  
[NASA-CASE-XLA-01995] c18 N71-23047
- BATTERY CHARGERS**  
Battery charging system with cell to cell voltage balance  
[NASA-CASE-XGS-05432] c03 N71-19438  
Alkaline-type coulometer cell for primary charge control in secondary battery recharge circuits  
[NASA-CASE-XGS-05434] c03 N71-20491  
Development and characteristics of battery charging circuits with coulometer for control of available current  
[NASA-CASE-GSC-10487-1] c03 N71-24719
- BEYARD-ALPERT IONIZATION GAGES**  
Describing hot filament type Bayard-Alpert ionization gage with ion collector buried or removed from grid structure  
[NASA-CASE-XLA-07424] c14 N71-18462
- BEADS**  
Rotary bead dropper and selector for testing micrometeorite transducers  
[NASA-CASE-XGS-03304] c09 N71-22988
- BEAM LEADS**  
Integrated circuit package with lead structure and method of preparing the same  
[NASA-CASE-NPS-21374-1] c10 N74-12951
- BEAM SPLITTERS**  
Optical range finder using reflective first surfaces mirror and transmitting beam splitter  
[NASA-CASE-MSC-12105-1] c14 N72-21409  
Laser system with an antiresonant optical ring --- optical properties and performance of beam splitter with equal transmission and reflection coefficients  
[NASA-CASE-HQN-10844-1] c16 N74-20118
- BEAM SWITCHING**  
Using electron beam switching for brushless motor commutation  
[NASA-CASE-XGS-01451] c09 N71-10677  
Antenna array at focal plane of reflector with coupling network for beam switching  
[NASA-CASE-GSC-10220-1] c07 N71-27233  
Dish antenna having switching beamwidth with truncated concave ellipsoid subreflector  
[NASA-CASE-GSC-11760-1] c09 N73-32116  
Two feed dish antenna having switchable beamwidth  
[NASA-CASE-GSC-11968-1] c09 N74-34649
- BEAM WAVEGUIDES**  
Laser machining device with dielectric functioning as beam waveguide for mechanical and medical applications  
[NASA-CASE-HQN-10541-2] c15 N71-27135  
Optical communication system with gas filled waveguide for laser beam transmission  
[NASA-CASE-HQN-10541-4] c16 N71-27183  
Laser beam projector for continuous, precise alignment between target, laser generator, and astronomical telescope during tracking  
[NASA-CASE-NPO-11087] c23 N71-29125
- BEAMS (RADIATION)**  
Method and means for recording and reconstructing holograms without use of reference beam  
[NASA-CASE-ERC-10020] c16 N71-26154  
Method and system for transmitting and distributing optical frequency radiation  
[NASA-CASE-HQN-10541-3] c23 N72-23695
- BEARING (DIRECTION)**  
Light radiation direction indicator with baffle of two parallel grids  
[NASA-CASE-XNP-03930] c14 N69-24331  
Solar radiation direction detector and device for compensating degradation of photocells  
[NASA-CASE-XLA-00183] c14 N70-40239  
Michelson interferometer with photodetector for optical direction sensing  
[NASA-CASE-NPO-10320] c14 N71-17655  
Omnidirectional liquid filled accelerometer design with liquid and housing temperature compensation  
[NASA-CASE-HQN-10780] c14 N71-30265
- BEARINGS**  
Metal alloy bearing materials for space applications  
[NASA-CASE-XLE-05033] c15 N71-23810  
Low friction bearing and lock mechanism for two-axis gimbal carrying satellite payload  
[NASA-CASE-GSC-10556-1] c31 N71-26537

- Magnetic bearing with diverse magnetic sources coupled to same air gap via different low magnetic reluctance paths for use with permanent magnets  
[NASA-CASE-GSC-11079-1] c21 N71-28461
- Measuring device for bearing preload using spring washers  
[NASA-CASE-NFS-20434] c11 N72-25288
- Axially and radially controllable magnetic bearing  
[NASA-CASE-GSC-11551-1] c15 N74-18132
- BEDS (PROCESS ENGINEERING)**
- Catalyst bed element removing tool  
[NASA-CASE-IFR-00811] c15 N70-36901
- BEER LAW**
- Multichannel photoionization chamber for measuring absorption, photoionization yield, and coefficients of gases  
[NASA-CASE-BRC-10084-1] c14 N71-27090
- BEES**
- Decontamination of petroleum products with honey  
[NASA-CASE-INP-03835] c06 N71-23499
- BELLOWS**
- Compact bellows spirometer for high speed and high altitude space travel  
[NASA-CASE-IAR-01547] c05 N69-21473
- Electrical connection for printed circuits on common board, using bellows principle in rivet  
[NASA-CASE-INP-05082] c15 N70-41960
- Flexible bellows joint shielding sleeve for propellant transfer pipelines  
[NASA-CASE-INP-01855] c15 N71-28937
- An internally supported flexible duct joint --- device for conducting fluids in high pressure systems when flexible joints are required  
[NASA-CASE-NFS-19193-1] c15 N74-22145
- Atomic standard with variable storage volume --- in cylindrical, flexible bellows  
[NASA-CASE-GSC-11895-1] c15 N74-33997
- BELTS**
- Apparatus for forming drive belts  
[NASA-CASE-NPO-13205-1] c15 N74-32917
- BENDING**
- Method and apparatus for bowing of instrument panels to improve radio frequency shielded enclosure  
[NASA-CASE-INP-09422] c07 N71-19436
- Development of systems for automatically and continually suppressing or attenuating bending motion in elastic bodies  
[NASA-CASE-IAC-05632] c32 N71-23971
- Elbow forming in jacketed pipes while maintaining separation between core shape and jacket pipes  
[NASA-CASE-INP-10475] c15 N71-24679
- Device for bending metal ribbon or wire  
[NASA-CASE-XLA-05966] c15 N72-12408
- BENDING DIAGRAMS**
- Charged particle analyzer with periodically varying voltage applied across electrostatic deflection members  
[NASA-CASE-IAC-05506-1] c24 N71-16095
- BENDING FATIGUE**
- Apparatus for testing metallic and nonmetallic beams or rods by bending at high temperatures in vacuum or inert atmosphere  
[NASA-CASE-XLB-01300] c15 N70-41993
- Cryostat for flexure fatigue testing of composite materials  
[NASA-CASE-INP-02964] c14 N71-17659
- BENDING MOMENTS**
- Launch pad missile release system with bending moment change rate reduction in thrust distribution structure at liftoff  
[NASA-CASE-INP-03198] c30 N70-40353
- BENDING VIBRATION**
- Mercury filled pendulum damper for controlling bending vibration induced by wind effects  
[NASA-CASE-LAR-10274-1] c14 N71-17626
- BENZENE**
- Para-benzoquinone dioxime and concentrated mineral acid processed to yield intumescent or fire resistant, heat insulating materials  
[NASA-CASE-ARC-10308-1] c18 N73-26572
- BERYLLIUM ALLOYS**
- Development of fluoride coating to prevent oxidation of beryllium surfaces at elevated temperatures  
[NASA-CASE-LEW-10327] c17 N71-33408
- BIMETALS**
- Nonmagnetic thermal motor for magnetometer movement  
[NASA-CASE-YAR-03786] c09 N69-21313
- Design and development of linear actuator based on bimetallic spring expansion  
[NASA-CASE-NPO-10637] c15 N72-12409
- Application of spiral, bimetallic strip to create circular motion on mechanical shaft by changing strip temperature  
[NASA-CASE-NPO-11283] c09 N72-25260
- Development of thermal compensating structure which maintains uniform length with changes in temperature  
[NASA-CASE-NFS-20433] c15 N72-28496
- Bimetallic fluid displacement apparatus --- for stirring and heating stored gases and liquids  
[NASA-CASE-ARC-10441-1] c15 N74-15126
- BINARY CODES**
- Time division relay synchronizer with master sync pulse for activating binary counter to produce signal identifying time slot for station  
[NASA-CASE-GSC-10373-1] c07 N71-19773
- Logic circuit for generating multibit binary code word in parallel  
[NASA-CASE-INP-04623] c10 N71-26103
- Design and development of encoder/decoder system to generate binary code which is function of outputs of plurality of bistable elements  
[NASA-CASE-NPO-10342] c10 N71-33407
- Binary coded sequential acquisition ranging system for distance measurements  
[NASA-CASE-NPO-11194] c08 N72-25209
- BINARY DATA**
- Nondestructive interrogating and state changing circuit for binary magnetic storage elements  
[NASA-CASE-XGS-00174] c08 N70-34743
- Logic circuit to ripple add and subtract binary counters for spaceborne computers  
[NASA-CASE-XGS-04766] c08 N71-18602
- Describing circuit for obtaining sum of squares of numbers  
[NASA-CASE-XGS-04765] c08 N71-18693
- Digital synchronizer for extracting binary data in receiver of PSK/PCM communication system  
[NASA-CASE-NPO-10851] c07 N71-24613
- Phase modulation of tone and binary signals on carrier waves in communication systems  
[NASA-CASE-GSC-11743-1] c07 N73-27107
- Differential phase shift keyed communication system  
[NASA-CASE-MSC-14065-1] c07 N74-26654
- BINARY DIGITS**
- Logarithmic converter for compressing 19-digit binary input number to 8-digit output  
[NASA-CASE-XLA-00471] c08 N70-34778
- Circuit diagram and operation of full binary adder  
[NASA-CASE-XGS-00689] c08 N70-34787
- Binary number sorter for arranging numbers in order of magnitude  
[NASA-CASE-NPO-10112] c08 N71-12502
- Binary sequence detector with few memory elements and minimized logic circuit complexity  
[NASA-CASE-INP-05415] c08 N71-12505
- Cathode ray tube system for displaying ones and zeros in binary wave train  
[NASA-CASE-XGS-04987] c08 N71-20571
- Characteristics of comparator circuits for comparison of binary numbers in information processing system  
[NASA-CASE-INP-04819] c08 N71-23295
- Digital converter for scaling binary number to binary coded decimal number of higher multiple  
[NASA-CASE-KSC-10595] c08 N73-12176
- Binary concatenated coding system to measure, count, and record numerical information using minimized number of digits  
[NASA-CASE-MSC-14082-1] c08 N73-16163
- Family of m-ary linear feedback shift register with binary logic  
[NASA-CASE-NPO-11868] c10 N73-20254
- BINARY FLUIDS**
- Flow measuring apparatus  
[NASA-CASE-LEW-12078-1] c14 N74-18101
- BINARY TO DECIMAL CONVERTERS**
- Binary to binary-coded decimal converter using single set of logic circuits notwithstanding number of shift register decades  
[NASA-CASE-INP-00432] c08 N70-35423

- Design and operation of high speed binary to decimal conversion system  
[NASA-CASE-XGS-01230] c08 N71-19544
- Binary to decimal decoder logic circuit design with feedback control and display device  
[NASA-CASE-XKS-06167] c08 N71-24890
- High speed direct binary to binary coded decimal converter for use in PCM telemetry systems  
[NASA-CASE-KSC-10326] c08 N72-21197
- BINDERS (MATERIALS)**  
Bonded solid lubricant coatings of calcium fluoride and binder for high temperature stability  
[NASA-CASE-XMS-00259] c18 N70-36400
- BIOASSAY**  
Spectrophotofluorometer with 3-dimensional display to identify fluorescence spectra of carcinogenic and noncarcinogenic hydrocarbons  
[NASA-CASE-XGS-01231] c14 N70-41676
- Bioassay of flavin coenzymes  
[NASA-CASE-GSC-10565-1] c06 N72-25149
- Enzymatic luminescent bioassay method for determining bacterial levels in urine  
[NASA-CASE-GSC-11092-2] c04 N73-27052
- Servo-controlled intravital microscope system  
[NASA-CASE-NPO-13214-1] c14 N74-19093
- BIOFLUORIMETRY**  
Ultra-flexible biomedical electrodes and wires  
[NASA-CASE-ARC-10268-2] c05 N74-11900
- Ultra-flexible biomedical electrode and wires  
[NASA-CASE-ARC-10268-3] c05 N74-11901
- BIOELECTRIC POTENTIAL**  
Electrochemically reversible silver-silver chloride electrode for detecting bioelectric potential differences generated by human muscles and organs  
[NASA-CASE-XMS-02872] c05 N69-21925
- Manufacturing process for making perspiration resistant-stress resistant biopotential electrode  
[NASA-CASE-MS-C-90153-2] c05 N72-25120
- BIOELECTRICITY**  
Development and characteristics of electrodes in which poisoning by organic molecules is prevented by ion selective electrolytic deposition of hydrophilic protein colloid  
[NASA-CASE-XMS-04213-1] c09 N71-26002
- BIOENGINEERING**  
Isolated dc amplifier for bioelectric measurements  
[NASA-CASE-ARC-10596-1] c09 N72-27233
- Ultra-flexible biomedical electrodes and wires  
[NASA-CASE-ARC-10268-2] c05 N74-11900
- Ultra-flexible biomedical electrode and wires  
[NASA-CASE-ARC-10268-3] c05 N74-11901
- Bio-isolated dc operational amplifier --- for bioelectric measurements  
[NASA-CASE-ARC-10596-1] c09 N74-21851
- BIOINSTRUMENTATION**  
Temperature compensated solid state differential amplifier with application in bioinstrumentation circuits  
[NASA-CASE-XAC-00435] c09 N70-35440
- Electrode attached to helmets for detecting low level signals from skin of living creatures  
[NASA-CASE-ARC-10043-1] c05 N71-11193
- Characteristics of pressed disc electrode for biological measurements  
[NASA-CASE-XMS-04212-1] c05 N71-12346
- Development of apparatus and method for quantitatively measuring brain activity as automatic indication of sleep state and level of consciousness  
[NASA-CASE-MS-C-13282-1] c05 N71-24729
- Development and characteristics of electrodes in which poisoning by organic molecules is prevented by ion selective electrolytic deposition of hydrophilic protein colloid  
[NASA-CASE-XMS-04213-1] c09 N71-26002
- Ultrasonic biomedical measuring and recording apparatus --- for recording motion of internal organs such as heart valves  
[NASA-CASE-ARC-10597-1] c05 N74-20726
- BIOFLUORESCENCE**  
Detection instrument for light emitted from ATP biochemical reaction  
[NASA-CASE-XGS-05534] c23 N71-16355
- Describing method for lyophilization of luciferase containing mixtures for use in life detection reactions  
[NASA-CASE-XGS-05532] c06 N71-17705
- BIOMEDICAL DATA**  
Silicon radiation detecting probe design for in vivo biomedical use  
[NASA-CASE-XMS-01177] c05 N71-19440
- BIOMETRICS**  
Characteristics of pressed disc electrode for biological measurements  
[NASA-CASE-XMS-04212-1] c05 N71-12346
- Compressible electrolyte saturated sponge electrode for biomedical applications  
[NASA-CASE-MS-C-13648] c05 N72-27103
- Ultrasonic biomedical measuring and recording apparatus --- for recording motion of internal organs such as heart valves  
[NASA-CASE-ARC-10597-1] c05 N74-20726
- Arterial pulse wave pressure transducer  
[NASA-CASE-GSC-11531-1] c05 N74-27566
- BIOTELEMETRY**  
Communication system for transmitting biomedical information obtained from patient in moving ambulance to hospital for diagnosis  
[NASA-CASE-PRC-10031] c05 N70-20717
- Biotelemetry apparatus with dual voltage generators for implanting in animals  
[NASA-CASE-XAC-05706] c05 N71-12342
- Multichannel medical monitoring system to measure physiological parameters from display device at remote control station  
[NASA-CASE-MS-C-14180-1] c05 N73-22045
- Miniature multichannel biotelemetry system  
[NASA-CASE-NPO-13065-1] c05 N74-26625
- BIREFRINGENCE**  
Automatic polarimeter capable of measuring transient birefringence changes in electro-optic materials  
[NASA-CASE-XNP-08883] c23 N71-16101
- BISTABLE CIRCUITS**  
Bistable multivibrator circuits operating at high speed and low power dissipation  
[NASA-CASE-XGS-00823] c10 N71-15910
- BIT SYNCHRONIZATION**  
Telemetry data unit to form multibit words for use between demodulator and computer  
[NASA-CASE-XNP-09225] c09 N69-24333
- Bit synchronization system using digital data transition tracking phased locked loop  
[NASA-CASE-NPO-10844] c07 N72-20140
- Bit synchronization of PCM communications signal, without separate synchronization channel by digital correlation  
[NASA-CASE-NPO-11302-1] c07 N73-13149
- Method and apparatus for a single channel digital communications system --- synchronization of received PCM signal by digital correlation with reference signal  
[NASA-CASE-NPO-11302-2] c07 N74-10132
- BITERNARY CODE**  
Encoders designed to generate comma free biorthogonal Reed-Muller type code comprising conversion of 64 6-bit words into 64 32-bit data for communication purposes  
[NASA-CASE-NPO-10595] c10 N71-25917
- BITS**  
Logic circuit for generating multibit binary code word in parallel  
[NASA-CASE-XNP-04623] c10 N71-26103
- MOD 2 sequential function generator for multibit sequence, with two-bit shift register for each pair of bits  
[NASA-CASE-NPO-10636] c08 N72-25210
- BLACK BODY RADIATION**  
Development of black-body source calibration furnace  
[NASA-CASE-XLB-01399] c33 N71-15625
- Black body cavity radiometer with thermal resistance wire bridge circuit  
[NASA-CASE-XNP-08961] c14 N71-24809
- Black body radiometer design with temperature sensing and cavity heat source cone winding  
[NASA-CASE-XNP-09701] c14 N71-26475
- Black body radiometer having isothermally surrounded cavity for ultraviolet, visible, and infrared radiation  
[NASA-CASE-NPO-10810] c14 N71-27323
- BLADE TIPS**  
Modification and improvement of turbine blades for maximum cooling efficiency  
[NASA-CASE-XLE-00092] c15 N70-33264

## BLADES (CUTTERS)

Piston in bore cutter for severing parachute control lines and sealing cable hole to prevent water leakage into load  
[NASA-CASE-IMS-04072] c15 N70-42017

## BLAST LOADS

Development of apparatus for detonating explosive devices in order to determine forces generated and detonation propagation rate  
[NASA-CASE-LAR-10800-1] c33 N72-27959

## BLOOD PRESSURE

Blood pressure measuring system for separately recording dc and ac pressure signals of Korotkoff sounds  
[NASA-CASE-IMS-06061] c05 N71-23317  
Initial systole and diastolic notch detecting circuitry for monitoring arterial pressure pulse  
[NASA-CASE-LEW-11581-1] c05 N73-18139  
Apparatus and method for processing Korotkov sounds --- for blood pressure measurement  
[NASA-CASE-MSC-13999-1] c05 N74-26626  
Arterial pulse wave pressure transducer  
[NASA-CASE-GSC-11531-1] c05 N74-27566

## BLUFF BODIES

Bluff-shaped annular configuration for supersonic decelerator for reentry vehicles  
[NASA-CASE-XLE-00222] c02 N70-37939

## BLUNT BODIES

Wind tunnel method for simulating flow fields around blunt vehicles entering planetary atmospheres without involving high temperatures  
[NASA-CASE-LAR-11138] c12 N71-20436

## BODIES OF REVOLUTION

Conforming polisher for aspheric surfaces of revolution with inflatable tube  
[NASA-CASE-XGS-02884] c15 N71-22705  
Test fixture for measuring moment of inertia of irregularly shaped body with multiple axes  
[NASA-CASE-XGS-01023] c14 N71-22992

## BODY FLUIDS

Programmable physiological infusion  
[NASA-CASE-ARC-10447-1] c05 N74-22771

## BODY KINEMATICS

Space suit with improved waist and torso movement  
[NASA-CASE-ARC-10275-1] c05 N72-22092

## BODY MEASUREMENT (BIOLOGY)

Elastomer loaded with metal particles for elastic biomedical electrodes  
[NASA-CASE-ARC-10268-1] c09 N70-12620  
Ingestible miniaturized telemetry device for deep body temperature measurements on humans and animals  
[NASA-CASE-ARC-10583-1] c05 N73-14093

## BODY TEMPERATURE

Thermoregulating with cooling flow pipe network for humans  
[NASA-CASE-IMS-10269] c05 N71-24147

## BODY VOLUME (BIOLOGY)

Whole body measurement systems --- for weightlessness simulation  
[NASA-CASE-MSC-13972-1] c05 N74-10975

## BOILERS

Vapor generating boiler system for turbine motor  
[NASA-CASE-XLE-00785] c33 N71-16104  
Shell-side liquid metal boiler employing tube and shell heat exchanger  
[NASA-CASE-NPO-10831] c33 N72-20915

## BOLOMETERS

High impedance alternating current sensing transformer device between two bolometers for measuring insertion loss of test component  
[NASA-CASE-XNP-01193] c10 N71-16057  
Thin film capacitive bolometer and capacitance temperature interchange sensor  
[NASA-CASE-NPO-10607] c09 N71-27232

## BOLTS

Patent data on gas actuated bolt disconnect assembly  
[NASA-CASE-XLA-00326] c03 N70-34667  
Bolt-latch mechanism for releasing despin weights from space vehicle  
[NASA-CASE-XLA-00679] c15 N70-38601  
Gage for quality control of sealing surfaces of threaded boss  
[NASA-CASE-XMF-04966] c14 N71-17658  
Split nut and bolt separation device  
[NASA-CASE-XNP-06914] c15 N71-21489  
Device for securing together structural members with axially stretched bolt and nut

[NASA-CASE-GSC-11149-1] c15 N73-30457

## BONDING

Silver chloride use in technique for fusion bonding of graphite to silver, glass, ceramics, and certain other metals  
[NASA-CASE-YGS-00963] c15 N69-39735  
High temperature bonding of sapphire to sapphire by eutectic Al2O3 and ZrO2 mixture to form sapphire rubidium maser cell  
[NASA-CASE-GSC-11577-1] c15 N73-19467  
Improved bonding method in the manufacture of continuous regression rate sensor devices  
[NASA-CASE-LAR-10337-1] c15 N74-14141  
Strain arrestor plate --- bonding rigid thermal insulation tiles to metallic plates or structural parts  
[NASA-CASE-MSC-14182-1] c18 N74-15213  
Bonded joint and method --- for reducing peak shear stress in adhesive bonds  
[NASA-CASE-LAR-10900-1] c15 N74-23064

## BONES

Ultrasonic bone densitometer for measuring calcium content of bone structures  
[NASA-CASE-MFS-20994-1] c05 N73-30090

## BOOMS (EQUIPMENT)

Unfolding boom assembly with knuckle joints for positioning equipment for spacecraft  
[NASA-CASE-XGS-00938] c32 N70-41367  
Collapsible antenna boom and coaxial transmission line having inflatable inner tube  
[NASA-CASE-MFS-20068] c07 N71-27191  
Extendable, self-deploying boom apparatus  
[NASA-CASE-GSC-10566-1] c15 N72-18477  
Design and characteristics of mechanically extended and telescoping boom on crane assembly  
[NASA-CASE-NPO-11118] c03 N72-25021

## BOOSTER RECOVERY

Techniques for recovery of multistage rocket vehicles by providing lifting surfaces on individual sections  
[NASA-CASE-XMF-00389] c31 N70-34176  
Recoverable, reusable single stage booster capable of injecting large payloads into circular earth orbit  
[NASA-CASE-XMF-01973] c31 N70-41588

## BOOSTER ROCKET ENGINES

Segmented back-up bar for butt welding large tubular structures such as rocket booster bodies or tanks  
[NASA-CASE-XMP-00640] c15 N70-39924  
Recoverable, reusable single stage booster capable of injecting large payloads into circular earth orbit  
[NASA-CASE-XMF-01973] c31 N70-41588

## BORING MACHINES

Automatic controlled drive mechanism for portable boring bar  
[NASA-CASE-XLA-03661] c15 N71-33518

## BORON

Radiation hardening of MOS devices by boron --- for stabilizing gate threshold potential of field effect device  
[NASA-CASE-GSC-11425-1] c24 N74-20329

## BORON CARBIDES

Catalyst for increased growth of boron carbide crystal whiskers  
[NASA-CASE-XHQ-03903] c15 N69-21922

## BOUNDARY LAYER CONTROL

Double hinged flap for boundary layer control over trailing edges of wings  
[NASA-CASE-XLA-01290] c02 N70-42016

## BOUNDARY LAYER SEPARATION

Tertiary flow injection system for thrust vectoring of propulsive nozzle flow  
[NASA-CASE-MFS-20831] c28 N71-29153

## BOUNDARY LAYERS

Flow meter for measuring stagnation pressure in boundary layer around high speed flight vehicle  
[NASA-CASE-XFR-02007] c12 N71-24692  
Development of thermocouple instrument for measuring temperature of wall heated by flowing fluid without disturbing boundary layer  
[NASA-CASE-XLE-05230] c14 N72-27410

## BOXES (CONTAINERS)

Sealed storage container for channel carriers with mounted miniature electronic components  
[NASA-CASE-MFS-20075] c09 N71-26133

## BRAKES (FOR ARRESTING MOTION)

Energy dissipating shock absorbing system for

- land payload recovery or vehicle braking  
[NASA-CASE-XLA-00754] c15 N70-34850
- Automatic braking device for rapidly  
transferring humans or materials from elevated  
location  
[NASA-CASE-XKS-07814] c15 N71-27067
- Sprag solenoid brake --- development and  
operations of electrically controlled brake  
[NASA-CASE-NFS-21846-1] c15 N74-26976
- BRAKING**
- Direct current electromotive system for  
regenerative braking of electric motor  
[NASA-CASE-XMP-01096] c10 N71-16030
- Linear magnetic braking system with nonuniformly  
wrapped primary coil producing constant  
braking force on secondary coil  
[NASA-CASE-XLE-05079] c15 N71-17652
- Anemometer with braking mechanism to prevent  
rotation of wind driven elements  
[NASA-CASE-XMF-05224] c14 N71-23726
- BRAZING**
- Anti-wettable materials brazing processes using  
titanium and zirconium for surface pretreatment  
[NASA-CASE-XMS-03537] c15 N69-21471
- Application techniques for protecting materials  
during salt bath brazing  
[NASA-CASE-XLE-00046] c15 N70-33311
- Joining aluminum to stainless steel by bonding  
aluminum coatings onto titanium coated  
stainless steel and brazing aluminum to  
aluminum/titanium coated steel  
[NASA-CASE-MFS-07369] c15 N71-20443
- Brazing alloy adapted for brazing corrosion  
resistant steel to refractory metals, also for  
brazing refractory metals to other refractory  
metals  
[NASA-CASE-XNP-03063] c17 N71-23365
- Electric resistance spot welding and brazing for  
producing metal bonds with superior mechanical  
and structural characteristics  
[NASA-CASE-LAR-11072-1] c15 N73-20535
- BREATHING APPARATUS**
- Three-port transfer valve with one port open  
continuously suitable for manned space flight  
[NASA-CASE-XAC-01158] c15 N71-23051
- BRICKS**
- Development of construction block in form of  
container folded from flat sheet and filled  
with solid material for architectural purposes  
[NASA-CASE-MSC-12233-2] c32 N73-13921
- BRIGHTNESS**
- Modulating and controlling intensity of light  
beam from high temperature source by  
servocontrolled rotating cylinders  
[NASA-CASE-XMS-04300] c09 N71-19479
- BRIGHTNESS DISCRIMINATION**
- Video signal processing system for sampling  
video brightness levels  
[NASA-CASE-NPO-10140] c07 N71-24742
- Automated visual sensitivity tester for  
determining visual field sensitivity and blind  
spot size  
[NASA-CASE-ARC-10329-1] c05 N73-26072
- BRITTLENESS**
- Rock sampling --- apparatus for controlling  
particle size  
[NASA-CASE-XNP-10007-1] c15 N74-23068
- Rock sampling --- method for controlling  
particle size distribution  
[NASA-CASE-XNP-09755] c15 N74-23069
- BROADBAND**
- Broadband chokes and absorbers to reduce  
spurious radiation patterns of antenna array  
caused by support structures  
[NASA-CASE-XMS-05303] c07 N69-27462
- Flexible monopole antenna with broad bandwidth  
and low voltage standing wave ratio  
[NASA-CASE-MSC-12101] c09 N71-18720
- Broadband frequency discriminator with resistive  
captive inductive networks  
[NASA-CASE-NPO-10096] c07 N71-24583
- Broadband microwave waveguide window to  
compensate dielectric material filling  
[NASA-CASE-XNP-08880] c09 N71-24808
- Comb type traveling wave maser amplifier for  
improved high gain broadband output  
[NASA-CASE-NPO-10548] c16 N71-24831
- Wideband voltage controlled oscillator with high  
phase stability  
[NASA-CASE-XLA-03893] c10 N71-27271
- Multimode antenna feed system for microwave and  
broadband communication  
[NASA-CASE-GSC-11046-1] c07 N73-28013
- BROADBAND AMPLIFIERS**
- Solid state broadband stable power amplifier  
[NASA-CASE-XNP-10854] c10 N71-26331
- Broadband distribution amplifier with  
complementary pair transistor output stages  
[NASA-CASE-NPO-10003] c10 N71-26415
- BUSHES**
- Fabrication of sintered impurity semiconductor  
brushes for electrical energy transfer  
[NASA-CASE-XMF-01016] c26 N71-17818
- BUCKLING**
- Miniature vibration isolator utilizing elastic  
tubing material  
[NASA-CASE-XLA-01019] c15 N70-40156
- Test equipment to prevent buckling of small  
diameter specimens during compression tests  
[NASA-CASE-LAR-10440-1] c14 N73-32323
- BUFFER STORAGE**
- Data handling based on source significance,  
storage availability, and data received from  
source  
[NASA-CASE-XNP-04162-1] c08 N70-34675
- Data acquisition and processing system with  
buffer storage and timing device for magnetic  
tape recording of PCM data and timing  
information  
[NASA-CASE-NPO-12107] c08 N71-27255
- Digital to analog converter with parallel  
input/output memory device  
[NASA-CASE-KSC-10397] c08 N72-25206
- BUILDINGS**
- Apparatus and method of assembling building  
blocks by folding pre-cut flat sheets of  
material during on-site construction  
[NASA-CASE-MSC-12233-1] c15 N72-25454
- BULKHEADS**
- Liquid propellant tank design with spheroidal  
bulkhead  
[NASA-CASE-XMF-01899] c31 N70-41948
- BUOYANCY**
- Inflatable radar reflector unit - lightweight,  
highly reflective to electromagnetic  
radiation, and adaptable for erection and  
deployment with minimum effort and time  
[NASA-CASE-XMS-00893] c07 N70-40063
- BURNING RATE**
- Pressurized gas injection for burning rate  
control of solid propellants  
[NASA-CASE-XLE-03494] c27 N71-21819
- Development of apparatus for testing burning  
rate and flammability of materials  
[NASA-CASE-XMS-09690] c33 N72-25913
- BURNOUT**
- Spherical solid propellant rocket engine having  
abrupt burnout  
[NASA-CASE-XHQ-01897] c28 N70-35381
- BUTT JOINTS**
- Channel-type shell construction for rocket  
engines and related configurations  
[NASA-CASE-XLE-00144] c28 N70-34860
- Segmented back-up bar for butt welding large  
tubular structures such as rocket booster  
bodies or tanks  
[NASA-CASE-XMF-00640] c15 N70-39924
- BUTTERFLY VALVES**
- Flexible inflatable seal for butterfly valves  
[NASA-CASE-XLE-00101] c15 N70-33376
- BYPASSES**
- Low power drain transistor feedback circuit  
[NASA-CASE-IGS-04999] c09 N69-24317
- Helical coaxial resonator RF filter  
[NASA-CASE-IGS-02816] c07 N69-24323
- Current regulating voltage divider design with  
load current shunting  
[NASA-CASE-NFS-20935] c09 N71-34212
- Electrical interconnection of unilluminated  
solar cells in solar battery array  
[NASA-CASE-GSC-10344-1] c03 N72-27053
- C**
- CABLE FORCE RECORDERS**
- Design and characteristics of device for showing  
amount of cable payed out from winch and load  
imposed

[NASA-CASE-MSC-12052-1] c15 N71-24599

**CABLES**

Cable guide and restraint device for reefing tubes in uniform manner [NASA-CASE-LAR-10129-1] c15 N73-25512

**CABLES (BOPEs)**

High voltage cable for use in high intensity ionizing radiation fields [NASA-CASE-INP-00738] c09 N70-38201

Force separation rigid tethering device using cables [NASA-CASE-XLA-02332] c32 N71-17609

Support for flexible conductor cable between drawers or racks holding electronic equipment and cabinet assembly housing drawers or racks [NASA-CASE-INP-07587] c15 N71-18701

Design and construction of satellite appendage tie-down cord [NASA-CASE-IGS-02554] c31 N71-21064

Quick attach mechanism for moving or stationary wires, ropes, or cables [NASA-CASE-XPR-05421] c15 N71-22994

Flexible cable that can be made rigid [NASA-CASE-MSC-13512-1] c15 N72-22485

Guide member for stabilizing cable of open shaft elevator [NASA-CASE-KSC-10513] c15 N72-25453

Reefing system [NASA-CASE-LAR-10129-2] c15 N74-20063

**CADMIUM SULFIDES**

High field CdS detector for infrared radiation [NASA-CASE-LAR-11027-1] c14 N74-18088

**CALCIUM**

Ultrasonic bone densitometer for measuring calcium content of bone structures [NASA-CASE-MFS-20994-1] c05 N73-30090

**CALCIUM FLUORIDES**

Bonded solid lubricant coatings of calcium fluoride and binder for high temperature stability [NASA-CASE-IHS-00259] c18 N70-36400

Production of barium fluoride-calcium fluoride composite lubricant for bearings or seals [NASA-CASE-XLE-08511-2] c18 N71-16105

**CALCIUM PHOSPHATES**

Process for preparing calcium phosphate salts for tooth repair [NASA-CASE-ERC-10338] c04 N72-33072

**CALIBRATING**

Development and characteristics of self-calibrating displacement transducer for measuring magnitude and frequency of displacement of bodies [NASA-CASE-XLA-00781] c09 N71-22999

Combination pressure transducer-calibrator assembly for measuring fluid [NASA-CASE-INP-01660] c14 N71-23036

Control system for pressure balance device used in calibrating pressure gages [NASA-CASE-INP-04134] c14 N71-23755

Phonocardiogram simulator producing electrical voltage waves to control amplitude and duration between simulated sounds [NASA-CASE-XKS-10804] c05 N71-24606

Calibrator for measuring and modulating or demodulating laser outputs [NASA-CASE-XLA-03410] c16 N71-25914

Plastic sphere for radar tracking and calibration [NASA-CASE-XLA-11154] c07 N72-21117

Calibration of vacuum gauges for measuring total and partial pressures in ultrahigh vacuum region [NASA-CASE-IGS-07752] c14 N73-30390

Ergometer calibrator --- for any ergometer utilizing rotating shaft [NASA-CASE-MFS-21045-1] c14 N74-11288

System for calibrating pressure transducer [NASA-CASE-LAR-10940-1] c14 N74-13132

In situ transfer standard for ultrahigh vacuum gage calibration [NASA-CASE-LAR-10862-1] c14 N74-15092

**CALORIMETERS**

Development and characteristics of calorimeter with integral heat sink for maintenance of constant temperature [NASA-CASE-INP-04208] c33 N71-29051

Heat flow calorimeter --- measures output of Ni-Cd batteries [NASA-CASE-GSC-11434-1] c14 N74-27859

**CAMERA SHUTTERS**

Electrically operated rotary shutter for television camera aboard spacecraft [NASA-CASE-INP-00637] c14 N70-40273

Magnetically opened diaphragm design with camera shutter and expansion tube applications [NASA-CASE-XLA-03660] c15 N71-21060

Development and characteristics of cyclically operable, optical shutter for use as focal plane shutter for transmitting single radiation pulses [NASA-CASE-NPO-10758] c14 N73-14427

Rotary solenoid shutter drive assembly and rotary inertia damper and stop plate assembly --- for use with cameras mounted in satellites [NASA-CASE-GSC-11560-1] c09 N74-20861

**CAMERAS**

Mechanism for measuring nanosecond time differences between luminous events using streak camera [NASA-CASE-XLA-01987] c23 N71-23976

Camera adapter design for image magnification including lens and illuminator [NASA-CASE-INP-03844-1] c14 N71-26474

Longitudinal film gate and lock mechanism for securing film in motion picture cameras under vibration and high acceleration loads [NASA-CASE-LAR-10686] c14 N71-28935

Design and characteristics of laser camera system with diffusion filter of small particles with average diameter larger than wavelength of laser light [NASA-CASE-NPO-10417] c16 N71-33410

Optical scanner with linear housing and rotating camera [NASA-CASE-NPO-11002] c14 N72-22441

Apparatus for on-film optical recording of camera lens aperture and focus setting [NASA-CASE-MSC-12363-1] c14 N73-26431

Integration of spectrometer capability with imagery function of facsimile cameras for use on planetary landers [NASA-CASE-LAR-11207-1] c14 N73-28496

Mechanical exposure interlock device for preventing film overexposure in oscilloscope camera [NASA-CASE-LAR-10319-1] c14 N73-32322

Real time moving scene holographic camera system [NASA-CASE-MFS-21087-1] c14 N74-17153

Real time, large volume, moving scene holographic camera system [NASA-CASE-MFS-22537-1] c14 N74-28932

A holographic motion picture camera [NASA-CASE-MFS-22517-1] c14 N74-33943

**CANARD CONFIGURATIONS**

Thrust and attitude control apparatus using jet nozzle in movable canard surface or fin configuration [NASA-CASE-XLE-03583] c31 N71-17629

**CANOPIES**

Transparent fire resistant polymeric structures [NASA-CASE-ARC-10813-1] c18 N74-16249

**CAWS**

Design and characteristics of device for closing canisters under high vacuum conditions [NASA-CASE-XLA-01446] c15 N71-21528

Extrusion can for extruding ceramics under heat and pressure [NASA-CASE-NPO-10812] c15 N73-13464

**CANTILEVER BEAMS**

Pneumatic cantilever beams and platform for space erectable structure [NASA-CASE-XLA-01731] c32 N71-21045

**CANTILEVER MEMBERS**

Deployable cantilever support for deploying solar cell arrays aboard spacecraft and reducing transient loading [NASA-CASE-NPO-10883] c31 N72-22874

**CAPACITANCE**

Capacitance measuring device for determining flare accuracy on tapered tubes [NASA-CASE-XKS-03495] c14 N69-39785

Device for measuring two orthogonal components of force with gallium flotation of measuring target for use in vacuum environments [NASA-CASE-XAC-04885] c14 N71-23790

Thin film capacitive bolometer and capacitance temperature interchange sensor [NASA-CASE-NPO-10607] c09 N71-27232

- Capacitive tank gaging device for monitoring one constituent of two phase fluid by sensing dielectric constant  
[NASA-CASE-MPS-21629] c14 N72-22442
- Adjustable frequency response microphone  
[NASA-CASE-LAR-11170-1] c07 N74-12843
- Trielectrode capacitive pressure transducer  
[NASA-CASE-ARC-10711-1] c14 N74-29773
- Capacitance multiplier and filter synthesizing network  
[NASA-CASE-NPO-11948-1] c10 N74-32712
- CAPACITANCE SWITCHES**
- Electric discharge apparatus for electrohydraulic explosive forming  
[NASA-CASE-IMP-00375] c15 N70-34249
- Extra-long monostable multivibrator employing bistable semiconductor switch to allow charging of timing circuit  
[NASA-CASE-XGS-00381] c09 N70-34819
- Feedback integrating circuit with grounded capacitor for signal processing  
[NASA-CASE-XAC-10607] c10 N71-23669
- CAPACITORS**
- Temperature sensitive capacitor device for detecting very low intensity infrared radiation  
[NASA-CASE-XNP-09750] c14 N69-39937
- Energy source with tantalum capacitors in parallel and miniature silver oxide button cells for initiating pyrotechnic devices on spacecraft and rocket vehicles  
[NASA-CASE-LAR-10367-1] c03 N70-26817
- Electrical power system for space flight vehicles operating over extended periods  
[NASA-CASE-XMP-00517] c03 N70-34157
- Capacitor for measuring density of compressible fluid in liquid, gas, or liquid and gas phases  
[NASA-CASE-XLE-00143] c14 N70-36618
- Capacitor sandwich structure containing metal sheets of known thickness for counting penetration rates of meteoroids  
[NASA-CASE-XLE-01246] c14 N71-10797
- Capacitor fabrication by solidifying mixture of ferromagnetic metal particles, nonferromagnetic particles, and dielectric material  
[NASA-CASE-LEW-10364-1] c09 N71-13522
- Mechanism for measuring nanosecond time differences between luminous events using streak camera  
[NASA-CASE-XLA-01987] c23 N71-23976
- Circuit for monitoring power supply by ripple current indication  
[NASA-CASE-KSC-10162] c09 N72-11225
- Thermodielectric radiometer using polymer film as capacitor  
[NASA-CASE-ARC-10138-1] c14 N72-24477
- Material compositions and processes for developing dielectric thick films used in microcircuit capacitors  
[NASA-CASE-LAR-10294-1] c26 N72-28762
- Micrometeoroid analyzer using arrays of interconnected capacitors and ion detector  
[NASA-CASE-ARC-10443-1] c14 N73-20477
- Insulated electrode for electrocardiographic recording without paste electrolyte  
[NASA-CASE-HSC-14339-1] c05 N73-21151
- Integrated microcircuits and complementary four-phase logic system  
[NASA-CASE-HSC-14240-1] c10 N73-21240
- CAPILLARY FLOW**
- Capillary radiator for carrying heat transfer liquid in planetary spacecraft structures  
[NASA-CASE-XLE-03307] c33 N71-14035
- Lubrication for bearings by capillary action from oil reservoir of porous material  
[NASA-CASE-IMP-03972] c15 N71-23048
- Soldering device particularly suited to making high quality wiring joints for aerospace engineering utilizing capillary attraction to regulate flow of solder  
[NASA-CASE-XLA-08911] c15 N71-27214
- CAPILLARY TUBES**
- Tubular flow restrictor for gas flow control in pipeline  
[NASA-CASE-NPO-10117] c15 N71-15608
- Development of liquid separating system using capillary device connected to flexible bladder storage chamber  
[NASA-CASE-XMS-13052] c14 N71-20427
- Interrupter switching device utilizing electrodes and mercury filled capillary tubes in which current flow vaporizes mercury as circuit breaker  
[NASA-CASE-XNP-02251] c12 N71-20896
- CARBAZOLES**
- Method of producing output voltage from photovoltaic cell using poly-N-vinyl carbazole complexed with iodine  
[NASA-CASE-NPO-10373] c03 N71-18698
- CARBOHYDRATES**
- Decontamination of petroleum products with honey  
[NASA-CASE-INP-03835] c06 N71-23499
- CARBON ARCS**
- Water cooled contactors for holding rotating carbon arc anode  
[NASA-CASE-XMS-03700] c15 N69-24266
- CARBON COMPOUNDS**
- Vapor deposited laminated nitride-silicon coating for corrosion prevention of carbonaceous surfaces  
[NASA-CASE-XLA-00284] c15 N71-16075
- CARBON DIOXIDE**
- Carbon dioxide purge systems to prevent condensation in spaces between cryogenic fuel tanks and hypersonic vehicle skin  
[NASA-CASE-XLA-01967] c31 N70-42015
- Past response miniature carbon dioxide detector with no moving parts for measuring concentration in any atmosphere  
[NASA-CASE-MSC-13332-1] c14 N72-21408
- CARBON DIOXIDE LASERS**
- Repetitively pulsed wavelength selective carbon dioxide laser  
[NASA-CASE-ERC-10178] c16 N71-24832
- Performance of ac power supply developed for CO<sub>2</sub> laser system  
[NASA-CASE-GSC-11222-1] c16 N73-32391
- CARBON DIOXIDE REMOVAL**
- Catalyst cartridge for carbon dioxide reduction unit  
[NASA-CASE-LAR-10551-1] c06 N74-12813
- CARBONATES**
- Chemical and physical properties of synthetic polyurethane polymer prepared by reacting hydroxy carbonate with organic diisocyanate  
[NASA-CASE-MPS-10512] c06 N73-30099
- CARBOXYL GROUP**
- Carboxyl terminated polyester prepolymers and foams produced from prepolymers and materials  
[NASA-CASE-NPO-10596] c06 N71-25929
- CARBOXYLIC ACIDS**
- Stable polyimide synthesis from mixtures of monomeric diamines and polycarboxylic acid esters  
[NASA-CASE-LEW-11325-1] c06 N73-27980
- Fluorinated esters of polycarboxylic acid and lubricating compositions for use at extreme temperature  
[NASA-CASE-MPS-21040-1] c06 N73-30098
- Ether-linked aryl tetracarboxylic dianhydrides  
[NASA-CASE-MPS-22356-1] c06 N74-29479
- CARCINOGENS**
- Spectrophotofluorometer with 3-dimensional display to identify fluorescence spectra of carcinogenic and noncarcinogenic hydrocarbons  
[NASA-CASE-IGS-01231] c14 N70-41676
- CARDIOGRAPHY**
- Digital cardiometer incorporating circuit for measuring heartbeat rate of subject over predetermined portion of one minute also converting rate to beats per minute  
[NASA-CASE-XMS-02399] c05 N71-22896
- Reference apparatus for medical ultrasonic transducer  
[NASA-CASE-ARC-10753-1] c05 N74-13818
- CARDIOLOGY**
- Development of instantaneous reading tachometer for measuring electrocardiogram signal rate  
[NASA-CASE-MPS-20418] c14 N73-24473
- CARDIOTACHOMETERS**
- Digital computing cardiometer  
[NASA-CASE-MPS-20284-1] c05 N74-12778
- CARDIOVASCULAR SYSTEM**
- Conditioning suit for normal function of astronaut cardiovascular system in gravity environment  
[NASA-CASE-XLA-02898] c05 N71-20268



- Ear oximeter for monitoring blood oxygenation and pressure, pulse rate, and pressure pulse curve, using dc and ac amplifiers  
[NASA-CASE-IAC-05422] c04 N71-23185
- CARRIER FREQUENCIES**  
Demodulator for simultaneous demodulation of two modulating ac signal carriers close in frequency  
[NASA-CASE-IXF-01160] c07 N71-11298  
Automatic carrier acquisition system for phase locked loop receiver  
[NASA-CASE-NPO-11628-1] c07 N73-30113  
Demodulator for carrier transducers  
[NASA-CASE-BUC-10107-1] c09 N74-17930  
Decision feedback loop for tracking a polyphase modulated carrier  
[NASA-CASE-NPO-13103-1] c07 N74-20811
- CARRIER WAVES**  
Variable frequency subcarrier oscillator with temperature compensation  
[NASA-CASE-IXP-03916] c09 N71-28810  
Phase modulation of tone and binary signals on carrier waves in communication systems  
[NASA-CASE-GSC-11743-1] c07 N73-27107
- CARRIERS**  
Sealed storage container for channel carriers with mounted miniature electronic components  
[NASA-CASE-NFS-20075] c09 N71-26133  
Apparatus for conducting flow electrophoresis in the substantial absence of gravity  
[NASA-CASE-NFS-21394-1] c12 N74-27744
- CARTESIAN COORDINATES**  
Design and development of random function tracer for obtaining coordinates of points on contour maps  
[NASA-CASE-XLA-01401] c15 N71-21179
- CARTRIDGES**  
Tape cartridge with high capacity storage of endless-loop magnetic tape  
[NASA-CASE-IGS-00769] c14 N70-41647  
Endless loop tape transport mechanism for driving and tensioning recording medium in magnetic tape recorder  
[NASA-CASE-IGS-01223] c07 N71-10609  
Catalyst cartridge for carbon dioxide reduction unit  
[NASA-CASE-LAR-10551-1] c06 N74-12813
- CASCADE CONTROL**  
Reversible ring counter using cascaded single silicon controlled rectifier stages  
[NASA-CASE-IGS-01473] c09 N71-10673  
Synchronous dc direct-drive system comprising multiple-loop hybrid control system controlling load directly connected to actuator  
[NASA-CASE-GSC-10065-1] c10 N71-27136  
Multiloop RC active filter network with low parameter sensitivity and low amplifier gain  
[NASA-CASE-ARC-10192] c09 N72-21245
- CASES (CONTAINERS)**  
Nonmagnetic hermetically sealed battery case made of epoxy resin and woven glass tape for use with electrochemical cells in spacecraft  
[NASA-CASE-IGS-00886] c03 N71-11053  
Radioactive isotope capsule container design for atmospheric reentry protection and heat transmission to spacecraft  
[NASA-CASE-LEN-11227-1] c33 N71-35153
- CASSEGRAIN ANTENNAS**  
Cassegrain antenna subreflector flange for suppressing ground noise and increasing antenna transmitting efficiency  
[NASA-CASE-IXP-00683] c09 N70-35425  
Design and operation of multi-feed cone Cassegrain antenna  
[NASA-CASE-NPO-10539] c07 N71-11285  
Synchronous detection system for detecting weak radio astronomical signals  
[NASA-CASE-IXP-09832] c30 N71-23723  
Dual frequency feed systems for Cassegrainian antennas  
[NASA-CASE-NPO-13091-1] c09 N73-12214  
Low loss dichroic plate  
[NASA-CASE-NPO-13171-1] c07 N74-11000
- CASTING**  
Hydraulic apparatus for casting and molding of liquid polymers  
[NASA-CASE-IXP-07659] c06 N71-22975
- CASTINGS**  
Method of making an apertured casting  
[NASA-CASE-LEW-11169-1] c15 N74-18131
- CATALYSIS**  
Unit for generating thrust from catalytic decomposition of hydrogen peroxide, for high altitude aircraft or spacecraft reaction control  
[NASA-CASE-INS-00583] c28 N70-38504
- CATALYSTS**  
Catalyst for increased growth of boron carbide crystal whiskers  
[NASA-CASE-IXQ-03903] c15 N69-21922  
Catalyst bed element removing tool  
[NASA-CASE-XPR-00811] c15 N70-36901  
Catalyst bed ignition system for hydrazine propellants  
[NASA-CASE-IXP-00876] c28 N70-41311  
Development of device for detecting hydrogen in ambient environments  
[NASA-CASE-NFS-11537] c14 N71-20442  
Catalyst cartridge for carbon dioxide reduction unit  
[NASA-CASE-LAR-10551-1] c06 N74-12813
- CATALYTIC ACTIVITY**  
Catalytic trimerization of aromatic nitriles and triaryl-s-triazine ring cross-linked high temperature resistant polymers and copolymers made thereby  
[NASA-CASE-LEW-12053-1] c06 N74-34579
- CATHETERIZATION**  
Transducer circuit design with single coaxial cable for input and output connections including incorporation into miniaturized catheter transducer  
[NASA-CASE-ARC-10132-1] c09 N71-24597
- CATHODE RAY TUBES**  
Cathode ray oscilloscope for analyzing electrical waveforms representing amplitude distribution of time function  
[NASA-CASE-IXP-01383] c09 N71-10659  
Cathode ray tube system for displaying ones and zeros in binary wave train  
[NASA-CASE-IGS-04987] c08 N71-20571  
Indexing mechanism for cathode array substitution in electron beam tube  
[NASA-CASE-NPO-10625] c09 N71-26182  
Color television system utilizing single gun current sensitive color cathode ray tube  
[NASA-CASE-ERC-10098] c09 N71-28618  
Digital video system for displaying image and alphanumeric data on cathode ray tube  
[NASA-CASE-NPO-11342] c09 N72-25248  
Switching circuit for control of cathode ray tube beam with fast rise time for output signal  
[NASA-CASE-KSC-10647-1] c10 N72-31273  
Situational display system of cathode ray tubes to assist pilot in aircraft control  
[NASA-CASE-ERC-10350] c14 N73-20474
- CATHODES**  
Encapsulated heater forming hollow body for cathode used in ion thruster  
[NASA-CASE-LEW-10814-1] c28 N70-35422  
Electronic cathodes for use in electron bombardment ion thrusters  
[NASA-CASE-XLE-04501] c09 N71-23190  
Design and characteristics of heat activated electric cell with anode made from one or more alkali metals and cathode made from oxidizing material  
[NASA-CASE-LEW-11358] c03 N71-26084  
Characteristics of ion rocket engine with combination keeper electrode and electron baffle  
[NASA-CASE-NPO-11880] c28 N73-24783  
Storage battery comprising negative plates of a wedge shaped configuration --- for preventing shape change induced malfunctions  
[NASA-CASE-NPO-11806-1] c03 N74-19693
- CATIONS**  
Water insoluble, cationic permselective membrane  
[NASA-CASE-NPO-11091] c18 N72-22567
- CAVITATION FLOW**  
Sensitoidal diaphragm cavitating flow control valve  
[NASA-CASE-IXP-09704] c12 N71-18615
- CAVITIES**  
Black body radiometer having isothermally surrounded cavity for ultraviolet, visible, and infrared radiation  
[NASA-CASE-NPO-10810] c14 N71-27323  
Method for coating through-holes in ceramic substrates used in fabricating miniaturized electronic circuits

- [NASA-CASE-XHP-05999] c15 N71-29032  
Soil burrowing mole apparatus  
[NASA-CASE-XNP-07169] c15 N73-32362
- CAVITY RESONATORS**  
Helical coaxial resonator RF filter  
[NASA-CASE-XGS-02816] c07 N69-24323  
Semiconductor in resonant cavity for improving  
signal to noise ratio of communication receiver  
[NASA-CASE-MSC-12259-1] c07 N70-12616  
Thermally sensitive tuning probe for nullifying  
detuning effects in microwave cavity resonator  
of amplifier  
[NASA-CASE-XNP-00449] c14 N70-35220  
Holder for high frequency crystal resonators  
[NASA-CASE-XNP-03637] c15 N71-21311  
Superconductive resonant cavity for improved  
signal to noise ratio in communication signal  
[NASA-CASE-MSC-12259-2] c07 N72-33146  
Infrared tunable dye laser with nonlinear  
wavelength mixing crystal in optical cavity  
[NASA-CASE-ARC-10463-1] c09 N73-32111  
Tunable cavity resonator with ramp shaped supports  
[NASA-CASE-HQM-10790-1] c16 N74-11313
- CELESTIAL BODIES**  
Device for determining relative angular position  
of spacecraft and radiating celestial body  
[NASA-CASE-GSC-11444-1] c14 N73-28490
- CELESTIAL NAVIGATION**  
Development of star intensity measuring system  
which minimizes effects of outside interference  
[NASA-CASE-XNP-06510] c14 N71-23797
- CELL ANODES**  
Heat activated eaf cells with aluminum anode  
[NASA-CASE-LEW-11359] c03 N71-28579  
Heat activated cell with aluminum anode  
[NASA-CASE-LEW-11359-2] c03 N72-20034
- CELLS**  
Separation cell with permeable membranes for  
fluid mixture component separation  
[NASA-CASE-XNS-02952] c18 N71-20742
- CELLS (BIOLOGY)**  
Improved method of detecting and counting bacteria  
[NASA-CASE-GSC-11917-1] c04 N74-26619
- CENTRIFUGES**  
Centrifuge mounted motion simulator with  
elevator mechanism  
[NASA-CASE-XAC-00399] c11 N70-34815  
Liquid-gaseous centrifugal separator for  
weightlessness environment  
[NASA-CASE-XLA-00415] c15 N71-16079  
Fluid control apparatus and method  
[NASA-CASE-LAR-11110-1] c12 N74-29652  
Centrifugal lyophobic separator  
[NASA-CASE-LAR-10194-1] c12 N74-30608
- CERAMIC BONDING**  
Plasma spraying gun for forming diffusion bonded  
metal or ceramic coatings on substrates  
[NASA-CASE-XLE-01604-2] c15 N71-15610  
Method of forming ceramic to metal seals  
impervious to gaseous and liquid mercury at  
high temperature  
[NASA-CASE-INP-01263-2] c15 N71-26312
- CERAMIC COATINGS**  
Evaporating crucible of tantalum-tungsten foil,  
nickel alumina bonding agent, and ceramic  
coating  
[NASA-CASE-XLA-03105] c15 N69-27483  
Unfired-ceramic, highly reflective composite  
insulation for large launch vehicles  
[NASA-CASE-XHP-01030] c18 N70-41583  
Unfired ceramic insulation for protection from  
radiant heating environments  
[NASA-CASE-NFS-14253] c33 N71-24858  
Cermet for nuclear fuel constructed by pressing  
metal coated ceramic particles in die at  
temperature to cause bonding of metal  
coatings, and tested for thermal stability  
[NASA-CASE-LEW-10219-1] c18 N71-28729  
Ceramic coating for silica insulation  
[NASA-CASE-MSC-14270-2] c18 N74-30004  
Ceramic coating for silica insulation  
[NASA-CASE-MSC-14270-1] c18 N74-30005
- CERAMIC NUCLEAR FUELS**  
Cermet for nuclear fuel constructed by pressing  
metal coated ceramic particles in die at  
temperature to cause bonding of metal  
coatings, and tested for thermal stability  
[NASA-CASE-LEW-10219-1] c18 N71-28729
- CERAMICS**  
Transpiration cooled turbine blade made from  
metallic or ceramic wires  
[NASA-CASE-XLE-00020] c15 N70-33226  
Characteristics of foamed-in-place ceramic  
refractory insulating material and method of  
fabrication  
[NASA-CASE-IGS-02435] c18 N71-22998  
Process for fiberizing ceramic materials with  
high fusion temperatures and tensile strength  
[NASA-CASE-XNP-00597] c18 N71-23088  
Method for coating through-holes in ceramic  
substrates used in fabricating miniaturized  
electronic circuits  
[NASA-CASE-XHP-05999] c15 N71-29032  
Extrusion can for extruding ceramics under heat  
and pressure  
[NASA-CASE-NPO-10812] c15 N73-13464  
Thermal shock resistant hafnia ceramic materials  
[NASA-CASE-LAR-10894-1] c18 N73-14584  
Method of making an apertured casting  
[NASA-CASE-LEW-11169-1] c15 N74-18131
- CERNETS**  
Freeze casting of metal ceramic and refractory  
compound powders into plastic slabs  
[NASA-CASE-XLE-00106] c15 N71-16076  
Cermet for nuclear fuel constructed by pressing  
metal coated ceramic particles in die at  
temperature to cause bonding of metal  
coatings, and tested for thermal stability  
[NASA-CASE-LEW-10219-1] c18 N71-28729  
Development of method for fabricating cernets  
and analysis of various compositions to show  
electrical and physical properties  
[NASA-CASE-NPO-13120-1] c18 N73-23629
- CESIUM**  
Heated tungsten filter for removing oxygen  
impurities from cesium  
[NASA-CASE-XNP-04262-2] c17 N71-26773  
Production of iodine isotope by high energy  
bombardment of cesium heat pipe causing  
spallation reaction  
[NASA-CASE-LEW-11390-2] c24 N73-20763
- CESIUM DIODES**  
Oxygen-doped tantalum emitter for thermionic  
devices such as cesium vapor diodes  
[NASA-CASE-NPO-11138] c03 N70-34646  
Thermionic cesium diode converter with cavity  
emitters  
[NASA-CASE-NPO-10412] c09 N71-28421
- CESIUM ENGINES**  
Variable thrust ion engine using thermal  
decomposition of solid cesium compound to  
produce propulsive vapor  
[NASA-CASE-XNP-00923] c28 N70-36802  
Method for producing porous tungsten plates for  
ionizing cesium compounds for propulsion of  
ion engines  
[NASA-CASE-XLE-00455] c28 N70-38197
- CESIUM VAPOR**  
Electric power generation system directly from  
laser power  
[NASA-CASE-NPO-13308-1] c03 N74-19702
- CHANNEL FLOW**  
Fabrication method for lightweight  
regeneratively cooled combustion chamber of  
channel construction  
[NASA-CASE-XLE-00150] c28 N70-41818  
Heated element sensor for fluid flow detection  
in thermal conductive conduit with adaptive  
means to determine flow rate and direction  
[NASA-CASE-MSC-12084-1] c12 N71-17569
- CHANNELS (DATA TRANSMISSION)**  
Error correction circuitry for binary signal  
channels  
[NASA-CASE-XNP-03263] c09 N71-18843  
Bolical recorder for multiple channel recording  
[NASA-CASE-GSC-10614-1] c09 N72-11224  
Asynchronous, multiplexing, single line  
transmission and recovery data system --- for  
satellite use  
[NASA-CASE-NPO-13321-1] c07 N74-19806
- CHARGE DISTRIBUTION**  
Operation of vidicon tube for scanning spatial  
charge density pattern  
[NASA-CASE-XNP-06028] c09 N71-23189
- CHARGE TRANSFER**  
Electronic counter circuit utilizing magnetic  
core and low power consumption

## CHARGED PARTICLES

## SUBJECT INDEX

- [NASA-CASE-XNP-08836] c09 N71-12515  
**CHARGED PARTICLES**  
 Method of forming thin window drifted silicon charged particle detector  
 [NASA-CASE-XLE-00808] c24 N71-10560  
 Charged particle analyzer with periodically varying voltage applied across electrostatic deflection members  
 [NASA-CASE-XAC-05506-1] c24 N71-16095  
 Electrostatic charged particle collector containing stacked electrodes for microwave tube  
 [NASA-CASE-LEW-11192-1] c09 N73-13208
- CHARGING**  
 Development of device for simulating charge and discharge cycle of battery in synchronous orbit  
 [NASA-CASE-GSC-11211-1] c03 N72-25020
- CHARRING**  
 Sensor device with switches for measuring surface recession of charring and noncharring ablators  
 [NASA-CASE-XLA-01781] c14 N69-39975  
 Ablation sensor for measuring char layer recession rate using electric wires  
 [NASA-CASE-XLA-01794] c33 N71-21586
- CHECKOUT**  
 Digital computer system for automatic prelaunch checkout of spacecraft  
 [NASA-CASE-XKS-08012-2] c31 N71-15566  
 Rapid activation and checkout device for batteries  
 [NASA-CASE-NFS-22749-1] c14 N74-34861
- CHELATES**  
 Ammonium perchlorate composite propellant with organic Cu(II) chelate catalytic additive  
 [NASA-CASE-LAR-10173-1] c27 N71-14090
- CHEMICAL ANALYSIS**  
 Analytical test apparatus and method for determining oxygen content in alkali liquid metal  
 [NASA-CASE-XLE-01997] c06 N71-23527  
 Automated fluid chemical analyzer for microchemical analysis of small quantities of liquids by use of selected reagents and analyzer units  
 [NASA-CASE-XNP-09451] c06 N71-26754  
 Method for determining presence and type of OH in H<sub>2</sub>O  
 [NASA-CASE-NPO-10774] c06 N72-17095  
 Development and characteristics of injection system for use with gas chromatograph  
 [NASA-CASE-ARC-10344-1] c14 N72-21433  
 Micrometeoroid analyzer using arrays of interconnected capacitors and ion detector  
 [NASA-CASE-ARC-10443-1] c14 N73-20477  
 Gas chromatograph injection system  
 [NASA-CASE-ARC-10344-2] c14 N74-20021  
 Chromato-fluorographic drug detector --- device for detecting and recording fluorescent properties of materials  
 [NASA-CASE-ARC-10633-1] c14 N74-26947
- CHEMICAL AUXILIARY POWER UNITS**  
 Development and characteristics of ion-exchange membrane and electrode assembly for fuel cells or electrolysis cells  
 [NASA-CASE-INS-02063] c03 N71-29044
- CHEMICAL COMPOSITION**  
 Rubber composition for expulsion bladders and diaphragms for use with hydrazine  
 [NASA-CASE-NPO-11433] c18 N71-31140  
 Phototropic composition of matter with sensitivity to ultraviolet light and usable for producing positive photographic images  
 [NASA-CASE-XGS-03736] c14 N72-22443
- CHEMICAL COMPOUNDS**  
 Ultraviolet chromatographic detector for quantitative and qualitative analysis of compounds  
 [NASA-CASE-HQN-10756-1] c14 N72-25428
- CHEMICAL ELEMENTS**  
 Apparatus for remote handling of materials --- mixing or analyzing dangerous chemicals  
 [NASA-CASE-LAR-10634-1] c15 N74-18123
- CHEMICAL MACHINING**  
 Reusable masking boot for chemical machining operations  
 [NASA-CASE-XNP-02092] c15 N70-42033
- CHEMICAL PROPERTIES**  
 Method for producing alternating ether-siloxane copolymers with stable properties when exposed to elevated temperatures and UV radiation  
 [NASA-CASE-XMF-02584] c06 N71-20905  
 Chemical and physical properties of synthetic polyurethane polymer prepared by reacting hydroxy carbonate with organic diisocyanate  
 [NASA-CASE-NFS-10512] c06 N73-30099  
 Chemical and elastic properties of fluorinated polyurethanes  
 [NASA-CASE-NPO-10767-1] c06 N73-33076  
 Thiophenyl ether disiloxanes and trisiloxanes useful as lubricant fluids  
 [NASA-CASE-MFS-22411-1] c15 N74-21058  
 Polyimides of ether-linked aryl tetracarboxylic dianhydrides  
 [NASA-CASE-NFS-22355] c06 N74-29480
- CHEMICAL REACTIONS**  
 Fire retardant polyisocyanurate foam with high temperature resistance  
 [NASA-CASE-ARC-10280-1] c18 N70-34695  
 Process for interfacial polymerization of pyromellitic dianhydride and tetraamino benzene  
 [NASA-CASE-XLA-03104] c06 N71-11235  
 Synthesis of polymeric schiff bases by schiff-base exchange reactions  
 [NASA-CASE-XMP-08651] c06 N71-11236  
 Preparation of ordered poly(arylenesiloxane)/polymers  
 [NASA-CASE-XMF-10753] c06 N71-11237  
 Synthesis and chemical properties of imidazopyrrolone/maide copolymers  
 [NASA-CASE-XLA-08802] c06 N71-11238  
 Composition and process for improving definition of resin masks used in chemical etching  
 [NASA-CASE-XGS-04993] c14 N71-17574  
 Preparation of inorganic solid film lubricants with long wear life and stability in aerospace environments  
 [NASA-CASE-XMP-03988] c15 N71-21403  
 Synthesis of high purity dianilinosilanes  
 [NASA-CASE-XMF-06409] c06 N71-23230  
 Synthesis of aromatic diamines and dialdehyde polymers using Schiff base  
 [NASA-CASE-XNP-03074] c06 N71-24740  
 Chemical synthesis of hydroxy terminated perfluoro ethers as intermediates for highly fluorinated polyurethane resins  
 [NASA-CASE-NPO-10768] c06 N71-27254  
 Chemical synthesis of thermally stable organometallic polymers with divalent metal ion and tetraphenylphosphonitric units  
 [NASA-CASE-HQN-10364] c06 N71-27363  
 Apparatus and process for volumetrically dispensing reagent quantities of volatile chemicals for small batch reactions  
 [NASA-CASE-NPO-10070] c15 N71-27372  
 Infusible polymer production from reaction of polyfunctional epoxy resins with polyfunctional aziridine compounds  
 [NASA-CASE-NPO-10701] c06 N71-28620  
 Process for preparing high molecular weight polyaryloxyisilanes from lower molecular weight forms  
 [NASA-CASE-XMF-08674] c06 N71-28807  
 Organometallic compounds of niobium and tantalum useful for film deposition  
 [NASA-CASE-XNP-04023] c06 N71-28808  
 Description of method for making homogeneous foamed materials in weightless environment using materials having different physical properties  
 [NASA-CASE-XMP-09902] c15 N72-11387  
 Method to produce high purity copper fluoride by heating copper hydroxyfluoride powder and subjecting to flowing fluorine gas  
 [NASA-CASE-LEW-10794-1] c06 N72-17093  
 Pumping and metering dual piston system and monitor for reaction chamber constituents  
 [NASA-CASE-GSC-10218-1] c15 N72-21465  
 Development of apparatus for producing metal powder particles of controlled size  
 [NASA-CASE-XLE-06461-2] c17 N72-28535  
 Chemical spot tests for identification of titanium and titanium alloys used in aerospace vehicles  
 [NASA-CASE-LAR-10539-1] c17 N73-12547  
 Self-cycling fluid heater for heating continuous fluid stream to ultrahigh temperatures to facilitate chemical reactions  
 [NASA-CASE-MSC-15567-1] c33 N73-16918

- Chemical process for production of polyisobutylene compounds and application as solid rocket propellant binder  
[NASA-CASE-NPO-10893] c27 N73-22710
- Preparation of stable polyurethane polymer by reacting polymer with diisocyanate  
[NASA-CASE-MPS-10506] c06 N73-30100
- Preparation of polyurethane polymer by reacting hydroxy polyformal with organic diisocyanate  
[NASA-CASE-MPS-10509] c06 N73-30103
- Utilization of lithium p-lithiophenoxide to prepare star polymers  
[NASA-CASE-NPO-10998-1] c06 N73-32029
- Polyimide foam for the thermal insulation and fire protection  
[NASA-CASE-ARC-10464-1] c06 N74-12812
- Improved method of detecting and counting bacteria  
[NASA-CASE-GSC-11917-1] c04 N74-26619
- Intumescent composition, foamed product prepared therewith and process for making same  
[NASA-CASE-ARC-10304-2] c18 N74-27037
- Vapor phase growth of groups III-V compounds by hydrogen chloride transport of the elements  
[NASA-CASE-LAR-11144-1] c26 N74-27261
- CHEMICAL TESTS**
- Chemical spot tests for identification of titanium and titanium alloys used in aerospace vehicles  
[NASA-CASE-LAR-10539-1] c17 N73-12547
- Chemical spot test for identifying magnesium or magnesium alloys used in aerospace applications  
[NASA-CASE-LAR-10953-1] c17 N73-27446
- CHLORINATION**
- Chlorine generator for purifying water in life support systems of manned spacecraft  
[NASA-CASE-XLA-08913] c14 N71-28933
- CHLOROPRENE RESINS**
- Flexible fire retardant polyisocyanate modified neoprene foam --- for thermal protective devices  
[NASA-CASE-ARC-10180-1] c06 N74-12814
- CHOKES**
- Current dependent variable inductance for input filter chokes of ac or dc power supplies  
[NASA-CASE-ERC-10139] c09 N72-17154
- CHOKES (RESTRICTIONS)**
- Variably positioned guide vanes for aerodynamic choking  
[NASA-CASE-LAR-10642-1] c28 N74-31270
- CHROMATOGRAPHY**
- Chronato-fluorographic drug detector --- device for detecting and recording fluorescent properties of materials  
[NASA-CASE-ARC-10633-1] c14 N74-26947
- CINEMATOGRAPHY**
- High speed photo-optical time recorder for indicating time at exposure of each frame of high speed movie camera film  
[NASA-CASE-KSC-10294] c14 N72-18411
- CIRCUIT BOARDS**
- Electrical feedthrough connection for printed circuit boards  
[NASA-CASE-IMP-01483] c14 N69-27431
- Electric connector for printed cable to printed cable or to printed board  
[NASA-CASE-XMF-00369] c09 N70-36494
- Electrical connection for printed circuits on common board, using bellows principle in rivet  
[NASA-CASE-IMP-05082] c15 N70-41960
- Electrical spot terminal assembly for printed circuit boards  
[NASA-CASE-NPO-10034] c15 N71-17685
- Development and characteristics of polyimide impregnated laminates with fiberglass cloth backing for application as printed circuit boards  
[NASA-CASE-MPS-20408] c18 N73-12604
- Techniques for packaging and mounting printed circuit boards  
[NASA-CASE-MPS-21919-1] c10 N73-25243
- Viscoelastic shock absorbing mount for electrical circuit board  
[NASA-CASE-NPO-13253-1] c15 N73-31445
- Tool for use in lifting pin supported objects  
[NASA-CASE-NPO-13157-1] c15 N74-32918
- CIRCUIT BREAKERS**
- Interrupter switching device utilizing electrodes and mercury filled capillary tubes in which current flow vaporizes mercury as circuit breaker  
[NASA-CASE-IMP-02251] c12 N71-20896
- Single electrical circuit component combining diode, fuse, and blown indicator with elongated tube of heat resistant transparent material  
[NASA-CASE-XKS-03381] c09 N71-22796
- Electrical circuit selection device for simulating stage separation of flight vehicle  
[NASA-CASE-XKS-04631] c10 N71-23663
- Electromagnetic braking arrangement for controlling rotor rotation in electric motor  
[NASA-CASE-IMP-06936] c15 N71-24695
- Relay circuit breaker with magnetic latching to provide conductive and nonconductive paths for current devices  
[NASA-CASE-MSC-11277] c09 N71-29008
- CIRCUIT DIAGRAMS**
- Excitation and detection circuitry for flux responsive magnetic head  
[NASA-CASE-IMP-04183] c09 N69-24329
- Impedance transformation device for signal mixing  
[NASA-CASE-XGS-01110] c07 N69-24334
- Design of transistorized ring counter circuit with special steering and triggering circuits  
[NASA-CASE-IGS-03095] c09 N69-27463
- Solid state switching circuit design to increase current capacity of low rated relay contacts  
[NASA-CASE-IMP-09228] c09 N69-27500
- Extra-long monostable multivibrator employing bistable semiconductor switch to allow charging of timing circuit  
[NASA-CASE-XGS-00381] c09 N70-34819
- Frequency shift keyed demodulator - circuit diagrams  
[NASA-CASE-XGS-02889] c07 N71-11282
- Difference indicating circuit used in conjunction with device measuring gravitational fields  
[NASA-CASE-IMP-08274] c10 N71-13537
- High voltage transistor circuit  
[NASA-CASE-IMP-06937] c09 N71-19516
- Control of fusion welding through use of thermocouple wire  
[NASA-CASE-MPS-06074] c15 N71-20393
- Circuitry for developing autocorrelation function continuously within signal receiving period  
[NASA-CASE-IMP-00746] c07 N71-21476
- Single electrical circuit component combining diode, fuse, and blown indicator with elongated tube of heat resistant transparent material  
[NASA-CASE-XKS-03381] c09 N71-22796
- Design and development of buck-boost voltage regulator circuit with additive or subtractive alternating current impressed on variable direct current source voltage  
[NASA-CASE-GSC-10735-1] c10 N71-26085
- Design of active RC network capable of operating at high Q values with reduced sensitivity to gain amplification and number of passive components  
[NASA-CASE-ARC-10042-2] c10 N72-11256
- Precision surface cutter for screen circuit negatives and other microcircuits  
[NASA-CASE-XLA-09843] c15 N72-27485
- Control circuit for nuclear thermionic converter power source for spacecraft  
[NASA-CASE-NPO-13114-1] c22 N73-13656
- Symmetrical odd-modulus frequency divider  
[NASA-CASE-NPO-13426-1] c09 N74-18869
- Self-regulating proportionally controlled heating apparatus and technique  
[NASA-CASE-GSC-11752-1] c33 N74-19583
- CIRCUIT PROTECTION**
- Use of silicon controlled rectifier shorting circuit to protect thermoelectric generator source from thermal destruction  
[NASA-CASE-XGS-04808] c03 N69-25146
- Spark gap type protective circuit for fast sensing and removal of overvoltage conditions  
[NASA-CASE-XAC-08981] c09 N69-39897
- Development of in-line fuse device for protection of electric circuits from excessive currents and voltages  
[NASA-CASE-MSC-12135-1] c09 N71-12526
- Overcurrent protecting circuit for push-pull transistor amplifiers  
[NASA-CASE-MSC-12033-1] c09 N71-13531

- Solder coating process for printed copper circuit protection  
[NASA-CASE-IMP-01599] c09 N71-20705
- Power supply with overload protection for series stage transistor  
[NASA-CASE-XMS-00913] c10 N71-23543
- Selective plating of etched circuits without removing previous plating  
[NASA-CASE-IGS-03120] c15 N71-24047
- Circuit design for failure sensing and protecting low voltage electric generator and power transmission networks  
[NASA-CASE-GSC-10114-1] c10 N71-27366
- Sensing circuit for instantaneous reaction to power overloads  
[NASA-CASE-GSC-10667-1] c10 N71-33129
- Current protection equipment for saturable core transformers  
[NASA-CASE-ERC-10075-2] c09 N72-22196
- Development of process for forming insulating layer between two electrical conductor or semiconductor materials  
[NASA-CASE-LBW-10489-1] c15 N72-25447
- Phase protection system for ac power lines  
[NASA-CASE-MSC-17832-1] c10 N74-14956
- Overvoltage protection network  
[NASA-CASE-ABC-10197-1] c09 N74-17929
- CIRCUITS**
- Distribution of currents to circuits using electrical adaptor  
[NASA-CASE-XLA-01288] c09 N69-21470
- Nondestructive interrogating and state changing circuit for binary magnetic storage elements  
[NASA-CASE-IGS-00174] c08 N70-34743
- Electronic circuit system for controlling electric motor speed  
[NASA-CASE-XMP-01129] c09 N70-38712
- Starting circuit design for initiating and maintaining arcs in vapor lamps  
[NASA-CASE-IMP-01058] c09 N71-12540
- Voltage drift compensation circuit for analog-to-digital converter  
[NASA-CASE-XNP-04780] c08 N71-19687
- High voltage divider system for attenuating high voltages to convenient levels suitable for introduction to measuring circuits  
[NASA-CASE-ILE-02008] c09 N71-21583
- Negation of magnetic fields produced by thin waferlike circuit elements in space vehicles  
[NASA-CASE-XGS-03390] c03 N71-23187
- Circuits for controlling reversible dc motor  
[NASA-CASE-XNP-07477] c09 N71-26092
- Device for rapid adjustment and maintenance of temperature in electronic components  
[NASA-CASE-XNP-02792] c14 N71-28958
- Pulse generating circuit for operation at very high duty cycles and repetition rates  
[NASA-CASE-XNP-00745] c10 N71-28960
- Development of electric circuit for production of different pulse width signals  
[NASA-CASE-XLA-07788] c09 N71-29139
- Sensing circuit for instantaneous reaction to power overloads  
[NASA-CASE-GSC-10667-1] c10 N71-33129
- Electronic signal-handling circuit with constant input impedance  
[NASA-CASE-ABC-10348-1] c10 N72-10205
- Pulsed excitation voltage circuit for strain gage bridge transducers  
[NASA-CASE-FRC-10036] c09 N72-22200
- Development of thermal to electric power conversion system using solid state switches of electrical currents to load for Seebeck effect compensation  
[NASA-CASE-NPO-11388] c03 N72-23048
- Inductive-capacitive loops as load insensitive power converters  
[NASA-CASE-ERC-10268] c09 N72-25252
- Fail-safe multiple transformer circuit configuration  
[NASA-CASE-NPO-11078] c09 N72-25262
- Precision surface cutter for screen circuit negatives and other microcircuits  
[NASA-CASE-XLA-09843] c15 N72-27485
- Bridge-type gain control circuit  
[NASA-CASE-GSC-10786-1] c10 N72-28241
- Active tuned circuits for microelectronic construction  
[NASA-CASE-GSC-11340-1] c10 N72-33230
- Thermochromic compositions for detecting heat levels in electronic circuits and devices  
[NASA-CASE-NPO-10764-1] c14 N73-14428
- Initial systole and diastolic notch detecting circuitry for monitoring arterial pressure pulse  
[NASA-CASE-LEW-11581-1] c05 N73-18139
- Electrodeless lamp circuit driven by induction  
[NASA-CASE-MFS-21214-1] c09 N73-30181
- CIRCULAR CONES**
- Optical apparatus for visual detection of roundness and regularity of cone surfaces  
[NASA-CASE-IMP-00462] c14 N70-34298
- CIRCULAR CYLINDERS**
- Modulating and controlling intensity of light beam from high temperature source by servocontrolled rotating cylinders  
[NASA-CASE-XMS-04300] c09 N71-19479
- CIRCULAR POLARIZATION**
- Left and right hand circular electromagnetic polarization excitation by phase shifter and hybrid networks  
[NASA-CASE-GSC-10021-1] c09 N71-24595
- Planar array circularly polarized antenna with wall slot excitation  
[NASA-CASE-NPO-10301] c07 N72-11148
- Circularly polarized antenna with linearly polarized pair of elements  
[NASA-CASE-ERC-10214] c09 N72-31235
- CIRCULAR TUBES**
- Evacuated displacement compression molding  
[NASA-CASE-LAR-10782-1] c15 N74-14133
- CIRCULATORS (PHASE SHIFT CIRCUITS)**
- Development of electromagnetic wave transmission line circulator and application to parametric amplifier circuits  
[NASA-CASE-XNP-02140] c09 N71-23097
- CLADDING**
- Two step process for cladding nuclear fuels with tungsten  
[NASA-CASE-XNP-03704] c15 N71-17695
- CLAMPING CIRCUITS**
- Clamped amplifier circuit for horizon scanner enabling amplification and accurate measurement of specified parameters  
[NASA-CASE-XGS-01784] c10 N71-20782
- CLAMPS**
- Portable device for aligning surfaces of two adjacent wall or sheet sections for joining at point of junction  
[NASA-CASE-XNP-01452] c15 N70-41371
- Hydraulic clamping of sheet stock specimens  
[NASA-CASE-XLA-05100] c15 N71-17696
- Inertial component clamping assembly design for spacecraft guidance and control system mounting  
[NASA-CASE-XMS-02184] c15 N71-20813
- Design and development of module joint clamping device for application to solar array construction  
[NASA-CASE-XNP-02341] c15 N71-21531
- Quick attach mechanism for moving or stationary wires, ropes, or cables  
[NASA-CASE-XPR-05421] c15 N71-22994
- Clock setter  
[NASA-CASE-LAR-11458-1] c14 N74-32882
- CLAYS**
- White paint production by heating impure aluminum silicate clay having low solar absorbance  
[NASA-CASE-XNP-02139] c18 N71-24184
- CLEAN ROOMS**
- Environmentally controlled suit for working in sterile chamber  
[NASA-CASE-LAR-10076-1] c05 N73-20137
- CLEANERS**
- Device for back purging thrust engines  
[NASA-CASE-XMS-04826] c28 N71-28849
- Noncontaminating swab with absorbent end covered with netted envelope to prevent egress of absorbent material  
[NASA-CASE-MFS-18100] c15 N72-11390
- Fiber separating and cleaning method and apparatus  
[NASA-CASE-LAR-11224-1] c15 N74-20072
- CLEANING**
- Device for removing plastic dust cover from digital computer disk packs for inspection and cleaning  
[NASA-CASE-LAR-10590-1] c15 N70-26819
- CLEAR AIR TURBULENCE**
- Development of radiometric sensor to warn

aircraft pilots of region of clear air  
turbulence along flight path  
[NASA-CASE-ERC-10081] c14 N72-28437

Remote detection and measurement of clear air  
turbulence using pulsed laser radar  
[NASA-CASE-MFS-21244-1] c20 N73-21523

**CLIMBING FLIGHT**  
Aircraft indicator for pilot control of takeoff  
roll, climbout path and verticle flight path  
in poor visibility conditions  
[NASA-CASE-XLA-00487] c14 N70-40157

**CLINICAL MEDICINE**  
Automatic system for measuring and monitoring  
systolic and diastolic blood pressure in humans  
[NASA-CASE-MSC-13999-1] c05 N72-25142

Process for preparing calcium phosphate salts  
for tooth repair  
[NASA-CASE-ERC-10338] c04 N72-33072

Heat pipe production of high purity radioiodine  
for thyroid measurements  
[NASA-CASE-LEW-11390-3] c11 N73-28128

Surgical liquification pump for removing  
macerated tissue from eye  
[NASA-CASE-LEW-12051-1] c04 N73-32000

**CLOCKS**  
Time synchronization system for synchronizing  
clocks at remote locations with master clock  
using moon reflected coded signals  
[NASA-CASE-NPO-10143] c10 N71-26326

Circuit for measuring wide range of pulse rates  
by utilizing high capacity counter  
[NASA-CASE-XNP-06234] c10 N71-27137

Fault-tolerant clock apparatus for use in  
digital logic systems which maintains output  
pulses during component failure  
[NASA-CASE-MSC-12531-1] c14 N73-22386

Clock setter  
[NASA-CASE-LAR-11458-1] c14 N74-32882

**CLOSED CIRCUIT TELEVISION**  
Development of spacecraft docking system for  
optical alignment of spacecraft using  
television camera system  
[NASA-CASE-MSC-12559-1] c31 N73-26879

**CLOSED CYCLES**  
Closed loop radio communication ranging system  
to determine distance between moving airborne  
vehicle and fixed ground station  
[NASA-CASE-XNP-01501] c21 N70-41930

Digital phase-locked loop for accumulator output  
signal phase-locked to input signal  
[NASA-CASE-GSC-11623-1] c10 N73-31202

**CLOSED ECOLOGICAL SYSTEMS**  
Potable water reclamation from human wastes in  
zero-G environment  
[NASA-CASE-XLA-03213] c05 N71-11207

Spacecraft with artificial gravity and earthlike  
atmosphere  
[NASA-CASE-LEW-11101-1] c31 N73-32750

**CLOSURES**  
Design and characteristics of device for closing  
canisters under high vacuum conditions  
[NASA-CASE-XLA-01446] c15 N71-21528

**CLOUDS (METEOROLOGY)**  
Development and characteristics of apparatus for  
measuring intensity of electric field in  
atmosphere  
[NASA-CASE-KSC-10730-1] c14 N73-32318

Electric field measuring and display system ---  
for cloud formations  
[NASA-CASE-KSC-10731-1] c14 N74-27862

**COATING**  
Solder coating process for printed copper  
circuit protection  
[NASA-CASE-XNP-01599] c09 N71-20705

High thermal emittance black surface coatings  
and process for applying to metal and metal  
alloy surfaces used in radiative cooling of  
spacecraft  
[NASA-CASE-XLA-06199] c15 N71-24875

**COATINGS**  
Bonded solid lubricant coatings of calcium  
fluoride and binder for high temperature  
stability  
[NASA-CASE-IMS-00259] c18 N70-36400

Contrast color coating for meteoroid impact  
position locator for space vehicles  
[NASA-CASE-LAR-10629-1] c14 N73-32348

**COAXIAL CABLES**  
Design and development of device for cooling  
inner conductor of coaxial cable  
[NASA-CASE-XNP-09775] c09 N71-20445

Design and development of electric connectors  
for rigid and semirigid coaxial cables  
[NASA-CASE-XNP-04732] c09 N71-20851

Transducer circuit design with single coaxial  
cable for input and output connections  
including incorporation into miniaturized  
catheter transducer  
[NASA-CASE-ARC-10132-1] c09 N71-24597

Collapsible antenna boom and coaxial  
transmission line having inflatable inner tube  
[NASA-CASE-MFS-20068] c07 N71-27191

Vibration isolation system, using coaxial  
helical compression springs  
[NASA-CASE-NPO-11012] c15 N72-11391

Development and characteristics of hermetically  
sealed coaxial package for containing  
microwave semiconductor components  
[NASA-CASE-GSC-10791-1] c15 N73-14469

System for stabilizing cable phase delay  
utilizing a coaxial cable under pressure  
[NASA-CASE-NPO-13138-1] c09 N74-17927

Refrigerated coaxial coupling --- for maser  
waveguide  
[NASA-CASE-NPO-13504-1] c09 N74-27689

**COAXIAL PLASMA ACCELERATORS**  
Self-energized plasma compressor  
[NASA-CASE-MFS-22145-2] c25 N74-35145

**COBALT ALLOYS**  
High strength, corrosion resistant cobalt-based  
alloys for aerospace structures  
[NASA-CASE-XLE-00726] c17 N71-15644

High temperature cobalt-base alloy resistant to  
corrosion by liquid metals and to sublimation  
in vacuum environment  
[NASA-CASE-XLE-02991] c17 N71-16025

High temperature ferromagnetic cobalt-base alloy  
for electrical power generating equipment  
[NASA-CASE-XLE-03629] c17 N71-23248

Cobalt-tungsten alloys with superior strength at  
elevated temperatures  
[NASA-CASE-LEW-10436-1] c17 N73-32415

**COCKPIT SIMULATORS**  
Controlled visibility device for simulating poor  
visibility conditions in training pilots in  
instrument landing and flight procedures  
[NASA-CASE-XPR-04147] c11 N71-10748

**CODERS**  
Design and development of encoder/decoder system  
to generate binary code which is function of  
outputs of plurality of bistable elements  
[NASA-CASE-NPO-10342] c10 N71-33407

Biorthogonal encoder with modular design  
[NASA-CASE-NPO-10629] c08 N72-18184

Method and apparatus for decoding compatible  
convolutional codes  
[NASA-CASE-MSC-14070-1] c07 N74-32598

**CODING**  
Description of error correcting methods for use  
with digital data computers and apparatus for  
encoding and decoding digital data  
[NASA-CASE-XNP-02748] c08 N71-22749

Binary concatenated coding system to measure,  
count, and record numerical information using  
minimized number of digits  
[NASA-CASE-MSC-14082-1] c08 N73-16163

Apparatus and digital technique for coding rate  
data  
[NASA-CASE-LAR-10128-1] c08 N73-20217

**COENZYMES**  
Bioassay of flavin coenzymes  
[NASA-CASE-GSC-10565-1] c06 N72-25149

**COHERENT ELECTROMAGNETIC RADIATION**  
Design of folded traveling wave user structure  
[NASA-CASE-INP-05219] c16 N71-15550

Development of focused image holography with  
extended sources  
[NASA-CASE-ERC-10019] c16 N71-15551

**COHERENT LIGHT**  
Hybrid holographic system using reference,  
transmitted, and reflected beams simultaneously  
[NASA-CASE-MFS-20074] c16 N71-15565

Development of apparatus for amplitude  
modulation of diode laser by periodic  
discharge of direct current power supply  
[NASA-CASE-IMS-04269] c16 N71-22895

Coherent light beam device and method for  
measuring gas density in vacuum chambers

- [NASA-CASE-XER-11203] c14 N71-28994
- COHERENT RADIATION**
- Method and apparatus for producing intense, coherent, monochromatic light from low temperature plasma  
[NASA-CASE-INP-04167-3] c25 N72-21693
- Design and development of multichannel laser remote control system using modulated helium-neon laser as transmitter and light collector as receiving antenna  
[NASA-CASE-LAR-10311-1] c16 N73-16536
- Monitoring atmospheric pollutants with a heterodyne radiometer transmitter-receiver  
[NASA-CASE-NPO-11919-1] c14 N74-11284
- Apparatus for scanning the surface of a cylindrical body  
[NASA-CASE-NPO-11861-1] c14 N74-20009
- Laser system with an antiresonant optical ring --- optical properties and performance of beam splitter with equal transmission and reflection coefficients  
[NASA-CASE-HQM-10844-1] c16 N74-20118
- Optically detonated explosive device  
[NASA-CASE-NPO-11743-1] c33 N74-27425
- COILS**
- Improved structure and method of producing composite of gapped and ungapped cores  
[NASA-CASE-NPO-13413-1] c09 N74-33738
- COLD CATHODES**
- Cold cathode discharge tube with pressurized gas cell for meteoroid detection in space  
[NASA-CASE-LAR-10483-1] c14 N73-32327
- COLD WORKING**
- Cold metal hydroforming techniques using epoxy molds for counteracting creep or stretch  
[NASA-CASE-XLE-05641-1] c15 N71-26346
- COLLAPSE**
- Collapsible piston for hypervelocity gun  
[NASA-CASE-MS-C-13789-1] c11 N73-32152
- COLLECTION**
- Automatic liquid collection and disposal system  
[NASA-CASE-LAR-11071-1] c15 N73-18474
- COLLIMATION**
- Long range laser traversing system  
[NASA-CASE-GSC-11262-1] c16 N74-21091
- COLLIMATORS**
- X ray collimating structure for focusing radiation directly onto detector  
[NASA-CASE-YBQ-04106] c14 N70-40240
- Focusing optical collimator for high resolution scanning of electromagnetic radiations, neutrons, and other particles  
[NASA-CASE-MPS-20932-1] c14 N73-27380
- Collimator for analyzing spatial location of near and distant sources of radiation  
[NASA-CASE-MPS-20546-2] c14 N73-30389
- COLLISION AVOIDANCE**
- Cooperative Doppler radar system for avoiding midair collisions  
[NASA-CASE-LAR-10403] c21 N71-11766
- Satellite aided aircraft collision avoidance system effective for large number of aircraft  
[NASA-CASE-ERC-10090] c21 N71-24948
- Vertically stacked collinear array of independently fed omnidirectional antennas for use in collision warning systems on commercial aircraft  
[NASA-CASE-LAR-10545-1] c09 N72-21244
- Economical satellite aided vehicle avoidance system for preventing midair collisions  
[NASA-CASE-ERC-10419] c21 N72-21631
- Development and operating principles of collision warning system for aircraft accident prevention  
[NASA-CASE-HQM-10703] c21 N73-13643
- Development and characteristics of electronic signalling system and data processing equipment for warning systems to avoid midair collisions between aircraft  
[NASA-CASE-LAR-10717-1] c21 N73-30641
- COLLOIDAL GENERATORS**
- Colloidal particle generator for electrostatic engine for propelling space vehicles  
[NASA-CASE-XLE-00817] c28 N70-33265
- COLLOIDAL PROPELLANTS**
- Colloidal particle generator for electrostatic engine for propelling space vehicles  
[NASA-CASE-XLE-00817] c28 N70-33265
- Low density and low viscosity magnetic propellant for use under zero gravity conditions  
[NASA-CASE-XLE-01512] c12 N70-40124
- Electrostatic microthrust propulsion system with annular slit colloid thruster  
[NASA-CASE-GSC-10709-1] c28 N71-25213
- COLOR**
- Chemical spot test for identifying magnesium or magnesium alloys used in aerospace applications  
[NASA-CASE-LAR-10953-1] c17 N73-27446
- Contrast color coating for meteoroid impact position locator for space vehicles  
[NASA-CASE-LAR-10629-1] c14 N73-32348
- COLOR PHOTOGRAPHY**
- Color photointerpretation of interference colors reflected from thin film oil-coated components in moving gases for gas flow visualization  
[NASA-CASE-XMF-01779] c12 N71-20815
- COLOR TELEVISION**
- Color television system utilizing single gun current sensitive color cathode ray tube  
[NASA-CASE-ERC-10098] c09 N71-28618
- Color television system for allowing monochrome television camera to produce color pictures  
[NASA-CASE-MS-C-12146-1] c07 N72-17109
- Video tape recorder with scan conversion playback for color television signals  
[NASA-CASE-NPO-10166-1] c07 N73-22076
- COLOR VISION**
- Color perception tester for testing color code perceptiveness of individuals  
[NASA-CASE-KSC-10278] c05 N72-16015
- COLUMNS (PROCESS ENGINEERING)**
- Micropacked column for rapid chromatographic analysis using low gas flow rates  
[NASA-CASE-XNP-04816] c06 N69-39936
- COMBINATORIAL ANALYSIS**
- Apparatus for computing square roots  
[NASA-CASE-IGS-04768] c08 N71-19437
- COMBUSTION**
- Device for detection of combustion light preceding gaseous explosions  
[NASA-CASE-LAR-10739-1] c14 N73-16484
- COMBUSTION CHAMBERS**
- Rocket chamber leak test fixture using tubular plug  
[NASA-CASE-YPR-09479] c14 N69-27503
- Propellant injectors for rocket combustion chambers  
[NASA-CASE-XLE-00103] c28 N70-33241
- Metal ribbon wrapped outer wall for regeneratively cooled combustion chamber  
[NASA-CASE-XLE-00164] c15 N70-36411
- Apparatus for cooling and injecting hypergolic propellants into combustion chamber of small rocket engine  
[NASA-CASE-XLE-00303] c15 N70-36535
- Ignition system for monopropellant combustion devices  
[NASA-CASE-XNP-00249] c28 N70-38249
- Fabrication method for lightweight regeneratively cooled combustion chamber of channel construction  
[NASA-CASE-XLE-00150] c28 N70-41818
- Rocket combustion chamber stability by controlling transverse instability during propellant combustion  
[NASA-CASE-XLE-04603] c33 N71-21507
- Regenerative cooling system for rocket combustion chamber using coolant tubes in convergent-divergent nozzle  
[NASA-CASE-XLE-04857] c28 N71-23968
- Rocket engine injector orifice to accommodate changes in density, velocity, and pressure, thereby maintaining constant mass flow rate of propellant into rocket combustion chamber  
[NASA-CASE-XLE-03157] c28 N71-24736
- Coaxial injector for mixing liquid propellants within combustion chambers  
[NASA-CASE-NPO-11095] c15 N72-25455
- Airflow distribution control in gas turbine engines  
[NASA-CASE-LEW-11593-1] c28 N73-25816
- Swirl can, full-annulus combustion chambers for high performance gas turbine engines  
[NASA-CASE-LEW-11326-1] c23 N73-30665
- Method of electroforming a rocket chamber  
[NASA-CASE-LEW-11118-1] c15 N74-32919

- COMBUSTION CONTROL**  
 Pressurized gas injection for burning rate control of solid propellants  
 [NASA-CASE-XLE-03494] c27 N71-21819
- COMBUSTION EFFICIENCY**  
 Fuel injection system for maximum combustion efficiency of rocket engines  
 [NASA-CASE-XLE-00111] c28 N70-38199
- COMBUSTION PHYSICS**  
 Characteristics of solid propellant rocket engine with controlled rate of thrust buildup operating in vacuum environment  
 [NASA-CASE-NPO-11559] c28 N73-24784
- COMBUSTION PRODUCTS**  
 Contamination free separation nut eliminating combustion products from ambient surroundings generated by squib firing  
 [NASA-CASE-XGS-01971] c15 N71-15922  
 Device for generating and controlling combustion products for testing of fire detection system  
 [NASA-CASE-GSC-11095-1] c14 N72-10375
- COMBUSTION STABILITY**  
 Rocket combustion chamber stability by controlling transverse instability during propellant combustion  
 [NASA-CASE-XLE-04603] c33 N71-21507
- COMMAND MODULES**  
 Energy absorbing crew couch strut for Apollo command module  
 [NASA-CASE-MSC-12279] c15 N72-17450
- COMMUNICATING**  
 Communication between computers using two identical communications links  
 [NASA-CASE-NPO-11161] c08 N72-25207
- COMMUNICATION**  
 Circuitry for developing autocorrelation function continuously within signal receiving period  
 [NASA-CASE-XNP-00746] c07 N71-21476  
 Superconductive resonant cavity for improved signal to noise ratio in communication signal  
 [NASA-CASE-MSC-12259-2] c07 N72-33146
- COMMUNICATION CABLES**  
 Method of making molded electric connector for use with flat conductor cables  
 [NASA-CASE-XNP-03498] c15 N71-15986  
 Process for making RF shielded cable connector assemblies and resulting structures  
 [NASA-CASE-GSC-11215-1] c09 N73-28083
- COMMUNICATION EQUIPMENT**  
 Multiplexed communication system design including automatic correction of transmission errors introduced by frequency spectrum shifts  
 [NASA-CASE-XNP-01306] c07 N71-20814  
 Binary data decoding device for use at receiving end of communication channel  
 [NASA-CASE-NPO-10118] c07 N71-24741  
 Development of communication system for transmitting differential phase shift keyed signals from input data bits without timing or phase reference signals  
 [NASA-CASE-MSC-14065-1] c07 N73-10215  
 Characteristics of data-aided carrier tracking loop used for tracking carrier in angle modulated communications system  
 [NASA-CASE-NPO-11282] c10 N73-16205  
 Doppler compensated communication system for locating supersonic transport position  
 [NASA-CASE-GSC-10087-4] c07 N73-20174  
 Differential phase shift keyed communication system  
 [NASA-CASE-MSC-14065-1] c07 N74-26654
- COMMUNICATION SATELLITES**  
 Erectable, inflatable, radio signal reflecting passive communication satellite  
 [NASA-CASE-XLA-00210] c30 N70-40309  
 Development of antenna system for spin stabilized communication satellite for simultaneous reception and transmission of data  
 [NASA-CASE-XGS-02607] c31 N71-23009  
 Elimination of tracking occultation problems occurring during continuous monitoring of interplanetary missions by using Earth orbiting communications satellite  
 [NASA-CASE-XAC-06029-1] c31 N71-24813  
 Satellite radio communication system with remote steerable antenna  
 [NASA-CASE-XNP-02389] c07 N71-28900
- COMPUTATION**  
 High speed low level voltage commutating switch  
 [NASA-CASE-XAC-00060] c09 N70-39915
- COMPUTATORS**  
 Rocket-borne aspect sensor consisting of radiation sensor, apertured disk, commutator, and counting circuits  
 [NASA-CASE-IGS-08266] c14 N69-27432  
 Commutator for steering precisely controlled bidirectional currents through numerous loads by use of magnetic core shift registers  
 [NASA-CASE-NPO-10743] c08 N72-21199
- COMPARATOR CIRCUITS**  
 Describing frequency discriminator using digital logic circuits and supplying single binary output signal  
 [NASA-CASE-MFS-14322] c08 N71-18692  
 Development of pulsed differential comparator circuit  
 [NASA-CASE-XLE-03804] c10 N71-19471
- COMPARATORS**  
 Photometric flow meter with comparator reference means  
 [NASA-CASE-IGS-01331] c14 N71-22996  
 Characteristics of comparator circuits for comparison of binary numbers in information processing system  
 [NASA-CASE-XNP-04819] c08 N71-23295
- COMPENSATORS**  
 Star image motion compensator using telescope for maintaining fixed images  
 [NASA-CASE-LAR-10523-1] c14 N72-22444
- COMPOSITE MATERIALS**  
 High strength reinforced metallic composites for applications over wide temperature range  
 [NASA-CASE-XLE-02428] c17 N70-33288  
 Method for producing fiber reinforced metallic composites with high strength and elasticity over wide temperature range  
 [NASA-CASE-XLE-00231] c17 N70-38198  
 Composites reinforced with short metal fibers or whiskers and having high tensile strength  
 [NASA-CASE-XLE-00228] c17 N70-38490  
 Unfired-ceramic, highly reflective composite insulation for large launch vehicles  
 [NASA-CASE-XNP-01030] c18 N70-41583  
 Freeze casting of metal ceramic and refractory compound powders into plastic slips  
 [NASA-CASE-XLE-00106] c15 N71-16076  
 Preparation and characteristics of lightweight refractory insulation  
 [NASA-CASE-XNP-05279] c18 N71-16124  
 Flexible composite membrane structure impervious to extremely reactive chemicals in rocket propellants  
 [NASA-CASE-XNP-08837] c18 N71-16210  
 Cryostat for flexure fatigue testing of composite materials  
 [NASA-CASE-XNP-02964] c14 N71-17659  
 Description of method for producing metallic composites reinforced with ceramic and refractory hard metals that are fibered in place  
 [NASA-CASE-XLE-03925] c18 N71-22894  
 Electrically coupled individually encapsulated solar cell matrix  
 [NASA-CASE-NPO-11190] c03 N71-34044  
 Diffusion bonded graphite reinforced aluminum composites  
 [NASA-CASE-MFS-21077] c18 N71-34502  
 Heat treatment and tooling for forming shapes from thermosetting honeycomb core sheets  
 [NASA-CASE-NPO-11036] c15 N72-24522  
 Method for making fiber composites with high strength at high temperatures  
 [NASA-CASE-LEW-10424-2-2] c18 N72-25539  
 Development of procedure for repairing fiberglass structures which retains geometry and strength of original structure  
 [NASA-CASE-LAR-10416-1] c15 N72-27527  
 Development of thermal compensating structure which maintains uniform length with changes in temperature  
 [NASA-CASE-MFS-20433] c15 N72-28496  
 Process for developing flame retardant elastomeric composition textiles for use in space suits  
 [NASA-CASE-MSC-14331-1] c18 N73-27501  
 Fabrication of polyphenylquinoxaline composite articles by means of in situ polymerization of



## COMPOSITE PROPELLANTS

## SUBJECT INDEX

**MONOMERS**  
 [NASA-CASE-LEW-11879-1] c18 N74-20152  
 Method of manufacturing composite superconductors  
 [NASA-CASE-LEW-11582-1] c09 N74-33739

**COMPOSITE PROPELLANTS**  
 Ammonium perchlorate composite propellant with  
 organic Cu/II/ chelate catalytic additive  
 [NASA-CASE-LAR-10173-1] c27 N71-14090

**COMPOSITE STRUCTURES**  
 Inflatable honeycomb panel element for  
 lightweight structures usable in space  
 stations and other construction  
 [NASA-CASE-XLA-00204] c32 N70-36536  
 Shrouded composite propulsion system configuration  
 [NASA-CASE-XLA-01043] c28 N71-10780  
 Development of composite structures for  
 spacecraft to serve as anti-meteoroid device  
 [NASA-CASE-LAR-10788-1] c31 N73-20880  
 Improved bonding method in the manufacture of  
 continuous regression rate sensor devices  
 [NASA-CASE-LAR-10337-1] c15 N74-14141

**COMPOSITION (PROPERTY)**  
 Moving particle composition analyzer  
 [NASA-CASE-GSC-11889-1] c14 N74-32887

**COMPRESSED AIR**  
 Actuator using compressed gas as driving force  
 to control valve handling large liquid flows  
 [NASA-CASE-IRG-01208] c15 N70-35409

**COMPRESSIBLE FLUIDS**  
 Capacitor for measuring density of compressible  
 fluid in liquid, gas, or liquid and gas phases  
 [NASA-CASE-XLE-00143] c14 N70-36618  
 Apparatus for tensile strength testing of  
 specimen by pressurized fluid  
 [NASA-CASE-XRS-06250] c14 N71-15600

**COMPRESSING**  
 Method and apparatus for producing very low  
 temperature refrigeration based on gas  
 pressure balance  
 [NASA-CASE-IXP-08877] c15 N71-23025  
 Method for compression molding of thermosetting  
 plastics utilizing a temperature gradient  
 across the plastic to cure the article  
 [NASA-CASE-LAR-10489-1] c15 N74-18124

**COMPRESSION LOADS**  
 Pressure transducer for systems for measuring  
 forces of compression  
 [NASA-CASE-NPO-10832] c14 N72-21405  
 Solid medium thermal engine  
 [NASA-CASE-ARC-10461-1] c33 N74-33379

**COMPRESSION TESTS**  
 Test equipment to prevent buckling of small  
 diameter specimens during compression tests  
 [NASA-CASE-LAR-10440-1] c14 N73-32323  
 Anti-buckling fatigue test assembly --- for  
 subjecting metal specimen to tensile and  
 compressive loads at constant temperature  
 [NASA-CASE-LAR-10426-1] c32 N74-19528

**COMPRESSOR BLADES**  
 Process for welding compressor and turbine  
 blades to rotors and discs of jet engines  
 [NASA-CASE-LEW-10533-1] c15 N73-28515

**COMPRESSORS**  
 Thermal pump-compressor for converting solar  
 energy  
 [NASA-CASE-XLA-00377] c33 N71-17610  
 Self-energized plasma compressor  
 [NASA-CASE-NFS-22145-2] c25 N74-35145

**COMPUTATION**  
 Apparatus for computing square roots  
 [NASA-CASE-IGS-04768] c08 N71-19437

**COMPUTER COMPONENTS**  
 Computer circuit performing both counting and  
 shifting logic operations also capable of  
 miniaturization and integration in basic  
 circuits  
 [NASA-CASE-IXP-01753] c08 N71-22897

**COMPUTER GRAPHICS**  
 System for digitizing graphic displays  
 [NASA-CASE-NPO-10745] c08 N72-22164

**COMPUTER PROGRAMMING**  
 Encoders designed to generate comma free  
 biorthogonal Reed-Muller type code comprising  
 conversion of 64 6-bit words into 64 32-bit  
 data for communication purposes  
 [NASA-CASE-NPO-10595] c10 N71-25917

**COMPUTER PROGRAMS**  
 Self testing and repairing computer comprising  
 control and diagnostic unit and rollback

points for error correction  
 [NASA-CASE-NPO-10567] c08 N71-24633  
 Development of computer program for estimating  
 reliability of self-repair and fault-tolerant  
 systems with respect to selected system and  
 mission parameters  
 [NASA-CASE-NPO-13086-1] c15 N73-12495  
 Development of flight simulator system to show  
 position of joystick displacement  
 [NASA-CASE-NPO-11497] c08 N73-25206

**COMPUTER STORAGE DEVICES**  
 Magnetic matrix memory system for nondestructive  
 reading of information contained in matrix  
 [NASA-CASE-IXP-05835] c08 N71-12504  
 Binary sequence detector with few memory  
 elements and minimized logic circuit complexity  
 [NASA-CASE-IXP-05415] c08 N71-12505  
 Pulsed magnetic core memory element with  
 blocking oscillator feedback for interrogation  
 without loss of digital information  
 [NASA-CASE-IGS-03303] c08 N71-18595  
 Reliable magnetic core circuit apparatus with  
 application in selection matrices for digital  
 memories  
 [NASA-CASE-IXP-01318] c10 N71-23033  
 Time division multiplexed telemetry transmitting  
 system controlled by programmed memory  
 [NASA-CASE-GSC-10131-1] c07 N71-24624  
 Serial digital decoder design with square  
 circuit matrix and serial memory storage units  
 [NASA-CASE-NPO-10150] c08 N71-24650  
 Digital memory system with multiple switch cores  
 for driving each word location  
 [NASA-CASE-IXP-01466] c10 N71-26434  
 Redundant memory for enhanced reliability of  
 digital data processing system  
 [NASA-CASE-GSC-10564] c10 N71-29135  
 Memory device employing semiconductor and  
 ferroelectric properties of single crystal  
 barium titanate  
 [NASA-CASE-ERC-10307] c08 N72-21198  
 Shared memory for a fault-tolerant computer  
 [NASA-CASE-NPO-13139-1] c08 N74-17911

**COMPUTER SYSTEMS DESIGN**  
 Adaptive voting computer system  
 [NASA-CASE-MSC-13932-1] c08 N74-14920

**COMPUTERIZED SIMULATION**  
 Integrated time shared instrumentation display  
 for aerospace vehicle simulators  
 [NASA-CASE-XLA-01952] c08 N71-12507

**COMPUTERS**  
 Telemetry data unit to form multibit words for  
 use between demodulator and computer  
 [NASA-CASE-IXP-09225] c09 N69-24333  
 Data compression processor for monitoring analog  
 signals by sampling procedure  
 [NASA-CASE-NPO-10068] c08 N71-19288  
 Communication between computers using two  
 identical communications links  
 [NASA-CASE-NPO-11161] c08 N72-25207

**CONCAVITY**  
 Concave grating spectrometer for use in near and  
 vacuum ultraviolet regions  
 [NASA-CASE-IGS-01036] c14 N70-40003

**CONCENTRATORS**  
 Concentrator device for controlling direction of  
 solar energy onto energy converters  
 [NASA-CASE-XLE-01716] c09 N70-40234

**CONDENSATES**  
 Apparatus for determining volatile condensable  
 material present in polymeric products  
 [NASA-CASE-IXP-09699] c06 N71-24607  
 Development and characteristics of device for  
 removing condensate from heat exchangers with  
 straight through gas flow  
 [NASA-CASE-MSC-14143-1] c33 N73-32823

**CONDENSERS (LIQUIFIERS)**  
 Condenser-separator for dehumidifying air  
 utilizing sintered metal surface  
 [NASA-CASE-XLA-08645] c15 N69-21465  
 Development and characteristics of device for  
 removing condensate from heat exchangers with  
 straight through gas flow  
 [NASA-CASE-MSC-14143-1] c33 N73-32823

**CONDUCTING FLUIDS**  
 Multiducted electromagnetic pump for conductive  
 liquids  
 [NASA-CASE-NPO-10755] c15 N71-27084

**CONDUCTIVE HEAT TRANSFER**

Measuring conductive heat flow and thermal conductivity of laminar gas stream in cylindrical plug to simulate atmospheric reentry  
[NASA-CASE-XLE-00266] c14 N70-34156

Space suit body heat exchanger design composed of thermal conductance yarn and liquid coolant loops  
[NASA-CASE-XHS-09571] c05 N71-19439

**CONDUCTORS**

Support for flexible conductor cable between drawers or racks holding electronic equipment and cabinet assembly housing drawers or racks  
[NASA-CASE-INP-07587] c15 N71-18701

Ferrite memory arrays from pre-formed metal conductors  
[NASA-CASE-LAR-10994-1] c18 N73-30536

**CONES**

Black body radiometer design with temperature sensing and cavity heat source cone winding  
[NASA-CASE-INP-09701] c14 N71-26475

**CONFINEMENT**

Observation window for internal gas confining chamber  
[NASA-CASE-NPO-10890] c14 N73-12265

**CONICAL BODIES**

Conical valve plug for use with reactive cryogenic fluids  
[NASA-CASE-XLE-00715] c15 N70-34859

Conical reflector antenna with feed approximating line source  
[NASA-CASE-NPO-10303] c07 N72-22127

Characteristics of microwave antenna with conical reflectors to generate plane wave front  
[NASA-CASE-NPO-11661] c07 N73-14130

**CONICAL SPINDLES**

Capacitance measuring device for determining flare accuracy on tapered tubes  
[NASA-CASE-IRK-03495] c14 N69-39785

Foldable, double cone and parabolic reflector system for solar ray concentration  
[NASA-CASE-XLA-04622] c03 N70-41580

Rotary spindle lathe attachments for machining geometrical cones  
[NASA-CASE-XHS-04292] c15 N71-22722

**CONNECTORS**

Expanding and contracting connector strip for solar cell array of Nimbus satellite  
[NASA-CASE-XGS-01395] c03 N69-21539

Design and development of quick release connector  
[NASA-CASE-XLA-01141] c15 N71-13789

Development and characteristics of strainer for flared tube fitting  
[NASA-CASE-XLA-05056] c15 N72-11389

Process for making RF shielded cable connector assemblies and resulting structures  
[NASA-CASE-GSC-11215-1] c09 N73-28083

**CONSCIOUSNESS**

Development of apparatus and method for quantitatively measuring brain activity as automatic indication of sleep state and level of consciousness  
[NASA-CASE-MSC-13282-1] c05 N71-24729

**CONSTRAINTS**

Three stage motion restraining mechanism for restraining and damping three dimensional vibrational movement of gimballed package during launch of spacecraft  
[NASA-CASE-GSC-10306-1] c15 N71-24694

Cable guide and restraint device for reefing tubes in uniform manner  
[NASA-CASE-LAR-10129-1] c15 N73-25512

Development of restraint system for securing personnel to ergometer while exercising under weightless conditions  
[NASA-CASE-NFS-21046-1] c14 N73-27377

Reefing system  
[NASA-CASE-LAR-10129-2] c15 N74-20063

**CONSTRUCTION MATERIALS**

Apparatus and method of assembling building blocks by folding pre-cut flat sheets of material during on-site construction  
[NASA-CASE-MSC-12233-1] c15 N72-25454

Development of construction block in form of container folded from flat sheet and filled with solid material for architectural purposes  
[NASA-CASE-MSC-12233-2] c32 N73-13921

**CONTACT POTENTIALS**

Lightweight, rugged, inexpensive satellite

battery for producing electrical power from ionosphere using electrodes with different contact potentials  
[NASA-CASE-IGS-01593] c03 N70-35408

**CONTAINERS**

Manufacture of fluid containers from fused coated polyester sheets having resealable septum  
[NASA-CASE-NPO-10123] c15 N71-24835

Method for locating leaks in hermetically sealed containers  
[NASA-CASE-ERC-10045] c15 N71-24910

Quantitative liquid measurements in container by resonant frequencies  
[NASA-CASE-INP-02500] c18 N71-27397

**CONTAMINANTS**

Fluid transferring system design for purging toxic, corrosive, or noxious fluids and fumes from materials handling equipment for cleansing and accident prevention  
[NASA-CASE-XHS-01905] c12 N71-21089

**CONTAMINATION**

Emission spectroscopy method for contamination monitoring of inert gas metal arc welding  
[NASA-CASE-INP-02039] c15 N71-15871

Contamination free separation nut eliminating combustion products from ambient surroundings generated by squib firing  
[NASA-CASE-IGS-01971] c15 N71-15922

Apparatus and process for volumetrically dispensing reagent quantities of volatile chemicals for small batch reactions  
[NASA-CASE-NPO-10070] c15 N71-27372

Portable tester for monitoring bacterial contamination by adenosine triphosphate light reaction  
[NASA-CASE-GSC-10879-1] c14 N72-25413

**CONTINUOUS WAVE RADAR**

Phase locked loop with sideband rejecting properties in continuous wave tracking radar  
[NASA-CASE-INP-02723] c07 N70-41680

**CONTOURS**

Describing device for surveying contour of surface using X-Y plotter and traveling transducer  
[NASA-CASE-XLA-08646] c14 N71-17586

Processing system for semiperiodic electrical signals to produce real time contoured display  
[NASA-CASE-MSC-13407-1] c10 N72-20225

**CONTROL**

Valve assembly for controlling simultaneously more than one fluid flow, and having stable qualities under loads  
[NASA-CASE-XHS-05890] c09 N71-23191

Control system for pressure balance device used in calibrating pressure gages  
[NASA-CASE-INP-04134] c14 N71-23755

Power control system for thermal nuclear reactor  
[NASA-CASE-XLE-05799] c22 N72-21644

**CONTROL BOARDS**

Ionization control system design for monitoring separately located ion gage pressures on vacuum chambers  
[NASA-CASE-XLE-00787] c14 N71-21090

**CONTROL EQUIPMENT**

Stepping motor control apparatus exciting windings in proper time sequence to cause motor to rotate in either direction  
[NASA-CASE-GSC-10366-1] c10 N71-18772

Voltage drift compensation circuit for analog-to-digital converter  
[NASA-CASE-INP-04780] c08 N71-19687

Development of attitude control system for vertical takeoff aircraft using reaction nozzles displaced from various axes of aircraft  
[NASA-CASE-XAC-08972] c02 N71-20570

Device for controlling rotary potentiometer mounted on aircraft steering wheel or aileron control  
[NASA-CASE-IAC-10019] c15 N71-23809

Controlled release device for use in launching rockets or missiles  
[NASA-CASE-IRK-03338] c15 N71-24043

Circuits for controlling reversible dc motor  
[NASA-CASE-INP-07477] c09 N71-26092

Digital memory system with multiple switch cores for driving each word location  
[NASA-CASE-INP-01466] c10 N71-26434

Fluid control jet amplifiers  
[NASA-CASE-XLE-09341] c12 N71-28741

## CONTROL ROCKETS

## SUBJECT INDEX

System for control of variable signal generator  
[NASA-CASE-NPO-11064] c07 N72-11150

Solid state remote circuit selector switching circuit  
[NASA-CASE-LEW-10387] c09 N72-22201

Development of device for simulating charge and discharge cycle of battery in synchronous orbit  
[NASA-CASE-GSC-11211-1] c03 N72-25020

Bridge-type gain control circuit  
[NASA-CASE-GSC-10786-1] c10 N72-28241

Control circuit for nuclear thermionic converter power source for spacecraft  
[NASA-CASE-NPO-13114-1] c22 N73-13656

Interferometer prism and control system for precisely determining direction to remote light source  
[NASA-CASE-ARC-10278-1] c14 N73-25463

Development and characteristics of variable ratio, mixed-mode, bilateral master-slave control system for space shuttle remote manipulator system  
[NASA-CASE-MSC-14245-1] c31 N73-30832

Remote manipulator system  
[NASA-CASE-MFS-22022-1] c05 N74-10099

Digital controller for a Baum folding machine --- providing automatic counting and machine shutoff  
[NASA-CASE-LAR-10688-1] c15 N74-21056

Flow control valve --- for high temperature fluids  
[NASA-CASE-NPO-11951-1] c15 N74-21065

**CONTROL ROCKETS**

Unit for generating thrust from catalytic decomposition of hydrogen peroxide, for high altitude aircraft or spacecraft reaction control  
[NASA-CASE-IMS-00583] c28 N70-38504

**CONTROL RODS**

Nuclear reactor control rod assembly with improved driving mechanism  
[NASA-CASE-XLE-00298] c22 N70-34501

Manual control mechanism for adjusting control rod to null position  
[NASA-CASE-XLA-01808] c15 N71-20740

**CONTROL SIMULATION**

Kinesthetic control simulator with multiple degree of freedom of movement similar to lunar flying vehicles  
[NASA-CASE-LAR-10276-1] c11 N70-26813

**CONTROL STABILITY**

Design and development of active control system for air cushion vehicle to reduce or eliminate effects of excessive vertical vibratory acceleration  
[NASA-CASE-LAR-10531-1] c02 N73-13023

**CONTROL SURFACES**

Conical valve plug for use with reactive cryogenic fluids  
[NASA-CASE-XLE-00715] c15 N70-34859

Attitude control system for spacecraft based on conversion of incident solar radiation on movable control surfaces into mechanical torques  
[NASA-CASE-XNP-02982] c31 N70-41855

**CONTROL UNITS (COMPUTERS)**

Self testing and repairing computer comprising control and diagnostic unit and rollback points for error correction  
[NASA-CASE-NPO-10567] c08 N71-24633

**CONTROL VALVES**

Electromechanical actuator and its use in rocket thrust control valve  
[NASA-CASE-XNP-05975] c15 N69-23185

Multiple orifice fluid flow control valve to provide different flow patterns  
[NASA-CASE-ERC-10208] c15 N70-10867

Conical valve plug for use with reactive cryogenic fluids  
[NASA-CASE-XLE-00715] c15 N70-34859

Control valve and coaxial variable injector for controlling bipropellant mixture ratio and flow  
[NASA-CASE-XNP-09702] c15 N71-17654

Control valve for switching main stream of fluid from one stable position to another by means of electrohydrodynamic forces  
[NASA-CASE-NPO-10416] c12 N71-27332

Force balanced throttle valve for fuel control in rocket engines  
[NASA-CASE-NPO-10808] c15 N71-27432

Dual stage check valve for cryogenic supply systems used in space flight environmental control system  
[NASA-CASE-MSC-13587-1] c15 N73-30459

Airflow control system for supersonic inlets  
[NASA-CASE-LEN-11188-1] c02 N74-20646

**CONTROLLED ATMOSPHERES**

Rectangular electric conductors for conductor cables to withstand spacecraft vibration and controlled atmosphere  
[NASA-CASE-MFS-14741] c09 N70-20737

High voltage pulse generator for testing flash and ignition limits of nonmetallic materials in controlled atmospheres  
[NASA-CASE-MSC-12176-1] c09 N71-13518

System for continuous monitoring of exhalations, weighing, and cage cleaning for animal exposed to controlled atmosphere for toxic study  
[NASA-CASE-XAC-05333] c11 N71-22875

**CONTROLLERS**

Unitary three-axis controller for flight vehicles within or outside atmosphere  
[NASA-CASE-IFR-00181] c21 N70-33279

Two axis flight controller with potentiometer control shafts directly coupled to rotatable ball members  
[NASA-CASE-IFR-04104] c03 N70-42073

Hand controller operable about three respectively perpendicular axes and capable of actuating signal generators for attitude control devices  
[NASA-CASE-IMS-07487] c15 N71-23255

Solid state controller three axes controller  
[NASA-CASE-MSC-12394-1] c03 N74-10942

**CONVECTIVE FLOW**

Design and development of device to prevent geysering during convective circulation of cryogenic fluids  
[NASA-CASE-KSC-10615] c15 N73-12486

**CONVECTIVE HEAT TRANSFER**

Thin film gauge --- for measuring convective heat transfer rates along test surfaces in wind tunnels  
[NASA-CASE-NPO-10617-1] c14 N74-22095

**CONVERGENCE**

Electrical device for developing converging spherical shock waves  
[NASA-CASE-MFS-20890] c14 N72-22439

**CONVERGENT-DIVERGENT NOZZLES**

Gimbaled partially submerged nozzle for solid propellant rocket engines for providing directional control  
[NASA-CASE-XMP-01544] c28 N70-34162

Regenerative cooling system for rocket combustion chamber using coolant tubes in convergent-divergent nozzle  
[NASA-CASE-XLE-04857] c28 N71-23968

**CONVOLUTION INTEGRALS**

Learning decoders for decoding compatible convolutional codes  
[NASA-CASE-MSC-14070-1] c07 N72-27178

**COOLANTS**

Simulated fuel assembly-type flow measurement apparatus for coolant flow in reactor core  
[NASA-CASE-XLE-00724] c14 N70-34669

**COOLING**

Microwave power receiving antenna solving heat dissipation problems by construction of elements as heat pipe devices  
[NASA-CASE-MFS-20333] c09 N71-13486

Dissipative voltage regulator system for minimizing heat dissipation  
[NASA-CASE-GSC-10891-1] c10 N71-26626

Cooling and radiation protection of ruby lasers using copper sulfate solution in alcohol  
[NASA-CASE-MFS-20180] c16 N72-12440

**COOLING SYSTEMS**

Automatic thermal switch for improving efficiency of cooling gases below 40 K  
[NASA-CASE-XNP-03796] c23 N71-15467

Differential thermopile for measuring cooling water temperature rise  
[NASA-CASE-XAC-00812] c14 N71-15598

Electric power system with circulatory liquid coolant cooling system  
[NASA-CASE-MFS-14114-2] c09 N71-24807

Portable cryogenic cooling system design including turbine pump, cooling chamber, and atomizer  
[NASA-CASE-NPO-10467] c23 N71-26654

Development and characteristics of natural circulation radiator for use with nuclear

- power plants installed in lunar space stations  
[NASA-CASE-IHQ-03673] c33 N71-29046
- Development and characteristics of cooling  
system to maintain temperature of rack mounted  
electronic modules  
[NASA-CASE-MSC-12389] c33 N71-29052
- Development of method for cooling high  
temperature wall members with cooling medium  
having high heat absorption capability  
[NASA-CASE-HQN-00938] c33 N71-29053
- Apparatus for liquid spray cooling of turbine  
blades  
[NASA-CASE-XLE-00027] c33 N71-29152
- Radial heat flux transformer for use in heating  
and cooling processes  
[NASA-CASE-NPO-10828] c33 N72-17948
- Light shield and cooling apparatus --- high  
intensity ultraviolet lamp  
[NASA-CASE-LAR-10089-1] c15 N74-23066
- Refrigerated coaxial coupling --- for maser  
waveguide  
[NASA-CASE-NPO-13504-1] c09 N74-27689
- Rocket chamber and method of making  
[NASA-CASE-LEW-11118-2] c28 N74-28232
- COORDINATES**
- Mechanical coordinate converter for use with  
spacecraft tracking antennas  
[NASA-CASE-XNP-00614] c14 N70-36907
- System for locating lightning strokes by  
coordination of directional antenna signals  
[NASA-CASE-KSC-10729-1] c09 N73-32110
- COPOLYMERS**
- Method for producing alternating ether-siloxane  
copolymers with stable properties when exposed  
to elevated temperatures and UV radiation  
[NASA-CASE-XMP-02584] c06 N71-20905
- Preparation of dicyanoacetylene and vinylidene  
copolymers using organic compounds  
[NASA-CASE-XNP-03250] c06 N71-23500
- COPPER**
- Development of method for etching copper  
[NASA-CASE-XGS-06306] c17 N71-16044
- Method of plating copper on aluminum to permit  
conventional soldering of structural aluminum  
bodies  
[NASA-CASE-XLA-08966-1] c17 N71-25903
- COPPER COMPOUNDS**
- Gallium arsenide solar cell preparation by  
surface deposition of cuprous iodide on thin  
n-type polycrystalline layers and heating in  
iodine vapor  
[NASA-CASE-XNP-01960] c09 N71-23027
- Cooling and radiation protection of ruby lasers  
using copper sulfate solution in alcohol  
[NASA-CASE-NFS-20180] c16 N72-12440
- COPPER FLUORIDES**
- Method to produce high purity copper fluoride by  
heating copper hydroxyfluoride powder and  
subjecting to flowing fluorine gas  
[NASA-CASE-LEW-10794-1] c06 N72-17093
- CORDAGE**
- Fabrication of root cord restrained fabric suit  
sections from sheets of fabric  
[NASA-CASE-MSC-12398] c05 N72-20096
- COBE STORAGE**
- Memory device employing semiconductor and  
ferroelectric properties of single crystal  
barium titanate  
[NASA-CASE-ERC-10307] c08 N72-21198
- CORES**
- Method of making rolling element bearings  
[NASA-CASE-LEW-11087-2] c15 N74-15128
- CORRECTION**
- Doppler frequency shift correction device for  
multiplex communication with Applications  
Technology Satellites  
[NASA-CASE-XGS-02749] c07 N69-39978
- CORRELATION DETECTION**
- Phase detector with time correlation integrator  
for frequency multiplexed signals  
[NASA-CASE-GSC-11744-1] c09 N73-23291
- COBBELATORS**
- Synchronous detection system for detecting weak  
radio astronomical signals  
[NASA-CASE-XNP-09832] c30 N71-23723
- CORROSION PREVENTION**
- Vapor deposited laminated nitride-silicon  
coating for corrosion prevention of  
carbonaceous surfaces  
[NASA-CASE-XLA-00284] c15 N71-16075
- Method to prevent stress corrosion cracking in  
titanium alloys  
[NASA-CASE-NPO-10271] c17 N71-16393
- Method and apparatus for inducing compressive  
stresses in pressure vessel to prevent stress  
corrosion  
[NASA-CASE-XLA-07390] c15 N71-18616
- Development of fluoride coating to prevent  
oxidation of beryllium surfaces at elevated  
temperatures  
[NASA-CASE-LEW-10327] c17 N71-33408
- Prevention of hydrogen embrittlement of high  
strength steel --- by additive potassium  
hydroxide in hydrazine  
[NASA-CASE-NPO-12122-1] c27 N74-20397
- CORROSION RESISTANCE**
- High strength, corrosion resistant cobalt-based  
alloys for aerospace structures  
[NASA-CASE-XLE-00726] c17 N71-15644
- Hydrazine monoperfluoro alkanoate solder flux  
leaving corrosion resistant coating, for  
metals such as copper  
[NASA-CASE-XNP-03459-2] c18 N71-15688
- High temperature cobalt-base alloy resistant to  
corrosion by liquid metals and to sublimation  
in vacuum environment  
[NASA-CASE-XLE-02991] c17 N71-16025
- Metal soldering with hydrazine monoperfluoro  
alkanoate for corrosion resistant coatings  
[NASA-CASE-XNP-03459] c15 N71-21078
- CORRUGATING**
- Horn antenna having V-shaped corrugated slots  
[NASA-CASE-LAR-11112-1] c09 N74-29575
- COSINE SERIES**
- Service life of electromechanical device for  
generating sine/cosine functions  
[NASA-CASE-LAR-10503-1] c09 N72-21248
- Function generators for producing complex  
vibration mode patterns used to identify  
vibration mode data  
[NASA-CASE-LAR-10310-1] c10 N73-20253
- COSMIC DUST**
- Sensor for detecting and measuring energy,  
velocity and direction of travel of a cosmic  
dust particle  
[NASA-CASE-GSC-10503-1] c14 N72-20381
- Cosmic dust analyzer using ion time of flight  
techniques to determine constituency of  
hypervelocity particles such as micrometeoroids  
[NASA-CASE-MSC-13802-1] c30 N72-20805
- System for detecting impact position of cosmic  
dust on detector surface  
[NASA-CASE-GSC-11291-1] c25 N72-33696
- Cosmic dust analyzer  
[NASA-CASE-MSC-13802-2] c14 N74-32883
- COUCHES**
- Shock absorbing couch for body support under  
high acceleration or deceleration forces  
[NASA-CASE-IMS-01240] c05 N70-35152
- Low onset rate energy absorber in form of strut  
assembly for crew couch of Apollo command module  
[NASA-CASE-MSC-12279-1] c15 N70-35679
- Shock absorbing articulated multiple couch  
assembly  
[NASA-CASE-MSC-11253] c05 N71-12343
- Collapsible couch system for manned space vehicles  
[NASA-CASE-MSC-13140] c05 N72-11085
- COULOMETERS**
- Alkaline-type coulometer cell for primary charge  
control in secondary battery recharge circuits  
[NASA-CASE-XGS-05434] c03 N71-20491
- Development and characteristics of battery  
charging circuits with coulometer for control  
of available current  
[NASA-CASE-GSC-10487-1] c03 N71-24719
- COUNTERS**
- Circuit for measuring wide range of pulse rates  
by utilizing high capacity counter  
[NASA-CASE-XNP-06234] c10 N71-27137
- Electronic strain level counter on in-flight  
aircraft  
[NASA-CASE-LAR-10756-1] c32 N73-26910
- COUNTING CIRCUITS**
- Rocket-borne aspect sensor consisting of  
radiation sensor, apertured disk, commutator,  
and counting circuits  
[NASA-CASE-XGS-08266] c14 N69-27432

- Design of transistorized ring counter circuit with special steering and triggering circuits [NASA-CASE-XGS-03095] c09 N69-27463
- Counter-divider circuit for accuracy and reliability in binary circuits [NASA-CASE-IMP-00421] c09 N70-34502
- Reversible ring counter using cascaded single silicon controlled rectifier stages [NASA-CASE-XGS-01473] c09 N71-10673
- Capacitor sandwich structure containing metal sheets of known thickness for counting penetration rates of meteoroids [NASA-CASE-XLE-01246] c14 N71-10797
- Electronic counter circuit utilizing magnetic core and low power consumption [NASA-CASE-IMP-08836] c09 N71-12515
- Synchronous counter design incorporating cascaded binary stages driven by previous stages and inputs through NAND gates [NASA-CASE-XGS-02440] c08 N71-19432
- Digital cardiometer incorporating circuit for measuring heartbeats rate of subject over predetermined portion of one minute also converting rate to beats per minute [NASA-CASE-XMS-02399] c05 N71-22896
- Computer circuit performing both counting and shifting logic operations also capable of miniaturization and integration in basic circuits [NASA-CASE-IMP-01753] c08 N71-22897
- Noninterruptible digital counter circuit design with display device for pulse frequency modulation [NASA-CASE-IMP-09759] c08 N71-24891
- Diode-gate bridge circuit means [NASA-CASE-ARC-10364-2(B)] c09 N74-14941
- COUPLING**
- Coupling device for linear shaped charge for space vehicle abort system [NASA-CASE-XLA-00189] c33 N70-36846
- Base support for expandable and contractible coupling between two members [NASA-CASE-NPO-11059] c15 N72-17454
- COUPLING CIRCUITS**
- Interrogator and current driver circuit for combination with transistor flip-flop circuit [NASA-CASE-IGS-03058] c10 N71-19547
- Antenna array at focal plane of reflector with coupling network for beam switching [NASA-CASE-GSC-10220-1] c07 N71-27233
- Phase modulator with tuned variable length electrical lines including coupling and varactor diode circuits [NASA-CASE-MSC-13201-1] c07 N71-28429
- High efficiency transformerless amplitude modulator coupled to RF power amplifier [NASA-CASE-GSC-10668-1] c07 N71-28430
- Automatic quadrature control and measuring system --- using optical coupling circuitry [NASA-CASE-MPS-21660-1] c14 N74-21017
- Diode quad transducer and discriminator circuit --- characteristics of electrical measuring apparatus [NASA-CASE-ARC-10364-3] c10 N74-26760
- COUPLINGS**
- Releasable coupling device designed to receive and retain matching ends of electrical connectors [NASA-CASE-XMS-07846-1] c09 N69-21927
- Stage separation using remote control release of joint with explosive insert [NASA-CASE-XLA-02854] c15 N69-27490
- Space vehicle stage coupling and quick release separation mechanism [NASA-CASE-XLA-01441] c15 N70-41679
- Standard coupling design for mass production [NASA-CASE-XMS-02532] c15 N70-41808
- Quick-release coupling for fueling rocket vehicles with cryogenic propellants [NASA-CASE-XKS-01985] c15 N71-10782
- Ratchet mechanism for high speed operation at reduced backlash [NASA-CASE-MPS-12805] c15 N71-17805
- Split nut and bolt separation device [NASA-CASE-ZNP-06914] c15 N71-21489
- Quick disconnect duct coupling device for single-handed operation [NASA-CASE-MPS-20395] c15 N71-24903
- Coupling arrangement for isolating torque loads from axial, radial, and bending loads [NASA-CASE-XLA-04897] c15 N72-22482
- Refrigerated coaxial coupling --- for maser waveguide [NASA-CASE-NPO-13504-1] c09 N74-27689
- COVERINGS**
- Apparatus for ejecting covers of instrument packages using differential pressure principle [NASA-CASE-IMP-04132] c15 N69-27502
- Transparent plastic film for attaching cover glasses to silicon solar cells [NASA-CASE-LEW-11065-1] c03 N72-11064
- CRACKING (FRACTURING)**
- Method to prevent stress corrosion cracking in titanium alloys [NASA-CASE-NPO-10271] c17 N71-16393
- Improved silicide coatings for refractory metals employed in space shuttles and gas turbine engine components [NASA-CASE-LEW-11179-1] c17 N73-22474
- CRASH LANDING**
- Aircraft mounted crash activated transmitter device [NASA-CASE-MPS-16609-3] c09 N74-34647
- CREEP RUPTURE STRENGTH**
- Nickel base alloy with resistance to oxidation at high temperatures and superior stress-rupture properties [NASA-CASE-ILE-02082] c17 N71-16026
- CRITICAL EXPERIMENTS**
- Apparatus and process for volumetrically dispensing reagent quantities of volatile chemicals for small batch reactions [NASA-CASE-NPO-10070] c15 N71-27372
- CROSSED FIELDS**
- Crossed-field plasma accelerator for laboratory simulation of atmospheric reentry conditions [NASA-CASE-XLA-00675] c25 N70-33267
- Direct conversion of thermal energy into electrical energy using crossed electric and magnetic fields [NASA-CASE-ILE-00212] c03 N70-34134
- Crossed field MHD plasma generator-accelerator [NASA-CASE-XLA-03374] c25 N71-15562
- CROSSLINKING**
- New trifunctional alcohol derived from triber acid and novel method of preparation [NASA-CASE-NPO-10714] c06 N69-31244
- Catalytic trimerization of aromatic nitriles and triaryl-s-triazine ring cross-linked high temperature resistant polymers and copolymers made thereby [NASA-CASE-LEW-12053-1] c06 N74-34579
- CRUCIBLES**
- Evaporating crucible of tantalum-tungsten foil, nickel alumina bonding agent, and ceramic coating [NASA-CASE-XLA-03105] c15 N69-27483
- CRUDE OIL**
- Decantation of petroleum products with honey [NASA-CASE-ZNP-03835] c06 N71-23499
- CRYOGENIC EQUIPMENT**
- Gas balancing, cryogenic refrigeration apparatus with Joule-Thomson valve assembly [NASA-CASE-NPO-10309] c15 N69-23190
- Low thermal loss piping arrangement for moving cryogenic media through double chamber structure [NASA-CASE-ZNP-08882] c15 N69-39935
- Method and apparatus for removing plastic insulation from wire using cryogenic equipment [NASA-CASE-MPS-10340] c15 N71-17628
- Dual solid cryogenics for spacecraft refrigeration insuring low temperature cooling for extended periods [NASA-CASE-GSC-10188-1] c23 N71-24725
- Reliability of automatic refilling valving device for cryogenic liquid systems [NASA-CASE-NPO-11177] c15 N72-17453
- Dual stage check valve for cryogenic supply systems used in space flight environmental control system [NASA-CASE-MSC-13587-1] c15 N73-30459
- CRYOGENIC FLUID STORAGE**
- Apparatus for cryogenic liquid storage with heat transfer reduction and for liquid transfer at zero gravity conditions [NASA-CASE-XLE-00345] c15 N70-38020

- Cryogenic storage system for gases onboard spacecraft  
[NASA-CASE-XMS-04390] c31 N70-41671
- Carbon dioxide purge systems to prevent condensation in spaces between cryogenic fuel tanks and hypersonic vehicle skin  
[NASA-CASE-XLA-01967] c31 N70-42015
- Fabrication of filament wound propellant tank for cryogenic storage  
[NASA-CASE-XLE-03803-2] c15 N71-17651
- Prefabricated multilayered self-evacuating insulation panels using gas with low vapor pressure at cryogenic temperatures for application to storage of cryogens  
[NASA-CASE-XLE-04222] c23 N71-22881
- Multilayer insulation panels for cryogenic liquid containers  
[NASA-CASE-NFS-14023] c33 N71-25351
- Development of thermal insulation material for insulating liquid hydrogen tanks in spacecraft  
[NASA-CASE-XMF-05046] c33 N71-28892
- Heater-mixer for stored fluids  
[NASA-CASE-ARC-10442-1] c14 N74-15093
- CRYOGENIC FLUIDS**
- Cryogenic flux-gated magnetometer using superconductors  
[NASA-CASE-XAC-02407] c14 N69-27423
- Fuel tank pressure-relief device for venting cryogenic liquid vapors through tubes with porous plug  
[NASA-CASE-XLE-00288] c15 N70-34247
- Conical valve plug for use with reactive cryogenic fluids  
[NASA-CASE-XLE-00715] c15 N70-34859
- Two component valve assembly for cryogenic liquid transfer regulation  
[NASA-CASE-XLE-00397] c15 N70-36492
- Measuring density of single and two-phase cryogenic fluids in rocket fuel tanks  
[NASA-CASE-XLE-00688] c14 N70-41330
- Leakproof soft metal seal for use in very high vacuum systems operating at cryogenic temperatures  
[NASA-CASE-XGS-02441] c15 N70-41629
- High pressure liquid flow sight assembly for wide temperature range applications including cryogenic fluids  
[NASA-CASE-XLE-02998] c14 N70-42074
- Automatic thermal switch for improving efficiency of cooling gases below 40 K  
[NASA-CASE-XNP-03796] c23 N71-15467
- Describing apparatus for separating gas from cryogenic liquid under zero gravity and for venting gas from fuel tank  
[NASA-CASE-XLE-00586] c15 N71-15968
- Development of apparatus for measuring thermal conductivity  
[NASA-CASE-XGS-01052] c14 N71-15992
- Method and apparatus for producing fine particles in cryogenic liquid bath for gelled rocket propellants  
[NASA-CASE-NPO-10250] c23 N71-16212
- Superconducting alternator design with cryogenic fluid for cooling windings below critical temperature  
[NASA-CASE-XLE-02823] c09 N71-23443
- Flow angle sensor and remote readout system for use with cryogenic fluids  
[NASA-CASE-XLE-04503] c14 N71-24864
- Design and development of device to prevent geysering during convective circulation of cryogenic fluids  
[NASA-CASE-KSC-10615] c15 N73-12486
- Magnetocaloric pump --- for cryogenic fluids  
[NASA-CASE-LEW-11672-1] c15 N74-27904
- CRYOGENIC GYROSCOPES**
- Cryogenic gyroscope housing --- with annular disks for gas spin-up  
[NASA-CASE-NFS-21136-1] c23 N74-18323
- CRYOGENIC MAGNETS**
- Improved alternator with windings of superconducting materials acting as permanent magnet  
[NASA-CASE-XLE-02824] c03 N69-39890
- Heat operated cryogenic electrical generator --- using liquid helium conversion  
[NASA-CASE-NPO-13303-1] c03 N74-19701
- CRYOGENIC ROCKET PROPELLANTS**
- Quick-release coupling for fueling rocket vehicles with cryogenic propellants  
[NASA-CASE-XKS-01985] c15 N71-10782
- Hot-wire liquid level detector for cryogenic propellants  
[NASA-CASE-XLE-00454] c23 N71-17802
- Automatically reciprocating, high pressure pump for use in spacecraft cryogenic propellants  
[NASA-CASE-XNP-04731] c15 N71-24042
- CRYOGENIC STORAGE**
- Light weight plastic foam thermal insulation for cryogenic storage  
[NASA-CASE-XLE-02647] c18 N71-23658
- Development of foam insulation for filament wound cryogenic storage tank  
[NASA-CASE-XLE-03803] c15 N71-23816
- CRYOGENICS**
- High strength aluminum casting alloy for cryogenic applications in aerospace engineering  
[NASA-CASE-XMF-02786] c17 N71-20743
- Portable cryogenic cooling system design including turbine pump, cooling chamber, and atomizer  
[NASA-CASE-NPO-10467] c23 N71-26654
- CRYOLITE**
- Ultraviolet filter of thorium fluoride and cryolite on quartz base  
[NASA-CASE-YNP-02340] c23 N69-24332
- CRYOSTATS**
- Cryostat for flexure fatigue testing of composite materials  
[NASA-CASE-IMP-02964] c14 N71-17659
- Cryostat for use with horizontal fatigue testing machines at low temperatures  
[NASA-CASE-IMP-10968] c14 N71-24234
- Heater-mixer for stored fluids  
[NASA-CASE-ARC-10442-1] c14 N74-15093
- CRYSTAL FILTERS**
- Infrared tunable dye laser with nonlinear wavelength mixing crystal in optical cavity  
[NASA-CASE-ARC-10463-1] c09 N73-32111
- CRYSTAL GROWTH**
- Device for producing high purity silicon carbide on carbon base by hydrogen reduction of silicon tetrachloride  
[NASA-CASE-ILA-02057] c26 N70-40015
- Electrodeposition method for producing crystalline material from dense gaseous medium  
[NASA-CASE-NPO-10440] c15 N72-21466
- Vapor phase growth of groups III-V compounds by hydrogen chloride transport of the elements  
[NASA-CASE-LAR-11144-1] c26 N74-27261
- Process for fabricating SiC semiconductor devices  
[NASA-CASE-LEW-12094-1] c09 N74-33740
- CRYSTAL OSCILLATORS**
- Describing crystal oscillator instrument for detecting condensable gas contaminants in vacuum apparatus  
[NASA-CASE-NPO-10144] c14 N71-17701
- CRYSTAL RECTIFIERS**
- Turn on current transient limiter for controlling peak current flow in high capacity load  
[NASA-CASE-GSC-10413] c10 N71-26531
- CRYSTAL STRUCTURE**
- Process for fabricating SiC semiconductor devices  
[NASA-CASE-LEW-12094-1] c09 N74-33740
- CRYSTALS**
- Brushless dc tachometer design with Hall effect crystals and output voltage magnitude proportional to rotor speed  
[NASA-CASE-NFS-20385] c09 N71-24904
- CULTURE TECHNIQUES**
- Development of variable angle device for positioning test tubes to permit optimum drying of culture medium  
[NASA-CASE-LAR-10507-1] c11 N72-25284
- Automatic inoculating device for agar trays using cotton swab or loop  
[NASA-CASE-LAR-11074-1] c05 N73-16096
- Automatic microbial transfer device  
[NASA-CASE-LAR-11354-1] c14 N74-10422
- CURRENT DENSITY**
- Solid state switching circuit design to increase current capacity of low rated relay contacts  
[NASA-CASE-XNP-09228] c09 N69-27500
- Technique and equipment for sputtering using apertured electrode and pulsed substrate bias  
[NASA-CASE-LEW-10920-1] c17 N73-24569

## CURRENT DISTRIBUTION

## SUBJECT INDEX

**CURRENT DISTRIBUTION**  
 Distribution of currents to circuits using electrical adaptor  
 [NASA-CASE-XLA-01288] c09 N69-21470  
 Electron bombardment ion rocket engine with improved propellant introduction system  
 [NASA-CASE-XLE-02066] c28 N71-15661  
 Reversible current directing circuitry for reversible motor control  
 [NASA-CASE-XLA-09371] c10 N71-18724  
 Electric circuit for reversing direction of current flow  
 [NASA-CASE-XNP-00952] c10 N71-23271  
 Load insensitive electrical device --- power converters for supplying direct current at one voltage from a source at another voltage  
 [NASA-CASE-XER-11046-2] c09 N74-22864

**CURRENT REGULATORS**  
 Apparatus for ballasting high frequency transistors  
 [NASA-CASE-XGS-05003] c09 N69-24318  
 Automatic baseline stabilization for ionization detector used in gas chromatograph  
 [NASA-CASE-XNP-03128] c10 N70-41991  
 Describing magnetic core current switching device for steering bipolar current pulses to memory units  
 [NASA-CASE-NPO-10201] c08 N71-18694  
 Circuit design for determining amount of photomultiplier tube light detection utilizing variable current source and dark current signals of opposite polarity  
 [NASA-CASE-XMS-03478] c14 N71-21040  
 Switching series regulator with gating control network  
 [NASA-CASE-XMS-09352] c09 N71-23316  
 Magnetic current regulator for saturable core transformer  
 [NASA-CASE-ERC-10075] c09 N71-24800  
 Automatic power supply circuit design for driving inductive loads and minimizing power consumption including solenoid example  
 [NASA-CASE-NPO-10716] c09 N71-24892  
 Turn on current transient limiter for controlling peak current flow in high capacity load  
 [NASA-CASE-GSC-10413] c10 N71-26531  
 Current regulating voltage divider design with load current shunting  
 [NASA-CASE-NFS-20935] c09 N71-34212  
 Circuit for monitoring power supply by ripple current indication  
 [NASA-CASE-RSC-10162] c09 N72-11225  
 A dc regulator having feedforward control  
 [NASA-CASE-NPO-13481-1] c09 N74-32675

**CURVATURE**  
 Apparatus and method for spin forming tubular elbows with high strength, uniform thickness, and close tolerances  
 [NASA-CASE-XNF-01083] c15 N71-22723  
 Two degree inverted flexure from single block of material  
 [NASA-CASE-ARC-10345-1] c15 N73-12488

**CURVE FITTING**  
 Simulating voltage-current characteristic curves of solar cell panel with different operational parameters  
 [NASA-CASE-XMS-01554] c10 N71-10578

**CURVED PANELS**  
 Fabrication of curved reflector segments for solar mirror  
 [NASA-CASE-XLE-08917] c15 N71-15597  
 Method and apparatus for hewing of instrument panels to improve radio frequency shielded enclosure  
 [NASA-CASE-XMP-09422] c07 N71-19436  
 Space erectable rollup solar array of arcuate solar panels furled on tapered drum for spacecraft storage during launch  
 [NASA-CASE-NPO-10188] c03 N71-20273  
 Forming mold for polishing and machining curved solar magnesium reflector with reinforcing ribs  
 [NASA-CASE-XLE-08917-2] c15 N71-24836

**CUTTERS**  
 Description of device for aligning stacked sheets of paper for repetitive cutting  
 [NASA-CASE-XMS-04178] c15 N71-22798  
 Portable cutting machine for piping weld preparation  
 [NASA-CASE-XKS-07953] c15 N71-26134  
 Precision surface cutter for screen circuit negatives and other microcircuits  
 [NASA-CASE-XLA-09843] c15 N72-27485  
 Adjustable hole cutter for forming circular openings  
 [NASA-CASE-NFS-22649-1] c15 N73-31376  
 Insert facing tool --- manually operated cutting tool for forming studs in honeycomb material  
 [NASA-CASE-NFS-21485-1] c15 N74-27968  
 Grinding arrangement for ball nose milling cutters  
 [NASA-CASE-LAR-10450-1] c15 N74-27905

**CUTTING**  
 Ellipsograph for describing and cutting ellipses with minimal axial dimensions  
 [NASA-CASE-XLA-03102] c14 N71-21079

**CYCLES**  
 Pneumatic system for cyclic control of fluid flow in pneumatic device  
 [NASA-CASE-XMS-04843] c03 N69-21469  
 Multistage feedback shift register with states decomposable into cycles of equal length  
 [NASA-CASE-NPO-11082] c08 N72-22167

**CYCLIC HYDROCARBONS**  
 Para-benzoquinone dioxime and concentrated mineral acid processed to yield intumescent or fire resistant, heat insulating materials  
 [NASA-CASE-ARC-10304-1] c18 N73-26572

**CYCLIC LOADS**  
 Automatic controlled thermal fatigue testing apparatus  
 [NASA-CASE-XLA-02059] c33 N71-24276  
 Development of device for simulating cyclic thermal loading of flexible materials by application of mechanical stresses and deformations  
 [NASA-CASE-LAR-10270-1] c32 N72-25877  
 Material testing system with load sensor for applying and measuring cyclic tensile and compressive loads to test specimens  
 [NASA-CASE-NFS-20673] c14 N73-20476

**CYCLOTRON RADIATION**  
 Apparatus for producing high purity I-123 from Xe-123 by bombarding tellurium target with cyclotron beam  
 [NASA-CASE-LEW-10518-2] c24 N72-28714

**CYLINDRICAL ANTENNAS**  
 Variable beamwidth antenna --- with multiple beam, variable feed system  
 [NASA-CASE-GSC-11862-1] c09 N74-32674

**CYLINDRICAL BODIES**  
 Apparatus for scanning the surface of a cylindrical body  
 [NASA-CASE-NPO-11861-1] c14 N74-20009

**D**

**DAMPING**  
 Dynamic precession damping of spin-stabilized vehicles by using rate gyroscope and angular accelerometer  
 [NASA-CASE-XLA-01989] c21 N70-34295  
 Slosh damping method for liquid rocket propellant tanks  
 [NASA-CASE-XMP-00658] c12 N70-38997  
 Utilization of momentum devices for forming attitude control and damping system for spacecraft  
 [NASA-CASE-XLA-02551] c21 N71-21708  
 Three stage motion restraining mechanism for restraining and damping three dimensional vibrational movement of gimbaled package during launch of spacecraft  
 [NASA-CASE-GSC-10306-1] c15 N71-24694  
 Nutation damper for use on spinning body  
 [NASA-CASE-GSC-11205-1] c15 N73-25513  
 Development of electrical circuit for suppressing oscillations across inductor operating in resonant mode  
 [NASA-CASE-ERC-10403-1] c10 N73-26228

**DATA ACQUISITION**  
 Conversion system for increasing resolution of analog to digital converters  
 [NASA-CASE-XAC-00404] c08 N70-40125  
 Development of telemetry system for position location and data acquisition  
 [NASA-CASE-GSC-10083-1] c30 N71-16090  
 Data acquisition system for converting displayed analog signal to digital values

- [NASA-CASE-NPO-10344] c10 N71-26544  
Data acquisition and processing system with buffer storage and timing device for magnetic tape recording of PCM data and timing information
- [NASA-CASE-NPO-12107] c08 N71-27255  
Development of timing device for conserving batteries on remote data collection platform by generating synchronous time windows
- [NASA-CASE-GSC-11182-1] c31 N73-32769
- DATA COMPRESSION**
- Minimum time delay unit for conventional time multiplexed data compression channels
- [NASA-CASE-INP-08832] c08 N71-12506  
Data compression processor for monitoring analog signals by sampling procedure
- [NASA-CASE-NPO-10068] c08 N71-19288  
Wide range analog data compression system
- [NASA-CASE-IGS-02612] c08 N71-19435  
Apparatus with summing network for compression of analog data by decreasing slope threshold sampling
- [NASA-CASE-NPO-10769] c08 N72-11171  
Data reduction and transmission system for TV PCM data
- [NASA-CASE-NPO-11243] c07 N72-20154  
Gated compressor, distortionless signal limiter
- [NASA-CASE-NPO-11820-1] c07 N74-19708
- DATA CONVERTERS**
- Logarithmic converter for compressing 19-digit binary input number to 8-digit output
- [NASA-CASE-XLA-00471] c08 N70-34778  
Mechanical coordinate converter for use with spacecraft tracking antennas
- [NASA-CASE-INP-00614] c14 N70-36907  
Analog signal to discrete time converter
- [NASA-CASE-ERC-10048] c09 N72-25251  
Digital converter for scaling binary number to binary coded decimal number of higher multiple
- [NASA-CASE-KSC-10595] c08 N73-12176  
Image data rate converter having a drum with a fixed head and a rotatable head
- [NASA-CASE-NPO-11659-1] c14 N74-11283
- DATA LINKS**
- Characteristics of two channel telemetry system with two data rate channels for high and low data rate communication
- [NASA-CASE-NPO-11572] c07 N73-16121  
Automatic accounting system for transfer of data from terminals to computer
- [NASA-CASE-NPO-11456] c08 N73-26176
- DATA PROCESSING**
- Data processing and display system for terminal guidance of F-15 aircraft
- [NASA-CASE-XFR-00756] c02 N71-13421  
Encoders designed to generate comma free biorthogonal Reed-Muller type code comprising conversion of 64 6-bit words into 64 32-bit data for communication purposes
- [NASA-CASE-NPO-10595] c10 N71-25917  
Data acquisition and processing system with buffer storage and timing device for magnetic tape recording of PCM data and timing information
- [NASA-CASE-NPO-12107] c08 N71-27255  
Digital data handling circuits for pulse amplifiers
- [NASA-CASE-INP-01068] c10 N71-28739  
Synchronized digital communication system
- [NASA-CASE-INP-03623] c09 N73-28084  
Image data rate converter having a drum with a fixed head and a rotatable head
- [NASA-CASE-NPO-11659-1] c14 N74-11283
- DATA PROCESSING EQUIPMENT**
- Data processor having multiple sections activated at different times by selective power coupling to sections
- [NASA-CASE-IGS-04767] c08 N71-12494  
Development of demodulation system for removing amplitude modulation from two quadrature displaced data bearing signals
- [NASA-CASE-IAC-04030] c10 N71-19472  
Development and characteristics of rate augmented digital to analog converter for computed time-dependent data
- [NASA-CASE-XLA-07828] c08 N71-27057  
Data processor with plural register stages for selectively interconnecting with each other to effect multiplicity of operations
- [NASA-CASE-GSC-10186] c08 N71-33110  
Development and characteristics of telemetry system using computer-accessed circuits and remotely controlled from ground station
- [NASA-CASE-NPO-11350] c07 N72-25172  
Development and characteristics of data decoder to process convolution encoded information
- [NASA-CASE-NPO-11371] c08 N73-12177  
Characteristics of digital data processor using pulse from clock source to derive binary singles to show state of various indicators in processor
- [NASA-CASE-GSC-10975-1] c08 N73-13187  
Automatic accounting system for transfer of data from terminals to computer
- [NASA-CASE-NPO-11456] c08 N73-26176
- DATA RECORDERS**
- Description of system for recording and reading out data related to distribution of occurrence of plurality of events
- [NASA-CASE-INP-04067] c08 N71-22707  
Design and characteristics of recording system for selective reprocessing and filtering of data to obtain optimum signal to noise ratios
- [NASA-CASE-ERC-10112] c07 N72-21119  
Recorder/processor apparatus --- for optical data processing
- [NASA-CASE-GSC-11553-1] c07 N74-15831
- DATA RECORDING**
- System for recording and reproducing PCM data from data stored on magnetic tape
- [NASA-CASE-IGS-01021] c08 N71-21042  
Description of system for recording and reading out data related to distribution of occurrence of plurality of events
- [NASA-CASE-INP-04067] c08 N71-22707  
Development of data storage system for storing digital data in high density format on magnetic tape
- [NASA-CASE-INP-02778] c08 N71-22710  
Transient video signal tape recorder with expanded playback
- [NASA-CASE-ARC-10003-1] c09 N71-25866  
Apparatus for on-film optical recording of camera lens aperture and focus setting
- [NASA-CASE-MSC-12363-1] c14 N73-26431  
Image data rate converter having a drum with a fixed head and a rotatable head
- [NASA-CASE-NPO-11659-1] c14 N74-11283  
Holography utilizing surface plasmon resonances
- [NASA-CASE-NFS-22040-1] c14 N74-26946
- DATA REDUCTION**
- System for storing histogram data in optimum number of elements
- [NASA-CASE-INP-09785] c08 N69-21928  
Respiration analyzing method and apparatus for determining subjects oxygen consumption in aerospace environments
- [NASA-CASE-XFR-08403] c05 N71-11202  
Minimum time delay unit for conventional time multiplexed data compression channels
- [NASA-CASE-INP-08832] c08 N71-12506  
Data compression processor for monitoring analog signals by sampling procedure
- [NASA-CASE-NPO-10068] c08 N71-19288  
Wide range analog data compression system
- [NASA-CASE-IGS-02612] c08 N71-19435  
Description of system for recording and reading out data related to distribution of occurrence of plurality of events
- [NASA-CASE-INP-04067] c08 N71-22707  
Apparatus with summing network for compression of analog data by decreasing slope threshold sampling
- [NASA-CASE-NPO-10769] c08 N72-11171  
Data reduction and transmission system for TV PCM data
- [NASA-CASE-NPO-11243] c07 N72-20154  
Data compression using decreasing slope threshold test and digital techniques
- [NASA-CASE-NPO-11630] c08 N72-33172
- DATA RETRIEVAL**
- Magnetic matrix memory system for nondestructive reading of information contained in matrix
- [NASA-CASE-INP-05835] c08 N71-12504  
Asynchronous, multiplexing, single line transmission and recovery data system --- for satellite use
- [NASA-CASE-NPO-13321-1] c07 N74-19806



## DATA SAMPLING

## SUBJECT INDEX

## DATA SAMPLING

Monitoring circuit design for sampling circuit control and reduction of time-bandwidth in video communication systems  
[NASA-CASE-XNP-02791] c07 N71-23026

Sampling circuit for signal processing in multiplex transmission by Fourier analysis  
[NASA-CASE-NPO-10388] c07 N71-24622

Video signal processing system for sampling video brightness levels  
[NASA-CASE-NPO-10140] c07 N71-24742

Apparatus with summing network for compression of analog data by decreasing slope threshold sampling  
[NASA-CASE-NPO-10769] c08 N72-11171

**DATA SMOOTHING**  
Variable time constant, wide frequency range smoothing network for noise removal from pulse chains  
[NASA-CASE-XGS-01983] c10 N70-41964

**DATA STORAGE**  
Data handling based on source significance, storage availability, and data received from source  
[NASA-CASE-XNP-04162-1] c08 N70-34675

Magnetic matrix memory system for nondestructive reading of information contained in matrix  
[NASA-CASE-XNP-05835] c08 N71-12504

Tape guidance system for multichannel digital recording system  
[NASA-CASE-XNP-09453] c08 N71-19420

Event recorder with constant speed motor which rotates recording disk  
[NASA-CASE-XLA-01832] c14 N71-21006

System for recording and reproducing PCM data from data stored on magnetic tape  
[NASA-CASE-XGS-01021] c08 N71-21082

Development of data storage system for storing digital data in high density format on magnetic tape  
[NASA-CASE-XNP-02778] c08 N71-22710

Multiple pattern holographic information storage and readout system  
[NASA-CASE-EBC-10151] c16 N71-29131

Momentum wheel design for spacecraft attitude control and magnetic drum and head system for data storage  
[NASA-CASE-NPO-11481] c21 N73-13644

Data storage, image tube type  
[NASA-CASE-HSC-14053-1] c08 N74-12888

**DATA SYSTEMS**  
Data handling based on source significance, storage availability, and data received from source  
[NASA-CASE-XNP-04162-1] c08 N70-34675

Development and characteristics of rate augmented digital to analog converter for computed time-dependent data  
[NASA-CASE-XLA-07828] c08 N71-27057

Computer interface system --- using asynchronous clocks  
[NASA-CASE-NPO-13428-1] c08 N74-30549

Method and apparatus for decoding compatible convolutional codes  
[NASA-CASE-HSC-14070-1] c07 N74-32598

**DATA TRANSMISSION**  
Telemetry data unit to form multibit words for use between demodulator and computer  
[NASA-CASE-XNP-09225] c09 N69-24333

Phase shift data transmission system with pseudo-noise synchronization code modulated with digital data into single channel for spacecraft communication  
[NASA-CASE-XNP-00911] c08 N70-41961

Minimum time delay unit for conventional time multiplexed data compression channels  
[NASA-CASE-XNP-08832] c08 N71-12506

Data compression processor for monitoring analog signals by sampling procedure  
[NASA-CASE-NPO-10069] c08 N71-19288

Wide range analog data compression system  
[NASA-CASE-IGS-02612] c08 N71-19435

Plural channel data transmission system with quadrature modulation and complementary demodulation  
[NASA-CASE-XAC-06302] c08 N71-19763

Monitoring circuit design for sampling circuit control and reduction of time-bandwidth in video communication systems

[NASA-CASE-XNP-02791] c07 N71-23026

Frequency shift keying apparatus for use with pulse code modulation data transmission system  
[NASA-CASE-XGS-01537] c07 N71-23405

Binary data decoding device for use at receiving end of communication channel  
[NASA-CASE-NPO-10118] c07 N71-24741

Data reduction and transmission system for TV PCM data  
[NASA-CASE-NPO-11243] c07 N72-20154

Development of communication system for transmitting differential phase shift keyed signals from input data bits without timing or phase reference signals  
[NASA-CASE-HSC-14065-1] c07 N73-10215

Characteristics of two channel telemetry system with two data rate channels for high and low data rate communication  
[NASA-CASE-NPO-11572] c07 N73-16121

Telemetry and transmission system with programmed sampling and multiplexing  
[NASA-CASE-GSC-11388-1] c07 N73-24187

Automatic accounting system for transfer of data from terminals to computer  
[NASA-CASE-NPO-11456] c08 N73-26176

**DECAY RATES**  
Solar sensor with coarse and fine sensing elements for matching preirradiated cells on degradation rates  
[NASA-CASE-XLA-01584] c14 N71-23269

**DECLERATION**  
Assembly for opening flight capsule stabilizing and decelerating flaps with reference to capsule recovery  
[NASA-CASE-XNP-00641] c31 N70-36410

Device for use in descending spacecraft as altitude sensor for actuating deceleration retrorockets  
[NASA-CASE-XNS-03792] c14 N70-41812

Development and characteristics of hot air balloon deceleration and recovery system  
[NASA-CASE-XLA-06824-2] c02 N71-11037

Zero gravity apparatus utilizing pneumatic decelerating beams to create payload subjected to zero gravity conditions by dropping its height  
[NASA-CASE-XNP-06515] c14 N71-23227

**DECIMALS**  
Digital converter for scaling binary number to binary coded decimal number of higher multiple  
[NASA-CASE-HSC-10595] c08 N73-12176

**DECISION MAKING**  
Method and apparatus for decoding compatible convolutional codes  
[NASA-CASE-HSC-14070-1] c07 N74-32598

**DECODERS**  
Serial digital decoder design with square circuit matrix and serial memory storage units  
[NASA-CASE-NPO-10150] c08 N71-24650

Binary to decimal decoder logic circuit design with feedback control and display device  
[NASA-CASE-XKS-06167] c08 N71-24890

Design and development of encoder/decoder system to generate binary code which is function of outputs of plurality of bistable elements  
[NASA-CASE-NPO-10342] c10 N71-33407

Learning decoders for decoding compatible convolutional codes  
[NASA-CASE-HSC-14070-1] c07 N72-27178

**DECODING**  
Binary data decoding device for use at receiving end of communication channel  
[NASA-CASE-NPO-10118] c07 N71-24741

Development and characteristics of data decoder to process convolution encoded information  
[NASA-CASE-NPO-11371] c08 N73-12177

Method and apparatus for decoding compatible convolutional codes  
[NASA-CASE-HSC-14070-1] c07 N74-32598

**DECONTAMINATION**  
Decontamination of petroleum products with honey  
[NASA-CASE-XNP-03835] c06 N71-23499

Heat exchanger and decontamination system for multistage refrigeration unit  
[NASA-CASE-NPO-10634] c23 N72-25619

**DEEP SPACE NETWORK**  
Low phase noise frequency divider for use with deep space network communication system  
[NASA-CASE-NPO-11569] c10 N73-26229

**DEFLECTION**  
Bipropellant injector with pair of concave deflector plates  
[NASA-CASE-IMP-09461] c28 N72-23809

**DEFLECTORS**  
Deflector for preventing objects from entering nacelle inlets of jet aircraft  
[NASA-CASE-XLE-00388] c28 N70-34788  
Aircraft wheel spray drag alleviator for dual tandem landing gear  
[NASA-CASE-XLA-01583] c02 N70-36825  
Ion beam deflector system for electronic thrust vector control for ion propulsion yaw, pitch, and roll forces  
[NASA-CASE-LEW-10689-1] c28 N71-26173

**DEFOCUSING**  
Optical retrodirective modulator with focus spoiling reflector driven by modulation signal  
[NASA-CASE-GSC-10062] c14 N71-15605

**DEFORMATION**  
Deformation measuring apparatus with feedback control for arbitrarily shaped structures  
[NASA-CASE-LAR-10098] c32 N71-26681  
Development of device for simulating cyclic thermal loading of flexible materials by application of mechanical stresses and deformations  
[NASA-CASE-LAR-10270-1] c32 N72-25877

**DEFORMETERS**  
Development of strain gage mounting assembly for amplifying measurable deformation applied to strain gage  
[NASA-CASE-NPO-13170-1] c14 N73-28495

**DEGREES OF FREEDOM**  
Attitude control training device for astronauts permitting friction-free movement with five degrees of freedom  
[NASA-CASE-XMS-02977] c11 N71-10746  
Tuned damped vibration absorber for mass vibrating in more than one degree of freedom for use with wind tunnel models  
[NASA-CASE-LAR-10083-1] c15 N71-27006

**DEHUMIDIFICATION**  
Condenser-separator for dehumidifying air utilizing sintered metal surface  
[NASA-CASE-XLA-08645] c15 N69-21465

**DEHYDRATED FOOD**  
Rice preparation process consisting of cooking, two freezing-thawing cycles, and then freeze drying  
[NASA-CASE-MSC-13540-1] c05 N72-33096

**DELAY CIRCUITS**  
Development of pulsed differential comparator circuit  
[NASA-CASE-XLE-03804] c10 N71-19471  
Pulse duration control device for driving slow response time loads in selected sequence including switching and delay circuits and magnetic storage  
[NASA-CASE-XGS-04224] c10 N71-26418

**DELAY LINES**  
Development and characteristics of solid state acoustic variable time delay line using direct current voltage and radio frequency pulses  
[NASA-CASE-ERC-10032] c10 N71-25900

**DELTA MODULATION**  
Multifunction audio digitizer --- producing direct delta and pulse code modulation  
[NASA-CASE-MSC-13855-1] c07 N74-17885

**DELTA WINGS**  
Delta winged, manned reentry vehicle capable of horizontal glide landing at low speeds  
[NASA-CASE-XLA-00241] c31 N70-37986

**DEMAGNETIZATION**  
Tumbling motion system for object demagnetization  
[NASA-CASE-XGS-02437] c15 N69-21472

**DEMODULATION**  
Plural channel data transmission system with quadrature modulation and complementary demodulation  
[NASA-CASE-IAC-06302] c08 N71-19763  
Restoration and improvement of demodulated facsimile video signals  
[NASA-CASE-GSC-10185-1] c07 N72-12081

**DEMODULATORS**  
Telemetry data unit to form multibit words for use between demodulator and computer  
[NASA-CASE-IMP-09225] c09 N69-24333

Frequency shift keyed demodulator - circuit diagrams  
[NASA-CASE-XGS-02889] c07 N71-11282  
Demodulator for simultaneous demodulation of two modulating ac signal carriers close in frequency  
[NASA-CASE-IMP-01160] c07 N71-11298  
Development of demodulation system for removing amplitude modulation from two quadrature displaced data bearing signals  
[NASA-CASE-IAC-04030] c10 N71-19472  
Calibrator for measuring and modulating or demodulating laser outputs  
[NASA-CASE-XLA-03410] c16 N71-25914  
Threshold extension device for improving operating performance of frequency modulation demodulators by eliminating click-type noise impulses  
[NASA-CASE-MSC-12165-1] c07 N71-33696  
Full wave modulator-demodulator amplifier apparatus --- for generating rectified output signal  
[NASA-CASE-ERC-10072-1] c09 N74-14939

**DENSITOMETERS**  
Capacitor for measuring density of compressible fluid in liquid, gas, or liquid and gas phases  
[NASA-CASE-XLE-00143] c14 N70-36618  
Measuring density of single and two-phase cryogenic fluids in rocket fuel tanks  
[NASA-CASE-XLE-00688] c14 N70-41330  
Ultrasonic bone densitometer for measuring calcium content of bone structures  
[NASA-CASE-NFS-20994-1] c05 N73-30090

**DENSITY DISTRIBUTION**  
Increasing available power per unit area in ion rocket engine by increasing beam density  
[NASA-CASE-XLE-00519] c28 N70-41576

**DENSITY MEASUREMENT**  
Capacitor for measuring density of compressible fluid in liquid, gas, or liquid and gas phases  
[NASA-CASE-XLE-00143] c14 N70-36618  
Measuring density of single and two-phase cryogenic fluids in rocket fuel tanks  
[NASA-CASE-XLE-00688] c14 N70-41330  
Method for determining density of impacting particles by using Hugoniot curves  
[NASA-CASE-LAR-11059-1] c30 N73-26838

**DENTISTRY**  
Process for preparing calcium phosphate salts for tooth repair  
[NASA-CASE-ERC-10338] c04 N72-33072

**DEPLOYMENT**  
Extendable, self-deploying boom apparatus  
[NASA-CASE-GSC-10566-1] c15 N72-18477  
Deployable cantilever support for deploying solar cell arrays aboard spacecraft and reducing transient loading  
[NASA-CASE-NPO-10883] c31 N72-22874

**DEPOSITION**  
Means and methods of depositing thin films on substrates  
[NASA-CASE-IMP-00595] c15 N70-34967  
Dual wavelength system for monitoring film deposition  
[NASA-CASE-NFS-20675] c26 N73-26751  
Production of pure metals  
[NASA-CASE-LEW-10906-1] c06 N74-30502

**DETECTION**  
Heated element sensor for fluid flow detection in thermal conductive conduit with adaptive means to determine flow rate and direction  
[NASA-CASE-MSC-12084-1] c12 N71-17569  
Fluid leakage detection system with automatic monitoring capability  
[NASA-CASE-LAR-10323-1] c12 N71-17573  
Metal detection system with electromagnetic transmitter with single coil and receiver with single coil  
[NASA-CASE-ARC-10265-1] c10 N72-28240  
System for detecting impact position of cosmic dust on detector surface  
[NASA-CASE-GSC-11291-1] c25 N72-33696  
Detection of bacteria in biological fluids and foods  
[NASA-CASE-GSC-11533-1] c14 N73-13435  
Short range laser obstacle detector --- for surface vehicles using laser diode array  
[NASA-CASE-NPO-11856-1] c16 N74-15145

**DETECTORS**  
Pressurized cell micrometeoroid detector

DETONATION

SUBJECT INDEX

[NASA-CASE-XLA-00936] c14 N71-14996  
Development of large area micrometeoroid impact detector panels

[NASA-CASE-XLA-05906] c31 N71-16221  
Development of pulse-activated polarographic hydrogen detector

[NASA-CASE-IMP-06531] c14 N71-17575  
Electro-optical detector for determining position of light source

[NASA-CASE-IMP-01059] c23 N71-21821  
Method for locating leaks in hermetically sealed containers

[NASA-CASE-ERC-10045] c15 N71-24910  
Precipitation detector and mechanism for stopping and restarting machinery at initiation and cessation of rain

[NASA-CASE-XLA-02619] c10 N71-26334  
Hydrogen fire blink detector for high altitude rocket or ground installation

[NASA-CASE-MFS-15063] c14 N72-25412  
Device for detection of combustion light preceding gaseous explosions

[NASA-CASE-LAR-10739-1] c14 N73-16484  
Optical imaging system for increasing light absorption efficiency of imaging detector

[NASA-CASE-ARC-10194-1] c23 N73-20741  
Cold cathode discharge tube with pressurized gas cell for meteoroid detection in space

[NASA-CASE-LAR-10483-1] c14 N73-32327  
Leak detector with high vacuum seals

[NASA-CASE-LAR-11237-1] c14 N73-32344  
Multichannel logarithmic RF level detector

[NASA-CASE-LAR-11021-1] c14 N74-20019  
Deployable pressurized cell structure for a micrometeoroid detector

[NASA-CASE-LAR-10295-1] c15 N74-21062  
Micrometeoroid velocity and trajectory analyzer

[NASA-CASE-GSC-11892-1] c14 N74-32888

**DETONATION**  
Optically detonated explosive device  
[NASA-CASE-NPO-11743-1] c33 N74-27425

**DETONATION WAVES**  
Detonation reaction engine comprising outer housing enclosing pair of inner walls for continuous flow  
[NASA-CASE-IMP-06926] c28 N71-22983

**DEUTERIUM**  
Gas chromatographic method for analyzing hydrogen deuterium mixtures  
[NASA-CASE-NPO-11322] c06 N72-25146  
Deuterium pass through target --- for neutron generating  
[NASA-CASE-LEW-11866-1] c11 N74-32719

**DIAGNOSIS**  
Apparatus for producing high purity I-123 --- for thyroid measurement  
[NASA-CASE-LEW-10518-3] c15 N74-10476

**DIAGRAMS**  
Phototransistor with base collector junction diode for integration into photo sensor arrays  
[NASA-CASE-MFS-20407] c09 N73-19235

**DIAMINES**  
Preparation of elastomeric diamine silazane polymers  
[NASA-CASE-IMP-04133] c06 N71-20717  
Synthesis of aromatic diamines and dialdehyde polymers using Schiff base  
[NASA-CASE-IMP-03074] c06 N71-24740  
Synthesis of siloxane containing epoxide and diamine polymers  
[NASA-CASE-MFS-13994-2] c06 N72-25148  
Stable polyimide synthesis from mixtures of monomeric diamines and polycarboxylic acid esters  
[NASA-CASE-LEW-11325-1] c06 N73-27980

**DIAMONDS**  
Exponential horn, copper plate, magnetic hammer, and anvils in apparatus for making diamonds  
[NASA-CASE-MFS-20698] c15 N72-20446  
Simplified technique and device for producing industrial grade synthetic diamonds  
[NASA-CASE-MFS-20698-2] c15 N73-19457

**DIAPHRAGMS (MECHANICALS)**  
Expulsion and measuring device for determining quantity of liquid in tank under conditions of weightlessness  
[NASA-CASE-XMS-01546] c14 N70-40233  
Reinforcing beam system for highly flexible diaphragms in valves or pressure switches

[NASA-CASE-IMP-01962] c32 N70-41370  
Flexible rocket motor nozzle closure device to aid ignition and protect rocket chamber from foreign objects

[NASA-CASE-ILA-02651] c28 N70-41957  
Knife structure for controlling rupture of shock tube diaphragms

[NASA-CASE-YAC-00731] c11 N71-15960  
Magnetically opened diaphragm design with camera shutter and expansion tube applications

[NASA-CASE-XLA-03660] c15 N71-21060  
Design and development of inertia diaphragm pressure transducer

[NASA-CASE-YAC-02981] c14 N71-21072  
Punch and die device for forming convolution series in thin gage metal hemispheres

[NASA-CASE-IMP-05297] c15 N71-23811  
Rubber composition for expulsion bladders and diaphragms for use with hydrazine

[NASA-CASE-NPO-11433] c18 N71-31140  
Development of differential pressure control system using motion of mechanical diaphragms to operate electric switch

[NASA-CASE-MFS-14216] c14 N73-13418

**DIASTOLIC PRESSURE**  
Automatic system for measuring and monitoring systolic and diastolic blood pressure in humans  
[NASA-CASE-MSC-13999-1] c05 N72-25142

**DIATOMIC GASES**  
Laser utilizing infrared rotation transitions of diatomic gas for production of different wavelengths  
[NASA-CASE-ARC-10370-1] c16 N72-10432

**DICHROISM**  
Dichroic plate  
[NASA-CASE-NPO-13506-1] c09 N74-27690

**DIELECTRIC PROPERTIES**  
Capacitive tank gaging device for monitoring one constituent of two phase fluid by sensing dielectric constant  
[NASA-CASE-MFS-21629] c14 N72-22442  
Fine particulate capture device  
[NASA-CASE-LEW-11583-1] c15 N74-13199

**DIELECTRICS**  
Fabricating solar cells with dielectric layers to improve glass fusion  
[NASA-CASE-XGS-04531] c03 N69-24267  
Temperature sensitive capacitor device for detecting very low intensity infrared radiation  
[NASA-CASE-IMP-09750] c14 N69-39937  
Electrical power system for space flight vehicles operating over extended periods  
[NASA-CASE-IMP-00517] c03 N70-34157  
Nose cone mounted heat resistant antenna comprising plurality of adjacent layers of silica not introducing paths of high thermal conductivity through ablative shield  
[NASA-CASE-XMS-04312] c07 N71-22984  
Broadband microwave waveguide window to compensate dielectric material filling  
[NASA-CASE-IMP-08880] c09 N71-24808  
Laser machining device with dielectric functioning as beam waveguide for mechanical and medical applications  
[NASA-CASE-BQN-10541-2] c15 N71-27135  
Quasi-optical microwave circuit with dielectric body for use with oversize waveguides  
[NASA-CASE-ERC-10011] c07 N71-29065  
Semiconductor device manufacture using refractory dielectrics as diffusant masks and interconnection insulating materials  
[NASA-CASE-XER-08476-1] c26 N72-17820  
Material compositions and processes for developing dielectric thick films used in microcircuit capacitors  
[NASA-CASE-LAR-10294-1] c26 N72-28762  
Development of equipment and method for electrifying dielectric to determine electrostatic properties  
[NASA-CASE-MFS-22129-1] c09 N73-26197  
Low loss dichroic plate  
[NASA-CASE-NPO-13171-1] c07 N74-11000

**DIES**  
Punch and die device for forming convolution series in thin gage metal hemispheres  
[NASA-CASE-IMP-05297] c15 N71-23811  
Development and characteristics of frusto-conical die nib for extrusion of refractory metals

- [NASA-CASE-XLE-06773] c15 N71-23817
- DIFFERENTIAL AMPLIFIERS**
- Temperature compensated solid state differential amplifier with application in bioinstrumentation circuits [NASA-CASE-XAC-00435] c09 N70-35440
- Stepping motor control apparatus exciting windings in proper time sequence to cause motor to rotate in either direction [NASA-CASE-GSC-10366-1] c10 N71-18772
- DIFFERENTIAL INTERFEROMETRY**
- Device for determining acceleration of gravity by interferometric measurement of travel of falling body [NASA-CASE-XMP-05844] c14 N71-17587
- DIFFERENTIAL PRESSURE**
- Relief valve to permit slow and fast bleeding rates at difference pressure levels [NASA-CASE-XMS-05894-1] c15 N69-21924
- Apparatus for ejecting covers of instrument packages using differential pressure principle [NASA-CASE-XMP-04132] c15 N69-27502
- DIFFRACTION**
- Highly stable optical mirror assembly optimizing image quality of light diffraction patterns [NASA-CASE-ERC-10001] c23 N71-24868
- DIFFRACTION PATTERNS**
- Digital sensor for counting fringes produced by interferometers with improved sensitivity and one photomultiplier tube to eliminate alignment problem [NASA-CASE-LAR-10204] c14 N71-27215
- DIFFRACTOMETERS**
- Dual purpose optical instrument capable of simultaneously acting as spectrometer and diffractometer [NASA-CASE-XNP-05231] c14 N73-28491
- DIFFUSERS**
- Transmitting and reflecting diffuser [NASA-CASE-LAR-10385-3] c23 N73-32538
- DIFFUSION**
- Selective gold diffusion on monolithic silicon chips for switching and nonswitching amplifier devices and circuits and linear and digital logic circuits [NASA-CASE-ERC-10072] c09 N70-11148
- Metallic film diffusion for boundary lubrication in aerospace engineering [NASA-CASE-XLE-10337] c15 N71-24046
- Transmitting and reflecting diffuser --- for ultraviolet light [NASA-CASE-LAR-10385-2] c23 N74-13436
- DIFFUSION PUMPS**
- Oil trap for preventing diffusion pump backstreaming into evacuated system [NASA-CASE-GSC-10518-1] c15 N72-22489
- Programmable physiological infusion [NASA-CASE-ARC-10447-1] c05 N74-22771
- DIFFUSION WELDING**
- Diffusion bonded graphite reinforced aluminum composites [NASA-CASE-MPS-21077] c18 N71-34502
- Method for diffusion welding dissimilar metals in vacuum chamber [NASA-CASE-GSC-10303] c15 N72-22487
- Reinforced FEP Teflon composite material diffusion bonded to metal substrate [NASA-CASE-MPS-20482] c15 N72-22492
- Two-step diffusion welding process of unrecrystallized alloys [NASA-CASE-LEW-11388-1] c15 N73-32358
- Method of fluxless brazing and diffusion bonding of aluminum containing components [NASA-CASE-MSC-14435-1] c15 N74-20071
- DIGITAL COMMAND SYSTEMS**
- Digitally controlled frequency synthesizer for pulse frequency modulation telemetry systems [NASA-CASE-IGS-02317] c09 N71-23525
- System for maintaining motor at predetermined speed using digital pulses [NASA-CASE-IMP-06892] c09 N71-24805
- Digital filter for reducing jitter in digital control systems [NASA-CASE-NPO-11088] c08 N71-29034
- DIGITAL COMPUTERS**
- Device for removing plastic dust cover from digital computer disk packs for inspection and cleaning [NASA-CASE-LAR-10590-1] c15 N70-26819
- Binary number sorter for arranging numbers in order of magnitude [NASA-CASE-NPO-10112] c08 N71-12502
- Binary sequence detector with few memory elements and minimized logic circuit complexity [NASA-CASE-INP-05415] c08 N71-12505
- Digital computer system for automatic prelaunch checkout of spacecraft [NASA-CASE-YKS-08012-2] c31 N71-15566
- Description of error correcting methods for use with digital data computers and apparatus for encoding and decoding digital data [NASA-CASE-XNP-02748] c08 N71-22749
- Serial digital decoder design with square circuit matrix and serial memory storage units [NASA-CASE-NPO-10150] c08 N71-24650
- Digital magnetic core memory with sensing amplifier circuits [NASA-CASE-XNP-01012] c08 N71-28925
- Redundant memory for enhanced reliability of digital data processing system [NASA-CASE-GSC-10564] c10 N71-29135
- Digital converter for scaling binary number to binary coded decimal number of higher multiple [NASA-CASE-KSC-10595] c08 N73-12176
- Fault-tolerant clock apparatus for use in digital logic systems which maintains output pulses during component failure [NASA-CASE-MSC-12531-1] c14 N73-22386
- DIGITAL DATA**
- Phase shift data transmission system with pseudo-noise synchronization code modulated with digital data into single channel for spacecraft communication [NASA-CASE-XNP-00911] c08 N70-41961
- Tape guidance system for multichannel digital recording system [NASA-CASE-XNP-09453] c08 N71-19420
- Digital telemetry system apparatus to reduce tape recorder wow and flutter noise during playback [NASA-CASE-XGS-01812] c07 N71-23001
- Digital data handling circuits for pulse amplifiers [NASA-CASE-XNP-01068] c10 N71-28739
- Bit synchronization system using digital data transition tracking phased locked loop [NASA-CASE-NPO-10844] c07 N72-20140
- Control and information system for digital telemetry data using analog converter to digitize sensed parameter values [NASA-CASE-NPO-11016] c08 N72-31226
- Development and characteristics for automatically displaying digits in any desired order using optical techniques [NASA-CASE-YKS-00348] c09 N73-14215
- DIGITAL FILTERS**
- Design and development of signal detection and tracking apparatus [NASA-CASE-IGS-03502] c10 N71-20852
- Digital filter for reducing jitter in digital control systems [NASA-CASE-NPO-11088] c08 N71-29034
- Nonrecursive counting digital filter containing shift register [NASA-CASE-NPO-11821-1] c08 N73-26175
- DIGITAL SPACECRAFT TELEVISION**
- TV camera output signal control system for digital spacecraft communication [NASA-CASE-XNP-01472] c14 N70-41807
- DIGITAL SYSTEMS**
- Light sensitive digital aspect sensor for attitude control of earth satellites or space probes [NASA-CASE-IGS-00359] c14 N70-34158
- Circuit diagram and operation of full binary adder [NASA-CASE-IGS-00689] c08 N70-34787
- Digital telemetry system apparatus to reduce tape recorder wow and flutter noise during playback [NASA-CASE-IGS-01812] c07 N71-23001
- Reliable magnetic core circuit apparatus with application in selection matrices for digital memories [NASA-CASE-XNP-01318] c10 N71-23033
- Noninterruptable digital counter circuit design with display device for pulse frequency modulation [NASA-CASE-XNP-09759] c08 N71-24891

- Digital memory system with multiple switch cores for driving each word location  
[NASA-CASE-XNP-01466] c10 N71-26434
- Digital quasi-exponential function generator  
[NASA-CASE-NPO-11130] c08 N72-20176
- Digital function generator for generating any arbitrary single valued function  
[NASA-CASE-NPO-11104] c08 N72-22165
- Digital video system for displaying image and alphanumeric data on cathode ray tube  
[NASA-CASE-NPO-11342] c09 N72-25248
- Data compression using decreasing slope threshold test and digital techniques  
[NASA-CASE-NPO-11630] c08 N72-33172
- Characteristics of digital data processor using pulse from clock source to derive binary singles to show state of various indicators in processor  
[NASA-CASE-GSC-10975-1] c08 N73-13187
- Low phase noise frequency divider for use with deep space network communication system  
[NASA-CASE-NPO-11569] c10 N73-26229
- Synchronized digital communication system  
[NASA-CASE-XNP-03623] c09 N73-28084
- Anti-multipath digital signal detector  
[NASA-CASE-LAR-11379-1] c07 N74-11005
- Digital second-order phase-locked loop  
[NASA-CASE-NPO-11905-1] c08 N74-12887
- Digital transmitter for data bus communications system  
[NASA-CASE-MSC-14558-1] c07 N74-17888
- Digital controller for a Baum folding machine --- providing automatic counting and machine shutdown  
[NASA-CASE-LAR-10688-1] c15 N74-21056
- DIGITAL TECHNIQUES**
- Describing frequency discriminator using digital logic circuits and supplying single binary output signal  
[NASA-CASE-MFS-14322] c08 N71-18692
- Constructing Exclusive-Or digital logic circuit in single module  
[NASA-CASE-XLA-07732] c08 N71-18751
- Horizon sensor design with digital sampling of spaced radiation-compensated thermopile infrared detectors  
[NASA-CASE-XNP-06957] c14 N71-21088
- Digital cardiometer incorporating circuit for measuring heartbeat rate of subject over predetermined portion of one minute also converting rate to beats per minute  
[NASA-CASE-XMS-02399] c05 N71-22896
- Digital synchronizer for extracting binary data in receiver of PSK/PCM communication system  
[NASA-CASE-NPO-10851] c07 N71-24613
- Digital sensor for counting fringes produced by interferometers with improved sensitivity and one photomultiplier tube to eliminate alignment problem  
[NASA-CASE-LAR-10204] c14 N71-27215
- Development and characteristics for automatically displaying digits in any desired order using optical techniques  
[NASA-CASE-XKS-00348] c09 N73-14215
- Apparatus and digital technique for coding rate data  
[NASA-CASE-LAR-10128-1] c08 N73-20217
- Digital phase-locked loop for accumulator output signal phase-locked to input signal  
[NASA-CASE-GSC-11623-1] c10 N73-31202
- Digital communication system  
[NASA-CASE-MSC-13912-1] c07 N74-30524
- DIGITAL TO ANALOG CONVERTERS**
- Development and characteristics of rate augmented digital to analog converter for computed time-dependent data  
[NASA-CASE-XLA-07828] c08 N71-27057
- Digital to analog converter with parallel input/output memory device  
[NASA-CASE-KSC-10397] c08 N72-25206
- Digital to analog converter for sampled signal reconstruction  
[NASA-CASE-MSC-12458-1] c08 N73-32081
- DIGITAL TRANSDUCERS**
- Digital to analog converter for sampled signal reconstruction  
[NASA-CASE-MSC-12458-1] c08 N73-32081
- DIBYDRIDES**
- Ether-linked aryl tetracarboxylic dianhydrides  
[NASA-CASE-MFS-22356-1] c06 N74-29479
- DIISOCYANATES**
- Chemical and physical properties of synthetic polyurethane polymer prepared by reacting hydroxy carbonate with organic diisocyanate  
[NASA-CASE-MFS-10512] c06 N73-30099
- Preparation of stable polyurethane polymer by reacting polymer with diisocyanate  
[NASA-CASE-MFS-10506] c06 N73-30100
- Preparation of polyurethane polymer by reacting hydroxy polyformal with organic diisocyanate  
[NASA-CASE-MFS-10509] c06 N73-30103
- DIODES**
- Single electrical circuit component combining diode, fuse, and blown indicator with elongated tube of heat resistant transparent material  
[NASA-CASE-YKS-03381] c09 N71-22796
- Maintaining current flow through solar cells with open connection using shunting diode  
[NASA-CASE-XLE-04535] c03 N71-23354
- Gunn effect microwave diodes with RF shielding  
[NASA-CASE-ERC-10119] c26 N72-21701
- Transistorized switching logic circuits with tunnel diodes  
[NASA-CASE-GSC-10878-1] c10 N72-22236
- Development of method and apparatus for detecting surface ions on silicon diodes and transistors  
[NASA-CASE-ERC-10325] c15 N72-25457
- Development of temperature compensated light source with components and circuitry for maintaining luminous intensity independent of temperature variations  
[NASA-CASE-ARC-10467-1] c09 N73-14214
- Silicon carbide backward diode with coated lead attachment  
[NASA-CASE-ERC-10224-2] c09 N73-27150
- Diode-quad bridge circuit means  
[NASA-CASE-ARC-10364-2(B)] c09 N74-14941
- High isolation RF signal selection switches  
[NASA-CASE-NPO-13081-1] c07 N74-22814
- DIPOLE ANTENNAS**
- Circularly polarized antenna with linearly polarized pair of elements  
[NASA-CASE-ERC-10214] c09 N72-31235
- DIRECT CURRENT**
- Regulated dc to dc converter  
[NASA-CASE-XGS-03429] c03 N69-21330
- Automatic control of voltage supply to direct current motor  
[NASA-CASE-XMS-04215-1] c09 N69-39987
- Thermionic diode switch for use in high temperature region to chop current from dc source  
[NASA-CASE-NPO-10404] c03 N71-12255
- Transistorized dc-coupled multivibrator with noninverted output signal  
[NASA-CASE-XNP-09450] c10 N71-18723
- Stepping motor control apparatus exciting windings in proper time sequence to cause motor to rotate in either direction  
[NASA-CASE-GSC-10366-1] c10 N71-18772
- Frequency control network for current feedback oscillators converting dc voltage to ac or higher dc voltages  
[NASA-CASE-GSC-10041-1] c10 N71-19418
- Direct current powered self repeating plasma accelerator with interconnected annular and linear discharge channels  
[NASA-CASE-XLA-03103] c25 N71-21693
- Conversion of positive dc voltage to positive dc voltage of lower amplitude  
[NASA-CASE-XMF-14301] c09 N71-23188
- Converting output of positive dc voltage source to negative dc voltage across load with common reference point  
[NASA-CASE-XMF-08217] c03 N71-23239
- Blood pressure measuring system for separately recording dc and ac pressure signals of Korotkoff sounds  
[NASA-CASE-XMS-06061] c05 N71-23317
- Radio frequency coaxial filter to provide dc isolation and low frequency signal rejection in audio range  
[NASA-CASE-XGS-01418] c09 N71-23573
- Brushless dc tachometer design with Hall effect crystals and output voltage magnitude proportional to rotor speed

## SUBJECT INDEX

## DISPLACEMENT

[NASA-CASE-MFS-20385] c09 N71-24904  
 Inverters for changing direct current to  
 alternating current  
 [NASA-CASE-XGS-06226] c10 N71-25950  
 Circuits for controlling reversible dc motor  
 [NASA-CASE-XNP-07477] c09 N71-26092  
 Feedback control for direct current motor to  
 achieve constant speed under varying loads  
 [NASA-CASE-MFS-14610] c09 N71-28886  
 High dc switch for causing abrupt, cyclic,  
 decreases of current to operate under zero or  
 varying gravity conditions  
 [NASA-CASE-LRW-10155-1] c09 N71-29035  
 Power converters for supplying direct current at  
 one voltage from source at another voltage  
 [NASA-CASE-XER-11046] c09 N72-22203  
 Dc to ac to dc converter with transistor driven  
 synchronous rectifiers  
 [NASA-CASE-GSC-11126-1] c09 N72-25253  
 Isolated dc amplifier for bioelectric measurements  
 [NASA-CASE-ARC-10596-1] c09 N72-27233  
 Direct current motor including stationary field  
 windings and stationary armature winding  
 [NASA-CASE-XGS-07805] c15 N72-33476  
 Powerplexer for distribution of dc power levels  
 to loads which require different voltages  
 [NASA-CASE-MSC-12396-1] c03 N73-31988  
 Bio-isolated dc operational amplifier --- for  
 bioelectric measurements  
 [NASA-CASE-ABC-10596-1] c09 N74-21851  
 Load insensitive electrical device --- power  
 converters for supplying direct current at one  
 voltage from a source at another voltage  
 [NASA-CASE-XER-11046-2] c09 N74-22864  
 Brushless dc motor with wound rotor  
 [NASA-CASE-NPO-13437-1] c09 N74-27688  
 A dc regulator having feedforward control  
 [NASA-CASE-NPO-13481-1] c09 N74-32675

**DIRECT POWER GENERATORS**  
 Direct conversion of thermal energy into  
 electrical energy using crossed electric and  
 magnetic fields  
 [NASA-CASE-XLE-00212] c03 N70-34134  
 Thermal pump-compressor for converting solar  
 energy  
 [NASA-CASE-XLA-00377] c33 N71-17610  
 Converting output of positive dc voltage source  
 to negative dc voltage across load with common  
 reference point  
 [NASA-CASE-XMP-08217] c03 N71-23239  
 Unsaturating magnetic core transformer design  
 with warning signal for electrical power  
 processing equipment  
 [NASA-CASE-ERC-10125] c09 N71-24893  
 Load insensitive electrical device --- power  
 converters for supplying direct current at one  
 voltage from a source at another voltage  
 [NASA-CASE-XER-11046-2] c09 N74-22864

**DIRECTIONAL ANTENNAS**  
 Mechanical coordinate converter for use with  
 spacecraft tracking antennas  
 [NASA-CASE-XNP-00614] c14 N70-36907  
 Weatherproof helix antenna  
 [NASA-CASE-XKS-08485] c07 N71-19493  
 Tracking antenna system with array for  
 synchronous satellite or ground based radar  
 [NASA-CASE-GSC-10553-1] c07 N71-19854  
 Drive system for parabolic tracking antenna with  
 reversible motion and minimal backlash  
 [NASA-CASE-NPO-10173] c15 N71-24696  
 Variable beamwidth antenna --- with multiple  
 beam, variable feed system  
 [NASA-CASE-GSC-11862-1] c09 N74-32674

**DIRECTIONAL CONTROL**  
 Gimballed partially submerged nozzle for solid  
 propellant rocket engines for providing  
 directional control  
 [NASA-CASE-XMP-01544] c28 N70-34162  
 Omnidirectional wheel  
 [NASA-CASE-MFS-21309-1] c15 N74-18125

**DIRECTIONAL STABILITY**  
 Nose gear steering system for vehicles with main  
 skids to provide directional stability after  
 loss of aerodynamic control  
 [NASA-CASE-XLA-01804] c02 N70-34160

**DISCONNECT DEVICES**  
 Patent data on gas actuated bolt disconnect  
 assembly  
 [NASA-CASE-XLA-00326] c03 N70-34667

Remotely actuated quick disconnect mechanism for  
 umbilical cables  
 [NASA-CASE-XLA-00711] c03 N71-12258  
 Remotely actuated quick disconnect for tubular  
 umbilical conduits used to transfer fluids  
 from ground to rocket vehicle  
 [NASA-CASE-XLA-01396] c03 N71-12259  
 Design and development of quick release connector  
 [NASA-CASE-XLA-01141] c15 N71-13789  
 Split nut and bolt separation device  
 [NASA-CASE-XNP-06914] c15 N71-21489  
 Electrical circuit selection device for  
 simulating stage separation of flight vehicle  
 [NASA-CASE-XKS-04631] c10 N71-23663  
 Quick disconnect duct coupling device for  
 single-handed operation  
 [NASA-CASE-MFS-20395] c15 N71-24903  
 Breakaway multiwire electrical cable connector  
 with particular application for umbilical type  
 cables  
 [NASA-CASE-NPO-11140] c15 N72-17455  
 Torsional disconnect device for releasably  
 coupling distal ends of fluid conduits  
 [NASA-CASE-NPO-10704] c15 N72-20445  
 Frangible connecting link suitable for rocket  
 stage separation  
 [NASA-CASE-MSC-11849-1] c15 N72-22488  
 Gas operated quick disconnect coupling for  
 umbilical connectors  
 [NASA-CASE-NPO-11202] c15 N72-25450  
 Quick disconnect filter coupling  
 [NASA-CASE-MFS-22323-1] c15 N74-26988

**DISCONTINUITY**  
 Servocontrol system for measuring local stresses  
 at geometric discontinuity in stressed material  
 [NASA-CASE-XLA-08530] c32 N71-25360

**DISCRIMINATORS**  
 Detector assembly for discriminating first  
 signal with respect to presence or absence of  
 second signal at time of occurrence of first  
 signal  
 [NASA-CASE-IMP-00701] c09 N70-40272  
 Difference indicating circuit used in  
 conjunction with device measuring  
 gravitational fields  
 [NASA-CASE-IMP-08274] c10 N71-13537  
 Describing frequency discriminator using digital  
 logic circuits and supplying single binary  
 output signal  
 [NASA-CASE-MFS-14322] c08 N71-18692  
 Circuit design for determining amount of  
 photomultiplier tube light detection utilizing  
 variable current source and dark current  
 signals of opposite polarity  
 [NASA-CASE-XMS-03478] c14 N71-21040  
 Characteristics of comparator circuits for  
 comparison of binary numbers in information  
 processing system  
 [NASA-CASE-XNP-04819] c08 N71-23295  
 Diode quad transducer and discriminator circuit  
 --- characteristics of electrical measuring  
 apparatus  
 [NASA-CASE-ARC-10364-3] c10 N74-26760

**DISPENSERS**  
 Liquid aerosol dispenser with explosively driven  
 piston to compress light gas to extremely high  
 pressure  
 [NASA-CASE-MFS-20829] c12 N72-21310  
 Potable water dispenser  
 [NASA-CASE-MFS-21115-1] c05 N74-12779  
 Lyophilized spore dispenser  
 [NASA-CASE-LAR-10544-1] c15 N74-13178  
 Metering gun for dispensing precisely measured  
 charges of fluid  
 [NASA-CASE-MFS-21163-1] c05 N74-17853

**DISPERSING**  
 Apparatus for mechanically dispersing ultrafine  
 metal powders subjected to shock waves  
 [NASA-CASE-XLE-04946] c17 N71-24911

**DISPERSIONS**  
 Detergent with glyceryl esters and oil as  
 protective coating to prevent fogging of space  
 suit visor  
 [NASA-CASE-MSC-13530-2] c06 N73-11107  
 Method for producing alkali metal dispersions of  
 high purity  
 [NASA-CASE-XNP-08876] c17 N73-28573

**DISPLACEMENT**  
 Bimetallic fluid displacement apparatus --- for

- stirring and heating stored gases and liquids  
[NASA-CASE-ARC-10441-1] c15 N74-15126
- DISPLACEMENT MEASUREMENT**
- Null-type vacuum microbalance for measuring minute mechanical displacements  
[NASA-CASE-XAC-00472] c15 N70-40180
- Development and characteristics of self-calibrating displacement transducer for measuring magnitude and frequency of displacement of bodies  
[NASA-CASE-XLA-00781] c09 N71-22999
- Gas bearing for model support with capacity for measuring angular displacement of model in bearing  
[NASA-CASE-XLA-09346] c15 N71-28740
- Method and apparatus for remote measurement of displacement of marks on specimen undergoing tensile test  
[NASA-CASE-NPO-10778] c14 N72-11364
- DISPLAY DEVICES**
- Integrated time shared instrumentation display for aerospace vehicle simulators  
[NASA-CASE-XLA-01952] c08 N71-12507
- Data processing and display system for terminal guidance of X-15 aircraft  
[NASA-CASE-XFR-00756] c02 N71-13421
- Fluidic-thermochronic display device  
[NASA-CASE-ERC-10031] c12 N71-18603
- Cathode ray tube system for displaying ones and zeros in binary wave train  
[NASA-CASE-XGS-04987] c08 N71-20571
- Optical projector system for establishing optimum arrangement of instrument displays in aircraft, spacecraft, other vehicles, and industrial instrument consoles  
[NASA-CASE-XNP-03853] c23 N71-21882
- Optical monitor panel consisting of translucent screen with test or meter information projected onto it from rear for application in control rooms of missile launching and tracking stations  
[NASA-CASE-YKS-03509] c14 N71-23175
- Binary to decimal decoder logic circuit design with feedback control and display device  
[NASA-CASE-IKS-06167] c08 N71-24890
- Noninterruptable digital counter circuit design with display device for pulse frequency modulation  
[NASA-CASE-XNP-09759] c08 N71-24891
- Data acquisition system for converting displayed analog signal to digital values  
[NASA-CASE-NPO-10344] c10 N71-26544
- Plasma-fluidic hybrid display system combining high brightness and memory characteristics  
[NASA-CASE-ERC-10100] c09 N71-33519
- System for digitizing graphic displays  
[NASA-CASE-NPO-10745] c08 N72-22164
- Digital video system for displaying image and alphanumeric data on cathode ray tube  
[NASA-CASE-NPO-11342] c09 N72-25248
- Development of apparatus for mounting scientific experiments in spacecraft to permit utilization without maneuvering spacecraft  
[NASA-CASE-MSC-12372-1] c31 N72-25842
- Development and characteristics for automatically displaying digits in any desired order using optical techniques  
[NASA-CASE-IKS-00348] c09 N73-14215
- Situational display system of cathode ray tubes to assist pilot in aircraft control  
[NASA-CASE-ERC-10350] c14 N73-20474
- Multichannel medical monitoring system to measure physiological parameters from display device at remote control station  
[NASA-CASE-MSC-14180-1] c05 N73-22045
- Device for displaying and recording angled views of samples to be viewed by microscope  
[NASA-CASE-GSC-11690-1] c14 N73-28499
- Alphanumeric character display device for oscilloscopes  
[NASA-CASE-GSC-11582-1] c09 N73-32120
- Transparent switchboard which permits optical display devices to be adapted for use in man machine communications  
[NASA-CASE-MSC-13746-1] c10 N73-32143
- Recorder/processor apparatus --- for optical data processing  
[NASA-CASE-GSC-11553-1] c07 N74-15831
- Rotating raster generator  
[NASA-CASE-PRC-10071-1] c07 N74-20813
- G-load measuring and indicator apparatus --- for aircraft  
[NASA-CASE-ARC-10806] c14 N74-27872
- Field sequential stereo television  
[NASA-CASE-MSC-12616-1] c07 N74-32601
- DISSIPATION**
- Dissipative voltage regulator system for minimizing heat dissipation  
[NASA-CASE-GSC-10891-1] c10 N71-26626
- DISSOLVING**
- Apparatus for mixing two or more liquids under zero gravity conditions  
[NASA-CASE-LAR-10195-1] c15 N73-19458
- DISTANCE MEASURING EQUIPMENT**
- Binary coded sequential acquisition ranging system for distance measurements  
[NASA-CASE-NPO-11194] c08 N72-25209
- Apparatus for determining distance to lighting strokes from single station by magnetic and electric field sensing antennas  
[NASA-CASE-KSC-10698] c07 N73-20175
- DISTILLATION EQUIPMENT**
- Utilization of solar radiation by solar still for converting salt and brackish water into potable water  
[NASA-CASE-XMS-04533] c15 N71-23086
- Purification apparatus for vaporization and fractional distillation of liquids  
[NASA-CASE-XNP-08124] c15 N71-27184
- System for recovering oxygen and/or water from extraterrestrial soil and iron oxide materials  
[NASA-CASE-MSC-12332-1] c15 N72-15476
- U shaped heated tube for distillation and purification of liquid metals  
[NASA-CASE-XNP-08124-2] c06 N73-13129
- DISTRIBUTED AMPLIFIERS**
- Broadband distribution amplifier with complementary pair transistor output stages  
[NASA-CASE-NPO-10003] c10 N71-26415
- DISTRIBUTORS**
- High voltage distributor  
[NASA-CASE-GSC-11849-1] c09 N74-22873
- DISTURBANCES**
- Motor run-up system --- for preventing power line disturbances when synchronous motor is connected to line  
[NASA-CASE-NPO-13374-1] c10 N74-17949
- DIVERGENT NOZZLES**
- Jet exhaust noise suppressor  
[NASA-CASE-LEW-11286-1] c02 N74-27490
- DIVIDERS**
- A synchronous binary array divider  
[NASA-CASE-ERC-10180-1] c08 N74-20836
- DOCUMENT STORAGE**
- Describing device for flagging punched business cards  
[NASA-CASE-XLA-02705] c08 N71-15908
- DOORS**
- Design and specifications of emergency escape system for spacecraft structures  
[NASA-CASE-MSC-12086-1] c05 N71-12345
- DOPPLER EFFECT**
- Doppler frequency shift correction device for multiplex communication with Applications Technology Satellites  
[NASA-CASE-XGS-02749] c07 N69-39978
- Describing laser Doppler velocimeter for measuring mean velocity and turbulence of fluid flow  
[NASA-CASE-MPS-20386] c21 N71-19212
- Doppler compensated communication system for locating supersonic transport position  
[NASA-CASE-GSC-10087-4] c07 N73-20174
- Laser Doppler velocimeter for simultaneously measuring orthogonal fluid velocity components without flow field perturbation  
[NASA-CASE-ARC-10637-1] c14 N73-21390
- Simultaneous acquisition of tracking data from two stations  
[NASA-CASE-NPO-13292-1] c07 N74-15838
- Doppler shift system --- system for measuring velocities of radiating particles  
[NASA-CASE-HQN-10740-1] c24 N74-19310
- DOPPLER RADAR**
- Cooperative Doppler radar system for avoiding midair collisions  
[NASA-CASE-LAR-10403] c21 N71-11766

- DOSIMETERS**  
Development of dosimeter for measuring absorbed dose of high energy ionizing radiation  
[NASA-CASE-XLA-03645] c14 N71-20430
- DRAG CHUTES**  
Deployment system for flexible wing with rigid superstructure  
[NASA-CASE-XLA-01220] c02 N70-41863  
Lightweight, variable solidity knitted parachute fabric --- for aerodynamic decelerators  
[NASA-CASE-LAR-10776-1] c02 N74-10034
- DRAG MEASUREMENT**  
Device for measuring drag forces in flight tests  
[NASA-CASE-XLA-00113] c14 N70-33386  
Electric analog for measuring induced drag on nonplanar airfoils  
[NASA-CASE-XLA-00755] c01 N71-13410  
Electric analog for measuring induced drag on nonplanar airfoils  
[NASA-CASE-XLA-05828] c01 N71-13411  
Impact energy absorber with decreasing absorption rate  
[NASA-CASE-XLA-01530] c14 N71-23092  
System for measuring drag forces in a turbulently flowing fluid  
[NASA-CASE-ARC-10755-1] c14 N74-14115
- DRAG REDUCTION**  
Directed fluid stream for propeller blade loading control  
[NASA-CASE-XAC-00139] c02 N70-34856  
Aircraft wheel spray drag alleviator for dual tandem landing gear  
[NASA-CASE-XLA-01583] c02 N70-36825
- DRIFT (INSTROMENTATION)**  
Automatic measuring and recording of gain and zero drift characteristics of electronic amplifier  
[NASA-CASE-IMS-05562-1] c09 N69-39986  
Solar radiation direction detector and device for compensating degradation of photocells  
[NASA-CASE-XLA-00183] c14 N70-40239
- DRILL BITS**  
Impact bit for cutting, collecting, and storing samples such as lunar rock cuttings  
[NASA-CASE-XMP-01412] c15 N70-42034
- DRILLS**  
Rotary impact-type rock drill for recovering rock cuttings  
[NASA-CASE-XMP-07478] c14 N69-21923  
Auger-type soil penetrometer for burrowing into soil formations  
[NASA-CASE-XMP-05530] c14 N73-32321
- DRIVES**  
Inverter drive circuit for semiconductor switch  
[NASA-CASE-LEW-10233] c10 N71-27126
- DROPS (LIQUIDS)**  
Development of droplet monitoring probe for use in analysis of droplet propagation in mixed-phase fluid stream  
[NASA-CASE-NPO-10985] c14 N73-20478
- DRY CELLS**  
Energy source with tantalum capacitors in parallel and miniature silver oxide button cells for initiating pyrotechnic devices on spacecraft and rocket vehicles  
[NASA-CASE-LAR-10367-1] c03 N70-26817
- DRYING**  
Drying chamber for photographic sheet material  
[NASA-CASE-GSC-11074-1] c14 N73-28489
- DRYING APPARATUS**  
Gas purged dry box glove reducing permeation of air or moisture into dry box or isolator by diffusion through glove  
[NASA-CASE-XLE-02531] c05 N71-23080
- DUCTS**  
Quick disconnect duct coupling device for single-handed operation  
[NASA-CASE-MFS-20395] c15 N71-24903  
An externally supported internally stabilized flexible duct joint  
[NASA-CASE-MFS-19194-1] c15 N74-34882
- DUST COLLECTORS**  
Device for removing plastic dust cover from digital computer disk packs for inspection and cleaning  
[NASA-CASE-LAR-10590-1] c15 N70-26819  
Cosmic dust analyzer using ion time of flight techniques to determine constituency of hypervelocity particles such as micrometeoroids  
[NASA-CASE-MSC-13802-1] c30 N72-20805
- DYE LASERS**  
Development of laser head for simultaneous optical pumping of several dye lasers  
[NASA-CASE-LAR-11341-1] c16 N73-25564  
Infrared tunable dye laser with nonlinear wavelength mixing crystal in optical cavity  
[NASA-CASE-ARC-10463-1] c09 N73-32111
- DYES**  
Dye penetrant and technique for nondestructive tests of solid surfaces contacted by liquid oxygen  
[NASA-CASE-XMF-02221] c18 N71-27170
- DYNAMIC CHARACTERISTICS**  
Dynamic sensor for gas pressure or density measurement  
[NASA-CASE-XAC-02877] c14 N70-41681  
Design of precision vertical alignment system using laser with gravitationally sensitive cavity  
[NASA-CASE-ARC-10444-1] c16 N73-33397
- DYNAMIC LOADS**  
Multilegged support system for wind tunnel test models subjected to thermal dynamic loading  
[NASA-CASE-XLA-01326] c11 N71-21481  
Apparatus for measuring load on cable under static or dynamic conditions comprising pulleys pivoting structure against restraint of tension strap  
[NASA-CASE-XMS-04545] c15 N71-22878  
Development and characteristics of device for indicating and recording magnitude of force applied in axial direction  
[NASA-CASE-MSC-15626-1] c14 N72-25411
- DYNAMIC MODULUS OF ELASTICITY**  
Apparatus for testing metallic and nonmetallic beams or rods by bending at high temperatures in vacuum or inert atmosphere  
[NASA-CASE-XLE-01300] c15 N70-41993
- DYNAMIC RESPONSE**  
Lunar and planetary gravity simulator to test vehicular response to landing  
[NASA-CASE-XLA-00493] c11 N70-34786  
Pressure sensor network for measuring liquid dynamic response in flight including fuel tank acceleration, liquid slosh amplitude, and fuel depth monitoring  
[NASA-CASE-XLA-05541] c12 N71-26387  
Response analyzing apparatus for liquid vapor interface sensor of sloshing rocket propellant  
[NASA-CASE-MFS-11204] c14 N71-29134
- DYNAMIC STRUCTURAL ANALYSIS**  
Development of system for measuring damping characteristics of structure or system subjected to random forces or influences  
[NASA-CASE-ARC-10154-1] c14 N72-22440
- DYNAMIC TESTS**  
Hydraulic support equipment for full scale dynamic testing of large rocket vehicle under free flight conditions  
[NASA-CASE-XMF-01772] c11 N70-41677  
Hydraulic support apparatus for dynamic testing of space vehicles under near-free flight conditions  
[NASA-CASE-XMF-03248] c11 N71-10604
- DYNAMOMETERS**  
Dynamometer measuring microforce thrust produced by ion engine  
[NASA-CASE-XLE-00702] c14 N70-40203  
Development of thrust dynamometer for measuring performance of jet and rocket engines  
[NASA-CASE-XLE-05260] c14 N71-20429

## E

**BAR**

- Bar oximeter for monitoring blood oxygenation and pressure, pulse rate, and pressure pulse curve, using dc and ac amplifiers  
[NASA-CASE-XAC-05422] c04 N71-23185

**EARTH ATMOSPHERE**

- Ablation sensor for measuring surface ablation rate of material on vehicles entering earths atmosphere on entry into planetary atmospheres  
[NASA-CASE-XLA-01791] c14 N71-22991

**EARTH ORBITS**

- Electric furnace for vacuum and zero gravity melting of high melting point materials during earth orbit



## ECONOMIC ANALYSIS

## SUBJECT INDEX

- [NASA-CASE-NFS-20710] c11 N72-23215  
Design and development of space shuttle system for delivering payload to earth orbit or celestial orbit  
[NASA-CASE-MSC-12391] c30 N73-12884
- ECONOMIC ANALYSIS**  
Economical satellite aided vehicle avoidance system for preventing midair collisions  
[NASA-CASE-ERC-10419] c21 N72-21631
- EFFICIENCY**  
Recovering efficiency of solar cells damaged by environmental radiation through thermal annealing  
[NASA-CASE-IGS-04047-2] c03 N72-11062  
High efficiency multifrequency feed  
[NASA-CASE-GSC-11317-3] c09 N74-20863
- EJECTION**  
Apparatus for ejecting covers of instrument packages using differential pressure principle  
[NASA-CASE-IMP-04132] c15 N69-27502
- EJECTION SEATS**  
Ejector for separating astronaut from ejection seat during prelaunch or initial launch phase of flight  
[NASA-CASE-XNS-04625] c05 N71-20718
- EJECTORS**  
Automatic ejection valve for attitude control and midcourse guidance of space vehicles  
[NASA-CASE-IMP-00676] c15 N70-38996  
Ejector for separating astronaut from ejection seat during prelaunch or initial launch phase of flight  
[NASA-CASE-XNS-04625] c05 N71-20718  
Latching mechanism with pivoting catch and self-contained spring ejector  
[NASA-CASE-XLA-03538] c15 N71-24897
- ELASTIC BODIES**  
Belleville spring assembly with elastic guides having low hysteresis  
[NASA-CASE-IMP-09452] c15 N69-27504  
Development of systems for automatically and continually suppressing or attenuating bending motion in elastic bodies  
[NASA-CASE-XAC-05632] c32 N71-23971  
Device for measuring tensile forces  
[NASA-CASE-NFS-21728-1] c14 N74-27865
- ELASTIC DEFORMATION**  
Measuring shear-creep compliance of solid and liquid materials used in spacecraft components  
[NASA-CASE-XLE-01481] c14 N71-10781  
Development of systems for automatically and continually suppressing or attenuating bending motion in elastic bodies  
[NASA-CASE-XAC-05632] c32 N71-23971
- ELASTIC MEDIA**  
Miniature vibration isolator utilizing elastic tubing material  
[NASA-CASE-XLA-01019] c15 N70-40156
- ELASTIC PROPERTIES**  
Elastic universal joint for rocket motor mounting  
[NASA-CASE-IMP-00416] c15 N70-36947  
Resilient vehicle wheel for lunar surface travel  
[NASA-CASE-NFS-20400] c31 N71-18611  
Threadless fastener apparatus comprising receiving apertures for plurality of articles, self-locked condition, and capable of using nonmalleable materials in both ends  
[NASA-CASE-IFR-05302] c15 N71-23254  
Chemical and elastic properties of fluorinated polyurethanes  
[NASA-CASE-NPO-10767-1] c06 N73-33076  
A meter for use in detecting tension in straps having predetermined elastic characteristics  
[NASA-CASE-NFS-22189-1] c14 N74-10421
- ELASTIC SHEETS**  
Hot forming of plastic sheets  
[NASA-CASE-XNS-05516] c15 N71-17803
- ELASTOMERS**  
Elastomer loaded with metal particles for elastic biomedical electrodes  
[NASA-CASE-ARC-10268-1] c09 N70-12620  
Describing metal valve pintle with encapsulated elastomeric body  
[NASA-CASE-MSC-12116-1] c15 N71-17648  
Development of apparatus for measuring successive increments of strain on elastomers  
[NASA-CASE-IMP-04680] c15 N71-19489  
Preparation of elastomeric diamine silazane polymers  
[NASA-CASE-IMP-04133] c06 N71-20717  
Leak resistant bonded elastomeric seal for secondary electrochemical cells  
[NASA-CASE-IGS-02631] c03 N71-23006  
Ultra-flexible biomedical electrodes and wires  
[NASA-CASE-ARC-10268-2] c05 N74-11900  
Ultra-flexible biomedical electrode and wires  
[NASA-CASE-ARC-10268-3] c05 N74-11901  
Technique for bonding --- process for molding silicone elastomer into fiberglass honeycomb panel  
[NASA-CASE-LAR-10073-1] c32 N74-23449  
Conductive elastomeric extensometer  
[NASA-CASE-NFS-21049-1] c14 N74-27864
- ELECTRIC ARCS**  
Magnetically diffused radial electric arc heater  
[NASA-CASE-XLA-00330] c33 N70-34540  
Controlled arc spot welding method  
[NASA-CASE-IMP-00392] c15 N70-34814  
Triggering system for electric arc driven impulse wind tunnel  
[NASA-CASE-IMP-00411] c11 N70-36913  
Electric arc device for simulating electrode ablation and heating gases to supersonic or hypersonic wind tunnel temperatures  
[NASA-CASE-XAC-00319] c25 N70-41628  
Electric arc heater with supersonic nozzle and fixed arc length for use in high temperature wind tunnels  
[NASA-CASE-XAC-01677] c09 N71-20816  
Arc electrode of graphite with tantalum ball tip  
[NASA-CASE-XLE-04788] c09 N71-22987  
High powered arc electrodes --- producing solar simulator radiation  
[NASA-CASE-LEW-11162-1] c09 N74-12913
- ELECTRIC BATTERIES**  
Spacecraft battery seals  
[NASA-CASE-IGS-03864] c15 N69-24320  
Sealed electric storage battery with gas manifold interconnecting each cell  
[NASA-CASE-IMP-03378] c03 N71-11051  
Battery charging system with cell to cell voltage balance  
[NASA-CASE-IGS-05432] c03 N71-19438  
Development and characteristics of battery charging circuits with coulometer for control of available current  
[NASA-CASE-GSC-10487-1] c03 N71-24719  
Heat activated emf cells with aluminum anode  
[NASA-CASE-LEW-11359] c03 N71-28579  
Development of device for simulating charge and discharge cycle of battery in synchronous orbit  
[NASA-CASE-GSC-11211-1] c03 N72-25020  
Development of timing device for conserving batteries on remote data collection platform by generating synchronous time windows  
[NASA-CASE-GSC-11182-1] c31 N73-32769  
Storage battery comprising negative plates of a wedge shaped configuration --- for preventing shape change induced malfunctions  
[NASA-CASE-NPO-11806-1] c03 N74-19693  
Battery testing device --- for testing cells of multiple-cell battery  
[NASA-CASE-NFS-20761-1] c03 N74-27519  
Rapid activation and checkout device for batteries  
[NASA-CASE-NFS-22749-1] c14 N74-34861
- ELECTRIC BRIDGES**  
Pulsed excitation voltage circuit for strain gage bridge transducers  
[NASA-CASE-FRC-10036] c09 N72-22200  
Bridge-type gain control circuit  
[NASA-CASE-GSC-10786-1] c10 N72-28241  
Diode-quad bridge circuit means  
[NASA-CASE-ARC-10364-2(B)] c09 N74-14941
- ELECTRIC CELLS**  
Expanding and contracting connector strip for solar cell array of Nimbus satellite  
[NASA-CASE-IGS-01395] c03 N69-21539  
Design and characteristics of heat activated electric cell with anode made from one or more alkali metals and cathode made from oxidizing material  
[NASA-CASE-LEW-11358] c03 N71-26084  
Development and characteristics of ion-exchange membrane and electrode assembly for fuel cells or electrolysis cells  
[NASA-CASE-XNS-02063] c03 N71-29044
- ELECTRIC CHARGE**  
Indicator device for monitoring charge of wet

- cell battery, using semiconductor light emitter and photodetector  
[NASA-CASE-NPO-10194] c03 N71-20407
- Automatically charging battery of electric storage cells  
[NASA-CASE-INP-04758] c03 N71-24605
- ELECTRIC CHOPPERS**
- Monostable multivibrator for conserving power in spacecraft systems  
[NASA-CASE-GSC-10082-1] c10 N72-20221
- ELECTRIC COILS**
- Broadband chokes and absorbers to reduce spurious radiation patterns of antenna array caused by support structures  
[NASA-CASE-INS-05303] c07 N69-27462
- ELECTRIC CONDUCTORS**
- Hollow spherical electrode for shielding dielectric junction between high voltage conductor and insulator  
[NASA-CASE-XLE-03778] c09 N69-21542
- Conductor for connecting parallel cells into submodules in series to form solar cell matrix  
[NASA-CASE-NPO-10821] c03 N71-19545
- Electrical switching device comprising conductive liquid confined within square loop of deformable nonconductive tubing also used for leveling  
[NASA-CASE-NPO-10037] c09 N71-19610
- Dry electrode design with wire sandwiched between two flexible conductive discs for monitoring physiological responses  
[NASA-CASE-FBC-10029] c09 N71-24618
- Development of process for forming insulating layer between two electrical conductor or semiconductor materials  
[NASA-CASE-LEW-10489-1] c15 N72-25447
- Improved injector with porous plug for bubbles of gas into feed lines of electrically conductive liquid  
[NASA-CASE-NPO-11377] c15 N73-27406
- ELECTRIC CONNECTORS**
- Distribution of currents to circuits using electrical adaptor  
[NASA-CASE-XLA-01288] c09 N69-21470
- Fixture for simultaneously supporting several components for electrical testing  
[NASA-CASE-INP-06032] c09 N69-21926
- Releasable coupling device designed to receive and retain matching ends of electrical connectors  
[NASA-CASE-INS-07846-1] c09 N69-21927
- Electrical feedthrough connection for printed circuit boards  
[NASA-CASE-INP-01483] c14 N69-27431
- Electrical connector pin with wiping action to assure reliable contact  
[NASA-CASE-INP-04238] c09 N69-39734
- Rectangular electric conductors for conductor cables to withstand spacecraft vibration and controlled atmosphere  
[NASA-CASE-NPS-14741] c09 N70-20737
- Patent data on terminal insert connector for flat electric cables  
[NASA-CASE-INP-00324] c09 N70-34596
- Electric connector for printed cable to printed cable or to printed board  
[NASA-CASE-INP-00369] c09 N70-36494
- Electrical connection for printed circuits on common board, using bellows principle in rivet  
[NASA-CASE-INP-05082] c15 N70-41960
- Method of making molded electric connector for use with flat conductor cables  
[NASA-CASE-INP-03498] c15 N71-15986
- Design and development of electric connectors for rigid and semirigid coaxial cables  
[NASA-CASE-INP-04732] c09 N71-20851
- Connector internal force gage for measuring strength of electrical connection  
[NASA-CASE-INP-03918] c14 N71-23087
- Maintaining current flow through solar cells with open connection using shunting diode  
[NASA-CASE-XLE-04535] c03 N71-23354
- Electrical connections for thin film hybrid microcircuits  
[NASA-CASE-INS-02182] c10 N71-28783
- Breakaway multiwire electrical cable connector with particular application for umbilical type cables  
[NASA-CASE-NPO-11140] c15 N72-17455
- Reliability of electrical connectors after heat sterilization  
[NASA-CASE-NPO-10694] c09 N72-20200
- Development of electric connector and pin assembly with radio frequency absorbing sleeve to reduce radio frequency interference  
[NASA-CASE-XLA-02609] c09 N72-25256
- Electrical interconnection of unilluminated solar cells in solar battery array  
[NASA-CASE-GSC-10344-1] c03 N72-27053
- Separable flat cable connector with isolated electrical contacts  
[NASA-CASE-NPS-20757] c09 N72-28225
- Ultra-flexible biomedical electrodes and wires  
[NASA-CASE-ARC-10268-2] c05 N74-11900
- Ultra-flexible biomedical electrode and wires  
[NASA-CASE-ARC-10268-3] c05 N74-11901
- Device for configuring multiple leads --- method for connecting electric leads to printed circuit board  
[NASA-CASE-NPS-22133-1] c15 N74-26977
- ELECTRIC CONTACTS**
- Solid state switching circuit design to increase current capacity of low rated relay contacts  
[NASA-CASE-INP-09228] c09 N69-27500
- Characteristics of hermetically sealed electric switch with flexible operating capability  
[NASA-CASE-INP-09808] c09 N71-12518
- Electrode connection for n-on-p silicon solar cell  
[NASA-CASE-XLE-04787] c03 N71-20492
- Development of slip ring assembly with inner and outer peripheral surfaces used as electrical contacts for brushes  
[NASA-CASE-INP-01049] c15 N71-23049
- Separable flat cable connector with isolated electrical contacts  
[NASA-CASE-NPS-20757] c09 N72-28225
- Ultra-flexible biomedical electrodes and wires  
[NASA-CASE-ARC-10268-2] c05 N74-11900
- Ultra-flexible biomedical electrode and wires  
[NASA-CASE-ARC-10268-3] c05 N74-11901
- ELECTRIC CONTROL**
- Switching series regulator with gating control network  
[NASA-CASE-INS-09352] c09 N71-23316
- ELECTRIC CURRENT**
- Including didymium hydrate in nickel hydroxide of positive electrode of storage batteries to increase ampere hour capacity  
[NASA-CASE-IGS-03505] c03 N71-10608
- Development of in-line fuse device for protection of electric circuits from excessive currents and voltages  
[NASA-CASE-HSC-12135-1] c09 N71-12526
- Micromicroampere current measuring circuit, with two subminiature thermionic diodes with filament cathodes  
[NASA-CASE-INP-00384] c09 N71-13530
- Connector internal force gage for measuring strength of electrical connection  
[NASA-CASE-INP-03918] c14 N71-23087
- Electric circuit for producing high current pulse having fast rise and fall time  
[NASA-CASE-INS-04919] c09 N71-23270
- Electric circuit for reversing direction of current flow  
[NASA-CASE-INP-00952] c10 N71-23271
- Maintaining current flow through solar cells with open connection using shunting diode  
[NASA-CASE-XLE-04535] c03 N71-23354
- Color television system utilizing angle gun current sensitive color cathode ray tube  
[NASA-CASE-ERC-10098] c09 N71-28618
- Current dependent variable inductance for input filter chokes of ac or dc power supplies  
[NASA-CASE-ERC-10139] c09 N72-17154
- Amplifying circuit with constant current source for accumulator load and high gain voltage amplification  
[NASA-CASE-NPO-11023] c09 N72-17155
- Commutator for steering precisely controlled bidirectional currents through numerous loads by use of magnetic core shift registers  
[NASA-CASE-NPO-10743] c08 N72-21199
- Current protection equipment for saturable core transformers  
[NASA-CASE-ERC-10075-2] c09 N72-22196
- Development of thermal to electric power conversion system using solid state switches

- of electrical currents to load for Seebeck effect compensation  
 [NASA-CASE-NPO-11388] c03 N72-23048
- Load current sensor for series pulse width modulated power supply  
 [NASA-CASE-GSC-10656-1] c09 N72-25249
- Electrode with multiple columnar conductors for limiting field emission current  
 [NASA-CASE-ERC-10015-2] c10 N72-27246
- Means of vapor deposition using electric current and evaporator filament  
 [NASA-CASE-LAR-10541-1] c15 N72-32487
- Lightning current measuring systems  
 [NASA-CASE-KSC-10807-1] c14 N74-22113
- ELECTRIC DISCHARGES**
- Electric discharge apparatus for electrohydraulic explosive forming  
 [NASA-CASE-XMF-00375] c15 N70-34249
- High voltage pulse generator for testing flash and ignition limits of nonmetallic materials in controlled atmospheres  
 [NASA-CASE-MSC-12178-1] c09 N71-13518
- Pulse generating circuit for operation at very high duty cycles and repetition rates  
 [NASA-CASE-XNE-00745] c10 N71-28960
- Rapidly pulsed, high intensity, incoherent light source  
 [NASA-CASE-XLB-2529-3] c09 N74-20859
- Double discharge metal vapor laser with metal halide as a lasant  
 [NASA-CASE-NPO-13448-1] c16 N74-34012
- ELECTRIC ENERGY STORAGE**
- Electric current measuring apparatus design including saturable core transformer and energy storage device to avoid magnetizing current errors from transformer output winding  
 [NASA-CASE-XGS-02439] c14 N71-19431
- ELECTRIC EQUIPMENT**
- Characteristics of high power, low distortion, alternating current power amplifier  
 [NASA-CASE-LAR-10218-1] c09 N70-34559
- Design and development of electric generator for space power system  
 [NASA-CASE-XLB-04250] c09 N71-20446
- Development of electrical system for measuring high impedance  
 [NASA-CASE-XMS-08589-1] c09 N71-20569
- Design, development, and operating principles of power supply with starting circuit which is independent of voltage regulator  
 [NASA-CASE-XMS-01991] c09 N71-21449
- Development of method for improving signal to noise ratio and accuracy of Wheatstone bridge type radiation measuring instrument  
 [NASA-CASE-XLA-02810] c14 N71-25901
- Design and development of buck-boost voltage regulator circuit with additive or subtractive alternating current impressed on variable direct current source voltage  
 [NASA-CASE-GSC-10735-1] c10 N71-26085
- Development and characteristics of electronically resettable fuse with saturable core current sensing transformer having two outside legs and center leg  
 [NASA-CASE-XGS-11177] c09 N71-27001
- Development and characteristics of voltage regulator for connection in series with alternating current source and load using three leg, two-window transformer  
 [NASA-CASE-ERC-10113] c09 N71-27053
- Development of electric circuit for production of different pulse width signals  
 [NASA-CASE-XLA-07788] c09 N71-29139
- Development of solar energy powered heliotrope assembly to orient solar array toward sun  
 [NASA-CASE-GSC-10945-1] c21 N72-31637
- Development of temperature compensated light source with components and circuitry for maintaining luminous intensity independent of temperature variations  
 [NASA-CASE-ARC-10467-1] c09 N73-14214
- Development and characteristics of hermetically sealed coaxial package for containing microwave semiconductor components  
 [NASA-CASE-GSC-10791-1] c15 N73-14469
- Overvoltage protection network  
 [NASA-CASE-ARC-10197-1] c09 N74-17929
- Self-regulating proportionally controlled heating apparatus and technique  
 [NASA-CASE-GSC-11752-1] c33 N74-19583
- Sprag solenoid brake --- development and operations of electrically controlled brake  
 [NASA-CASE-MFS-21846-1] c15 N74-26976
- ELECTRIC EQUIPMENT TESTS**
- Fixture for simultaneously supporting several components for electrical testing  
 [NASA-CASE-XNP-06032] c09 N69-21926
- Electrical testing apparatus for detecting amplitude and width of transient pulse  
 [NASA-CASE-XMP-06519] c09 N71-12519
- Variable water load for dissipating large amounts of electrical power during high voltage power supply tests  
 [NASA-CASE-XNP-05381] c09 N71-20842
- ELECTRIC FIELD STRENGTH**
- Low impedance apparatus for measuring electrostatic field intensity near space vehicles  
 [NASA-CASE-XLE-00820] c14 N71-16014
- Space environment simulation system for measuring spacecraft electric field strength in plasma sheath  
 [NASA-CASE-XLE-02038] c09 N71-16086
- Device for measuring two orthogonal components of force with gallium flotation of measuring target for use in vacuum environments  
 [NASA-CASE-XAC-04885] c14 N71-23790
- Apparatus to determine electric field strength by measuring deflection of electron beam impinging on target  
 [NASA-CASE-XMP-06617] c09 N71-24843
- ELECTRIC FIELDS**
- Electric analog for measuring induced drag on nonplanar airfoils  
 [NASA-CASE-XLA-00755] c01 N71-13410
- Electric analog for measuring induced drag on nonplanar airfoils  
 [NASA-CASE-XLA-05828] c01 N71-13411
- Instrument for measuring potentials on two dimensional electric field plot  
 [NASA-CASE-XLA-08493] c10 N71-19421
- Electron beam deflection devices for measuring electric fields  
 [NASA-CASE-XMF-10289] c14 N71-23699
- Electrodes having array of small surfaces for field ionization  
 [NASA-CASE-ERC-10013] c09 N71-26678
- Apparatus for determining distance to lightning strokes from single station by magnetic and electric field sensing antennas  
 [NASA-CASE-KSC-10698] c07 N73-20175
- Development and characteristics of apparatus for measuring intensity of electric field in atmosphere  
 [NASA-CASE-KSC-10730-1] c14 N73-32318
- Fine particulate capture device  
 [NASA-CASE-LBW-11581-1] c15 N74-13199
- Electric field measuring and display system --- for cloud formations  
 [NASA-CASE-KSC-10731-1] c14 N74-27862
- ELECTRIC FILTERS**
- Describing static inverter with single or multiple phase output  
 [NASA-CASE-XMF-00663] c08 N71-18752
- Apparatus for filtering input signals  
 [NASA-CASE-NPO-10198] c09 N71-24806
- Active RC filter networks and amplifiers for deep space magnetic field measurement  
 [NASA-CASE-XAC-05462-2] c10 N72-17171
- Multiloop RC active filter network with low parameter sensitivity and low amplifier gain  
 [NASA-CASE-ARC-10192] c09 N72-21245
- Development of electric connector and pin assembly with radio frequency absorbing sleeve to reduce radio frequency interference  
 [NASA-CASE-XLA-02609] c09 N72-25256
- Filter for third order phase locked loops in signal receivers  
 [NASA-CASE-NPO-11941-1] c10 N73-27171
- ELECTRIC FUSES**
- Development of in-line fuse device for protection of electric circuits from excessive currents and voltages  
 [NASA-CASE-MSC-12135-1] c09 N71-12526
- Single electrical circuit component combining diode, fuse, and blown indicator with elongated tube of heat resistant transparent material

- [NASA-CASE-XKS-03381] c09 N71-22796
- ELECTRIC GENERATORS**
- Regulated dc to dc converter  
[NASA-CASE-XGS-03429] c03 N69-21330
- Nuclear electric generator for accelerating charged propellant particles in electrostatic propulsion system  
[NASA-CASE-XLE-00818] c22 N70-34248
- Design and development of electric generator for space power system  
[NASA-CASE-XLE-04250] c09 N71-20446
- Development and characteristics of single or double pulse generator which produces constant width pulses in nanosecond region  
[NASA-CASE-XGS-03427] c10 N71-23029
- Development of slip ring assembly with inner and outer peripheral surfaces used as electrical contacts for brushes  
[NASA-CASE-XMP-01049] c15 N71-23049
- Conversion of positive dc voltage to positive dc voltage of lower amplitude  
[NASA-CASE-XMP-14301] c09 N71-23188
- High temperature ferromagnetic cobalt-base alloy for electrical power generating equipment  
[NASA-CASE-XLE-03629] c17 N71-23248
- Solid state integrator for converting variable width pulses into analog voltage  
[NASA-CASE-XLA-03356] c10 N71-23315
- Electric power system with circulatory liquid coolant cooling system  
[NASA-CASE-MFS-14114-2] c09 N71-24807
- Device utilizing RC rate generators for continuous slow speed measurement  
[NASA-CASE-XMP-02966] c10 N71-24863
- Device for voltage conversion using controlled pulse widths and arrangements to generate ac output voltage  
[NASA-CASE-MFS-10068] c10 N71-25139
- Multiple varactor for generating high frequencies with high power and high conversion efficiency  
[NASA-CASE-XMP-04958-1] c10 N71-26414
- Circuit design for failure sensing and protecting low voltage electric generator and power transmission networks  
[NASA-CASE-GSC-10114-1] c10 N71-27366
- Electric power system with thermionic diodes and circulatory liquid metal coolant lines  
[NASA-CASE-MFS-14114] c33 N71-27862
- Power converters for supplying direct current at one voltage from source at another voltage  
[NASA-CASE-XER-11046] c09 N72-22203
- Inductive-capacitive loops as load insensitive power converters  
[NASA-CASE-ERC-10268] c09 N72-25252
- Dc to ac to dc converter with transistor driven synchronous rectifiers  
[NASA-CASE-GSC-11126-1] c09 N72-25253
- Device for converting electromagnetic wave energy into electric power  
[NASA-CASE-GSC-11394-1] c09 N73-32109
- Brushless electromechanical generator for sine and cosine functions  
[NASA-CASE-LAR-11389-1] c09 N73-32121
- Heat operated cryogenic electrical generator --- using liquid helium conversion  
[NASA-CASE-NPO-13303-1] c03 N74-19701
- Electric power generation system directly from laser power  
[NASA-CASE-NPO-13308-1] c03 N74-19702
- ELECTRIC IGNITION**
- Method of making solid propellant rocket motor having reliable high altitude capabilities, long shelf life, and capable of firing with nozzle closure with foamed plastic permanent sandrel  
[NASA-CASE-XLA-04126] c28 N71-26779
- ELECTRIC MOTORS**
- Automatic control of voltage supply to direct current motor  
[NASA-CASE-XMS-04215-1] c09 N69-39987
- Electronic circuit system for controlling electric motor speed  
[NASA-CASE-XMP-01129] c09 N70-38712
- Using electron beam switching for brushless motor commutation  
[NASA-CASE-XGS-01451] c09 N71-10677
- Direct current electromotive system for regenerative braking of electric motor  
[NASA-CASE-XMP-01096] c10 N71-16030
- Describing angular position and velocity sensing apparatus  
[NASA-CASE-XGS-05680] c14 N71-17585
- Reversible current directing circuitry for reversible motor control  
[NASA-CASE-XLA-09371] c10 N71-18724
- Stepping motor control apparatus exciting windings in proper time sequence to cause motor to rotate in either direction  
[NASA-CASE-GSC-10366-1] c10 N71-18772
- Electromagnetic braking arrangement for controlling rotor rotation in electric motor  
[NASA-CASE-INP-06936] c15 N71-24695
- Electric motor control system with pulse width modulation for providing automatic null seeking servo  
[NASA-CASE-XMP-05195] c10 N71-24861
- Velocity limiting safety system for motor driven research vehicle  
[NASA-CASE-XLA-07473] c15 N71-24895
- Design and development of electric motor with stationary field and armature windings which operates on direct current  
[NASA-CASE-XGS-05290] c09 N71-25999
- Circuits for controlling reversible dc motor  
[NASA-CASE-XMP-07477] c09 N71-26092
- Pulse duration control device for driving slow response time loads in selected sequence including switching and delay circuits and magnetic storage  
[NASA-CASE-XGS-04224] c10 N71-26418
- Feedback control for direct current motor to achieve constant speed under varying loads  
[NASA-CASE-MFS-14610] c09 N71-28886
- Optical control system for automatic speed regulation of electric driven motor vehicle  
[NASA-CASE-NPO-11210] c11 N72-20244
- Direct current motor including stationary field windings and stationary armature winding  
[NASA-CASE-XGS-07805] c15 N72-33476
- Speed control system for dc motor equipped with brushless Hall effect device  
[NASA-CASE-MFS-20207-1] c09 N73-32107
- Brushless dc motor with wound rotor  
[NASA-CASE-NPO-13437-1] c09 N74-27688
- ELECTRIC NETWORKS**
- Electric network for monitoring temperatures, detecting critical temperatures, and indicating critical time duration  
[NASA-CASE-XMP-01097] c10 N71-16058
- Development and characteristics of single or double pulse generator which produces constant width pulses in nanosecond region  
[NASA-CASE-XGS-03427] c10 N71-23029
- Switching series regulator with gating control network  
[NASA-CASE-XMS-09352] c09 N71-23316
- Broadband frequency discriminator with resistive captive inductive networks  
[NASA-CASE-NPO-10096] c07 N71-24583
- ELECTRIC POTENTIAL**
- Battery charging system with cell to cell voltage balance  
[NASA-CASE-XGS-05432] c03 N71-19438
- Conversion of positive dc voltage to positive dc voltage of lower amplitude  
[NASA-CASE-XMP-14301] c09 N71-23188
- Solid state integrator for converting variable width pulses into analog voltage  
[NASA-CASE-XLA-03356] c10 N71-23315
- Device for monitoring voltage by generating signal when voltages drop below predetermined value  
[NASA-CASE-KSC-10020] c10 N71-27338
- Transmitter receiver system for measuring millivolt electrical signals with high common mode potential  
[NASA-CASE-XLE-03155-2] c09 N72-20205
- Plotter device for automatically drawing equipotential lines on sheet of resistance paper  
[NASA-CASE-NPO-11134] c09 N72-21246
- Pulsed excitation voltage circuit for strain gage bridge transducers  
[NASA-CASE-PRC-10036] c09 N72-22200
- Power converters for supplying direct current at one voltage from source at another voltage  
[NASA-CASE-XER-11046] c09 N72-22203

- Continuously variable, voltage-controlled phase shifter  
[NASA-CASE-NPO-11129] c09 N72-33204
- Controllable high voltage source having fast settling time  
[NASA-CASE-GSC-11844-1] c09 N74-19853
- ELECTRIC POWER**
- Switching circuit with regeneratively connected transistors eliminating power consumption when not in use  
[NASA-CASE-XNP-02654] c10 N70-42032
- Variable water load for dissipating large amounts of electrical power during high voltage power supply tests  
[NASA-CASE-XNP-05381] c09 N71-20842
- ELECTRIC POWER SUPPLIES**
- Current dependent variable inductance for input filter chokes of ac or dc power supplies  
[NASA-CASE-ERC-10139] c09 N72-17154
- Development of thermal to electric power conversion system using solid state switches of electrical currents to load for Seebeck effect compensation  
[NASA-CASE-NPO-11388] c03 N72-23048
- Development of electrical circuit for suppressing oscillations across inductor operating in resonant mode  
[NASA-CASE-ERC-10403-1] c10 N73-26228
- Powerplexer for distribution of dc power levels to loads which require different voltages  
[NASA-CASE-MS-C-12396-1] c03 N73-31988
- Reliable electrical element heater using plural wire system and backup power sources  
[NASA-CASE-NFS-21462-1] c09 N74-14935
- ELECTRIC POWER TRANSMISSION**
- Power switch with transfluxor type magnetic core  
[NASA-CASE-NPO-10242] c09 N71-24803
- Circuit design for failure sensing and protecting low voltage electric generator and power transmission networks  
[NASA-CASE-GSC-10114-1] c10 N71-27366
- Powerplexer for distribution of dc power levels to loads which require different voltages  
[NASA-CASE-MS-C-12396-1] c03 N73-31988
- Microwave power transmission system wherein level of transmitted power is controlled by reflections from receiver  
[NASA-CASE-NFS-21470-1] c10 N74-19870
- ELECTRIC PROPULSION**
- Electric propulsion engine test chamber  
[NASA-CASE-XLE-00252] c11 N70-34844
- ELECTRIC PULSES**
- RC transistor circuit to indicate each pulse of pulse train and occurrence of nth pulse  
[NASA-CASE-XMP-00906] c09 N70-41655
- Design and development of variable pulse width multiplier  
[NASA-CASE-XLA-02850] c09 N71-20447
- Piezoelectric transducer for monitoring sound waves of physiological origin  
[NASA-CASE-XMS-05365] c14 N71-22993
- Development and characteristics of single or double pulse generator which produces constant width pulses in nanosecond region  
[NASA-CASE-XGS-03427] c10 N71-23029
- Solid state integrator for converting variable width pulses into analog voltage  
[NASA-CASE-XLA-03356] c10 N71-23315
- Development and characteristics of electric circuitry for detecting electrical pulses rise time and amplitude  
[NASA-CASE-XMP-08804] c09 N71-24717
- Circuit for measuring wide range of pulse rates by utilizing high capacity counter  
[NASA-CASE-XNP-06234] c10 N71-27137
- Precision full wave rectifier circuit for rectifying incoming electrical signals having positive or negative polarity with only positive output signals  
[NASA-CASE-ARC-10101-1] c09 N71-33109
- Transmitter receiver system for measuring millivolt electrical signals with high common mode potential  
[NASA-CASE-XLE-03155-2] c09 N72-20205
- Orthotic arm joint --- for manipulating objects in response to electrical signals  
[NASA-CASE-NFS-21611-1] c05 N74-10100
- ELECTRIC RELAYS**
- Spark gap type protective circuit for fast sensing and removal of overvoltage conditions  
[NASA-CASE-YAC-08981] c09 N69-39897
- Time division multiplexer with magnetic latching relays  
[NASA-CASE-XNP-00431] c09 N70-38998
- Alarm system design for monitoring one or more relay circuits  
[NASA-CASE-XMS-10984-1] c10 N71-19417
- Time division relay synchronizer with master sync pulse for activating binary counter to produce signal identifying time slot for station  
[NASA-CASE-GSC-10373-1] c07 N71-19773
- Relay circuit breaker with magnetic latching to provide conductive and nonconductive paths for current devices  
[NASA-CASE-MS-C-11277] c09 N71-29008
- Piezoelectric relay --- with pair of bimorphs  
[NASA-CASE-GSC-11627-1] c09 N74-19852
- ELECTRIC ROCKET ENGINES**
- Electric rocket engine with electron bombardment ionization chamber  
[NASA-CASE-INP-04124] c28 N71-21822
- ELECTRIC SWITCHES**
- Thermionic diode switch for use in high temperature region to chop current from dc source  
[NASA-CASE-NPO-10404] c03 N71-12255
- Characteristics of hermetically sealed electric switch with flexible operating capability  
[NASA-CASE-XNP-09808] c09 N71-12518
- Electrical switching device comprising conductive liquid confined within square loop of deformable nonconductive tubing also used for leveling  
[NASA-CASE-NPO-10037] c09 N71-19610
- System for checking status of several double-throw switches by readout indications  
[NASA-CASE-XLA-08799] c10 N71-27272
- Pulse generating circuit for operation at very high duty cycles and repetition rates  
[NASA-CASE-XNP-00745] c10 N71-28960
- High dc switch for causing abrupt, cyclic, decreases of current to operate under zero or varying gravity conditions  
[NASA-CASE-LEW-10155-1] c09 N71-29035
- Zero power telemetry actuated switch for biomedical equipment  
[NASA-CASE-ARC-10105] c09 N72-17153
- Development of differential pressure control system using notion of mechanical diaphragms to operate electric switch  
[NASA-CASE-NFS-14216] c14 N73-13418
- ELECTRIC TERMINALS**
- Electrical connector pin with wiping action to assure reliable contact  
[NASA-CASE-IMP-04238] c09 N69-39734
- Patent data on terminal insert connector for flat electric cables  
[NASA-CASE-XMP-00324] c09 N70-34596
- Tool attachment for spreading or moving away loose elements from terminal posts during winding of filamentary elements  
[NASA-CASE-XMP-02107] c15 N71-10809
- Electrical spot terminal assembly for printed circuit boards  
[NASA-CASE-NPO-10034] c15 N71-17685
- Device for resistance soldering electrical leads to solder cups of multiple terminal block  
[NASA-CASE-GSC-10913] c15 N72-22491
- Development of electric connector and pin assembly with radio frequency absorbing sleeve to reduce radio frequency interference  
[NASA-CASE-XLA-02609] c09 N72-25256
- Device for configuring multiple leads --- method for connecting electric leads to printed circuit board  
[NASA-CASE-NFS-22133-1] c15 N74-26977
- ELECTRIC WELDING**
- Development of electric weeding torch with casing on one end to form inert gas shield  
[NASA-CASE-XMP-02330] c15 N71-23798
- Electric resistance spot welding and brazing for producing metal bonds with superior mechanical and structural characteristics  
[NASA-CASE-LAR-11072-1] c15 N73-20535
- Process for welding compressor and turbine blades to rotors and discs of jet engines  
[NASA-CASE-LEW-10533-1] c15 N73-28515

- ELECTRIC WIRE**  
 Apparatus for forming wire grids for electric strain gages  
 [NASA-CASE-XLE-00023] c15 N70-33330  
 Control of fusion welding through use of thermocouple wire  
 [NASA-CASE-NFS-06074] c15 N71-20393  
 Ablation sensor for measuring char layer recession rate using electric wires  
 [NASA-CASE-XLA-01794] c33 N71-21586  
 Device for resistance soldering electrical leads to solder cups of multiple terminal block  
 [NASA-CASE-GSC-10913] c15 N72-22491  
 Lead attachment for high temperature operation of electronic devices  
 [NASA-CASE-ERC-10224] c09 N72-25261  
 Means for accommodating large overstrain in lead wires --- by storing extra length of wire in stretchable loop  
 [NASA-CASE-LAR-10168-1] c09 N74-22865  
 Device for configuring multiple leads --- method for connecting electric leads to printed circuit board  
 [NASA-CASE-NPS-22133-1] c15 N74-26977  
 High current electrical lead --- for thermionic converters  
 [NASA-CASE-LEW-10950-1] c09 N74-27683
- ELECTRICAL ENGINEERING**  
 Counter-divider circuit for accuracy and reliability in binary circuits  
 [NASA-CASE-XNF-00421] c09 N70-34502  
 Vibrating element electrometer producing high conversion gain by input current control of elements resonant frequency displacement amplitude  
 [NASA-CASE-XAC-02807] c09 N71-23021
- ELECTRICAL FAULTS**  
 Overcurrent protecting circuit for push-pull transistor amplifiers  
 [NASA-CASE-MSG-12033-1] c09 N71-13531  
 Circuit design for failure sensing and protecting low voltage electric generator and power transmission networks  
 [NASA-CASE-GSC-10114-1] c10 N71-27366  
 Test method and equipment for identifying faulty cells or connections in solar cell assemblies  
 [NASA-CASE-NPO-10401] c03 N72-20033  
 Shared memory for a fault-tolerant computer  
 [NASA-CASE-NPO-13139-1] c08 N74-17911
- ELECTRICAL IMPEDANCE**  
 High voltage transistor circuit  
 [NASA-CASE-XNP-06937] c09 N71-19516  
 Development of electrical system for measuring high impedance  
 [NASA-CASE-XNS-08589-1] c09 N71-20569  
 Signaling summary alarm circuit with semiconductor switch for faulty contact indications  
 [NASA-CASE-XLE-03061-1] c10 N71-24798  
 Electronic signal-handling circuit with constant input impedance  
 [NASA-CASE-ARC-10348-1] c10 N72-10205
- ELECTRICAL INSULATION**  
 Water cooled solenoid capable of producing magnetic field intensities up to 100 kilogauss  
 [NASA-CASE-XNP-01951] c09 N70-41929  
 Method and apparatus for removing plastic insulation from wire using cryogenic equipment  
 [NASA-CASE-NFS-10340] c15 N71-17628  
 Nonconductive tube as feed system for plasma thruster  
 [NASA-CASE-XLE-02902] c25 N71-21694  
 Internal labyrinth and shield structure to improve electrical isolation of propellant feed source from ion thruster  
 [NASA-CASE-LEW-10210-1] c28 N71-26781  
 Development of process for forming insulating layer between two electrical conductor or semiconductor materials  
 [NASA-CASE-LEW-10489-1] c15 N72-25447  
 Isolated dc amplifier for bioelectric measurements  
 [NASA-CASE-ARC-10596-1] c09 N72-27233  
 Procedure for making insulating foil for use in multilayer insulating system  
 [NASA-CASE-LEW-11484-1] c15 N73-22415  
 Development of stored charge device using field effect transistor technology  
 [NASA-CASE-NPO-11156-2] c03 N73-30974
- Bio-isolated dc operational amplifier --- for bioelectric measurements  
 [NASA-CASE-ARC-10596-1] c09 N74-21851
- ELECTRICAL MEASUREMENT**  
 Capacitance measuring device for determining flare accuracy on tapered tubes  
 [NASA-CASE-IKS-03495] c14 N69-39785  
 Bootstrap unloading circuits for sampling transducer voltage sources without drawing current  
 [NASA-CASE-XNP-09768] c09 N71-12516  
 Microamperere current measuring circuit, with two subminiature thermionic diodes with filament cathodes  
 [NASA-CASE-XNP-00384] c09 N71-13530  
 Low impedance apparatus for measuring electrostatic field intensity near space vehicles  
 [NASA-CASE-XLE-00820] c14 N71-16014  
 Electric current measuring apparatus design including saturable core transformer and energy storage device to avoid magnetizing current errors from transformer output winding  
 [NASA-CASE-IGS-02439] c14 N71-19431  
 High voltage divider system for attenuating high voltages to convenient levels suitable for introduction to measuring circuits  
 [NASA-CASE-XLE-02008] c09 N71-21583  
 Ablation sensor for measuring char layer recession rate using electric wires  
 [NASA-CASE-XLA-01794] c33 N71-21586  
 Current measurement by use of Hall effect generator  
 [NASA-CASE-XAC-01662] c14 N71-23037  
 Connector internal force gage for measuring strength of electrical connection  
 [NASA-CASE-XNP-03918] c14 N71-23087  
 Voltage range selection apparatus for sensing and applying voltages to electronic instruments without loading signal source  
 [NASA-CASE-XMS-06497] c14 N71-26244  
 Lightning current measuring systems  
 [NASA-CASE-KSC-10807-1] c14 N74-22113
- ELECTRICAL PROPERTIES**  
 Voltage drift compensation circuit for analog-to-digital converter  
 [NASA-CASE-XNP-04780] c08 N71-19687  
 Development and characteristics of electronically resettable fuse with saturable core current sensing transformer having two outside legs and center leg  
 [NASA-CASE-XGS-11177] c09 N71-27001  
 Development and characteristics of voltage regulator for connection in series with alternating current source and load using three leg, two-window transformer  
 [NASA-CASE-ERC-10113] c09 N71-27053  
 Development of system with electrical properties which vary with changes in temperature for use with feedback loop in operational amplifier circuit  
 [NASA-CASE-MSG-13276-1] c14 N71-27058  
 Electrically coupled individually encapsulated solar cell matrix  
 [NASA-CASE-NPO-11190] c03 N71-34044  
 Development of performed attachable thermocouple from thermoelectrically different metals  
 [NASA-CASE-LEW-11072-2] c14 N72-28443  
 Development of stored charge device using field effect transistor technology  
 [NASA-CASE-NPO-11156-2] c03 N73-30974  
 Storage battery comprising negative plates of a wedge shaped configuration --- for preventing shape change induced malfunctions  
 [NASA-CASE-NPO-11806-1] c03 N74-19693
- ELECTRICAL RESISTANCE**  
 Development of electrical system for indicating optimum contact between electrode and metal surface to permit improved soldering operation  
 [NASA-CASE-KSC-10242] c15 N72-23497  
 Radio frequency source resistance measuring instruments of varied design  
 [NASA-CASE-NPO-11291-1] c14 N73-30388
- ELECTRICAL RESISTIVITY**  
 Describing method for vapor deposition of gallium arsenide films to manganese substrates to provide semiconductor devices with low resistance substrates  
 [NASA-CASE-XNP-01328] c26 N71-18064

- Simulating operation of thermopile vacuum gage tube at high and low pressures  
[NASA-CASE-XLA-02758] c14 N71-18481
- Electrically conductive fluorocarbon polymers  
[NASA-CASE-XLB-06774-2] c06 N72-25150
- Electrical conductivity cell and method for fabricating the same --- using flask with threaded neck  
[NASA-CASE-ARC-10810-1] c14 N74-29772
- ELECTRICITY**
- Thermonic converter for converting heat energy directly into electrical energy  
[NASA-CASE-XLE-01903] c22 N71-23599
- ELECTRO-OPTICS**
- Electro-optical system with scan-in illuminator and scan-out photosensor for scanning variable transmittance objects  
[NASA-CASE-NPO-11106] c14 N70-34697
- Electro-optical system for maintaining two-axis alignment during milling operations on large tank-sections  
[NASA-CASE-XMF-00908] c14 N70-40238
- Automatic polarimeter capable of measuring transient birefringence changes in electro-optic materials  
[NASA-CASE-XNP-08883] c23 N71-16101
- Design and development of light sensing device for controlling orientation of object relative to sun or other light source  
[NASA-CASE-NPO-11201] c14 N72-27409
- Electro-optical stabilization of calibrated light source  
[NASA-CASE-MSC-12293-1] c14 N72-27411
- Electro-optical system for scanning variable transmittance objects  
[NASA-CASE-NPO-11106-2] c23 N72-28696
- Electronic optical transfer function analyzer using scanning image dissection system to produce representative output signal  
[NASA-CASE-MPS-21672-1] c23 N73-22630
- ELECTROACOUSTIC TRANSDUCERS**
- Transducer for monitoring oxygen flow in respirator  
[NASA-CASE-FRC-10012] c14 N72-17329
- Application of acoustic transducers for suspending object at center of chamber under near weightless conditions  
[NASA-CASE-NPO-13263-1] c15 N73-31443
- ELECTROACOUSTIC WAVES**
- Phonocardiogram simulator producing electrical voltage waves to control amplitude and duration between simulated sounds  
[NASA-CASE-XKS-10804] c05 N71-24606
- ELECTROCARDIOGRAPHY**
- Phonocardiogram simulator producing electrical voltage waves to control amplitude and duration between simulated sounds  
[NASA-CASE-XKS-10804] c05 N71-24606
- Insulated electrode for electrocardiographic recording without paste electrolyte  
[NASA-CASE-MSC-14339-1] c05 N73-21151
- Development of instantaneous reading tachometer for measuring electrocardiogram signal rate  
[NASA-CASE-MPS-20418] c14 N73-24473
- ELECTROCHEMICAL CELLS**
- Apparatus for measuring polymer membrane expansion in electrochemical cells  
[NASA-CASE-XGS-03865] c14 N69-21363
- Preventing pressure buildup in electrochemical cells by reacting palladium oxide with evolved hydrogen  
[NASA-CASE-XGS-01419] c03 N70-41864
- Nonmagnetic hermetically sealed battery case made of epoxy resin and woven glass tape for use with electrochemical cells in spacecraft  
[NASA-CASE-XGS-00886] c03 N71-11053
- Epoxy resin sealing device for electrochemical cells in high vacuum environments  
[NASA-CASE-XGS-02630] c03 N71-22974
- Sealed electrochemical cell with flexible casing for varying electrolyte level in cell  
[NASA-CASE-XGS-01513] c03 N71-23336
- Elimination of two step voltage discharge property of silver zinc batteries by using divalent silver oxide capacity of cell to charge anodes to monovalent silver state  
[NASA-CASE-XGS-01674] c03 N71-29129
- Flexible, frangible electrochemical cell and package for operation in low temperature environment  
[NASA-CASE-XGS-10010] c03 N72-15986
- Porous electrode for use in electrochemical cells  
[NASA-CASE-GSC-11368-1] c09 N73-32108
- Battery testing device --- for testing cells of multiple-cell battery  
[NASA-CASE-MFS-20761-1] c03 N74-27519
- ELECTROCHEMISTRY**
- Electrochemically reversible silver-silver chloride electrode for detecting bioelectric potential differences generated by human muscles and organs  
[NASA-CASE-XMS-02872] c05 N69-21925
- ELECTRODEPOSITION**
- Binding layer of semiconductor particles by electrodeposition  
[NASA-CASE-XNP-01959] c26 N71-23043
- Electrodeposition method for producing crystalline material from dense gaseous medium  
[NASA-CASE-NPO-10440] c15 N72-21466
- Electrophoretic sample insertion --- device for uniformly distributing samples in flow path  
[NASA-CASE-MFS-21395-1] c14 N74-26948
- ELECTRODES**
- Hollow spherical electrode for shielding dielectric junction between high voltage conductor and insulator  
[NASA-CASE-XLE-03778] c09 N69-21542
- Electrochemically reversible silver-silver chloride electrode for detecting bioelectric potential differences generated by human muscles and organs  
[NASA-CASE-XMS-02872] c05 N69-21925
- Bonding method for improving contact between lead telluride thermoelectric elements and tungsten electrodes  
[NASA-CASE-XGS-04554] c15 N69-39786
- Elastomer loaded with metal particles for elastic biomedical electrodes  
[NASA-CASE-ARC-10268-1] c09 N70-12620
- Ionization vacuum gage  
[NASA-CASE-XNP-00646] c14 N70-35666
- Accel and focus electrode design for ion engine with improved efficiency  
[NASA-CASE-XNP-02839] c28 N70-41922
- Including didymium hydrate in nickel hydroxide of positive electrode of storage batteries to increase ampere hour capacity  
[NASA-CASE-XGS-03505] c03 N71-10608
- Apertured electrode focusing system for ion sources with nonuniform plasma density  
[NASA-CASE-XNP-03332] c09 N71-10618
- Electromedical garment, applying vectorcardiologic type electrodes to human torsos for data recording during physical activity  
[NASA-CASE-XPR-10856] c05 N71-11189
- Electrode attached to helmets for detecting low level signals from skin of living creatures  
[NASA-CASE-ARC-10043-1] c05 N71-11193
- Characteristics of pressed disc electrode for biological measurements  
[NASA-CASE-XMS-04212-1] c05 N71-12346
- Electrode connection for n-on-p silicon solar cell  
[NASA-CASE-XLE-04787] c03 N71-20492
- Arc electrode of graphite with tantalum ball tip  
[NASA-CASE-XLE-04788] c09 N71-22987
- Electrode sealing and insulation for fuel cells containing caustic liquid electrolytes using powdered plastic and metal  
[NASA-CASE-XMS-01625] c15 N71-23022
- Automatic recording McLeod gage with three electrodes and solenoid valve connection  
[NASA-CASE-XLE-03280] c14 N71-23093
- Dry electrode design with wire sandwiched between two flexible conductive discs for monitoring physiological responses  
[NASA-CASE-FRC-10029] c09 N71-24618
- Development and characteristics of electrodes in which poisoning by organic molecules is prevented by ion selective electrolytic deposition of hydrophilic protein colloid  
[NASA-CASE-XMS-04213-1] c09 N71-26002
- Adhesive spray process for attaching biomedical skin electrodes  
[NASA-CASE-XPR-07658-1] c05 N71-26293
- Electrodes having array of small surfaces for field ionization  
[NASA-CASE-ERC-10013] c09 N71-26678

- Manufacturing process for making perspiration resistant-stress resistant biopotential electrode  
[NASA-CASE-MSC-90153-2] c05 N72-25120
- Dry electrode manufacture, using silver powder with cement  
[NASA-CASE-FRC-10029-2] c05 N72-25121
- Compressible electrolyte saturated sponge electrode for biomedical applications  
[NASA-CASE-MSC-13648] c05 N72-27103
- Electrode with multiple columnar conductors for limiting field emission current  
[NASA-CASE-ERC-10015-2] c10 N72-27246
- Coaxial, high density, hypervelocity plasma generator and accelerator using electrodes  
[NASA-CASE-MFS-20589] c25 N72-32688
- Insulated electrode for electrocardiographic recording without paste electrolyte  
[NASA-CASE-MSC-14339-1] c05 N73-21151
- Characteristics of ion rocket engine with combination keeper electrode and electron baffle  
[NASA-CASE-NPO-11880] c28 N73-24783
- Silicon carbide backward diode with coated lead attachment  
[NASA-CASE-ERC-10224-2] c09 N73-27150
- Porous electrode for use in electrochemical cells  
[NASA-CASE-GSC-11368-1] c09 N73-32108
- Ultra-flexible biomedical electrodes and wires  
[NASA-CASE-ARC-10268-2] c05 N74-11900
- Ultra-flexible biomedical electrode and wires  
[NASA-CASE-ARC-10268-3] c05 N74-11901
- High powered arc electrodes --- producing solar simulator radiation  
[NASA-CASE-LEW-11162-1] c09 N74-12913
- Method of making porous conductive supports for electrodes --- by electroforming and stacking nickel foils  
[NASA-CASE-GSC-11367-1] c03 N74-19692
- Trielectrode capacitive pressure transducer  
[NASA-CASE-ARC-10711-1] c14 N74-29773
- ELECTROFORMING**  
Method of electroforming a rocket chamber  
[NASA-CASE-LEW-11118-1] c15 N74-32919
- ELECTROHYDRAULIC FORMING**  
Electric discharge apparatus for electrohydraulic explosive forming  
[NASA-CASE-XMF-00375] c15 N70-34249
- ELECTROHYDRODYNAMICS**  
Control valve for switching main stream of fluid from one stable position to another by means of electrohydrodynamic forces  
[NASA-CASE-NPO-10416] c12 N71-27332
- ELECTROKINETICS**  
Zeta potential flowmeter for measuring very slow to very high flows  
[NASA-CASE-XNP-06509] c14 N71-23226
- ELECTROLYSIS**  
Water electrolysis rocket engine with self-regulating stoichiometric fuel mixing regulator  
[NASA-CASE-XGS-08729] c28 N71-14044
- Operation method for combined electrolysis device and fuel cell using molten salt to produce power by thermoelectric regeneration mechanism  
[NASA-CASE-ILE-01645] c03 N71-20904
- ELECTROLYTES**  
Apparatus for measuring polymer membrane expansion in electrochemical cells  
[NASA-CASE-XGS-03865] c14 N69-21363
- Electrolytically regenerative hydrogen-oxygen fuel cells  
[NASA-CASE-ILE-04526] c03 N71-11052
- Sealed electrochemical cell with flexible casing for varying electrolyte level in cell  
[NASA-CASE-IGS-01513] c03 N71-23336
- Compressible electrolyte saturated sponge electrode for biomedical applications  
[NASA-CASE-MSC-13648] c05 N72-27103
- ELECTROLYTIC CELLS**  
Heat activated cell with aluminum anode  
[NASA-CASE-LEW-11359-2] c03 N72-20034
- Actuator operated by electrolytic drive gas generator and evacuator  
[NASA-CASE-NPO-11369] c15 N73-13467
- Electrolytic cell design  
[NASA-CASE-LAR-11042-1] c03 N74-29416
- ELECTROMAGNETIC ABSORPTION**  
Optical imaging system for increasing light absorption efficiency of imaging detector  
[NASA-CASE-ARC-10194-1] c23 N73-20741
- ELECTROMAGNETIC FIELDS**  
Tumbling motion system for object demagnetization  
[NASA-CASE-IGS-02437] c15 N69-21472
- Device for high vacuum film deposition with electromagnetic ion steering  
[NASA-CASE-NPO-10331] c09 N71-26701
- Metal detection system with electromagnetic transmitter with single coil and receiver with single coil  
[NASA-CASE-ARC-10265-1] c10 N72-28240
- Low power electromagnetic flowmeter system producing zero output signal for zero flow  
[NASA-CASE-ARC-10362-1] c14 N73-32326
- Electromagnetic flow rate meter --- for liquid metals  
[NASA-CASE-LEW-10981-1] c14 N74-21018
- ELECTROMAGNETIC HAMMERS**  
Method and apparatus for shaping and joining large diameter metal tubes using magnetomotive forces  
[NASA-CASE-XMF-05114] c15 N71-17650
- Portable magnetomotive hammer for metal working  
[NASA-CASE-XMF-03793] c15 N71-24833
- ELECTROMAGNETIC INTERFERENCE**  
Sealed housing for protecting electronic equipment against electromagnetic interference  
[NASA-CASE-MSC-12168-1] c09 N71-18600
- ELECTROMAGNETIC MEASUREMENT**  
Apparatus for measuring backscatter and transmission characteristics of sample segment of large spherical passive satellites  
[NASA-CASE-IGS-02608] c07 N70-41678
- ELECTROMAGNETIC NOISE**  
Development of idler feedback system to reduce electronic noise problem in two parametric amplifiers  
[NASA-CASE-LAR-10253-1] c09 N72-25258
- Audio equipment for removing impulse noise from audio signals  
[NASA-CASE-NPO-11631] c10 N73-12244
- ELECTROMAGNETIC PUMPS**  
Multiducted electromagnetic pump for conductive liquids  
[NASA-CASE-NPO-10755] c15 N71-27084
- ELECTROMAGNETIC RADIATION**  
Inflatable radar reflector unit - lightweight, highly reflective to electromagnetic radiation, and adaptable for erection and deployment with minimum effort and time  
[NASA-CASE-XMS-00893] c07 N70-40063
- Development of electromagnetic wave transmission line circulator and application to parametric amplifier circuits  
[NASA-CASE-XNP-02140] c09 N71-23097
- Left and right hand circular electromagnetic polarization excitation by phase shifter and hybrid networks  
[NASA-CASE-GSC-10021-1] c09 N71-24595
- Development of method for suppressing excitation of electromagnetic surface waves on dielectric converter antenna  
[NASA-CASE-XLA-10772] c07 N71-28980
- Characteristics of microwave antenna with conical reflectors to generate plane wave front  
[NASA-CASE-NPO-11661] c07 N73-14130
- Focusing optical collimator for high resolution scanning of electromagnetic radiations, neutrons, and other particles  
[NASA-CASE-MFS-20932-1] c14 N73-27380
- Method and apparatus for measuring electromagnetic radiation  
[NASA-CASE-LEW-11159-1] c14 N73-28488
- ELECTROMAGNETIC SHIELDING**  
Shielded flat conductor cable fabricated by electroless and electrolytic plating  
[NASA-CASE-MFS-13687] c09 N71-28691
- ELECTROMAGNETIC WAVE FILTERS**  
Design and characteristics of laser camera system with diffusion filter of small particles with average diameter larger than wavelength of laser light  
[NASA-CASE-NPO-10417] c16 N71-33410
- ELECTROMAGNETIC WAVE TRANSMISSION**  
Apparatus for measuring backscatter and transmission characteristics of sample segment of large spherical passive satellites  
[NASA-CASE-IGS-02608] c07 N70-41678



## ELECTROMAGNETISM

Electromagnetic braking arrangement for  
controlling rotor rotation in electric motor  
[NASA-CASE-IMP-06936] c15 N71-24695

## ELECTROMAGNETS

Oscillatory electromagnetic mirror drive system  
for horizon scanners  
[NASA-CASE-ILA-03724] c14 N69-27461

Water cooled solenoid capable of producing  
magnetic field intensities up to 100 kilogauss  
[NASA-CASE-IMP-01951] c09 N70-41929

Magnetic element position sensing device, using  
misaligned electromagnets  
[NASA-CASE-IGS-07514] c23 N71-16099

Electroexplosive safe-arm initiator using  
electric driven electromagnetic coils and  
magnets to align charge  
[NASA-CASE-LAR-10372] c09 N71-18599

Magnetic bearing with diverse magnetic sources  
coupled to same air gap via different low  
magnetic reluctance paths for use with  
permanent magnets  
[NASA-CASE-GSC-11079-1] c21 N71-28461

## ELECTROMECHANICAL DEVICES

Electromechanical actuator and its use in rocket  
thrust control valve  
[NASA-CASE-IMP-05975] c15 N69-23185

Power controlled bimetallic electromechanical  
actuator for accurate, timely, and reliable  
response to remote control signal  
[NASA-CASE-IMP-09776] c09 N69-39929

Electro-mechanical circuit for converting  
floating intelligence signal to common  
electrically grounded intelligence recorder  
[NASA-CASE-IAC-00086] c09 N70-33182

Describing device for velocity control of  
electromechanical drive mechanism of scanning  
mirror of interferometer  
[NASA-CASE-IGS-03532] c14 N71-17627

Mechanical actuator wherein linear motion  
changes to rotational motion  
[NASA-CASE-IGS-04548] c15 N71-24045

Solid state force measuring electromechanical  
transducers made of piezoresistive materials  
[NASA-CASE-ERC-10088] c26 N71-25490

Electromechanical control actuator system using  
double differential screws  
[NASA-CASE-ERC-10022] c15 N71-26635

Miniature electromechanical junction transducer  
operating on piezoelectric effect and  
utilizing epoxy for stress coupling component  
[NASA-CASE-ERC-10087] c14 N71-27334

Service life of electromechanical device for  
generating sine/cosine functions  
[NASA-CASE-LAR-10503-1] c09 N72-21248

Electromechanical actuator for producing  
mechanical force and/or motion in response to  
electrical signals  
[NASA-CASE-NPO-11738-1] c09 N73-30185

Brushless electromechanical generator for sine  
and cosine functions  
[NASA-CASE-LAR-11389-1] c09 N73-32121

## ELECTROMETERS

Vibrating element electrometer producing high  
conversion gain by input current control of  
elements resonant frequency displacement  
amplitude  
[NASA-CASE-IAC-02807] c09 N71-23021

## ELECTROMOTIVE FORCES

Heat activated emf cells with aluminum anode  
[NASA-CASE-LEW-11359] c03 N71-28579

## ELECTRON BEAM WELDING

Portable electron beam welding chamber  
[NASA-CASE-LEW-11531] c15 N71-14932

Development of device to prevent high voltage  
arcing in electron beam welding  
[NASA-CASE-IMP-08522] c15 N71-19486

## ELECTRON BEAMS

Using electron beam switching for brushless  
motor commutation  
[NASA-CASE-IGS-01451] c09 N71-10677

Electron beam scanning system for improved image  
definition and reduced power requirements for  
video signal transmission  
[NASA-CASE-ERC-10582] c09 N71-12539

Electron beam deflection devices for measuring  
electric fields  
[NASA-CASE-IMP-10289] c14 N71-23699

Apparatus to determine electric field strength  
by measuring deflection of electron beam  
impinging on target  
[NASA-CASE-IMP-06617] c09 N71-24843

Characteristics of infrared photodetectors  
manufactured from semiconductor material  
irradiated by electron beam  
[NASA-CASE-LAR-10728-1] c14 N73-12445

Electron beam controller --- using magnetic  
field to refocus spent electron beam in  
microwave oscillator tube  
[NASA-CASE-LEW-11617-1] c09 N74-10195

Image tube --- deriving electron beam replica of  
image  
[NASA-CASE-GSC-11602-1] c09 N74-21850

## ELECTRON BOMBARDMENT

Improved cathode containing barium carbonate  
block and heated tungsten screen for electron  
bombardment ion thruster  
[NASA-CASE-XLE-07087] c06 N69-39889

Device and method for particle bombardment of  
specimens in electron microscope and  
measurement of beam intensities  
[NASA-CASE-IGS-01725] c14 N69-39982

Electric rocket engine with electron bombardment  
ionization chamber  
[NASA-CASE-IMP-04124] c28 N71-21822

Electronic cathodes for use in electron  
bombardment ion thrusters  
[NASA-CASE-XLE-04501] c09 N71-23190

Production of iodine isotope by high energy  
bombardment of cesium heat pipe causing  
spallation reaction  
[NASA-CASE-LEW-11390-2] c24 N73-20763

Single grid accelerator system for electron  
bombardment type ion thruster  
[NASA-CASE-XLE-10453-2] c28 N73-27699

## ELECTRON DISTRIBUTION

Measurement of plasma temperature and density  
using radiation absorption  
[NASA-CASE-ARC-10598-1] c25 N74-30156

## ELECTRON EMISSION

Vacuum thermionic converter with short-circuited  
triodes and increased electron transmission  
and conversion efficiency  
[NASA-CASE-XLE-01015] c03 N69-39898

## ELECTRON FLUX DENSITY

Device and method for particle bombardment of  
specimens in electron microscope and  
measurement of beam intensities  
[NASA-CASE-IGS-01725] c14 N69-39982

## ELECTRON IRRADIATION

Electrostatic ion engines using high velocity  
electrons to ionize propellant  
[NASA-CASE-XLE-00376] c28 N70-37245

## ELECTRON MICROSCOPES

Device and method for particle bombardment of  
specimens in electron microscope and  
measurement of beam intensities  
[NASA-CASE-IGS-01725] c14 N69-39982

Electron microscope and method of making annular  
objective aperture  
[NASA-CASE-ARC-10448-1] c14 N72-21421

Electron microscope aperture system  
[NASA-CASE-ARC-10448-2] c14 N74-12190

Electron microscope aperture system  
[NASA-CASE-ARC-10448-3] c14 N74-12191

## ELECTRON PLASMA

Apparatus for producing highly conductive, high  
temperature electron plasma with homogenous  
temperature and pressure distribution  
[NASA-CASE-ILA-00147] c25 N70-34661

## ELECTRON TRANSFER

Method for treating metal surfaces to prevent  
secondary electron transmission  
[NASA-CASE-IMP-09469] c24 N71-25555

## ELECTRON TRANSITIONS

Laser utilizing infrared rotation transitions of  
diatomic gas for production of different  
wavelengths  
[NASA-CASE-ARC-10370-1] c16 N72-10432

## ELECTRON TUBES

Direct radiation cooling of linear beam  
collector tubes  
[NASA-CASE-IMP-09227] c15 N69-24319

Refractory filament series circuitry for radiant  
heater  
[NASA-CASE-XLE-00387] c33 N70-34812

## ELECTRON TUNNELING

A doped Josephson tunneling junction for use in a sensitive IR detector  
[NASA-CASE-NPO-13348-1] c14 N74-20022

## ELECTRONIC CONTROL

Electronic and mechanical scanning control system for monopulse tracking antenna  
[NASA-CASE-XGS-05582] c07 N69-27460

Electronic circuit system for controlling electric motor speed  
[NASA-CASE-XMP-01129] c09 N70-38712

Scanning signal phase and amplitude electronic control device with hybrid T waveguide junction  
[NASA-CASE-NPO-10302] c10 N71-26102

Ion beam deflector system for electronic thrust vector control for ion propulsion yaw, pitch, and roll forces  
[NASA-CASE-LEW-10689-1] c28 N71-26173

Electronic detection system for peak acceleration limits in vibrational testing of spacecraft components  
[NASA-CASE-NPO-10556] c14 N71-27185

Control and information system for digital telemetry data using analog converter to digitize sensed parameter values  
[NASA-CASE-NPO-11016] c08 N72-31226

## ELECTRONIC EQUIPMENT

Electronic and mechanical scanning control system for monopulse tracking antenna  
[NASA-CASE-XGS-05582] c07 N69-27460

Development of pulse-activated polarographic hydrogen detector  
[NASA-CASE-XMP-06531] c14 N71-17575

Development of stable electronic amplifier adaptable for monolithic and thin film construction  
[NASA-CASE-XGS-02812] c09 N71-19466

Development and characteristics of oscillating static inverter  
[NASA-CASE-XGS-05289] c09 N71-19470

Development of electromagnetic wave transmission line circulator and application to parametric amplifier circuits  
[NASA-CASE-XMP-02140] c09 N71-23097

Development of optimum pre-detection diversity combining receiving system adapted for use with amplitude modulation, phase modulation, and frequency modulation systems  
[NASA-CASE-XGS-00740] c07 N71-23098

Electronic cathodes for use in electron bombardment ion thrusters  
[NASA-CASE-XLE-04501] c09 N71-23190

Method and apparatus for adjusting thermal conductance in electronic components for space use  
[NASA-CASE-INP-05524] c33 N71-24876

Development and characteristics of solid state acoustic variable time delay line using direct current voltage and radio frequency pulses  
[NASA-CASE-ERC-10032] c10 N71-25900

Voltage range selection apparatus for sensing and applying voltages to electronic instruments without loading signal source  
[NASA-CASE-XMS-06497] c14 N71-26244

Digital sensor for counting fringes produced by interferometers with improved sensitivity and one photomultiplier tube to eliminate alignment problem  
[NASA-CASE-LAR-10204] c14 N71-27215

Device for rapid adjustment and maintenance of temperature in electronic components  
[NASA-CASE-INP-02792] c14 N71-28958

Apparatus with summing network for compression of analog data by decreasing slope threshold sampling  
[NASA-CASE-NPO-10769] c08 N72-11171

Readily assembled universal environment housing for electronic equipment  
[NASA-CASE-KSC-10031] c15 N72-22486

Lead attachment for high temperature operation of electronic devices  
[NASA-CASE-ERC-10224] c09 N72-25261

Development of method and apparatus for detecting surface ions on silicon diodes and transistors  
[NASA-CASE-ERC-10325] c15 N72-25457

Development and characteristics of data decoder to process convolution encoded information  
[NASA-CASE-NPO-11371] c08 N73-12177

Characteristics of digital data processor using pulse from clock source to derive binary singles to show state of various indicators in processor  
[NASA-CASE-GSC-10975-1] c08 N73-13187

Development and characteristics for automatically displaying digits in any desired order using optical techniques  
[NASA-CASE-XRS-00348] c09 N73-14215

Thermochromic compositions for detecting heat levels in electronic circuits and devices  
[NASA-CASE-NPO-10764-1] c14 N73-14428

Development of phase control coupling for use with phased array antenna  
[NASA-CASE-ERC-10285] c10 N73-16206

Device for locating electrically nonlinear objects and determining distance to object by FM signal transmission  
[NASA-CASE-KSC-10108] c14 N73-25461

Development of equipment and method for electrifying dielectric to determine electrostatic properties  
[NASA-CASE-NPS-22129-1] c09 N73-26197

Electronic strain level counter on in-flight aircraft  
[NASA-CASE-LAR-10756-1] c32 N73-26910

Automatic vehicle location system  
[NASA-CASE-NPO-11850-1] c09 N74-12912

Ion and electron detector for use in an ICR spectrometer  
[NASA-CASE-NPO-13479-1] c14 N74-32890

## ELECTRONIC EQUIPMENT TESTS

Apparatus for automatically testing analog to digital converters for open and short circuits  
[NASA-CASE-XLA-06713] c14 N71-28991

Test set for signal conditioner modules  
[NASA-CASE-KSC-10750-1] c14 N73-23527

## ELECTRONIC FILTERS

Self-tuning electronic filter for maintaining constant bandwidth and center frequency gain  
[NASA-CASE-ARC-10264-1] c09 N73-20231

Capacitance multiplier and filter synthesizing network  
[NASA-CASE-NPO-11948-1] c10 N74-32712

## ELECTRONIC MODULES

Thermal conductive, electrically insulated cleavable adhesive connection between electronic module and heat sink  
[NASA-CASE-XRS-02087] c09 N70-41717

Fabrication methods for matrices of solar cell submodules  
[NASA-CASE-INP-05021] c03 N71-11056

Development and characteristics of cooling system to maintain temperature of rack mounted electronic modules  
[NASA-CASE-MSC-12389] c33 N71-29052

Tool for use in lifting pin supported objects  
[NASA-CASE-NPO-13157-1] c15 N74-32918

## ELECTRONIC PACKAGING

Electrical feedthrough connection for printed circuit boards  
[NASA-CASE-INP-01483] c14 N69-27431

Capacitor fabrication by solidifying mixture of ferromagnetic metal particles, nonferromagnetic particles, and dielectric material  
[NASA-CASE-LEW-10364-1] c09 N71-13522

Method of evaluating moisture barrier properties of materials used in electronics encapsulation  
[NASA-CASE-NPO-10051] c18 N71-24934

Electrical connections for thin film hybrid microcircuits  
[NASA-CASE-XMS-02182] c10 N71-28783

Flexible, frangible electrochemical cell and package for operation in low temperature environment  
[NASA-CASE-XGS-10010] c03 N72-15986

Development and characteristics of hermetically sealed coaxial package for containing microwave semiconductor components  
[NASA-CASE-GSC-10791-1] c15 N73-14469

Techniques for packaging and mounting printed circuit boards  
[NASA-CASE-NPS-21919-1] c10 N73-25203

Integrated circuit package with lead structure and method of preparing the same  
[NASA-CASE-NPS-21374-1] c10 N74-12951

Tool for use in lifting pin supported objects  
[NASA-CASE-NPO-13157-1] c15 N74-32918

- ELECTRONIC RECORDING SYSTEMS**  
Electronic recording system for spatial mass distribution of liquid rocket propellant droplets or vapors ejected from high velocity nozzles  
[NASA-CASE-NPO-10185] c10 N71-26339
- ELECTRONIC TRANSDUCERS**  
Fiber optic transducers for monitoring and analysis of vibration in aerospace vehicles and onboard equipment  
[NASA-CASE-IMP-02433] c14 N71-10616  
Transducer circuit design with single coaxial cable for input and output connections including incorporation into miniaturized catheter transducer  
[NASA-CASE-ARC-10132-1] c09 N71-24597  
Circuit design for failure sensing and protecting low voltage electric generator and power transmission networks  
[NASA-CASE-GSC-10114-1] c10 N71-27366  
Diode-quad bridge circuit means  
[NASA-CASE-ARC-10364-2(B)] c09 N74-14941
- ELECTROPHORESIS**  
Electrophoretic sample insertion --- device for uniformly distributing samples in flow path  
[NASA-CASE-MFS-21395-1] c14 N74-26948  
Apparatus for conducting flow electrophoresis in the substantial absence of gravity  
[NASA-CASE-MFS-21394-1] c12 N74-27744
- ELECTROPHOTOMETERS**  
Method and photodetector device for locating abnormal voids in low density materials  
[NASA-CASE-MFS-20044] c14 N71-28993
- ELECTROPHYSIOLOGY**  
Dry electrode design with wire sandwiched between two flexible conductive discs for monitoring physiological responses  
[NASA-CASE-FRC-10029] c09 N71-24618
- ELECTROPLATING**  
Method of plating copper on aluminum to permit conventional soldering of structural aluminum bodies  
[NASA-CASE-XLA-08966-1] c17 N71-25903  
Shielded flat conductor cable fabricated by electroless and electrolytic plating  
[NASA-CASE-MFS-19687] c09 N71-28691  
Technique and equipment for sputtering using apertured electrode and pulsed substrate bias  
[NASA-CASE-LEW-10920-1] c17 N73-24569
- ELECTROSTATIC CHARGE**  
Charged particle analyzer with periodically varying voltage applied across electrostatic deflection members  
[NASA-CASE-XAC-05506-1] c24 N71-16095  
Development of equipment and method for electrifying dielectric to determine electrostatic properties  
[NASA-CASE-MFS-22129-1] c09 N73-26197
- ELECTROSTATIC ENGINES**  
Colloidal particle generator for electrostatic engine for propelling space vehicles  
[NASA-CASE-XLE-00817] c28 N70-33265  
Encapsulated heater forming hollow body for cathode used in ion thruster  
[NASA-CASE-LEW-10814-1] c28 N70-35422  
Electrostatic ion engines using high velocity electrons to ionize propellant  
[NASA-CASE-XLE-00376] c28 N70-37245  
Electron bombardment ion rocket engine with improved propellant introduction system  
[NASA-CASE-XLE-02066] c28 N71-15661
- ELECTROSTATIC GENERATORS**  
Electrostatic modulator for communicating through plasma sheath formed around spacecraft during reentry  
[NASA-CASE-XLA-01400] c07 N70-41331
- ELECTROSTATIC PRECIPITATORS**  
Fine particulate capture device  
[NASA-CASE-LEW-11583-1] c15 N74-13199
- ELECTROSTATIC PROBES**  
Low impedance apparatus for measuring electrostatic field intensity near space vehicles  
[NASA-CASE-XLE-00820] c14 N71-16014
- ELECTROSTATIC PROPULSION**  
Nuclear electric generator for accelerating charged propellant particles in electrostatic propulsion system  
[NASA-CASE-XLE-00818] c22 N70-34248
- High voltage insulators for direct current in acceleration system of electrostatic thruster  
[NASA-CASE-XLE-01902] c28 N71-10574  
Electrostatic microthrust propulsion system with annular slit colloid thruster  
[NASA-CASE-GSC-10709-1] c28 N71-25213
- ELECTROSTATICS**  
Development of equipment and method for electrifying dielectric to determine electrostatic properties  
[NASA-CASE-MFS-22129-1] c09 N73-26197  
Electrostatic entrained material measurement system --- comprising vacuum source and tube  
[NASA-CASE-MFS-22128-2] c14 N74-18098
- ELECTROTHERMAL ENGINES**  
Electrothermal rocket engine using resistance heated heat exchanger  
[NASA-CASE-XLE-00267] c28 N70-33356  
High resistance cross flow heat exchangers for electrothermal rocket engines  
[NASA-CASE-XLE-01783] c28 N70-34175
- ELEVATION**  
Tracking mount for laser telescope employed in tracking large rockets and space vehicles to give information regarding azimuth and elevation  
[NASA-CASE-MFS-14017] c14 N71-26627  
Automatic braking device for rapidly transferring humans or materials from elevated location  
[NASA-CASE-XKS-07814] c15 N71-27067
- ELEVATORS (LIFTS)**  
Centrifuge mounted motion simulator with elevator mechanism  
[NASA-CASE-XAC-00399] c11 N70-34815  
Guide member for stabilizing cable of open shaft elevator  
[NASA-CASE-KSC-10513] c15 N72-25453
- ELEVONS**  
Supersonic or hypersonic vehicle control system comprising elevons with hinge line sweep and free of adverse aerodynamic cross coupling  
[NASA-CASE-XLA-08967] c02 N71-27088
- ELLIPSES**  
Ellipsograph for describing and cutting ellipses with minimal axial dimensions  
[NASA-CASE-XLA-03102] c14 N71-21079
- ELONGATION**  
Strain gage measurement of elongation due to thermally and mechanically induced stresses  
[NASA-CASE-IGS-04478] c14 N71-24233  
Method and apparatus for detecting flaws in elongated bodies  
[NASA-CASE-MFS-19218-1] c14 N74-34860
- EMERGENCIES**  
Silent alarm system for multiple room facility or school  
[NASA-CASE-NPO-11307-1] c10 N73-30205
- EMERGENCY BREATHING TECHNIQUES**  
Pulmonary resuscitation method and apparatus with adjustable pressure regulator  
[NASA-CASE-XMS-01115] c05 N70-39922
- EMERGENCY LIFE SUSTAINING SYSTEMS**  
Development and characteristics of inflatable structure to provide escape from orbit for spacecrews under emergency conditions  
[NASA-CASE-IMS-06162] c31 N71-28851  
Three transceiver lunar emergency system to relay voice communication of astronaut  
[NASA-CASE-MFS-21042] c07 N72-25171  
Shoulder harness and lap belt restraint system  
[NASA-CASE-ARC-10519-2] c05 N74-18805
- EMISSION SPECTRA**  
Emission spectroscopy method for contamination monitoring of inert gas metal arc welding  
[NASA-CASE-IMP-02039] c15 N71-15871
- EMITTANCE**  
High thermal emittance black surface coatings and process for applying to metal and metal alloy surfaces used in radiative cooling of spacecraft  
[NASA-CASE-XLA-06199] c15 N71-24875
- EMITTERS**  
Inverted geometry transistor for use with monolithic integrated circuit  
[NASA-CASE-ARC-10330-1] c09 N73-32112
- EMULSIONS**  
Apparatus for obtaining isotropic irradiation on film emulsion from parallel radiation source  
[NASA-CASE-MFS-20095] c24 N72-11595

**ENCAPSULATING**

Controlled caging and uncaging mechanism for remote instrument control  
 [NASA-CASE-GSC-11063-1] c03 N70-35584  
 Development of bacteriostatic conformal coating and methods of application  
 [NASA-CASE-GSC-10007] c18 N71-16046  
 Flexible, repairable, pottable composition for encapsulating electric connectors  
 [NASA-CASE-XGS-05180] c18 N71-25881  
 Test chambers with orifice and helium mass spectrometer for detecting leak rate of encapsulated semiconductor devices  
 [NASA-CASE-ERC-10150] c14 N71-28992  
 Electrically coupled individually encapsulated solar cell matrix  
 [NASA-CASE-NPO-11190] c03 N71-34044

**ENCLOSURES**

Method and apparatus for bowing of instrument panels to improve radio frequency shielded enclosure  
 [NASA-CASE-XMF-09422] c07 N71-19436

**ENDOSCOPES**

Borescope with adjustable hinged telescoping optical system  
 [NASA-CASE-MFS-15162] c14 N72-32452

**ENDOTHERMIC REACTIONS**

Sensor device with switches for measuring surface recession of charring and noncharring ablators  
 [NASA-CASE-XLA-01781] c14 N69-39975

**ENEMY PERSONNEL**

Development of electronic detection system for remotely determining number and movement of enemy personnel  
 [NASA-CASE-ARC-10097-2] c07 N73-25160

**ENERGY ABSORPTION**

Non-reusable kinetic energy absorber for application in soft landing of space vehicles  
 [NASA-CASE-XLE-00810] c15 N70-34861  
 Low onset rate energy absorber in form of strut assembly for crew couch of Apollo command module  
 [NASA-CASE-MSC-12279-1] c15 N70-35679  
 Air brake device for absorbing and measuring power from rotating shafts  
 [NASA-CASE-XLE-00720] c14 N70-40201  
 Design and development of double acting shock absorber for spacecraft docking operations  
 [NASA-CASE-XMS-03722] c15 N71-21530  
 Nonreusable energy absorbing device comprising ring member with plurality of recesses, cutting members, and guide member mounted in each recess  
 [NASA-CASE-XMP-10040] c15 N71-22877  
 Suspended mass oscillation damper based on impact energy absorption for damping wind induced oscillations of tall stacks, antennas, and umbilical towers  
 [NASA-CASE-LAR-10193-1] c15 N71-27146  
 Energy absorption device in high precision gear train for protection against damage to components caused by stop loads  
 [NASA-CASE-XNP-01848] c15 N71-28959  
 Shock absorber for use as protective barrier in impact energy absorbing system  
 [NASA-CASE-NPO-10671] c15 N72-20443  
 High energy absorption docking system design for docking large spacecraft  
 [NASA-CASE-MFS-20863] c31 N73-26876  
 Metal shearing energy absorber  
 [NASA-CASE-HQN-10638-1] c15 N73-30460

**ENERGY CONVERSION**  
 Thermoelectric power conversion by liquid metal flowing through magnetic field  
 [NASA-CASE-XNP-00644] c03 N70-36803  
 Concentrator device for controlling direction of solar energy onto energy converters  
 [NASA-CASE-XLE-01716] c09 N70-40234  
 Device for converting electromagnetic wave energy into electric power  
 [NASA-CASE-GSC-11394-1] c09 N73-32109  
 Heat operated cryogenic electrical generator --- using liquid helium conversion  
 [NASA-CASE-NPO-13303-1] c03 N74-19701  
 Electric power generation system directly from laser power  
 [NASA-CASE-NPO-13308-1] c03 N74-19702  
 Schottky barrier laser energy converter  
 [NASA-CASE-NPO-13390-1] c16 N74-32937

**ENERGY CONVERSION EFFICIENCY**

Vacuum thermionic converter with short-circuited triodes and increased electron transmission and conversion efficiency  
 [NASA-CASE-XLE-01015] c03 N69-39898  
 Direct conversion of thermal energy into electrical energy using crossed electric and magnetic fields  
 [NASA-CASE-XLE-00212] c03 N70-34134  
 Increasing power conversion efficiency of electronic amplifiers by power supply switching  
 [NASA-CASE-XMS-00945] c09 N71-10798

**ENERGY DISSIPATION**

Energy dissipating shock absorbing system for land payload recovery or vehicle braking  
 [NASA-CASE-XLA-00754] c15 N70-34850

**ENERGY SOURCES**

Energy source with tantalum capacitors in parallel and miniature silver oxide button cells for initiating pyrotechnic devices on spacecraft and rocket vehicles  
 [NASA-CASE-LAR-10367-1] c03 N70-26817  
 Pulse generator for synchronizing or resetting electronic signals without requiring separate external source  
 [NASA-CASE-IGS-03632] c09 N71-23311

**ENERGY STORAGE**

Switching mechanism with energy stored in coil spring  
 [NASA-CASE-XGS-00473] c03 N70-38713  
 Development of stored charge device using field effect transistor technology  
 [NASA-CASE-NPO-11156-2] c03 N73-30974

**ENGINE CONTROL**

Direct current electromotive system for regenerative braking of electric motor  
 [NASA-CASE-XMF-01096] c10 N71-16030  
 Development and characteristics of system for integrated control of engine power and aerodynamic configuration of aircraft during landing approach  
 [NASA-CASE-ARC-10456-1] c02 N73-30938

**ENGINE COOLANTS**

Apparatus for cooling and injecting hypergolic propellants into combustion chamber of small rocket engine  
 [NASA-CASE-XLE-00303] c15 N70-36535  
 Injector manifold assembly for bipropellant rocket engines providing for fuel propellant to serve as coolant  
 [NASA-CASE-XMP-00148] c28 N70-38710

**ENGINE DESIGN**

Design and development of gas turbine combustion unit with nozzle guide vanes for introducing diluent air into combustion gases  
 [NASA-CASE-XLE-103477-1] c28 N71-20330  
 Construction and method of arranging plurality of ion engines to form cluster thereby increasing efficiency and control by decreasing heat radiated to space  
 [NASA-CASE-XNP-02923] c28 N71-23081

**ENGINE FAILURE**

System for monitoring presence of neutrals in streams of ions - ion engine control  
 [NASA-CASE-XNP-02592] c24 N71-20518

**ENGINE INLETS**

Variably positioned guide vanes for aerodynamic choking  
 [NASA-CASE-LAR-10642-1] c28 N74-31270

**ENGINE MONITORING INSTRUMENTS**

System for monitoring presence of neutrals in streams of ions - ion engine control  
 [NASA-CASE-XNP-02592] c24 N71-20518

**ENGINE NOISE**

Variably positioned guide vanes for aerodynamic choking  
 [NASA-CASE-LAR-10642-1] c28 N74-31270

**ENGINE TESTS**

Electric propulsion engine test chamber  
 [NASA-CASE-XLE-00252] c11 N70-34844

**ENGINEERING DRAWINGS**

High-temperature, high-pressure spherical segment valve  
 [NASA-CASE-XAC-00074] c15 N70-34817  
 Graphic illustration of lifting body design  
 [NASA-CASE-PRC-10063] c01 N71-12217  
 Specifications and drawings for semipassive optical communication system  
 [NASA-CASE-XLA-01090] c07 N71-12389

- Method of making molded electric connector for use with flat conductor cables  
[NASA-CASE-XMF-03498] c15 N71-15986
- ENTHALPY**  
Measuring conductive heat flow and thermal conductivity of laminar gas stream in cylindrical plug to simulate atmospheric reentry  
[NASA-CASE-ILE-00266] c14 N70-34156
- ENVIRONMENT SIMULATION**  
Method and apparatus for applying compressional forces to skeletal structure of subject to simulate force during ambulatory conditions  
[NASA-CASE-ARC-10100-1] c05 N71-24738  
Gravity environment simulation by locomotion and restraint aid for studying manual operation performance of astronauts at zero gravity  
[NASA-CASE-ARC-10153] c05 N71-28619
- ENVIRONMENT SIMULATORS**  
Space environment simulator for testing spacecraft components under aerospace conditions  
[NASA-CASE-NPO-10141] c11 N71-24964
- ENVIRONMENTAL CONTROL**  
Portable environmental control and life support system for astronaut in and out of spacecraft  
[NASA-CASE-XMS-09632-1] c05 N71-11203  
Portable apparatus producing high velocity annular air column surrounding low velocity, filtered, superclean air central core for industrial clean room environmental control  
[NASA-CASE-IMP-03212] c15 N71-22721  
Development and characteristics of thermal sensitive panel for controlling ratio of solar absorptivity to surface emissivity for space vehicle temperature control  
[NASA-CASE-XLA-07728] c33 N71-22890  
Dual solid cryogenics for spacecraft refrigeration insuring low temperature cooling for extended periods  
[NASA-CASE-GSC-10188-1] c23 N71-24725  
Vibration control of flexible bodies in steady accelerating environment  
[NASA-CASE-LAR-10106-1] c15 N71-27169  
Test chamber for determining decomposition and autoignition of materials used in spacecraft under controlled environmental conditions  
[NASA-CASE-KSC-10198] c11 N71-28629  
Readily assembled universal environment housing for electronic equipment  
[NASA-CASE-KSC-10031] c15 N72-22486  
Environmentally controlled suit for working in sterile chamber  
[NASA-CASE-LAR-10076-1] c05 N73-20137  
Dual stage check valve for cryogenic supply systems used in space flight environmental control system  
[NASA-CASE-MSC-13587-1] c15 N73-30459  
Spacecraft with artificial gravity and earthlike atmosphere  
[NASA-CASE-LEW-11101-1] c31 N73-32750
- ENVIRONMENTAL ENGINEERING**  
Thermal control wall panel with application to spacecraft cabins  
[NASA-CASE-XLA-01243] c33 N71-22792
- ENVIRONMENTAL TESTS**  
Multisample test chamber for exposing materials to X rays, temperature change, and gaseous conditions and determination of material effects  
[NASA-CASE-XMS-02930] c11 N71-23042  
Space suit using nonflexible material with low leakage and providing protection against thermal extremes, physical punctures, and radiation with high mobility articulation  
[NASA-CASE-XAC-07043] c05 N71-23161  
Flammability test chamber for testing materials in certain predetermined environments  
[NASA-CASE-KSC-10126] c11 N71-24985  
Multiaxes vibration device for making vibration tests along orthogonal axes of test specimen  
[NASA-CASE-MFS-20242] c14 N73-19421
- ENVIRONMENTS**  
Hermetically sealed elbow actuator for use in severe environments  
[NASA-CASE-MFS-14710] c09 N72-22195
- ENZYME ACTIVITY**  
Use of enzyme hexokinase and glucose to reduce inherent light levels of ATP in luciferase compositions  
[NASA-CASE-IGS-05533] c04 N69-27487
- Enzymatic luminescent bioassay method for determining bacterial levels in urine  
[NASA-CASE-GSC-11092-2] c04 N73-27052
- ENZYMES**  
Protein sterilization of firefly luciferase without denaturation  
[NASA-CASE-GSC-10225-1] c06 N73-27086
- EPOXY COMPOUNDS**  
Synthesis of siloxane containing epoxy polymers with low dielectric properties  
[NASA-CASE-MFS-13994-1] c06 N71-11240  
Synthesis of siloxane containing epoxide and diamine polymers  
[NASA-CASE-MFS-13994-2] c06 N72-25148
- EPOXY RESINS**  
Nonmagnetic hermetically sealed battery case made of epoxy resin and woven glass tape for use with electrochemical cells in spacecraft  
[NASA-CASE-IGS-00886] c03 N71-11053  
Epoxy resin sealing device for electrochemical cells in high vacuum environments  
[NASA-CASE-IGS-02630] c03 N71-22974  
Cold metal hydroforming techniques using epoxy molds for counteracting creep or stretch  
[NASA-CASE-XLE-05641-1] c15 N71-26346  
Miniature electromechanical junction transducer operating on piezoelectric effect and utilizing epoxy for stress coupling component  
[NASA-CASE-ERC-10087] c14 N71-27334  
Infusible polymer production from reaction of polyfunctional epoxy resins with polyfunctional aziridine compounds  
[NASA-CASE-NPO-10701] c06 N71-28620  
Transparent fire resistant polymeric structures  
[NASA-CASE-ARC-10813-1] c18 N74-16249  
Method of repairing discontinuity in fiberglass structures  
[NASA-CASE-LAR-10416-1] c18 N74-30001
- EQUIPMENT**  
Bimetallic fluid displacement apparatus --- for stirring and heating stored gases and liquids  
[NASA-CASE-ARC-10441-1] c15 N74-15126
- EQUIPMENT SPECIFICATIONS**  
Differential pressure cell insensitive to changes in ambient temperature and extreme overload  
[NASA-CASE-XAC-00042] c14 N70-34816  
High-temperature, high-pressure spherical segment valve  
[NASA-CASE-XAC-00074] c15 N70-34817  
Remote-reading torque meter for use where high horsepowers are transmitted at high rotative speeds  
[NASA-CASE-XLE-00503] c14 N70-34818  
Magnetically centered liquid column float  
[NASA-CASE-XAC-00030] c14 N70-34820  
Electric propulsion engine test chamber  
[NASA-CASE-XLE-00252] c11 N70-34844  
Channel-type shell construction for rocket engines and related configurations  
[NASA-CASE-XLE-00144] c28 N70-34860  
Non-reusable kinetic energy absorber for application in soft landing of space vehicles  
[NASA-CASE-XLE-00810] c15 N70-34861  
Slit regulated gas journal bearing  
[NASA-CASE-XMP-00476] c15 N70-38620  
Specifications and drawings for semipassive optical communication system  
[NASA-CASE-XLA-01090] c07 N71-12389  
Stretcher with rigid head and neck support with capability of supporting immobilized person in vertical position for removal from vehicle hatch to exterior also useful as splint stretcher  
[NASA-CASE-XMF-06589] c05 N71-23159  
Development of performed attachable thermocouple from thermoelectrically different metals  
[NASA-CASE-LEW-11072-2] c14 N72-28443  
Development of vortex fluid amplifier for throttling rocket exhaust  
[NASA-CASE-LEW-10374-1] c28 N73-13773  
Simplified technique and device for producing industrial grade synthetic diamonds  
[NASA-CASE-MFS-20698-2] c15 N73-19457  
Anti-buckling fatigue test assembly --- for subjecting metal specimen to tensile and compressive loads at constant temperature  
[NASA-CASE-LAR-10426-1] c32 N74-19528

- Apparatus for conducting flow electrophoresis in the substantial absence of gravity  
[NASA-CASE-MPS-21394-1] c12 N74-27744
- EQUIPOTENTIALS**  
Equipotential space suits utilizing mechanical aids to minimize astronaut energy at bending joints  
[NASA-CASE-LAR-10007-1] c05 N71-11195  
Instrument for measuring potentials on two dimensional electric field plot  
[NASA-CASE-XLA-08493] c10 N71-19421
- ERGOMETERS**  
Development of restraint system for securing personnel to ergometer while exercising under weightless conditions  
[NASA-CASE-MPS-21046-1] c14 N73-27377  
Versatile ergometer with work load control  
[NASA-CASE-MPS-21109-1] c05 N73-27941  
Tilting table for testing human body in variety of positions while exercising on ergometer or other biomedical devices  
[NASA-CASE-MPS-21010-1] c05 N73-30078  
Pneumatic foot pedal operated fluidic exercising device  
[NASA-CASE-MSC-11561-1] c05 N73-32014  
Ergometer calibrator --- for any ergometer utilizing rotating shaft  
[NASA-CASE-MPS-21045-1] c14 N74-11288
- ERROR ANALYSIS**  
Development of computer program for estimating reliability of self-repair and fault-tolerant systems with respect to selected system and mission parameters  
[NASA-CASE-NPO-13086-1] c15 N73-12495
- ERROR CORRECTING DEVICES**  
Error correction circuitry for binary signal channels  
[NASA-CASE-XNP-03263] c09 N71-18843  
Multiplexed communication system design including automatic correction of transmission errors introduced by frequency spectrum shifts  
[NASA-CASE-XNP-01306] c07 N71-20814  
Description of error correcting methods for use with digital data computers and apparatus for encoding and decoding digital data  
[NASA-CASE-XNP-02748] c08 N71-22749  
Guide accessories for correctly aligning paper in typewriter to correct typographical errors  
[NASA-CASE-MFS-15218-1] c15 N73-31438
- ERROR DETECTION CODES**  
Self testing and repairing computer comprising control and diagnostic unit and rollback points for error correction  
[NASA-CASE-NPO-10567] c08 N71-24633
- ERROR SIGNALS**  
Error correction circuitry for binary signal channels  
[NASA-CASE-XNP-03263] c09 N71-18843  
Feedback controller for sampling error signals within single control formulation time interval  
[NASA-CASE-GSC-10554-1] c08 N71-29033
- ERRORS**  
Analog to digital converter using offset voltage to eliminate errors  
[NASA-CASE-MSC-13110-1] c08 N72-22163
- ESCAPE CAPSULES**  
Aerial capsule emergency separation device using jettisonable towers  
[NASA-CASE-XLA-00115] c03 N70-33343  
Emergency escape cabin system for launch towers  
[NASA-CASE-XKS-02342] c05 N71-11199  
Spacecraft design with single point aerodynamic and hydrodynamic stability for emergency transport of men from space station to splashdown  
[NASA-CASE-MSC-13281] c31 N72-18859
- ESCAPE SYSTEMS**  
Design and specifications of emergency escape system for spacecraft structures  
[NASA-CASE-MSC-12086-1] c05 N71-12345  
Automatic braking device for rapidly transferring humans or materials from elevated location  
[NASA-CASE-XKS-07814] c15 N71-27067
- ESTERS**  
Fluorinated esters of polycarboxylic acid and lubricating compositions for use at extreme temperature  
[NASA-CASE-MPS-21040-1] c06 N73-30098
- ETCHING**  
Reusable masking boot for chemical machining operations  
[NASA-CASE-XNP-02092] c15 N70-42033  
Development of method for etching copper  
[NASA-CASE-XGS-06306] c17 N71-16044  
Composition and process for improving definition of resin masks used in chemical etching  
[NASA-CASE-XGS-04993] c14 N71-17574  
Etching aluminum alloys with aqueous solution containing sulfuric acid, hydrofluoric acid, and an alkali metal dichromate for adhesive bonding  
[NASA-CASE-XNP-02303] c17 N71-23828  
Selective plating of etched circuits without removing previous plating  
[NASA-CASE-XGS-03120] c15 N71-24047  
Nickel plating onto etched aluminum castings  
[NASA-CASE-XNP-04148] c17 N71-24830  
Scanning nozzle plating system --- for etching or plating metals on substrates without masking  
[NASA-CASE-NPO-11758-1] c15 N74-23065
- ETHERS**  
Method for producing alternating ether-siloxane copolymers with stable properties when exposed to elevated temperatures and UV radiation  
[NASA-CASE-XNP-02584] c06 N71-20905  
Chemical synthesis of hydroxy terminated perfluoro ethers as intermediates for highly fluorinated polyurethane resins  
[NASA-CASE-NPO-10768] c06 N71-27254  
Formation of polyurethane resins from hydroxy terminated perfluoro ethers  
[NASA-CASE-NPO-10768-2] c06 N72-27144
- ETHYLENE OXIDE**  
Using ethylene oxide in preparation of sterilized solid rocket propellants and encapsulating materials  
[NASA-CASE-XNP-01749] c27 N70-41897  
Ethylene oxide sterilization and encapsulating process for sterile preservation of instruments and solid propellants  
[NASA-CASE-XNP-09763] c14 N71-20461
- EUTECTIC ALLOYS**  
High temperature bonding of sapphire to sapphire by eutectic Al2O3 and ZrO2 mixture to form sapphire rubidium maser cell  
[NASA-CASE-GSC-11577-1] c15 N73-19467  
Bonding of sapphire to sapphire by eutectic mixture of aluminum oxide and zirconium oxide  
[NASA-CASE-GSC-11577-2] c15 N74-34002
- EVACUATING (VACUUM)**  
Filling honeycomb matrix with deaerated paste filler  
[NASA-CASE-IMS-01108] c15 N69-24322  
Sealing evacuation port and evacuating vacuum container such as space jackets  
[NASA-CASE-XNP-03290] c15 N71-23256  
Gas leak detection in evacuated systems using ultraviolet radiation probe  
[NASA-CASE-ERC-10034] c15 N71-24896  
Vacuum displacement compression molding of tubular bodies from thermosetting plastics  
[NASA-CASE-LAR-10782-2] c15 N73-31444
- EVAPORATION**  
Evaporating crucible of tantalum-tungsten foil, nickel alumina bonding agent, and ceramic coating  
[NASA-CASE-XLA-03105] c15 N69-27483
- EVAPORATORS**  
Spatter proof evaporant source design for use in vacuum deposition of solid thin films on substrates  
[NASA-CASE-XNP-06065] c15 N71-20395  
Means of vapor deposition using electric current and evaporator filament  
[NASA-CASE-LAR-10541-1] c15 N72-32487
- EXERCISE (PHYSIOLOGY)**  
Development of restraint system for securing personnel to ergometer while exercising under weightless conditions  
[NASA-CASE-MPS-21046-1] c14 N73-27377  
Tilting table for testing human body in variety of positions while exercising on ergometer or other biomedical devices  
[NASA-CASE-MPS-21010-1] c05 N73-30078  
Manual actuator --- for spacecraft exercising machines  
[NASA-CASE-MPS-21481-1] c15 N74-18127

## EXHAUST CASES

## SUBJECT INDEX

## EXHAUST CASES

Device for adding water to high velocity exhaust jets to reduce velocity, noise, and temperature  
[NASA-CASE-XMP-01813] c28 N70-41582  
Gas turbine exhaust nozzle --- for noise reduction  
[NASA-CASE-LEW-11569-1] c28 N74-15453  
Abating exhaust noises in jet engines  
[NASA-CASE-ARC-10712-1] c28 N74-33218

## EXHAUST NOZZLES

High thrust annular liquid propellant rocket engine and exhaust nozzle design  
[NASA-CASE-XLE-00078] c28 N70-33284  
Exhaust nozzle with afterburning for generating thrust  
[NASA-CASE-XLA-00154] c28 N70-33374  
Penshaped, supersonic exhaust nozzle design  
[NASA-CASE-XLE-00057] c28 N70-38711  
Automatic ejection valve for attitude control and midcourse guidance of space vehicles  
[NASA-CASE-XMP-00676] c15 N70-38996  
Jet aircraft exhaust nozzle for noise reduction  
[NASA-CASE-LAR-10951-1] c28 N73-19819  
Exhaust flow deflector  
[NASA-CASE-LAR-11570-1] c28 N74-28233

## EXPANDABLE STRUCTURES

Expanding and contracting connector strip for solar cell array of Nimbus satellite  
[NASA-CASE-XGS-01395] c03 N69-21539  
Method of compactly packaging centrifugally expandable lightweight flexible reflector satellite  
[NASA-CASE-XLA-00138] c31 N70-37981  
Foldable conduit capable of springing back as self erecting structural member  
[NASA-CASE-XLE-00620] c32 N70-41579  
Collapsible high gain antenna which can be automatically expanded to operating state  
[NASA-CASE-KSC-10392] c07 N73-26117  
Expandable space frames with high expansion to collapse ratio  
[NASA-CASE-ERC-10365-1] c31 N73-32749  
Means for accommodating large overstrain in lead wires --- by storing extra length of wire in stretchable loop  
[NASA-CASE-LAR-10168-1] c09 N74-22865

## EXPANSION

Apparatus for measuring polymer membrane expansion in electrochemical cells  
[NASA-CASE-IGS-03865] c14 N69-21363

## EXPERIMENTAL DESIGN

Efficient operation of improved hydrofoil design  
[NASA-CASE-XLA-00229] c12 N70-33305  
Sealed electric storage battery with gas manifold interconnecting each cell  
[NASA-CASE-XNP-03378] c03 N71-11051  
Electrode attached to helmets for detecting low level signals from skin of living creatures  
[NASA-CASE-ARC-10043-1] c05 N71-11193  
Conditioning suit for normal function of astronaut cardiovascular system in gravity environment  
[NASA-CASE-XLA-02898] c05 N71-20268  
Space suit using nonflexible material with low leakage and providing protection against thermal extremes, physical punctures, and radiation with high mobility articulation  
[NASA-CASE-XAC-07043] c05 N71-23161

## EXPLOSIONS

Device for detection of combustion light preceding gaseous explosions  
[NASA-CASE-LAR-10739-1] c14 N73-16484

## EXPLOSIVE DEVICES

Stage separation using remote control release of joint with explosive insert  
[NASA-CASE-XLA-02854] c15 N69-27490  
Hermetically sealed explosive release mechanism for actuator device  
[NASA-CASE-IGS-00824] c15 N71-16078  
Development of non-magnetic indexing device for orienting magnetic flux sensing instrument in magnetic field without generation of detrimental magnetic fields  
[NASA-CASE-IGS-02422] c15 N71-21529  
Development of apparatus for detonating explosive devices in order to determine forces generated and detonation propagation rate  
[NASA-CASE-LAR-10800-1] c33 N72-27959  
Development and characteristics of squib actuated explosive disconnect for spacecraft

release from launch vehicle  
[NASA-CASE-NPO-11330] c33 N73-26958

## EXPLOSIVE FORMING

Electric discharge apparatus for electrohydraulic explosive forming  
[NASA-CASE-XMP-00375] c15 N70-34249

## EXPLOSIVE WELDING

Explosive welding of thin metal scarf joint  
[NASA-CASE-LAR-11211-1] c15 N73-14480  
Method for eliminating noise and debris of explosive welding techniques by using complete enclosure  
[NASA-CASE-LAR-10941-2] c15 N73-32371  
Totally confined explosive welding --- apparatus to reduce noise level and protect personnel during explosive bonding  
[NASA-CASE-LAR-10941-1] c15 N74-21057

## EXPLOSIVES

Production of intermetallic compounds by effect of shock waves from explosions and compaction of powder  
[NASA-CASE-MPS-20861-1] c18 N73-32437  
Optically detonated explosive device  
[NASA-CASE-NPO-11743-1] c33 N74-27425

## EXPONENTIAL FUNCTIONS

Digital quasi-exponential function generator  
[NASA-CASE-NPO-11130] c08 N72-20176

## EXPOSURE

Mechanical exposure interlock device for preventing film overexposure in oscilloscope camera  
[NASA-CASE-LAR-10319-1] c14 N73-32322

## EXPULSION BLADDERS

Expulsion bladder equipped storage tank structure  
[NASA-CASE-XMP-00612] c11 N70-38182  
Rubber composition for expulsion bladders and diaphragms for use with hydrazine  
[NASA-CASE-NPO-11433] c18 N71-31140

## EXTENSIONS

Support for flexible conductor cable between drawers or racks holding electronic equipment and cabinet assembly housing drawers or racks  
[NASA-CASE-XMP-07587] c15 N71-18701

## EXTENSOMETERS

Transducer frame for use with extensometer to continuously monitor specimen sample  
[NASA-CASE-XLA-10322] c15 N72-17452  
Conductive elastomeric extensometer  
[NASA-CASE-MPS-21049-1] c14 N74-27864

## EXTRACTION

Liquid-gas separator adapted for use in zero gravity environment - drawings  
[NASA-CASE-XMS-01624] c15 N70-40062

## EXTRAVEHICULAR ACTIVITY

Portable environmental control and life support system for astronaut in and out of spacecraft  
[NASA-CASE-XMS-09632-1] c05 N71-11203  
Hand-held maneuvering unit for propulsion and attitude control of astronauts in zero or reduced gravity environment  
[NASA-CASE-XMS-05304] c05 N71-12336  
Internal and external serpentine devices for performing physical operations around orbital space stations  
[NASA-CASE-XMP-05344] c31 N71-16345  
Releasable, pin-type fastener, easily operated during EVA  
[NASA-CASE-ARC-10140-1] c15 N71-17653  
Design and development of flexible tunnel for use by spacecrews in performing extravehicular activities  
[NASA-CASE-MSC-12243-1] c05 N71-24728  
Open loop life support subsystem using breathing bag as reservoir for EVA  
[NASA-CASE-MSC-12411-1] c05 N72-20096  
Intra- and extravehicular life support space suite for Apollo astronauts  
[NASA-CASE-MSC-12609-1] c05 N73-32012

## EXTREMELY LOW RADIO FREQUENCIES

VHF/UHF parasitic probe antenna for spacecraft communication  
[NASA-CASE-XKS-09340] c07 N71-24614

## EXTRUDING

Extrusion can for extruding ceramics under heat and pressure  
[NASA-CASE-NPO-10812] c15 N73-13464

## EYE (ANATOMY)

Sight switch using infrared source and sensor mounted beside eye

[NASA-CASE-XMP-03934] c09 N71-22985  
 Ultrasonic device for ophthalmic eye surgery  
 with safe removal of macerated material  
 [NASA-CASE-LEW-11669-1] c05 N73-27062  
 Surgical liquification pump for removing  
 macerated tissue from eye  
 [NASA-CASE-LEW-12051-1] c04 N73-32000

**EYE EXAMINATIONS**  
 Optical vision testing unit for testing eyes and  
 visual system of human subject  
 [NASA-CASE-MSC-13601-1] c05 N72-11088  
 Automated visual sensitivity tester for  
 determining visual field sensitivity and blind  
 spot size  
 [NASA-CASE-ARC-10329-1] c05 N73-26072  
 Visual examination apparatus  
 [NASA-CASE-ARC-10329-2] c05 N74-19761

**EYEPIECES**  
 Wide angle eyepiece with long eye-relief distance  
 [NASA-CASE-XMS-06056-1] c23 N71-24857

## F

**FABRICATION**  
 Fabrication of pressure-telemetry transducers  
 [NASA-CASE-XNP-09752] c14 N69-21541  
 Fabrication method for lightweight  
 regeneratively cooled combustion chamber of  
 channel construction  
 [NASA-CASE-XLE-00150] c28 N70-41818  
 Fabrication methods for matrices of solar cell  
 submodules  
 [NASA-CASE-XNP-05821] c03 N71-11056  
 Capacitor fabrication by solidifying mixture of  
 ferromagnetic metal particles,  
 nonferromagnetic particles, and dielectric  
 material  
 [NASA-CASE-LEW-10364-1] c09 N71-13522  
 Method and apparatus for fabricating solar cell  
 panels  
 [NASA-CASE-XNP-03413] c03 N71-26726  
 Fabrication of root cord restrained fabric suit  
 sections from sheets of fabric  
 [NASA-CASE-MSC-12398] c05 N72-20098  
 Method of fabricating equal length insulated wire  
 [NASA-CASE-PRC-10038] c15 N72-20444  
 Development of thin film temperature sensor from  
 TaO  
 [NASA-CASE-NPO-11775] c26 N72-28761

**FABRICS**  
 Fabrication of root cord restrained fabric suit  
 sections from sheets of fabric  
 [NASA-CASE-MSC-12398] c05 N72-20098

**FABRY-PEROY INTERFEROMETERS**  
 Fabry-Perot interferometer retrodirective  
 reflector modulator for optical communication  
 [NASA-CASE-XGS-04480] c16 N69-27491

**FACSIMILE COMMUNICATION**  
 Restoration and improvement of demodulated  
 facsimile video signals  
 [NASA-CASE-GSC-10185-1] c07 N72-12081  
 Integration of spectrometer capability with  
 imagery function of facsimile cameras for use  
 on planetary landers  
 [NASA-CASE-LAR-11207-1] c14 N73-28496

**FACTORIAL DESIGN**  
 Space suit with pressure-volume compensator system  
 [NASA-CASE-XLA-05332] c05 N71-11194  
 Equipotential space suits utilizing mechanical  
 aids to minimize astronaut energy at bending  
 joints  
 [NASA-CASE-LAR-10007-1] c05 N71-11195

**FAIL-SAFE SYSTEMS**  
 Fail-safe multiple transformer circuit  
 configuration  
 [NASA-CASE-NPO-11078] c09 N72-25262  
 Latch mechanism  
 [NASA-CASE-MSC-12549-1] c15 N74-27903

**FAILURE ANALYSIS**  
 Method and apparatus for detecting flaws in  
 elongated bodies  
 [NASA-CASE-MPS-19218-1] c14 N74-34860

**FAILURE MODES**  
 Method for reducing mass of ball bearings for  
 long life operation at high speed  
 [NASA-CASE-LEW-10856-1] c15 N72-22490  
 Inverter ratio failure detector  
 [NASA-CASE-NPO-33160-1] c14 N74-18090

**FAIRINGS**  
 System for deploying and ejecting releasable  
 clamshell fairing sections from spinning  
 sounding rockets  
 [NASA-CASE-GSC-10590-1] c31 N73-14853

**FALLING SPHERES**  
 Device for determining acceleration of gravity  
 by interferometric measurement of travel of  
 falling body  
 [NASA-CASE-XMF-05844] c14 N71-17587

**FAR INFRARED RADIATION**  
 Collimator for analyzing spatial location of  
 near and distant sources of radiation  
 [NASA-CASE-MPS-20546-2] c14 N73-30389

**FAR ULTRAVIOLET RADIATION**  
 Transient heat transfer gage for measuring total  
 radiant intensity from far ultraviolet and  
 ionized high temperature gases  
 [NASA-CASE-INP-09802] c33 N71-15641

**FASTENERS**  
 Force measuring instrument for structural  
 members, particularly fastening bolts or studs  
 [NASA-CASE-XNP-00456] c14 N70-34705  
 Lightweight life preserver without fastening  
 devices  
 [NASA-CASE-XMS-00864] c05 N70-36493  
 Nut and bolt fastener permitting all-directional  
 movement of skin sections with respect to  
 supporting structure  
 [NASA-CASE-XLA-01807] c15 N71-10799  
 Releasable, pin-type fastener, easily operated  
 during EVA  
 [NASA-CASE-ARC-10140-1] c15 N71-17653  
 Ultrasonic wrench for applying vibratory energy  
 to mechanical fasteners  
 [NASA-CASE-MPS-20586] c15 N71-17686  
 Design and development of electric connectors  
 for rigid and semirigid coaxial cables  
 [NASA-CASE-INP-04732] c09 N71-20851  
 Design, development, and characteristics of  
 latching mechanism for operation in limited  
 access areas  
 [NASA-CASE-XMS-03745] c15 N71-21076  
 Design and development of module joint clamping  
 device for application to solar array  
 construction  
 [NASA-CASE-INP-02341] c15 N71-21531  
 Threadless fastener apparatus comprising  
 receiving apertures for plurality of articles,  
 self-locked condition, and capable of using  
 nonmalleable materials in both ends  
 [NASA-CASE-XPR-05302] c15 N71-23254  
 Development of resilient fastener for attaching  
 skin of aerospace vehicles to permit movement  
 of skin relative to framework  
 [NASA-CASE-XLA-01027] c31 N71-24035  
 Pneumatic mechanism for releasing hook and loop  
 fasteners between large rigid structures  
 [NASA-CASE-XMS-10660-1] c15 N71-25975

**FATIGUE (MATERIALS)**  
 Servocontrol system for measuring local stresses  
 at geometric discontinuity in stressed material  
 [NASA-CASE-XLA-08530] c32 N71-25360

**FATIGUE LIFE**  
 Fatigue resistant shear pin with hollow shaft  
 and two plugs  
 [NASA-CASE-XLA-09122] c15 N69-27505  
 Improving load capacity and fatigue life of  
 rolling element systems in rockets and missiles  
 [NASA-CASE-XLE-02999] c15 N71-16052  
 Method for reducing mass of ball bearings for  
 long life operation at high speed  
 [NASA-CASE-LEW-10856-1] c15 N72-22490  
 Fatigue life of hybrid antifriction bearings at  
 ultrahigh speeds  
 [NASA-CASE-LEW-11152-1] c15 N73-32359

**FATIGUE TESTING MACHINES**  
 Cryostat for use with horizontal fatigue testing  
 machines at low temperatures  
 [NASA-CASE-XMP-10968] c14 N71-24234  
 Fatigue testing apparatus with light shield and  
 infrared reflector for high temperature  
 evaluation of loaded sheet samples  
 [NASA-CASE-XLA-01782] c14 N71-26136

**FATIGUE TESTS**  
 Fatigue testing device applying random discrete  
 load levels to test specimen and applicable to  
 aircraft structures  
 [NASA-CASE-XLA-02131] c32 N70-42003



**PATS**

Cross linked polymer system for oil or fat absorption properties  
[NASA-CASE-WPO-11609-1] c06 N72-22114

**PECHS**  
Fecal waste disposal container  
[NASA-CASE-XHS-06761] c05 N69-23192

**FEED SYSTEMS**  
Nonconductive tube as feed system for plasma thruster  
[NASA-CASE-ILB-02902] c25 N71-21694  
Method and apparatus for pressurizing propellant tanks used in propulsion motor feed system  
[NASA-CASE-IMP-00650] c27 N71-28929  
Pressurized tank for feeding liquid waste into processing equipment  
[NASA-CASE-LAR-10365-1] c05 N72-27102  
Pressurized inert gas feed for lighting system  
[NASA-CASE-KSC-10644] c09 N72-27227  
Dual frequency feed systems for Cassegrainian antennas  
[NASA-CASE-WPO-13091-1] c09 N73-12214  
Improved injector with porous plug for bubbles of gas into feed lines of electrically conductive liquid  
[NASA-CASE-WPO-11377] c15 N73-27406

**FEEDBACK**  
RC networks with voltage amplifier, RC input circuit, and positive feedback  
[NASA-CASE-ARC-10020] c10 N72-17172  
Multistage feedback shift register with states decomposable into cycles of equal length  
[NASA-CASE-WPO-11082] c08 N72-22167  
Inverter oscillator with voltage feedback  
[NASA-CASE-WPO-10760] c09 N72-25254

**FEEDBACK AMPLIFIERS**  
Development of system with electrical properties which vary with changes in temperature for use with feedback loop in operational amplifier circuit  
[NASA-CASE-MSC-13276-1] c14 N71-27058  
Phase locked demodulator with bandwidth switching amplifier circuit  
[NASA-CASE-IMP-01107] c10 N71-28859  
Monostable multivibrator for producing output pulse widths with positive feedback NOR gates  
[NASA-CASE-MSC-13492-1] c10 N71-28860

**FEEDBACK CIRCUITS**  
Low power drain transistor feedback circuit  
[NASA-CASE-XGS-04999] c09 N69-24317  
Linear three-tap feedback shift register  
[NASA-CASE-WPO-10351] c08 N71-12503  
Frequency control network for current feedback oscillators converting dc voltage to ac or higher dc voltages  
[NASA-CASE-GSC-10041-1] c10 N71-19418  
Feedback integrating circuit with grounded capacitor for signal processing  
[NASA-CASE-XAC-10607] c10 N71-23669  
Development of idler feedback system to reduce electronic noise problem in two parametric amplifiers  
[NASA-CASE-LAR-10253-1] c09 N72-25258  
Linear shift register with feedback logic for generating pseudonoise linear recurring binary sequences  
[NASA-CASE-WPO-11406] c08 N73-12175

**FEEDBACK CONTROL**  
Describing continuous analog to digital converter with parallel digital output and nonlinear feedback  
[NASA-CASE-XAC-04031] c08 N71-18594  
Pulsed magnetic core memory element with blocking oscillator feedback for interrogation without loss of digital information  
[NASA-CASE-IGS-03303] c08 N71-18595  
Binary to decimal decoder logic circuit design with feedback control and display device  
[NASA-CASE-IKS-06167] c08 N71-24890  
Feedback control for direct current motor to achieve constant speed under varying loads  
[NASA-CASE-NFS-14610] c09 N71-28886  
Feedback controller for sampling error signals within single control formulation time interval  
[NASA-CASE-GSC-10554-1] c08 N71-29033  
Closed loop servosystem for variable speed tape recorders onboard spacecraft  
[NASA-CASE-WPO-10700] c07 N71-33613

Development of aerodynamic control system to control flutter over large range of oscillatory frequencies using stability augmentation techniques  
[NASA-CASE-LAR-10682-1] c02 N73-26004  
Regulated dc-to-dc converter for voltage step-up or step-down with input-output isolation  
[NASA-CASE-HQM-10792-1] c09 N74-11049

**FEEDBACK FREQUENCY MODULATION**  
Method and apparatus for communicating through ionized layer of gases surrounding spacecraft during reentry into planetary atmospheres  
[NASA-CASE-ILA-01127] c07 N70-41372  
Characteristics of data-aided carrier tracking loop used for tracking carrier in angle modulated communications system  
[NASA-CASE-WPO-11282] c10 N73-16205

**FEEDERS**  
Automatic real-time pair-feeding system for animals  
[NASA-CASE-ARC-10302-1] c04 N74-15778

**FEEDFORWARD CONTROL**  
A dc regulator having feedforward control  
[NASA-CASE-WPO-13481-1] c09 N74-32675

**FERRITES**  
Magnetic recording head composed of ferrite core coated with thin film of aluminum-iron-silicon alloy  
[NASA-CASE-GSC-10097-1] c08 N71-27210  
Ferrite memory arrays from pre-formed metal conductors  
[NASA-CASE-LAR-10994-1] c18 N73-30536

**FERRONICKEL**  
High temperature ferromagnetic cobalt-base alloy for electrical power generating equipment  
[NASA-CASE-XLE-03629] c17 N71-23248

**FIBER OPTICS**  
Fiber optic transducers for monitoring and analysis of vibration in aerospace vehicles and onboard equipment  
[NASA-CASE-IMP-02433] c14 N71-10616

**FIBERS**  
Process for fiberizing ceramic materials with high fusion temperatures and tensile strength  
[NASA-CASE-IMP-00597] c18 N71-23088  
Fiber separating and cleaning method and apparatus  
[NASA-CASE-LAR-11224-1] c15 N74-20072

**FIELD EFFECT TRANSISTORS**  
Frequency to analog converters with unipolar field effect transistor for determining potential charge by pulse duration of input signal  
[NASA-CASE-IMP-07040] c08 N71-12500  
Voltage controlled, variable frequency relaxation oscillator with MOSFET variable current feed  
[NASA-CASE-GSC-10022-1] c10 N71-25882  
Circuitry for high input impedance video processor with high noise immunity  
[NASA-CASE-WPO-10199] c09 N72-17156  
Development and characteristics of data multiplexer circuit using field effect transistors arranged in tree switching configuration  
[NASA-CASE-WPO-11333] c08 N72-22162  
Single integrated circuit chip with field effect transistor  
[NASA-CASE-GSC-10835-1] c09 N72-33205  
Development of stored charge device using field effect transistor technology  
[NASA-CASE-WPO-11156-2] c03 N73-30974  
Radiation hardening of MOS devices by boron --- for stabilizing gate threshold potential of field effect device  
[NASA-CASE-GSC-11425-1] c24 N74-20329

**FIELD EMISSION**  
Electrode with multiple columnar conductors for limiting field emission current  
[NASA-CASE-ERC-10015-2] c10 N72-27246

**FILAMENT WINDING**  
Tool attachment for spreading or moving away loose elements from terminal posts during winding of filamentary elements  
[NASA-CASE-IMP-02107] c15 N71-10809  
Fabrication of filament wound propellant tank for cryogenic storage  
[NASA-CASE-XLE-03803-2] c15 N71-17651  
Twisted wire or tube superconductor for filament windings

- [NASA-CASE-LEW-11015] c26 N73-32571
- FILAMENTS**  
Refractory filament series circuitry for radiant heater  
[NASA-CASE-XLE-00387] c33 N70-34812  
Controlled diffusion reaction process for masking substrate of twisted multifilament superconductive ribbon  
[NASA-CASE-LEW-11726-1] c26 N73-26752
- FILLERS**  
Filling honeycomb matrix with deaerated paste filler  
[NASA-CASE-INS-01108] c15 N69-24322
- FILM COOLING**  
Multislit film cooled pyrolytic graphite rocket nozzle  
[NASA-CASE-IMP-04389] c28 N71-20942
- FILMS**  
Apparatus for obtaining isotropic irradiation on film emulsion from parallel radiation source  
[NASA-CASE-NFS-20095] c24 N72-11595
- FILTERS**  
Development of filter system for control of outgas contamination in vacuum conditions using absorbent beds of molecular sieve zeolite, silica gel, and charcoal  
[NASA-CASE-NFS-14711] c15 N71-26185  
Heated tungsten filter for removing oxygen impurities from cesium  
[NASA-CASE-IMP-04262-2] c17 N71-26773  
Centrifugal lyophobic separator  
[NASA-CASE-LAR-10194-1] c12 N74-30608
- FINS**  
Thrust and attitude control apparatus using jet nozzle in movable canard surface or fin configuration  
[NASA-CASE-XLE-03583] c31 N71-17629  
Deployable flexible ventral fins for use as an emergency spin recovery device in aircraft  
[NASA-CASE-LAR-10753-1] c02 N74-30421
- FIRE PREVENTION**  
Hydrogen fire blink detector for high altitude rocket or ground installation  
[NASA-CASE-NFS-15063] c14 N72-25412  
Fiber modified polyurethane foam for ballistic protection  
[NASA-CASE-ARC-10714-1] c18 N74-11366  
Method and apparatus for checking fire detectors  
[NASA-CASE-GSC-11600-1] c14 N74-21019
- FIREPROOFING**  
Fireproof potassium silicate coating composition, insoluble in water after application  
[NASA-CASE-GSC-10072] c18 N71-14014  
Lightweight fire resistant plastic foam for thermal protection of reentry vehicles and aircraft structures  
[NASA-CASE-ARC-10180-1] c28 N72-20767  
Intumescent paint containing nitrile rubber for fire protection  
[NASA-CASE-ARC-10196-1] c18 N73-13562  
Para-benzoquinone dioxide and concentrated mineral acid processed to yield intumescent or fire resistant, heat insulating materials  
[NASA-CASE-ARC-10304-1] c18 N73-26572  
Process for developing flame retardant elastomeric composition textiles for use in space suits  
[NASA-CASE-HSC-14331-1] c18 N73-27501  
Flexible fire retardant polyisocyanate modified neoprene foam --- for thermal protective devices  
[NASA-CASE-ARC-10180-1] c06 N74-12814
- FIRES**  
Device for generating and controlling combustion products for testing of fire detection system  
[NASA-CASE-GSC-11095-1] c14 N72-10375  
Device for detecting hydrogen fires onboard high altitude rockets  
[NASA-CASE-NFS-13130] c10 N72-17173
- PIPING (IGNITING)**  
Contamination free separation nut eliminating combustion products from ambient surroundings generated by squib firing  
[NASA-CASE-XGS-01971] c15 N71-15922
- FISSONABLE MATERIALS**  
Nuclear gaseous reactor for heating working fluid to high temperatures  
[NASA-CASE-XLE-00321] c22 N70-34572
- FITTINGS**  
Design and development of quick release connector  
[NASA-CASE-XLA-01141] c15 N71-13789  
Development and characteristics of strainer for flared tube fitting  
[NASA-CASE-XLA-05056] c15 N72-11389
- FIXED WINGS**  
Design of supersonic aircraft with novel fixed, swept wing planform  
[NASA-CASE-XLA-04451] c02 N71-12243
- FIXTURES**  
Tool for use in lifting pin supported objects  
[NASA-CASE-NPO-13157-1] c15 N74-32918  
Apparatus for positioning modular components on a vertical or overhead surface  
[NASA-CASE-LAR-11465-1] c15 N74-32926
- FLAME PROBES**  
Modulated hydrogen ion flame detector  
[NASA-CASE-ARC-10322-1] c14 N74-27875  
Flame detector operable in presence of proton radiation  
[NASA-CASE-NFS-21577-1] c03 N74-29410
- FLAME SPRAYING**  
Flame or plasma spraying for molybdenum coating of carbon or graphite surfaces to prevent oxidative corrosion  
[NASA-CASE-XLA-00302] c15 N71-16077  
Modification of polyurethanes with alkyl halide resins, inorganic salts, and encapsulated volatile and reactive halogen for fuel fire control  
[NASA-CASE-ARC-10098-1] c06 N71-24739  
Method of making pressure tight seal for super alloy  
[NASA-CASE-LAR-10170-1] c15 N74-11301
- FLAMES**  
Anodizing method for providing metal surfaces with temperature reducing coatings against flames  
[NASA-CASE-XLE-00035] c33 N71-29151
- FLAMMABILITY**  
Flammability test chamber for testing materials in certain predetermined environments  
[NASA-CASE-KSC-10126] c11 N71-24985  
Development of apparatus for testing burning rate and flammability of materials  
[NASA-CASE-XMS-09690] c33 N72-25913
- FLANGES**  
Cassegrain antenna subreflector flange for suppressing ground noise and increasing antenna transmitting efficiency  
[NASA-CASE-IMP-00683] c09 N70-35425  
Light baffle with oblate hemispheroid surface and shading flange  
[NASA-CASE-NPO-10337] c14 N71-15604
- FLAPS (CONTROL SURFACES)**  
Upper surface, external flow, jet-augmented flap configuration for high wing jet aircraft for noise reduction  
[NASA-CASE-XLA-00087] c02 N70-33332  
Assembly for opening flight capsule stabilizing and decelerating flaps with reference to capsule recovery  
[NASA-CASE-IMP-00641] c31 N70-36410  
Direct lift control system having flaps with slots adjacent to their leading edge and particularly adapted for lightweight aircraft  
[NASA-CASE-LAR-10249-1] c02 N71-26110  
Characteristics of system for providing yaw control of vehicles at high supersonic and hypersonic speeds by deflecting flaps mounted on upper wing surface  
[NASA-CASE-LAR-11140-1] c02 N73-20008  
Adjustable airfoil for reversible cowl flap inlet thrust augmentation  
[NASA-CASE-ARC-10754-1] c28 N73-32624
- FLARED BODIES**  
Development and characteristics of strainer for flared tube fitting  
[NASA-CASE-XLA-05056] c15 N72-11389
- FLAT CONDUCTORS**  
Method of making molded electric connector for use with flat conductor cables  
[NASA-CASE-IMP-03498] c15 N71-15986  
Shielded flat conductor cable fabricated by electroless and electrolytic plating  
[NASA-CASE-NFS-13687] c09 N71-28691  
Shielded flat conductor cable of ribbonlike wires laminates in thin flexible insulation

FLAT PLATES

SUBJECT INDEX

[NASA-CASE-MFS-13687-2] c09 N72-22198  
 Separable flat cable connector with isolated electrical contacts  
 [NASA-CASE-MFS-20757] c09 N72-28225

**FLAT PLATES**  
 Reduced gravity liquid configuration simulator to study propellant behavior in rocket fuel tanks  
 [NASA-CASE-XLE-02624] c12 N69-39988  
 Exponential horn, copper plate, magnetic hammer, and anvil in apparatus for making diamonds  
 [NASA-CASE-MFS-20698] c15 N72-20446

**FLEXIBILITY**  
 Weatherproof helix antenna  
 [NASA-CASE-YKS-08485] c07 N71-19493  
 Flexible bellows joint shielding sleeve for propellant transfer pipelines  
 [NASA-CASE-INP-01855] c15 N71-28937  
 Flexible joint for pressurizable garment  
 [NASA-CASE-MSC-11072] c05 N74-32546

**FLEXIBLE BODIES**  
 Flexible backup bar for welding awkwardly shaped structures  
 [NASA-CASE-INP-00722] c15 N70-40204  
 Characteristics of hermetically sealed electric switch with flexible operating capability  
 [NASA-CASE-XNP-09808] c09 N71-12518  
 Flexible composite membrane structure impervious to extremely reactive chemicals in rocket propellants  
 [NASA-CASE-INP-08837] c18 N71-16210  
 Development and characteristics of self supporting space vehicle  
 [NASA-CASE-XLA-00117] c31 N71-17680  
 Design and development of flexible tunnel for use by spacecrews in performing extravehicular activities  
 [NASA-CASE-MSC-12243-1] c05 N71-24728  
 Vibration control of flexible bodies in steady accelerating environment  
 [NASA-CASE-LAR-10106-1] c15 N71-27169  
 Flexible barrier membrane comprising porous substrate and incorporating liquid gallium or indium metal used as sealant barriers for spacecraft walls and pumping liquid propellants  
 [NASA-CASE-XNP-08881] c17 N71-28747  
 Development of device for simulating cyclic thermal loading of flexible materials by application of mechanical stresses and deformations  
 [NASA-CASE-LAR-10270-1] c32 N72-25877  
 An internally supported flexible duct joint --- device for conducting fluids in high pressure systems when flexible joints are required  
 [NASA-CASE-MFS-19193-1] c15 N74-22145  
 Deployable flexible ventral fins for use as an emergency spin recovery device in aircraft  
 [NASA-CASE-LAR-10753-1] c02 N74-30421

**FLEXIBLE WINGS**  
 Aeroflexible wing structure with air scoop for inflating stiffeners with ram air  
 [NASA-CASE-XLA-06095] c01 N69-39981  
 Deployment system for flexible wing with rigid superstructure  
 [NASA-CASE-XLA-01220] c02 N70-41863  
 Development and characteristics of control system for flexible wings  
 [NASA-CASE-XLA-06958] c02 N71-11038

**FLEXING**  
 Two degree inverted flexure from single block of material  
 [NASA-CASE-ARC-10345-1] c15 N73-12488

**FLIGHT**  
 Flow meter for measuring stagnation pressure in boundary layer around high speed flight vehicle  
 [NASA-CASE-XFR-02007] c12 N71-24692

**FLIGHT ALTITUDE**  
 Surface based altitude measuring system for accurately measuring altitude of airborne vehicle  
 [NASA-CASE-ERC-10412-1] c09 N73-12211  
 Terminal guidance system --- for guiding aircraft into preselected altitude and/or heading at terminal point  
 [NASA-CASE-FRC-10049-1] c21 N74-13420

**FLIGHT CONTROL**  
 Aircraft indicator for pilot control of takeoff roll, climbout path and verticle flight path in poor visibility conditions

[NASA-CASE-XLA-00487] c14 N70-40157  
 Two axis flight controller with potentiometer control shafts directly coupled to rotatable ball members  
 [NASA-CASE-XFR-04104] c03 N70-42073  
 Development of aircraft control system with high performance electrically controlled and mechanically operated hydraulic valves for precise flight operation  
 [NASA-CASE-IAC-00048] c02 N71-29128  
 Characteristics of system for providing yaw control of vehicles at high supersonic and hypersonic speeds by deflecting flaps mounted on upper wing surface  
 [NASA-CASE-LAR-11140-1] c02 N73-20008  
 Development of flight simulator system to show position of joystick displacement  
 [NASA-CASE-NPO-11497] c08 N73-25206  
 Development and characteristics of system for integrated control of engine power and aerodynamic configuration of aircraft during landing approach  
 [NASA-CASE-ARC-10456-1] c02 N73-30938  
 Solid state controller three axes controller  
 [NASA-CASE-MSC-12394-1] c03 N74-10942  
 G-load measuring and indicator apparatus --- for aircraft  
 [NASA-CASE-ARC-10806] c14 N74-27872

**FLIGHT CREWS**  
 Survival couch for aircraft or spacecraft crews  
 [NASA-CASE-XLA-00118] c05 N70-33285

**FLIGHT RECORDBERS**  
 Event recorder with constant speed motor which rotates recording disk  
 [NASA-CASE-XLA-01832] c14 N71-21006

**FLIGHT SAFETY**  
 Aerial capsule emergency separation device using jettisonable towers  
 [NASA-CASE-XLA-00115] c03 N70-33343  
 Development and characteristics of electronic signalling system and data processing equipment for warning systems to avoid midair collisions between aircraft  
 [NASA-CASE-LAR-10717-1] c21 N73-30641

**FLIGHT SIMULATION**  
 Lunar landing flight research vehicle  
 [NASA-CASE-XFR-00929] c31 N70-34966  
 Television simulation for aircraft and space flight  
 [NASA-CASE-XFR-03107] c09 N71-19449  
 Electrical circuit selection device for simulating stage separation of flight vehicle  
 [NASA-CASE-YKS-04631] c10 N71-23663

**FLIGHT SIMULATORS**  
 Kinesthetic control simulator with multiple degree of freedom of movement similar to lunar flying vehicles  
 [NASA-CASE-LAR-10276-1] c11 N70-26813  
 Centrifuge mounted motion simulator with elevator mechanism  
 [NASA-CASE-IAC-00399] c11 N70-34815  
 Table structure and rotating magnet system simulating gravitational forces on spacecraft and displaying trajectories between Earth, Venus, and Mercury  
 [NASA-CASE-INP-00708] c14 N70-35394  
 Wind tunnel test section for simulating high Reynolds number over transonic speed range  
 [NASA-CASE-MFS-20509] c11 N72-17183  
 Development of flight simulator system to show position of joystick displacement  
 [NASA-CASE-NPO-11497] c08 N73-25206  
 Apparatus for applying simulator g-forces to an arm of an aircraft simulator pilot  
 [NASA-CASE-LAR-10550-1] c11 N74-30597  
 Vehicle simulator binocular multiplanar visual display system  
 [NASA-CASE-ARC-10808-1] c11 N74-32718

**FLIGHT TESTS**  
 Device for measuring drag forces in flight tests  
 [NASA-CASE-XLA-00113] c14 N70-33386

**FLIGHT VEHICLES**  
 Construction of leading edges of surfaces for aerial vehicles performing from subsonic to above transonic speeds  
 [NASA-CASE-XLA-01486] c01 N71-23497  
 Electro-optical attitude sensing device for landing approach of flight vehicle  
 [NASA-CASE-XMS-01994-1] c14 N72-17326

- Design and development of active control system for air cushion vehicle to reduce or eliminate effects of excessive vertical vibratory acceleration  
[NASA-CASE-LAR-10531-1] c02 N73-13023
- FLIP-FLOPS**  
Bistable multivibrator circuits operating at high speed and low power dissipation  
[NASA-CASE-XGS-00823] c10 N71-15910  
Stepping motor control apparatus exciting windings in proper time sequence to cause motor to rotate in either direction  
[NASA-CASE-GSC-10366-1] c10 N71-18772  
Interrogator and current driver circuit for combination with transistor flip-flop circuit  
[NASA-CASE-XGS-03058] c10 N71-19547
- FLOATING**  
Floating baffle for tank drain  
[NASA-CASE-KSC-10639] c15 N73-26472  
Modification of one man life raft  
[NASA-CASE-LAR-10241-1] c05 N74-14845
- FLOATS**  
Magnetically centered liquid column float  
[NASA-CASE-XAC-00030] c14 N70-34820
- FLOTATION**  
Development and characteristics of rescue litter with inflatable flotation device for water rescue application  
[NASA-CASE-XMS-04170] c05 N71-22748
- FLOW DEFLECTION**  
Exhaust flow deflector  
[NASA-CASE-LAR-11570-1] c28 N74-28233
- FLOW DIRECTION INDICATORS**  
Electric circuit for reversing direction of current flow  
[NASA-CASE-XNP-00952] c10 N71-23271  
Flow angle sensor and remote readout system for use with cryogenic fluids  
[NASA-CASE-XLE-04503] c14 N71-24864
- FLOW DISTRIBUTION**  
Multiple orifice fluid flow control valve to provide different flow patterns  
[NASA-CASE-ERC-10208] c15 N70-10867  
Photographing surface flow patterns on wind tunnel test models  
[NASA-CASE-XLA-01353] c14 N70-41366  
Color photointerpretation of interference colors reflected from thin film oil-coated components in moving gases for gas flow visualization  
[NASA-CASE-XMP-01779] c12 N71-20815  
Laser Doppler velocimeter for simultaneously measuring orthogonal fluid velocity components without flow field perturbation  
[NASA-CASE-ARC-10637-1] c14 N73-21390
- FLOW MEASUREMENT**  
Collapsible flow test device for obstructed passages  
[NASA-CASE-XMS-04917] c14 N69-24257  
Simulated fuel assembly-type flow measurement apparatus for coolant flow in reactor core  
[NASA-CASE-XLE-00724] c14 N70-34669  
Mass flow meter containing beta source for measuring nonpolar liquid flow  
[NASA-CASE-MFS-20485] c14 N72-11365  
Instrument for measuring magnitude and direction of flow velocity in flow field  
[NASA-CASE-LAR-10855-1] c14 N73-13415  
System for measuring drag forces in a turbulently flowing fluid  
[NASA-CASE-ARC-10755-1] c14 N74-14115  
Flow measuring apparatus  
[NASA-CASE-LEW-12078-1] c14 N74-18101
- FLOW REGULATORS**  
Antibacklash circuit for hydraulic drive system  
[NASA-CASE-XNP-01020] c03 N71-12260  
Tubular flow restrictor for gas flow control in pipeline  
[NASA-CASE-NPO-10117] c15 N71-15608  
Fluid flow control valve for regulating fluids in molecular quantities  
[NASA-CASE-XLE-00703] c15 N71-15967  
Control of gas flow from pressurized vessel by thermal expansion of metal plug  
[NASA-CASE-NPO-10298] c12 N71-17661  
Semitoroidal diaphragm cavitating flow control valve  
[NASA-CASE-XNP-09704] c12 N71-18615  
Describing device for changing flow rate of fluid in duct in response to change in temperature  
[NASA-CASE-MFS-14259] c15 N71-19213  
Pneumatic servoamplifier for controlling flow regulation  
[NASA-CASE-MSC-12121-1] c15 N71-27147  
Gas flow control device, including housing and input port  
[NASA-CASE-NPO-11479] c15 N73-13462
- FLOW STABILITY**  
Detonation reaction engine comprising outer housing enclosing pair of inner walls for continuous flow  
[NASA-CASE-XMF-06926] c28 N71-22983  
Apparatus for establishing flow of a fluid mass having a known velocity  
[NASA-CASE-MFS-21424-1] c12 N74-27730
- FLOW VELOCITY**  
Continuous variation of propellant flow and thrust by application of liquid foam flow theory to injection orifice  
[NASA-CASE-XLE-00177] c28 N70-40367  
Measuring density of single and two-phase cryogenic fluids in rocket fuel tanks  
[NASA-CASE-XLE-00688] c14 N70-41330  
Device for adding water to high velocity exhaust jets to reduce velocity, noise, and temperature  
[NASA-CASE-XMF-01813] c28 N70-41582  
Positive displacement flowmeter for measuring extremely low flows of fluid with self calibrating features  
[NASA-CASE-XMF-02822] c14 N70-41994  
Zeta potential flowmeter for measuring very slow to very high flows  
[NASA-CASE-XNP-06509] c14 N71-23226  
Device for simultaneously determining density, velocity, and temperature of streaming gas  
[NASA-CASE-XLA-03375] c16 N71-24074  
Doppler shifted laser beam as fluid velocity sensor  
[NASA-CASE-XAC-10770-1] c16 N71-24828  
Flowmeters for sensing low fluid flow rate and pressure for application to respiration rate studies  
[NASA-CASE-ERC-10022] c12 N71-26546  
Force balanced throttle valve for fuel control in rocket engines  
[NASA-CASE-NPO-10808] c15 N71-27432  
Flow rate switch for detecting variations in fluid flow velocity through conduits of pressurized systems  
[NASA-CASE-NPO-10722] c09 N72-20199  
Instrument for measuring magnitude and direction of flow velocity in flow field  
[NASA-CASE-LAR-10855-1] c14 N73-13415  
Procedure for generating uniform flow at varying velocities in wind tunnel test section  
[NASA-CASE-ARC-10710-1] c11 N73-27175  
Apparatus for establishing flow of a fluid mass having a known velocity  
[NASA-CASE-MFS-21424-1] c12 N74-27730
- FLOW VISUALIZATION**  
Method and apparatus for measuring shock layer radiation distribution about high velocity objects  
[NASA-CASE-XAC-02970] c14 N69-39896  
Color photointerpretation of interference colors reflected from thin film oil-coated components in moving gases for gas flow visualization  
[NASA-CASE-XMF-01779] c12 N71-20815
- FLOWMETERS**  
Collapsible flow test device for obstructed passages  
[NASA-CASE-XMS-04917] c14 N69-24257  
Simulated fuel assembly-type flow measurement apparatus for coolant flow in reactor core  
[NASA-CASE-XLE-00724] c14 N70-34669  
Positive displacement flowmeter for measuring extremely low flows of fluid with self calibrating features  
[NASA-CASE-XMF-02822] c14 N70-41994  
Heated element sensor for fluid flow detection in thermal conductive conduit with adaptive means to determine flow rate and direction  
[NASA-CASE-MSC-12084-1] c12 N71-17569  
Describing laser Doppler velocimeter for measuring mean velocity and turbulence of fluid flow  
[NASA-CASE-MFS-20386] c21 N71-19212

FLUID AMPLIFIERS

SUBJECT INDEX

Zeta potential flowmeter for measuring very slow to very high flows  
 [NASA-CASE-XNP-06509] c14 N71-23226

Flow meter for measuring stagnation pressure in boundary layer around high speed flight vehicle  
 [NASA-CASE-XFR-02007] c12 N71-24692

Doppler shifted laser beam as fluid velocity sensor  
 [NASA-CASE-XAC-10770-1] c16 N71-24828

Flowmeters for sensing low fluid flow rate and pressure for application to respiration rate studies  
 [NASA-CASE-FRC-10022] c12 N71-26546

Mass flow meter containing beta source for measuring nonpolar liquid flow  
 [NASA-CASE-NFS-20485] c14 N72-11365

Respiratory analysis system to determine gas flow rate and frequency of respiration and expiration cycles in real time  
 [NASA-CASE-HSC-13436-1] c05 N73-32015

Low power electromagnetic flowmeter system producing zero output signal for zero flow  
 [NASA-CASE-ARC-10362-1] c14 N73-32326

System for measuring drag forces in a turbulently flowing fluid  
 [NASA-CASE-ARC-10755-1] c14 N74-14115

Electromagnetic flow rate meter --- for liquid metals  
 [NASA-CASE-LEW-10981-1] c14 N74-21018

**FLUID AMPLIFIERS**

Fluid jet amplifier with fluid from jet nozzle deflected by inlet pressure  
 [NASA-CASE-XLE-03512] c12 N69-21466

Multiple vortex amplifier system as fluid valve  
 [NASA-CASE-XMF-04709] c15 N71-15609

Shear modulated fluid amplifier of high pressure hydraulic vortex amplifier type  
 [NASA-CASE-NFS-10412] c12 N71-17578

Development of vortex fluid amplifier for throttling rocket exhaust  
 [NASA-CASE-LEW-10374-1] c28 N73-13773

Fluid pressure amplifier and system  
 [NASA-CASE-LAR-10868-1] c09 N74-11050

**FLUID FILMS**

Journal bearings --- for lubricant films  
 [NASA-CASE-LEW-11076-1] c15 N74-21061

**FLUID FILTERS**

Absorbent apparatus for separating gas from liquid-gas stream used in environmental control under zero gravity conditions  
 [NASA-CASE-XNS-01492] c05 N70-41297

Compact high pressure filter for rocket fuel lines  
 [NASA-CASE-XNP-00732] c28 N70-41447

Development of liquid separating system using capillary device connected to flexible bladder storage chamber  
 [NASA-CASE-XNS-13052] c14 N71-20427

Design and characteristics of system for regenerating fluid filter to remove trapped particles with application to space shuttle systems  
 [NASA-CASE-MSC-14273-1] c12 N73-28179

Quick disconnect filter coupling  
 [NASA-CASE-NFS-22323-1] c15 N74-26988

Fluid control apparatus and method  
 [NASA-CASE-LAR-11110-1] c12 N74-29652

**FLUID FLOW**

Fluid jet amplifier with fluid from jet nozzle deflected by inlet pressure  
 [NASA-CASE-XLE-03512] c12 N69-21466

Pneumatic system for cyclic control of fluid flow in pneumatic device  
 [NASA-CASE-XNS-04843] c03 N69-21469

Multiple orifice fluid flow control valve to provide different flow patterns  
 [NASA-CASE-HRC-10208] c15 N70-10867

Conical valve plug for use with reactive cryogenic fluids  
 [NASA-CASE-XLE-00715] c15 N70-34859

Pressure regulating system with high pressure fluid source, adapted to maintain constant downstream pressure  
 [NASA-CASE-INP-00450] c15 N70-38603

Antiflutter check valve for use with high pressure fluid flow  
 [NASA-CASE-INP-01152] c15 N70-41811

Inductive liquid level detection system  
 [NASA-CASE-XLE-01609] c14 N71-10500

Multiple vortex amplifier system as fluid valve  
 [NASA-CASE-XMF-04709] c15 N71-15609

Heated element sensor for fluid flow detection in thermal conductive conduit with adaptive means to determine flow rate and direction  
 [NASA-CASE-MSC-12084-1] c12 N71-17569

Throttle valve for regulating fluid flow volume  
 [NASA-CASE-XNP-09699] c15 N71-18580

Photometric flow meter with comparator reference means  
 [NASA-CASE-XGS-01331] c14 N71-22996

Combination pressure transducer-calibrator assembly for measuring fluid  
 [NASA-CASE-XNP-01660] c14 N71-23036

Valve assembly for controlling simultaneously more than one fluid flow, and having stable qualities under loads  
 [NASA-CASE-XMS-05890] c09 N71-23191

Flowmeters for sensing low fluid flow rate and pressure for application to respiration rate studies  
 [NASA-CASE-FRC-10022] c12 N71-26546

Control valve for switching main stream of fluid from one stable position to another by means of electrohydrodynamic forces  
 [NASA-CASE-NPO-10416] c12 N71-27332

Fluid control jet amplifiers  
 [NASA-CASE-XLE-09341] c12 N71-28741

Mass flow meter containing beta source for measuring nonpolar liquid flow  
 [NASA-CASE-NFS-20485] c14 N72-11365

Flow rate switch for detecting variations in fluid flow velocity through conduits of pressurized systems  
 [NASA-CASE-NPO-10722] c09 N72-20199

Torsional disconnect device for releasably coupling distal ends of fluid conduits  
 [NASA-CASE-NPO-10704] c15 N72-20445

Capacitive tank gaging device for monitoring one constituent of two phase fluid by sensing dielectric constant  
 [NASA-CASE-NFS-21629] c14 N72-22442

Transferring liquid nitrogen through vacuum chamber to cryopanel  
 [NASA-CASE-LAR-10031] c15 N72-22484

Design and development of device for moving liquid through pipes without use of mechanical pumps  
 [NASA-CASE-LAR-10799-1] c12 N73-12295

Design and development of device to prevent geysering during convective circulation of cryogenic fluids  
 [NASA-CASE-MSC-10615] c15 N73-12486

Laser Doppler velocimeter for simultaneously measuring orthogonal fluid velocity components without flow field perturbation  
 [NASA-CASE-ARC-10637-1] c14 N73-21390

Design and development of thermomechanical pump for transmitting varying fluid through fluid circuit to control temperature of spacecraft instrumentation  
 [NASA-CASE-NPO-11417] c15 N73-24513

Design and characteristics of system for regenerating fluid filter to remove trapped particles with application to space shuttle systems  
 [NASA-CASE-MSC-14273-1] c12 N73-28179

System for measuring drag forces in a turbulently flowing fluid  
 [NASA-CASE-ARC-10755-1] c14 N74-14115

Combined dual scatter, local oscillator laser Doppler velocimeter  
 [NASA-CASE-ARC-10642-1] c14 N74-18099

Flow measuring apparatus  
 [NASA-CASE-LEW-12078-1] c14 N74-18101

Flow control valve --- for high temperature fluids  
 [NASA-CASE-NPO-11951-1] c15 N74-21065

An internally supported flexible duct joint --- device for conducting fluids in high pressure systems when flexible joints are required  
 [NASA-CASE-NFS-19193-1] c15 N74-22145

Apparatus for establishing flow of a fluid mass having a known velocity  
 [NASA-CASE-NFS-21424-1] c12 N74-27730

An externally supported internally stabilized flexible duct joint  
 [NASA-CASE-NFS-19194-1] c15 N74-34882

**FLUID INJECTION**

Solid propellant ignition with hypergolic fluid

injected to predetermined portions of propellant  
 [NASA-CASE-XLE-00207] c28 N70-33375  
 Method for igniting solid propellant rocket  
 motors by injecting hypergolic fluids  
 [NASA-CASE-XLE-01988] c27 N71-15634  
 Constructing fluid spike nozzle to eliminate  
 heat transfer and high temperature problems  
 inherent in physical spikes  
 [NASA-CASE-XGS-01143] c31 N71-15647  
 Method and apparatus for producing fine  
 particles in cryogenic liquid bath for gelled  
 rocket propellants  
 [NASA-CASE-NPO-10250] c23 N71-16212  
 Fluid transferring system design for purging  
 toxic, corrosive, or noxious fluids and fumes  
 from materials handling equipment for  
 cleansing and accident prevention  
 [NASA-CASE-XMS-01905] c12 N71-21089  
 Tertiary flow injection system for thrust  
 vectoring of propulsive nozzle flow  
 [NASA-CASE-MPS-20831] c28 N71-29153  
 Programmable physiological infusion  
 [NASA-CASE-ARC-10447-1] c05 N74-22771  
**FLUID JETS**  
 Directed fluid stream for propeller blade  
 loading control  
 [NASA-CASE-XAC-00139] c02 N70-34856  
**FLUID LOGIC**  
 Logic AND gate for fluid circuits  
 [NASA-CASE-XLA-07391] c12 N71-17579  
**FLUID MECHANICS**  
 Fluid leakage detection system with automatic  
 monitoring capability  
 [NASA-CASE-LAR-10323-1] c12 N71-17573  
 Development and characteristics of parallel  
 plate viscometer for determination of absolute  
 viscosity of liquids and viscoelastic materials  
 [NASA-CASE-NPO-11387] c14 N73-14429  
**FLUID POWER**  
 Fluid power transmission and gas bearing system  
 [NASA-CASE-XMS-01445] c12 N71-16031  
 Low friction gas bearing system for fluid power  
 transmission to bearing-supported payload  
 [NASA-CASE-ERC-10097] c15 N71-28465  
**FLUID ROTOR GYROSCOPES**  
 Piezoelectric pump for supplying fluid at high  
 frequencies to gyroscope fluid suspension system  
 [NASA-CASE-XNP-05429] c26 N71-21824  
**FLUID SWITCHING ELEMENTS**  
 Two phase fluid pressurization system for  
 propellant tank  
 [NASA-CASE-MSC-12390] c27 N71-29155  
**FLUID TRANSMISSION LINES**  
 Device for suppressing pressure oscillations in  
 fluid transmission lines  
 [NASA-CASE-MPS-10354] c12 N70-41976  
 Device for suppressing pressure oscillations in  
 fluid transmission line  
 [NASA-CASE-MPS-10354-2] c12 N72-25306  
**FLUIDIC CIRCUITS**  
 Using molds for fabricating individual fluid  
 circuit components  
 [NASA-CASE-XLA-07829] c15 N72-16329  
 Flow measuring apparatus  
 [NASA-CASE-LEW-12078-1] c14 N74-18101  
**FLUIDICS**  
 Fluidic-thermochromic display device  
 [NASA-CASE-ERC-10031] c12 N71-18603  
 Plasma-fluidic hybrid display system combining  
 high brightness and memory characteristics  
 [NASA-CASE-ERC-10100] c09 N71-33519  
 Continuous gas flow control by fluidic  
 proportional thruster system  
 [NASA-CASE-ARC-10106-1] c28 N72-22769  
 Fluid pressure amplifier and system  
 [NASA-CASE-LAR-10868-1] c09 N74-11050  
**FLUIDS**  
 Automated fluid chemical analyzer for  
 microchemical analysis of small quantities of  
 liquids by use of selected reagents and  
 analyzer units  
 [NASA-CASE-XNP-09451] c06 N71-26754  
 Detection of bacteria in biological fluids and  
 foods  
 [NASA-CASE-GSC-11533-1] c14 N73-13435  
 Fluid polydimethylsiloxane resin with low  
 outgassing properties in cured state  
 [NASA-CASE-GSC-11358-1] c06 N73-26100

**FLUORESCENCE**

Spectrophotofluorometer with 3-dimensional  
 display to identify fluorescence spectra of  
 carcinogenic and noncarcinogenic hydrocarbons  
 [NASA-CASE-XGS-01231] c14 N70-41676  
 Sealed fluorescent tube light unit capable of  
 connection with other units to form string of  
 work lights  
 [NASA-CASE-XKS-05932] c09 N71-26787  
 Fluorescence detector for monitoring atmospheric  
 pollutants  
 [NASA-CASE-NPO-13231-1] c14 N74-25932  
 Chrono-fluorographic drug detector --- device  
 for detecting and recording fluorescent  
 properties of materials  
 [NASA-CASE-ARC-10633-1] c14 N74-26947

**FLUORIDES**

Self lubricating fluoride-metal composite  
 materials for outer space applications  
 [NASA-CASE-XLE-08511] c18 N71-23710  
 Development of fluoride coating to prevent  
 oxidation of beryllium surfaces at elevated  
 temperatures  
 [NASA-CASE-LEW-10327] c17 N71-33408  
 Perfluoro polyether acyl fluorides  
 [NASA-CASE-NPO-10765] c06 N72-20121

**FLUORINATION**

Fluorinated polyurethanes produced by reacting  
 hydroxy terminated perfluoro polyether with  
 diisocyanate  
 [NASA-CASE-NPO-10767-2] c06 N72-27151  
 Fluorinated esters of polycarboxylic acid and  
 lubricating compositions for use at extreme  
 temperature  
 [NASA-CASE-MPS-21040-1] c06 N73-30098

**FLUORINE**

Reaction of polyperfluoropolyenes with fluorine  
 to produce saturated polymer chain or create  
 reactive sites on chain  
 [NASA-CASE-NPO-10862] c06 N72-22107

**FLUORO COMPOUNDS**

Synthesis of polyfluorobutadiene by  
 polymerization of perfluorobutadiene with  
 diisopropyl peroxydicarbonate  
 [NASA-CASE-NPO-10863] c06 N70-11251  
 Low pressure perfluorobutadiene polymerization  
 with peroxide catalysts  
 [NASA-CASE-NPO-10447] c06 N70-11252  
 Oxygen difluoride in synthesis of fluoropolymers  
 [NASA-CASE-NPO-12061-1] c06 N72-21100  
 Preparation of fluorohydroxy ethers by reacting  
 fluoroalkylene oxides with alkali salt of  
 polyfluoroalkylene diol  
 [NASA-CASE-MPS-10507] c06 N73-30101  
 Preparation of fluorinated polyethers from  
 2-hydro-perhaloisopropyl alcohols  
 [NASA-CASE-MPS-11492] c06 N73-30102  
 Chemical and elastic properties of fluorinated  
 polyurethanes  
 [NASA-CASE-NPO-10767-1] c06 N73-33076

**FLUOROCARBONS**

Electrically conductive fluorocarbon polymers  
 [NASA-CASE-XLE-06774-2] c06 N72-25150

**FLUTTER**

Antiflutter check valve for use with high  
 pressure fluid flow  
 [NASA-CASE-XNP-01152] c15 N70-41811  
 Development of aerodynamic control system to  
 control flutter over large range of  
 oscillatory frequencies using stability  
 augmentation techniques  
 [NASA-CASE-LAR-10682-1] c02 N73-26004

**FLUX (RATE)**

Solid state device for mapping flux and power in  
 nuclear reactor cores  
 [NASA-CASE-XLE-00301] c14 N70-36808  
 Fluxgate magnetometer for measuring magnetic  
 field along two axes using one sensor  
 [NASA-CASE-GSC-10441-1] c14 N71-27325

**FLUX DENSITY**

Particle beam power density detection and  
 measurement apparatus  
 [NASA-CASE-XLE-00243] c14 N70-38602

**FLUXES**

Hydrazine monoperfluoro alkanoate solder flux  
 leaving corrosion resistant coating, for  
 metals such as copper  
 [NASA-CASE-INP-03459-2] c18 N71-15688

- Metal soldering with hydrazine monoperfluoro alkanoate for corrosion resistant coatings  
[NASA-CASE-XNP-03459] c15 N71-21078
- FOAMS**
- Fire retardant polyisocyanurate foam with high temperature resistance  
[NASA-CASE-ARC-10280-1] c18 N70-34695
- Elastic foam generator for space vehicle instrument payload package flotation in water landing  
[NASA-CASE-XLA-00838] c03 N70-36778
- Continuous variation of propellant flow and thrust by application of liquid foam flow theory to injection orifice  
[NASA-CASE-XLE-00177] c28 N70-40367
- Development of foam insulation for filament wound cryogenic storage tank  
[NASA-CASE-XLE-03803] c15 N71-23816
- Carboxyl terminated polyester prepolymers and foams produced from prepolymers and materials  
[NASA-CASE-NPO-10596] c06 N71-25929
- Storage stable, thermally activated foaming compositions for erecting and rigidizing mechanisms of thin sheet solar collectors  
[NASA-CASE-LAR-10373-1] c18 N71-26155
- Method of making solid propellant rocket motor having reliable high altitude capabilities, long shelf life, and capable of firing with nozzle closure with foamed plastic permanent mandrel  
[NASA-CASE-XLA-04126] c28 N71-26779
- Foam insulation thickness measuring and injection device for spacecraft applications  
[NASA-CASE-MPS-20261] c14 N71-27005
- Description of method for making homogeneous foamed materials in weightless environment using materials having different physical properties  
[NASA-CASE-XMP-09902] c15 N72-11387
- Polyimide foam for the thermal insulation and fire protection  
[NASA-CASE-ARC-10464-1] c06 N74-12812
- Intumescent composition, foamed product prepared therewith and process for making same  
[NASA-CASE-ARC-10304-2] c18 N74-27037
- FOCUSING**
- X ray collimating structure for focusing radiation directly onto detector  
[NASA-CASE-XHQ-04106] c14 N70-40240
- Aptured electrode focusing system for ion sources with nonuniform plasma density  
[NASA-CASE-XNP-03332] c09 N71-10618
- Development and characteristics of Petzval type objective including field shaping lens for focusing light of specified wavelength band on curved photoreceptor  
[NASA-CASE-GSC-10700] c23 N71-30027
- Absolute focus locking device for microscopes to maintain set focus for extended time period  
[NASA-CASE-LAR-10184] c14 N72-22445
- Electron beam controller --- using magnetic field to refocus spent electron beam in microwave oscillator tube  
[NASA-CASE-LEW-11617-1] c09 N74-10195
- Automatic focus control for facsimile cameras  
[NASA-CASE-LAR-11213-1] c14 N74-10420
- FOILS (MATERIALS)**
- Foil seal between parts moving relative to each other  
[NASA-CASE-XLE-05130] c15 N69-21362
- Procedure for making insulating foil for use in multilayer insulating system  
[NASA-CASE-LEW-11484-1] c15 N73-22415
- FOLDING**
- Characteristics of device for folding thin flexible sheets into compact configuration  
[NASA-CASE-XLA-00137] c15 N70-33180
- FOLDING STRUCTURES**
- Lenticular vehicle with foldable aerodynamic control flaps and reaction jets for operation above and within earth's atmosphere  
[NASA-CASE-IGS-00260] c31 N70-37924
- Collapsible, space erectable loop antenna system for space vehicle  
[NASA-CASE-XNP-00437] c07 N70-40202
- Unfolding boom assembly with knuckle joints for positioning equipment for spacecraft  
[NASA-CASE-XGS-00938] c32 N70-41367
- Foldable conduit capable of springing back as self erecting structural member  
[NASA-CASE-XLE-00620] c32 N70-41579
- Foldable, double cone and parabolic reflector system for solar ray concentration  
[NASA-CASE-XLA-04622] c03 N70-41580
- Method for deployment of flexible wing glider from space vehicle with minimum impact and loading  
[NASA-CASE-XMS-00907] c02 N70-41630
- Development and characteristics of variable sweep wing control system for supersonic aircraft  
[NASA-CASE-XLA-03659] c02 N71-11041
- Hydraulic actuator design for space deployment of heat radiators  
[NASA-CASE-MSC-11817-1] c15 N71-26611
- Apparatus and method of assembling building blocks by folding pre-cut flat sheets of material during on-site construction  
[NASA-CASE-MSC-12233-1] c15 N72-25454
- FOOD**
- Detection of bacteria in biological fluids and foods  
[NASA-CASE-GSC-11533-1] c14 N73-13435
- FORCE**
- Electromechanical actuator for producing mechanical force and/or motion in response to electrical signals  
[NASA-CASE-NPO-11738-1] c09 N73-30185
- FORCE DISTRIBUTION**
- Device for handling heavy loads by distributing forces  
[NASA-CASE-XNP-04969] c11 N69-27466
- Development of two force component measuring device  
[NASA-CASE-XAC-04886-1] c14 N71-20439
- Tensile strength testing device having pulley guides for exerting multiple forces on test specimen  
[NASA-CASE-XNP-05634] c15 N71-24834
- Development and characteristics of device for indicating and recording magnitude of force applied in axial direction  
[NASA-CASE-MSC-15626-1] c14 N72-25411
- Variable direction force coupler for transmitting force along selectable curve path  
[NASA-CASE-MPS-20317] c15 N73-13463
- FORMALDEHYDE**
- Chemical synthesis of formaldehyde based disinfectants without penetrating odor and eye and ear irritation properties  
[NASA-CASE-NPO-12115-1] c06 N73-17153
- FORMATES**
- Preparation of polyurethane polymer by reacting hydroxy polyformal with organic diisocyanate  
[NASA-CASE-MPS-10509] c06 N73-30103
- FORMING TECHNIQUES**
- Apparatus for forming wire grids for electric strain gages  
[NASA-CASE-XLE-00023] c15 N70-33330
- Hot forming of plastic sheets  
[NASA-CASE-XMS-05516] c15 N71-17803
- Forming tubes from long thin flat metal strips  
[NASA-CASE-IGS-04175] c15 N71-18579
- Portable magnetomotive hammer for metal working  
[NASA-CASE-XNP-03793] c15 N71-24833
- Forming mold for polishing and machining curved solar magnesium reflector with reinforcing ribs  
[NASA-CASE-XLE-08917-2] c15 N71-24836
- Heat treatment and tooling for forming shapes from thermosetting honeycomb core sheets  
[NASA-CASE-NPO-11036] c15 N72-24522
- Method of heat treating a formed powder product material  
[NASA-CASE-LEW-10805-3] c17 N74-10521
- Drilled ball bearing with a one piece anti-tipping cage assembly  
[NASA-CASE-LEW-11925-1] c15 N74-18133
- Apparatus for forming dished ion thruster grids  
[NASA-CASE-LEW-11694-2] c15 N74-22147
- Molding apparatus --- for thermosetting plastic compositions  
[NASA-CASE-LAR-10489-2] c15 N74-32920
- FOUNDATIONS**
- Base support for expansible and contractible coupling between two members  
[NASA-CASE-NPO-11059] c15 N72-17454

## FOURIER TRANSFORMATION

Photographic film restoration system using  
Fourier transformation lenses and spatial filter  
[NASA-CASE-MSC-12448-1] c14 N72-20394  
Continuous Fourier transform method and apparatus  
[NASA-CASE-ARC-10466-1] c08 N73-21199

## FRACTIONATION

Purification apparatus for vaporization and  
fractional distillation of liquids  
[NASA-CASE-MNP-08124] c15 N71-27184

## FRACTURE MECHANICS

Apparatus for testing metallic and nonmetallic  
beams or rods by bending at high temperatures  
in vacuum or inert atmosphere  
[NASA-CASE-XLE-01300] c15 N70-41993

## FRAMES

Shock absorbing articulated multiple couch  
assembly  
[NASA-CASE-MSC-11253] c05 N71-12343  
Pliable frame for sunglasses in emergency  
survival kits  
[NASA-CASE-IMS-06064] c05 N71-23096  
Expandable space frames with high expansion to  
collapse ratio  
[NASA-CASE-ERC-10365-1] c31 N73-32749

## FRAMING CAMERAS

High speed photo-optical time recorder for  
indicating time at exposure of each frame of  
high speed movie camera film  
[NASA-CASE-KSC-10294] c14 N72-18411

## FREE FLIGHT TEST APPARATUS

Hydraulic support equipment for full scale  
dynamic testing of large rocket vehicle under  
free flight conditions  
[NASA-CASE-XMF-01772] c11 N70-41677  
Hydraulic support apparatus for dynamic testing  
of space vehicles under near-free flight  
conditions  
[NASA-CASE-XMF-03248] c11 N71-10604  
Free flight suspension system for use with  
aircraft models in wind tunnel tests  
[NASA-CASE-ILA-00939] c11 N71-15926

## FREEZE DRYING

Rice preparation process consisting of cooking,  
two freezing-thawing cycles, and then freeze  
drying  
[NASA-CASE-MSC-13540-1] c05 N72-33096

## FREON

Solar energy power system --- using freon  
[NASA-CASE-MFS-21628-1] c29 N74-14496

## FREQUENCIES

Controlled oscillator system with a time  
dependent output frequency  
[NASA-CASE-NPO-11962-1] c09 N74-10194  
High efficiency multifrequency feed  
[NASA-CASE-GSC-11317-3] c09 N74-20863

## FREQUENCY ANALYZERS

Describing frequency discriminator using digital  
logic circuits and supplying single binary  
output signal  
[NASA-CASE-MFS-14322] c08 N71-18692  
Broadband frequency discriminator with resistive  
captive inductive networks  
[NASA-CASE-NPO-10096] c07 N71-24583  
Audio frequency analysis circuit for  
determining, displaying, and recording  
frequency of sweeping audio frequency signal  
[NASA-CASE-NPO-11147] c14 N72-27408  
Continuous Fourier transform method and apparatus  
[NASA-CASE-ARC-10466-1] c08 N73-21199

## FREQUENCY CONTROL

Automatic control of voltage supply to direct  
current motor  
[NASA-CASE-XMS-04215-1] c09 N69-39987  
Variable frequency magnetic coupled  
multivibrator with temperature compensated  
frequency control circuit  
[NASA-CASE-XGS-00458] c09 N70-38604  
Variable frequency magnetic coupled  
multivibrator with output signal of constant  
amplitude and waveform  
[NASA-CASE-XGS-00131] c09 N70-38995  
Development of automatic frequency  
discriminators and control for phase lock loop  
providing frequency preset capabilities  
[NASA-CASE-XMF-08665] c10 N71-19467  
Linear accelerator frequency control system  
[NASA-CASE-XGS-05441] c10 N71-22962

Tuning arrangement for frequency control of  
magnetron-type electron discharge device  
[NASA-CASE-XNP-09771] c09 N71-24841

Development of acoustical controlled distributed  
feedback laser with continuous frequency  
spectrum tuning  
[NASA-CASE-NPO-13175-1] c16 N73-27431

Low loss dichroic plate  
[NASA-CASE-NPO-13171-1] c07 N74-11000

Automatic frequency control for FM transmitter  
[NASA-CASE-MFS-21540-1] c07 N74-19790

## FREQUENCY CONVERTERS

Frequency to analog converters with unipolar  
field effect transistor for determining  
potential charge by pulse duration of input  
signal  
[NASA-CASE-XNP-07040] c08 N71-12500

Describing static inverter with single or  
multiple phase output  
[NASA-CASE-XMF-00663] c08 N71-18752

Voltage controlled, variable frequency  
relaxation oscillator with MOSFET variable  
current feed  
[NASA-CASE-GSC-10022-1] c10 N71-25882

Development of family of frequency to amplitude  
converters for frequency analysis of complex  
input signal waveforms  
[NASA-CASE-MSC-12395] c09 N72-25257

## FREQUENCY DISTRIBUTION

Monopole antenna system for maximum  
omnidirectional efficiency for use on satellites  
[NASA-CASE-XLA-00414] c07 N70-38200

Variable frequency subcarrier oscillator with  
temperature compensation  
[NASA-CASE-XNP-03916] c09 N71-28810

## FREQUENCY DIVIDERS

Low phase noise frequency divider for use with  
deep space network communication system  
[NASA-CASE-NPO-11569] c10 N73-26229

Technique for extending the frequency range of  
digital dividers  
[NASA-CASE-LAR-10730-1] c10 N74-10223

Symmetrical odd-modulus frequency divider  
[NASA-CASE-NPO-13426-1] c09 N74-18869

## FREQUENCY DIVISION MULTIPLEXING

Earth satellite relay station for frequency  
multiplexed voice transmission  
[NASA-CASE-GSC-10118-1] c07 N71-24621

System for monitoring condition responsive  
devices by using frequency division multiplex  
technique  
[NASA-CASE-KSC-10521] c07 N73-20176

## FREQUENCY MEASUREMENT

Measurement system for physical quantity  
represented by or converted to variable  
frequency signal  
[NASA-CASE-MFS-20658-1] c14 N73-30386

## FREQUENCY MODULATION

Accelerometer with FM output signals indicative  
of mechanical strain on it  
[NASA-CASE-XLA-00492] c14 N70-34799

Circuitry for generating sync signals in FM  
communication systems including video  
information  
[NASA-CASE-XNP-10830] c07 N71-11281

Demodulator for simultaneous demodulation of two  
modulating ac signal carriers close in frequency  
[NASA-CASE-XMF-01160] c07 N71-11298

Optical tracker with pair of FM reticles having  
patterns 90 deg out of phase  
[NASA-CASE-XGS-05715] c23 N71-16100

Atomic hydrogen maser with bulb temperature  
control by output frequency difference signal  
for wall shift elimination  
[NASA-CASE-HQN-10654-1] c16 N73-13489

Device for locating electrically nonlinear  
objects and determining distance to object by  
FM signal transmission  
[NASA-CASE-KSC-10108] c14 N73-25461

Symmetrical odd-modulus frequency divider  
[NASA-CASE-NPO-13426-1] c09 N74-18869

Automatic frequency control for FM transmitter  
[NASA-CASE-MFS-21540-1] c07 N74-19790

## FREQUENCY MULTIPLIERS

Multiple varactor for generating high  
frequencies with high power and high  
conversion efficiency  
[NASA-CASE-XMF-04958-1] c10 N71-26414



**FREQUENCY RANGES**

**SUBJECT INDEX**

**FREQUENCY RANGES**

Variable time constant, wide frequency range smoothing network for noise removal from pulse chains  
[NASA-CASE-IGS-01983] c10 N70-41964

Variable frequency nuclear magnetic resonance spectrometer providing drive signals over wide frequency range and minimizing noise effects  
[NASA-CASE-IMP-09830] c14 N71-26266

Technique for extending the frequency range of digital dividers  
[NASA-CASE-LAR-10730-1] c10 N74-10223

Multichannel logarithmic RF level detector  
[NASA-CASE-LAR-11021-1] c14 N74-20019

**FREQUENCY RESPONSE**  
Adjustable frequency response microphone  
[NASA-CASE-LAR-11170-1] c07 N74-12843

**FREQUENCY SHIFT**  
Doppler frequency shift correction device for multiplex communication with Applications Technology Satellites  
[NASA-CASE-IGS-02749] c07 N69-39978

Serrodyne traveling wave tube reentrant amplifier for synchronous communication satellites operating at microwave frequencies  
[NASA-CASE-IGS-01022] c07 N71-16088

Multiplexed communication system design including automatic correction of transmission errors introduced by frequency spectrum shifts  
[NASA-CASE-IMP-01306] c07 N71-20814

Doppler shifted laser beam as fluid velocity sensor  
[NASA-CASE-IAC-10770-1] c16 N71-24828

**FREQUENCY SHIFT KEYING**  
Frequency shift keyed demodulator - circuit diagrams  
[NASA-CASE-IGS-02869] c07 N71-11282

Frequency shift keying apparatus for use with pulse code modulation data transmission system  
[NASA-CASE-IGS-01537] c07 N71-23405

**FREQUENCY STABILITY**  
Gas laser frequency stabilized by position of mirrors in resonant cavity  
[NASA-CASE-IGS-03644] c16 N71-18614

Solid state broadband stable power amplifier  
[NASA-CASE-IMP-10854] c10 N71-26331

**FREQUENCY STANDARDS**  
Development of method for synchronizing clocks at several ground stations based on signals received from spacecraft or satellites  
[NASA-CASE-IMP-08675] c10 N71-23099

**FREQUENCY SYNCHRONIZATION**  
Synchronized digital communication system  
[NASA-CASE-IMP-03623] c09 N73-28084

**FREQUENCY SYNTHESIZERS**  
Digitally controlled frequency synthesizer for pulse frequency modulation telemetry systems  
[NASA-CASE-IGS-02317] c09 N71-23525

**FRICTION**  
Axially and radially controllable magnetic bearing  
[NASA-CASE-GSC-11551-1] c15 N74-18132

**FRICTION FACTOR**  
Self lubricating gears and other mechanical parts having surface adapted to frictional contact  
[NASA-CASE-NFS-14971] c15 N71-24984

**FRICTION MEASUREMENT**  
Kinetic and static friction force measurement between magnetic tape and magnetic head surfaces  
[NASA-CASE-IMP-08680] c14 N71-22995

**FRICTION REDUCTION**  
Development of low friction magnetic recording tape  
[NASA-CASE-IGS-00373] c23 N71-15978

Hollow high strength rolling elements for antifriction bearings fabricated from preformed components  
[NASA-CASE-LEW-11026-1] c15 N73-33383

**FRICTIONLESS ENVIRONMENTS**  
Air bearings for near frictionless transfer of loads from one body to another  
[NASA-CASE-IMP-01887] c15 N71-10617

Platform with several ground effect pads and plenum chambers  
[NASA-CASE-NFS-14685] c31 N71-15689

Development of apparatus for simulating zero gravity conditions  
[NASA-CASE-NFS-12550] c27 N71-16223

**FROST**

Insulating system for receptacles of liquefied gases using wire cloth for forming frost layer  
[NASA-CASE-IMP-00341] c15 N70-33323

**FUEL CELLS**

Inorganic ion exchange membrane electrolytes for fuel cell use  
[NASA-CASE-IMP-04264] c03 N69-21337

Operation method for combined electrolysis device and fuel cell using molten salt to produce power by thermoelectric regeneration mechanism  
[NASA-CASE-XLE-01645] c03 N71-20904

Electrode sealing and insulation for fuel cells containing caustic liquid electrolytes using powdered plastic and metal  
[NASA-CASE-IMS-01625] c15 N71-23022

Development and characteristics of ion-exchange membrane and electrode assembly for fuel cells or electrolysis cells  
[NASA-CASE-IMS-02063] c03 N71-29044

Method for producing asbestos matrix suitable for use in fuel cell or electrolysis cell  
[NASA-CASE-NSC-12568-1] c18 N73-16577

**FUEL CONTROL**

Attitude and propellant flow control system for liquid propellant rocket vehicles  
[NASA-CASE-IMP-00185] c21 N70-34539

Flexible ring slosh damping baffle for spacecraft fuel tank  
[NASA-CASE-LAR-10317-1] c32 N71-16103

Submerged fuel tank baffles to prevent sloshing in liquid propellant rocket flight  
[NASA-CASE-XLA-04605] c32 N71-16106

Control valve and coaxial variable injector for controlling bipropellant mixture ratio and flow  
[NASA-CASE-IMP-09702] c15 N71-17654

Force balanced throttle valve for fuel control in rocket engines  
[NASA-CASE-NPO-10808] c15 N71-27432

Variable-orifice hydraulic mechanism for aircraft gas turbine engine fuel control  
[NASA-CASE-LEW-11187-1] c28 N73-19793

**FUEL FLOW**

Development of system for preheating vaporized fuel for use with internal combustion engines  
[NASA-CASE-NPO-12072] c28 N72-22772

**FUEL FLOW REGULATORS**

Solenoid two-step valve for bipropellant flow rate control to rocket engine  
[NASA-CASE-IMS-04890-1] c15 N70-22192

Water electrolysis rocket engine with self-regulating stoichiometric fuel mixing regulator  
[NASA-CASE-IGS-08729] c28 N71-14044

**FUEL GAGES**

Response analyzing apparatus for liquid vapor interface sensor of sloshing rocket propellant  
[NASA-CASE-NFS-11204] c14 N71-29134

**FUEL INJECTION**

Apparatus for cooling and injecting hypergolic propellants into combustion chamber of small rocket engine  
[NASA-CASE-XLE-00303] c15 N70-36535

Fuel injection system for maximum combustion efficiency of rocket engines  
[NASA-CASE-XLE-00111] c28 N70-38199

Propellant injection assembly having individually removable and replaceable nozzles for liquid fueled rocket engines  
[NASA-CASE-IMP-00968] c28 N71-15660

Fuel and oxidizer injection head for thrust chamber of reaction engine  
[NASA-CASE-NPO-10046] c28 N72-17843

Improved injector with porous plug for bubbles of gas into feed lines of electrically conductive liquid  
[NASA-CASE-NPO-11377] c15 N73-27406

Rocket propellant injector with porous faceplate for rocket engine combustion chamber  
[NASA-CASE-LEW-11071-1] c27 N73-27695

**FUEL PUMPS**

Variable displacement fuel pump for internal combustion engines  
[NASA-CASE-NSC-12139-1] c28 N71-14050

**FUEL SYSTEMS**

Internal labyrinth and shield structure to improve electrical isolation of propellant feed source from ion thruster  
[NASA-CASE-LEW-10210-1] c28 N71-26781

- Development of system for preheating vaporized fuel for use with internal combustion engines [NASA-CASE-WPO-12072] c28 N72-22772
- Supersonic-combustion rocket [NASA-CASE-LEW-11058-1] c28 N74-13502
- FUEL TANK PRESSURIZATION**
- Fuel tank pressure-relief device for venting cryogenic liquid vapors through tubes with porous plug [NASA-CASE-XLE-00288] c15 N70-34247
- Automatically reciprocating, high pressure pump for use in spacecraft cryogenic propellants [NASA-CASE-INP-04731] c15 N71-24042
- Method and apparatus for pressurizing propellant tanks used in propulsion motor feed system [NASA-CASE-INP-00650] c27 N71-28929
- FUEL TANKS**
- Reduced gravity liquid configuration simulator to study propellant behavior in rocket fuel tanks [NASA-CASE-XLE-02624] c12 N69-39988
- Flexible ring slosh damping baffle for spacecraft fuel tank [NASA-CASE-LAR-10317-1] c32 N71-16103
- Submerged fuel tank baffles to prevent sloshing in liquid propellant rocket flight [NASA-CASE-XLA-04605] c32 N71-16106
- Pressure sensor network for measuring liquid dynamic response in flight including fuel tank acceleration, liquid slosh amplitude, and fuel depth monitoring [NASA-CASE-XLA-05541] c12 N71-26387
- Electrical failure detector in solid rocket propellant motor insulation against thermal degradation by fuel grain [NASA-CASE-INP-03968] c14 N71-27186
- FUEL VALVES**
- Apparatus for cooling and injecting hypergolic propellants into combustion chamber of small rocket engine [NASA-CASE-XLE-00303] c15 N70-36535
- Semitoroidal diaphragm cavitating flow control valve [NASA-CASE-INP-09704] c12 N71-18615
- Filler valve design for supplying liquid propellants at high pressure to space vehicles [NASA-CASE-INP-01747] c15 N71-23024
- FUNCTION GENERATORS**
- Mechanical function generators with potentiometer as sensing element [NASA-CASE-IAC-00001] c15 N71-28952
- Digital quasi-exponential function generator [NASA-CASE-WPO-11130] c08 N72-20176
- Service life of electromechanical device for generating sine/cosine functions [NASA-CASE-LAR-10503-1] c09 N72-21248
- Function generators for producing complex vibration mode patterns used to identify vibration mode data [NASA-CASE-LAR-10310-1] c10 N73-20253
- Integrated circuit tangnet function generator [NASA-CASE-MSC-13907-1] c10 N73-26230
- FURLABLE ANTENNAS**
- Development and characteristics of extensible dipole antenna using deformable tubular metallic strip element [NASA-CASE-HQN-00937] c07 N71-28979
- Furlable antenna for spacecraft [NASA-CASE-WPO-11361] c07 N72-32169
- FURNACES**
- High speed infrared furnace [NASA-CASE-XLE-10466] c17 N69-25147
- Development of black-body source calibration furnace [NASA-CASE-XLE-01399] c33 N71-15625
- Induction heating of metallurgical specimens to high temperatures in coil furnace [NASA-CASE-XLE-04026] c14 N71-23267
- Electric furnace for vacuum and zero gravity melting of high melting point materials during earth orbit [NASA-CASE-MFS-20710] c11 N72-23215
- FUSION (MELTING)**
- Silver chloride use in technique for fusion bonding of graphite to silver, glass, ceramics, and certain other metals [NASA-CASE-IGS-00963] c15 N69-39735
- Process for fiberizing ceramic materials with high fusion temperatures and tensile strength [NASA-CASE-INP-00597] c18 N71-23088
- FUSION WELDING**
- Fabricating solar cells with dielectric layers to improve glass fusion [NASA-CASE-IGS-04531] c03 N69-24267
- Control of fusion welding through use of thermocouple wire [NASA-CASE-MFS-06074] c15 N71-20393
- Diffusion welding in air --- solid state welding of butt joint by fusion welding, surface cleaning, and heating [NASA-CASE-LEW-11387-1] c15 N74-18128

## G

**GADOLINIUM**

- Doping silicon material with gadolinium to increase radiation resistance of solar cells [NASA-CASE-XLE-02792] c26 N71-10607
- Gadolinium or samarium doped-silicon semiconductor material with resistance to radiation damage for use in solar cells [NASA-CASE-XLE-10715] c26 N71-23292

**GALLIUM**

- Device for measuring two orthogonal components of force with gallium flotation of measuring target for use in vacuum environments [NASA-CASE-IAC-04885] c14 N71-23790

**GALLIUM ARSENIDES**

- Describing method for vapor deposition of gallium arsenide films to manganese substrates to provide semiconductor devices with low resistance substrates [NASA-CASE-INP-01328] c26 N71-18064
- Gallium arsenide solar cell preparation by surface deposition of cuprous iodide on thin n-type polycrystalline layers and heating in iodine vapor [NASA-CASE-INP-01960] c09 N71-23027
- Water content in vapor deposition atmosphere for forming n-type and p-type junctions of zinc doped gallium arsenide [NASA-CASE-INP-01961] c26 N71-29156
- Erased band gap p-n junction gallium arsenide/gallium aluminum arsenide solar cell [NASA-CASE-LAR-11174-1] c03 N73-26047
- Vapor phase growth of groups III-V compounds by hydrogen chloride transport of the elements [NASA-CASE-LAR-11144-1] c26 N74-27261

**GALVANIC SKIN RESPONSE**

- Adhesive spray process for attaching biomedical skin electrodes [NASA-CASE-IFR-07658-1] c05 N71-26293

**GAMMA RAYS**

- Design of gamma ray spectrometer for measurement of intense radiation using Compton scattering effect [NASA-CASE-MFS-21401-1] c14 N73-30392

**GANTRY CRANES**

- Design and characteristics of mechanically extended and telescoping boom on crane assembly [NASA-CASE-WPO-11118] c03 N72-25021

**GARMENTS**

- Electromedical garment, applying vectorcardiologic type electrodes to human torsos for data recording during physical activity [NASA-CASE-IFR-10856] c05 N71-11189
- Flexible joint for pressurizable garment [NASA-CASE-MSC-11072] c05 N74-32546

**GAS ANALYSIS**

- Gas analyzer for bi-gaseous mixtures suitable for use in test facilities [NASA-CASE-XLA-01131] c14 N71-10774
- Describing crystal oscillator instrument for detecting condensable gas contaminants in vacuum apparatus [NASA-CASE-WPO-10144] c14 N71-17701
- Design and characteristics of time of flight mass spectrometer to measure or analyze gases at low pressures and time of flight of single gas molecule [NASA-CASE-INP-01056] c14 N71-23041
- Microwave double resonance spectroscopy absorption cell for gas analysis [NASA-CASE-LAR-10305] c14 N71-26137
- Ion microprobe mass spectrometer with cooled electrode target for analyzing traces of fluids [NASA-CASE-ERC-10014] c14 N71-28863

Development and characteristics of injection system for use with gas chromatograph [NASA-CASE-ARC-10344-1] c14 N72-21433

Nondispersive gas analysis using radiation detection for quantitative analysis [NASA-CASE-ARC-10308-1] c06 N72-31141

Apparatus for analyzing gas samples in containers including vacuum chamber, mass spectrometer, and gas chromatography [NASA-CASE-GSC-10903-1] c14 N73-12444

Analysis of volatile organic compounds --- quantitative and qualitative analysis of trace amounts in gas samples [NASA-CASE-MS-C-14428-1] c06 N74-19776

Coaxial anode wire for gas radiation counters [NASA-CASE-GSC-11492-1] c14 N74-26949

Modulated hydrogen ion flame detector [NASA-CASE-ARC-10322-1] c14 N74-27875

An NDIR gas analyzer based on absorption modulation ratios for known and unknown samples [NASA-CASE-ARC-10802-1] c14 N74-28933

Fast scan control for deflection type mass spectrometers [NASA-CASE-LAR-11428-1] c14 N74-34857

**GAS BAGS**

Payload soft landing system using stowable gas bag [NASA-CASE-XLA-09881] c31 N71-16085

**GAS BEARINGS**

Externally pressurized air bearing for gyros operating in high temperature, low gravity environments [NASA-CASE-XMP-00515] c15 N70-34664

Slit regulated gas journal bearing [NASA-CASE-XMP-00476] c15 N70-38620

Air bearings for spacecraft gyros [NASA-CASE-XMP-00339] c15 N70-39896

Air bearings for near frictionless transfer of loads from one body to another [NASA-CASE-XMP-01887] c15 N71-10617

Fluid power transmission and gas bearing system [NASA-CASE-XMS-01445] c12 N71-16031

Bismuth and lead surface coatings for gas bearings in aerospace engineering [NASA-CASE-XGS-02011] c15 N71-20739

Swivel support for gas bearing for position adjustment between ball and supporting cup [NASA-CASE-XMP-07808] c15 N71-23812

Low friction gas bearing system for fluid power transmission to bearing-supported payload [NASA-CASE-ERC-10097] c15 N71-28465

Gas bearing for model support with capacity for measuring angular displacement of model in bearing [NASA-CASE-XLA-09346] c15 N71-28740

Journal air bearing with cylindrical cup designed to ride on shaft [NASA-CASE-MPS-20423] c15 N72-11388

Air bearing for use in exterior environment for moving heavy loads [NASA-CASE-WLP-10002] c15 N72-17451

**GAS CHROMATOGRAPHY**

Micropacked column for rapid chromatographic analysis using low gas flow rates [NASA-CASE-XMP-04816] c06 N69-39936

Automatic baseline stabilization for ionization detector used in gas chromatograph [NASA-CASE-XNP-03128] c10 N70-41991

Gas chromatographic method for determining water in nitrogen tetroxide rocket propellant [NASA-CASE-NPO-10234] c06 N72-17094

Development and characteristics of injection system for use with gas chromatograph [NASA-CASE-ARC-10344-1] c14 N72-21433

Gas chromatographic method for analyzing hydrogen deuterium mixtures [NASA-CASE-NPO-11322] c06 N72-25146

Ultraviolet chromatographic detector for quantitative and qualitative analysis of compounds [NASA-CASE-HQN-10756-1] c14 N72-25428

Apparatus for analyzing gas samples in containers including vacuum chamber, mass spectrometer, and gas chromatography [NASA-CASE-GSC-10903-1] c14 N73-12444

Gas chromatograph injection system [NASA-CASE-ARC-10344-2] c14 N74-20021

**GAS COOLED REACTORS**

Gaseous core diffusion nuclear reactor for thermal energy generation [NASA-CASE-LBW-10250-1] c22 N71-28759

**GAS COOLING**

Gas balancing, cryogenic refrigeration apparatus with Joule-Thomson valve assembly [NASA-CASE-NPO-10309] c15 N69-23190

Gas cooled high temperature thermocouple [NASA-CASE-XLE-09475-1] c33 N71-15568

**GAS DENSITY**

Dynamic sensor for gas pressure or density measurement [NASA-CASE-XAC-02877] c14 N70-41681

Device for simultaneously determining density, velocity, and temperature of streaming gas [NASA-CASE-XLA-03375] c16 N71-24074

Coherent light beam device and method for measuring gas density in vacuum chambers [NASA-CASE-XER-11203] c14 N71-28994

Absorbing gas reactivity control system for minimizing power distribution and perturbation in nuclear reactors [NASA-CASE-XLE-04599] c22 N72-20597

Electrodeposition method for producing crystalline material from dense gaseous medium [NASA-CASE-NPO-10940] c15 N72-21466

Wide range dynamic pressure sensor with vibrating diaphragm for measuring density and pressure of gaseous environment [NASA-CASE-ARC-10263-1] c14 N72-22438

Absolute pressure measuring device for measuring gas density level in high vacuum range [NASA-CASE-LAR-10000] c14 N73-30394

**GAS DETECTORS**

Method and transducer device for detecting presence of hydrogen gas [NASA-CASE-XMP-03873] c06 N69-39733

Development of device for detecting hydrogen in ambient environments [NASA-CASE-MPS-11537] c14 N71-20442

Gas leak detection in evacuated systems using ultraviolet radiation probe [NASA-CASE-ERC-10034] c15 N71-24896

Fast response miniature carbon dioxide detector with no moving parts for measuring concentration in any atmosphere [NASA-CASE-MSC-13332-1] c14 N72-21408

Particulate and aerosol detector --- based on discharge characteristics of charged capacitor under particle impact [NASA-CASE-LAR-11434-1] c14 N74-22112

Fluorescence detector for monitoring atmospheric pollutants [NASA-CASE-NPO-13231-1] c14 N74-25932

A method and apparatus for compensating reflection losses in a path length modulated absorption-absorption trace gas detector [NASA-CASE-ARC-10631-1] c14 N74-34864

**GAS DISCHARGE TUBES**

Direct current powered self repeating plasma accelerator with interconnected annular and linear discharge channels [NASA-CASE-XLA-03103] c25 N71-21693

**GAS DISCHARGES**

Radio frequency noise generator having microwave slow-wave structure in gas discharge plasma [NASA-CASE-XER-11019] c09 N71-23598

**GAS EVOLUTION**

Development of filter system for control of outgas contamination in vacuum conditions using absorbent beds of molecular sieve zeolite, silica gel, and charcoal [NASA-CASE-MPS-14711] c15 N71-26185

**GAS EXPANSION**

Sealed electric storage battery with gas manifold interconnecting each cell [NASA-CASE-INP-03378] c03 N71-11051

Method and apparatus for producing very low temperature refrigeration based on gas pressure balance [NASA-CASE-XMP-08877] c15 N71-23025

Gas-operated actuator with cyclic motion of expansion chamber [NASA-CASE-NPO-11340] c15 N72-33477

**GAS FLOW**

Tubular flow restrictor for gas flow control in pipeline [NASA-CASE-NPO-10117] c15 N71-15608

Developing high pressure gas purification and filtration system for use in test operations of space vehicles

- [NASA-CASE-MFS-12806] c14 N71-17588  
Burst diaphragm flow initiator for installation  
in short duration wind tunnels  
[NASA-CASE-MFS-12915] c11 N71-17600  
Color photointerpretation of interference colors  
reflected from thin film oil-coated components  
in moving gases for gas flow visualization  
[NASA-CASE-XMP-01779] c12 N71-20815  
Transducer for monitoring oxygen flow in  
respirator  
[NASA-CASE-FRC-10012] c14 N72-17329  
Design, development, and operation of shock tube  
with bypass piston tunnel  
[NASA-CASE-NPO-12109] c11 N72-22245  
Continuous gas flow control by fluidic  
proportional thruster system  
[NASA-CASE-ARC-10106-1] c28 N72-22769  
Development of filter apparatus for gas  
separation and characteristics of filter cell  
support frame for improved operation  
[NASA-CASE-MSC-12297] c14 N72-23457  
Pressurized inert gas feed for lighting system  
[NASA-CASE-RSC-10644] c09 N72-27227  
Development of method for controlling vapor  
content of gas  
[NASA-CASE-NPO-10633] c03 N72-28025  
Gas flow control device, including housing and  
input port  
[NASA-CASE-NPO-11479] c15 N73-13462  
Development and characteristics of device for  
removing condensate from heat exchangers with  
straight through gas flow  
[NASA-CASE-MSC-14143-1] c33 N73-32823  
Compact hydrogenator  
[NASA-CASE-NPO-11682-1] c15 N74-15127  
Flow measuring apparatus  
[NASA-CASE-LEW-12078-1] c14 N74-18101  
Apparatus for establishing flow of a fluid mass  
having a known velocity  
[NASA-CASE-MFS-21424-1] c12 N74-27730  
Exhaust flow deflector  
[NASA-CASE-LAR-11570-1] c28 N74-28233
- GAS GENERATORS**  
Chlorine generator for purifying water in life  
support systems of manned spacecraft  
[NASA-CASE-XLA-08913] c14 N71-28933  
Gas operated quick disconnect coupling for  
umbilical connectors  
[NASA-CASE-NPO-11202] c15 N72-25450  
Actuator operated by electrolytic drive gas  
generator and evacuator  
[NASA-CASE-NPO-11369] c15 N73-13467  
Development and operating principles of gas  
generator for deploying recovery parachutes  
from space capsules during atmospheric entry  
[NASA-CASE-LAR-10549-1] c31 N73-13898
- GAS GUNS**  
Electric arc device for minimizing electrode  
ablation and heating gases to supersonic or  
hypersonic wind tunnel temperatures  
[NASA-CASE-XAC-00319] c25 N70-41628
- GAS HEATING**  
Bimetallic fluid displacement apparatus --- for  
stirring and heating stored gases and liquids  
[NASA-CASE-ARC-10441-1] c15 N74-15126
- GAS INJECTION**  
Pressurized gas injection for burning rate  
control of solid propellants  
[NASA-CASE-XLE-03494] c27 N71-21819  
Compact hydrogenator  
[NASA-CASE-NPO-11682-1] c15 N74-15127
- GAS IONIZATION**  
Electrostatic modulator for communicating  
through plasma sheath formed around spacecraft  
during reentry  
[NASA-CASE-XLA-01400] c07 N70-41331  
Multichannel photoionization chamber for  
measuring absorption, photoionization yield,  
and coefficients of gases  
[NASA-CASE-ERC-10044-1] c14 N71-27090
- GAS LASERS**  
Gas laser frequency stabilized by position of  
mirrors in resonant cavity  
[NASA-CASE-IGS-03644] c16 N71-18614  
Laser utilizing infrared rotation transitions of  
diatomic gas for production of different  
wavelengths  
[NASA-CASE-ARC-10370-1] c16 N72-10432
- Inert gas metallic vapor laser  
[NASA-CASE-NPO-13449-1] c16 N74-16187
- GAS LUBRICANTS**  
High temperature gas lubricant consisting of two  
fluoro-bromo-methanes  
[NASA-CASE-XLE-Q0353] c18 N70-39897
- GAS MASERS**  
Solid state chemical source for ammonia beam  
masers  
[NASA-CASE-IGS-01504] c16 N70-41578  
Atomic hydrogen maser with bulb temperature  
control by output frequency difference signal  
for wall shift elimination  
[NASA-CASE-HQN-10654-1] c16 N73-13489
- GAS METERS**  
Measurement of gas production of microorganisms  
[NASA-CASE-LAR-11326-1] c04 N74-32518
- GAS MIXTURES**  
Gas analyzer for bi-gaseous mixtures suitable  
for use in test facilities  
[NASA-CASE-ILA-01131] c14 N71-10774  
Equipment for measuring partial water vapor  
pressure in gas tank  
[NASA-CASE-XMS-01618] c14 N71-20741  
Separation cell with permeable membranes for  
fluid mixture component separation  
[NASA-CASE-XMS-02952] c18 N71-20742  
Gas chromatographic method for analyzing  
hydrogen deuterium mixtures  
[NASA-CASE-NPO-11322] c06 N72-25146
- GAS PIPES**  
Tubular flow restrictor for gas flow control in  
pipeline  
[NASA-CASE-NPO-10117] c15 N71-15608
- GAS PRESSURE**  
Expulsion and measuring device for determining  
quantity of liquid in tank under conditions of  
weightlessness  
[NASA-CASE-XMS-01546] c14 N70-40233  
Dynamic sensor for gas pressure or density  
measurement  
[NASA-CASE-XAC-02877] c14 N70-41681  
Wide range dynamic pressure sensor with  
vibrating diaphragm for measuring density and  
pressure of gaseous environment  
[NASA-CASE-ARC-10263-1] c14 N72-22438  
Measurement of gas production of microorganisms  
[NASA-CASE-LAR-11326-1] c04 N74-32518
- GAS STREAMS**  
Device for simultaneously determining density,  
velocity, and temperature of streaming gas  
[NASA-CASE-XLA-03375] c16 N71-24074  
Stagnation pressure probe --- for measuring  
pressure of supersonic gas streams  
[NASA-CASE-LAR-11139-1] c14 N74-32878
- GAS TEMPERATURE**  
Device for simultaneously determining density,  
velocity, and temperature of streaming gas  
[NASA-CASE-XLA-03375] c16 N71-24074
- GAS TUNGSTEN ARC WELDING**  
Refinement control in TIG arc welding  
[NASA-CASE-MSC-19095-1] c15 N74-32925
- GAS TURBINE ENGINES**  
Variable-orifice hydraulic mechanism for  
aircraft gas turbine engine fuel control  
[NASA-CASE-LEW-11187-1] c28 N73-19793  
Airflow distribution control in gas turbine  
engines  
[NASA-CASE-LEW-11593-1] c28 N73-25816  
Swirl can, full-annulus combustion chambers for  
high performance gas turbine engines  
[NASA-CASE-LEW-11326-1] c23 N73-30665
- GAS TURBINES**  
Method for maintaining good performance in gas  
turbine during air flow distortion  
[NASA-CASE-LEW-10286-1] c28 N71-28915  
Gas turbine exhaust nozzle --- for noise reduction  
[NASA-CASE-LEW-11569-1] c28 N74-15453
- GAS VALVES**  
High-temperature, high-pressure spherical  
segment valve  
[NASA-CASE-XAC-00074] c15 N70-34817  
Shrink-fit vacuum system gas valve  
[NASA-CASE-IGS-00587] c15 N70-35087  
Gas valve operated by thermally expanding and  
contracting device  
[NASA-CASE-XLE-00815] c15 N70-35407  
Three-port transfer valve with one port open  
continuously suitable for manned space flight

## GAS WELDING

## SUBJECT INDEX

[NASA-CASE-XAC-01158] c15 N71-23051  
**GAS WELDING**  
 Emission spectroscopy method for contamination monitoring of inert gas metal arc welding  
 [NASA-CASE-XMP-02039] c15 N71-15871  
**GAS-LIQUID INTERACTIONS**  
 Fluid control apparatus and method  
 [NASA-CASE-LAR-11110-1] c12 N74-29652  
**GASEOUS DIFFUSION**  
 Gas purged dry box glove reducing permeation of air or moisture into dry box or isolator by diffusion through glove  
 [NASA-CASE-XLE-02531] c05 N71-23080  
 Gaseous core diffusion nuclear reactor for thermal energy generation  
 [NASA-CASE-LEW-10250-1] c22 N71-28759  
**GASEOUS FISSION REACTORS**  
 Nuclear gaseous reactor for heating working fluid to high temperatures  
 [NASA-CASE-XLE-00321] c22 N70-34572  
 Gaseous core diffusion nuclear reactor for thermal energy generation  
 [NASA-CASE-LEW-10250-1] c22 N71-28759  
**GASEOUS ROCKET PROPELLANTS**  
 Electrostatic ion engines using high velocity electrons to ionize propellant  
 [NASA-CASE-XLE-00376] c28 N70-37245  
 Detonation reaction engine comprising outer housing enclosing pair of inner walls for continuous flow  
 [NASA-CASE-XMP-06926] c28 N71-22983  
**GASES**  
 Apparatus and process for volumetrically dispensing reagent quantities of volatile chemicals for small batch reactions  
 [NASA-CASE-NPO-10070] c15 N71-27372  
 High speed scanner for measuring mass of preselected gases at high sampling rate  
 [NASA-CASE-LAR-10766-1] c14 N72-21432  
 Observation window for internal gas confining chamber  
 [NASA-CASE-NPO-10890] c11 N73-12265  
 Device for detection of combustion light preceding gaseous explosions  
 [NASA-CASE-LAR-10739-1] c14 N73-16484  
**GASKETS**  
 Leakproof soft metal seal for use in very high vacuum systems operating at cryogenic temperatures  
 [NASA-CASE-XGS-02441] c15 N70-41629  
 Reinforced polyquinoxaline gasket and method of preparing the same --- resistant to ionizing radiation and liquid hydrogen temperatures  
 [NASA-CASE-MFS-21364-1] c15 N74-18126  
**GATES (CIRCUITS)**  
 Flux gate magnetometer with toroidal gating coil and solenoidal output coil for signal modulation or amplification  
 [NASA-CASE-XGS-01881] c09 N70-40123  
 Silicon controlled rectifier pulse gate amplifier for blocking false gating caused by negative transient voltages  
 [NASA-CASE-XLA-07497] c09 N71-12514  
 Logic AND gate for fluid circuits  
 [NASA-CASE-XLA-07391] c12 N71-17579  
 Synchronous counter design incorporating cascaded binary stages driven by previous stages and inputs through NAND gates  
 [NASA-CASE-XGS-02440] c08 N71-19432  
 Switching series regulator with gating control network  
 [NASA-CASE-XMS-09352] c09 N71-23316  
**GATES (OPENINGS)**  
 Longitudinal film gate and lock mechanism for securing film in motion picture cameras under vibration and high acceleration loads  
 [NASA-CASE-LAR-10686] c14 N71-28935  
**GEARS**  
 Precision stepping drive device using cam disk  
 [NASA-CASE-MFS-14772] c15 N71-17692  
 Gearing system for eliminating backlash and filtering input torque fluctuations from high inertia load  
 [NASA-CASE-IGS-04227] c15 N71-21744  
 Self lubricating gears and other mechanical parts having surface adapted to frictional contact  
 [NASA-CASE-MFS-14971] c15 N71-24984  
 Concentric differential gearing arrangement  
 [NASA-CASE-ARC-10462-1] c15 N74-27901  
**GELLED ROCKET PROPELLANTS**  
 Method and apparatus for producing fine particles in cryogenic liquid bath for gelled rocket propellants  
 [NASA-CASE-NPO-10250] c23 N71-16212  
**GELS**  
 Intermittent type silica gel adsorption refrigerator for providing temperature control for spacecraft components  
 [NASA-CASE-INP-00920] c15 N71-15906  
 Chemical synthesis of formaldehyde based disinfectants without penetrating odor and eye and ear irritation properties  
 [NASA-CASE-NPO-12115-1] c06 N73-17153  
**GENERATORS**  
 Apparatus for establishing flow of a fluid mass having a known velocity  
 [NASA-CASE-MFS-21424-1] c12 N74-27730  
**GIMBALS**  
 Gimballed partially submerged nozzle for solid propellant rocket engines for providing directional control  
 [NASA-CASE-XMP-01544] c28 N70-34162  
 Inertial gimbal alignment system for spacecraft guidance  
 [NASA-CASE-XMP-01669] c21 N71-23289  
 Three stage motion restraining mechanism for restraining and damping three dimensional vibrational movement of gimballed package during launch of spacecraft  
 [NASA-CASE-GSC-10306-1] c15 N71-24694  
 Hermetically sealed vibration damper design for use in gimbal assembly of spacecraft inertial guidance system  
 [NASA-CASE-NSC-10959] c15 N71-26243  
 Low friction bearing and lock mechanism for two-axis gimbal carrying satellite payload  
 [NASA-CASE-GSC-10556-1] c31 N71-26537  
**GLANDS (SEALS)**  
 Development of mating flat surfaces to inhibit leakage of fluid around shafts  
 [NASA-CASE-XLE-10326-2] c15 N72-29488  
**GLASS**  
 Fabricating solar cells with dielectric layers to improve glass fusion  
 [NASA-CASE-XGS-04531] c03 N69-24267  
 Reduced gravity liquid configuration simulator to study propellant behavior in rocket fuel tanks  
 [NASA-CASE-XLE-02624] c12 N69-39988  
 Metal pattern bonding technique for cover glass attachment to silicon solar cells for space applications  
 [NASA-CASE-XLE-08569] c03 N71-23449  
 Apparatus for applying thin glass slides to solar cells  
 [NASA-CASE-NPO-10575] c03 N72-25019  
 Silicon solar cell with plastic film binding to cover glass  
 [NASA-CASE-LEW-11065-2] c03 N73-26048  
 Glass-to-metal seals comprising relatively high expansion metals  
 [NASA-CASE-LEW-10698-1] c15 N74-21063  
**GLASS COATINGS**  
 Method of attaching cover glass to silicon solar cell without using adhesive  
 [NASA-CASE-XLE-08569-2] c03 N71-24681  
 Helium outgassing process for fused glass coating on ion accelerator grid  
 [NASA-CASE-LEW-10278-1] c15 N71-28582  
 Development of process for constructing protective covers for solar cells  
 [NASA-CASE-GSC-11514-1] c03 N72-24037  
**GLASS ELECTRODES**  
 Liquid junction for glass electrode or pH meters  
 [NASA-CASE-NPO-10682] c15 N70-34699  
**GLASS FIBERS**  
 Nonmagnetic hermetically sealed battery case made of epoxy resin and woven glass tape for use with electrochemical cells in spacecraft  
 [NASA-CASE-XGS-00886] c03 N71-11053  
 Lathe tool and holder combination for machining resin impregnated fiberglass cloth laminates  
 [NASA-CASE-XLA-10470] c15 N72-21489  
 Development of procedure for repairing fiberglass structures which retains geometry and strength of original structure

## SUBJECT INDEX

## GROUND SUPPORT EQUIPMENT

[NASA-CASE-LAR-10416-1] c15 N72-27527  
 Development and characteristics of polyimide impregnated laminates with fiberglass cloth backing for application as printed circuit boards

[NASA-CASE-MFS-20408] c18 N73-12604  
 Fiber modified polyurethane foam for ballistic protection

[NASA-CASE-ARC-10714-1] c18 N74-11366  
 Technique for bonding --- process for molding silicone elastomer into fiberglass honeycomb panel

[NASA-CASE-LAR-10073-1] c32 N74-23449  
 Method of repairing discontinuity in fiberglass structures

[NASA-CASE-LAR-10416-1] c18 N74-30001  
 GLIDE PATHS  
 Development and characteristics of system for integrated control of engine power and aerodynamic configuration of aircraft during landing approach

[NASA-CASE-ARC-10456-1] c02 N73-30938  
 GLOBES  
 Orbital and entry tracking accessory for globes --- to provide range requirements for reentry vehicles to any landing site

[NASA-CASE-LAR-10626-1] c14 N74-21015  
 GLOVES  
 Gas purged dry box glove reducing permeation of air or moisture into dry box or isolator by diffusion through glove

[NASA-CASE-XLE-02531] c05 N71-23080  
 GLOW DISCHARGES  
 Deposition of alloy films --- on irregularly shaped metal object

[NASA-CASE-LEW-11262-1] c18 N74-13270  
 GLUCOSE  
 Use of enzyme hexokinase and glucose to reduce inherent light levels of ATP in luciferase compositions

[NASA-CASE-XGS-05533] c04 N69-27487  
 GOLD COATINGS  
 Lithium drifted silicon radiation detector with gold rectifying contacts

[NASA-CASE-XLE-10529] c14 N69-23191  
 GONDOLAS  
 System for controlling torque buildup in suspension of gondola connected to balloon by parachute shroud lines

[NASA-CASE-GSC-11077-1] c02 N73-13008  
 GRANULAR MATERIALS  
 Development of device for separating, collecting, and viewing soil particles

[NASA-CASE-IXP-09770] c15 N71-20440  
 GRAPHITE  
 Silver chloride use in technique for fusion bonding of graphite to silver, glass, ceramics, and certain other metals

[NASA-CASE-XGS-00963] c15 N69-39735  
 Diffusion bonded graphite reinforced aluminum composites

[NASA-CASE-MFS-21077] c18 N71-34502  
 GRATINGS (SPECTRA)  
 Concave grating spectrometer for use in near and vacuum ultraviolet regions

[NASA-CASE-XGS-01036] c14 N70-40003  
 GRAVINETERS  
 Device for determining acceleration of gravity by interferometric measurement of travel of falling body

[NASA-CASE-IXP-05844] c14 N71-17587  
 GRAVITATION  
 Design of precision vertical alignment system using laser with gravitationally sensitive cavity

[NASA-CASE-ARC-10444-1] c16 N73-33397  
 GRAVITATIONAL CONSTANT  
 Gravity device for accurate and rapid indication of relative gravity conditions aboard accelerating carrier

[NASA-CASE-IXP-00424] c11 N70-38196  
 GRAVITATIONAL EFFECTS  
 Computation method and apparatus for predicting solar flares by correlating planetary ephemeris data with gravitational force effects on sun

[NASA-CASE-ERC-10323-1] c30 N70-22183  
 Gravity environment simulation by locomotion and restraint aid for studying manual operation

performance of astronauts at zero gravity

[NASA-CASE-ARC-10153] c05 N71-28619  
 Anti-gravity device

[NASA-CASE-MFS-22758-1] c15 N74-22146  
 GRAVITATIONAL FIELDS  
 Difference indicating circuit used in conjunction with device measuring gravitational fields

[NASA-CASE-IXP-08274] c10 N71-13537  
 GRAVITY GRADIENT SATELLITES  
 Stabilization system for gravity-oriented satellites using single dauper rod

[NASA-CASE-XAC-01591] c31 N71-17729  
 Method of stationkeeping for lenticular gravity gradient satellites

[NASA-CASE-ILA-03132] c31 N71-22969  
 GRAVITY GRADIOMETERS  
 Gravity device for accurate and rapid indication of relative gravity conditions aboard accelerating carrier

[NASA-CASE-IXP-00424] c11 N70-38196  
 Gravity gradient attitude control system with gravity gradiometer and reaction wheels for artificial satellite attitude control

[NASA-CASE-GSC-10555-1] c21 N71-27324  
 GRIDS  
 Process for fabricating matched pairs of dished screen and accelerator grids for ion thruster accelerator system

[NASA-CASE-LEW-11694-1] c28 N73-22721  
 Apparatus for forming dished ion thruster grids

[NASA-CASE-LEW-11694-2] c15 N74-22147  
 GRINDING (MATERIAL REMOVAL)  
 Laser device for removing material from rotating object for dynamic balancing

[NASA-CASE-MFS-11279] c16 N71-20400  
 Grinding mixtures of powdered metals and inert fillers for conversion to halide

[NASA-CASE-LEW-10450-1] c15 N72-25448  
 GRINDING MACHINES  
 Grinding arrangement for ball nose milling cutters

[NASA-CASE-LAR-10450-1] c15 N74-27905  
 GROOVES  
 Nonreusable energy absorbing device comprising ring member with plurality of recesses, cutting members, and guide member mounted in each recess

[NASA-CASE-IXP-10040] c15 N71-22877  
 Spiral groove seal --- for hydraulic rotating shaft

[NASA-CASE-LEW-10326-3] c15 N74-10474  
 Spiral groove seal --- for rotating shaft

[NASA-CASE-XLE-10326-4] c15 N74-15125  
 GROUND EFFECT MACHINES  
 Hovering type flying vehicle design and principle mechanisms for manned or unmanned use

[NASA-CASE-MSC-12111-1] c02 N71-11039  
 Platform with several ground effect pads and plenum chambers

[NASA-CASE-MFS-14685] c31 N71-15689  
 Tubular guideway for high speed ground effect machines

[NASA-CASE-LAR-10256-1] c11 N72-20253  
 Design and development of active control system for air cushion vehicle to reduce or eliminate effects of excessive vertical vibratory acceleration

[NASA-CASE-LAR-10531-1] c02 N73-13023  
 Open tube guideway for high speed air cushioned vehicles

[NASA-CASE-LAR-10256-1] c11 N74-34672  
 GROUND HANDLING  
 Supporting and protecting frame structure and plug for empty thrust chamber assembly, handling, and shipping

[NASA-CASE-IXP-00580] c11 N70-35383  
 GROUND STATIONS  
 Traffic control system for supersonic transports using synchronous satellite for data relay between vehicles and ground station

[NASA-CASE-GSC-10087-1] c02 N71-19287  
 Spacecraft transponder and ground station radar system for mapping planetary surfaces

[NASA-CASE-NPO-11001] c07 N72-21118  
 GROUND SUPPORT EQUIPMENT  
 Equipment for testing of ground station ranging equipment and spacecraft transponders

[NASA-CASE-XMS-05454-1] c07 N71-12391

- Controlled release device for use in launching rockets or missiles  
[NASA-CASE-XKS-03338] c15 N71-24043
- GROUND-AIR-GROUND COMMUNICATIONS**
- Fabry-Perot interferometer retrodirective reflector modulator for optical communication  
[NASA-CASE-IGS-04480] c16 N69-27491
- Closed loop radio communication ranging system to determine distance between moving airborne vehicle and fixed ground station  
[NASA-CASE-XNP-01501] c21 N70-41930
- Location identification system with ground based transmitter and aircraft borne receiver/decoder  
[NASA-CASE-ERC-10324] c07 N72-25173
- GUIDANCE (MOTION)**
- Hovering type flying vehicle design and principle mechanisms for manned or unmanned use  
[NASA-CASE-MSC-12111-1] c02 N71-11039
- Development of adjustable attitude guide block for setting pins perpendicular to irregular convex work surface  
[NASA-CASE-XLA-07911] c15 N71-15571
- Longitudinal film gate and lock mechanism for securing film in motion picture cameras under vibration and high acceleration loads  
[NASA-CASE-LAR-10686] c14 N71-28935
- Combination guide and rotary bearing for freely moving shaft  
[NASA-CASE-XLA-00013] c15 N71-29136
- Guide member for stabilizing cable of open shaft elevator  
[NASA-CASE-KSC-10513] c15 N72-25453
- GUIDANCE SENSORS**
- Light sensitive digital aspect sensor for attitude control of earth satellites or space probes  
[NASA-CASE-IGS-00359] c14 N70-34158
- Guidance analyzer having suspended spacecraft simulating sphere for astronavigation  
[NASA-CASE-XNP-09572] c14 N71-15621
- Optical gauging system for monitoring machine tool alignment  
[NASA-CASE-XAC-09489-1] c15 N71-26673
- Development of light sensing system for controlled orientation of object relative to sun or other light source  
[NASA-CASE-NPO-11311] c14 N72-25414
- GUN LAUNCHERS**
- Self-obturator gas-operated launcher for launching projectiles in decontaminated medium  
[NASA-CASE-NPO-11013] c11 N72-22247
- GUNN EFFECT**
- Voltage tunable Gunn effect semiconductor for microwave generation  
[NASA-CASE-XER-07894] c09 N71-18721
- Gunn effect microwave diodes with RF shielding  
[NASA-CASE-ERC-10119] c26 N72-21701
- Multiterminal Gunn-type semiconductor microwave generator for producing stable signals  
[NASA-CASE-XER-07895] c26 N72-25679
- Microwave generator using Gunn effect for magnetic tuning  
[NASA-CASE-NPO-12106] c09 N73-15235
- GYRATORS**
- Design of gyrator circuit using operational amplifiers to replace ungrounded inductors  
[NASA-CASE-XAC-10608-1] c09 N71-12517
- Gyrator circuit using MOS field effect transistors  
[NASA-CASE-MFS-21433] c09 N73-20232
- Integrated circuit power gyrator with Z-matrix design using parallel transistors  
[NASA-CASE-MFS-22342-1] c09 N73-24236
- Integrated P-channel MOS gyrator  
[NASA-CASE-MFS-22343-1] c09 N74-34638
- GYROSCOPES**
- Externally pressurized air bearing for gyros operating in high temperature, low gravity environments  
[NASA-CASE-XMP-00515] c15 N70-34664
- Air bearings for spacecraft gyros  
[NASA-CASE-XMP-00339] c15 N70-39896
- Development of spacecraft experiment pointing and attitude control system  
[NASA-CASE-XLA-05464] c21 N71-14132
- Strapped down gyroscope aligned with sun and star tracker optical axis calibrating roll, yaw and pitch values  
[NASA-CASE-ARC-10716-1] c31 N73-32784
- Temperature compensated digital inertial sensor --- circuit for maintaining inertial element of gyroscope or accelerometer at constant position  
[NASA-CASE-NPO-13044-1] c14 N74-15094
- GYROSTABILIZERS**
- Passive dual spin misalignment compensators --- gyrostabilized device  
[NASA-CASE-GSC-11479-1] c21 N74-28097
- H**
- HAFNIUM**
- Thermal shock resistant hafnia ceramic materials  
[NASA-CASE-LAR-10894-1] c18 N73-14584
- HALIDES**
- Grinding mixtures of powdered metals and inert fillers for conversion to halide  
[NASA-CASE-LEW-10450-1] c15 N72-25448
- HALL EFFECT**
- Current measurement by use of Hall effect generator  
[NASA-CASE-XAC-01662] c14 N71-23037
- Brushless dc tachometer design with Hall effect crystals and output voltage magnitude proportional to rotor speed  
[NASA-CASE-MFS-20385] c09 N71-24904
- Development of Hall effect transducer for converting mechanical shaft rotations into proportional electrical signals  
[NASA-CASE-LAR-10620-1] c09 N72-25255
- Development and characteristics of magnetometer with single Bi2Se3 crystal as sensing element  
[NASA-CASE-LEW-11632-1] c14 N72-25440
- Hall effect magnetometer for measuring magnetic fields  
[NASA-CASE-LEW-11632-2] c14 N73-29437
- Speed control system for dc motor equipped with brushless Hall effect device  
[NASA-CASE-MFS-20207-1] c09 N73-32107
- Hall effect magnetometer  
[NASA-CASE-LEW-11632-3] c14 N74-33944
- HALL GENERATORS**
- Current measurement by use of Hall effect generator  
[NASA-CASE-XAC-01662] c14 N71-23037
- HALOGENS**
- Modification of polyurethanes with alkyl halide resins, inorganic salts, and encapsulated volatile and reactive halogen for fuel fire control  
[NASA-CASE-ARC-10098-1] c06 N71-24739
- HAMMERS**
- Exponential horn, copper plate, magnetic hammer, and anvil in apparatus for making diamonds  
[NASA-CASE-MFS-20698] c15 N72-20446
- HAND (ANATOMY)**
- Mechanically operated hand which can depress trigger using touch control device  
[NASA-CASE-MFS-20413] c15 N72-21463
- HANDLING EQUIPMENT**
- Supporting and protecting frame structure and plug for empty thrust chamber assembly, handling, and shipping  
[NASA-CASE-XMP-00580] c11 N70-35383
- Handling tool for printed circuit cards  
[NASA-CASE-MFS-20453] c15 N71-29133
- HARDENING**
- Boron radiation hardening for stabilizing gate threshold potential of MOS devices  
[NASA-CASE-GSC-11425-2] c09 N73-32114
- HARMONIC GENERATORS**
- Wideband generator for producing sine wave quadrature and second harmonic of input signal  
[NASA-CASE-NPO-11133] c10 N72-20223
- HARNESSES**
- Helmet and torso tiedown mechanism for shortening pressure suits upon inflation  
[NASA-CASE-XMS-00784] c05 N71-12335
- One hand backpack harness  
[NASA-CASE-LAR-10102-1] c05 N72-23085
- Combined shoulder harness and lap belt restraint system for use in aircraft or automobiles  
[NASA-CASE-ARC-10519-1] c05 N72-31117
- Shoulder harness and lap belt restraint system  
[NASA-CASE-ARC-10519-2] c05 N74-18805
- HATCHES**
- Design and specifications of emergency escape system for spacecraft structures

[NASA-CASE-MSC-12086-1] c05 N71-12345

**HEAT FUNCTION**  
 Development of instantaneous reading tachometer for measuring electrocardiogram signal rate [NASA-CASE-MFS-20418] c14 N73-24473  
 Ultrasonic biomedical measuring and recording apparatus --- for recording motion of internal organs such as heart valves [NASA-CASE-ARC-10597-1] c05 N74-20726

**HEART RATE**  
 Digital cardiometer incorporating circuit for measuring heartbeat rate of subject over predetermined portion of one minute also converting rate to beats per minute [NASA-CASE-XMS-02399] c05 N71-22896  
 Development of instantaneous reading tachometer for measuring electrocardiogram signal rate [NASA-CASE-MFS-20418] c14 N73-24473  
 Digital computing cardiometer [NASA-CASE-MFS-20284-1] c05 N74-12778

**HEAT**  
 Thermionic converter for converting heat energy directly into electrical energy [NASA-CASE-XLE-01903] c22 N71-23599

**HEAT EXCHANGERS**  
 Electrothermal rocket engine using resistance heated heat exchanger [NASA-CASE-XLE-00267] c28 N70-33356  
 Space suit body heat exchanger design composed of thermal conductance yarn and liquid coolant loops [NASA-CASE-XMS-09571] c05 N71-19439  
 Dual solid cryogens for spacecraft refrigeration insuring low temperature cooling for extended periods [NASA-CASE-GSC-10188-1] c23 N71-24725  
 Shell-side liquid metal boiler employing tube and shell heat exchanger [NASA-CASE-NPO-10831] c33 N72-20915  
 Heat exchanger and decontamination system for multistage refrigeration unit [NASA-CASE-NPO-10634] c23 N72-25619  
 Development and characteristics of device for removing condensate from heat exchangers with straight through gas flow [NASA-CASE-MSC-14143-1] c33 N73-32823

**HEAT FLUX**  
 Heat flux sensor assembly with proviso for heat shield to reduce radiative transfer between sensor elements [NASA-CASE-XMS-05909-1] c14 N69-27459  
 Heat flux sensor adapted for mounting on aircraft or spacecraft to measure aerodynamic heat flux inflow to aircraft skin [NASA-CASE-XPR-03802] c33 N71-23085  
 Radial heat flux transformer for use in heating and cooling processes [NASA-CASE-NPO-10828] c33 N72-17948

**HEAT MEASUREMENT**  
 Electromagnetic energy detection by thermal sensor with vibrating electrode [NASA-CASE-XAC-10768] c09 N71-18830  
 Specific wavelength colorimeter --- for measuring given solute concentration in test sample [NASA-CASE-MSC-14081-1] c14 N74-27860

**HEAT PIPES**  
 Electric power system utilizing thermionic plasma diodes in parallel and heat pipes as cathodes [NASA-CASE-XMF-05843] c03 N71-11055  
 Microwave power receiving antenna solving heat dissipation problems by construction of elements as heat pipe devices [NASA-CASE-MFS-20333] c09 N71-13486  
 Double-wall isothermal cylinder containing heat transfer fluid thermal reservoir as spacecraft insulation cover [NASA-CASE-MFS-20355] c33 N71-25353  
 Production of iodine isotope by high energy bombardment of cesium heat pipe causing spallation reaction [NASA-CASE-LEW-11390-2] c24 N73-20763  
 Heat pipe production of high purity radioiodine for thyroid measurements [NASA-CASE-LEW-11390-3] c11 N73-28128  
 Structural heat pipe for spacecraft wall thermal insulation system [NASA-CASE-GSC-11619-1] c33 N73-32828

Method of forming a wick for a heat pipe [NASA-CASE-NPO-13391-1] c33 N74-19584

**HEAT PUMPS**  
 Thermal pump-compressor for converting solar energy [NASA-CASE-ILA-00377] c33 N71-17610  
 Manually activated heat pump for mechanically converting human operator output into heat energy [NASA-CASE-NPO-10677] c05 N72-11089  
 Design and development of thermomechanical pump for transmitting warming fluid through fluid circuit to control temperature of spacecraft instrumentation [NASA-CASE-NPO-11417] c15 N73-24513

**HEAT RADIATORS**  
 Capillary radiator for carrying heat transfer liquid in planetary spacecraft structures [NASA-CASE-XLE-03307] c33 N71-14035  
 Hydraulic actuator design for space deployment of heat radiators [NASA-CASE-MSC-11817-1] c15 N71-26611  
 Development of method and equipment for testing heat radiative properties of material under controlled environmental conditions [NASA-CASE-MFS-20096] c14 N71-30026

**HEAT RESISTANT ALLOYS**  
 Preparation of nickel alloys for jet turbine blades operating at high temperatures [NASA-CASE-XLE-00151] c17 N70-33283  
 Nickel alloy series for aerospace structures subjected to high temperatures [NASA-CASE-XLE-00283] c17 N70-36616  
 High temperature cobalt-base alloy resistant to corrosion by liquid metals and to sublimation in vacuum environment [NASA-CASE-XLE-02991] c17 N71-16025  
 Brazing alloy adapted for brazing corrosion resistant steel to refractory metals, also for brazing refractory metals to other refractory metals [NASA-CASE-XNP-03063] c17 N71-23365  
 Intermetallic coating for nickel based superalloy [NASA-CASE-LEW-11348-1] c17 N72-25517  
 Superalloys from prealloyed powders at high temperatures [NASA-CASE-LEW-10805-1] c15 N73-13465  
 Refractory porcelain enamel passive thermal control coating for high temperature alloys [NASA-CASE-MFS-22324-1] c18 N73-21471  
 Development of method for fabricating ceramets and analysis of various compositions to show electrical and physical properties [NASA-CASE-NPO-13120-1] c18 N73-23629  
 Method of making pressure tight seal for super alloy [NASA-CASE-LAR-10170-1] c15 N74-11301  
 Method of forming articles of manufacture from superalloy powders [NASA-CASE-LEW-10805-2] c15 N74-13179  
 Coating superalloys [NASA-CASE-LEW-11696-3] c17 N74-27963

**HEAT SHIELDING**  
 Heat flux sensor assembly with proviso for heat shield to reduce radiative transfer between sensor elements [NASA-CASE-XMS-05909-1] c14 N69-27459  
 Oven for heat treating heat shields [NASA-CASE-XMS-04318] c15 N69-27871  
 Compact heat shielding for interplanetary space vehicles [NASA-CASE-XMS-00486] c33 N70-33344  
 Sandwich panel structure for removing heat from shield between hot and cold areas [NASA-CASE-ILA-00349] c33 N70-37979  
 Aerodynamic configuration of reentry vehicle heat shield to provide longitudinal and directional stability at hypersonic velocities [NASA-CASE-XMS-04142] c31 N70-41631  
 Transpirationally cooled heat ablation system for interplanetary spacecraft reentry shielding [NASA-CASE-XMS-02677] c31 N70-42075  
 Synthesis of azine polymers for heat shields by azine-aromatic aldehyde reaction [NASA-CASE-XMP-08656] c06 N71-11242  
 Synthesis of schiff bases for heat shields by acetal anine reactions [NASA-CASE-XMF-08652] c06 N71-11243



- Preparation and characteristics of lightweight refractory insulation  
[NASA-CASE-IMP-05279] c18 W71-16124
- Development and characteristics of thermal radiation shielding of refractory metal foil used for induction furnace  
[NASA-CASE-ILE-03432] c33 W71-24145
- Design and development of spacecraft with outer shell structure heat shielding and built-in, removable excursion module  
[NASA-CASE-HSC-13047-1] c31 W71-25434
- Structure of fabric layers for micrometeoroid protection garment with capability for eliminating heat shorts for use in manufacturing space suits  
[NASA-CASE-HSC-12109] c18 W71-26285
- Solar cell assembly  
[NASA-CASE-LEW-11549-1] c03 W74-33484
- HEAT SINKS**
- Thermal conductive, electrically insulated cleavable adhesive connection between electronic module and heat sink  
[NASA-CASE-XNS-02087] c09 W70-41717
- Development and characteristics of calorimeter with integral heat sink for maintenance of constant temperature  
[NASA-CASE-IMP-04208] c33 W71-29051
- HEAT SOURCES**
- Black body radiometer design with temperature sensing and cavity heat source cone winding  
[NASA-CASE-IMP-09701] c14 W71-26475
- Radioactive isotope capsule container design for atmospheric reentry protection and heat transmission to spacecraft  
[NASA-CASE-LEW-11227-1] c33 W71-35153
- Thermally cascaded thermoelectric generator with radioisotopic heat source  
[NASA-CASE-WPO-10753] c03 W72-26031
- HEAT TRANSFER**
- Thermal switch for transferring excess heat from one region to another heat dissipating one  
[NASA-CASE-IMP-00463] c33 W70-36847
- Sandwich panel structure for removing heat from shield between hot and cold areas  
[NASA-CASE-XLA-00349] c33 W70-37979
- Apparatus for cryogenic liquid storage with heat transfer reduction and for liquid transfer at zero gravity conditions  
[NASA-CASE-XLE-00345] c15 W70-38020
- Method for improving heat transfer characteristics in nucleate boiling process  
[NASA-CASE-XNS-04268] c33 W71-16277
- Design and development of device for cooling inner conductor of coaxial cable  
[NASA-CASE-IMP-09775] c09 W71-20445
- Heat sensing instrument, using thermocouple junction connected under heavy conducting material  
[NASA-CASE-XLA-01551] c14 W71-22989
- Mixed liquid and vapor phase analyzer design with thermocouples for relative heat transfer measurement  
[NASA-CASE-WPO-10691] c14 W71-26199
- Development and characteristics of cooling system to maintain temperature of rack mounted electronic modules  
[NASA-CASE-HSC-12389] c33 W71-29052
- Development of method and equipment for testing heat radiative properties of material under controlled environmental conditions  
[NASA-CASE-NPS-20096] c14 W71-30026
- Manually activated heat pump for mechanically converting human operator output into heat energy  
[NASA-CASE-WPO-10677] c05 W72-11084
- High intensity radiant energy pulse source for calibrating heat transfer gages with thermoluminescent shutter activation  
[NASA-CASE-ARC-10178-1] c09 W72-17152
- Development of thermocouple instrument for measuring temperature of wall heated by flowing fluid without disturbing boundary layer  
[NASA-CASE-XLE-05230] c14 W72-27410
- Design and development of device for moving liquid through pipes without use of mechanical pumps  
[NASA-CASE-LAR-10799-1] c12 W73-12295
- Development and characteristics of thermal control system for maintaining constant temperature within spacecraft module with wide variations of component heat transfer  
[NASA-CASE-GSC-11018-1] c31 W73-30829
- Thermal flux transfer system for maintaining thrust chamber of operative reaction motor at given temperatures  
[NASA-CASE-WPO-12070-1] c28 W73-32606
- Electrostatically controlled heat transfer system for conducting thermal energy  
[NASA-CASE-WPO-11942-1] c33 W73-32818
- Heat transfer device  
[NASA-CASE-WPO-11120-1] c33 W74-18552
- HEAT TRANSMISSION**
- Radioactive isotope capsule container design for atmospheric reentry protection and heat transmission to spacecraft  
[NASA-CASE-LEW-11227-1] c33 W71-35153
- Heat flow calorimeter --- measures output of Ni-Cd batteries  
[NASA-CASE-GSC-11434-1] c14 W74-27859
- HEAT TREATMENT**
- High speed infrared furnace  
[NASA-CASE-XLE-10466] c17 W69-25147
- Oven for heat treating heat shields  
[NASA-CASE-XNS-04318] c15 W69-27871
- Vacuum method for molding thermosetting compounds used as ablative materials  
[NASA-CASE-XLA-01091] c15 W71-10672
- Production of refractory bodies with controlled porosity by pressing and heating mixtures of refractory and inert metal powders  
[NASA-CASE-LEW-10393-1] c17 W71-15468
- White paint production by heating impure aluminum silicate clay having low solar absorptance  
[NASA-CASE-IMP-02139] c18 W71-24184
- Method for diffusion welding dissimilar metals in vacuum chamber  
[NASA-CASE-GSC-10303] c15 W72-22487
- Development of method for fabricating cermets and analysis of various compositions to show electrical and physical properties  
[NASA-CASE-WPO-13120-1] c18 W73-23629
- Method of heat treating a formed powder product material  
[NASA-CASE-LEW-10805-3] c17 W74-10521
- An improved heat sterilizable patient ventilator  
[NASA-CASE-WPO-13313-1] c05 W74-17858
- Diffusion welding --- heat treatment of nickel alloys following single step vacuum welding process  
[NASA-CASE-LEW-11388-2] c15 W74-21055
- HEATERS**
- Reliable electrical element heater using plural wire system and backup power sources  
[NASA-CASE-EFS-21462-1] c09 W74-14935
- HEATING**
- Development of system for preheating vaporized fuel for use with internal combustion engines  
[NASA-CASE-WPO-12072] c28 W72-22772
- Diffusion welding in air --- solid state welding of butt joint by fusion welding, surface cleaning, and heating  
[NASA-CASE-LEW-11387-1] c15 W74-18128
- HEATING EQUIPMENT**
- Using heat control unit to preheat circulating fluid  
[NASA-CASE-IMP-04237] c33 W71-16278
- Electric arc heater with supersonic nozzle and fixed arc length for use in high temperature wind tunnels  
[NASA-CASE-IAC-01677] c09 W71-20816
- Radial heat flux transformer for use in heating and cooling processes  
[NASA-CASE-WPO-10828] c33 W72-17948
- Self-cycling fluid heater for heating continuous fluid stream to ultrahigh temperatures to facilitate chemical reactions  
[NASA-CASE-HSC-15567-1] c33 W73-16918
- HELICAL ANTENNAS**
- Weatherproof helix antenna  
[NASA-CASE-XKS-08485] c07 W71-19493
- Collapsible high gain antenna which can be automatically expanded to operating state  
[NASA-CASE-EKC-10392] c07 W73-26117
- HELICOPTER ENGINES**
- Exhaust flow deflector  
[NASA-CASE-LAR-11570-1] c28 W74-28233

**HELICOPTER WAKES**  
Variable geometry rotor system for direct control over wake vortex  
[NASA-CASE-LAR-10557] c02 N72-11018

**HELICOPTERS**  
Ringeless helicopter rotor with improved stability  
[NASA-CASE-ARC-10807-1] c02 N74-34475

**HELIUM**  
Helium refining by superfluidity  
[NASA-CASE-XMP-00733] c06 N70-34946  
Apparatus and method capable of receiving large quantity of high pressure helium, removing impurities, and discharging at received pressure  
[NASA-CASE-XMP-06888] c15 N71-24044  
An improved helium refrigerator  
[NASA-CASE-NPO-13435-1] c23 N74-28134

**HELIUM-NEON LASERS**  
Design and development of multichannel laser remote control system using modulated helium-neon laser as transmitter and light collector as receiving antenna  
[NASA-CASE-LAR-10311-1] c16 N73-16536

**HELMETS**  
Transparent polycarbonate resin, shell helmet and latch design for high altitude and space flight  
[NASA-CASE-XHS-04935] c05 N71-11190  
Electrode attached to helmets for detecting low level signals from skin of living creatures  
[NASA-CASE-ARC-10043-1] c05 N71-11193  
Venting device for pressurized space suit helmet to eliminate vomit expelled by crewmen  
[NASA-CASE-XHS-09652-1] c05 N71-26333

**HEMISPHERICAL SHELLS**  
Light baffle with oblate hemispheroid surface and shading flange  
[NASA-CASE-NPO-10337] c14 N71-15604

**HERMETIC SEALS**  
Piston in bore cutter for severing parachute control lines and sealing cable hole to prevent water leakage into load  
[NASA-CASE-XMS-04072] c15 N70-42017  
Hermetically sealed explosive release mechanism for actuator device  
[NASA-CASE-XGS-00824] c15 N71-16078  
Sealing apparatus for joining two pieces of frangible materials  
[NASA-CASE-XLA-01494] c15 N71-24164  
Method for locating leaks in hermetically sealed containers  
[NASA-CASE-ERC-10045] c15 N71-24910  
Hermetically sealed vibration damper design for use in gimbal assembly of spacecraft inertial guidance system  
[NASA-CASE-NSC-10959] c15 N71-26243  
Method of forming ceramic to metal seals impervious to gaseous and liquid mercury at high temperature  
[NASA-CASE-XMP-01263-2] c15 N71-26312  
Pressure seals suitable for use in environmental test chambers  
[NASA-CASE-NPO-10796] c15 N71-27068  
Hermetic sealing device for ends of tubular bodies during materials testing operations  
[NASA-CASE-NPO-10431] c15 N71-29132  
Hermetically sealed elbow actuator for use in severe environments  
[NASA-CASE-NFS-14710] c09 N72-22195  
Portable device for detecting pneumatic pressure leaks in hermetically sealed housings  
[NASA-CASE-NFS-21761-1] c14 N73-18444  
Heat transfer device  
[NASA-CASE-NPO-11120-1] c33 N74-18552

**HEXOKINASE**  
Use of enzyme hexokinase and glucose to reduce inherent light levels of ATP in luciferase compositions  
[NASA-CASE-XGS-05533] c04 N69-27487

**HIGH ACCELERATION**  
Astronaut restraint suit for high acceleration protection  
[NASA-CASE-XAC-00405] c05 N70-41819

**HIGH ALTITUDE**  
Compact bellows spirometer for high speed and high altitude space travel  
[NASA-CASE-XAR-01547] c05 N69-21473

**HIGH ALTITUDE ENVIRONMENTS**  
Method of making solid propellant rocket motor having reliable high altitude capabilities, long shelf life, and capable of firing with nozzle closure with foamed plastic permanent mandrel  
[NASA-CASE-XLA-04126] c28 N71-26779

**HIGH ASPECT RATIO**  
Aerospace configuration with low and high aspect ratio variability for high and low speed flight  
[NASA-CASE-XLA-00142] c02 N70-33286  
Aerodynamic configuration for aircraft capable of high speed flight and low drag for low speed takeoff or landing upon presently existing airfields  
[NASA-CASE-XLA-00806] c02 N70-34858

**HIGH CURRENT**  
High voltage, high current Schottky barrier solar cell  
[NASA-CASE-NPO-13482-1] c03 N74-30448

**HIGH ENERGY INTERACTIONS**  
Converging coaxial plasma accelerator for generating dense high velocity plasma bursts  
[NASA-CASE-ARC-10109] c25 N71-29181

**HIGH FREQUENCIES**  
Apparatus for ballasting high frequency transistors  
[NASA-CASE-XGS-05003] c09 N69-24318  
Holder for high frequency crystal resonators  
[NASA-CASE-XMP-03637] c15 N71-21311  
Multiple varactor for generating high frequencies with high power and high conversion efficiency  
[NASA-CASE-XMP-04958-1] c10 N71-26414

**HIGH PASS FILTERS**  
Radio frequency coaxial filter to provide dc isolation and low frequency signal rejection in audio range  
[NASA-CASE-XGS-01418] c09 N71-23573

**HIGH POLYMERS**  
Shock and vibration damping device using temperature sensitive solid amorphous polymers  
[NASA-CASE-XAC-11225] c14 N69-27486

**HIGH PRESSURE**  
High-temperature, high-pressure spherical segment valve  
[NASA-CASE-XAC-00074] c15 N70-34817  
High pressure four-way valve with O ring adapted to pass across inlet port  
[NASA-CASE-XMP-00214] c15 N70-36908  
Compact high pressure filter for rocket fuel lines  
[NASA-CASE-INP-00732] c28 N70-41447  
Antiflutter check valve for use with high pressure fluid flow  
[NASA-CASE-INP-01152] c15 N70-41811  
High pressure liquid flow sight assembly for wide temperature range applications including cryogenic fluids  
[NASA-CASE-XLE-02998] c14 N70-42074  
Structural design of high pressure regulator valve  
[NASA-CASE-XMP-00710] c15 N71-10778  
Hypersonic test facility for studying ablation in models under high pressure and high temperature  
[NASA-CASE-XLA-00378] c11 N71-15925  
Development and characteristics of high pressure control valve  
[NASA-CASE-NSC-11010] c15 N71-19485  
Valve seat with resilient support ring for venting valves subjected to high pressure sealing loads  
[NASA-CASE-XKS-02582] c15 N71-21234  
Apparatus and method capable of receiving large quantity of high pressure helium, removing impurities, and discharging at received pressure  
[NASA-CASE-INP-06888] c15 N71-24044  
Liquid aerosol dispenser with explosively driven piston to compress light gas to extremely high pressure  
[NASA-CASE-NFS-20829] c12 N72-21310

**HIGH RESOLUTION**  
High resolution radar transmitting system for transmitting optical pulses to targets  
[NASA-CASE-NPO-11426] c07 N73-26119  
Focusing optical collimator for high resolution scanning of electromagnetic radiations, neutrons, and other particles  
[NASA-CASE-NFS-20932-1] c14 N73-27380

**HIGH SPEED**  
Compact bellows spirometer for high speed and high altitude space travel  
[NASA-CASE-XAR-01547] c05 N69-21473

- High speed low level voltage commutating switch  
[NASA-CASE-IAC-00060] c09 N70-39915
- Impact testing machine for imparting large  
impact forces on high velocity packages  
[NASA-CASE-XNP-04817] c14 N71-23225
- Flow meter for measuring stagnation pressure in  
boundary layer around high speed flight vehicle  
[NASA-CASE-IFP-02007] c12 N71-24692
- Method for reducing mass of ball bearings for  
long life operation at high speed  
[NASA-CASE-LEW-10856-1] c15 N72-22490
- Two stage light gas plasma projectile accelerator  
[NASA-CASE-NFS-22287-1] c11 N74-18891
- HIGH SPEED CAMERAS**
- Electrically operated rotary shutter for  
television camera aboard spacecraft  
[NASA-CASE-XNP-00637] c14 N70-40273
- HIGH STRENGTH**
- Method for making fiber composites with high  
strength at high temperatures  
[NASA-CASE-LEW-10424-2-2] c18 N72-25539
- HIGH STRENGTH ALLOYS**
- High strength, corrosion resistant cobalt-based  
alloys for aerospace structures  
[NASA-CASE-XLE-00726] c17 N71-15644
- High strength aluminum casting alloy for  
cryogenic applications in aerospace engineering  
[NASA-CASE-XMP-02786] c17 N71-20743
- Production of high strength refractory compounds  
and microconstituents into refractory metal  
matrix  
[NASA-CASE-XLE-03940] c18 N71-26153
- High strength nickel based alloys  
[NASA-CASE-LEW-10874-1] c17 N72-22535
- Cobalt-tungsten alloys with superior strength at  
elevated temperatures  
[NASA-CASE-LEW-10436-1] c17 N73-32415
- HIGH STRENGTH STEELS**
- Prevention of hydrogen embrittlement of high  
strength steel --- by additive potassium  
hydroxide in hydrazine  
[NASA-CASE-NPO-12122-1] c27 N74-20397
- HIGH TEMPERATURE**
- High temperature source of thermal radiation  
[NASA-CASE-XLE-00490] c33 N70-34545
- Therionic diode switch for use in high  
temperature region to chop current from dc  
source  
[NASA-CASE-NPO-10404] c03 N71-12255
- Hypersonic test facility for studying ablation  
in models under high pressure and high  
temperature  
[NASA-CASE-XLA-00378] c11 N71-15925
- Process for fiberizing ceramic materials with  
high fusion temperatures and tensile strength  
[NASA-CASE-XNP-00597] c18 N71-23088
- Induction heating of metallurgical specimens to  
high temperatures in coil furnace  
[NASA-CASE-XLE-04026] c14 N71-23267
- Method of forming ceramic to metal seals  
impervious to gaseous and liquid mercury at  
high temperature  
[NASA-CASE-XNP-01263-2] c15 N71-26312
- Method for making fiber composites with high  
strength at high temperatures  
[NASA-CASE-LEW-10424-2-2] c18 N72-25539
- Superalloys from prealloyed powders at high  
temperatures  
[NASA-CASE-LEW-10805-1] c15 N73-13465
- HIGH TEMPERATURE AIR**
- Apparatus and method for generating large mass  
flow of high temperature air at hypersonic  
speeds  
[NASA-CASE-LAR-10612-1] c12 N73-28144
- HIGH TEMPERATURE ENVIRONMENTS**
- High speed infrared furnace  
[NASA-CASE-XLE-10466] c17 N69-25147
- Nickel alloy series for aerospace structures  
subjected to high temperatures  
[NASA-CASE-XLE-00283] c17 N70-36616
- Water cooled gage for strain measurements in  
high temperature environments  
[NASA-CASE-XNP-09205] c14 N71-17657
- Integrated structure vacuum tube  
[NASA-CASE-ARC-10445-1] c09 N74-29577
- HIGH TEMPERATURE FLUIDS**
- Self-cycling fluid heater for heating continuous  
fluid stream to ultrahigh temperatures to  
facilitate chemical reactions  
[NASA-CASE-MSC-15567-1] c33 N73-16918
- HIGH TEMPERATURE GASES**
- Multiple wavelength radiation measuring  
instrument for determining hot body or gas  
temperature  
[NASA-CASE-XLE-00011] c14 N70-41946
- Ablative resins used for retarding regression in  
ablative material  
[NASA-CASE-XLE-05913] c33 N71-14032
- Transient heat transfer gage for measuring total  
radiant intensity from far ultraviolet and  
ionized high temperature gases  
[NASA-CASE-XNP-09802] c33 N71-15641
- Generation of high temperature, high mass flow,  
and high Reynolds number air at hypersonic  
speeds  
[NASA-CASE-LAR-10578-1] c12 N73-25262
- HIGH TEMPERATURE LUBRICANTS**
- Production of barium fluoride-calcium fluoride  
composite lubricant for bearings or seals  
[NASA-CASE-XLE-08511-2] c18 N71-16105
- Self lubricating fluoride-metal composite  
materials for outer space applications  
[NASA-CASE-XLE-08511] c18 N71-23710
- HIGH TEMPERATURE PLASMAS**
- Apparatus for producing highly conductive, high  
temperature electron plasma with homogenous  
temperature and pressure distribution  
[NASA-CASE-XLA-00147] c25 N70-34661
- HIGH TEMPERATURE PROPELLANTS**
- Development of system for delivering vaporized  
mercury to electron bombardment ion engine  
[NASA-CASE-NPO-10737] c28 N72-11709
- HIGH TEMPERATURE RESEARCH**
- Fire retardant polyisocyanurate foam with high  
temperature resistance  
[NASA-CASE-ARC-10280-1] c18 N70-34695
- Gas cooled high temperature thermocouple  
[NASA-CASE-XLE-09475-1] c33 N71-15568
- Fatigue testing apparatus with light shield and  
infrared reflector for high temperature  
evaluation of loaded sheet samples  
[NASA-CASE-XLA-01782] c14 N71-26136
- HIGH TEMPERATURE TESTS**
- High-temperature, high-pressure spherical  
segment valve  
[NASA-CASE-IAC-00074] c15 N70-34817
- Test apparatus for determining mechanical  
properties of refractory materials at high  
temperatures in vacuum or inert atmospheres  
[NASA-CASE-XLE-00335] c14 N70-35368
- Apparatus for testing metallic and nonmetallic  
beams or rods by bending at high temperatures  
in vacuum or inert atmosphere  
[NASA-CASE-XLE-01300] c15 N70-41993
- HIGH VACUUM**
- Epoxy resin sealing device for electrochemical  
cells in high vacuum environments  
[NASA-CASE-XGS-02630] c03 N71-22974
- Device for high vacuum film deposition with  
electromagnetic ion steering  
[NASA-CASE-NPO-10331] c09 N71-26701
- Absolute pressure measuring device for measuring  
gas density level in high vacuum range  
[NASA-CASE-LAR-10000] c14 N73-30394
- HIGH VACUUM ORBITAL SIMULATOR**
- Space environmental work simulator with portions  
of space suit mounted to vacuum chamber wall  
[NASA-CASE-XNP-07488] c11 N71-18773
- HIGH VOLTAGES**
- Hollow spherical electrode for shielding  
dielectric junction between high voltage  
conductor and insulator  
[NASA-CASE-XLE-03778] c09 N69-21542
- High voltage cable for use in high intensity  
ionizing radiation fields  
[NASA-CASE-XNP-00738] c09 N70-38201
- High voltage pulse generator for testing flash  
and ignition limits of nonmetallic materials  
in controlled atmospheres  
[NASA-CASE-MSC-12178-1] c09 N71-13518
- High voltage transistor circuit  
[NASA-CASE-XNP-06937] c09 N71-19516
- High voltage divider system for attenuating high  
voltages to convenient levels suitable for  
introduction to measuring circuits  
[NASA-CASE-XLE-02008] c09 N71-21583
- High voltage distributor  
[NASA-CASE-GSC-11849-1] c09 N74-22873

- High voltage, high current Schottky barrier solar cell  
[NASA-CASE-NPO-13482-1] c03 N74-30448
- HISTOGRAMS**  
System for storing histogram data in optimum number of elements  
[NASA-CASE-XNP-09785] c08 N69-21928
- HOLDERS**  
Water cooled contactors for holding rotating carbon arc anode  
[NASA-CASE-XMS-03700] c15 N69-24266  
Quick disconnect latch and handle combination for mounting articles on walls or supporting bases in spacecraft under zero gravity conditions  
[NASA-CASE-MFS-11132] c15 N71-17649  
Holder for high frequency crystal resonators  
[NASA-CASE-XNP-03637] c15 N71-21311  
Design and construction of mechanical probe for determining if object is properly secured  
[NASA-CASE-MFS-20760] c14 N72-33377
- HOLE DISTRIBUTION (MECHANICAL)**  
Adjustable hole cutter for forming circular openings  
[NASA-CASE-MFS-22649-1] c15 N73-32376
- HOLE MOBILITY**  
Hole mobility of deposited semiconductor films in vacuum utilizing thermal gradient  
[NASA-CASE-XRS-04614] c15 N69-21460
- HOLOGRAPHY**  
Development of focused image holography with extended sources  
[NASA-CASE-ERC-10019] c16 N71-15551  
Hybrid holographic system using reference, transmitted, and reflected beams simultaneously  
[NASA-CASE-MFS-20074] c16 N71-15565  
Recording and reconstructing focused image holograms  
[NASA-CASE-ERC-10017] c16 N71-15567  
Method and means for recording and reconstructing holograms without use of reference beam  
[NASA-CASE-ERC-10020] c16 N71-26154  
Multiple image storing system for obtaining holographic record on film of high speed projectile  
[NASA-CASE-MFS-20596] c14 N72-17324  
Thin film analyzer utilizing holographic techniques  
[NASA-CASE-MFS-20823-1] c16 N73-30476  
Holographic system for nondestructive testing  
[NASA-CASE-MFS-21704-1] c16 N73-30478  
Method and apparatus for checking the stability of a setup for making reflection type holograms  
[NASA-CASE-MFS-21455-1] c16 N74-15146  
Real time moving scene holographic camera system  
[NASA-CASE-MFS-21087-1] c14 N74-17153  
Holography utilizing surface plasmon resonances  
[NASA-CASE-MFS-22040-1] c14 N74-26946  
Real time, large volume, moving scene holographic camera system  
[NASA-CASE-MFS-22537-1] c14 N74-28932  
An optical process for producing classification maps from multispectral data  
[NASA-CASE-MSC-14472-1] c13 N74-32780  
A holographic motion picture camera  
[NASA-CASE-MFS-22517-1] c14 N74-33943
- HOMING DEVICES**  
Location identification system with ground based transmitter and aircraft borne receiver/decoder  
[NASA-CASE-ERC-10324] c07 N72-25173
- HONEYCOMB CORES**  
Technique for making foldable, inflatable, plastic honeycomb core panels for use in building and bridge structures, light and radio wave reflectors, and spacecraft  
[NASA-CASE-XLA-03492] c15 N71-22713  
Heat treatment and tooling for forming shapes from thermosetting honeycomb core sheets  
[NASA-CASE-NPO-11036] c15 N72-24522  
Honeycomb core structures of minimum surface tubule sections  
[NASA-CASE-ERC-10363] c18 N72-25541
- HONEYCOMB STRUCTURES**  
Filling honeycomb matrix with deaerated paste filler  
[NASA-CASE-XMS-01108] c15 N69-24322  
Inflatable honeycomb panel element for lightweight structures usable in space stations and other construction  
[NASA-CASE-XLA-00204] c32 N70-36536  
Fluid flow control valve for regulating fluids in molecular quantities  
[NASA-CASE-XLE-00703] c15 N71-15967  
Method and apparatus for fabrication of heat insulating and ablative reentry structure  
[NASA-CASE-XMS-02009] c33 N71-20834  
Method for honeycomb panel bonding by thermosetting film adhesive with electrical heat means  
[NASA-CASE-XNF-01402] c18 N71-21651  
Development of thermal insulation material for insulating liquid hydrogen tanks in spacecraft  
[NASA-CASE-XMF-05046] c33 N71-28892  
Honeycomb panels of minimal surface, periodic tubule layers  
[NASA-CASE-ERC-10364] c18 N72-25540  
Development of process for bonding resinous body in cavities of honeycomb structures  
[NASA-CASE-MSC-12357] c15 N73-12489  
Technique for bonding --- process for holding silicone elastomer into fiberglass honeycomb panel  
[NASA-CASE-LAR-10073-1] c32 N74-23449  
Insert facing tool --- manually operated cutting tool for forming studs in honeycomb material  
[NASA-CASE-MFS-21485-1] c15 N74-25968
- HOPPERS**  
Design and development of device to prevent clogging in hoppers containing particulate materials  
[NASA-CASE-LAR-10961-1] c15 N73-12496
- HORIZON SCANNERS**  
Oscillatory electromagnetic mirror drive system for horizon scanners  
[NASA-CASE-XLA-03724] c14 N69-27461  
Multi-lobar scan horizon sensor  
[NASA-CASE-XGS-00809] c21 N70-35427  
Attitude orientation control of spin stabilized final stage space vehicles, using horizon scanners  
[NASA-CASE-XLA-00281] c21 N70-36943  
Clamped amplifier circuit for horizon scanner enabling amplification and accurate measurement of specified parameters  
[NASA-CASE-XGS-01784] c10 N71-20782  
Horizon sensor design with digital sampling of spaced radiation-compensated thermopile infrared detectors  
[NASA-CASE-XNP-06957] c14 N71-21088  
Method and equipment for locating earth infrared horizon from space, independent of season and latitude  
[NASA-CASE-LAR-10726-1] c14 N73-20475
- HORIZONTAL SPACECRAFT LANDING**  
Delta winged, manned reentry vehicle capable of horizontal glide landing at low speeds  
[NASA-CASE-XLA-00241] c31 N70-37986
- HORIZONTAL TAIL SURFACES**  
Development and characteristics of translating horizontal tail assembly for supersonic aircraft  
[NASA-CASE-XLA-08801-1] c02 N71-11043
- HORN ANTENNAS**  
Device for improving efficiency of parabolic horn antenna system for linearly polarized signals  
[NASA-CASE-XNP-00611] c09 N70-35219  
Device for improving efficiency of parabolic reflector horn for linearly or circularly polarized waves  
[NASA-CASE-XNP-00540] c09 N70-35382  
Characteristics of antenna horn feeds consisting of central horn with overlapping peripheral horns  
[NASA-CASE-GSC-10452] c07 N71-12396  
Multiple mode horn antenna with radiation pattern of equal beamwidths and suppressed sidelobes  
[NASA-CASE-XNP-01057] c07 N71-15907  
Multipurpose microwave antenna, employing dish reflector with plural coaxial horn feeds  
[NASA-CASE-NPO-11264] c07 N72-25174  
Horn antenna having V-shaped corrugated slots  
[NASA-CASE-LAR-11112-1] c09 N74-29575
- HOT CATHODES**  
Improved cathode containing barium carbonate block and heated tungsten screen for electron bombardment ion thruster

## HOT PRESSING

## SUBJECT INDEX

[NASA-CASE-XLE-07087] c06 N69-39889  
**HOT PRESSING**  
 Cermets for nuclear fuel constructed by pressing metal coated ceramic particles in die at temperature to cause bonding of metal coatings, and tested for thermal stability [NASA-CASE-LEW-10219-1] c18 N71-28729

**HOT WORKING**  
 Hot forming of plastic sheets [NASA-CASE-XMS-05516] c15 N71-17803

**HOT-WIRE FLOWMETERS**  
 Hot-wire liquid level detector for cryogenic propellants [NASA-CASE-XLE-00454] c23 N71-17802

**HOUSINGS**  
 Sealed housing for protecting electronic equipment against electromagnetic interference [NASA-CASE-MSC-12168-1] c09 N71-18600  
 Open type urine receptacle with tubular housing [NASA-CASE-MSC-12324-1] c05 N72-22093  
 Readily assembled universal environment housing for electronic equipment [NASA-CASE-KSC-10031] c15 N72-22486  
 Gas flow control device, including housing and input port [NASA-CASE-NPO-11479] c15 N73-13462  
 Cryogenic gyroscope housing --- with annular disks for gas spin-up [NASA-CASE-MFS-21136-1] c23 N74-18323  
 Heat transfer device [NASA-CASE-NPO-11120-1] c33 N74-18552

**HOVERING**  
 Hovering type flying vehicle design and principle mechanisms for manned or unmanned use [NASA-CASE-MSC-12111-1] c02 N71-11039

**HUGONIOT EQUATION OF STATE**  
 Method for determining density of impacting particles by using Hugoniot curves [NASA-CASE-LAR-11059-1] c30 N73-26838

**HULLS (STRUCTURES)**  
 Efficient operation of improved hydrofoil design [NASA-CASE-XLA-00229] c12 N70-33305

**HUMAN BEINGS**  
 Method and apparatus for applying compressional forces to skeletal structure of subject to simulate force during ambulatory conditions [NASA-CASE-ARC-10100-1] c05 N71-24738  
 Automatic braking device for rapidly transferring humans or materials from elevated location [NASA-CASE-IKS-07814] c15 N71-27067

**HUMAN BODY**  
 Apparatus for measuring human body mass in zero or reduced gravity environment [NASA-CASE-XMS-03371] c05 N70-42000  
 Electromedical garment, applying vectorcardiologic type electrodes to human torsos for data recording during physical activity [NASA-CASE-XPR-10856] c05 N71-11189  
 Thermoregulating with cooling flow pipe network for humans [NASA-CASE-XMS-10269] c05 N71-24147  
 Tilting table for testing human body in variety of positions while exercising on ergometer or other biomedical devices [NASA-CASE-MFS-21010-1] c05 N73-30078

**HUMAN FACTORS ENGINEERING**  
 Shock absorbing couch for body support under high acceleration or deceleration forces [NASA-CASE-XMS-01240] c05 N70-35152  
 Harness assembly adapted to support man on ground based apparatus which simulates weightlessness [NASA-CASE-MFS-14671] c05 N71-12341  
 Multiple circuit switch apparatus requiring minimum hand and eye movement by operator [NASA-CASE-XAC-03777] c10 N71-15909  
 Remote control device operated by movement of finger tips for manual control of spacecraft attitude [NASA-CASE-XAC-02405] c09 N71-16089  
 Design and development of flexible tunnel for use by spacecrews in performing extravehicular activities [NASA-CASE-MSC-12243-1] c05 N71-24728  
 Development of apparatus and method for quantitatively measuring brain activity as automatic indication of sleep state and level of consciousness [NASA-CASE-MSC-13282-1] c05 N71-24729  
 Recording apparatus [NASA-CASE-LAR-11353-1] c14 N74-20020

**HUMAN PERFORMANCE**  
 Optical vision testing unit for testing eyes and visual system of human subject [NASA-CASE-MSC-13601-1] c05 N72-11088  
 Color perception tester for testing color code perceptiveness of individuals [NASA-CASE-KSC-10278] c05 N72-16015

**HUMAN REACTIONS**  
 Reaction tester for testing reaction to light stimuli [NASA-CASE-MSC-13604-1] c05 N73-13114

**HUMAN WASTES**  
 Reduced gravity fecal collector seat and urinal [NASA-CASE-MFS-22102-1] c05 N74-20725

**HYBRID COMPUTERS**  
 Adaptive voting computer system [NASA-CASE-MSC-13932-1] c08 N74-14920

**HYBRID PROPELLANTS**  
 Liner for hybrid solid propellants to bind propellant to rocket motor case [NASA-CASE-XNP-09744] c27 N71-16392

**HYDRAULIC CONTROL**  
 Shear modulated fluid amplifier of high pressure hydraulic vortex amplifier type [NASA-CASE-MFS-10412] c12 N71-17578  
 Throttle valve for regulating fluid flow volume [NASA-CASE-XNP-09698] c15 N71-18580  
 Fluidic-thermochromic display device [NASA-CASE-ERC-10031] c12 N71-18603  
 Development and characteristics of variable displacement fluid pump for transforming hydraulic pressures [NASA-CASE-MFS-20830] c15 N71-30028

**HYDRAULIC EQUIPMENT**  
 Hydraulic support equipment for full scale dynamic testing of large rocket vehicle under free flight conditions [NASA-CASE-XNP-01772] c11 N70-41677  
 Hydraulic support apparatus for dynamic testing of space vehicles under near-free flight conditions [NASA-CASE-XNP-03248] c11 N71-10604  
 Hydraulic drive mechanism for leveling isolation platforms [NASA-CASE-XMS-03252] c15 N71-10658  
 Antibacklash circuit for hydraulic drive system [NASA-CASE-XNP-01020] c03 N71-12260  
 Hydraulic clamping of sheet stock specimens [NASA-CASE-XLA-05100] c15 N71-17696  
 Design and development of double acting shock absorber for spacecraft docking operations [NASA-CASE-XMS-03722] c15 N71-21530  
 Hydraulic apparatus for casting and molding of liquid polymers [NASA-CASE-XNP-07659] c06 N71-22975  
 System to control speed of hydraulically movable members by limiting energy applied to actuators with hydraulic servo loop [NASA-CASE-ARC-10131-1] c15 N71-27754  
 Development of aircraft control system with high performance electrically controlled and mechanically operated hydraulic valves for precise flight operation [NASA-CASE-XAC-00048] c02 N71-29128  
 Development and characteristics of variable displacement fluid pump for transforming hydraulic pressures [NASA-CASE-MFS-20830] c15 N71-30028  
 Design and characteristics of mechanically extended and telescoping boom on crane assembly [NASA-CASE-NPO-11118] c03 N72-25021  
 Design and development of device to prevent geysering during convective circulation of cryogenic fluids [NASA-CASE-KSC-10615] c15 N73-12486  
 Redundant hydraulic control system for actuators with three main valve combination [NASA-CASE-MFS-20944] c15 N73-13466  
 Development and characteristics of combined pressure regulator and shutoff valve with variable pressure response characteristics [NASA-CASE-NPO-13201-1] c15 N73-26474  
 Rocket propellant injector with porous faceplate for rocket engine combustion chamber [NASA-CASE-LEW-11071-1] c27 N73-27695

- Design and characteristics of system for regenerating fluid filter to remove trapped particles with application to space shuttle systems  
[NASA-CASE-MSC-14273-1] c12 N73-28179
- Ultrasonically bonded valve assembly  
[NASA-CASE-NPO-13360-1] c15 N74-20073
- Quick disconnect filter coupling  
[NASA-CASE-MFS-22323-1] c15 N74-26988
- HYDRAULIC FLUIDS**  
Miniature hydraulic actuator --- for control surfaces on airfoils  
[NASA-CASE-LAR-11522-1] c15 N74-34881
- HYDRAZINE NITROFORM**  
Solid propellant containing hydrazinium nitroformate oxidizer and polymeric hydrocarbon binder  
[NASA-CASE-NPO-12015] c27 N73-16764
- HYDRAZINES**  
Catalyst bed ignition system for hydrazine propellants  
[NASA-CASE-XNP-00876] c28 N70-41311
- Hydrazine monoperfluoro alkanoate solder flux leaving corrosion resistant coating, for metals such as copper  
[NASA-CASE-XNP-03459-2] c18 N71-15688
- Rubber composition for expulsion bladders and diaphragms for use with hydrazine  
[NASA-CASE-NPO-11433] c18 N71-31140
- Prevention of hydrogen embrittlement of high strength steel --- by additive potassium hydroxide in hydrazine  
[NASA-CASE-NPO-12122-1] c27 N74-20397
- HYDROCARBON FUELS**  
Apparatus for producing hydrocarbon slurry containing small particles of magnesium for use as jet aircraft fuel  
[NASA-CASE-XLE-00010] c15 N70-33382
- HYDROCARBONS**  
Solid propellant containing hydrazinium nitroformate oxidizer and polymeric hydrocarbon binder  
[NASA-CASE-NPO-12015] c27 N73-16764
- HYDRODYNAMICS**  
Heat operated cryogenic electrical generator --- using liquid helium conversion  
[NASA-CASE-NPO-13303-1] c03 N74-19701
- HYDROFOILS**  
Efficient operation of improved hydrofoil design  
[NASA-CASE-XLA-00229] c12 N70-33305
- HYDROFORMING**  
Cold metal hydroforming techniques using epoxy molds for counteracting creep or stretch  
[NASA-CASE-XLE-05641-1] c15 N71-26346
- HYDROGEN**  
Method and transducer device for detecting presence of hydrogen gas  
[NASA-CASE-IMP-03873] c06 N69-39733
- Preventing pressure buildup in electrochemical cells by reacting palladium oxide with evolved hydrogen  
[NASA-CASE-XGS-01419] c03 N70-41864
- Development of pulse-activated polarographic hydrogen detector  
[NASA-CASE-XNP-06531] c14 N71-17575
- Development of device for detecting hydrogen in ambient environments  
[NASA-CASE-MFS-11537] c14 N71-20442
- Gas chromatographic method for analyzing hydrogen deuterium mixtures  
[NASA-CASE-NPO-11322] c06 N72-25146
- Hydrogen fire blink detector for high altitude rocket or ground installation  
[NASA-CASE-MFS-15063] c14 N72-25412
- Separation of dissolved hydrogen from water and coating with palladium black  
[NASA-CASE-MSC-13335-1] c06 N72-31140
- Atomic hydrogen maser with bulb temperature control by output frequency difference signal for wall shift elimination  
[NASA-CASE-HQR-10654-1] c16 N73-13489
- Method for producing storage bulb for atomic hydrogen maser  
[NASA-CASE-NPO-13050-1] c16 N73-18508
- HYDROGEN ENBRITTELEMENT**  
Prevention of hydrogen embrittlement of high strength steel --- by additive potassium hydroxide in hydrazine  
[NASA-CASE-NPO-12122-1] c27 N74-20397
- HYDROGEN IONS**  
Modulated hydrogen ion flame detector  
[NASA-CASE-ARC-10322-1] c14 N74-27875
- HYDROGEN OXYGEN FUEL CELLS**  
Electrolytically regenerative hydrogen-oxygen fuel cells  
[NASA-CASE-XLE-04526] c03 N71-11052
- Water electrolysis rocket engine with self-regulating stoichiometric fuel mixing regulator  
[NASA-CASE-XGS-08729] c28 N71-14044
- HYDROGEN PEROXIDE**  
Unit for generating thrust from catalytic decomposition of hydrogen peroxide, for high altitude aircraft or spacecraft reaction control  
[NASA-CASE-XMS-00583] c28 N70-38504
- HYDROGENATION**  
Producing high purity silicon carbide on carbon base by hydrogen reduction of silicon tetrachloride  
[NASA-CASE-XLA-00158] c26 N70-36805
- Compact hydrogenator  
[NASA-CASE-NPO-11682-1] c15 N74-15127
- HYDROXIDES**  
Method for determining presence and type of OH in MgO  
[NASA-CASE-NPO-10774] c06 N72-17095
- HYGROSCOPICITY**  
Method of evaluating moisture barrier properties of materials used in electronics encapsulation  
[NASA-CASE-NPO-10051] c18 N71-24934
- HYPERBOLIC SYSTEMS**  
Development of radio locating system for monitoring geographic movement of surface vehicles in metropolitan area using unsynchronized radio broadcasting stations  
[NASA-CASE-NPO-13217-1] c07 N73-26144
- HYPERFINE STRUCTURE**  
Process for producing dispersion strengthened nickel with aluminum comprising metallic matrices embedded with oxides or other hyperfine compounds  
[NASA-CASE-XLE-06969] c17 N71-24142
- HYPERGOLIC ROCKET PROPELLANTS**  
Solid propellant ignition with hypergolic fluid injected to predetermined portions of propellant  
[NASA-CASE-XLE-00207] c28 N70-33375
- Regenerative cooling system for small rocket engine having restart capability and using noncryogenic hypergolic propellants  
[NASA-CASE-XLE-00685] c28 N70-41992
- Method for igniting solid propellant rocket motors by injecting hypergolic fluids  
[NASA-CASE-XLE-01988] c27 N71-15634
- HYPERSONIC AIRCRAFT**  
Multistage aerospace craft --- perspective drawings of conceptual design  
[NASA-CASE-XNP-02263] c02 N74-10907
- HYPERSONIC FLOW**  
Design of hypersonic test facility for ablation tests and performance tests of vehicles under conditions of high temperature and pressure  
[NASA-CASE-XLA-05378] c11 N71-21475
- HYPERSONIC SPEED**  
Leading edge design for hypersonic reentry vehicles  
[NASA-CASE-XLA-00165] c31 N70-33242
- Aerospace vehicle with variable planform for hypersonic and subsonic flight  
[NASA-CASE-XLA-00805] c31 N70-38010
- Variable geometry manned orbital vehicle having high aerodynamic efficiency over wide speed range and incorporating auxiliary pivotal wings  
[NASA-CASE-XLA-03691] c31 N71-15674
- Supersonic or hypersonic vehicle control system comprising elevons with hinge line sweep and free of adverse aerodynamic cross coupling  
[NASA-CASE-XLA-08967] c02 N71-27088
- Generation of high temperature, high mass flow, and high Reynolds number air at hypersonic speeds  
[NASA-CASE-LAR-10578-1] c12 N73-25262
- Apparatus and method for generating large mass flow of high temperature air at hypersonic speeds  
[NASA-CASE-LAR-10612-1] c12 N73-28144
- HYPERSONIC VEHICLES**  
Carbon dioxide purge systems to prevent condensation in spaces between cryogenic fuel tanks and hypersonic vehicle skin

[NASA-CASE-XLA-01967] c31 N70-42015  
**HYPERVELOCITY GUNS**  
 Method and apparatus for use in forming highly collimated beam of microparticles with high charge to mass ratio and injecting beam into electrostatic accelerating tube  
 [NASA-CASE-IGS-06628] c24 N71-16213  
 Implosion driven, light gas, hypervelocity gun  
 [NASA-CASE-IAC-05902] c11 N71-18578  
 Collapsible piston for hypervelocity gun  
 [NASA-CASE-MSC-13789-1] c11 N73-32152  
**HYPERVELOCITY IMPACT**  
 Method of and device for determining the characteristics and flux distribution of micrometeorites --- scanning puncture holes in sheet material with photoelectric cell  
 [NASA-CASE-NPO-12127-1] c14 N74-13130  
**HYPERVELOCITY PROJECTILES**  
 Impact measuring technique for determining size of hypervelocity projectiles  
 [NASA-CASE-LAR-10913] c14 N72-16282  
 Multiple image storing system for obtaining holographic record on film of high speed projectile  
 [NASA-CASE-MFS-20596] c14 N72-17324  
**HYPERVELOCITY WIND TUNNELS**  
 Hypersonic test facility for studying ablation in models under high pressure and high temperature  
 [NASA-CASE-XLA-00378] c11 N71-15925  
 Design of hypersonic test facility for ablation tests and performance tests of vehicles under conditions of high temperature and pressure  
 [NASA-CASE-XLA-05378] c11 N71-21475  
**HYSTEREISIS**  
 Belleville spring assembly with elastic guides having low hysteresis  
 [NASA-CASE-XNP-09452] c15 N69-27504

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**IGNITERS**  
 Characteristics of solid propellant rocket engine with controlled rate of thrust buildup operating in vacuum environment  
 [NASA-CASE-NPO-11559] c28 N73-24784  
 Remote fire stack igniter --- with solenoid-controlled valve  
 [NASA-CASE-MFS-21675-1] c33 N74-33378  
**IGNITION**  
 Magnetically controlled plasma accelerator capable of ignition in low density gaseous environment  
 [NASA-CASE-XLA-00327] c25 N71-29184  
**IGNITION LIMITS**  
 High voltage pulse generator for testing flash and ignition limits of nonmetallic materials in controlled atmospheres  
 [NASA-CASE-MSC-12178-1] c09 N71-13518  
**IGNITION SYSTEMS**  
 Solid propellant ignition with hypergolic fluid injected to predetermined portions of propellant  
 [NASA-CASE-XLE-00207] c28 N70-33375  
 Ignition system for monopropellant combustion devices  
 [NASA-CASE-XNP-00249] c28 N70-38249  
 Igniter capsule for chemical ignition of liquid rocket propellants  
 [NASA-CASE-XLE-00323] c28 N70-38505  
 Catalyst bed ignition system for hydrazine propellants  
 [NASA-CASE-XNP-00876] c28 N70-41311  
 Motor run-up system --- for preventing power line disturbances when synchronous motor is connected to line  
 [NASA-CASE-NPO-13374-1] c10 N74-17949  
**IGNITION TEMPERATURE**  
 Test chamber for determining decomposition and autoignition of materials used in spacecraft under controlled environmental conditions  
 [NASA-CASE-KSC-10198] c11 N71-28629  
**ILLUMINATORS**  
 Camera adapter design for image magnification including lens and illuminator  
 [NASA-CASE-XMF-03844-1] c14 N71-26474  
 Illumination system design for use as sunlight simulator in space environment simulators with multiple light sources reflected to single virtual source  
 [NASA-CASE-BQN-10781] c23 N71-30292  
**IMAGE CONTRAST**  
 Video signal enhancement of signal component representing brightness of scene element in low contrast  
 [NASA-CASE-NPO-10343] c07 N71-27341  
**IMAGE CONVERTERS**  
 Photoconducting semiconductor system for converting stored optical images into video signals  
 [NASA-CASE-NPO-13131-1] c16 N73-31467  
 Real time liquid crystal image converter  
 [NASA-CASE-LAR-11206-1] c23 N74-30118  
**IMAGE CORRELATORS**  
 Multiple pattern holographic information storage and readout system  
 [NASA-CASE-ERC-10151] c16 N71-29131  
 Automatic focus control for facsimile cameras  
 [NASA-CASE-LAR-11213-1] c14 N74-10420  
**IMAGE DISSECTOR TUBES**  
 Apparatus for calibrating an image dissector tube  
 [NASA-CASE-MFS-22208-1] c14 N74-18100  
**IMAGE ENHANCEMENT**  
 Electron beam scanning system for improved image definition and reduced power requirements for video signal transmission  
 [NASA-CASE-ERC-10552] c09 N71-12539  
**IMAGE FILTERS**  
 Filter arrangement for controlling light intensity in motion picture camera used in optical pyrometry  
 [NASA-CASE-XLA-00062] c14 N70-33254  
**IMAGE TUBES**  
 Image tube --- deriving electron beam replica of image  
 [NASA-CASE-GSC-11602-1] c09 N74-21850  
**IMAGES**  
 Camera adapter design for image magnification including lens and illuminator  
 [NASA-CASE-XMF-03844-1] c14 N71-26474  
 Family of physical correction filters for improving optical quality of image  
 [NASA-CASE-BQN-10542-1] c23 N72-21663  
 Stereoscopic television system, including projecting pair of binocular images  
 [NASA-CASE-ARC-10160-1] c23 N72-27728  
**IMAGING TECHNIQUES**  
 Highly stable optical mirror assembly optimizing image quality of light diffraction patterns  
 [NASA-CASE-ERC-10001] c23 N71-24868  
 Noise elimination in coherent imaging system by axial rotation of optical lens for spectral distribution of degrading affects  
 [NASA-CASE-GSC-11133-1] c23 N72-11568  
 Phototransistor imaging system with mosaic of phototransistors on semiconductor substrate  
 [NASA-CASE-MFS-20809] c23 N73-13660  
 Computerized optical system for producing multiple images of a scene simultaneously  
 [NASA-CASE-MSC-12404-1] c23 N73-13661  
 Optical imaging system for increasing light absorption efficiency of imaging detector  
 [NASA-CASE-ARC-10194-1] c23 N73-20741  
 Device for displaying and recording angled views of samples to be viewed by microscope  
 [NASA-CASE-GSC-11690-1] c14 N73-28499  
 Ritchey-Chretien telescope responsive to images located off telescope optical axis  
 [NASA-CASE-GSC-11487-1] c14 N73-30393  
 Data storage, image tube type  
 [NASA-CASE-MSC-14053-1] c08 N74-12888  
 Optical instruments  
 [NASA-CASE-MSC-14096-1] c14 N74-15095  
 Field sequential stereo television  
 [NASA-CASE-MSC-12616-1] c07 N74-32601  
**IMIDES**  
 Synthesis and chemical properties of imidazopyrrolone/imide copolymers  
 [NASA-CASE-XLA-08802] c06 N71-11238  
 Molding process for imidazopyrrolone polymers  
 [NASA-CASE-LAR-10547-1] c15 N74-13177  
**IMINES**  
 Synthesis of polymeric schiff bases by schiff-base exchange reactions  
 [NASA-CASE-XMF-08651] c06 N71-11236  
 Direct synthesis of polymeric schiff bases from two amines and two aldehydes  
 [NASA-CASE-XMF-08655] c06 N71-11239

## SUBJECT INDEX

## INERTIAL REFERENCE SYSTEMS

- Synthesis of schiff bases for heat shields by acetal amine reactions  
[NASA-CASE-XMF-08652] c06 N71-11243
- Synthesis of aromatic diamines and dialdehyde polymers using Schiff base  
[NASA-CASE-XMF-03074] c06 N71-24740
- IMMOBILIZATION**  
Stretcher with rigid head and neck support with capability of supporting immobilized person in vertical position for removal from vehicle hatch to exterior also useful as splint stretcher  
[NASA-CASE-XMF-06589] c05 N71-23159
- Absolute focus locking device for microscopes to maintain set focus for extended time period  
[NASA-CASE-LAR-10184] c14 N72-22445
- IMPACT**  
Shock absorber for use as protective barrier in impact energy absorbing system  
[NASA-CASE-NPO-10671] c15 N72-20443
- System for detecting impact position of cosmic dust on detector surface  
[NASA-CASE-GSC-11291-1] c25 N72-33696
- Impact position detector for outer space particles  
[NASA-CASE-GSC-11829-1] c14 N74-32886
- IMPACT ACCELERATION**  
Suspended mass oscillation damper based on impact energy absorption for damping wind induced oscillations of tall stacks, antennas, and unilical towers  
[NASA-CASE-LAR-10193-1] c15 N71-27146
- IMPACT DAMAGE**  
Measuring micrometeoroid depth of penetration into various materials  
[NASA-CASE-XLA-00941] c14 N71-23240
- IMPACT LOADS**  
Piezoelectric transducer for detecting and measuring micrometeoroids  
[NASA-CASE-XAC-01101] c14 N70-41957
- Impact testing machine for imparting large impact forces on high velocity packages  
[NASA-CASE-XNP-04817] c14 N71-23225
- IMPACT RESISTANCE**  
Electric storage battery with high impact resistance  
[NASA-CASE-NPO-11021] c03 N72-20032
- IMPACT STRUCTURE**  
High impact pressure regulator having minimum number of lightweight movable elements  
[NASA-CASE-NPO-10175] c14 N71-18625
- IMPACT TESTING MACHINES**  
Development and characteristics of pentrometer for measuring physical properties of lunar surface  
[NASA-CASE-XLA-00934] c14 N71-22765
- Impact testing machine for imparting large impact forces on high velocity packages  
[NASA-CASE-XNP-04817] c14 N71-23225
- IMPACT TOLERANCES**  
High impact antennas with high radiating efficiency  
[NASA-CASE-NPO-10231] c07 N71-26101
- IMPEDANCE MATCHING**  
Impedance transformation device for signal mixing  
[NASA-CASE-IGS-01110] c07 N69-24334
- Reflectometer for receiver input impedance match measurement  
[NASA-CASE-INP-10843] c07 N71-11267
- Radio frequency coaxial filter to provide dc isolation and low frequency signal rejection in audio range  
[NASA-CASE-XGS-01418] c09 N71-23573
- Pattern and impedance matching improvements in transversely polarized triaxial antenna  
[NASA-CASE-XGS-02290] c07 N71-28809
- IMPEDANCE MEASUREMENTS**  
Development of electrical system for measuring high impedance  
[NASA-CASE-XMS-08589-1] c09 N71-20569
- IMPLANTATION**  
Biotelemetry apparatus with dual voltage generators for implanting in animals  
[NASA-CASE-XAC-05706] c05 N71-12342
- IMPLOSIONS**  
Implosion driven, light gas, hypervelocity gun  
[NASA-CASE-XAC-05902] c11 N71-18578
- IMPURITIES**  
Fabrication of sintered impurity semiconductor brushes for electrical energy transfer  
[NASA-CASE-XMF-01016] c26 N71-17818
- INCLINATION**  
Hingeless helicopter rotor with improved stability  
[NASA-CASE-ARC-10807-1] c02 N74-34475
- INCOHERENT SCATTERING**  
Rapidly pulsed, high intensity, incoherent light source  
[NASA-CASE-XLE-2529-3] c09 N74-20859
- INDICATING INSTRUMENTS**  
Controlled caging and uncaging mechanism for remote instrument control  
[NASA-CASE-GSC-11063-1] c03 N70-35584
- Piezoelectric means for missile stage separation indication and stage initiation  
[NASA-CASE-XLA-00791] c03 N70-39930
- Inductive liquid level detection system  
[NASA-CASE-XLE-01609] c14 N71-10500
- Apparatus for determining quality of bond between high density material and low density material  
[NASA-CASE-NFS-13686] c15 N71-18132
- Device for detecting hydrogen fires onboard high altitude rockets  
[NASA-CASE-NFS-13130] c10 N72-17173
- INDUCTANCE**  
Current dependent variable inductance for input filter chokes of ac or dc power supplies  
[NASA-CASE-ERC-10139] c09 N72-17154
- Inductance device with vacuum insulation and materials of low gas entrapping capability  
[NASA-CASE-LEW-10330-1] c09 N72-27226
- INDUCTION HEATING**  
Induction heating of metallurgical specimens to high temperatures in coil furnace  
[NASA-CASE-XLE-04026] c14 N71-23267
- INDUCTION MOTORS**  
Voltage controlled oscillator circuit for two-phase induction motor control  
[NASA-CASE-NFS-21465-1] c10 N73-32145
- A variable frequency inverter for ac induction motors with torque, speed and braking control  
[NASA-CASE-NFS-22088-1] c09 N74-13894
- INDUCTORS**  
Inductive liquid level detection system  
[NASA-CASE-XLE-01609] c14 N71-10500
- Describing apparatus used in vacuum deposition of thin film inductive windings for spacecraft microcircuitry  
[NASA-CASE-XNP-01667] c15 N71-17647
- Double-induction variable speed system for constant-frequency electrical power generation  
[NASA-CASE-ERC-10065] c09 N71-27364
- INDUSTRIAL PLANTS**  
Simplified technique and device for producing industrial grade synthetic diamonds  
[NASA-CASE-NFS-20698-2] c15 N73-19457
- INERTIA**  
Gearing system for eliminating backlash and filtering input torque fluctuations from high inertia load  
[NASA-CASE-XGS-04227] c15 N71-21744
- INERTIAL GUIDANCE**  
Hermetically sealed vibration damper design for use in gimbal assembly of spacecraft inertial guidance system  
[NASA-CASE-MSC-10959] c15 N71-26243
- INERTIAL PLATFORMS**  
Inertial component clamping assembly design for spacecraft guidance and control system mounting  
[NASA-CASE-XMS-02184] c15 N71-20813
- Inertial gimbal alignment system for spacecraft guidance  
[NASA-CASE-INP-01669] c21 N71-23289
- Temperature compensated digital inertial sensor --- circuit for maintaining inertial element of gyroscope or accelerometer at constant position  
[NASA-CASE-NPO-13044-1] c14 N74-15094
- An attitude control system  
[NASA-CASE-NFS-22787-1] c21 N74-35096
- INERTIAL REFERENCE SYSTEMS**  
Development of attitude control system for spacecraft orientation  
[NASA-CASE-IGS-04393] c21 N71-14159
- Large amplitude, linear inertial reference system of vibrating string type for spacecraft reference plane  
[NASA-CASE-XAC-03107] c23 N71-16098



## INFLATABLE SPACECRAFT

Passive thermal control coating on aluminum foil laminate for inflatable spacecraft surfaces  
[NASA-CASE-XLA-01291] c33 N70-36617

Erectable, inflatable, radio signal reflecting passive communication satellite  
[NASA-CASE-XLA-00210] c30 N70-40309

Rotating, multisided mandrel for fabricating gored inflatable spacecraft  
[NASA-CASE-XLA-00183] c15 N71-17687

Forming inflatable panels erectable in space for passive communication satellite  
[NASA-CASE-XLA-03497] c15 N71-23052

Development and characteristics of inflatable structure to provide escape from orbit for spacecrews under emergency conditions  
[NASA-CASE-XMS-06162] c31 N71-28851

**INFLATABLE STRUCTURES**

Aeroflexible wing structure with air scoop for inflating stiffeners with ram air  
[NASA-CASE-XLA-06095] c01 N69-39981

Design of inflatable life raft for aircrafts and boats  
[NASA-CASE-XMS-00863] c05 N70-34057

Lightweight life preserver without fastening devices  
[NASA-CASE-XMS-00864] c05 N70-36493

Inflatable honeycomb panel element for lightweight structures usable in space stations and other construction  
[NASA-CASE-XLA-00204] c32 N70-36536

Inflatable radar reflector unit - lightweight, highly reflective to electromagnetic radiation, and adaptable for erection and deployment with minimum effort and time  
[NASA-CASE-XMS-00893] c07 N70-40063

Temperature sensor warning system for pneumatic tires of aircraft and ground vehicles  
[NASA-CASE-XLA-01926] c14 N71-15620

Inflation system for balloon type satellites  
[NASA-CASE-XGS-03351] c31 N71-16081

Development and characteristics of protective coatings for spacecraft  
[NASA-CASE-IMP-02507] c31 N71-17679

Development and characteristics of self supporting space vehicle  
[NASA-CASE-XLA-00117] c31 N71-17680

Conforming polisher for aspheric surfaces of revolution with inflatable tube  
[NASA-CASE-XGS-02884] c15 N71-22705

Technique for making foldable, inflatable, plastic honeycomb core panels for use in building and bridge structures, light and radio wave reflectors, and spacecraft  
[NASA-CASE-XLA-03492] c15 N71-22713

Collapsible antenna boom and coaxial transmission line having inflatable inner tube  
[NASA-CASE-NFS-20068] c07 N71-27191

Space expandable tether device for use as passageway between two docked spacecraft  
[NASA-CASE-XMS-10993] c15 N71-28936

Inflatable rocket engine nozzle skirt with transpiration cooling  
[NASA-CASE-NFS-20619] c28 N72-11708

**INFLATING**

Modification of one man life raft  
[NASA-CASE-LAR-10241-1] c05 N74-14845

**INFORMATION RETRIEVAL**

Multiple pattern holographic information storage and readout system  
[NASA-CASE-ERC-10151] c16 N71-29131

**INFRARED DETECTORS**

Temperature sensitive capacitor device for detecting very low intensity infrared radiation  
[NASA-CASE-IMP-09750] c14 N69-39937

Sight switch using infrared source and sensor mounted beside eye  
[NASA-CASE-IMP-03934] c09 N71-22985

Characteristics of infrared photodetectors manufactured from semiconductor material irradiated by electron beam  
[NASA-CASE-LAR-10728-1] c14 N73-12445

A doped Josephson tunneling junction for use in a sensitive IR detector  
[NASA-CASE-NPO-13348-1] c14 N74-20022

**INFRARED INSTRUMENTS**

Infrared scanning system for maintaining spacecraft orientation with earth reference  
[NASA-CASE-XLA-00120] c21 N70-33181

## INFRARED LASERS

Monitoring atmospheric pollutants with a heterodyne radiometer transmitter-receiver  
[NASA-CASE-NPO-11919-1] c14 N74-11284

**INFRARED RADIATION**

High speed infrared furnace  
[NASA-CASE-ILB-10466] c17 N69-25147

High field CdS detector for infrared radiation  
[NASA-CASE-LAR-11027-1] c14 N74-18088

**INFRARED SCANNERS**

Infrared scanning system for maintaining spacecraft orientation with earth reference  
[NASA-CASE-XLA-00120] c21 N70-33181

Method and equipment for locating earth infrared horizon from space, independent of season and latitude  
[NASA-CASE-LAR-10726-1] c14 N73-20475

**INFRARED SPECTRA**

Laser utilizing infrared rotation transitions of diatomic gas for production of different wavelengths  
[NASA-CASE-ARC-10370-1] c16 N72-10432

**INFRARED SPECTROMETERS**

Telespectrograph for analyzing upper atmosphere by tracking bodies reentering atmosphere at high velocities  
[NASA-CASE-XLA-03273] c14 N71-18699

**INFRARED SPECTROSCOPY**

Polymer coatings for moisture protection of optical windows in infrared spectroscopy  
[NASA-CASE-ARC-10749-1] c23 N73-32542

**INFRASONIC FREQUENCIES**

Resonant infrasonic gauging device for measuring liquid quantity in closed bladderless reservoir  
[NASA-CASE-MSC-11847-1] c14 N72-11363

**INGESTION (BIOLOGY)**

Ingestible miniaturized telemetry device for deep body temperature measurements on humans and animals  
[NASA-CASE-ARC-10583-1] c05 N73-14093

**INITIATORS (EXPLOSIVES)**

Piezoelectric means for missile stage separation indication and stage initiation  
[NASA-CASE-XLA-00791] c03 N70-39930

Electroexplosive safe-arm initiator using electric driven electromagnetic coils and magnets to align charge  
[NASA-CASE-LAR-10372] c09 N71-18599

**INJECTION**

Foam insulation thickness measuring and injection device for spacecraft applications  
[NASA-CASE-NFS-20261] c14 N71-27005

**INJECTORS**

Propellant injectors for rocket combustion chambers  
[NASA-CASE-XLE-00103] c28 N70-33241

Fuel injection system for maximum combustion efficiency of rocket engines  
[NASA-CASE-ILR-00111] c28 N70-38199

Injector manifold assembly for bipropellant rocket engines providing for fuel propellant to serve as coolant  
[NASA-CASE-IMP-00148] c28 N70-38710

Method and apparatus for use in forming highly collimated beam of microparticles with high charge to mass ratio and injecting beam into electrostatic accelerating tube  
[NASA-CASE-XGS-06628] c24 N71-16213

Control valve and coaxial variable injector for controlling bipropellant mixture ratio and flow  
[NASA-CASE-IMP-09702] c15 N71-17654

Rocket engine injector orifice to accommodate changes in density, velocity, and pressure, thereby maintaining constant mass flow rate of propellant into rocket combustion chamber  
[NASA-CASE-XLE-03157] c28 N71-24736

Bipropellant injector with pair of concave deflector plates  
[NASA-CASE-IMP-09461] c28 N72-23809

Coaxial injector for mixing liquid propellants within combustion chambers  
[NASA-CASE-NPO-11095] c15 N72-25455

Improved injector with porous plug for bubbles of gas into feed lines of electrically conductive liquid  
[NASA-CASE-NPO-11377] c15 N73-27406

**INLET FLOW**

High pressure four-way valve with O ring adapted to pass across inlet port

## SUBJECT INDEX

## INTEGRATED CIRCUITS

- [NASA-CASE-XNP-00214] c15 N70-36908  
Method for maintaining good performance in gas turbine during air flow distortion
- [NASA-CASE-LEW-10286-1] c28 N71-28915  
Airflow control system for supersonic inlets
- [NASA-CASE-LEW-11188-1] c02 N74-20646  
Shock position sensor for supersonic inlets --- development of system to measure pressure in throat of supersonic inlet and operate bypass valve
- [NASA-CASE-LEW-11915-1] c12 N74-25805  
Variably positioned guide vanes for aerodynamic choking
- [NASA-CASE-LAR-10642-1] c28 N74-31270  
**INLET PRESSURE**  
Fluid jet amplifier with fluid from jet nozzle deflected by inlet pressure
- [NASA-CASE-XLE-03512] c12 N69-21466  
Shock position sensor for supersonic inlets --- development of system to measure pressure in throat of supersonic inlet and operate bypass valve
- [NASA-CASE-LEW-11915-1] c12 N74-25805  
**INOCULATION**  
Automatic inoculating device for agar trays using cotton swab or loop
- [NASA-CASE-LAR-11074-1] c05 N73-16096  
**INORGANIC COATINGS**  
Composition of diffuse reflective coating containing sodium chloride in combination with diol solvent and organic wetting and drying agents
- [NASA-CASE-GSC-11214-1] c06 N73-13128  
**INORGANIC COMPOUNDS**  
Inorganic ion exchange membrane electrolytes for fuel cell use
- [NASA-CASE-XNP-00264] c03 N69-21337  
Preparation of inorganic solid film lubricants with long wear life and stability in aerospace environments
- [NASA-CASE-XMP-03988] c15 N71-21403  
Modification of polyurethanes with alkyl halide resins, inorganic salts, and encapsulated volatile and reactive halogen for fuel fire control
- [NASA-CASE-ARC-10098-1] c06 N71-24739  
Inorganic thermal control and solar reflector coatings
- [NASA-CASE-NFS-20011] c18 N72-22566  
**INPUT**  
Apparatus for filtering input signals
- [NASA-CASE-WFO-10198] c09 N71-24806  
Electronic signal-handling circuit with constant input impedance
- [NASA-CASE-ARC-10348-1] c10 N72-10205  
RC networks with voltage amplifier, RC input circuit, and positive feedback
- [NASA-CASE-ARC-10020] c10 N72-17172  
**INSERTION LOSS**  
High impedance alternating current sensing transformer device between two bolometers for measuring insertion loss of test component
- [NASA-CASE-XNP-01193] c10 N71-16057  
**INSTRUMENT ERRORS**  
Solar radiation direction detector and device for compensating degradation of photocells
- [NASA-CASE-XLA-00183] c14 N70-40239  
**INSTRUMENT FLIGHT RULES**  
Controlled visibility device for simulating poor visibility conditions in training pilots in instrument landing and flight procedures
- [NASA-CASE-XPR-04147] c11 N71-10748  
**INSTRUMENT ORIENTATION**  
Sensor consisting of photocells mounted on pyramidal base for improved pointing accuracy of planetary trackers
- [NASA-CASE-XNP-04180] c07 N69-39736  
Inertial gimbal alignment system for spacecraft guidance
- [NASA-CASE-XMP-01669] c21 N71-23289  
Optical gauging system for monitoring machine tool alignment
- [NASA-CASE-IAC-09489-1] c15 N71-26673  
Development of solar energy powered heliotrope assembly to orient solar array toward sun
- [NASA-CASE-GSC-10945-1] c21 N72-31637  
**INSTRUMENT PACKAGES**  
Apparatus for ejecting covers of instrument packages using differential pressure principle
- [NASA-CASE-XMP-04132] c15 N69-27502  
Removable potting compound for instrument shock protection
- [NASA-CASE-XLA-00482] c15 N70-36409  
Plastic foam generator for space vehicle instrument payload package flotation in water landing
- [NASA-CASE-XLA-00838] c03 N70-36778  
High velocity guidance and spin stabilization gyro controlled jet reaction system for launch vehicle payloads
- [NASA-CASE-XLA-01339] c31 N71-15692  
Ethylene oxide sterilization and encapsulating process for sterile preservation of instruments and solid propellants
- [NASA-CASE-XNP-09763] c14 N71-20461  
**INSTRUMENTS**  
Method and apparatus for bowing of instrument panels to improve radio frequency shielded enclosure
- [NASA-CASE-XMP-09422] c07 N71-19436  
Design and development of pressure sensor for measuring differential pressures of few pounds per square inch
- [NASA-CASE-XMP-01974] c14 N71-22752  
Development of temperature compensated thrust measuring gage for measuring forces as function of time in environment with varying temperature
- [NASA-CASE-XGS-02319] c14 N71-22965  
Development and characteristics of self-calibrating displacement transducer for measuring magnitude and frequency of displacement of bodies
- [NASA-CASE-XLA-00781] c09 N71-22999  
Design, development, and characteristics of pressure and temperature sensor operating immersed in fluid flow
- [NASA-CASE-LEW-10281-1] c14 N72-17327  
Development of apparatus for mounting scientific experiments in spacecraft to permit utilization without maneuvering spacecraft
- [NASA-CASE-MSC-12372-1] c31 N72-25842  
**INSULATED STRUCTURES**  
Low thermal loss piping arrangement for moving cryogenic media through double chamber structure
- [NASA-CASE-XMP-08882] c15 N69-39935  
**INSULATION**  
Electrode attached to helmets for detecting low level signals from skin of living creatures
- [NASA-CASE-ARC-10043-1] c05 N71-11193  
Characteristics of foamed-in-place ceramic refractory insulating material and method of fabrication
- [NASA-CASE-XGS-02435] c18 N71-22998  
Method of fabricating equal length insulated wire
- [NASA-CASE-PRC-10038] c15 N72-20444  
Inductance device with vacuum insulation and materials of low gas entrapping capability
- [NASA-CASE-LEW-10330-1] c09 N72-27226  
Insulated electrode for electrocardiographic recording without paste electrolyte
- [NASA-CASE-MSC-14339-1] c05 N73-21151  
Silica reusable surface insulation
- [NASA-CASE-ARC-10721-1] c18 N74-14230  
Ceramic coating for silica insulation
- [NASA-CASE-MSC-14270-2] c18 N74-30004  
Ceramic coating for silica insulation
- [NASA-CASE-MSC-14270-1] c18 N74-30005  
**INSULATORS**  
High voltage insulators for direct current in acceleration system of electrostatic thruster
- [NASA-CASE-XLE-01902] c28 N71-10574  
**INTAKE SYSTEMS**  
Deflector for preventing objects from entering nacelle inlets of jet aircraft
- [NASA-CASE-XLE-00388] c28 N70-34788  
Shock position sensor for supersonic inlets --- development of system to measure pressure in throat of supersonic inlet and operate bypass valve
- [NASA-CASE-LEW-11915-1] c12 N74-25805  
**INTEGRATED CIRCUITS**  
Computer circuit performing both counting and shifting logic operations also capable of miniaturization and integration in basic circuits
- [NASA-CASE-XNP-01753] c08 N71-22897

- Development and characteristics of electric circuitry for detecting electrical pulses rise time and amplitude  
[NASA-CASE-INP-08804] c09 N71-24717
- Method and apparatus for testing integrated circuit microtab welds  
[NASA-CASE-ARC-10176-1] c15 N72-21464
- Single integrated circuit chip with field effect transistor  
[NASA-CASE-GSC-10835-1] c09 N72-33205
- Integrated microcircuits and complementary four-phase logic system  
[NASA-CASE-HSC-14240-1] c10 N73-21240
- Integrated circuit power gyrator with Z-matrix design using parallel transistors  
[NASA-CASE-MFS-22342-1] c09 N73-24236
- Integrated circuit tangent function generator  
[NASA-CASE-HSC-13907-1] c10 N73-26230
- Inverted geometry transistor for use with monolithic integrated circuit  
[NASA-CASE-ARC-10330-1] c09 N73-32112
- Integrated circuit package with lead structure and method of preparing the same  
[NASA-CASE-MFS-21374-1] c10 N74-12951
- Integrated P-channel MOS gyrator  
[NASA-CASE-MFS-22343-1] c09 N74-34638
- INTEGRATORS**
- Solid state operational integrator  
[NASA-CASE-NPO-10230] c09 N71-12520
- Variable duration pulse integrator design for integrating pulse duration modulated pulses with elimination of ripple content  
[NASA-CASE-ILA-01219] c10 N71-23084
- Solid state integrator for converting variable width pulses into analog voltage  
[NASA-CASE-ILA-03356] c10 N71-23315
- Feedback integrating circuit with grounded capacitor for signal processing  
[NASA-CASE-IAC-10607] c10 N71-23669
- High speed phase detector design indicating phase relationship between two square wave input signals  
[NASA-CASE-INP-01306-2] c09 N71-24596
- INTERFEROMETERS**
- Describing device for velocity control of electromechanical drive mechanism of scanning mirror of interferometer  
[NASA-CASE-XGS-03532] c14 N71-17627
- Incremental motion drive system applied to interferometer components  
[NASA-CASE-INP-08897] c15 N71-17694
- Design and development of optical interferometer with laser light source for application to schlieren systems  
[NASA-CASE-ILA-04295] c16 N71-24170
- Digital sensor for counting fringes produced by interferometers with improved sensitivity and one photomultiplier tube to eliminate alignment problem  
[NASA-CASE-LAR-10204] c14 N71-27215
- Two beam interferometer-polarimeter  
[NASA-CASE-NPO-11239] c14 N73-12446
- Interferometer prism and control system for precisely determining direction to remote light source  
[NASA-CASE-ARC-10278-1] c14 N73-25463
- INTERMEDIATE FREQUENCY AMPLIFIERS**
- Multichannel logarithmic RF level detector  
[NASA-CASE-LAR-11021-1] c14 N74-20019
- INTERMETALLICS**
- Intermetallic coating for nickel based superalloy  
[NASA-CASE-LEW-11348-1] c17 N72-25517
- Controlled diffusion reaction process for masking substrate of twisted multifilament superconductive ribbon  
[NASA-CASE-LEW-11726-1] c26 N73-26752
- Production of intermetallic compounds by effect of shock waves from explosions and compaction of powder  
[NASA-CASE-MFS-20861-1] c18 N73-32437
- INTERNAL COMBUSTION ENGINES**
- Variable displacement fuel pump for internal combustion engines  
[NASA-CASE-HSC-12139-1] c28 N71-14058
- Detonation reaction engine comprising outer housing enclosing pair of inner walls for continuous flow  
[NASA-CASE-INP-06926] c28 N71-22983
- Development of system for preheating vaporized fuel for use with internal combustion engines  
[NASA-CASE-NPO-12072] c28 N72-22772
- INTERPLANETARY DUST**
- Impact position detector for outer space particles  
[NASA-CASE-GSC-11829-1] c14 N74-32886
- INTERPLANETARY FLIGHT**
- Thermoelectric power system --- for outer planet space flight  
[NASA-CASE-MFS-22002-1] c03 N74-18726
- INTERPLANETARY SPACE**
- Compact heat shielding for interplanetary space vehicles  
[NASA-CASE-XMS-00486] c33 N70-33344
- Active RC filter networks and amplifiers for deep space magnetic field measurement  
[NASA-CASE-IAC-05462-2] c10 N72-17171
- INTERPLANETARY SPACECRAFT**
- Transpirationally cooled heat ablation system for interplanetary spacecraft reentry shielding  
[NASA-CASE-XMS-02677] c31 N70-42075
- INTERPLANETARY TRAJECTORIES**
- Table structure and rotating magnet system simulating gravitational forces on spacecraft and displaying trajectories between Earth, Venus, and Mercury  
[NASA-CASE-INP-00708] c14 N70-35394
- INTRAVEHICULAR ACTIVITY**
- Intra- and extravehicular life support space suite for Apollo astronauts  
[NASA-CASE-MSC-12609-1] c05 N73-32012
- INVERTED CONVERTERS (DC TO AC)**
- A variable frequency inverter for ac induction motors with torque, speed and braking control  
[NASA-CASE-MFS-22088-1] c09 N74-13894
- Inverter ratio failure detector  
[NASA-CASE-NPO-13160-1] c14 N74-18090
- INVERTERS**
- Silicon controlled rectifier inverter with compensation of transients to avoid false gating  
[NASA-CASE-ILA-08507] c09 N69-39984
- Inverter oscillator with voltage feedback  
[NASA-CASE-NPO-10760] c09 N72-25254
- IODINE**
- Method of producing output voltage from photovoltaic cell using poly-N-vinyl carbazole complexed with iodine  
[NASA-CASE-NPO-10373] c03 N71-18698
- Gallium arsenide solar cell preparation by surface deposition of cuprous iodide on thin n-type polycrystalline layers and heating in iodine vapor  
[NASA-CASE-INP-01960] c09 N71-23027
- IODINE ISOTOPES**
- Apparatus for producing high purity I-123 from Xe-123 by bombarding tellurium target with cyclotron beam  
[NASA-CASE-LEW-10518-2] c24 N72-28714
- Production of I-123 for use as radiopharmaceutical for low radiation exposure  
[NASA-CASE-LEW-10518-1] c24 N72-33681
- Production of iodine isotope by high energy bombardment of cesium heat pipe causing spallation reaction  
[NASA-CASE-LEW-11390-2] c24 N73-20763
- Heat pipe production of high purity radioiodine for thyroid measurements  
[NASA-CASE-LEW-11390-3] c11 N73-28128
- Apparatus for producing high purity I-123 --- for thyroid measurement  
[NASA-CASE-LEW-10518-3] c15 N74-10476
- ION ACCELERATORS**
- Helium outgassing process for fused glass coating on ion accelerator grid  
[NASA-CASE-LEW-10278-1] c15 N71-28582
- ION BEAMS**
- Ion beam deflector system for electronic thrust vector control for ion propulsion yaw, pitch, and roll forces  
[NASA-CASE-LEW-10689-1] c28 N71-26173
- Dispensing targets for ion beam particle generators  
[NASA-CASE-NPO-13112-1] c11 N74-26767
- Sputtering holes with ion beamlets  
[NASA-CASE-LEW-11646-1] c28 N74-31269
- ION CHARGE**
- Quadrupole mass spectrometer using noise spectrum for ion separation and identification  
[NASA-CASE-INP-04231] c14 N73-32325

- ION CONCENTRATION**  
Deposition of alloy films --- on irregularly shaped metal object  
[NASA-CASE-LEW-11262-1] c18 N74-13270
- ION CURRENTS**  
System for monitoring presence of neutrals in streams of ions - ion engine control  
[NASA-CASE-INP-02592] c24 N71-20518
- ION CYCLOTRON RADIATION**  
Ion and electron detector for use in an ICR spectrometer  
[NASA-CASE-NPO-13479-1] c14 N74-32890
- ION ENGINES**  
Improved cathode containing barium carbonate block and heated tungsten screen for electron bombardment ion thruster  
[NASA-CASE-XLE-07087] c06 N69-39889  
High-vacuum condenser tank for testing ion rocket engines  
[NASA-CASE-XLE-00168] c11 N70-33278  
Encapsulated heater forming hollow body for cathode used in ion thruster  
[NASA-CASE-LEW-10814-1] c28 N70-35422  
Electrostatic ion engines using high velocity electrons to ionize propellant  
[NASA-CASE-XLE-00376] c28 N70-37245  
Metal ion rocket engine design  
[NASA-CASE-XLE-00342] c28 N70-37980  
Dynamometer measuring microforce thrust produced by ion engine  
[NASA-CASE-XLE-00702] c14 N70-40203  
Increasing available power per unit area in ion rocket engine by increasing beam density  
[NASA-CASE-XLE-00519] c28 N70-41576  
Accel and focus electrode design for ion engine with improved efficiency  
[NASA-CASE-XNP-02839] c28 N70-41922  
Ion engine with magnetic circuit for optimal discharge  
[NASA-CASE-XLE-01124] c28 N71-14043  
Electron bombardment ion rocket engine with improved propellant introduction system  
[NASA-CASE-XLE-02066] c28 N71-15661  
System for monitoring presence of neutrals in streams of ions - ion engine control  
[NASA-CASE-INP-02592] c24 N71-20518  
Construction and method of arranging plurality of ion engines to form cluster thereby increasing efficiency and control by decreasing heat radiated to space  
[NASA-CASE-INP-02923] c28 N71-23081  
Electronic cathodes for use in electron bombardment ion thrusters  
[NASA-CASE-XLE-04501] c09 N71-23190  
Permanently magnetized ion engine casing construction for use in spacecraft propulsion systems  
[NASA-CASE-XNP-06942] c28 N71-23293  
Development and characteristics of ion thruster accelerator with single glass coated grid to provide increased ion extraction capability and larger diameter accelerator system  
[NASA-CASE-LEW-10106-1] c28 N71-26642  
Internal labyrinth and shield structure to improve electrical isolation of propellant feed source from ion thruster  
[NASA-CASE-LEW-10210-1] c28 N71-26781  
Low mass ionizing device for use in electric thrust spacecraft engines  
[NASA-CASE-XNP-01954] c28 N71-28850  
Development of system for delivering vaporized mercury to electron bombardment ion engine  
[NASA-CASE-NPO-10737] c28 N72-11709  
Process for fabricating matched pairs of dished screen and accelerator grids for ion thruster accelerator system  
[NASA-CASE-LEW-11694-1] c28 N73-22721  
Characteristics of ion rocket engine with combination keeper electrode and electron baffle  
[NASA-CASE-NPO-11880] c28 N73-24783  
Single grid accelerator system for electron bombardment type ion thruster  
[NASA-CASE-XLE-10453-2] c28 N73-27699
- ION EXCHANGE MEMBRANE ELECTROLYTES**  
Inorganic ion exchange membrane electrolytes for fuel cell use  
[NASA-CASE-XNP-04264] c03 N69-21337  
Development and characteristics of ion-exchange membrane and electrode assembly for fuel cells or electrolysis cells  
[NASA-CASE-XMS-02063] c03 N71-29044
- ION EXCHANGING**  
Fuel system for thermal nuclear reactor which uses inorganic ion exchanger  
[NASA-CASE-LEW-11645-2] c22 N73-28660
- ION PROBES**  
Ion microprobe mass spectrometer with cooled electrode target for analyzing traces of fluids  
[NASA-CASE-ERC-10014] c14 N71-28863
- ION PROPULSION**  
Variable thrust ion engine using thermal decomposition of solid cesium compound to produce propulsive vapor  
[NASA-CASE-XNP-00923] c28 N70-36802  
Electrostatic ion engines using high velocity electrons to ionize propellant  
[NASA-CASE-XLE-00376] c28 N70-37245  
Metal ion rocket engine design  
[NASA-CASE-XLE-00342] c28 N70-37980  
Method for producing porous tungsten plates for ionizing cesium compounds for propulsion of ion engines  
[NASA-CASE-XLE-00455] c28 N70-38197  
Accel and focus electrode design for ion engine with improved efficiency  
[NASA-CASE-XNP-02839] c28 N70-41922  
Electric rocket engine with electron bombardment ionization chamber  
[NASA-CASE-XNP-04124] c28 N71-21822  
Ion beam deflector system for electronic thrust vector control for ion propulsion yaw, pitch, and roll forces  
[NASA-CASE-LEW-10689-1] c28 N71-26173  
Development and characteristics of ion thruster accelerator with single glass coated grid to provide increased ion extraction capability and larger diameter accelerator system  
[NASA-CASE-LEW-10106-1] c28 N71-26642  
Development of system for delivering vaporized mercury to electron bombardment ion engine  
[NASA-CASE-NPO-10737] c28 N72-11709  
Radial magnetic field for ion thruster  
[NASA-CASE-LEW-10770-1] c28 N72-22770  
Automatic shunting of ion thruster magnetic field when thruster is not operating  
[NASA-CASE-LEW-10835-1] c28 N72-22771  
Process for fabricating matched pairs of dished screen and accelerator grids for ion thruster accelerator system  
[NASA-CASE-LEW-11694-1] c28 N73-22721  
Apparatus for forming dished ion thruster grids  
[NASA-CASE-LEW-11694-2] c15 N74-22147
- ION SOURCES**  
Apertured electrode focusing system for ion sources with nonuniform plasma density  
[NASA-CASE-XNP-03332] c09 N71-10618  
Multilayer porous refractory metal ionizer design with thick, porous, large-grain substrates and thin, porous micron-grain substrates  
[NASA-CASE-XNP-04338] c17 N71-23046  
Development and characteristics of ion thruster accelerator with single glass coated grid to provide increased ion extraction capability and larger diameter accelerator system  
[NASA-CASE-LEW-10106-1] c28 N71-26642  
Low mass ionizing device for use in electric thrust spacecraft engines  
[NASA-CASE-XNP-01954] c28 N71-28850  
Development and characteristics of apparatus for ionization analysis  
[NASA-CASE-ARC-10017-1] c14 N72-29464  
Sputtering holes with ion beamlets  
[NASA-CASE-LEW-11646-1] c28 N74-31269
- IONIZATION CHAMBERS**  
Automatic baseline stabilization for ionization detector used in gas chromatograph  
[NASA-CASE-XNP-03128] c10 N70-41991  
Electric rocket engine with electron bombardment ionization chamber  
[NASA-CASE-XNP-04124] c28 N71-21822  
Multichannel photoionization chamber for measuring absorption, photoionization yield, and coefficients of gases  
[NASA-CASE-ERC-10044-1] c14 N71-27090  
Development and characteristics of apparatus for ionization analysis  
[NASA-CASE-ARC-10017-1] c14 N72-29464

- IONIZATION GAGES**  
 Ionization vacuum gage  
 [NASA-CASE-XNP-00646] c14 N70-35666  
 Ionization control system design for monitoring  
 separately located ion gage pressures on  
 vacuum chambers  
 [NASA-CASE-XLE-00787] c14 N71-21090  
 Development and characteristics of apparatus for  
 ionization analysis  
 [NASA-CASE-ARC-10017-1] c14 N72-29464  
 Ionization gage for measuring ultrahigh vacuum  
 levels  
 [NASA-CASE-XLA-05087] c14 N73-30391
- IONIZATION POTENTIALS**  
 Electrodes having array of small surfaces for  
 field ionization  
 [NASA-CASE-ERC-10013] c09 N71-26678
- IONIZED GASES**  
 Plasma probes having guard ring and primary  
 sensor at same potential to prevent stray wall  
 current collection in ionized gases  
 [NASA-CASE-XLE-00690] c25 N69-39884  
 Transient heat transfer gage for measuring total  
 radiant intensity from far ultraviolet and  
 ionized high temperature gases  
 [NASA-CASE-XNP-09802] c33 N71-15641
- IONIZERS**  
 Description of electrical equipment and system  
 for purification of waste water by producing  
 silver ions for bacterial control  
 [NASA-CASE-MSC-10960-1] c03 N71-24718  
 Process for fabricating matched pairs of dished  
 screen and accelerator grids for ion thruster  
 accelerator system  
 [NASA-CASE-LEW-11694-1] c28 N73-22721
- IONIZING RADIATION**  
 High voltage cable for use in high intensity  
 ionizing radiation fields  
 [NASA-CASE-XNP-00738] c09 N70-38201  
 Reinforced polyquinoxaline gasket and method of  
 preparing the same --- resistant to ionizing  
 radiation and liquid hydrogen temperatures  
 [NASA-CASE-MPS-21364-1] c15 N74-18126
- IONOSPHERE**  
 Lightweight, rugged, inexpensive satellite  
 battery for producing electrical power from  
 ionosphere using electrodes with different  
 contact potentials  
 [NASA-CASE-XGS-01593] c03 N70-35408
- IONS**  
 Micrometeoroid analyzer using arrays of  
 interconnected capacitors and ion detector  
 [NASA-CASE-ARC-10443-1] c14 N73-20477
- IRISES (MECHANICAL APERTURES)**  
 Waveguide, thin film window and microwave irises  
 [NASA-CASE-LAR-10513-1] c07 N72-25170  
 Development of thin film microwave iris  
 installed in microwave waveguide transverse to  
 flow of energy in waveguide  
 [NASA-CASE-LAR-10511-1] c09 N72-29172
- IRON OXIDES**  
 System for recovering oxygen and/or water from  
 extraterrestrial soil and iron oxide materials  
 [NASA-CASE-MSC-12332-1] c15 N72-15476
- IRRADIATION**  
 Solar sensor with coarse and fine sensing  
 elements for matching preirradiated cells on  
 degradation rates  
 [NASA-CASE-XLA-01584] c14 N71-23269  
 Apparatus for obtaining isotropic irradiation on  
 film emulsion for parallel radiation source  
 [NASA-CASE-MPS-20095] c24 N72-11595  
 Production of pure metals  
 [NASA-CASE-LEW-10906-1] c06 N74-30502
- ISOCYANATES**  
 Fire retardant polyisocyanurate foam with high  
 temperature resistance  
 [NASA-CASE-ARC-10280-1] c18 N70-34695
- ISOLATORS**  
 Internal labyrinth and shield structure to  
 improve electrical isolation of propellant  
 feed source from ion thruster  
 [NASA-CASE-LEW-10210-1] c28 N71-26781
- ISOPROPYL ALCOHOL**  
 Preparation of fluorinated polyethers from  
 2-hydro-perhaloisopropyl alcohols  
 [NASA-CASE-MPS-11492] c06 N73-30102
- ISOTHERMAL LAYERS**  
 Double-wall isothermal cylinder containing heat  
 transfer fluid thermal reservoir as spacecraft  
 insulation cover  
 [NASA-CASE-MPS-20355] c33 N71-25353
- JET AIRCRAFT**  
 Deflector for preventing objects from entering  
 nacelle inlets of jet aircraft  
 [NASA-CASE-XLE-00388] c26 N70-34788
- JET AIRCRAFT NOISE**  
 Upper surface, external flow, jet-augmented flap  
 configuration for high wing jet aircraft for  
 noise reduction  
 [NASA-CASE-XLA-00087] c02 N70-33332  
 Jet aircraft exhaust nozzle for noise reduction  
 [NASA-CASE-LAR-10951-1] c28 N73-19819  
 Jet aircraft noise and sonic boom measuring  
 device which converts sound pressure into  
 electric current  
 [NASA-CASE-LAR-11173-1] c14 N73-22387  
 Development of aircraft configuration for  
 reduction of jet aircraft noise by exhausting  
 engine gases over upper surface of wing  
 [NASA-CASE-LAR-11087-1] c02 N73-26008  
 Method and apparatus for improving operating  
 efficiency and reducing low speed noise for  
 turbine aircraft engines  
 [NASA-CASE-LAR-11310-1] c28 N73-31699  
 Noise suppressor --- for turbofan engine by  
 incorporating annular acoustically porous  
 elements in exhaust and inlet ducts  
 [NASA-CASE-LAR-11141-1] c02 N74-32418  
 Abating exhaust noises in jet engines  
 [NASA-CASE-ARC-10712-1] c28 N74-33218
- JET AMPLIFIERS**  
 Fluid jet amplifier with fluid from jet nozzle  
 deflected by inlet pressure  
 [NASA-CASE-XLE-03512] c12 N69-21466  
 Fluid control jet amplifiers  
 [NASA-CASE-XLE-09341] c12 N71-28741
- JET BLAST EFFECTS**  
 Separation mechanism for use between stages of  
 multistage rocket vehicles  
 [NASA-CASE-XLA-00188] c15 N71-22874
- JET CONTROL**  
 Attitude control device for space vehicles  
 [NASA-CASE-XNP-00294] c21 N70-36938
- JET ENGINES**  
 Absorptive, nonreflecting barrier mounted  
 between closely spaced jet engines on  
 supersonic aircraft, for preventing shock wave  
 interference  
 [NASA-CASE-XLA-02865] c28 N71-15563  
 Development of thrust dynamometer for measuring  
 performance of jet and rocket engines  
 [NASA-CASE-XLE-05260] c14 N71-20429  
 Afterburner-equipped jet engine nacelle with  
 slotted configuration afterbody  
 [NASA-CASE-XLA-10450] c28 N71-21493  
 Process for welding compressor and turbine  
 blades to rotors and discs of jet engines  
 [NASA-CASE-LEW-10533-1] c15 N73-28515  
 Variably positioned guide vanes for aerodynamic  
 choking  
 [NASA-CASE-LAR-10642-1] c28 N74-31270
- JET EXHAUST**  
 Development of aircraft configuration for  
 reduction of jet aircraft noise by exhausting  
 engine gases over upper surface of wing  
 [NASA-CASE-LAR-11087-1] c02 N73-26008  
 Jet exhaust noise suppressor  
 [NASA-CASE-LEW-11286-1] c02 N74-27490
- JET FLAPS**  
 Upper surface, external flow, jet-augmented flap  
 configuration for high wing jet aircraft for  
 noise reduction  
 [NASA-CASE-XLA-00087] c02 N70-33332
- JET FLOW**  
 Two-phase flow system with discrete, impinging  
 two-phase jets  
 [NASA-CASE-NPO-11556] c12 N72-25292
- JET MIXING FLOW**  
 Fuel injection system for maximum combustion  
 efficiency of rocket engines  
 [NASA-CASE-XLE-00111] c28 N70-38199
- JET NOZZLES**  
 Fluid jet amplifier with fluid from jet nozzle  
 deflected by inlet pressure

- [NASA-CASE-XLE-03512] c12 N69-21466  
Thrust and attitude control apparatus using jet nozzle in movable canard surface or fin configuration  
[NASA-CASE-XLE-03583] c31 N71-17629  
Heater-mixer for stored fluids  
[NASA-CASE-ARC-10442-1] c14 N74-15093  
Cascade plug nozzle  
[NASA-CASE-LAR-11674-1] c28 N74-33220
- JET THROUST**  
System for aerodynamic control of rocket vehicles by secondary injection of fluid into nozzle exhaust stream  
[NASA-CASE-XLA-01163] c21 N71-15582  
Drive mechanism for operating reactance attitude control system for aerospace bodies  
[NASA-CASE-INP-01598] c21 N71-15583
- JETTISON SYSTEMS**  
Describing assembly for opening stabilizing and decelerating flaps of flight capsules used in space research  
[NASA-CASE-XMF-03169] c31 N71-15675  
System for deploying and ejecting releasable clamshell fairing sections from spinning sounding rockets  
[NASA-CASE-GSC-10590-1] c31 N73-14853
- JIGS**  
Apparatus for positioning modular components on a vertical or overhead surface  
[NASA-CASE-LAR-11465-1] c15 N74-32926
- JOINING**  
Transparent plastic film for attaching cover glasses to silicon solar cells  
[NASA-CASE-LEW-11065-1] c03 N72-11064
- JOINTS (ANATOMY)**  
Space suit with pressure-volume compensator system  
[NASA-CASE-XLA-05332] c05 N71-11194  
Equipotential space suits utilizing mechanical aids to minimize astronaut energy at bending joints  
[NASA-CASE-LAR-10007-1] c05 N71-11195  
Cord restraint system for pressure suit joints  
[NASA-CASE-XMS-09635] c05 N71-24623  
Orthotic arm joint --- for manipulating objects in response to electrical signals  
[NASA-CASE-MFS-21611-1] c05 N74-10100
- JOINTS (JUNCTIONS)**  
Hollow spherical electrode for shielding dielectric junction between high voltage conductor and insulator  
[NASA-CASE-XLE-03778] c09 N69-21542  
Elastic universal joint for rocket motor mounting  
[NASA-CASE-XNP-00416] c15 N70-36947  
Portable device for aligning surfaces of two adjacent wall or sheet sections for joining at point of junction  
[NASA-CASE-XMF-01452] c15 N70-41371  
Design and development of flexible joint for pressure suits  
[NASA-CASE-XMS-09636] c05 N71-12344  
Elbow forming in jacketed pipes while maintaining separation between core shape and jacket pipes  
[NASA-CASE-XNP-10475] c15 N71-24679  
Method and apparatus for precision sizing and joining of large diameter tubes by bulging or constricting overlapping ends  
[NASA-CASE-XMF-05114-2] c15 N71-26148  
Universal joints for connecting two displaced shafts or members  
[NASA-CASE-NPO-10646] c15 N71-28467  
Flexible bellows joint shielding sleeve for propellant transfer pipelines  
[NASA-CASE-INP-01855] c15 N71-28937  
Mechanism for restraining universal joints to prevent separation while allowing bending, angulation, and lateral offset in any position about axis  
[NASA-CASE-XNP-02278] c15 N71-28951  
Explosive welding of thin metal scarf joint  
[NASA-CASE-LAR-11211-1] c15 N73-14480  
Improved latching device for joining structural components in motionless relationship  
[NASA-CASE-MFS-21606-1] c15 N73-22417  
Diffusion welding in air --- solid state welding of butt joint by fusion welding, surface cleaning, and heating  
[NASA-CASE-LEW-11387-1] c15 N74-18128
- Method of determining bond quality of power transistors attached to bed substrates --- X ray inspection of junction microstructure  
[NASA-CASE-MFS-21931-1] c09 N74-21858  
Bonded joint and method --- for reducing peak shear stress in adhesive bonds  
[NASA-CASE-LAR-10900-1] c15 N74-23064  
Flexible joint for pressurizable garment  
[NASA-CASE-MSC-11072] c05 N74-32546  
An externally supported internally stabilized flexible duct joint  
[NASA-CASE-MFS-19194-1] c15 N74-34882
- JOSEPHSON JUNCTIONS**  
A doped Josephson tunneling junction for use in a sensitive IR detector  
[NASA-CASE-NPO-13348-1] c14 N74-20022
- JOULE-THOMSON EFFECT**  
Gas balancing, cryogenic refrigeration apparatus with Joule-Thomson valve assembly  
[NASA-CASE-NPO-10309] c15 N69-23190
- JOURNAL BEARINGS**  
Slit regulated gas journal bearing  
[NASA-CASE-XNP-00476] c15 N70-38620  
Journal air bearing with cylindrical cup designed to ride on shaft  
[NASA-CASE-MFS-20423] c15 N72-11388  
Journal bearings  
[NASA-CASE-LEW-11076-3] c15 N74-10475  
Journal bearings  
[NASA-CASE-LEW-11076-4] c15 N74-18134  
Journal bearings --- for lubricant films  
[NASA-CASE-LEW-11076-1] c15 N74-21061  
Journal Bearings  
[NASA-CASE-LEW-11076-2] c15 N74-32921
- JUNCTION DIODES**  
Phototransistor with base collector junction diode for integration into photo sensor arrays  
[NASA-CASE-MFS-20407] c09 N73-19235
- JUNCTION TRANSISTORS**  
Apparatus for ballasting high frequency transistors  
[NASA-CASE-XGS-05003] c09 N69-24318  
Miniature piezjunction semiconductor transducer with in situ stress coupling  
[NASA-CASE-ERC-10087-2] c14 N72-31446  
Method of determining bond quality of power transistors attached to bed substrates --- X ray inspection of junction microstructure  
[NASA-CASE-MFS-21931-1] c09 N74-21858

## K

**KINETIC ENERGY**

Non-reusable kinetic energy absorber for application in soft landing of space vehicles  
[NASA-CASE-XLE-00810] c15 N70-34861

**KINETIC FRICTION**

Kinetic and static friction force measurement between magnetic tape and magnetic head surfaces  
[NASA-CASE-INP-08680] c14 N71-22995

**KINETICS**

Micrometeoroid analyzer using arrays of interconnected capacitors and ion detector  
[NASA-CASE-ARC-10443-1] c14 N73-20477

## L

**LABORATORY EQUIPMENT**

Design of mechanical device for stirring several test tubes simultaneously  
[NASA-CASE-XAC-06956] c15 N71-21177  
Gas purged dry box glove reducing permeation of air or moisture into dry box or isolator by diffusion through glove  
[NASA-CASE-XLE-02531] c05 N71-23080  
Apparatus and process for volumetrically dispensing reagent quantities of volatile chemicals for small batch reactions  
[NASA-CASE-NPO-10070] c15 N71-27372  
Development of variable angle device for positioning test tubes to permit optimum drying of culture media  
[NASA-CASE-LAR-10507-1] c11 N72-25284  
Development of method for controlling vapor content of gas  
[NASA-CASE-NPO-10633] c03 N72-28025  
Apparatus for mixing two or more liquids under zero gravity conditions  
[NASA-CASE-LAR-10195-1] c15 N73-19458

- Automatic real-time pair-feeding system for animals  
[NASA-CASE-ARC-10302-1] c04 N74-15778
- LAMINAR FLOW**  
Laminar flow of liquid coolants in rocket engines  
[NASA-CASE-NPO-10122] c12 N71-17631
- LAMINATES**  
Multilayer porous refractory metal ionizer design with thick, porous, large-grain substrates and thin, porous micron-grain substrates  
[NASA-CASE-INP-04338] c17 N71-23046  
Development and characteristics of polyimide impregnated laminates with fiberglass cloth backing for application as printed circuit boards  
[NASA-CASE-MFS-20408] c18 N73-12604  
Development of composite structures for spacecraft to serve as anti-meteoroid device  
[NASA-CASE-LAR-10788-1] c31 N73-20880  
Improved bonding method in the manufacture of continuous regression rate sensor devices  
[NASA-CASE-LAR-10337-1] c15 N74-14141  
Transparent fire resistant polymeric structures  
[NASA-CASE-ARC-10813-1] c18 N74-16249  
Reinforced polyquinoxaline gasket and method of preparing the same --- resistant to ionizing radiation and liquid hydrogen temperatures  
[NASA-CASE-MFS-21364-1] c15 N74-18126  
Method of laminating structural members  
[NASA-CASE-XLA-11028-1] c18 N74-27035
- LANDING AIDS**  
Electro-optical attitude sensing device for landing approach of flight vehicle  
[NASA-CASE-XMS-01994-1] c14 N72-17326  
Magnetic method for detection of aircraft position relative to runway  
[NASA-CASE-ARC-10179-1] c21 N72-22619
- LANDING GEAR**  
Pivotal shock absorbing assembly for use as load distributing portion in landing gear systems of space vehicles  
[NASA-CASE-XMP-03856] c31 N70-34159  
Nose gear steering system for vehicles with main skids to provide directional stability after loss of aerodynamic control  
[NASA-CASE-XLA-01804] c02 N70-34160  
Landing pad assembly for aerospace vehicles  
[NASA-CASE-XMP-02853] c31 N70-36654  
Aircraft wheel spray drag alleviator for dual tandem landing gear  
[NASA-CASE-XLA-01583] c02 N70-36825  
Spacecraft shock absorbing system for soft landings  
[NASA-CASE-XMP-02108] c31 N70-36845  
Shock absorber for landing gear of lunar or planetary landing modules  
[NASA-CASE-XMP-01045] c15 N70-40354  
Vertically descending flight vehicle landing gear for rough terrain  
[NASA-CASE-XMP-01174] c02 N70-41589
- LANDING MODULES**  
Shock absorber for landing gear of lunar or planetary landing modules  
[NASA-CASE-XMP-01045] c15 N70-40354
- LANDING SIMULATION**  
Lunar and planetary gravity simulator to test vehicular response to landing  
[NASA-CASE-XLA-00493] c11 N70-34786
- LASER DOPPLER VELOCIMETERS**  
Combined dual scatter, local oscillator laser Doppler velocimeter  
[NASA-CASE-ARC-10642-1] c14 N74-18099
- LASER HEATING**  
Electric power generation system directly from laser power  
[NASA-CASE-NPO-13308-1] c03 N74-19702
- LASER MATERIALS**  
Development of laser head for simultaneous optical pumping of several dye lasers  
[NASA-CASE-LAR-11341-1] c16 N73-25564  
Inert gas metallic vapor laser  
[NASA-CASE-NPO-13449-1] c16 N74-16187
- LASER MODE LOCKING**  
Procedure and device for effecting dual mode locking in pulsed Nd-YAG lasers  
[NASA-CASE-GSC-11746-1] c16 N73-32398
- LASER MODES**  
Xenon flashlamp driver system for optical laser pumping  
[NASA-CASE-ERC-10283] c16 N72-25485  
Development of acoustical controlled distributed feedback laser with continuous frequency spectrum tuning  
[NASA-CASE-NPO-13175-1] c16 N73-27431
- LASER OUTPUTS**  
Method and apparatus using temperature control for wavelength tuning of liquid lasers  
[NASA-CASE-ERC-10187] c16 N69-31143  
Describing laser Doppler velocimeter for measuring mean velocity and turbulence of fluid flow  
[NASA-CASE-MFS-20386] c21 N71-19212  
Development of apparatus for amplitude modulation of diode laser by periodic discharge of direct current power supply  
[NASA-CASE-XMS-04269] c16 N71-22895  
Doppler shifted laser beam as fluid velocity sensor  
[NASA-CASE-XAC-10770-1] c16 N71-24828  
Calibrator for measuring and modulating or demodulating laser outputs  
[NASA-CASE-XLA-03410] c16 N71-25914  
Method and apparatus for optically modulating light or microwave beam  
[NASA-CASE-GSC-10216-1] c23 N71-26722  
Laser machining device with dielectric functioning as beam waveguide for mechanical and medical applications  
[NASA-CASE-HQN-10541-2] c15 N71-27135  
Optical communication system with gas filled waveguide for laser beam transmission  
[NASA-CASE-HQN-10541-4] c16 N71-27183  
Design and development of multichannel laser remote control system using modulated helium-neon laser as transmitter and light collector as receiving antenna  
[NASA-CASE-LAR-10311-1] c16 N73-16536  
Development of laser head for simultaneous optical pumping of several dye lasers  
[NASA-CASE-LAR-11341-1] c16 N73-25564  
Development of acoustical controlled distributed feedback laser with continuous frequency spectrum tuning  
[NASA-CASE-NPO-13175-1] c16 N73-27431  
Performance of ac power supply developed for CO2 laser system  
[NASA-CASE-GSC-11222-1] c16 N73-32391  
Procedure and device for effecting dual mode locking in pulsed Nd-YAG lasers  
[NASA-CASE-GSC-11746-1] c16 N73-32398  
Thermomagnetic recording and magneto-optic playback system having constant intensity laser beam control  
[NASA-CASE-NPO-11317-2] c16 N74-13205  
Inert gas metallic vapor laser  
[NASA-CASE-NPO-13449-1] c16 N74-16187  
Apparatus for scanning the surface of a cylindrical body  
[NASA-CASE-NPO-11861-1] c14 N74-20009  
Laser system with an antiresonant optical ring --- optical properties and performance of beam splitter with equal transmission and reflection coefficients  
[NASA-CASE-HQN-10844-1] c16 N74-20118  
Optically detonated explosive device  
[NASA-CASE-NPO-11743-1] c33 N74-27425
- LASER RANGER/TRACKER**  
Laser beam projector for continuous, precise alignment between target, laser generator, and astronomical telescope during tracking  
[NASA-CASE-NPO-11087] c23 N71-29125
- LASERS**  
Laser device for removing material from rotating object for dynamic balancing  
[NASA-CASE-MFS-11279] c16 N71-20400  
Design and development of optical interferometer with laser light source for application to schlieren systems  
[NASA-CASE-XLA-04295] c16 N71-24170  
Self-generating optical frequency waveguide  
[NASA-CASE-HQN-10541-1] c07 N71-26291  
Design and characteristics of laser camera system with diffusion filter of small particles with average diameter larger than wavelength of laser light  
[NASA-CASE-NPO-10417] c16 N71-33410

- Optical sensing of supersonic flows by correlating deflections in laser beams through flow  
 [NASA-CASE-NFS-20642] c14 N72-21407
- Laser technique for breaking ice in ship path  
 [NASA-CASE-LAR-10815-1] c16 N72-22520
- Development of acoustical controlled distributed feedback laser with continuous frequency spectrum tuning  
 [NASA-CASE-NPO-13175-1] c16 N73-27431
- Design of precision vertical alignment system using laser with gravitationally sensitive cavity  
 [NASA-CASE-ARC-10444-1] c16 N73-33397
- Tunable cavity resonator with ramp shaped supports  
 [NASA-CASE-HQN-10790-1] c16 N74-11313
- Short range laser obstacle detector --- for surface vehicles using laser diode array  
 [NASA-CASE-NPO-11856-1] c16 N74-15145
- Testing device using X-ray lasers  
 [NASA-CASE-NFS-22409-1] c16 N74-18153
- Long range laser traversing system  
 [NASA-CASE-GSC-11262-1] c16 N74-21091
- Polarization compensator for optical communications  
 [NASA-CASE-GSC-11782-1] c07 N74-22827
- Schottky barrier laser energy converter  
 [NASA-CASE-NPO-13390-1] c16 N74-32937
- Double discharge metal vapor laser with metal halide as a lasant  
 [NASA-CASE-NPO-13448-1] c16 N74-34012
- LATCHES**
- Bolt-latch mechanism for releasing despin weights from space vehicle  
 [NASA-CASE-XLA-00679] c15 N70-38601
- Transparent polycarbonate resin, shell helmet and latch design for high altitude and space flight  
 [NASA-CASE-IMS-04935] c05 N71-11190
- Quick disconnect latch and handle combination for mounting articles on walls or supporting bases in spacecraft under zero gravity conditions  
 [NASA-CASE-NFS-11132] c15 N71-17649
- Design, development, and characteristics of latching mechanism for operation in limited access areas  
 [NASA-CASE-IMS-03745] c15 N71-21076
- Latching mechanism with pivoting catch and self-contained spring ejector  
 [NASA-CASE-XLA-03538] c15 N71-24897
- Latch for fastening spacecraft docking rings  
 [NASA-CASE-MSC-15474-1] c15 N71-26162
- Improved latching device for joining structural components in motionless relationship  
 [NASA-CASE-NFS-21606-1] c15 N73-22417
- Latch mechanism  
 [NASA-CASE-MSC-12549-1] c15 N74-27903
- LATERAL CONTROL**
- Three-axis controller operated by hand-wrist motion for yaw, pitch, and roll control  
 [NASA-CASE-IAC-01404] c05 N70-41581
- Star sensor system for roll attitude control of spacecraft  
 [NASA-CASE-INP-01307] c21 N70-41856
- Supersonic or hypersonic vehicle control system comprising elevons with hinge line sweep and free of adverse aerodynamic cross coupling  
 [NASA-CASE-XLA-08967] c02 N71-27088
- LATERAL STABILITY**
- Strapped down gyroscope aligned with sun and star tracker optical axis calibrating roll, yaw and pitch values  
 [NASA-CASE-ARC-10716-1] c31 N73-32784
- LATHES**
- Rotary spindle lathe attachments for machining geometrical cones  
 [NASA-CASE-IMS-04292] c15 N71-22722
- Lathe tool and holder combination for machining resin impregnated fiberglass cloth laminates  
 [NASA-CASE-XLA-10470] c15 N72-21489
- LAUNCH ESCAPE SYSTEMS**
- Emergency escape cabin system for launch towers  
 [NASA-CASE-XKS-02342] c05 N71-11199
- Ejector for separating astronaut from ejection seat during prelaunch or initial launch phase of flight  
 [NASA-CASE-IMS-04625] c05 N71-20718
- LAUNCH VEHICLES**
- Support techniques for restraint of slender bodies such as launch vehicles  
 [NASA-CASE-XLA-02704] c11 N69-21540
- Microleak detector mounted on weld seam of propellant tank of launch vehicle  
 [NASA-CASE-XMF-02307] c14 N71-10779
- LAUNCHING PADS**
- Launch pad missile release system with bending moment change rate reduction in thrust distribution structure at liftoff  
 [NASA-CASE-INP-03198] c30 N70-40353
- Remotely actuated quick disconnect for tubular umbilical conduits used to transfer fluids from ground to rocket vehicle  
 [NASA-CASE-XLA-01396] c03 N71-12259
- Portable equipment for validating C band launch pad antennas and transmission lines used for spacecraft checkout  
 [NASA-CASE-XKS-10543] c07 N71-26292
- LEAD TELLURIDES**
- Bonding method for improving contact between lead telluride thermoelectric elements and tungsten electrodes  
 [NASA-CASE-IGS-04554] c15 N69-39786
- Procedure for segmenting lead telluride and silicon germanium thermoelectric elements to obtain composite elements effective over wide temperature range  
 [NASA-CASE-IGS-05718] c26 N71-16037
- LEADING EDGES**
- Leading edge design for hypersonic reentry vehicles  
 [NASA-CASE-XLA-00165] c31 N70-33242
- Construction of leading edges of surfaces for aerial vehicles performing from subsonic to above transonic speeds  
 [NASA-CASE-XLA-01486] c01 N71-23497
- LEAKAGE**
- Rocket chamber leak test fixture using tubular plug  
 [NASA-CASE-XFR-09479] c14 N69-27503
- Microleak detector mounted on weld seam of propellant tank of launch vehicle  
 [NASA-CASE-XMF-02307] c14 N71-10779
- Fluid leakage detection system with automatic monitoring capability  
 [NASA-CASE-LAR-10323-1] c12 N71-17573
- Space suit using nonflexible material with low leakage and providing protection against thermal extremes, physical punctures, and radiation with high mobility articulation  
 [NASA-CASE-IAC-07043] c05 N71-23161
- Development of apparatus and method for testing leakage of large tanks  
 [NASA-CASE-XMF-02392] c32 N71-24285
- Gas leak detection in evacuated systems using ultraviolet radiation probe  
 [NASA-CASE-ERC-10034] c15 N71-24896
- Method for locating leaks in hermetically sealed containers  
 [NASA-CASE-ERC-10045] c15 N71-24910
- Volume displacement transducer for leak detection in hermetically sealed semiconductor devices  
 [NASA-CASE-ERC-10033] c14 N71-26672
- Test chambers with orifice and helium mass spectrometer for detecting leak rate of encapsulated semiconductor devices  
 [NASA-CASE-ERC-10150] c14 N71-28992
- Portable device for detecting pneumatic pressure leaks in hermetically sealed housings  
 [NASA-CASE-NFS-21761-1] c14 N73-18444
- Leak detector with high vacuum seals  
 [NASA-CASE-LAR-11237-1] c14 N73-32344
- LENSES**
- Lens assembly for solar furnace or solar simulator  
 [NASA-CASE-INP-04111] c14 N71-15622
- Camera adapter design for image magnification including lens and illuminator  
 [NASA-CASE-INP-03844-1] c14 N71-26474
- Development and characteristics of Petzval type objective including field shaping lens for focusing light of specified wavelength band on curved photoreceptor  
 [NASA-CASE-GSC-10700] c23 N71-30027
- Noise elimination in coherent imaging system by axial rotation of optical lense for spectral distribution of degrading affects



- [NASA-CASE-GSC-11133-1] c23 N72-11568  
 Photographic film restoration system using  
 Fourier transformation lenses and spatial filter  
 [NASA-CASE-MSC-12448-1] c14 N72-20394  
 Plural beam antenna with parabolic reflectors  
 [NASA-CASE-GSC-11013-1] c09 N73-19234
- LENTICULAR BODIES**  
 Lenticular vehicle with foldable aerodynamic  
 control flaps and reaction jets for operation  
 above and within earth's atmosphere  
 [NASA-CASE-XGS-00260] c31 N70-37924
- LEVEL (HORIZONTAL)**  
 Rot-wire liquid level detector for cryogenic  
 propellants  
 [NASA-CASE-XLE-00454] c23 N71-17802
- LEVEL (QUANTITY)**  
 Gauge for measuring quantity of liquid in  
 spherical tank in reduced gravity  
 [NASA-CASE-MSC-06236] c14 N71-21007  
 Conversion of positive dc voltage to positive dc  
 voltage of lower amplitude  
 [NASA-CASE-MR-14301] c09 N71-23188
- LEVELING**  
 Development of adjustable attitude guide block  
 for setting pins perpendicular to irregular  
 convex work surface  
 [NASA-CASE-XLA-07911] c15 N71-15571  
 Electrical switching device comprising  
 conductive liquid confined within square loop  
 of deformable nonconductive tubing also used  
 for leveling  
 [NASA-CASE-NPO-10037] c09 N71-19610  
 Adjustable support device with jacket screw for  
 altering distance between base and supported  
 member  
 [NASA-CASE-NPO-10721] c15 N72-27484  
 Automatically operable self-leveling load table  
 with plurality of solenoid valves  
 [NASA-CASE-MFS-22039-1] c14 N73-30428
- LIFE (DURABILITY)**  
 Hollow rolling element bearings  
 [NASA-CASE-LEW-11087-3] c15 N74-21064
- LIFE DETECTORS**  
 Use of enzyme hexokinase and glucose to reduce  
 inherent light levels of ATP in luciferase  
 compositions  
 [NASA-CASE-XGS-05533] c04 N69-27487  
 Describing method for lyophilization of  
 luciferase containing mixtures for use in life  
 detection reactions  
 [NASA-CASE-XGS-05532] c06 N71-17705
- LIFE RAFTS**  
 Design of inflatable life raft for aircrafts and  
 boats  
 [NASA-CASE-XMS-00863] c05 N70-34857  
 Inflatable stabilizing system for use on life  
 raft to reduce rocking and preclude capsizing  
 [NASA-CASE-MSC-12393-1] c02 N73-26006  
 Modification of one man life raft  
 [NASA-CASE-LAR-10241-1] c05 N74-14845
- LIFE SUPPORT SYSTEMS**  
 Shock absorbing couch for body support under  
 high acceleration or deceleration forces  
 [NASA-CASE-XMS-01240] c05 N70-35152  
 Portable environmental control and life support  
 system for astronaut in and out of spacecraft  
 [NASA-CASE-XMS-09632-1] c05 N71-11203  
 Design and development of flexible tunnel for  
 use by spacecrews in performing extravehicular  
 activities  
 [NASA-CASE-MSC-12243-1] c05 N71-24728  
 Development of improved convolute section for  
 pressurized suits to provide high degree of  
 mobility in response to minimum of applied  
 torque  
 [NASA-CASE-XMS-09637-1] c05 N71-24730  
 Development and characteristics of inflatable  
 structure to provide escape from orbit for  
 spacecrews under emergency conditions  
 [NASA-CASE-XMS-06162] c31 N71-28851  
 Chlorine generator for purifying water in life  
 support systems of manned spacecraft  
 [NASA-CASE-ILA-08913] c14 N71-28933  
 Open loop life support subsystem using breathing  
 bag as reservoir for EVA  
 [NASA-CASE-MSC-12411-1] c05 N72-20096  
 Device for removing air from water for use in  
 life support systems in manned space flight  
 [NASA-CASE-XLA-8914] c15 N73-12492
- Intra- and extravehicular life support space  
 suite for Apollo astronauts  
 [NASA-CASE-MSC-12609-1] c05 N73-32012  
 Catalyst cartridge for carbon dioxide reduction  
 unit  
 [NASA-CASE-LAR-10551-1] c06 N74-12813
- LIFT**  
 Turbofans under wings to provide lift and thrust  
 for STOL aircraft  
 [NASA-CASE-LEW-11224-1] c02 N72-10033
- LIFT DEVICES**  
 Device for handling heavy loads by distributing  
 forces  
 [NASA-CASE-XNP-04969] c11 N69-27466  
 Techniques for recovery of multistage rocket  
 vehicles by providing lifting surfaces on  
 individual sections  
 [NASA-CASE-XNP-00389] c31 N70-34176  
 Direct lift control system having flaps with  
 slots adjacent to their leading edge and  
 particularly adapted for lightweight aircraft  
 [NASA-CASE-LAR-10249-1] c02 N71-26110  
 Development of auxiliary lifting system to  
 provide ferry capability for entry vehicles  
 [NASA-CASE-LAR-10574-1] c11 N73-13257
- LIFT DRAG RATIO**  
 Design of ring wing vehicle of high  
 drag-to-weight ratio to withstand reentry  
 stress into low density atmosphere  
 [NASA-CASE-XLA-04901] c31 N71-24315
- LIFTING BODIES**  
 Techniques for recovery of multistage rocket  
 vehicles by providing lifting surfaces on  
 individual sections  
 [NASA-CASE-XNP-00389] c31 N70-34176  
 Graphic illustration of lifting body design  
 [NASA-CASE-FRC-10063] c01 N71-12217  
 Static force balancing system attached to  
 lifting body  
 [NASA-CASE-LAR-10348-1] c11 N73-12264
- LIFTING REENTRY VEHICLES**  
 Lenticular vehicle with foldable aerodynamic  
 control flaps and reaction jets for operation  
 above and within earth's atmosphere  
 [NASA-CASE-XGS-00260] c31 N70-37924  
 Variable geometry manned orbital vehicle having  
 high aerodynamic efficiency over wide speed  
 range and incorporating auxiliary pivotal wings  
 [NASA-CASE-ILA-03691] c31 N71-15674  
 Designing spacecraft for flight into space,  
 atmospheric reentry, and landing at selected  
 sites  
 [NASA-CASE-IAC-02058] c02 N71-16087
- LIGHT (VISIBLE RADIATION)**  
 Light baffle with oblate hemispheroid surface  
 and shading flange  
 [NASA-CASE-NPO-10337] c14 N71-15604  
 Maksutov spectrograph for low light level research  
 [NASA-CASE-ILA-10402] c14 N71-29041  
 Method and apparatus for producing intense,  
 coherent, monochromatic light from low  
 temperature plasma  
 [NASA-CASE-INP-04167-3] c25 N72-21693  
 Device for detection of combustion light  
 preceding gaseous explosions  
 [NASA-CASE-LAR-10739-1] c14 N73-16484
- LIGHT AIRCRAFT**  
 Direct lift control system having flaps with  
 slots adjacent to their leading edge and  
 particularly adapted for lightweight aircraft  
 [NASA-CASE-LAR-10249-1] c02 N71-26110
- LIGHT BEAMS**  
 Cylindrical reflector for resolving wide angle  
 light beam from telescope into narrow beam for  
 spectroscopic analysis  
 [NASA-CASE-XGS-08269] c23 N71-26206  
 Development and characteristics of optical  
 communications system based on modulation of  
 light beams  
 [NASA-CASE-ILA-01090] c16 N71-28963  
 Multiple pattern holographic information storage  
 and readout system  
 [NASA-CASE-ERC-10151] c16 N71-29131
- LIGHT GAS GUNS**  
 Implosion driven, light gas, hypervelocity gun  
 [NASA-CASE-IAC-05902] c11 N71-18578
- LIGHT MODULATION**  
 Optical retrodirective modulator with focus  
 spooling reflector driven by modulation signal

## SUBJECT INDEX

## LIQUID CRYSTALS

[NASA-CASE-GSC-10062] c14 N71-15605  
Modulating and controlling intensity of light beam from high temperature source by servocontrolled rotating cylinders

[NASA-CASE-INS-04300] c09 N71-19479  
Method and apparatus for optically modulating light or microwave beam

[NASA-CASE-GSC-10216-1] c23 N71-26722  
Development and characteristics of optical communications system based on modulation of light beams

[NASA-CASE-XLA-01090] c16 N71-28963  
Lamp modulator for generating visual indication of presence and magnitude of signal

[NASA-CASE-KSC-10565] c09 N72-25250  
Polarization compensator for optical communications

[NASA-CASE-GSC-11782-1] c07 N74-22827

**LIGHT SOURCES**  
Light radiation direction indicator with baffle of two parallel grids

[NASA-CASE-INP-03930] c14 N69-24331  
High intensity heat and light unit containing quartz lamp elements protectively positioned to withstand severe environmental stress

[NASA-CASE-XLA-00141] c09 N70-33312  
Photosensitive light source device for detecting unmanned spacecraft deviation from reference attitude

[NASA-CASE-INP-00439] c21 N70-35089  
Electro-optical detector for determining position of light source

[NASA-CASE-INP-01059] c23 N71-21821  
Optical system for selecting particular wavelength light beams from multiple wavelength light source

[NASA-CASE-ERC-10248] c14 N72-17323  
Electro-optical stabilization of calibrated light source

[NASA-CASE-MSC-12293-1] c14 N72-27411  
Development of temperature compensated light source with components and circuitry for maintaining luminous intensity independent of temperature variations

[NASA-CASE-ARC-10467-1] c09 N73-14214  
Interferometer prism and control system for precisely determining direction to remote light source

[NASA-CASE-ARC-10278-1] c14 N73-25463  
Attitude sensor

[NASA-CASE-LAR-10586-1] c14 N74-15089

**LIGHT TRANSMISSION**  
Hybrid holographic system using reference, transmitted, and reflected beams simultaneously

[NASA-CASE-MFS-20074] c16 N71-15565  
Optical characteristics measuring apparatus

[NASA-CASE-INP-08840] c23 N71-16365  
Optical monitor panel consisting of translucent screen with test or meter information projected onto it from rear for application in control rooms of missile launching and tracking stations

[NASA-CASE-XKS-03509] c14 N71-23175  
Solar cell panel with light transmitting cover plate

[NASA-CASE-MPO-10747] c03 N72-22042  
Method and system for transmitting and distributing optical frequency radiation

[NASA-CASE-HQN-10541-3] c23 N72-23695  
Thin absorbing metallic film for increased visible light transmission

[NASA-CASE-LAR-10836-1] c26 N72-27784  
Transmitting and reflecting diffuser --- for ultraviolet light

[NASA-CASE-LAR-10385-2] c23 N74-13436

**LIGHTING EQUIPMENT**  
Sealed fluorescent tube light unit capable of connection with other units to form string of work lights

[NASA-CASE-XKS-05932] c09 N71-26787  
Pressurized inert gas feed for lighting system

[NASA-CASE-KSC-10644] c09 N72-27227

**LIGHTNING**  
Apparatus for determining distance to lightning strokes from single station by magnetic and electric field sensing antennas

[NASA-CASE-KSC-10698] c07 N73-20175  
System for locating lightning strokes by coordination of directional antenna signals

[NASA-CASE-KSC-10729-1] c09 N73-32110  
Monitoring and recording lightning strokes in predetermined area

[NASA-CASE-KSC-10726-1] c14 N73-32319  
Lightning current measuring systems

[NASA-CASE-KSC-10807-1] c14 N74-22113

**LIMITER CIRCUITS**  
Variable duration pulse integrator design for integrating pulse duration modulated pulses with elimination of ripple content

[NASA-CASE-XLA-01219] c10 N71-23084  
Circuits for amplitude limiting of random noise inputs

[NASA-CASE-MPO-10169] c10 N71-24844  
Velocity limiting safety system for motor driven research vehicle

[NASA-CASE-XLA-07473] c15 N71-24895  
Low level signal limiter

[NASA-CASE-XLE-04791] c14 N74-22096

**LINEAR ACCELERATORS**  
Linear accelerator frequency control system

[NASA-CASE-XGS-05441] c10 N71-22962

**LINEAR RECEIVERS**  
Antenna array at focal plane of reflector with coupling network for beam switching

[NASA-CASE-GSC-10220-1] c07 N71-27233

**LINEAR SYSTEMS**  
Linear three-tap feedback shift register

[NASA-CASE-MPO-10351] c08 N71-12503  
Family of n-ary linear feedback shift register with binary logic

[NASA-CASE-MPO-11868] c10 N73-20254

**LINEARITY**  
Semilinear bearing comprising two rows of roller bearings separated by spherical bearings and permitting rotational and translational movement

[NASA-CASE-XLA-02809] c15 N71-22982  
Mechanical actuator wherein linear motion changes to rotational motion

[NASA-CASE-XGS-04548] c15 N71-24045

**LINKAGES**  
Development of collapsible nozzle extension for rocket engines

[NASA-CASE-MFS-11497] c28 N71-16224  
Design and construction of mechanical probe for determining if object is properly secured

[NASA-CASE-MFS-20760] c14 N72-33377

**LINKS**  
Apparatus for simulating optical transmission links

[NASA-CASE-GSC-11877-1] c07 N74-30532

**LIQUID BEARINGS**  
Fatigue life of hybrid antifriction bearings at ultrahigh speeds

[NASA-CASE-LRW-11152-1] c15 N73-32359

**LIQUID COOLING**  
Water cooled contactors for holding rotating carbon arc anode

[NASA-CASE-XMS-03700] c15 N69-24266  
External device for liquid spray cooling of gas turbine blades

[NASA-CASE-XLE-00037] c28 N70-33372  
Water cooled solenoid capable of producing magnetic field intensities up to 100 kilogauss

[NASA-CASE-INP-01951] c09 N70-41929  
Laminar flow of liquid coolants in rocket engines

[NASA-CASE-MPO-10122] c12 N71-17631  
Space suit body heat exchanger design composed of thermal conductance yarn and liquid coolant loops

[NASA-CASE-XMS-09571] c05 N71-19439  
Electric power system with circulatory liquid coolant cooling system

[NASA-CASE-MFS-14114-2] c09 N71-24807  
Electric power system with thermionic diodes and circulatory liquid metal coolant lines

[NASA-CASE-MFS-14114] c33 N71-27862  
Apparatus for liquid spray cooling of turbine blades

[NASA-CASE-XLE-00027] c33 N71-29152  
Automatic control device for regulating inlet water temperature of liquid cooled spacesuit

[NASA-CASE-MSC-13917-1] c05 N72-15098  
Automatic temperature control for liquid cooled space suit

[NASA-CASE-ARC-10599-1] c05 N73-26071

**LIQUID CRYSTALS**  
Development of combined velocimeter and accelerometer based on color changes in liquid

- crystalline material subjected to shear stresses  
[NASA-CASE-ERC-10292] c14 N72-25410  
Input signal measurement using liquid  
crystalline elements  
[NASA-CASE-ERC-10275] c26 N72-25680  
Real time liquid crystal image converter  
[NASA-CASE-LAR-11206-1] c23 N74-30118
- LIQUID FILLED SHELLS**  
Liquid rocket systems for propulsion and control  
of spacecraft  
[NASA-CASE-XNP-00610] c28 N70-36910  
Design and development of fluid sample collector  
[NASA-CASE-XMS-06767-1] c14 N71-20435  
Manufacture of fluid containers from fused  
coated polyester sheets having resealable septum  
[NASA-CASE-NPO-10123] c15 N71-24835  
Omnidirectional liquid filled accelerometer  
design with liquid and housing temperature  
compensation  
[NASA-CASE-HQN-10780] c14 N71-30265
- LIQUID FLOW**  
Reduced gravity liquid configuration simulator  
to study propellant behavior in rocket fuel  
tanks  
[NASA-CASE-XLE-02624] c12 N69-39988  
Liquid junction for glass electrode or pH meters  
[NASA-CASE-NPO-10682] c15 N70-34699  
Actuator using compressed gas as driving force  
to control valve handling large liquid flows  
[NASA-CASE-XHQ-01208] c15 N70-35409  
Two component valve assembly for cryogenic  
liquid transfer regulation  
[NASA-CASE-XLB-00397] c15 N70-36492  
Positive displacement flowmeter for measuring  
extremely low flows of fluid with self  
calibrating features  
[NASA-CASE-IMP-02822] c14 N70-41994  
High pressure liquid flow sight assembly for  
wide temperature range applications including  
cryogenic fluids  
[NASA-CASE-XLE-02998] c14 N70-42074  
Carrier liquid system containing bodies of  
ablative material  
[NASA-CASE-LEW-10359-2] c33 N73-25952  
Zero gravity liquid transfer device, using  
spiral shaped screen  
[NASA-CASE-KSC-10626] c14 N73-27378
- LIQUID HELIUM**  
Heat operated cryogenic electrical generator ---  
using liquid helium conversion  
[NASA-CASE-NPO-13303-1] c03 N74-19701
- LIQUID HYDROGEN**  
Development of thermal insulation material for  
insulating liquid hydrogen tanks in spacecraft  
[NASA-CASE-XMF-05046] c33 N71-28892  
Reinforced polyquinoxaline gasket and method of  
preparing the same --- resistant to ionizing  
radiation and liquid hydrogen temperatures  
[NASA-CASE-NPS-21364-1] c15 N74-18126
- LIQUID INJECTION**  
Thrust vector control by secondary injection of  
fluid into rocket nozzle flow field to  
separate exhaust flow  
[NASA-CASE-XLE-00208] c28 N70-34294  
System for aerodynamic control of rocket  
vehicles by secondary injection of fluid into  
nozzle exhaust stream  
[NASA-CASE-XLA-01163] c21 N71-15582  
Propellant injection assembly having  
individually removable and replaceable nozzles  
for liquid fueled rocket engines  
[NASA-CASE-XMF-00968] c28 N71-15660
- LIQUID LASERS**  
Method and apparatus using temperature control  
for wavelength tuning of liquid lasers  
[NASA-CASE-ERC-10187] c16 N69-31343
- LIQUID LEVELS**  
Inductive liquid level detection system  
[NASA-CASE-XLE-01609] c14 N71-10500
- LIQUID METALS**  
Magnetohydrodynamic generator for mixing  
nonconductive gas and liquid metal mist to  
form slugs  
[NASA-CASE-XLE-02083] c03 N69-39983  
Thermoelectric power conversion by liquid metal  
flowing through magnetic field  
[NASA-CASE-XNP-00644] c03 N70-36803  
Analytical test apparatus and method for  
determining oxygen content in alkali liquid  
metal  
[NASA-CASE-XLE-01997] c06 N71-23527  
Electric power system with thermionic diodes and  
circulatory liquid metal coolant lines  
[NASA-CASE-NPS-14114] c33 N71-27862  
Flexible barrier membrane comprising porous  
substrate and incorporating liquid gallium or  
indium metal used as sealant barriers for  
spacecraft walls and pumping liquid propellants  
[NASA-CASE-XNP-08881] c17 N71-28747  
Shell-side liquid metal boiler employing tube  
and shell heat exchanger  
[NASA-CASE-NPO-10831] c33 N72-20915  
U shaped heated tube for distillation and  
purification of liquid metals  
[NASA-CASE-XNP-08124-2] c06 N73-13129  
Electromagnetic flow rate meter --- for liquid  
metals  
[NASA-CASE-LEW-10981-1] c14 N74-21018
- LIQUID NITROGEN**  
Transferring liquid nitrogen through vacuum  
chamber to cryopanel  
[NASA-CASE-LAR-10031] c15 N72-22484
- LIQUID OXYGEN**  
Dye penetrant and technique for nondestructive  
tests of solid surfaces contacted by liquid  
oxygen  
[NASA-CASE-XMF-02221] c18 N71-27170
- LIQUID PHASES**  
Method and feed system for separating and  
orienting liquid and vapor phases of liquid  
propellants in zero gravity environment  
[NASA-CASE-XLE-01182] c27 N71-15635  
Hydraulic apparatus for casting and molding of  
liquid polymers  
[NASA-CASE-XNP-07659] c06 N71-22975  
Mixed liquid and vapor phase analyzer design  
with thermocouples for relative heat transfer  
measurement  
[NASA-CASE-NPO-10691] c14 N71-26199
- LIQUID PROPELLANT ROCKET ENGINES**  
High thrust annular liquid propellant rocket  
engine and exhaust nozzle design  
[NASA-CASE-XLE-00078] c28 N70-33284  
Attitude and propellant flow control system for  
liquid propellant rocket vehicles  
[NASA-CASE-XMF-00185] c21 N70-34539  
Injector manifold assembly for bipropellant  
rocket engines providing for fuel propellant  
to serve as coolant  
[NASA-CASE-IMP-00148] c28 N70-38710  
Collapsible auxiliary tank for restarting liquid  
propellant rocket motors under zero gravity  
[NASA-CASE-XNP-01390] c28 N70-41275  
Rocket propellant injector with porous faceplate  
for rocket engine combustion chamber  
[NASA-CASE-LEW-11071-1] c27 N73-27695  
Supersonic-combustion rocket  
[NASA-CASE-LEW-11058-1] c28 N74-13502  
A space vehicle  
[NASA-CASE-NPS-22734-1] c31 N74-20541
- LIQUID ROCKET PROPELLANTS**  
Propellant injectors for rocket combustion  
chambers  
[NASA-CASE-XLE-00103] c28 N70-33241  
Liquid rocket systems for propulsion and control  
of spacecraft  
[NASA-CASE-XNP-00610] c28 N70-36910  
Igniter capsule for chemical ignition of liquid  
rocket propellants  
[NASA-CASE-XLE-00323] c28 N70-38505  
High temperature spark plug for igniting liquid  
rocket propellants  
[NASA-CASE-XLE-00660] c28 N70-39925  
Compact high pressure filter for rocket fuel lines  
[NASA-CASE-XNP-00732] c28 N70-41447  
Venting device for liquid propellant storage  
tank using magnetic field to separate liquid  
and gaseous phases  
[NASA-CASE-XLE-01449] c15 N70-41646  
Liquid propellant tank design with semitoroidal  
bulkhead  
[NASA-CASE-XMF-01899] c31 N70-41948  
Method and feed system for separating and  
orienting liquid and vapor phases of liquid  
propellants in zero gravity environment  
[NASA-CASE-XLE-01182] c27 N71-15635  
Control valve and coaxial variable injector for  
controlling bipropellant mixture ratio and flow

- [NASA-CASE-XNP-09702] c15 N71-17654  
 Slush and swirl alleviator for liquid propellant tanks during transport and flight  
 [NASA-CASE-XLA-05749] c15 N71-19569  
 Filler valve design for supplying liquid propellants at high pressure to space vehicles  
 [NASA-CASE-XNP-01747] c15 N71-23024  
 Electronic recording system for spatial mass distribution of liquid rocket propellant droplets or vapors ejected from high velocity nozzles  
 [NASA-CASE-NPO-10185] c10 N71-26339  
 Flexible barrier membrane comprising porous substrate and incorporating liquid gallium or indium metal used as sealant barriers for spacecraft walls and pumping liquid propellants  
 [NASA-CASE-XNP-08881] c17 N71-28747  
 Response analyzing apparatus for liquid vapor interface sensor of sloshing rocket propellant  
 [NASA-CASE-MFS-11204] c14 N71-29134
- LIQUID SLOSHING**  
 Slush damping method for liquid rocket propellant tanks  
 [NASA-CASE-XMP-00658] c12 N70-38997  
 Flexible ring slush damping baffle for spacecraft fuel tank  
 [NASA-CASE-LAR-10317-1] c32 N71-16103  
 Submerged fuel tank baffles to prevent sloshing in liquid propellant rocket flight  
 [NASA-CASE-XLA-04605] c32 N71-16106  
 Hot-wire liquid level detector for cryogenic propellants  
 [NASA-CASE-XLE-00454] c23 N71-17802  
 Slush and swirl alleviator for liquid propellant tanks during transport and flight  
 [NASA-CASE-XLA-05749] c15 N71-19569  
 Pressure sensor network for measuring liquid dynamic response in flight including fuel tank acceleration, liquid slush amplitude, and fuel depth monitoring  
 [NASA-CASE-XLA-05541] c12 N71-26387
- LIQUID-GAS MIXTURES**  
 Liquid-gas separator adapted for use in zero gravity environment - drawings  
 [NASA-CASE-XMS-01624] c15 N70-40062  
 Absorbent apparatus for separating gas from liquid-gas stream used in environmental control under zero gravity conditions  
 [NASA-CASE-XMS-01492] c05 N70-41297  
 Venting device for liquid propellant storage tank using magnetic field to separate liquid and gaseous phases  
 [NASA-CASE-XLE-01449] c15 N70-41646  
 Liquid-gaseous centrifugal separator for weightlessness environment  
 [NASA-CASE-XLA-00415] c15 N71-16079  
 Vapor-liquid separator design with vapor driven pump for separated liquid pumping for application in propellant transfer  
 [NASA-CASE-XMP-04042] c15 N71-23023
- LIQUID-VAPOR INTERFACES**  
 Describing apparatus for separating gas from cryogenic liquid under zero gravity and for venting gas from fuel tank  
 [NASA-CASE-XLE-00586] c15 N71-15968  
 Liquid-vapor interface seal design for turbine rotating shafts including helical and molecular pumps and liquid cooling of mercury vapor  
 [NASA-CASE-XNP-02862-1] c15 N71-26294  
 Response analyzing apparatus for liquid vapor interface sensor of sloshing rocket propellant  
 [NASA-CASE-MFS-11204] c14 N71-29134
- LIQUIDS**  
 Liquid-gas separator adapted for use in zero gravity environment - drawings  
 [NASA-CASE-XMS-01624] c15 N70-40062  
 Electrical switching device comprising conductive liquid confined within square loop of deformable nonconductive tubing also used for leveling  
 [NASA-CASE-NPO-10037] c09 N71-19610  
 Purification apparatus for vaporization and fractional distillation of liquids  
 [NASA-CASE-XNP-08124] c15 N71-27184  
 Quantitative liquid measurements in container by resonant frequencies  
 [NASA-CASE-XNP-02500] c18 N71-27397
- Resonant infrasonic gauging device for measuring liquid quantity in closed bladderless reservoir  
 [NASA-CASE-MSC-11847-1] c14 N72-11363  
 Ablative system with liquid carrying ablative material bodies and forming self-replacing ablative surface  
 [NASA-CASE-LEW-10359] c33 N72-25911  
 Pressurized tank for feeding liquid waste into processing equipment  
 [NASA-CASE-LAR-10365-1] c05 N72-27102  
 Automatic liquid collection and disposal system  
 [NASA-CASE-LAR-11071-1] c15 N73-18474  
 Apparatus for mixing two or more liquids under zero gravity conditions  
 [NASA-CASE-LAR-10195-1] c15 N73-19458  
 Bimetallic fluid displacement apparatus --- for stirring and heating stored gases and liquids  
 [NASA-CASE-ARC-10441-1] c15 N74-15126  
 Method and device for detection of surface discontinuities or defects  
 [NASA-CASE-MSC-14187-1] c14 N74-32879
- LITHIUM COMPOUNDS**  
 Utilization of lithium p-lithiophenoxide to prepare star polymers  
 [NASA-CASE-NPO-10998-1] c06 N73-32029
- LOAD DISTRIBUTION (FORCES)**  
 Force measuring instrument for structural members, particularly fastening bolts or studs  
 [NASA-CASE-XMF-00456] c14 N70-34705  
 Multiple Belleville spring assembly with even load distribution  
 [NASA-CASE-INP-00840] c15 N70-38225
- LOAD TESTING MACHINES**  
 Load cell protection device using spring-loaded breakaway mechanism  
 [NASA-CASE-XMS-06782] c32 N71-15974  
 Development of device for transferring load from load cell to bypass mechanism  
 [NASA-CASE-XMS-06329-1] c15 N71-20441  
 Method and apparatus for tensile testing of metal foil  
 [NASA-CASE-LAR-10208-1] c14 N74-30894
- LOAD TESTS**  
 Differential pressure cell insensitive to changes in ambient temperature and extreme overload  
 [NASA-CASE-IAC-00042] c14 N70-34816
- LOADING OPERATIONS**  
 Air bearings for near frictionless transfer of loads from one body to another  
 [NASA-CASE-IMF-01887] c15 N71-10617
- LOADS (FORCES)**  
 Device for handling heavy loads by distributing forces  
 [NASA-CASE-XNP-04969] c11 N69-27466  
 Two plane balance for simultaneous measurements of multiple forces  
 [NASA-CASE-IAC-00073] c14 N70-34813  
 Improving load capacity and fatigue life of rolling element systems in rockets and missiles  
 [NASA-CASE-XLE-02999] c15 N71-16052  
 Development of device for transferring load from load cell to bypass mechanism  
 [NASA-CASE-XMS-06329-1] c15 N71-20441  
 Valve assembly for controlling simultaneously more than one fluid flow, and having stable qualities under loads  
 [NASA-CASE-XMS-05890] c09 N71-23191  
 Solid state force measuring electromechanical transducers made of piezoresistive materials  
 [NASA-CASE-ERC-10088] c26 N71-25490  
 Turn on current transient limiter for controlling peak current flow in high capacity load  
 [NASA-CASE-GSC-10413] c10 N71-26531  
 Synchronous dc direct-drive system comprising multiple-loop hybrid control system controlling load directly connected to actuator  
 [NASA-CASE-GSC-10065-1] c10 N71-27136  
 Force balanced throttle valve for fuel control in rocket engines  
 [NASA-CASE-NPO-10808] c15 N71-27432  
 Energy absorption device in high precision gear train for protection against damage to components caused by stop loads  
 [NASA-CASE-XNP-01848] c15 N71-28959  
 Air bearing for use in exterior environment for moving heavy loads  
 [NASA-CASE-WLP-10002] c15 N72-17451

## LOCATES SYSTEM

## SUBJECT INDEX

- Measuring device for bearing preload using spring washers  
[NASA-CASE-MFS-20434] c11 N72-25288
- Variable direction force coupler for transmitting force along selectable curve path  
[NASA-CASE-MFS-20317] c15 N73-13463
- Turnbuckle device for tensile stress load measurements  
[NASA-CASE-MFS-21488-1] c14 N73-23526
- Versatile ergometer with work load control  
[NASA-CASE-MFS-21109-1] c05 N73-27941
- Three-axis adjustable loading structure  
[NASA-CASE-FRC-10051-1] c14 N74-13129
- G-load measuring and indicator apparatus --- for aircraft  
[NASA-CASE-ARC-10806] c14 N74-27872
- LOCATES SYSTEM**
- System for locating lightning strokes by coordination of directional antenna signals  
[NASA-CASE-KSC-10729-1] c09 N73-32110
- Position determination systems --- using orbital antenna scan of celestial body  
[NASA-CASE-MSC-12593-1] c09 N74-14942
- Aircraft mounted crash activated transmitter device  
[NASA-CASE-MFS-16609-3] c09 N74-34647
- LOCKING**
- Releasable coupling device designed to receive and retain matching ends of electrical connectors  
[NASA-CASE-XMS-07846-1] c09 N69-21927
- LOCKS (FASTENERS)**
- Ball locking device which releases in response to small forces when subjected to high axial loads  
[NASA-CASE-XMP-01371] c15 N70-41829
- Low friction bearing and lock mechanism for two-axis gimbals carrying satellite payload  
[NASA-CASE-GSC-10556-1] c31 N71-26537
- Locking device for retaining turbine rotor blades on turbine wheel  
[NASA-CASE-XMP-00816] c28 N71-28928
- Longitudinal film gate and lock mechanism for securing film in motion picture cameras under vibration and high acceleration loads  
[NASA-CASE-LAR-10686] c14 N71-28935
- Design of quick release locking pin for joining two or more load-carrying structural members  
[NASA-CASE-MFS-18495] c15 N72-11385
- LOCOMOTION**
- Jet shoes for space locomotion  
[NASA-CASE-XLA-08491] c05 N69-21380
- Attitude control training device for astronauts permitting friction-free movement with five degrees of freedom  
[NASA-CASE-XMS-02977] c11 N71-10746
- Restraint torso for increased mobility and reduced physiological effects while wearing pressurized suits  
[NASA-CASE-MSC-12397-1] c05 N72-25119
- LOGARITHMS**
- Technique for deriving logarithms of input signal using exponentially varying electric signal inversely  
[NASA-CASE-ERC-10267] c09 N72-23173
- LOGIC CIRCUITS**
- Selective gold diffusion on monolithic silicon chips for switching and nonswitching amplifier devices and circuits and linear and digital logic circuits  
[NASA-CASE-ERC-10072] c09 N70-11148
- Counter/divider circuit for accuracy and reliability in binary circuits  
[NASA-CASE-XMP-00421] c09 N70-34502
- Binary to binary-coded decimal converter using single set of logic circuits notwithstanding number of shift register decades  
[NASA-CASE-XMP-00432] c08 N70-35423
- Conversion system for increasing resolution of analog to digital converters  
[NASA-CASE-XAC-00404] c08 N70-40125
- Data processor having multiple sections activated at different times by selective power coupling to sections  
[NASA-CASE-XGS-04767] c08 N71-12494
- Binary sequence detector with few memory elements and minimized logic circuit complexity  
[NASA-CASE-XMP-05415] c08 N71-12505
- Bistable multivibrator circuits operating at high speed and low power dissipation  
[NASA-CASE-IGS-00823] c10 N71-15910
- Logic AND gate for fluid circuits  
[NASA-CASE-XLA-07391] c12 N71-17579
- Logic circuit to ripple add and subtract binary counters for spaceborne computers  
[NASA-CASE-IGS-04766] c08 N71-18602
- Constructing Exclusive-Or digital logic circuit in single module  
[NASA-CASE-XLA-07732] c08 N71-18751
- Stepping motor control apparatus exciting windings in proper time sequence to cause motor to rotate in either direction  
[NASA-CASE-GSC-10366-1] c10 N71-18772
- Serial digital decoder design with square circuit matrix and serial memory storage units  
[NASA-CASE-NPO-10150] c08 N71-24650
- Binary to decimal decoder logic circuit design with feedback control and display device  
[NASA-CASE-XKS-06167] c08 N71-24890
- Design and development of multistage current steering switch with inductively coupled magnetic cores  
[NASA-CASE-INP-08567] c09 N71-26000
- Logic circuit for generating multibit binary code word in parallel  
[NASA-CASE-INP-04623] c10 N71-26103
- Adaptive signal generating system and logic circuits for satellite television systems  
[NASA-CASE-GSC-11367] c10 N71-26374
- Transistorized switching logic circuits with tunnel diodes  
[NASA-CASE-GSC-10878-1] c10 N72-22236
- Logical function and circuit generator  
[NASA-CASE-XLA-05099] c09 N73-13209
- Integrated microcircuits and complementary four-phase logic system  
[NASA-CASE-MSC-14240-1] c10 N73-21240
- A synchronous binary array divider  
[NASA-CASE-ERC-10180-1] c08 N74-20836
- Computer interface system --- using asynchronous clocks  
[NASA-CASE-NPO-13428-1] c08 N74-30549
- LONGITUDINAL CONTROL**
- Three-axis controller operated by hand-wrist motion for yaw, pitch, and roll control  
[NASA-CASE-XAC-01404] c05 N70-41581
- LOOP ANTENNAS**
- Collapsible, space erectable loop antenna system for space vehicle  
[NASA-CASE-XMP-00437] c07 N70-40202
- Automatic carrier acquisition system for phase locked loop receiver  
[NASA-CASE-NPO-11628-1] c07 N73-30113
- LOOPS**
- Tape cartridge with high capacity storage of endless-loop magnetic tape  
[NASA-CASE-IGS-00769] c14 N70-41647
- Endless loop tape transport mechanism for driving and tensioning recording medium in magnetic tape recorder  
[NASA-CASE-IGS-01223] c07 N71-10609
- Filter for third order phase locked loops in signal receivers  
[NASA-CASE-NPO-11941-1] c10 N73-27171
- High speed shutter --- electrically actuated ribbon loop for shuttering optical or fluid passageways  
[NASA-CASE-ARC-10516-1] c23 N74-21300
- Means for accommodating large overstrain in lead wires --- by storing extra length of wire in stretchable loop  
[NASA-CASE-LAR-10168-1] c09 N74-22865
- LOW ASPECT RATIO**
- Aerospace configuration with low and high aspect ratio variability for high and low speed flight  
[NASA-CASE-XLA-00142] c02 N70-33286
- Aerodynamic configuration for aircraft capable of high speed flight and low drag for low speed takeoff or landing upon presently existing airfields  
[NASA-CASE-XLA-00806] c02 N70-34858
- LOW COST**
- Low cost efficient thermionic converter for use in nuclear reactors  
[NASA-CASE-NPO-13121-1] c22 N73-12702
- LOW DENSITY MATERIALS**
- Method and photodetector device for locating

- abnormal voids in low density materials  
[NASA-CASE-MFS-20044] c14 N71-28993
- Mixing insert for foam dispensing apparatus  
[NASA-CASE-MFS-20607-1] c15 N74-26989
- Intumescent composition, foamed product prepared  
therewith and process for making same  
[NASA-CASE-ARC-10304-2] c18 N74-27037
- LOW FREQUENCIES**  
Determining sway of buildings by low frequency  
device using pendulum  
[NASA-CASE-XMF-00479] c14 N70-34794
- LOW MOLECULAR WEIGHTS**  
Process for preparing high molecular weight  
polyaryloxysilanes from lower molecular weight  
forms  
[NASA-CASE-XMF-08674] c06 N71-28807
- LOW NOISE**  
Low phase noise frequency divider for use with  
deep space network communication system  
[NASA-CASE-NPO-11569] c10 N73-26229
- LOW PRESSURE**  
Flowmeters for sensing low fluid flow rate and  
pressure for application to respiration rate  
studies  
[NASA-CASE-PRC-10022] c12 N71-26546
- LOW SPEED**  
Variable geometry manned orbital vehicle having  
high aerodynamic efficiency over wide speed  
range and incorporating auxiliary pivotal wings  
[NASA-CASE-XLA-03691] c31 N71-15674
- Device utilizing RC rate generators for  
continuous slow speed measurement  
[NASA-CASE-XMF-02966] c10 N71-24863
- LOW TEMPERATURE ENVIRONMENTS**  
Flexible, fragile electrochemical cell and  
package for operation in low temperature  
environment  
[NASA-CASE-XGS-10010] c03 N72-15986
- LOW TEMPERATURE TESTS**  
Cryostat for flexure fatigue testing of  
composite materials  
[NASA-CASE-XMF-02964] c14 N71-17659
- Cryostat for use with horizontal fatigue testing  
machines at low temperatures  
[NASA-CASE-XMF-10968] c14 N71-24234
- LOW VACUUM**  
Vibration damping system operating in low vacuum  
environment for spacecraft mechanisms  
[NASA-CASE-XMS-01620] c23 N71-15673
- LOW VOLTAGE**  
High speed low level voltage commutating switch  
[NASA-CASE-XAC-00060] c09 N70-39915
- Flexible monopole antenna with broad bandwidth  
and low voltage standing wave ratio  
[NASA-CASE-MS-12101] c09 N71-18720
- Circuit design for failure sensing and  
protecting low voltage electric generator and  
power transmission networks  
[NASA-CASE-GSC-10114-1] c10 N71-27366
- LUBRICANTS**  
Metallic film diffusion into metal or ceramic  
surfaces for boundary lubrication in aerospace  
environments  
[NASA-CASE-ILE-01765] c18 N71-10772
- Metallic film diffusion for boundary lubrication  
in aerospace engineering  
[NASA-CASE-XLE-10337] c15 N71-24046
- Fluorinated esters of polycarboxylic acid and  
lubricating compositions for use at extreme  
temperature  
[NASA-CASE-MFS-21040-1] c06 N73-30098
- Thiophenyl ether disiloxanes and trisiloxanes  
useful as lubricant fluids  
[NASA-CASE-MFS-22411-1] c15 N74-21058
- Journal bearings --- for lubricant films  
[NASA-CASE-LEW-11076-1] c15 N74-21061
- LUBRICATING OILS**  
Fluid seal formed by flexible disk on rotating  
shaft to retain lubricating oils around shaft  
[NASA-CASE-XLE-05130-2] c15 N71-19570
- LUBRICATION**  
Variable resistance tension and lubrication  
device, using oil-saturated leather wiper  
[NASA-CASE-KSC-10723-1] c15 N73-23553
- Hollow high strength rolling elements for  
antifriction bearings fabricated from  
preformed components  
[NASA-CASE-LEW-11026-1] c15 N73-33383
- LUBRICATION SYSTEMS**  
Development of hybrid bearing lubrication system  
with combination of standard type lubrication  
and magnetic flux field for earth atmosphere  
and space environment operation  
[NASA-CASE-XMP-01641] c15 N71-22997
- Lubrication for bearings by capillary action  
from oil reservoir of porous material  
[NASA-CASE-XMP-03972] c15 N71-23048
- Journal Bearings  
[NASA-CASE-LEW-11076-2] c15 N74-32921
- LUMINAIRES**  
Visual target luminaires for retrofire attitude  
control  
[NASA-CASE-XMS-12158-1] c31 N69-27499
- Development of ultraviolet resonance lamp with  
improved transmission of radiation  
[NASA-CASE-ARC-10030] c09 N71-12521
- Lamp modulator for generating visual indication  
of presence and magnitude of signal  
[NASA-CASE-KSC-10565] c09 N72-25250
- Electrodeless lamp circuit driven by induction  
[NASA-CASE-MFS-21214-1] c09 N73-30181
- LUMINOSITY**  
Mechanism for measuring nanosecond time  
differences between luminous events using  
streak camera  
[NASA-CASE-ILA-01987] c23 N71-23976
- LUMINOUS INTENSITY**  
Filter arrangement for controlling light  
intensity in motion picture camera used in  
optical pyrometry  
[NASA-CASE-XLA-00062] c14 N70-33254
- Development of star intensity measuring system  
which minimizes effects of outside interference  
[NASA-CASE-XMP-06510] c14 N71-23797
- LUNAR BASES**  
Development and characteristics of natural  
circulation radiator for use with nuclear  
power plants installed in lunar space stations  
[NASA-CASE-XHQ-03673] c33 N71-29046
- LUNAR COMMUNICATION**  
Conversion system for transforming slow scan  
rate of Apollo TV camera on moon to fast scan  
of commercial TV  
[NASA-CASE-XMS-07168] c07 N71-11300
- Three transceiver lunar emergency system to  
relay voice communication of astronaut  
[NASA-CASE-MFS-21042] c07 N72-25171
- LUNAR COMPOSITION**  
Development and characteristics of pentrometer  
for measuring physical properties of lunar  
surface  
[NASA-CASE-ILA-00934] c14 N71-22765
- LUNAR EXPLORATION**  
Backpack carrier with retractable legs suitable  
for lunar exploration and convertible to  
rescue vehicle  
[NASA-CASE-LAR-10056] c05 N71-12351
- Development and characteristics of pentrometer  
for measuring physical properties of lunar  
surface  
[NASA-CASE-ILA-00934] c14 N71-22765
- Lightweight propulsion unit for movement of  
personnel and equipment across lunar surface  
[NASA-CASE-MFS-20130] c28 N71-27585
- Three transceiver lunar emergency system to  
relay voice communication of astronaut  
[NASA-CASE-MFS-21042] c07 N72-25171
- LUNAR FLYING VEHICLES**  
Kinesthetic control simulator with multiple  
degree of freedom of movement similar to lunar  
flying vehicles  
[NASA-CASE-LAR-10276-1] c11 N70-26813
- LUNAR GRAVITATION**  
Apparatus for training astronaut crews to  
perform on simulated lunar surface under  
conditions of lunar gravity  
[NASA-CASE-XMS-04798] c11 N71-21474
- LUNAR GRAVITY SIMULATOR**  
Lunar and planetary gravity simulator to test  
vehicular response to landing  
[NASA-CASE-XLA-00493] c11 N70-34786
- LUNAR LANDING**  
Lunar landing flight research vehicle  
[NASA-CASE-IFR-00929] c31 N70-34966
- LUNAR LOGISTICS**  
Lightweight propulsion unit for movement of  
personnel and equipment across lunar surface

[NASA-CASE-MFS-20130] c28 N71-27585

**LUNAR ROCKS**  
Impact bit for cutting, collecting, and storing samples such as lunar rock cuttings [NASA-CASE-XNP-01412] c15 N70-42034

**LUNAR SOIL**  
Development of device for separating, collecting, and viewing soil particles [NASA-CASE-XNP-09770] c15 N71-20440  
Device which separates and screens particles of soil samples for vidicon viewing in vacuum and reduced gravity environments [NASA-CASE-XNP-09770-3] c11 N71-27036  
System for recovering oxygen and/or water from extraterrestrial soil and iron oxide materials [NASA-CASE-MSC-12332-1] c15 N72-15476  
Portable penetrometer for analyzing soil characteristics [NASA-CASE-MFS-20774] c14 N73-19420  
Method for obtaining oxygen from lunar or similar soil [NASA-CASE-MSC-12408-1] c13 N74-13011

**LUNAR SURFACE VEHICLES**  
Resilient vehicle wheel for lunar surface travel [NASA-CASE-MFS-20400] c31 N71-18611  
Resilient wheel design with woven wire tire and abrasive treads for lunar surface vehicles [NASA-CASE-MFS-13929] c15 N71-27091

**LUNGS**  
Piston device for producing known constant positive pressure within lungs by using thoracic muscles [NASA-CASE-XMS-01615] c05 N70-41329

## M

**MACHINE TOOLS**  
Rotary impact-type rock drill for recovering rock cuttings [NASA-CASE-XNP-07478] c14 N69-21923  
Description of protective device for providing safe operating conditions around work piece in machine or metal working tool [NASA-CASE-XLE-01092] c15 N71-22797  
Description of device for aligning stacked sheets of paper for repetitive cutting [NASA-CASE-MMS-04178] c15 N71-22798  
Development and characteristics of frusto-conical die nib for extrusion of refractory metals [NASA-CASE-XLE-06773] c15 N71-23817  
Design and development of layout tool for machine shop use to locate point in precise reference to straight or bowed reference edge [NASA-CASE-FRC-10005] c15 N71-26145  
Optical gauging system for monitoring machine tool alignment [NASA-CASE-XAC-09489-1] c15 N71-26673  
Caterpillar micropositioner for positioning machine tools adjacent to workpiece [NASA-CASE-GSC-10780-1] c14 N72-16283  
An improved Geneva mechanism --- Including a star-wheel and a driver [NASA-CASE-NPO-13281-1] c15 N74-23071

**MACHINERY**  
Design of mechanical device for stirring several test tubes simultaneously [NASA-CASE-XAC-06956] c15 N71-21177  
Precipitation detector and mechanism for stopping and restarting machinery at initiation and cessation of rain [NASA-CASE-XLA-02619] c10 N71-26334  
Apparatus for forming drive belts [NASA-CASE-NPO-13205-1] c15 N74-32917

**MACHINING**  
Laser machining device with dielectric functioning as beam waveguide for mechanical and medical applications [NASA-CASE-BQN-10541-2] c15 N71-27135  
Lathe tool and holder combination for machining resin impregnated fiberglass cloth laminates [NASA-CASE-XLA-10470] c15 N72-21489  
Drilled ball bearing with a one piece anti-tipping cage assembly [NASA-CASE-LEW-11925-1] c15 N74-18133

**MAGNESIUM**  
Chemical spot test for identifying magnesium or magnesium alloys used in aerospace applications [NASA-CASE-LAR-10953-1] c17 N73-27446

## MAGNESIUM ALLOYS

Procedure for bonding polytetrafluoroethylene thermal protective sleeves to magnesium alloy conical shell components with different thermal coefficients [NASA-CASE-XLA-01262] c15 N71-21404  
Chemical spot test for identifying magnesium or magnesium alloys used in aerospace applications [NASA-CASE-LAR-10953-1] c17 N73-27446

**MAGNESIUM OXIDES**  
Method for determining presence and type of OH in MgO [NASA-CASE-NPO-10774] c06 N72-17095

**MAGNET COILS**  
Improved alternator with windings of superconducting materials acting as permanent magnet [NASA-CASE-XLE-02824] c03 N69-39890  
Relay circuit breaker with magnetic latching to provide conductive and nonconductive paths for current devices [NASA-CASE-MSC-11277] c09 N71-29008

**MAGNETIC CHARGE DENSITY**  
Ion engine with magnetic circuit for optimal discharge [NASA-CASE-XLE-01124] c28 N71-14043

**MAGNETIC CIRCUITS**  
Ion engine with magnetic circuit for optimal discharge [NASA-CASE-XLE-01124] c28 N71-14043

**MAGNETIC COILS**  
Time division multiplexer with magnetic latching relays [NASA-CASE-XNP-00431] c09 N70-38998  
Linear magnetic braking system with nonuniformly wrapped primary coil producing constant braking force on secondary coil [NASA-CASE-XLE-05079] c15 N71-17652  
Electroexplosive safe-arm initiator using electric driven electromagnets coils and magnets to align charge [NASA-CASE-LAR-10372] c09 N71-18599

**MAGNETIC CONTROL**  
Magnetically opened diaphragm design with camera shutter and expansion tube applications [NASA-CASE-XLA-03660] c15 N71-21060  
Magnetically controlled plasma accelerator capable of ignition in low density gaseous environment [NASA-CASE-XLA-00327] c25 N71-29184

**MAGNETIC CORES**  
Variable frequency magnetic coupled multivibrator with temperature compensated frequency control circuit [NASA-CASE-XGS-00458] c09 N70-38604  
Variable frequency magnetic coupled multivibrator with output signal of constant amplitude and waveform [NASA-CASE-XGS-00131] c09 N70-38995  
Electronic counter circuit utilizing magnetic core and low power consumption [NASA-CASE-XNP-08836] c09 N71-12515  
Pulsed magnetic core memory element with blocking oscillator feedback for interrogation without loss of digital information [NASA-CASE-XGS-03303] c08 N71-18595  
Describing magnetic core current switching device for steering bipolar current pulses to memory units [NASA-CASE-NPO-10201] c08 N71-18694  
Reliable magnetic core circuit apparatus with application in selection matrices for digital memories [NASA-CASE-XNP-01318] c10 N71-23033  
Magnetic current regulator for saturable core transformer [NASA-CASE-ERC-10075] c09 N71-24800  
Power switch with transfluxor type magnetic core [NASA-CASE-NPO-10242] c09 N71-24803  
Unsaturating magnetic core transformer design with warning signal for electrical power processing equipment [NASA-CASE-ERC-10125] c09 N71-24893  
Temperature sensitive magnetometer with pulsating thermally cycled magnetic core [NASA-CASE-XAC-03740] c14 N71-26135  
Digital magnetic core memory with sensing amplifier circuits [NASA-CASE-XNP-01012] c08 N71-28925

- Saturable magnetic core and signal detection for indicating impending saturation  
[NASA-CASE-ERC-10089] c23 N72-17747
- Commutator for steering precisely controlled bidirectional currents through numerous loads by use of magnetic core shift registers  
[NASA-CASE-NPO-10743] c08 N72-21199
- Banded transformer cores  
[NASA-CASE-NPO-11966-1] c09 N74-17928
- Improved structure and method of producing composite of gapped and ungapped cores  
[NASA-CASE-NPO-13413-1] c09 N74-33738
- MAGNETIC DIPOLES**  
Torquemeter for determining magnitude of torque generated by interaction of magnetic dipole between test specimen and ambient magnetic field  
[NASA-CASE-XGS-01013] c14 N71-23725
- MAGNETIC DISKS**  
Device for removing plastic dust cover from digital computer disk packs for inspection and cleaning  
[NASA-CASE-LAR-10590-1] c15 N70-26819
- MAGNETIC EFFECTS**  
Axially and radially controllable magnetic bearing  
[NASA-CASE-GSC-11551-1] c15 N74-18132
- MAGNETIC FIELDS**  
Magnetically diffused radial electric arc heater  
[NASA-CASE-XLA-00330] c33 N70-34540  
Method and apparatus for communicating through ionized layer of gases surrounding spacecraft during reentry into planetary atmospheres  
[NASA-CASE-XLA-01127] c07 N70-41372  
Venting device for liquid propellant storage tank using magnetic field to separate liquid and gaseous phases  
[NASA-CASE-XLE-01449] c15 N70-41646  
Ion engine with magnetic circuit for optimal discharge  
[NASA-CASE-XLE-01124] c28 N71-14043  
Development of wide range linear fluxgate magnetometer  
[NASA-CASE-XGS-01587] c14 N71-15962  
Magnetic element position sensing device, using misaligned electromagnets  
[NASA-CASE-XGS-07514] c23 N71-16099  
Development of non-magnetic indexing device for orienting magnetic flux sensing instrument in magnetic field without generation of detrimental magnetic fields  
[NASA-CASE-XGS-02422] c15 N71-21529  
Negation of magnetic fields produced by thin waferlike circuit elements in space vehicles  
[NASA-CASE-XGS-03390] c03 N71-23187  
Torquemeter for determining magnitude of torque generated by interaction of magnetic dipole between test specimen and ambient magnetic field  
[NASA-CASE-XGS-01013] c14 N71-23725  
Fluxgate magnetometer for measuring magnetic field along two axes using one sensor  
[NASA-CASE-GSC-01441-1] c14 N71-27325  
Segmented superconducting magnet producing staggered magnetic field and suitable for broadband traveling wave masers  
[NASA-CASE-XGS-10518] c16 N71-28554  
Magnetic method for detection of aircraft position relative to runway  
[NASA-CASE-ARC-10179-1] c21 N72-22619  
Radial magnetic field for ion thruster  
[NASA-CASE-LEW-10770-1] c28 N72-22770  
Automatic shunting of ion thruster magnetic field when thruster is not operating  
[NASA-CASE-LEW-10835-1] c28 N72-22771  
Apparatus for determining distance to lighting strokes from single station by magnetic and electric field sensing antennas  
[NASA-CASE-KSC-10698] c07 N73-20175  
Superconducting magnetic field trapping device for producing magnetic field in air  
[NASA-CASE-XNP-01185] c26 N73-28710  
Hall effect magnetometer for measuring magnetic fields  
[NASA-CASE-LEW-11632-2] c14 N73-29437  
Electron beam controller --- using magnetic field to refocus spent electron beam in microwave oscillator tube  
[NASA-CASE-LEW-11617-1] c09 N74-10195
- MAGNETIC FLUX**  
Excitation and detection circuitry for flux responsive magnetic head  
[NASA-CASE-XNP-04183] c09 N69-24329  
Cryogenic flux-gated magnetometer using superconductors  
[NASA-CASE-XAC-02407] c14 N69-27423  
Flux gate magnetometer with toroidal gating coil and solenoidal output coil for signal modulation or amplification  
[NASA-CASE-IGS-01881] c09 N70-40123  
Development of hybrid bearing lubrication system with combination of standard type lubrication and magnetic flux field for earth atmosphere and space environment operation  
[NASA-CASE-XNP-01641] c15 N71-22997  
Magnetic current regulator for saturable core transformer  
[NASA-CASE-ERC-10075] c09 N71-24800  
Magnetic flux pump for changing intensity of magnetic fields  
[NASA-CASE-XNP-01187] c15 N73-28516  
Method for increasing intensity of magnetic field by transferring flux  
[NASA-CASE-XNP-01188] c15 N73-32361
- MAGNETIC FORMING**  
Portable magnetomotive hammer for metal working  
[NASA-CASE-XMP-03793] c15 N71-24833  
Method and apparatus for portable high precision magnetomotive bulging, constricting, and joining of large diameter metal tubes  
[NASA-CASE-XMP-05114-3] c15 N71-24865
- MAGNETIC INDUCTION**  
Continuous operation, single phased, induction plasma accelerator producing supersonic speeds  
[NASA-CASE-XLA-01354] c25 N70-36946  
Automatic power supply circuit design for driving inductive loads and minimizing power consumption including solenoid example  
[NASA-CASE-NPO-10716] c09 N71-24892  
Double-induction variable speed system for constant-frequency electrical power generation  
[NASA-CASE-ERC-10065] c09 N71-27364  
Microwave generator using Gunn effect for magnetic tuning  
[NASA-CASE-NPO-12106] c09 N73-15235  
High speed shutter --- electrically actuated ribbon loop for shuttering optical or fluid passageways  
[NASA-CASE-ARC-10516-1] c23 N74-21300  
Brushless dc motor with wound rotor  
[NASA-CASE-NPO-13437-1] c09 N74-27688
- MAGNETIC LENSES**  
Quadrupole mass spectrometer using noise spectrum for ion separation and identification  
[NASA-CASE-XNP-04231] c14 N73-32325
- MAGNETIC MATERIALS**  
Low density and low viscosity magnetic propellant for use under zero gravity conditions  
[NASA-CASE-XLE-01512] c12 N70-40124
- MAGNETIC MEASUREMENT**  
Cryogenic flux-gated magnetometer using superconductors  
[NASA-CASE-XAC-02407] c14 N69-27423  
Development of wide range linear fluxgate magnetometer  
[NASA-CASE-XGS-01587] c14 N71-15962  
Active RC filter networks and amplifiers for deep space magnetic field measurement  
[NASA-CASE-XAC-05462-2] c10 N72-17171
- MAGNETIC POLES**  
Design of magnetohydrodynamic induction machine with end poles which produce compensating magnetic fields  
[NASA-CASE-XNP-07481] c25 N69-21929
- MAGNETIC PUMPING**  
Magnetic flux pump for changing intensity of magnetic fields  
[NASA-CASE-XNP-01187] c15 N73-28516  
Method for increasing intensity of magnetic field by transferring flux  
[NASA-CASE-XNP-01188] c15 N73-32361  
Magnetocaloric pump --- for cryogenic fluids  
[NASA-CASE-LEW-11672-1] c15 N74-27904
- MAGNETIC RECORDING**  
Development of data storage system for storing digital data in high density format on magnetic tape  
[NASA-CASE-XNP-02778] c08 N71-22710  
Magnetic recording head composed of ferrite core coated with thin film of aluminum-iron-silicon alloy



## MAGNETIC SIGNALS

## SUBJECT INDEX

[NASA-CASE-GSC-10097-1] c08 N71-27210

**MAGNETIC SIGNALS**  
Plural recorder system which limits signal recording to signals of sufficient interest  
[NASA-CASE-XNS-06949] c09 N69-21467

**MAGNETIC STORAGE**  
Nondestructive interrogating and state changing circuit for binary magnetic storage elements  
[NASA-CASE-XGS-00174] c08 N70-34743  
Magnetic matrix memory system for nondestructive reading of information contained in matrix  
[NASA-CASE-XMP-05835] c08 N71-12504  
Pulse duration control device for driving slow response time loads in selected sequence including switching and delay circuits and magnetic storage  
[NASA-CASE-XGS-04224] c10 N71-26418  
Redundant memory for enhanced reliability of digital data processing system  
[NASA-CASE-GSC-10564] c10 N71-29135  
Momentum wheel design for spacecraft attitude control and magnetic drum and head system for data storage  
[NASA-CASE-NPO-11481] c21 N73-13644

**MAGNETIC SWITCHING**  
Power switch with transfluxor type magnetic core  
[NASA-CASE-NPO-10242] c09 N71-24803  
Design and development of multistage current steering switch with inductively coupled magnetic cores  
[NASA-CASE-XMP-08567] c09 N71-26000

**MAGNETIC TAPES**  
Tape cartridge with high capacity storage of endless-loop magnetic tape  
[NASA-CASE-XGS-00769] c14 N70-41647  
Endless loop tape transport mechanism for driving and tensioning recording medium in magnetic tape recorder  
[NASA-CASE-XGS-01223] c07 N71-10609  
Development of low friction magnetic recording tape  
[NASA-CASE-XGS-00373] c23 N71-15978  
System for recording and reproducing PCM data from data stored on magnetic tape  
[NASA-CASE-XGS-01021] c08 N71-21042  
Kinetic and static friction force measurement between magnetic tape and magnetic head surfaces  
[NASA-CASE-XMP-08680] c14 N71-22995  
Technique for recovery of voice data from heat damaged magnetic tape  
[NASA-CASE-MSC-14219-1] c07 N74-27612

**MAGNETIZATION**  
Permanently magnetized ion engine casing construction for use in spacecraft propulsion systems  
[NASA-CASE-XMP-06942] c28 N71-23293  
Method of manufacturing composite superconductors  
[NASA-CASE-LEW-11502-1] c09 N74-33739

**MAGNETO-OPTICS**  
Thermomagnetic recording and magneto-optic playback system having constant intensity laser beam control  
[NASA-CASE-NPO-11317-2] c16 N74-13205

**MAGNETOHYDRODYNAMIC FLOW**  
Improving performance of magnetoplasma dynamic arc rocket engine  
[NASA-CASE-LEW-11180-1] c25 N73-25760

**MAGNETOHYDRODYNAMIC GENERATORS**  
Design of magnetohydrodynamic induction machine with end poles which produce compensating magnetic fields  
[NASA-CASE-XMP-07481] c25 N69-21929  
Magnetohydrodynamic generator for mixing nonconductive gas and liquid metal mist to form slugs  
[NASA-CASE-XLE-02083] c03 N69-39983  
Thermoelectric power conversion by liquid metal flowing through magnetic field  
[NASA-CASE-XMP-00644] c03 N70-36803  
Crossed field MHD plasma generator-accelerator  
[NASA-CASE-XLA-03374] c25 N71-15562

**MAGNETOMETERS**  
Nonmagnetic thermal motor for magnetometer movement  
[NASA-CASE-XAR-03786] c09 N69-21313  
Cryogenic flux-gated magnetometer using superconductors  
[NASA-CASE-XAC-02407] c14 N69-27423

Flux gate magnetometer with toroidal gating coil and solenoidal output coil for signal modulation or amplification  
[NASA-CASE-XGS-01881] c09 N70-40123  
Development of wide range linear fluxgate magnetometer  
[NASA-CASE-XGS-01587] c14 N71-15962  
Design and development of optically pumped resonance magnetometer for determining vectoral components in spatial coordinate system  
[NASA-CASE-XGS-04879] c14 N71-20428  
Temperature sensitive magnetometer with pulsating thermally cycled magnetic core  
[NASA-CASE-XAC-03740] c14 N71-26135  
Fluxgate magnetometer for measuring magnetic field along two axes using one sensor  
[NASA-CASE-GSC-10441-1] c14 N71-27325  
Development and characteristics of magnetometer with single Bi2Se3 crystal as sensing element  
[NASA-CASE-LEW-11632-1] c14 N72-25440  
Hall effect magnetometer for measuring magnetic fields  
[NASA-CASE-LEW-11632-2] c14 N73-29437  
Hall effect magnetometer  
[NASA-CASE-LEW-11632-3] c14 N74-33944

**MAGNETRONS**  
Tuning arrangement for frequency control of magnetron-type electron discharge device  
[NASA-CASE-XMP-09771] c09 N71-24841

**MAGNETS**  
Magnetic bearing with diverse magnetic sources coupled to same air gap via different low magnetic reluctance paths for use with permanent magnets  
[NASA-CASE-GSC-11079-1] c21 N71-28461

**MAGNIFICATION**  
Camera adapter design for image magnification including lens and illuminator  
[NASA-CASE-XMP-03844-1] c14 N71-26474  
Passive type, magnifying scratch gage, force transducer  
[NASA-CASE-LAR-10496-1] c14 N72-22437

**MAGNITUDE**  
Torquemeter for determining magnitude of torque generated by interaction of magnetic dipole between test specimen and ambient magnetic field  
[NASA-CASE-XGS-01013] c14 N71-23725

**MAINTENANCE**  
Self testing and repairing computer comprising control and diagnostic unit and rollback points for error correction  
[NASA-CASE-NPO-10567] c08 N71-24633  
Development of procedure for repairing fiberglass structures which retains geometry and strength of original structure  
[NASA-CASE-LAR-10416-1] c15 N72-27527  
Development of process for bonding resinous body in cavities of honeycomb structures  
[NASA-CASE-MSC-12357] c15 N73-12489  
Method of repairing discontinuity in fiberglass structures  
[NASA-CASE-LAR-10416-1] c18 N74-30001

**MAJFUNCTIONS**  
Aircraft instrument for indicating malfunctions during takeoff  
[NASA-CASE-ILA-00100] c14 N70-36807

**MANDRELS**  
Mandrel for shaping solid propellant rocket fuel into engine casing  
[NASA-CASE-ILA-00304] c27 N70-34783  
Rotating, multisided mandrel for fabricating gored inflatable spacecraft  
[NASA-CASE-ILA-04143] c15 N71-17687  
Method of making solid propellant rocket motor having reliable high altitude capabilities, long shelf life, and capable of firing with nozzle closure with foamed plastic permanent mandrel  
[NASA-CASE-XLA-04126] c28 N71-26779

**MANIFOLDS**  
Injector manifold assembly for bipropellant rocket engines providing for fuel propellant to serve as coolant  
[NASA-CASE-XMP-00148] c28 N70-38710

**MANIPULATORS**  
Manipulator for remote handling in zero gravity environment  
[NASA-CASE-MFS-14405] c15 N72-28495

- Development and characteristics of variable ratio, mixed-mode, bilateral master-slave control system for space shuttle remote manipulator system  
[NASA-CASE-MSC-14245-1] c31 N73-30832
- Remote manipulator system  
[NASA-CASE-MFS-22022-1] c05 N74-10099
- Anthropomorphic master/slave manipulator system  
[NASA-CASE-ARC-10756-1] c15 N74-16139
- MANNED ORBITAL LABORATORIES**
- Artificial gravity system for simulating self-locomotion capability of astronauts in rotating environments  
[NASA-CASE-XLA-03127] c11 N71-10776
- MANNED ORBITAL RESEARCH LABORATORIES**
- Manned space station collapsible for launching and self-erectable in orbit  
[NASA-CASE-XLA-00678] c31 N70-34296
- Radial module manned space station with artificial gravity environment  
[NASA-CASE-IMS-01906] c31 N70-41373
- MANNED SPACE FLIGHT**
- Three-port transfer valve with one port open continuously suitable for manned space flight  
[NASA-CASE-XAC-01158] c15 N71-23051
- Device for removing air from water for use in life support systems in manned space flight  
[NASA-CASE-XLA-8914] c15 N73-12492
- MANNED SPACECRAFT**
- Manned space capsule configuration for orbital flight and atmospheric reentry  
[NASA-CASE-XLA-00149] c31 N70-37938
- Delta winged, manned reentry vehicle capable of horizontal glide landing at low speeds  
[NASA-CASE-XLA-00241] c31 N70-37986
- Parachute system for lowering manned spacecraft from post-reentry to ocean landing  
[NASA-CASE-XLA-00195] c02 N70-38009
- Design and configuration of manned space capsule  
[NASA-CASE-XLA-01332] c31 N71-15664
- Development of method for producing artificial gravity in manned spacecraft  
[NASA-CASE-IMP-02595] c31 N71-21881
- Chlorine generator for purifying water in life support systems of manned spacecraft  
[NASA-CASE-XLA-08913] c14 N71-28933
- Collapsible couch system for manned space vehicles  
[NASA-CASE-MSC-13140] c05 N72-11085
- Spacecraft with artificial gravity and earthlike atmosphere  
[NASA-CASE-LEW-11101-1] c31 N73-32750
- MANOMETERS**
- Magnetically centered liquid column float  
[NASA-CASE-XAC-00030] c14 N70-34820
- Absolute pressure measuring device for measuring gas density level in high vacuum range  
[NASA-CASE-LAR-10000] c14 N73-30394
- MANUAL CONTROL**
- Multiple circuit switch apparatus requiring minimum hand and eye movement by operator  
[NASA-CASE-XAC-03777] c10 N71-15909
- Manual control mechanism for adjusting control rod to null position  
[NASA-CASE-XLA-01808] c15 N71-20740
- Manually activated heat pump for mechanically converting human operator output into heat energy  
[NASA-CASE-MPO-10677] c05 N72-11084
- Development of flight simulator system to show position of joystick displacement  
[NASA-CASE-MPO-11497] c08 N73-25206
- Solid state controller three axes controller  
[NASA-CASE-MSC-12394-1] c03 N74-10942
- MANUFACTURING**
- Selective gold diffusion on monolithic silicon chips for switching and nonswitching amplifier devices and circuits and linear and digital logic circuits  
[NASA-CASE-ERC-10072] c09 N70-11148
- Standard coupling design for mass production  
[NASA-CASE-IMS-02532] c15 N70-41808
- Method for making screen with unlimited fineness of mesh and screen thickness  
[NASA-CASE-XLE-00953] c15 N71-15966
- Describing apparatus for manufacturing operations in low and zero gravity environments of orbital space flight  
[NASA-CASE-MFS-20410] c15 N71-19214
- Manufacture of fluid containers from fused coated polyester sheets having resealable septum  
[NASA-CASE-MPO-10123] c15 N71-24835
- Method of making solid propellant rocket motor having reliable high altitude capabilities, long shelf life, and capable of firing with nozzle closure with foamed plastic permanent mandrel  
[NASA-CASE-XLA-04126] c28 N71-26779
- Shielded flat conductor cable fabricated by electroless and electrolytic plating  
[NASA-CASE-MFS-13687] c09 N71-28691
- Production method for manufacturing porous tungsten bodies from tungsten powder particles  
[NASA-CASE-IMP-04339] c17 N71-29137
- Improved bonding method in the manufacture of continuous regression rate sensor devices  
[NASA-CASE-LAR-10337-1] c15 N74-14141
- Method of making porous conductive supports for electrodes --- by electroforming and stacking nickel foils  
[NASA-CASE-GSC-11367-1] c03 N74-19692
- Apparatus for forming drive belts  
[NASA-CASE-MPO-13205-1] c15 N74-32917
- MAPPING**
- Solid state device for mapping flux and power in nuclear reactor cores  
[NASA-CASE-XLE-00301] c14 N70-36808
- Design and development of random function tracer for obtaining coordinates of points on contour maps  
[NASA-CASE-XLA-01401] c15 N71-21179
- Spacecraft transponder and ground station radar system for mapping planetary surfaces  
[NASA-CASE-MPO-11001] c07 N72-21118
- MAPS**
- Orbital and entry tracking accessory for globes --- to provide range requirements for reentry vehicles to any landing site  
[NASA-CASE-LAR-10626-1] c14 N74-21015
- An optical process for producing classification maps from multispectral data  
[NASA-CASE-MSC-14472-1] c13 N74-32780
- MASERS**
- Segmented superconducting magnet producing staggered magnetic field and suitable for broadband traveling wave masers  
[NASA-CASE-IGS-10518] c16 N71-28554
- Traveling wave maser for operation in 7 to 20 GHz frequency range  
[NASA-CASE-MPO-11437] c16 N72-28521
- Method for producing storage bulb for atomic hydrogen maser  
[NASA-CASE-MPO-13050-1] c16 N73-18508
- High temperature bonding of sapphire to sapphire by eutectic Al<sub>2</sub>O<sub>3</sub> and ZrO<sub>2</sub> mixture to form sapphire rubidium maser cell  
[NASA-CASE-GSC-11577-1] c15 N73-19467
- MASKING**
- Reusable masking boot for chemical machining operations  
[NASA-CASE-IMP-02092] c15 N70-42033
- Composition and process for improving definition of resin masks used in chemical etching  
[NASA-CASE-IGS-04993] c14 N71-17574
- MASS**
- Apparatus for measuring human body mass in zero or reduced gravity environment  
[NASA-CASE-IMS-03371] c05 N70-42000
- Tuned damped vibration absorber for mass vibrating in more than one degree of freedom for use with wind tunnel models  
[NASA-CASE-LAR-10083-1] c15 N71-27006
- MASS BALANCE**
- Two plane balance for simultaneous measurements of multiple forces  
[NASA-CASE-XAC-00073] c14 N70-34813
- Control system for pressure balance device used in calibrating pressure gages  
[NASA-CASE-IMP-04134] c14 N71-23755
- MASS DISTRIBUTION**
- Electronic recording system for spatial mass distribution of liquid rocket propellant droplets or vapors ejected from high velocity nozzles  
[NASA-CASE-MPO-10185] c10 N71-26339
- MASS FLOW**
- Rocket engine injector orifice to accommodate changes in density, velocity, and pressure,

- thereby maintaining constant mass flow rate of propellant into rocket combustion chamber  
[NASA-CASE-XLE-03157] c28 N71-24736
- Mass flow meter containing beta source for measuring nonpolar liquid flow  
[NASA-CASE-MFS-20485] c14 N72-11365
- Generation of high temperature, high mass flow, and high Reynolds number air at hypersonic speeds  
[NASA-CASE-LAR-10578-1] c12 N73-25262
- MASS SPECTROMETERS**  
Analytical photoionization mass spectrometer with argon gas filter between light source and monochromator  
[NASA-CASE-LAR-10180-1] c06 N71-13461
- Design and characteristics of time of flight mass spectrometer to measure or analyze gases at low pressures and time of flight of single gas molecule  
[NASA-CASE-INP-01056] c14 N71-23041
- Ion microprobe mass spectrometer with cooled electrode target for analyzing traces of fluids  
[NASA-CASE-ERC-10014] c14 N71-28863
- Test chambers with orifice and helium mass spectrometer for detecting leak rate of encapsulated semiconductor devices  
[NASA-CASE-ERC-10150] c14 N71-28992
- High speed scanner for measuring mass of preselected gases at high sampling rate  
[NASA-CASE-LAR-10766-1] c14 N72-21432
- Apparatus for analyzing gas samples in containers including vacuum chamber, mass spectrometer, and gas chromatography  
[NASA-CASE-GSC-10903-1] c14 N73-12444
- Quadrupole mass spectrometer using noise spectrum for ion separation and identification  
[NASA-CASE-YNP-04231] c14 N73-32325
- Fast scan control for deflection type mass spectrometers  
[NASA-CASE-LAR-11428-1] c14 N74-34857
- MASS SPECTROSCOPY**  
Moving particle composition analyzer  
[NASA-CASE-GSC-11889-1] c14 N74-32887
- MATERIAL ABSORPTION**  
Describing sorption vacuum trap having housing with group of reentrant wall portions projecting into internal gas-pervious container filled with gas and vapor sorbent material  
[NASA-CASE-XER-09519] c14 N71-18483
- MATERIALS HANDLING**  
Two component valve assembly for cryogenic liquid transfer regulation  
[NASA-CASE-XLE-00397] c15 N70-36492
- Catalyst bed element removing tool  
[NASA-CASE-XPR-00811] c15 N70-36901
- Air bearings for near frictionless transfer of loads from one body to another  
[NASA-CASE-YMP-01887] c15 N71-10617
- Quick-release coupling for fueling rocket vehicles with cryogenic propellants  
[NASA-CASE-XKS-01985] c15 N71-10782
- Method and apparatus for removing plastic insulation from wire using cryogenic equipment  
[NASA-CASE-MFS-10340] c15 N71-17628
- Fluid transferring system design for purging toxic, corrosive, or noxious fluids and fumes from materials handling equipment for cleansing and accident prevention  
[NASA-CASE-XMS-01905] c12 N71-21089
- Description of method for making homogeneous foamed materials in weightless environment using materials having different physical properties  
[NASA-CASE-XMF-09902] c15 N72-11387
- Design and characteristics of mechanically extended and telescoping boom on crane assembly  
[NASA-CASE-NPO-11118] c03 N72-25021
- Design and development of device to prevent clogging in hoppers containing particulate materials  
[NASA-CASE-LAR-10961-1] c15 N73-12496
- Development of ultrasonic radiation equipment for removing material from host surface and vacuum apparatus for recovery of material  
[NASA-CASE-NPO-11213] c15 N73-20514
- Development and characteristics of system for skin packaging articles using thermoplastic film heating and vacuum operated equipment  
[NASA-CASE-MFS-20855] c15 N73-27405
- Apparatus for inserting and removing specimens from high temperature vacuum furnaces  
[NASA-CASE-LAR-10841-1] c15 N74-27900
- MATERIALS RECOVERY**  
System for recovering oxygen and/or water from extraterrestrial soil and iron oxide materials  
[NASA-CASE-MSC-12332-1] c15 N72-15476
- MATERIALS SCIENCE**  
Flammability test chamber for testing materials in certain predetermined environments  
[NASA-CASE-KSC-10126] c11 N71-24985
- Device for measuring thermoelectric properties of materials under high pressure  
[NASA-CASE-NPO-11749] c14 N73-28486
- MATERIALS TESTS**  
Development of equipment for measuring thermal shock resistance of thin discs of material  
[NASA-CASE-XLE-02024] c14 N71-22964
- Multisample test chamber for exposing materials to X rays, temperature change, and gaseous conditions and determination of material effects  
[NASA-CASE-XMS-02930] c11 N71-23042
- Automated ball rebound resilience test equipment for determining viscoelastic properties of polymers  
[NASA-CASE-XLA-08254] c14 N71-26161
- Hermetic sealing device for ends of tubular bodies during materials testing operations  
[NASA-CASE-NPO-10431] c15 N71-29132
- Development of apparatus for testing burning rate and flammability of materials  
[NASA-CASE-XMS-09690] c33 N72-25913
- Multiaxes vibration device for making vibration tests along orthogonal axes of test specimen  
[NASA-CASE-MFS-20242] c14 N73-19421
- Material testing system with load sensor for applying and measuring cyclic tensile and compressive loads to test specimens  
[NASA-CASE-MFS-20673] c14 N73-20476
- MATHEMATICAL LOGIC**  
Logical function and circuit generator  
[NASA-CASE-XLA-05099] c09 N73-13209
- MATRICES (CIRCUITS)**  
Fabrication methods for matrices of solar cell submodules  
[NASA-CASE-XNP-05821] c03 N71-11056
- Magnetic matrix memory system for nondestructive reading of information contained in matrix  
[NASA-CASE-XMF-05835] c08 N71-12504
- Conductor for connecting parallel cells into submodules in series to form solar cell matrix  
[NASA-CASE-NPO-10821] c03 N71-19545
- Reliable magnetic core circuit apparatus with application in selection matrices for digital memories  
[NASA-CASE-XNP-01318] c10 N71-23033
- Serial digital decoder design with square circuit matrix and serial memory storage units  
[NASA-CASE-NPO-10150] c08 N71-24650
- Electrically connected matrix of discrete solar cell blanks  
[NASA-CASE-NPO-10591] c03 N72-22041
- MCLEOD GAGES**  
Automatic recording McLeod gage with three electrodes and solenoid valve connection  
[NASA-CASE-XLE-03280] c14 N71-23093
- MEASURING INSTRUMENTS**  
Capacitance measuring device for determining flare accuracy on tapered tubes  
[NASA-CASE-XKS-03495] c14 N69-39785
- Characteristics and performance of electrical system to determine angular rotation  
[NASA-CASE-XNP-00447] c14 N70-33179
- Two plane balance for simultaneous measurements of multiple forces  
[NASA-CASE-XAC-00073] c14 N70-34813
- Parallel motion suspension device for measuring instruments  
[NASA-CASE-XNP-01567] c15 N70-41310
- Method and apparatus for measuring potentials in plasmas  
[NASA-CASE-XLE-00821] c25 N71-15650
- Transducer for measuring deflections from vibrating structures  
[NASA-CASE-XLA-03135] c32 N71-16428
- Gage for quality control of sealing surfaces of threaded boss  
[NASA-CASE-XMF-04966] c14 N71-17658

## SUBJECT INDEX

## MECHANICAL DEVICES

- Equipment for measuring partial water vapor pressure in gas tank  
[NASA-CASE-XMS-01618] c14 N71-20741
- Gauge for measuring quantity of liquid in spherical tank in reduced gravity  
[NASA-CASE-XMS-06236] c14 N71-21007
- Nonreusable energy absorbing device comprising ring member with plurality of recesses, cutting members, and guide member mounted in each recess  
[NASA-CASE-XMP-10040] c15 N71-22877
- Ablation sensor for measuring surface ablation rate of material on vehicles entering earths atmosphere on entry into planetary atmospheres  
[NASA-CASE-XLA-01791] c14 N71-22991
- Test fixture for measuring moment of inertia of irregularly shaped body with multiple axes  
[NASA-CASE-XGS-01023] c14 N71-22992
- Electron beam deflection devices for measuring electric fields  
[NASA-CASE-XMP-10289] c14 N71-23699
- Device for measuring two orthogonal components of force with gallium flotation of measuring target for use in vacuum environments  
[NASA-CASE-XAC-04885] c14 N71-23790
- Gage for measuring internal angle of flare on end of tube  
[NASA-CASE-XMP-04415] c14 N71-24693
- Device utilizing RC rate generators for continuous slow speed measurement  
[NASA-CASE-XMP-02966] c10 N71-24863
- Solid state force measuring electromechanical transducers made of piezoresistive materials  
[NASA-CASE-ERC-10088] c26 N71-25490
- Design and development of layout tool for machine shop use to locate point in precise reference to straight or bowed reference edge  
[NASA-CASE-FRC-10005] c15 N71-26145
- Volume displacement transducer for leak detection in hermetically sealed semiconductor devices  
[NASA-CASE-ERC-10033] c14 N71-26672
- Deformation measuring apparatus with feedback control for arbitrarily shaped structures  
[NASA-CASE-LAR-10098] c32 N71-26681
- Foam insulation thickness measuring and injection device for spacecraft applications  
[NASA-CASE-MFS-20261] c14 N71-27005
- Resonant infrasonic gauging device for measuring liquid quantity in closed bladderless reservoir  
[NASA-CASE-MSC-11847-1] c14 N72-11363
- Measuring roll alignment of test body with respect to reference body  
[NASA-CASE-GSC-10514-1] c14 N72-20379
- Sensor for detecting and measuring energy, velocity and direction of travel of a cosmic dust particle  
[NASA-CASE-GSC-10503-1] c14 N72-20381
- Pumping and metering dual piston system and monitor for reaction chamber constituents  
[NASA-CASE-GSC-10218-1] c15 N72-21465
- Capacitive tank gaging device for monitoring one constituent of two phase fluid by sensing dielectric constant  
[NASA-CASE-MFS-21629] c14 N72-22442
- Development of mechanical device for measuring distance of point within sphere from surface of sphere  
[NASA-CASE-XLA-06683] c14 N72-28436
- Surface based altitude measuring system for accurately measuring altitude of airborne vehicle  
[NASA-CASE-ERC-10412-1] c09 N73-12211
- Instrument for measuring magnitude and direction of flow velocity in flow field  
[NASA-CASE-LAR-10855-1] c14 N73-13415
- Multiares vibration device for making vibration tests along orthogonal axes of test specimen  
[NASA-CASE-MFS-20242] c14 N73-19421
- Material testing system with load sensor for applying and measuring cyclic tensile and compressive loads to test specimens  
[NASA-CASE-MFS-20673] c14 N73-20476
- Development of droplet monitoring probe for use in analysis of droplet propagation in mixed-phase fluid stream  
[NASA-CASE-NPO-10985] c14 N73-20478
- Device for measuring thermoelectric properties of materials under high pressure  
[NASA-CASE-NPO-11749] c14 N73-28486
- Radio frequency source resistance measuring instruments of varied design  
[NASA-CASE-NPO-11291-1] c14 N73-30388
- Absolute pressure measuring device for measuring gas density level in high vacuum range  
[NASA-CASE-LAR-10000] c14 N73-30394
- Thin film analyzer utilizing holographic techniques  
[NASA-CASE-MFS-20823-1] c16 N73-30476
- A meter for use in detecting tension in straps having predetermined elastic characteristics  
[NASA-CASE-MFS-22189-1] c14 N74-10421
- Three-axis adjustable loading structure  
[NASA-CASE-FRC-10051-1] c14 N74-13129
- Thin film gauge --- for measuring convective heat transfer rates along test surfaces in wind tunnels  
[NASA-CASE-NPO-10617-1] c14 N74-22095
- Apparatus and method for processing Korotkov sounds --- for blood pressure measurement  
[NASA-CASE-MSC-13999-1] c05 N74-26626
- Electric field measuring and display system --- for cloud formations  
[NASA-CASE-KSC-10731-1] c14 N74-27862
- Device for measuring tensile forces  
[NASA-CASE-MFS-21728-1] c14 N74-27865
- Measuring probe position recorder  
[NASA-CASE-LAR-10806-1] c14 N74-32877
- MECHANICAL DEVICES**
- Mechanical coordinate converter for use with spacecraft tracking antennas  
[NASA-CASE-XMP-00614] c14 N70-36907
- Load cell protection device using spring-loaded breakaway mechanism  
[NASA-CASE-XMS-06782] c32 N71-15974
- Design and development of satellite despin device  
[NASA-CASE-XMP-08523] c31 N71-20396
- Development of two force component measuring device  
[NASA-CASE-XAC-04886-1] c14 N71-20439
- Design, development, and characteristics of latching mechanism for operation in limited access areas  
[NASA-CASE-XMS-03745] c15 N71-21076
- Design of mechanical device for stirring several test tubes simultaneously  
[NASA-CASE-XAC-06956] c15 N71-21177
- Design and development of random function tracer for obtaining coordinates of points on contour maps  
[NASA-CASE-XLA-01401] c15 N71-21179
- Design and characteristics of device for closing canisters under high vacuum conditions  
[NASA-CASE-XLA-01446] c15 N71-21528
- Development of non-magnetic indexing device for orienting magnetic flux sensing instrument in magnetic field without generation of detrimental magnetic fields  
[NASA-CASE-XGS-02422] c15 N71-21529
- Design and development of module joint clamping device for application to solar array construction  
[NASA-CASE-XMP-02341] c15 N71-21531
- Hand controller operable about three respectively perpendicular axes and capable of actuating signal generators for attitude control devices  
[NASA-CASE-XMS-07487] c15 N71-23255
- Metal alloy bearing materials for space applications  
[NASA-CASE-ILE-05033] c15 N71-23810
- Mechanical actuator wherein linear motion changes to rotational motion  
[NASA-CASE-XGS-04548] c15 N71-24045
- Design and characteristics of device for showing amount of cable payed out from winch and load imposed  
[NASA-CASE-MSC-12052-1] c15 N71-24599
- Design and development of release mechanism for spacecraft components, releasable despin weights, and extensible gravity booms  
[NASA-CASE-XGS-08718] c15 N71-24600
- Apparatus for mechanically dispersing ultrafine metal powders subjected to shock waves  
[NASA-CASE-ILE-04946] c17 N71-24911
- Self lubricating gears and other mechanical parts having surface adapted to frictional contact

- [NASA-CASE-MFS-14971] c15 N71-24984  
Design and development of layout tool for machine shop use to locate point in precise reference to straight or bowed reference edge  
[NASA-CASE-FRC-10005] c15 N71-26145
- Design and development of linear actuator based on bimetallic spring expansion  
[NASA-CASE-NPO-10637] c15 N72-12409
- Characteristics of lightweight actuator for imparting linear motion using elongated output shaft  
[NASA-CASE-NPO-11222] c15 N72-25456
- Development of mechanical device for measuring distance of point within sphere from surface of sphere  
[NASA-CASE-XLA-06683] c14 N72-28436
- Development of thermal compensating structure which maintains uniform length with changes in temperature  
[NASA-CASE-MFS-20433] c15 N72-28496
- Development of mating flat surfaces to inhibit leakage of fluid around shafts  
[NASA-CASE-XLE-10326-2] c15 N72-29488
- Development of solar energy powered heliostrop assembly to orient solar array toward sun  
[NASA-CASE-GSC-10945-1] c21 N72-31637
- Design and construction of mechanical probe for determining if object is properly secured  
[NASA-CASE-MFS-20760] c14 N72-33377
- Development and characteristics of rotary actuator for use on spacecraft to deploy and support pivotal structures such as solar panels  
[NASA-CASE-NPO-10680] c31 N73-14855
- Automatic inoculating device for agar trays using cotton swab or loop  
[NASA-CASE-LAR-11074-1] c05 N73-16096
- Collapsible support for antenna reflector applied to installation of spacecraft antennas  
[NASA-CASE-NPO-11751] c07 N73-24176
- Pneumatic foot pedal operated fluidic exercising device  
[NASA-CASE-NSC-11561-1] c05 N73-32014
- Mechanical exposure interlock device for preventing film overexposure in oscilloscope camera  
[NASA-CASE-LAR-10319-1] c14 N73-32322
- Drilled ball bearing with a one piece anti-tipping cage assembly  
[NASA-CASE-LBW-11925-1] c15 N74-18133
- Reefing system  
[NASA-CASE-LAB-10129-2] c15 N74-20063
- Anti-gravity device  
[NASA-CASE-MFS-22758-1] c15 N74-22146
- Sprag solenoid brake --- development and operations of electrically controlled brake  
[NASA-CASE-MFS-21846-1] c15 N74-26976
- Clock setter  
[NASA-CASE-LAR-11458-1] c14 N74-32882
- Apparatus for positioning modular components on a vertical or overhead surface  
[NASA-CASE-LAR-11465-1] c15 N74-32926
- Solid medium thermal engine  
[NASA-CASE-ARC-10461-1] c33 N74-33379
- MECHANICAL DRIVES**
- Hydraulic drive mechanism for leveling isolation platforms  
[NASA-CASE-XMS-03252] c15 N71-10658
- Antibacklash circuit for hydraulic drive system  
[NASA-CASE-XNP-01020] c03 N71-12260
- Precision stepping drive device using cam disk  
[NASA-CASE-MFS-14772] c15 N71-17692
- Incremental motion drive system applied to interferometer components  
[NASA-CASE-XNP-08897] c15 N71-17694
- Ratchet mechanism for high speed operation at reduced backlash  
[NASA-CASE-MFS-12805] c15 N71-17805
- Development of apparatus for automatically changing carriage speed of welding machine to obtain constant speed of torch along work surface  
[NASA-CASE-XMP-07069] c15 N71-23815
- Drive system for parabolic tracking antenna with reversible motion and minimal backlash  
[NASA-CASE-NPO-10173] c15 N71-24696
- Synchronous dc direct-drive system comprising multiple-loop hybrid control system controlling load directly connected to actuator  
[NASA-CASE-GSC-10065-1] c10 N71-27136
- Energy absorption device in high precision gear train for protection against damage to components caused by stop loads  
[NASA-CASE-XNP-01848] c15 N71-28959
- Automatic controlled drive mechanism for portable boring bar  
[NASA-CASE-XLA-03661] c15 N71-33518
- Rotary actuator for use in environments with no rolling and sliding friction  
[NASA-CASE-NPO-10244] c15 N72-26371
- Development and characteristics of rotary actuator for use on spacecraft to deploy and support pivotal structures such as solar panels  
[NASA-CASE-NPO-10680] c31 N73-14855
- Optically actuated two position mechanical mover  
[NASA-CASE-NPO-13105-1] c15 N74-21060
- Two speed drive system --- mechanical device for changing speed on rotating vehicle wheel  
[NASA-CASE-MFS-20645-1] c15 N74-23070
- An improved Geneva mechanism --- Including a star-wheel and a driver  
[NASA-CASE-NPO-13281-1] c15 N74-23071
- Concentric differential gearing arrangement  
[NASA-CASE-ARC-10462-1] c15 N74-27901
- MECHANICAL ENGINEERING**
- Manual actuator --- for spacecraft exercising machines  
[NASA-CASE-MFS-21481-1] c15 N74-18127
- MECHANICAL MEASUREMENT**
- Air brake device for absorbing and measuring power from rotating shafts  
[NASA-CASE-XLE-00720] c14 N70-40201
- Water cooled gage for strain measurements in high temperature environments  
[NASA-CASE-XNP-09205] c14 N71-17657
- Development of apparatus for measuring successive increments of strain on elastomers  
[NASA-CASE-IMP-04640] c15 N71-19489
- Development of Hall effect transducer for converting mechanical shaft rotations into proportional electrical signals  
[NASA-CASE-LAR-10620-1] c09 N72-25255
- Development of strain gage mounting assembly for amplifying measurable deformation applied to strain gage  
[NASA-CASE-NPO-13170-1] c14 N73-28495
- MECHANICAL PROPERTIES**
- Test apparatus for determining mechanical properties of refractory materials at high temperatures in vacuum or inert atmospheres  
[NASA-CASE-XLE-00335] c14 N70-35368
- Electric resistance spot welding and brazing for producing metal bonds with superior mechanical and structural characteristics  
[NASA-CASE-LAR-11072-1] c15 N73-20535
- MECHANICS (PHYSICS)**
- Hovering type flying vehicle design and principle mechanisms for manned or unmanned use  
[NASA-CASE-NSC-12111-1] c02 N71-11039
- MEDICAL ELECTRONICS**
- Initial systole and diastolic notch detecting circuitry for monitoring arterial pressure pulse  
[NASA-CASE-LBW-11581-1] c05 N73-18139
- MEDICAL EQUIPMENT**
- Electromedical garment, applying vectorcardiologic type electrodes to human torsos for data recording during physical activity  
[NASA-CASE-XPR-10856] c05 N71-11189
- Respiration analyzing method and apparatus for determining subjects oxygen consumption in aerospace environments  
[NASA-CASE-XPR-08403] c05 N71-11202
- Laser machining device with dielectric functioning as beam waveguide for mechanical and medical applications  
[NASA-CASE-HQN-10541-2] c15 N71-27135
- Zero power telemetry actuated switch for biomedical equipment  
[NASA-CASE-ARC-10105] c09 N72-17153
- Automatic system for measuring and monitoring systolic and diastolic blood pressure in humans  
[NASA-CASE-NSC-13999-1] c05 N72-25142
- Multichannel medical monitoring system to measure physiological parameters from display device at remote control station  
[NASA-CASE-NSC-14180-1] c05 N73-22045
- Tilting table for testing human body in variety of positions while exercising on ergometer or

- other biomedical devices  
[NASA-CASE-MFS-21010-1] c05 N73-30078
- Automatic device for assaying urine on bacterial adenosine triphosphate content  
[NASA-CASE-GSC-11169-2] c05 N73-32011
- An improved heat sterilizable patient ventilator  
[NASA-CASE-NPO-13313-1] c05 N74-17858
- Servo-controlled intravitral microscope system  
[NASA-CASE-NPO-13214-1] c14 N74-19093
- MEMBRANE STRUCTURES**
- Liquid junction for glass electrode or pH meters  
[NASA-CASE-NPO-10682] c15 N70-34699
- Expulsion and measuring device for determining quantity of liquid in tank under conditions of weightlessness  
[NASA-CASE-XMS-01546] c14 N70-40233
- Flexible composite membrane structure impervious to extremely reactive chemicals in rocket propellants  
[NASA-CASE-INP-08837] c18 N71-16210
- Flexible barrier membrane comprising porous substrate and incorporating liquid gallium or indium metal used as sealant barriers for spacecraft walls and pumping liquid propellants  
[NASA-CASE-XNP-08881] c17 N71-28747
- Spaceflight meteoroid composition experiment --- characteristics of device for capturing meteoroid particles in space  
[NASA-CASE-MSC-12423-1] c14 N74-32885
- MEMBRANES**
- Apparatus for measuring polymer membrane expansion in electrochemical cells  
[NASA-CASE-XGS-03865] c14 N69-21363
- Separation cell with permeable membranes for fluid mixture component separation  
[NASA-CASE-XMS-02952] c18 N71-20742
- Water insoluble, cationic permselective membrane  
[NASA-CASE-NPO-11091] c18 N72-22567
- MEMORY**
- Ferrite memory arrays from pre-formed metal conductors  
[NASA-CASE-LAR-10994-1] c18 N73-30536
- MERCURY (METAL)**
- Interrupter switching device utilizing electrodes and mercury filled capillary tubes in which current flow vaporizes mercury as circuit breaker  
[NASA-CASE-XNP-02251] c12 N71-20896
- Method of forming ceramic to metal seals impervious to gaseous and liquid mercury at high temperature  
[NASA-CASE-XNP-01263-2] c15 N71-26312
- Development of system for delivering vaporized mercury to electron bombardment ion engine  
[NASA-CASE-NPO-10737] c28 N72-11709
- MERCURY VAPOR**
- Interrupter switching device utilizing electrodes and mercury filled capillary tubes in which current flow vaporizes mercury as circuit breaker  
[NASA-CASE-XNP-02251] c12 N71-20896
- Liquid-vapor interface seal design for turbine rotating shafts including helical and molecular pumps and liquid cooling of mercury vapor  
[NASA-CASE-XNP-02862-1] c15 N71-26294
- METABOLISM**
- Automated system for monitoring oxidative metabolites of aromatic amines  
[NASA-CASE-ARC-10469-1] c06 N72-31145
- METAL BONDING**
- Bonding method for improving contact between lead telluride thermoelectric elements and tungsten electrodes  
[NASA-CASE-XGS-04554] c15 N69-39786
- Plasma spraying gun for forming diffusion bonded metal or ceramic coatings on substrates  
[NASA-CASE-XLE-01604-2] c15 N71-15610
- Describing metal valve pintle with encapsulated elastomeric body  
[NASA-CASE-MSC-12116-1] c15 N71-17648
- Apparatus for determining quality of bond between high density material and low density material  
[NASA-CASE-MFS-13686] c15 N71-18132
- Metal soldering with hydrazine monoperfluoro alkanoate for corrosion resistant coatings  
[NASA-CASE-XNP-03459] c15 N71-21078
- Leak resistant bonded elastomeric seal for secondary electrochemical cells  
[NASA-CASE-XGS-02631] c03 N71-23006
- Metal pattern bonding technique for cover glass attachment to silicon solar cells for space applications  
[NASA-CASE-XLE-08569] c03 N71-23449
- Development of electrical system for indicating optimum contact between electrode and metal surface to permit improved soldering operation  
[NASA-CASE-KSC-10242] c15 N72-23497
- Development of process for bonding resinous body in cavities of honeycomb structures  
[NASA-CASE-MSC-12357] c15 N73-12489
- Electric resistance spot welding and brazing for producing metal bonds with superior mechanical and structural characteristics  
[NASA-CASE-LAR-11072-1] c15 N73-20535
- Ultrasonically bonded valve assembly  
[NASA-CASE-NPO-13360-1] c15 N74-20073
- Totally confined explosive welding --- apparatus to reduce noise level and protect personnel during explosive bonding  
[NASA-CASE-LAR-10941-1] c15 N74-21057
- METAL COATINGS**
- Joining aluminum to stainless steel by bonding aluminum coatings onto titanium coated stainless steel and brazing aluminum to aluminum/titanium coated steel  
[NASA-CASE-MFS-07369] c15 N71-20443
- Metal soldering with hydrazine monoperfluoro alkanoate for corrosion resistant coatings  
[NASA-CASE-XNP-03459] c15 N71-21078
- Low concentration alkaline solution treatment of aluminum with metal phosphate surface coatings to improve chemical bonding and reduce coating weight  
[NASA-CASE-XLA-01995] c18 N71-23047
- Organometallic compounds of niobium and tantalum useful for film deposition  
[NASA-CASE-INP-04023] c06 N71-28808
- Silicide coating process and composition for protection of refractory metals from oxidation  
[NASA-CASE-XLE-10910] c18 N71-29040
- Selective nickel deposition on irradiation sensitive compounds  
[NASA-CASE-LEW-10965-1] c15 N72-25452
- Intermetallic coating for nickel based superalloy  
[NASA-CASE-LEW-11348-1] c17 N72-25517
- Development and characteristics of device for applying multiple layers of noble metal to glass substrate for protection of optical surfaces  
[NASA-CASE-LAR-10362-1] c15 N72-27486
- Metallic alloy and aluminide coating for metallic base system  
[NASA-CASE-LEW-11696-1] c15 N73-10502
- Silicon carbide backward diode with coated lead attachment  
[NASA-CASE-ERC-10224-2] c09 N73-27150
- Ultraviolet light reflective coating  
[NASA-CASE-GSC-11786-1] c18 N74-10542
- A panel for selectively absorbing solar thermal energy and the method for manufacturing the panel  
[NASA-CASE-MFS-22562-1] c03 N74-19700
- Solar cell assembly  
[NASA-CASE-LEW-11549-1] c03 N74-33484
- METAL CUTTING**
- Metal shearing energy absorber  
[NASA-CASE-HQN-10638-1] c15 N73-30460
- Vee-notching device --- with adjustable carriage  
[NASA-CASE-MFS-20730-1] c14 N74-13131
- METAL FILMS**
- Means and methods of depositing thin films on substrates  
[NASA-CASE-XNP-00595] c15 N70-34967
- Metallic film diffusion into metal or ceramic surfaces for boundary lubrication in aerospace environments  
[NASA-CASE-XLE-01765] c18 N71-10772
- Bismuth and lead surface coatings for gas bearings in aerospace engineering  
[NASA-CASE-XGS-02011] c15 N71-20739
- Metallic film diffusion for boundary lubrication in aerospace engineering  
[NASA-CASE-XLE-10337] c15 N71-24046
- Magnetic recording head composed of ferrite core coated with thin film of aluminum-iron-silicon

- alloy  
[NASA-CASE-GSC-10097-1] c08 N71-27210  
Thin absorbing metallic film for increased  
visible light transmission  
[NASA-CASE-LAR-10836-1] c26 N72-27784  
Deposition of alloy films --- on irregularly  
shaped metal object  
[NASA-CASE-LEW-11262-1] c18 N74-13270
- METAL FINISHING**  
Selective plating of etched circuits without  
removing previous plating  
[NASA-CASE-XGS-03120] c15 N71-24047  
Refractory porcelain enamel passive thermal  
control coating for high temperature alloys  
[NASA-CASE-MFS-22324-1] c18 N73-21471
- METAL FOILS**  
Characteristics of device for folding thin  
flexible sheets into compact configuration  
[NASA-CASE-XLA-00137] c15 N70-33180  
Passive thermal control coating on aluminum foil  
laminate for inflatable spacecraft surfaces  
[NASA-CASE-XLA-01291] c33 N70-36617  
Development and characteristics of thermal  
radiation shielding of refractory metal foil  
used for induction furnace  
[NASA-CASE-XLE-03432] c33 N71-24145  
Method of making porous conductive supports for  
electrodes --- by electroforming and stacking  
nickel foils  
[NASA-CASE-GSC-11367-1] c03 N74-19692  
Method and apparatus for tensile testing of  
metal foil  
[NASA-CASE-LAR-10208-1] c14 N74-30894
- METAL FUELS**  
Preparing oxidizer coated metal fuel particles  
[NASA-CASE-NPO-11975-1] c27 N74-33209
- METAL HALIDES**  
Double discharge metal vapor laser with metal  
halide as a lasant  
[NASA-CASE-NPO-13448-1] c16 N74-34012
- METAL IONS**  
Chemical synthesis of thermally stable  
organometallic polymers with divalent metal  
ion and tetraphenylphosphonitrilic units  
[NASA-CASE-HQN-10364] c06 N71-27363
- METAL JOINTS**  
Leakproof soft metal seal for use in very high  
vacuum systems operating at cryogenic  
temperatures  
[NASA-CASE-IGS-02441] c15 N70-41629
- METAL MATRIX COMPOSITES**  
High strength reinforced metallic composites for  
applications over wide temperature range  
[NASA-CASE-XLE-02428] c17 N70-33288  
Process for producing dispersion strengthened  
nickel with aluminum comprising metallic  
matrices embedded with oxides or other  
hyperfine compounds  
[NASA-CASE-XLE-06969] c17 N71-24142  
Self lubricating gears and other mechanical  
parts having surface adapted to frictional  
contact  
[NASA-CASE-MFS-14971] c15 N71-24984  
Development of procedure for improved  
distribution of refractory compounds and  
micro-constituents in refractory metal matrix  
[NASA-CASE-XLE-03940-2] c17 N72-28536
- METAL OXIDE SEMICONDUCTORS**  
Gyrator circuit using MOS field effect transistors  
[NASA-CASE-MFS-21433] c09 N73-20232  
Boron radiation hardening for stabilizing gate  
threshold potential of MOS devices  
[NASA-CASE-GSC-11425-2] c09 N73-32114  
Radiation hardening of MOS devices by boron ---  
for stabilizing gate threshold potential of  
field effect device  
[NASA-CASE-GSC-11425-1] c24 N74-20329  
Integrated P-channel MOS gyrator  
[NASA-CASE-MFS-22343-1] c09 N74-34638
- METAL OXIDES**  
Process for producing dispersion strengthened  
nickel with aluminum comprising metallic  
matrices embedded with oxides or other  
hyperfine compounds  
[NASA-CASE-XLE-06969] c17 N71-24142  
Photofabrication techniques for selective  
removal of conductive metals oxide coatings  
from nonconductive substrates  
[NASA-CASE-BRC-10108] c06 N72-21094
- Producing metal powders of controlled particle  
size by reducing oxide using reactive metal  
vapor in vacuum  
[NASA-CASE-XLE-06461] c17 N72-22530  
Method for obtaining oxygen from lunar or  
similar soil  
[NASA-CASE-MSC-12408-1] c13 N74-13011
- METAL PARTICLES**  
Magneto hydrodynamic generator for mixing  
nonconductive gas and liquid metal mist to  
form slugs  
[NASA-CASE-XLE-02083] c03 N69-39983  
Elastomer loaded with metal particles for  
elastic biomedical electrodes  
[NASA-CASE-ARC-10268-1] c09 N70-12620  
Cermets for nuclear fuel constructed by pressing  
metal coated ceramic particles in die at  
temperature to cause bonding of metal  
coatings, and tested for thermal stability  
[NASA-CASE-LEW-10219-1] c18 N71-28729  
Preparing oxidizer coated metal fuel particles  
[NASA-CASE-NPO-11975-1] c27 N74-33209
- METAL PLATES**  
Development of large area micrometeoroid impact  
detector panels  
[NASA-CASE-XLA-05906] c31 N71-16221  
Tungsten-coated tungsten-uranium dioxide nuclear  
fuel plates  
[NASA-CASE-XLE-00209] c22 N73-32528  
Strain arrestor plate --- bonding rigid thermal  
insulation tiles to metallic plates or  
structural parts  
[NASA-CASE-MSC-14182-1] c18 N74-15213
- METAL POWDER**  
Production of refractory bodies with controlled  
porosity by pressing and heating mixtures of  
refractory and inert metal powders  
[NASA-CASE-LEW-10393-1] c17 N71-15468  
Electrode sealing and insulation for fuel cells  
containing caustic liquid electrolytes using  
powdered plastic and metal  
[NASA-CASE-XMS-01625] c15 N71-23022  
Apparatus for mechanically dispersing ultrafine  
metal powders subjected to shock waves  
[NASA-CASE-XLE-04946] c17 N71-24911  
Method to produce high purity copper fluoride by  
heating copper hydroxyfluoride powder and  
subjecting to flowing fluorine gas  
[NASA-CASE-LEW-10794-1] c06 N72-17093  
Producing metal powders of controlled particle  
size by reducing oxide using reactive metal  
vapor in vacuum  
[NASA-CASE-XLE-06461] c17 N72-22530  
Development of apparatus for producing metal  
powder particles of controlled size  
[NASA-CASE-XLE-06461-2] c17 N72-28535  
Metal plating process employing spraying of  
metallic power/peening particle mixture  
[NASA-CASE-GSC-11163-1] c15 N73-32360
- METAL SHEETS**  
Fatigue testing apparatus with light shield and  
infrared reflector for high temperature  
evaluation of loaded sheet samples  
[NASA-CASE-XLA-01782] c14 N71-26136  
Processes for making metal sheets or plaques  
with parallel pores of uniform size  
[NASA-CASE-GSC-10984-1] c15 N71-34427  
Explosive welding of thin metal scarf joint  
[NASA-CASE-LAR-11211-1] c15 N73-14480  
Method of making pressure tight seal for super  
alloy  
[NASA-CASE-LAR-10170-1] c15 N74-11301
- METAL SPINNING**  
Apparatus and method for spin forming tubular  
elbows with high strength, uniform thickness,  
and close tolerances  
[NASA-CASE-IMF-01083] c15 N71-22723
- METAL STRIPS**  
Metal ribbon wrapped outer wall for  
regeneratively cooled combustion chamber  
[NASA-CASE-XLE-00164] c15 N70-36411  
Metal strip mounting arrangement for solar cell  
arrays on spacecraft  
[NASA-CASE-IGS-01475] c03 N71-11058  
Forming tubes from long thin flat metal strips  
[NASA-CASE-IGS-04175] c15 N71-18579  
High speed shutter --- electrically actuated  
ribbon loop for shuttering optical or fluid  
passageways

## SUBJECT INDEX

## MICROBIOLOGY

- [NASA-CASE-ARC-10516-1] c23 N74-21300
- METAL SURFACES**
- Condenser-separator for dehumidifying air utilizing sintered metal surface  
[NASA-CASE-XLA-08645] c15 N69-21465
- Nickel plating onto etched aluminum castings  
[NASA-CASE-XNP-04148] c17 N71-24830
- High thermal emittance black surface coatings and process for applying to metal and metal alloy surfaces used in radiative cooling of spacecraft  
[NASA-CASE-XLA-06199] c15 N71-24875
- Method for treating metal surfaces to prevent secondary electron transmission  
[NASA-CASE-XNP-09469] c24 N71-25555
- Method of forming ceramic to metal seals impervious to gaseous and liquid mercury at high temperature  
[NASA-CASE-XNP-01263-2] c15 N71-26312
- Anodizing method for providing metal surfaces with temperature reducing coatings against flames  
[NASA-CASE-XLE-00035] c33 N71-29151
- Thin film gauge --- for measuring convective heat transfer rates along test surfaces in wind tunnels  
[NASA-CASE-NPO-10617-1] c14 N74-22095
- METAL VAPORS**
- Magnetohydrodynamic generator for mixing nonconductive gas and liquid metal mist to form slugs  
[NASA-CASE-XLE-02083] c03 N69-39983
- Apparatus for producing hydrocarbon slurry containing small particles of magnesium for use as jet aircraft fuel  
[NASA-CASE-XLE-00010] c15 N70-33382
- Inert gas metallic vapor laser  
[NASA-CASE-NPO-13449-1] c16 N74-16187
- Double discharge metal vapor laser with metal halide as a lasant  
[NASA-CASE-NPO-13448-1] c16 N74-34012
- METAL WORKING**
- Controlled arc spot welding method  
[NASA-CASE-XMP-00392] c15 N70-34814
- Method and apparatus for shaping and joining large diameter metal tubes using magnetomotive forces  
[NASA-CASE-XMP-05114] c15 N71-17650
- Description of protective device for providing safe operating conditions around work piece in machine or metal working tool  
[NASA-CASE-XLE-01092] c15 N71-22797
- Description of portable milling tool for milling tube or pipe ends to desired shape and thickness  
[NASA-CASE-XMP-03511] c15 N71-22799
- Development and characteristics of frusto-conical die nib for extrusion of refractory metals  
[NASA-CASE-XLE-06773] c15 N71-23817
- Portable magnetomotive hammer for metal working  
[NASA-CASE-XMP-03793] c15 N71-24833
- Method and apparatus for portable high precision magnetomotive bulging, constricting, and joining of large diameter metal tubes  
[NASA-CASE-XMP-05114-3] c15 N71-24865
- Apparatus for forming dished ion thruster grids  
[NASA-CASE-LEW-11694-2] c15 N74-22147
- Insert facing tool --- manually operated cutting tool for forming studs in honeycomb material  
[NASA-CASE-NFS-21485-1] c15 N74-25968
- METAL-METAL BONDING**
- Joining aluminum to stainless steel by bonding aluminum coatings onto titanium coated stainless steel and brazing aluminum to aluminum/titanium coated steel  
[NASA-CASE-NFS-07369] c15 N71-20443
- Method for honeycomb panel bonding by thermosetting film adhesive with electrical heat means  
[NASA-CASE-XMP-01402] c18 N71-21651
- Bonding of sapphire to sapphire by eutectic mixture of aluminum oxide and zirconium oxide  
[NASA-CASE-GSC-11577-2] c15 N74-34002
- METALLOGRAPHY**
- Development of method for etching copper  
[NASA-CASE-XGS-06306] c17 N71-16044
- METALLOSILOXANE POLYMER**
- Thiophenyl ether disiloxanes and trisiloxanes useful as lubricant fluids
- [NASA-CASE-NFS-22411-1] c15 N74-21058
- METALLURGY**
- Induction heating of metallurgical specimens to high temperatures in coil furnace  
[NASA-CASE-XLE-04026] c14 N71-23267
- METALS**
- Transpiration cooled turbine blade made from metallic or ceramic wires  
[NASA-CASE-XLE-00020] c15 N70-33226
- Self lubricating fluoride-metal composite materials for outer space applications  
[NASA-CASE-XLE-08511] c18 N71-23710
- Punch and die device for forming convolution series in thin gage metal hemispheres  
[NASA-CASE-XNP-05297] c15 N71-23811
- Device for bending metal ribbon or wire  
[NASA-CASE-XLA-05966] c15 N72-12408
- Development of performed attachable thermocouple from thermoelectrically different metals  
[NASA-CASE-LEW-11072-2] c14 N72-28443
- Metal plating process employing spraying of metallic power/peening particle mixture  
[NASA-CASE-GSC-11163-1] c15 N73-32360
- Glass-to-metal seals comprising relatively high expansion metals  
[NASA-CASE-LEW-10698-1] c15 N74-21063
- Scanning nozzle plating system --- for etching or plating metals on substrates without masking  
[NASA-CASE-NPO-11758-1] c15 N74-23065
- Production of pure metals  
[NASA-CASE-LEW-10906-1] c06 N74-30502
- METEORITE COLLISIONS**
- Method of and device for determining the characteristics and flux distribution of micrometeorites --- scanning puncture holes in sheet material with photoelectric cell  
[NASA-CASE-NPO-12127-1] c14 N74-13130
- METEORITES**
- Method for making pressurized meteoroid penetration detector panels  
[NASA-CASE-XLA-08916] c15 N71-29018
- METEORITIC DAMAGE**
- Capacitor sandwich structure containing metal sheets of known thickness for counting penetration rates of meteoroids  
[NASA-CASE-XLE-01246] c14 N71-10797
- METEOROID HAZARDS**
- Contrast color coating for meteoroid impact position locator for space vehicles  
[NASA-CASE-LAR-10629-1] c14 N73-32348
- METEOROID PROTECTION**
- Development and characteristics of protective coatings for spacecraft  
[NASA-CASE-XNP-02507] c31 N71-17679
- Development of composite structures for spacecraft to serve as anti-meteoroid device  
[NASA-CASE-LAR-10786-1] c31 N73-20880
- METEOROIDS**
- Cameras for photographing meteors in selected sky area  
[NASA-CASE-LAR-10226-1] c14 N73-19419
- Spaceflight meteoroid composition experiment --- characteristics of device for capturing meteoroid particles in space  
[NASA-CASE-MSC-12423-1] c14 N74-32885
- METEOROLOGICAL BALLOONS**
- Aerodynamically stable meteorological balloon using surface roughness effect  
[NASA-CASE-XMP-04163] c02 N71-23007
- METHANE**
- High temperature gas lubricant consisting of two fluoro-brono-methanes  
[NASA-CASE-XLE-00353] c18 N70-39897
- MICHELSON INTERFEROMETERS**
- Michelson interferometer with photodetector for optical direction sensing  
[NASA-CASE-NPO-10320] c14 N71-17655
- Servo system for retroreflector of Michelson interferometer  
[NASA-CASE-NPO-10300] c14 N71-17662
- Computerized optical system for producing multiple images of a scene simultaneously  
[NASA-CASE-MSC-12404-1] c23 N73-13661
- MICROBALANCES**
- Null-type vacuum microbalance for measuring minute mechanical displacements  
[NASA-CASE-YAC-00472] c15 N70-40180
- MICROBIOLOGY**
- Development of variable angle device for



- positioning test tubes to permit optimum drying of culture medium  
[NASA-CASE-LAR-10507-1] c11 N72-25284
- Automatic swabbing apparatus for sampling of microbiological surfaces  
[NASA-CASE-LAR-11069-1] c04 N73-16061
- Automatic inoculating device for agar trays using cotton swab or loop  
[NASA-CASE-LAR-11074-1] c05 N73-16096
- MICROELECTRONICS**
- Separation of semiconductor wafer into chips bounded by scribe lines  
[NASA-CASE-ERC-10138] c26 N71-14354
- Vibrophonocardiograph comprising low weight and small volume piezoelectric microphone with amplifier having high input impedance for high sensitivity and low frequency response  
[NASA-CASE-XPR-07172] c05 N71-27234
- Electrical connections for thin film hybrid microcircuits  
[NASA-CASE-XMS-02182] c10 N71-28783
- Method for coating through-holes in ceramic substrates used in fabricating miniaturized electronic circuits  
[NASA-CASE-IMP-05999] c15 N71-29032
- Precision surface cutter for screen circuit negatives and other microcircuits  
[NASA-CASE-XLA-09843] c15 N72-27485
- Material compositions and processes for developing dielectric thick films used in microcircuit capacitors  
[NASA-CASE-LAR-10294-1] c26 N72-28762
- Active tuned circuits for microelectronic construction  
[NASA-CASE-GSC-11340-1] c10 N72-33230
- Organic amine and nitroaromatic mixed compound for heat change detection in microelectronic components  
[NASA-CASE-NPO-10764-2] c10 N73-20259
- MICROFILMS**
- Apparatus for semiautomatic inspection of microfilmed documents for density, resolution, size, and position  
[NASA-CASE-MFS-20240] c14 N71-26788
- MICROMETEORITES**
- Method of and device for determining the characteristics and flux distribution of micrometeorites --- scanning puncture holes in sheet material with photoelectric cell  
[NASA-CASE-NPO-12127-1] c14 N74-13130
- MICROMETEOROIDS**
- Particle detector for measuring micrometeoroid velocity in space  
[NASA-CASE-XLA-00495] c14 N70-41332
- Piezoelectric transducer for detecting and measuring micrometeoroids  
[NASA-CASE-XAC-01101] c14 N70-41957
- Pressurized cell micrometeoroid detector  
[NASA-CASE-XLA-00936] c14 N71-14996
- Development of large area micrometeoroid impact detector panels  
[NASA-CASE-XLA-05906] c31 N71-16221
- Rotary bead dropper and selector for testing micrometeorite transducers  
[NASA-CASE-IGS-03304] c09 N71-22988
- Measuring micrometeoroid depth of penetration into various materials  
[NASA-CASE-XLA-00941] c14 N71-23240
- Structure of fabric layers for micrometeoroid protection garment with capability for eliminating heat shorts for use in manufacturing space suits  
[NASA-CASE-MSC-12109] c18 N71-26285
- Cosmic dust analyzer using ion time of flight techniques to determine constituency of hypervelocity particles such as micrometeoroids  
[NASA-CASE-MSC-13802-1] c30 N72-20805
- Micrometeoroid analyzer using arrays of interconnected capacitors and ion detector  
[NASA-CASE-ARC-10443-1] c14 N73-20477
- Cold cathode discharge tube with pressurized gas cell for meteoroid detection in space  
[NASA-CASE-LAR-10483-1] c14 N73-32327
- Deployable pressurized cell structure for a micrometeoroid detector  
[NASA-CASE-LAR-10295-1] c15 N74-21062
- Spaceflight meteoroid composition experiment --- characteristics of device for capturing meteoroid particles in space  
[NASA-CASE-MSC-12423-1] c14 N74-32885
- Micrometeoroid velocity and trajectory analyzer  
[NASA-CASE-GSC-11892-1] c14 N74-32888
- MICROMINIATURIZATION**
- Miniaturized radiometer for detecting low level thermal radiation  
[NASA-CASE-XLA-04556] c14 N69-27484
- MICROORGANISMS**
- Development of bacteriostatic conformal coating and methods of application  
[NASA-CASE-GSC-10007] c18 N71-16046
- Automatic swabbing apparatus for sampling of microbiological surfaces  
[NASA-CASE-LAR-11069-1] c04 N73-16061
- Portable vacuum probe surface sampler for sampling large surface areas with relatively light loading densities of microorganisms  
[NASA-CASE-LAR-10623-1] c14 N73-30395
- Automatic microbial transfer device  
[NASA-CASE-LAR-11354-1] c14 N74-10422
- Measurement of gas production of microorganisms  
[NASA-CASE-LAR-11326-1] c04 N74-32518
- MICROPARTICLES**
- Micropacked column for rapid chromatographic analysis using low gas flow rates  
[NASA-CASE-XMP-04816] c06 N69-39936
- MICROPHONES**
- Audio signal processing system for noise surge elimination at low amplitude audio input  
[NASA-CASE-MSC-12223-1] c07 N71-26181
- Vibrophonocardiograph comprising low weight and small volume piezoelectric microphone with amplifier having high input impedance for high sensitivity and low frequency response  
[NASA-CASE-XPR-07172] c05 N71-27234
- Development of wind tunnel microphone structure to minimize effects of vibrations and eliminate unwanted signals in microphone output  
[NASA-CASE-XMP-00250] c11 N71-28779
- Adjustable frequency response microphone  
[NASA-CASE-LAR-11170-1] c07 N74-12843
- MICROSCOPES**
- Absolute focus locking device for microscopes to maintain set focus for extended time period  
[NASA-CASE-LAR-10184] c14 N72-22445
- Hand-held, lightweight, portable photomicroscope  
[NASA-CASE-ARC-10468-1] c14 N73-33361
- MICROSTRUCTURE**
- Production of high strength refractory compounds and microconstituents into refractory metal matrix  
[NASA-CASE-XLE-03940] c18 N71-26153
- Development of procedure for improved distribution of refractory compounds and micro-constituents in refractory metal matrix  
[NASA-CASE-XLE-03940-2] c17 N72-28536
- Diffusion welding --- heat treatment of nickel alloys following single step vacuum welding process  
[NASA-CASE-LEW-11388-2] c15 N74-21055
- Method of determining bond quality of power transistors attached to heat substrates --- X ray inspection of junction microstructure  
[NASA-CASE-MFS-21931-1] c09 N74-21858
- MICROTHRUST**
- Electrostatic microthrust propulsion system with annular slit colloid thruster  
[NASA-CASE-GSC-10709-1] c28 N71-25213
- Heated porous plug microthruster for spacecraft reaction jet controlled systems such as fuel flow regulation, propellant disassociation, and heat transfer augmentation  
[NASA-CASE-GSC-10640-1] c28 N72-18766
- MICROWAVE AMPLIFIERS**
- Thermally sensitive tuning probe for nullifying detuning effects in microwave cavity resonator of amplifier  
[NASA-CASE-IMP-00449] c14 N70-35220
- MICROWAVE ANTENNAS**
- Microwave power receiving antenna solving heat dissipation problems by construction of elements as heat pipe devices  
[NASA-CASE-MFS-20333] c09 N71-13486
- Development and characteristics of low-noise multimode monopulse antenna feed system for use with microwave communication equipment  
[NASA-CASE-IMP-01735] c07 N71-22750
- Microwave omnidirectional antenna for use on spacecraft

- [NASA-CASE-XLA-03114] c09 N71-22888  
Portable equipment for validating C band launch  
pad antennas and transmission lines used for  
spacecraft checkout
- [NASA-CASE-IKS-10543] c07 N71-26292  
Multipurpose microwave antenna, employing dish  
reflector with plural coaxial horn feeds
- [NASA-CASE-NPO-11264] c07 N72-25174  
Omnidirectional antenna array with  
circumferential slots for mounting on  
cylindrical space vehicle
- [NASA-CASE-LAR-10163-1] c09 N72-25247  
Characteristics of microwave antenna with  
conical reflectors to generate plane wave front
- [NASA-CASE-NPO-11661] c07 N73-14130
- MICROWAVE CIRCUITS**  
Quasi-optical microwave circuit with dielectric  
body for use with oversized waveguides
- [NASA-CASE-ERC-10011] c07 N71-29065
- MICROWAVE COUPLING**  
Microwave waveguide switch with rotor position  
control
- [NASA-CASE-INP-06507] c09 N71-23548
- MICROWAVE EQUIPMENT**  
Apparatus for generating microwave signals at  
progressively related phase angles for driving  
antenna array
- [NASA-CASE-ERC-10046] c10 N71-18722  
Broadband microwave waveguide window to  
compensate dielectric material filling
- [NASA-CASE-INP-08880] c09 N71-24808  
Dual frequency feed systems for Cassegrainian  
antennas
- [NASA-CASE-NPO-13091-1] c09 N73-12214  
Refrigerated coaxial coupling --- for maser  
waveguide
- [NASA-CASE-NPO-13504-1] c09 N74-27689
- MICROWAVE FILTERS**  
Microwave power divider for providing variable  
output power to output waveguide in fixed  
waveguide system
- [NASA-CASE-NPO-11031] c07 N71-33606  
Selective bandpass resonators using bandstop  
resonator pairs for microwave frequency  
operation
- [NASA-CASE-GSC-10990-1] c09 N73-26195
- MICROWAVE FREQUENCIES**  
Varactor microwave frequency mixing circuit
- [NASA-CASE-IGS-02171] c09 N69-24324  
Voltage tunable Gunn effect semiconductor for  
microwave generation
- [NASA-CASE-IER-07894] c09 N71-18721  
Multimode antenna feed system for microwave and  
broadband communication
- [NASA-CASE-GSC-11046-1] c07 N73-28013
- MICROWAVE OSCILLATORS**  
Microwave generator using Gunn effect for  
magnetic tuning
- [NASA-CASE-NPO-12106] c09 N73-15235  
Electron beam controller --- using magnetic  
field to refocus spent electron beam in  
microwave oscillator tube
- [NASA-CASE-LEW-11617-1] c09 N74-10195
- MICROWAVE RADIO METERS**  
Input radio frequency circuit for switching type  
absolute temperature measuring radiometer for  
noise sources
- [NASA-CASE-ERC-11020] c14 N71-26774
- MICROWAVE REFLECTOMETERS**  
Reflectometer for receiver input impedance match  
measurement
- [NASA-CASE-XNP-10843] c07 N71-11267  
Surface defect detection by reflected microwave  
radiation pattern
- [NASA-CASE-ARC-10009-1] c15 N71-17822
- MICROWAVE RESONANCE**  
Microwave double resonance spectroscopy  
absorption cell for gas analysis
- [NASA-CASE-LAR-10305] c14 N71-26137
- MICROWAVE SWITCHING**  
Design of gyrator circuit using operational  
amplifiers to replace ungrounded inductors
- [NASA-CASE-XAC-10608-1] c09 N71-12517
- MICROWAVE TUBES**  
Electrostatic charged particle collector  
containing stacked electrodes for microwave tube
- [NASA-CASE-LEW-11192-1] c09 N73-13208
- MICROWAVES**  
Radio frequency noise generator having microwave  
slow-wave structure in gas discharge plasma
- [NASA-CASE-IER-11019] c09 N71-23598  
Method and apparatus for optically modulating  
light or microwave beam
- [NASA-CASE-GSC-10216-1] c23 N71-26722  
Microwave waveguide mixer
- [NASA-CASE-ERC-10179] c07 N72-20141  
Microwave power transmission system wherein  
level of transmitted power is controlled by  
reflections from receiver
- [NASA-CASE-NPS-21470-1] c10 N74-19870
- MIDAIR COLLISIONS**  
Economical satellite aided vehicle avoidance  
system for preventing midair collisions
- [NASA-CASE-ERC-10419] c21 N72-21631  
Development and characteristics of electronic  
signalling system and data processing  
equipment for warning systems to avoid midair  
collisions between aircraft
- [NASA-CASE-LAB-10717-1] c21 N73-30641
- MILLIMETER WAVES**  
Millimeter wave antenna system for spacecraft use
- [NASA-CASE-GSC-10949-1] c07 N71-28965  
Millimeter wave pumped parametric amplifier
- [NASA-CASE-GSC-11617-1] c09 N74-32660
- MILLING (MACHINING)**  
Rotary spindle lathe attachments for machining  
geometrical cones
- [NASA-CASE-IHS-04292] c15 N71-22722
- MILLING MACHINES**  
Electro-optical system for maintaining two-axis  
alignment during milling operations on large  
tank-sections
- [NASA-CASE-INP-00908] c14 N70-40238  
Description of portable milling tool for milling  
tube or pipe ends to desired shape and thickness
- [NASA-CASE-IHF-03511] c15 N71-22799  
Grinding arrangement for ball nose milling cutters
- [NASA-CASE-LAB-10450-1] c15 N74-27905
- MINIATURE ELECTRONIC EQUIPMENT**  
Miniature solid state, direction sensitive,  
stress transducer design with bonded  
semiconductive piezoresistive element for  
sensing residual stresses
- [NASA-CASE-INP-02983] c14 N71-21091  
Transducer circuit design with single coaxial  
cable for input and output connections  
including incorporation into miniaturized  
catheter transducer
- [NASA-CASE-ARC-10132-1] c09 N71-24597  
Solid state television camera system consisting  
of monolithic semiconductor mosaic sensor and  
molecular digital readout systems
- [NASA-CASE-IHF-06092] c07 N71-24612  
Ingestible miniaturized telemetry device for  
deep body temperature measurements on humans  
and animals
- [NASA-CASE-ARC-10583-1] c05 N73-14093
- MINIATURIZATION**  
Miniature vibration isolator utilizing elastic  
tubing material
- [NASA-CASE-XLA-01019] c15 N70-40156  
Computer circuit performing both counting and  
shifting logic operations also capable of  
miniaturization and integration in basic  
circuits
- [NASA-CASE-INP-01753] c08 N71-22897  
Fast response miniature carbon dioxide detector  
with no moving parts for measuring  
concentration in any atmosphere
- [NASA-CASE-HSC-13332-1] c14 N72-21408
- MIRRORS**  
Pneumatic control of telescopic mirror support  
system
- [NASA-CASE-XLA-03271] c11 N69-24321  
Oscillatory electromagnetic mirror drive system  
for horizon scanners
- [NASA-CASE-XLA-03724] c14 N69-27461  
Servo system for retroreflector of Michelson  
interferometer
- [NASA-CASE-NPO-10300] c14 N71-17662  
Gas laser frequency stabilized by position of  
mirrors in resonant cavity
- [NASA-CASE-IGS-03644] c16 N71-18614  
Highly stable optical mirror assembly optimizing  
image quality of light diffraction patterns
- [NASA-CASE-ERC-10001] c23 N71-24868  
Adjustable rigid mount for trihedral mirror  
formed of alloy with small coefficient of

- thermal expansion supporting screws and spring-biased plates  
[NASA-CASE-XNP-08907] c23 N71-29123
- Optical range finder using reflective first surfaces mirror and transmitting beam splitter  
[NASA-CASE-MSG-12105-1] c14 N72-21409
- Optical mirror support system  
[NASA-CASE-YBR-07896-2] c23 N72-22673
- Development of strain gage ambiguity sensor for measuring alignment of optical mirror segments  
[NASA-CASE-MFS-20506-1] c14 N73-17563
- Space mirrors  
[NASA-CASE-MSG-12611-1] c23 N74-33142
- MISSILE CONTROL**  
Turnstile slot antenna  
[NASA-CASE-GSC-11428-1] c09 N74-20864
- MISSILE LAUNCHERS**  
Launch pad missile release system with bending moment change rate reduction in thrust distribution structure at liftoff  
[NASA-CASE-XMF-03198] c30 N70-40353
- Optical monitor panel consisting of translucent screen with test or meter information projected onto it from rear for application in control rooms of missile launching and tracking stations  
[NASA-CASE-XKS-03509] c14 N71-23175
- Controlled release device for use in launching rockets or missiles  
[NASA-CASE-XKS-03338] c15 N71-24043
- MIXERS**  
Mixing insert for foam dispensing apparatus  
[NASA-CASE-MFS-20607-1] c15 N74-26989
- MIXING CIRCUITS**  
Varactor microwave frequency mixing circuit  
[NASA-CASE-IGS-02171] c09 N69-24324
- Microwave waveguide mixer  
[NASA-CASE-ERC-10179] c07 N72-20141
- MODE TRANSFORMERS**  
Silicon controlled rectifier inverter with compensation of transients to avoid false gating  
[NASA-CASE-XLA-08507] c09 N69-39984
- Dual waveguide mode source for controlling amplitudes of two modes  
[NASA-CASE-XNP-03134] c07 N71-10676
- MODULATION**  
Demodulator for carrier transducers  
[NASA-CASE-NUC-10107-1] c09 N74-17930
- MODULATORS**  
Fabry-Perot interferometer retrodirective reflector modulator for optical communication  
[NASA-CASE-XGS-04480] c16 N69-27491
- Optical retrodirective modulator with focus spoiling reflector driven by modulation signal  
[NASA-CASE-GSC-10062] c14 N71-15605
- Calibrator for measuring and modulating or demodulating laser outputs  
[NASA-CASE-XLA-03410] c16 N71-25914
- Full wave modulator-demodulator amplifier apparatus --- for generating rectified output signal  
[NASA-CASE-FRC-10072-1] c09 N74-14939
- Apparatus for simulating optical transmission links  
[NASA-CASE-GSC-11877-1] c07 N74-30532
- MODULES**  
Biorthogonal encoder with modular design  
[NASA-CASE-NPO-10629] c08 N72-18184
- MOISTURE**  
Gas purged dry box glove reducing permeation of air or moisture into dry box or isolator by diffusion through glove  
[NASA-CASE-XLE-02531] c05 N71-23080
- MOISTURE METERS**  
Method of evaluating moisture barrier properties of materials used in electronics encapsulation  
[NASA-CASE-NPO-10051] c18 N71-24934
- MOLDING MATERIALS**  
Vacuum method for molding thermosetting compounds used as ablative materials  
[NASA-CASE-XLA-01091] c15 N71-10672
- Method of making molded electric connector for use with flat conductor cables  
[NASA-CASE-IMP-03498] c15 N71-15986
- Hydraulic apparatus for casting and molding of liquid polyamers  
[NASA-CASE-XNP-07659] c06 N71-22975
- Cold metal hydroforming techniques using epoxy molds for counteracting creep or stretch  
[NASA-CASE-XLE-05641-1] c15 N71-26346
- Molding process for imidazopyrrolone polyamers  
[NASA-CASE-LAR-10547-1] c15 N74-13177
- Evacuated displacement compression molding  
[NASA-CASE-LAR-10782-1] c15 N74-14133
- MOLDS**  
Forming mold for polishing and machining curved solar magnesium reflector with reinforcing ribs  
[NASA-CASE-XLE-08917-2] c15 N71-24836
- Using molds for fabricating individual fluid circuit components  
[NASA-CASE-XLA-07829] c15 N72-16329
- Vacuum displacement compression molding of tubular bodies from thermosetting plastics  
[NASA-CASE-LAR-10782-2] c15 N73-31444
- Evacuated displacement compression molding  
[NASA-CASE-LAR-10782-1] c15 N74-14133
- Method of making an apertured casting  
[NASA-CASE-LEW-11169-1] c15 N74-18131
- Molding apparatus --- for thermosetting plastic compositions  
[NASA-CASE-LAR-10489-2] c15 N74-32920
- MOLECULAR BEAMS**  
Selector mechanism for mechanical separation and discrimination of high velocity molecular particles  
[NASA-CASE-XLE-01533] c11 N71-10777
- Sputtering holes with ion beaalets  
[NASA-CASE-LEW-11646-1] c28 N74-31269
- MOLECULAR GASES**  
Compact hydrogenator  
[NASA-CASE-NPO-11682-1] c15 N74-15127
- MOLECULAR PUMPS**  
Omnidirectional anisotropic molecular trap, used with vacuum pump to simulate space environments for testing spacecraft components  
[NASA-CASE-IGS-00783] c30 N71-17788
- Liquid-vapor interface seal design for turbine rotating shafts including helical and molecular pumps and liquid cooling of mercury vapor  
[NASA-CASE-XNP-02862-1] c15 N71-26294
- MOLECULAR ROTATION**  
Laser utilizing infrared rotation transitions of diatomic gas for production of different wavelengths  
[NASA-CASE-ARC-10370-1] c16 N72-10432
- MOLECULAR SPECTROSCOPY**  
Microwave double resonance spectroscopy absorption cell for gas analysis  
[NASA-CASE-LAR-10305] c14 N71-26137
- MOLECULES**  
Atomic standard with variable storage volume --- in cylindrical, flexible bellows  
[NASA-CASE-GSC-11895-1] c15 N74-33997
- MOLTEN SALT ELECTROLYTES**  
Operation method for combined electrolysis device and fuel cell using molten salt to produce power by thermoelectric regeneration mechanism  
[NASA-CASE-XLE-01645] c03 N71-20904
- MOLYBDENUM CARBIDES**  
Flame or plasma spraying for molybdenum coating of carbon or graphite surfaces to prevent oxidative corrosion  
[NASA-CASE-XLA-00302] c15 N71-16077
- MOLYBDENUM COMPOUNDS**  
Method for producing refractory molybdenum disilicides  
[NASA-CASE-XMS-00370] c17 N71-20941
- MOMENTS OF INERTIA**  
Test fixture for measuring moment of inertia of irregularly shaped body with multiple axes  
[NASA-CASE-XGS-01023] c14 N71-22992
- MOMENTUM**  
Utilization of momentum devices for forming attitude control and damping system for spacecraft  
[NASA-CASE-XLA-02551] c21 N71-21708
- Momentum-velocity analyzer for measuring minute space particles  
[NASA-CASE-XMS-04201] c14 N71-22990
- MONITORS**  
Fluid leakage detection system with automatic monitoring capability  
[NASA-CASE-LAR-10323-1] c12 N71-17573
- Monitoring circuit design for sampling circuit control and reduction of time-bandwidth in video communication systems

[NASA-CASE-XNP-02791] c07 N71-23026  
 Optical monitor panel consisting of translucent screen with test or meter information projected onto it from rear for application in control rooms of missile launching and tracking stations  
 [NASA-CASE-XKS-03509] c14 N71-23175  
 Peak polarity selector for monitoring waveforms  
 [NASA-CASE-FRC-10010] c10 N71-24862  
 Circuit for monitoring power supply by ripple current indication  
 [NASA-CASE-KSC-10162] c09 N72-11225  
 Development of droplet monitoring probe for use in analysis of droplet propagation in mixed-phase fluid stream  
 [NASA-CASE-NPO-10985] c14 N73-20478  
 Multichannel medical monitoring system to measure physiological parameters from display device at remote control station  
 [NASA-CASE-MSC-14180-1] c05 N73-22045  
 Monitoring and recording lightning strokes in predetermined area  
 [NASA-CASE-KSC-10728-1] c14 N73-32319  
 Method and apparatus for optically monitoring the angular position of a rotating mirror  
 [NASA-CASE-GSC-11353-1] c23 N74-21304  
**MONOCHROMATIC RADIATION**  
 Method and apparatus for producing intense, coherent, monochromatic light from low temperature plasma  
 [NASA-CASE-XNP-04167-3] c25 N72-21693  
 Apparatus for producing monochromatic light from continuous plasma source  
 [NASA-CASE-XNP-04167-2] c25 N72-24753  
**MONOCHROMATORS**  
 Analytical photoionization mass spectrometer with argon gas filter between light source and monochromator  
 [NASA-CASE-LAR-10180-1] c06 N71-13461  
 Color television system for allowing monochrome television camera to produce color pictures  
 [NASA-CASE-MSC-12146-1] c07 N72-17109  
**MONOMERS**  
 Monomer polymerization by plasma discharge as thin film for water purification membrane  
 [NASA-CASE-ARC-10643-1] c06 N73-29074  
 Fabrication of polyphenylquinoxaline composite articles by means of in situ polymerization of monomers  
 [NASA-CASE-LEW-11879-1] c18 N74-20152  
**MONOPOLE ANTENNAS**  
 Monopole antenna system for maximum omnidirectional efficiency for use on satellites  
 [NASA-CASE-XLA-00414] c07 N70-38200  
 Flexible monopole antenna with broad bandwidth and low voltage standing wave ratio  
 [NASA-CASE-MSC-12101] c09 N71-18720  
**MONOPROPELLANTS**  
 Ignition system for monopropellant combustion devices  
 [NASA-CASE-XNP-00249] c28 N70-38249  
 Catalyst bed ignition system for hydrazine propellants  
 [NASA-CASE-XNP-00876] c28 N70-41311  
**MONOPULSE ANTENNAS**  
 Electronic and mechanical scanning control system for monopulse tracking antenna  
 [NASA-CASE-XGS-05582] c07 N69-27460  
 Development and characteristics of low-noise multimode monopulse antenna feed system for use with microwave communication equipment  
 [NASA-CASE-XNP-01735] c07 N71-22750  
 Monopulse scanning network for scanning volumetric antenna pattern  
 [NASA-CASE-GSC-10299-1] c09 N71-24804  
**MONOPULSE RADAR**  
 Polarization diversity monopulse tracking receiver design without radio frequency switches  
 [NASA-CASE-XGS-03501] c09 N71-20864  
 Monopulse tracking system with antenna array of three radiators for deriving azimuth and elevation indications  
 [NASA-CASE-XGS-01155] c10 N71-21483  
**MONOSTABLE MULTIVIBRATORS**  
 Development and characteristics of resettable monostable pulse generator with charge rundown-timing circuit  
 [NASA-CASE-GSC-11139] c09 N71-27016  
 Monostable multivibrator for producing output pulse widths with positive feedback NOR gates  
 [NASA-CASE-MSC-13492-1] c10 N71-28860  
**MOSSBAUER EFFECT**  
 Mossbauer spectrometer radiation detector  
 [NASA-CASE-LAR-11155-1] c14 N74-15091  
**MOTION**  
 Quick attach mechanism for moving or stationary wires, ropes, or cables  
 [NASA-CASE-XFR-05421] c15 N71-22994  
**MOTION PICTURES**  
 Real time moving scene holographic camera system  
 [NASA-CASE-MFS-21087-1] c14 N74-17153  
 A holographic motion picture camera  
 [NASA-CASE-MFS-22517-1] c14 N74-33943  
**MOTION STABILITY**  
 Hydraulic drive mechanism for leveling isolation platforms  
 [NASA-CASE-IMS-03252] c15 N71-10658  
**MOTORS**  
 Nonmagnetic thermal motor for magnetometer movement  
 [NASA-CASE-XAR-03786] c09 N69-21313  
 System for maintaining motor at predetermined speed using digital pulses  
 [NASA-CASE-IMP-06892] c09 N71-24805  
**MOUNTING**  
 Mounting fixture for supporting thermobulb in pipeline  
 [NASA-CASE-NPO-10158] c33 N71-16356  
 Mounting apparatus for temperature control system  
 [NASA-CASE-NPO-10138] c33 N71-16357  
 Inertial component clamping assembly design for spacecraft guidance and control system mounting  
 [NASA-CASE-XMS-02184] c15 N71-20813  
 Techniques for packaging and mounting printed circuit boards  
 [NASA-CASE-MFS-21919-1] c10 N73-25243  
 Journal bearings  
 [NASA-CASE-LEW-11076-3] c15 N74-10475  
**MOVING TARGET INDICATORS**  
 Automatic vehicle location system  
 [NASA-CASE-NPO-11850-1] c09 N74-12912  
**MULTICHANNEL COMMUNICATION**  
 Tape guidance system for multichannel digital recording system  
 [NASA-CASE-XNP-09453] c08 N71-19420  
 Plural channel data transmission system with quadrature modulation and complementary demodulation  
 [NASA-CASE-XAC-06302] c08 N71-19763  
 Multichannel medical monitoring system to measure physiological parameters from display device at remote control station  
 [NASA-CASE-MSC-14180-1] c05 N73-22045  
 Improved phase lock loop for receiver in multichannel telemetry system with suppressed carrier  
 [NASA-CASE-NPO-11593-1] c07 N73-28012  
 Miniature multichannel biotelemetry system  
 [NASA-CASE-NPO-13065-1] c05 N74-26625  
 Analog to digital converter  
 [NASA-CASE-NPO-13385-1] c08 N74-32646  
**MULTILAYER INSULATION**  
 Electrode sealing and insulation for fuel cells containing caustic liquid electrolytes using powdered plastic and metal  
 [NASA-CASE-IMS-01625] c15 N71-23022  
 Multilayer insulation panels for cryogenic liquid containers  
 [NASA-CASE-MFS-14023] c33 N71-25351  
 Electrical failure detector in solid rocket propellant motor insulation against thermal degradation by fuel grain  
 [NASA-CASE-IMP-03968] c14 N71-27186  
 Procedure for making insulating foil for use in multilayer insulating system  
 [NASA-CASE-LEW-11484-1] c15 N73-22415  
**MULTIPLE BEAM INTERVAL SCANNERS**  
 Tracking antenna system with array for synchronous satellite or ground based radar  
 [NASA-CASE-GSC-10553-1] c07 N71-19854  
 Variable beamwidth antenna --- with multiple beam, variable feed system  
 [NASA-CASE-GSC-11862-1] c09 N74-32674  
**MULTIPLE DOCKING ADAPTERS**  
 Probe and drogue assembly for mechanical linking of two space vehicles  
 [NASA-CASE-IMS-03613] c31 N71-16346

## MULTIPLEXING

Multiple in-line docking capability having intermeshing docking turrets for rotating space stations  
[NASA-CASE-MFS-20855-1] c31 N72-25853

**MULTIPLEXING**  
Doppler frequency shift correction device for multiplex communication with Applications Technology Satellites  
[NASA-CASE-XGS-02749] c07 N69-39978

Multiplexed communication system design including automatic correction of transmission errors introduced by frequency spectrum shifts  
[NASA-CASE-XNP-01306] c07 N71-20814

Satellite network synchronization system with multiple access to multiplex repeater  
[NASA-CASE-GSC-10390-1] c07 N72-11149

Apparatus with summing network for compression of analog data by decreasing slope threshold sampling  
[NASA-CASE-NPO-10769] c08 N72-11171

Development and characteristics of data multiplexer circuit using field effect transistors arranged in tree switching configuration  
[NASA-CASE-NPO-11333] c08 N72-22162

Phase detector with time correlation integrator for frequency multiplexed signals  
[NASA-CASE-GSC-11744-1] c09 N73-23291

Telemetry and transmission system with programmed sampling and multiplexing  
[NASA-CASE-GSC-11388-1] c07 N73-24187

Television multiplexing system, using single crystal controlled clock for signal synchronization  
[NASA-CASE-RSC-10654-1] c07 N73-30115

Asynchronous, multiplexing, single line transmission and recovery data system --- for satellite use  
[NASA-CASE-NPO-13321-1] c07 N74-19806

**MULTIPLIERS**  
Pulse duration modulation multiplier system  
[NASA-CASE-XBR-09213] c07 N71-12390

Design and development of variable pulse width multiplier  
[NASA-CASE-XLA-02850] c09 N71-20447

Capacitance multiplier and filter synthesizing network  
[NASA-CASE-NPO-11948-1] c10 N74-32712

**MULTISPECTRAL PHOTOGRAPHY**  
Computerized optical system for producing multiple images of a scene simultaneously  
[NASA-CASE-MSC-12404-1] c23 N73-13661

An optical process for producing classification maps from multispectral data  
[NASA-CASE-MSC-14472-1] c13 N74-32780

**MULTISTAGE ROCKET VEHICLES**  
Techniques for recovery of multistage rocket vehicles by providing lifting surfaces on individual sections  
[NASA-CASE-XMP-00389] c31 N70-34176

Steerable solid propellant rocket motor adapted to effect payload orientation as multistage rocket stage or reduce velocity as retrorocket  
[NASA-CASE-XNP-00234] c28 N70-38645

Multi-mission space vehicle module stage design  
[NASA-CASE-XMP-01543] c31 N71-17730

Separation mechanism for use between stages of multistage rocket vehicles  
[NASA-CASE-XLA-00188] c15 N71-22874

Development of remotely controlled shaped charge for lateral displacement of rocket stages after separation  
[NASA-CASE-XLA-04804] c31 N71-23008

Frangible connecting link suitable for rocket stage separation  
[NASA-CASE-MSC-11849-1] c15 N72-22488

**MULTIVIBRATORS**  
Extra-long monostable multivibrator employing bistable semiconductor switch to allow charging of timing circuit  
[NASA-CASE-XGS-00381] c09 N70-34819

Variable frequency magnetic coupled multivibrator with temperature compensated frequency control circuit  
[NASA-CASE-XGS-00458] c09 N70-38604

Variable frequency magnetic coupled multivibrator with output signal of constant amplitude and waveform  
[NASA-CASE-IGS-00131] c09 N70-38995

## SUBJECT INDEX

Improved semiconductor multivibrator circuit which approaches 100 percent efficiency  
[NASA-CASE-XAC-00942] c10 N71-16042

Transistorized dc-coupled multivibrator with noninverted output signal  
[NASA-CASE-XNP-09450] c10 N71-18723

One shot multivibrator circuit for producing long duration output pulses  
[NASA-CASE-ARC-10137-1] c09 N71-28468

**MUSCULOSKELETAL SYSTEM**  
Method and apparatus for applying compressional forces to skeletal structure of subject to simulate force during ambulatory conditions  
[NASA-CASE-ARC-10100-1] c05 N71-24738

**N**

**NACELLES**  
Deflector for preventing objects from entering nacelle inlets of jet aircraft  
[NASA-CASE-XLE-00388] c28 N70-34788

Afterburner-equipped jet engine nacelle with slotted configuration afterbody  
[NASA-CASE-XLA-10450] c28 N71-21493

**NAVIGATION SATELLITES**  
Satellite aided aircraft collision avoidance system effective for large number of aircraft  
[NASA-CASE-ERC-10090] c21 N71-24948

**NEAR INFRARED RADIATION**  
Collimator for analyzing spatial location of near and distant sources of radiation  
[NASA-CASE-MFS-20546-2] c14 N73-30389

**NEGATIVE FEEDBACK**  
Complementary regenerative transistorized switch circuit employing positive and negative feedback  
[NASA-CASE-XGS-02751] c09 N71-23015

**NETWORK SYNTHESIS**  
Left and right hand circular electromagnetic polarization excitation by phase shifter and hybrid networks  
[NASA-CASE-GSC-10021-1] c09 N71-24595

High speed phase detector design indicating phase relationship between two square wave input signals  
[NASA-CASE-XNP-01306-2] c09 N71-24596

**NEUTRON EMISSION**  
Deuterium pass through target --- for neutron generating  
[NASA-CASE-LEW-11866-1] c11 N74-32719

**NEUTRONS**  
Focusing optical collimator for high resolution scanning of electromagnetic radiations, neutrons, and other particles  
[NASA-CASE-MFS-20932-1] c14 N73-27380

**NICKEL**  
Process for producing dispersion strengthened nickel with aluminum comprising metallic matrices embedded with oxides or other hyperfine compounds  
[NASA-CASE-XLE-06969] c17 N71-24142

Selective nickel deposition on irradiation sensitive compounds  
[NASA-CASE-LEW-10965-1] c15 N72-25452

**NICKEL ALLOYS**  
Preparation of nickel alloys for jet turbine blades operating at high temperatures  
[NASA-CASE-XLE-00151] c17 N70-33283

Nickel alloy series for aerospace structures subjected to high temperatures  
[NASA-CASE-XLE-00283] c17 N70-36616

Nickel base alloy with resistance to oxidation at high temperatures and superior stress-rupture properties  
[NASA-CASE-XLE-02082] c17 N71-16026

High strength nickel based alloys  
[NASA-CASE-LEW-10874-1] c17 N72-22535

Diffusion welding --- heat treatment of nickel alloys following single step vacuum welding process  
[NASA-CASE-LEW-11388-2] c15 N74-21055

**NICKEL CADMIUM BATTERIES**  
Heat flow calorimeter --- measures output of Ni-Cd batteries  
[NASA-CASE-GSC-11434-1] c14 N74-27859

**NICKEL COATINGS**  
Intermetallic chromium containing nickel aluminide for high temperature corrosion protection of stainless steels  
[NASA-CASE-LEW-11267-1] c17 N73-32414

- NICKEL COMPOUNDS**  
Including didymium hydrate in nickel hydroxide of positive electrode of storage batteries to increase ampere hour capacity  
[NASA-CASE-XGS-03505] c03 N71-10608
- NICKEL PLATE**  
Nickel plating onto etched aluminum castings  
[NASA-CASE-XNP-04148] c17 N71-24830
- NIObIUM**  
Organometallic compounds of niobium and tantalum useful for film deposition  
[NASA-CASE-XNP-04023] c06 N71-28808
- NITRILES**  
Intumescent paint containing nitrile rubber for fire protection  
[NASA-CASE-ARC-10196-1] c18 N73-13562  
Catalytic trimerization of aromatic nitriles and triaryl-s-triazine ring cross-linked high temperature resistant polymers and copolymers made thereby  
[NASA-CASE-LEW-12053-1] c06 N74-34579
- NITROAMINES**  
Nitroaniline sulfate, intumescent paints  
[NASA-CASE-ARC-10099-1] c18 N71-15469  
Mercaptan terminated polymer containing sulfonic acid salts of nitrosubstituted aromatic amines for heat and moisture resistant coatings  
[NASA-CASE-ARC-10325] c06 N72-25147
- NITROGEN TETROXIDE**  
Gas chromatographic method for determining water in nitrogen tetroxide rocket propellant  
[NASA-CASE-NPO-10234] c06 N72-17094
- NITROGUANIDINE**  
Solid propellant stabilizer containing nitroguanidine  
[NASA-CASE-NPO-12000] c27 N72-25699
- NOBLE METALS**  
Development and characteristics of device for applying multiple layers of noble metal to glass substrate for protection of optical surfaces  
[NASA-CASE-LAR-10362-1] c15 N72-27486
- NOISE GENERATORS**  
Pseudo-noise test set for communication system evaluation  
[NASA-CASE-MPS-22671-1] c14 N74-13146
- NOISE METERS**  
Jet aircraft noise and sonic boom measuring device which converts sound pressure into electric current  
[NASA-CASE-LAR-11173-1] c14 N73-22387
- NOISE REDUCTION**  
Upper surface, external flow, jet-augmented flap configuration for high wing jet aircraft for noise reduction  
[NASA-CASE-XLA-00087] c02 N70-33332  
Cassegrain antenna subreflector flange for suppressing ground noise and increasing antenna transmitting efficiency  
[NASA-CASE-INP-00683] c09 N70-35425  
Device for adding water to high velocity exhaust jets to reduce velocity, noise, and temperature  
[NASA-CASE-XMF-01813] c28 N70-41582  
Variable time constant, wide frequency range smoothing network for noise removal from pulse chains  
[NASA-CASE-XGS-01983] c10 N70-41964  
Digital telemetry system apparatus to reduce tape recorder wow and flutter noise during playback  
[NASA-CASE-XGS-01812] c07 N71-23001  
Audio signal processing system for noise surge elimination at low amplitude audio input  
[NASA-CASE-MSC-12223-1] c07 N71-26181  
Variable frequency nuclear magnetic resonance spectrometer providing drive signals over wide frequency range and minimizing noise effects  
[NASA-CASE-XNP-09830] c14 N71-26266  
Noise elimination in coherent imaging system by axial rotation of optical lens for spectral distribution of degrading affects  
[NASA-CASE-GSC-11133-1] c23 N72-11568  
Audio equipment for removing impulse noise from audio signals  
[NASA-CASE-NPO-11631] c10 N73-12244  
Jet aircraft exhaust nozzle for noise reduction  
[NASA-CASE-LAR-10951-1] c28 N73-19819  
Development of aircraft configuration for reduction of jet aircraft noise by exhausting engine gases over upper surface of wing  
[NASA-CASE-LAR-11087-1] c02 N73-26008  
Method and apparatus for improving operating efficiency and reducing low speed noise for turbine aircraft engines  
[NASA-CASE-LAR-11310-1] c28 N73-31699  
Method for eliminating noise and debris of explosive welding techniques by using complete enclosure  
[NASA-CASE-LAR-10941-2] c15 N73-32371  
Gas turbine exhaust nozzle --- for noise reduction  
[NASA-CASE-LEW-11569-1] c28 N74-15453  
Totally confined explosive welding --- apparatus to reduce noise level and protect personnel during explosive bonding  
[NASA-CASE-LAR-10941-1] c15 N74-21057  
Jet exhaust noise suppressor  
[NASA-CASE-LEW-11286-1] c02 N74-27490  
Supersonic fan blading --- noise reduction in turbofan engines  
[NASA-CASE-LEW-11402-1] c28 N74-28226  
Variably positioned guide vanes for aerodynamic choking  
[NASA-CASE-LAR-10642-1] c28 N74-31270  
Noise suppressor --- for turbofan engine by incorporating annular acoustically porous elements in exhaust and inlet ducts  
[NASA-CASE-LAR-11141-1] c02 N74-32418  
Abating exhaust noises in jet engines  
[NASA-CASE-ARC-10712-1] c28 N74-33218  
Cascade plug nozzle  
[NASA-CASE-LAR-11674-1] c28 N74-33220
- NOISE TEMPERATURE**  
Input radio frequency circuit for switching type absolute temperature measuring radiometer for noise sources  
[NASA-CASE-ERC-11020] c14 N71-26774
- NOISE THRESHOLD**  
Threshold extension device for improving operating performance of frequency modulation demodulators by eliminating click-type noise impulses  
[NASA-CASE-MSC-12165-1] c07 N71-33696
- NONDESTRUCTIVE TESTS**  
Nondestructive radiographic tests of resistance welds  
[NASA-CASE-XNP-02588] c15 N71-18613  
Space environment simulator for testing spacecraft components under aerospace conditions  
[NASA-CASE-NPO-10141] c11 N71-24964  
Apparatus for semiautomatic inspection of microfilmed documents for density, resolution, size, and position  
[NASA-CASE-MPS-20240] c14 N71-26788  
Dye penetrant and technique for nondestructive tests of solid surfaces contacted by liquid oxygen  
[NASA-CASE-XMF-02221] c18 N71-27170  
Method and photodetector device for locating abnormal voids in low density materials  
[NASA-CASE-MPS-20044] c14 N71-28993  
Radiographic system for nondestructive testing  
[NASA-CASE-MPS-21704-1] c16 N73-30478
- NON-EQUILIBRIUM PLASMAS**  
Plasma probes having guard ring and primary sensor at same potential to prevent stray wall current collection in ionized gases  
[NASA-CASE-XLE-00690] c25 N69-39884
- NONFLAMMABLE MATERIALS**  
Intumescent paint containing nitrile rubber for fire protection  
[NASA-CASE-ARC-10196-1] c18 N73-13562  
Process for developing flame retardant elastomeric composition textiles for use in space suits  
[NASA-CASE-MSC-14331-1] c18 N73-27501
- NONLINEAR FEEDBACK**  
Coherent receiver employing nonlinear coherence detection for carrier tracking  
[NASA-CASE-NPO-11921-1] c07 N74-30523  
Nonlinear nonsingular feedback shift registers  
[NASA-CASE-NPO-13451-1] c08 N74-32648
- NONLINEAR SYSTEMS**  
Detector assembly for discriminating first signal with respect to presence or absence of second signal at time of occurrence of first signal  
[NASA-CASE-XMF-00701] c09 N70-40272

## NOSE CONES

Describing continuous analog to digital converter with parallel digital output and nonlinear feedback  
[NASA-CASE-XAC-04031] c08 N71-18594

Split range transducer  
[NASA-CASE-XLA-11189] c10 N72-20222

**NOSE CONES**

Automatically deploying nozzle exit cone extension  
[NASA-CASE-XLE-01640] c31 N71-15637

Nose cone mounted heat resistant antenna comprising plurality of adjacent layers of silica not introducing paths of high thermal conductivity through ablative shield  
[NASA-CASE-XMS-04312] c07 N71-22984

**NOSE WHEELS**

Nose gear steering system for vehicles with main skids to provide directional stability after loss of aerodynamic control  
[NASA-CASE-XLA-01804] c02 N70-34160

**NOTCH TESTS**

Vee-notching device --- with adjustable carriage  
[NASA-CASE-MPS-20730-1] c14 N74-13131

**NOZZLE DESIGN**

High thrust annular liquid propellant rocket engine and exhaust nozzle design  
[NASA-CASE-XLE-00078] c28 N70-33284

Penshaped, supersonic exhaust nozzle design  
[NASA-CASE-XLE-00057] c28 N70-38711

Telescoping-spike supersonic nozzle for turbojet or ramjet engines  
[NASA-CASE-XLE-00005] c28 N70-39899

Automatically deploying nozzle exit cone extension  
[NASA-CASE-XLE-01640] c31 N71-15637

Propellant injection assembly having individually removable and replaceable nozzles for liquid fueled rocket engines  
[NASA-CASE-IMP-00968] c28 N71-15660

Development of collapsible nozzle extension for rocket engines  
[NASA-CASE-MPS-11497] c28 N71-16224

Design and development of gas turbine combustion unit with nozzle guide vanes for introducing diluent air into combustion gases  
[NASA-CASE-XLE-103477-1] c28 N71-20330

Prestressed rocket nozzle with ceramic inner rings and refractory metal outer rings  
[NASA-CASE-XNP-02888] c18 N71-21068

Scanning nozzle plating system --- for etching or plating metals on substrates without masking  
[NASA-CASE-NPO-11758-1] c15 N74-23065

**NOZZLE FLOW**

System for aerodynamic control of rocket vehicles by secondary injection of fluid into nozzle exhaust stream  
[NASA-CASE-XLA-01163] c21 N71-15582

Constructing fluid spike nozzle to eliminate heat transfer and high temperature problems inherent in physical spikes  
[NASA-CASE-XGS-01143] c31 N71-15647

Electronic recording system for spatial mass distribution of liquid rocket propellant droplets or vapors ejected from high velocity nozzles  
[NASA-CASE-NPO-10185] c10 N71-26339

Tertiary flow injection system for thrust vectoring of propulsive nozzle flow  
[NASA-CASE-MPS-20831] c28 N71-29153

Exhaust flow deflector  
[NASA-CASE-LAR-11570-1] c28 N74-28233

**NOZZLE INSERTS**

Flexible rocket motor nozzle closure device to aid ignition and protect rocket chamber from foreign objects  
[NASA-CASE-XLA-02651] c28 N70-41967

**NUCLEAR AUXILIARY POWER UNITS**

Control circuit for nuclear thermionic converter power source for spacecraft  
[NASA-CASE-NPO-13114-1] c22 N73-13656

**NUCLEAR ELECTRIC POWER GENERATION**

Nuclear electric generator for accelerating charged propellant particles in electrostatic propulsion system  
[NASA-CASE-XLE-00818] c22 N70-34248

**NUCLEAR EXPLOSION EFFECT**

Development of method for protecting large and oddly shaped areas from radiant and convective heat  
[NASA-CASE-IMP-01310] c33 N71-28852

## SUBJECT INDEX

**NUCLEAR FUEL BURNUP**

Low cost efficient thermionic converter for use in nuclear reactors  
[NASA-CASE-NPO-13121-1] c22 N73-12702

**NUCLEAR FUEL ELEMENTS**

Tungsten-coated tungsten-uranium dioxide nuclear fuel plates  
[NASA-CASE-XLE-00209] c22 N73-32528

**NUCLEAR FUELS**

Two step process for cladding nuclear fuels with tungsten  
[NASA-CASE-XNP-03704] c15 N71-17695

**NUCLEAR FUSION**

Converging coaxial plasma accelerator for generating dense high velocity plasma bursts  
[NASA-CASE-ARC-10109] c25 N71-29181

**NUCLEAR MAGNETIC RESONANCE**

Variable frequency nuclear magnetic resonance spectrometer providing drive signals over wide frequency range and minimizing noise effects  
[NASA-CASE-XNP-09830] c14 N71-26266

**NUCLEAR POWER PLANTS**

Development and characteristics of natural circulation radiator for use with nuclear power plants installed in lunar space stations  
[NASA-CASE-XHQ-03673] c33 N71-29046

**NUCLEAR REACTOR CONTROL**

Absorbing gas reactivity control system for minimizing power distribution and perturbation in nuclear reactors  
[NASA-CASE-XLE-04599] c22 N72-20597

**NUCLEAR REACTORS**

Low cost efficient thermionic converter for use in nuclear reactors  
[NASA-CASE-NPO-13121-1] c22 N73-12702

**NUCLEAR ROCKET ENGINES**

Nuclear gaseous reactor for heating working fluid to high temperatures  
[NASA-CASE-XLE-00321] c22 N70-34572

**NUCLEATE BOILING**

Method for improving heat transfer characteristics in nucleate boiling process  
[NASA-CASE-XMS-04268] c33 N71-16277

**NULL ZONES**

Manual control mechanism for adjusting control rod to null position  
[NASA-CASE-XLA-01808] c15 N71-20740

**NUMERICAL CONTROL**

Digital sensor for counting fringes produced by interferometers with improved sensitivity and one photomultiplier tube to eliminate alignment problem  
[NASA-CASE-LAR-10204] c14 N71-27215

**NUMERICAL INTEGRATION**

Apparatus for computing square roots  
[NASA-CASE-XGS-04768] c08 N71-19437

Binary concatenated coding system to measure, count, and record numerical information using minimized number of digits  
[NASA-CASE-MSC-14082-1] c08 N73-16163

**ROTATION**

Flexible turnstile antenna system for reducing nutation in spin-oriented satellites  
[NASA-CASE-XMP-00442] c31 N71-10747

Nutation damper for use on spinning body  
[NASA-CASE-GSC-11205-1] c15 N73-25513

**NUTS (FASTENERS)**

Contamination free separation nut eliminating combustion products from ambient surroundings generated by squib firing  
[NASA-CASE-XGS-01971] c15 N71-15922

Split nut and bolt separation device  
[NASA-CASE-XNP-06914] c15 N71-21489

Device for securing together structural members with axially stretched bolt and nut  
[NASA-CASE-GSC-11149-1] c15 N73-30457

**O RING SEALS**

High pressure four-way valve with O ring adapted to pass across inlet port  
[NASA-CASE-IMP-00214] c15 N70-36908

**OHMMETERS**

Development of electrical system for indicating optimum contact between electrode and metal surface to permit improved soldering operation  
[NASA-CASE-RSC-10242] c15 N72-23497

## OILS

Color photointerpretation of interference colors reflected from thin film oil-coated components in moving gases for gas flow visualization  
[NASA-CASE-IMP-01779] c12 N71-20815  
Cross linked polymer system for oil or fat absorption properties  
[NASA-CASE-NPO-11609-1] c06 N72-22114

## OMNIDIRECTIONAL ANTENNAS

Microwave omnidirectional antenna for use on spacecraft  
[NASA-CASE-XLA-03114] c09 N71-22888  
Vertically stacked collinear array of independently fed omnidirectional antennas for use in collision warning systems on commercial aircraft  
[NASA-CASE-LAR-10545-1] c09 N72-21244  
Omnidirectional antenna array with circumferential slots for mounting on cylindrical space vehicle  
[NASA-CASE-LAR-10163-1] c09 N72-25247

## ONBOARD EQUIPMENT

Survival couch for aircraft or spacecraft crews  
[NASA-CASE-XLA-00118] c05 N70-33285  
Cryogenic storage system for gases onboard spacecraft  
[NASA-CASE-IMS-04390] c31 N70-41871  
Fiber optic transducers for monitoring and analysis of vibration in aerospace vehicles and onboard equipment  
[NASA-CASE-IMP-02433] c14 N71-10616  
Design and construction of satellite appendage tie-down cord  
[NASA-CASE-XGS-02554] c31 N71-21064  
Satellite aided aircraft collision avoidance system effective for large number of aircraft  
[NASA-CASE-ERC-10090] c21 N71-24948  
Closed loop servosystem for variable speed tape recorders onboard spacecraft  
[NASA-CASE-NPO-10700] c07 N71-33613  
Collapsible couch system for manned space vehicles  
[NASA-CASE-MSC-13140] c05 N72-11085  
Monostable multivibrator for conserving power in spacecraft systems  
[NASA-CASE-GSC-10082-1] c10 N72-20221  
Delayed simultaneous appendage release mechanism for use on spacecraft equipped with despin mechanisms and releasable components  
[NASA-CASE-GSC-10814-1] c03 N73-20039  
Electronic strain level counter on in-flight aircraft  
[NASA-CASE-LAR-10756-1] c32 N73-26910

## OPHTHALMOLOGY

Ultrasonic device for ophthalmic eye surgery with safe removal of macerated material  
[NASA-CASE-LEW-11669-1] c05 N73-27062  
Multiparameter vision tester  
[NASA-CASE-MSC-13601-2] c05 N74-32549

## OPTICAL COMMUNICATION

Fabry-Perot interferometer retrodirective reflector modulator for optical communication  
[NASA-CASE-XGS-04480] c16 N69-27491  
Specifications and drawings for semipassive optical communication system  
[NASA-CASE-XLA-01090] c07 N71-12389  
Optical communication system with gas filled waveguide for laser beam transmission  
[NASA-CASE-HQN-10541-4] c16 N71-27183  
Development and characteristics of optical communications system based on modulation of light beams  
[NASA-CASE-XLA-01090] c16 N71-28963  
High resolution radar transmitting system for transmitting optical pulses to targets  
[NASA-CASE-NPO-11426] c07 N73-26119  
Polarization compensator for optical communications  
[NASA-CASE-GSC-11782-1] c07 N74-22827

## OPTICAL COUPLING

Automatic quadrature control and measuring system --- using optical coupling circuitry  
[NASA-CASE-MFS-21660-1] c14 N74-21017

## OPTICAL DATA PROCESSING

Optical data processing system using paraboloidal reflecting surfaces  
[NASA-CASE-GSC-11296-1] c23 N73-30666  
Recorder/processor apparatus --- for optical data processing  
[NASA-CASE-GSC-11553-1] c07 N74-15831

## OPTICAL EMISSION SPECTROSCOPY

Maksutov spectrograph for low light level research  
[NASA-CASE-XLA-10402] c14 N71-29041

## OPTICAL EQUIPMENT

Detection instrument for light emitted from ATP biochemical reaction  
[NASA-CASE-XGS-05534] c23 N71-16355  
Optical characteristics measuring apparatus  
[NASA-CASE-IMP-08840] c23 N71-16365  
Combined optical attitude and altitude indicating instrument for use in aircraft or spacecraft  
[NASA-CASE-XLA-01907] c14 N71-23268  
Design and development of optical interferometer with laser light source for application to schlieren systems  
[NASA-CASE-XLA-04295] c16 N71-24170  
Highly stable optical mirror assembly optimizing image quality of light diffraction patterns  
[NASA-CASE-ERC-10001] c23 N71-24868  
Optical device containing rotatable prism and reflecting mirror for generating precise angles  
[NASA-CASE-XGS-04173] c19 N71-26674  
Development and characteristics of Petzval type objective including field shaping lens for focusing light of specified wavelength band on curved photoreceptor  
[NASA-CASE-GSC-10700] c23 N71-30027  
Optical vision testing unit for testing eyes and visual system of human subject  
[NASA-CASE-MSC-13601-1] c05 N72-11088  
Slotted fine-adjustment support for optical devices  
[NASA-CASE-MFS-20249] c15 N72-11386  
Development of process for constructing protective covers for solar cells  
[NASA-CASE-GSC-11514-1] c03 N72-24037  
Development of light sensing system for controlled orientation of object relative to sun or other light source  
[NASA-CASE-NPO-11311] c14 N72-25414  
Development and characteristics of device for applying multiple layers of noble metal to glass substrate for protection of optical surfaces  
[NASA-CASE-LAR-10362-1] c15 N72-27486  
Borescope with adjustable hinged telescoping optical system  
[NASA-CASE-MFS-15162] c14 N72-32452  
Development and characteristics of cyclically operable, optical shutter for use as focal plane shutter for transmitting single radiation pulses  
[NASA-CASE-NPO-10758] c14 N73-14427  
Development of strain gage ambiguity sensor for measuring alignment of optical mirror segments  
[NASA-CASE-MFS-20506-1] c14 N73-17563  
Method for producing reticles for use in outer space  
[NASA-CASE-GSC-11188-2] c21 N73-19630  
Method and equipment for locating earth infrared horizon from space, independent of season and latitude  
[NASA-CASE-LAR-10726-1] c14 N73-20475  
Optical imaging system for increasing light absorption efficiency of imaging detector  
[NASA-CASE-ARC-10194-1] c23 N73-20741  
Development of optical system for detecting defective components in rotating machinery with emphasis on bearing assemblies  
[NASA-CASE-KSC-10752-1] c15 N73-27407  
Attitude sensor  
[NASA-CASE-LAR-10586-1] c14 N74-15089  
Formation of star tracking reticles  
[NASA-CASE-GSC-11188-3] c14 N74-20008  
Laser system with an antiresonant optical ring --- optical properties and performance of beam splitter with equal transmission and reflection coefficients  
[NASA-CASE-HQN-10844-1] c16 N74-20118  
Method and apparatus for optically monitoring the angular position of a rotating mirror  
[NASA-CASE-GSC-11353-1] c23 N74-21304  
Single reflector interference spectrometer and drive system therefor  
[NASA-CASE-NPO-11932-1] c14 N74-23040  
Apparatus for simulating optical transmission links  
[NASA-CASE-GSC-11877-1] c07 N74-30532



## OPTICAL FILTERS

- Lens assembly for solar furnace or solar simulator  
[NASA-CASE-XNP-04111] c14 N71-15622
- Noise elimination in coherent imaging system by axial rotation of optical lens for spectral distribution of degrading affects  
[NASA-CASE-GSC-11133-1] c23 N72-11568
- Family of physical correction filters for improving optical quality of image  
[NASA-CASE-HQN-10542-1] c23 N72-21663
- OPTICAL HETERODYMING**  
Computerized optical system for producing multiple images of a scene simultaneously  
[NASA-CASE-HSC-12404-1] c23 N73-13661
- OPTICAL MEASUREMENT**  
Passive optical wind and turbulence remote detection system  
[NASA-CASE-IHF-14032] c20 N71-16340
- Ellipsoidal mirror reflector for measuring reflectance  
[NASA-CASE-XGS-05291] c23 N71-16341
- Single reflector interference spectrometer and drive system therefor  
[NASA-CASE-NPO-11932-1] c14 N74-23040
- OPTICAL MEASURING INSTRUMENTS**  
Design and development of optically pumped resonance magnetometer for determining vectoral components in spatial coordinate system  
[NASA-CASE-XGS-04879] c14 N71-20428
- Optical gauging system for monitoring machine tool alignment  
[NASA-CASE-XAC-09489-1] c15 N71-26673
- Optical system for selecting particular wavelength light beams from multiple wavelength light source  
[NASA-CASE-ERC-10248] c14 N72-17323
- Optical sensing of supersonic flows by correlating deflections in laser beams through flow  
[NASA-CASE-NFS-20642] c14 N72-21407
- Multiparameter vision tester  
[NASA-CASE-HSC-13601-2] c05 N74-32549
- OPTICAL PATHS**  
Optical instruments  
[NASA-CASE-HSC-14096-1] c14 N74-15095
- OPTICAL PROPERTIES**  
Remote-reading torque meter for use where high horsepower are transmitted at high rotative speeds  
[NASA-CASE-XLE-00503] c14 N70-34818
- Quasi-optical microwave circuit with dielectric body for use with oversize waveguides  
[NASA-CASE-ERC-10011] c07 N71-29065
- Development of light sensing system for controlled orientation of object relative to sun or other light source  
[NASA-CASE-NPO-11311] c14 N72-25414
- Design and development of light sensing device for controlling orientation of object relative to sun or other light source  
[NASA-CASE-NPO-11201] c14 N72-27409
- Device and method for determining X ray reflection efficiency, scattering properties, and surface finish of optical surfaces  
[NASA-CASE-NFS-20243] c23 N73-13662
- Ultraviolet and thermally stable polymer compositions --- poly/(diarylsiloxy)/arylazines  
[NASA-CASE-ARC-10592-2] c06 N74-11926
- Formation of star tracking reticles  
[NASA-CASE-GSC-11188-3] c14 N74-20008
- Optically actuated two position mechanical mover  
[NASA-CASE-NPO-13105-1] c15 N74-21060
- OPTICAL PUMPING**  
Xenon flashlamp driver system for optical laser pumping  
[NASA-CASE-ERC-10283] c16 N72-25485
- Development of laser head for simultaneous optical pumping of several dye lasers  
[NASA-CASE-LAR-11341-1] c16 N73-25564
- OPTICAL PYROMETERS**  
Filter arrangement for controlling light intensity in motion picture camera used in optical pyrometry  
[NASA-CASE-XLA-00062] c14 N70-33254
- OPTICAL RADAR**  
Acquisition and tracking system for optical radar  
[NASA-CASE-NFS-20125] c16 N72-13437
- OPTICAL RANGE FINDERS**  
Electro-optical attitude sensing device for landing approach of flight vehicle  
[NASA-CASE-IHS-01994-1] c14 N72-17326
- Optical range finder using reflective first surfaces mirror and transmitting beam splitter  
[NASA-CASE-HSC-12105-1] c14 N72-21409
- OPTICAL REFLECTION**  
Hybrid holographic system using reference, transmitted, and reflected beams simultaneously  
[NASA-CASE-NFS-20074] c16 N71-15565
- Optical device containing rotatable prism and reflecting mirror for generating precise angles  
[NASA-CASE-XGS-04173] c19 N71-26674
- Illumination system design for use as sunlight simulator in space environment simulators with multiple light sources reflected to single virtual source  
[NASA-CASE-HQN-10781] c23 N71-30292
- Composition of diffuse reflective coating containing sodium chloride in combination with diol solvent and organic wetting and drying agents  
[NASA-CASE-GSC-11214-1] c06 N73-13128
- Ultraviolet light reflective coating  
[NASA-CASE-GSC-11786-1] c18 N74-10542
- OPTICAL RESONANCE**  
Design and development of optically pumped resonance magnetometer for determining vectoral components in spatial coordinate system  
[NASA-CASE-XGS-04879] c14 N71-20428
- OPTICAL SCANNERS**  
Optical scanner mounted on rotating support structure with method of compensating for image or satellite rotation  
[NASA-CASE-XGS-02401] c14 N69-27485
- Optical apparatus for visual detection of roundness and regularity of cone surfaces  
[NASA-CASE-IHF-00462] c14 N70-34298
- Electro-optical system with scan-in illuminator and scan-out photosensor for scanning variable transmittance objects  
[NASA-CASE-NPO-11106] c14 N70-34697
- Multi-lobar scan horizon sensor  
[NASA-CASE-XGS-00809] c21 N70-35427
- Optical scanner with linear housing and rotating camera  
[NASA-CASE-NPO-11002] c14 N72-22441
- Focusing optical collimator for high resolution scanning of electromagnetic radiations, neutrons, and other particles  
[NASA-CASE-NFS-20932-1] c14 N73-27380
- Spacecraft attitude sensing system design with narrow field of view sensor rotating about spacecraft x-y axis  
[NASA-CASE-GSC-10890-1] c21 N73-30640
- Manually and automatically operable video switching system  
[NASA-CASE-KSC-10782-1] c07 N73-32063
- Optical instruments  
[NASA-CASE-HSC-14096-1] c14 N74-15095
- OPTICAL TRACKING**  
Sun tracker with rotatable plane-parallel plate and two photocells  
[NASA-CASE-XGS-01159] c21 N71-10678
- Optical tracker with pair of PM reticles having patterns 90 deg out of phase  
[NASA-CASE-XGS-05715] c23 N71-16100
- Tracking mount for laser telescope employed in tracking large rockets and space vehicles to give information regarding azimuth and elevation  
[NASA-CASE-NFS-14017] c14 N71-26627
- OPTIMIZATION**  
Power point tracker for maintaining optimal output voltage of power source  
[NASA-CASE-GSC-10376-1] c14 N71-27407
- ORBITAL ASSEMBLY**  
Space vehicle system  
[NASA-CASE-HSC-12561-1] c31 N74-33303
- ORBITAL MECHANICS**  
Design and development of space shuttle system for delivering payload to earth orbit or celestial orbit  
[NASA-CASE-HSC-12391] c30 N73-12884
- ORBITAL SPACE STATIONS**  
Radial module manned space station with artificial gravity environment  
[NASA-CASE-IHS-01906] c31 N70-41373
- Internal and external serpentine devices for performing physical operations around orbital space stations

- [NASA-CASE-IMP-05344] c31 N71-16345  
Describing apparatus for manufacturing operations in low and zero gravity environments of orbital space flight [NASA-CASE-MPS-20410] c15 N71-19214
- ORBITS**  
Position determination systems --- using orbital antenna scan of celestial body [NASA-CASE-MSC-12593-1] c09 N74-14942
- ORGANIC CHEMISTRY**  
Process for interfacial polymerization of pyromellitic dianhydride and tetraamino benzene [NASA-CASE-XLA-03104] c06 N71-11235
- ORGANIC COMPOUNDS**  
Synthesis of high purity dianilinosilanes [NASA-CASE-IMP-06409] c06 N71-23230  
Preparation of dicyanoacetylene and vinylidene copolymers using organic compounds [NASA-CASE-IMP-03250] c06 N71-23500  
Infusible polymer production from reaction of polyfunctional epoxy resins with polyfunctional aziridine compounds [NASA-CASE-NPO-10701] c06 N71-28620  
Composition of diffuse reflective coating containing sodium chloride in combination with diol solvent and organic wetting and drying agents [NASA-CASE-GSC-11214-1] c06 N73-13128  
Organic amine and nitroaromatic mixed compound for heat change detection in microelectronic components [NASA-CASE-NPO-10764-2] c10 N73-20259  
Analysis of volatile organic compounds --- quantitative and qualitative analysis of trace amounts in gas samples [NASA-CASE-MSC-14428-1] c06 N74-19776
- ORGANOMETALLIC COMPOUNDS**  
Ammonium perchlorate composite propellant with organic Cu/IL/ chelate catalytic additive [NASA-CASE-LAR-10173-1] c27 N71-14090  
Organometallic compounds of niobium and tantalum useful for film deposition [NASA-CASE-IMP-04023] c06 N71-28808
- ORGANOMETALLIC POLYMERS**  
Chemical synthesis of thermally stable organometallic polymers with divalent metal ion and tetraphenylphosphonitrilic units [NASA-CASE-HQN-10364] c06 N71-27363  
Thiophenyl ether disiloxanes and trisiloxanes useful as lubricant fluids [NASA-CASE-MPS-22411-1] c15 N74-21058
- ORIFICE FLOW**  
Relief valve to permit slow and fast bleeding rates at difference pressure levels [NASA-CASE-INS-05894-1] c15 N69-21924
- ORIFICES**  
Rocket engine injector orifice to accommodate changes in density, velocity, and pressure, thereby maintaining constant mass flow rate of propellant into rocket combustion chamber [NASA-CASE-XLE-03157] c28 N71-24736
- ORTHOGONAL MULTIPLEXING THEORY**  
Encoders designed to generate comma free biorthogonal Reed-Muller type code comprising conversion of 64 6-bit words into 64 32-bit data for communication purposes [NASA-CASE-NPO-10595] c10 N71-25917
- ORTHOGONALITY**  
Device for measuring two orthogonal components of force with gallium flotation of measuring target for use in vacuum environments [NASA-CASE-IAC-04885] c14 N71-23790
- ORTHOTROPIC CYLINDERS**  
Method for shaping regeneratively cooled rocket motor casing having minimum thickness at each channel cross section [NASA-CASE-XLE-00409] c28 N71-15658  
Regeneratively cooled rocket motor casing with tapered channels to insure minimum thicknesses at each channel cross section for necessary strength requirements [NASA-CASE-XLE-05689] c28 N71-15659
- OSCILLATION DAMPERS**  
Design and operation of viscous pendulum damper [NASA-CASE-XLA-02079] c12 N71-16894  
Stabilization system for gravity-oriented satellites using single damper rod [NASA-CASE-IAC-01591] c31 N71-17729
- Suspended mass oscillation damper based on impact energy absorption for damping wind induced oscillations of tall stacks, antennas, and umbilical towers [NASA-CASE-LAR-10193-1] c15 N71-27146  
Damper system for alleviating air flow shock loads on wind tunnel models [NASA-CASE-XLA-09480] c11 N71-33612
- OSCILLATIONS**  
Device for suppressing pressure oscillations in fluid transmission line [NASA-CASE-MPS-10354-2] c12 N72-25306  
Development of electrical circuit for suppressing oscillations across inductor operating in resonant mode [NASA-CASE-ERC-10403-1] c10 N73-26228
- OSCILLATORS**  
Oscillatory electromagnetic mirror drive system for horizon scanners [NASA-CASE-XLA-03724] c14 N69-27461  
Frequency control network for current feedback oscillators converting dc voltage to ac or higher dc voltages [NASA-CASE-GSC-10041-1] c10 N71-19418  
Development and characteristics of oscillating static inverter [NASA-CASE-XGS-05289] c09 N71-19470  
Voltage controlled oscillators and pulse amplitude modulation for signal ratio system [NASA-CASE-IMP-04367] c09 N71-23545  
Development and characteristics of fluid oscillator analog to digital converter with variable frequency controlled by signal passing through conditioning circuit [NASA-CASE-LHW-10345-1] c10 N71-25899  
Wideband voltage controlled oscillator with high phase stability [NASA-CASE-XLA-03893] c10 N71-27271  
Variable frequency subcarrier oscillator with temperature compensation [NASA-CASE-IMP-03916] c09 N71-28810  
Inverter oscillator with voltage feedback [NASA-CASE-NPO-10760] c09 N72-25254  
Alphanumeric character display device for oscilloscopes [NASA-CASE-GSC-11582-1] c09 N73-32120  
Controlled oscillator system with a time dependent output frequency [NASA-CASE-NPO-11962-1] c09 N74-10194  
Ultra-stable oscillator with complementary transistors [NASA-CASE-GSC-11513-1] c09 N74-20862  
LC-oscillator with automatic stabilized amplitude via bias current control --- power supply circuit for transducers [NASA-CASE-MPS-21698-1] c09 N74-26732  
Ion and electron detector for use in an ICR spectrometer [NASA-CASE-NPO-13479-1] c14 N74-32890
- OSCILLOSCOPES**  
Sign wave generation simulator for variable amplitude, frequency, damping, and phase pulses for oscilloscope display [NASA-CASE-NPO-10251] c10 N71-27365  
Scan oscilloscope for mapping surface sensitivity of photomultiplier tube [NASA-CASE-LAR-10320-1] c09 N72-23172  
Mechanical exposure interlock device for preventing film overexposure in oscilloscope camera [NASA-CASE-LAR-10319-1] c14 N73-32322
- OSMOSIS**  
Monomer polymerization by plasma discharge as thin film for water purification membrane [NASA-CASE-ARC-10643-1] c06 N73-29074
- OUTER PLANETS EXPLORERS**  
Integration of spectrometer capability with imagery function of facsimile cameras for use on planetary landers [NASA-CASE-LAR-11207-1] c14 N73-28496
- OUTGASSING**  
Optical characteristics measuring apparatus [NASA-CASE-IMP-08840] c23 N71-16365  
Helium outgassing process for fused glass coating on ion accelerator grid [NASA-CASE-LHW-10278-1] c15 N71-28582  
Fluid polydimethylsiloxane resin with low outgassing properties in cured state [NASA-CASE-GSC-11358-1] c06 N73-26100

OUTPUT

SUBJECT INDEX

**OUTPUT**  
 Nonlinear nonsingular feedback shift registers  
 [NASA-CASE-NPO-13451-1] c08 N74-32648

**Ovens**  
 Oven for heat treating heat shields  
 [NASA-CASE-XMS-04318] c15 N69-27871

**OVERVOLTAGE**  
 Spark gap type protective circuit for fast  
 sensing and removal of overvoltage conditions  
 [NASA-CASE-XAC-08981] c09 N69-39897  
 Sensing circuit for instantaneous reaction to  
 power overloads  
 [NASA-CASE-GSC-10667-1] c10 N71-33129  
 Overvoltage protection network  
 [NASA-CASE-ARC-10197-1] c09 N74-17929

**OXIDATION**  
 Silicide coating process and composition for  
 protection of refractory metals from oxidation  
 [NASA-CASE-XLE-10910] c18 N71-29040  
 Automated system for monitoring oxidative  
 metabolites of aromatic amines  
 [NASA-CASE-ARC-10469-1] c06 N72-31145

**OXIDATION RESISTANCE**  
 Nickel base alloy with resistance to oxidation  
 at high temperatures and superior  
 stress-rupture properties  
 [NASA-CASE-XLE-02082] c17 N71-16026  
 Duplex aluminized coatings  
 [NASA-CASE-LEW-11696-2] c18 N74-18197  
 Coating superalloys  
 [NASA-CASE-LEW-11696-3] c17 N74-27963

**OXIDE FILMS**  
 Method of fluxless brazing and diffusion bonding  
 of aluminum containing components  
 [NASA-CASE-MSC-14435-1] c15 N74-20071

**OXIDES**  
 Utilization of lithium p-lithiophenoxide to  
 prepare star polymers  
 [NASA-CASE-NPO-10998-1] c06 N73-32029

**OXIDIZERS**  
 Electrolytically regenerative hydrogen-oxygen  
 fuel cells  
 [NASA-CASE-XLE-04526] c03 N71-11052  
 Fuel and oxidizer injection head for thrust  
 chamber of reaction engine  
 [NASA-CASE-NPO-10046] c28 N72-17843

**OXIMETRY**  
 Ear oximeter for monitoring blood oxygenation  
 and pressure, pulse rate, and pressure pulse  
 curve, using dc and ac amplifiers  
 [NASA-CASE-XAC-05422] c04 N71-23185

**OXYGEN**  
 Analytical test apparatus and method for  
 determining oxygen content in alkali liquid  
 metal  
 [NASA-CASE-XLE-01997] c06 N71-23527  
 Heated tungsten filter for removing oxygen  
 impurities from cesium  
 [NASA-CASE-XNP-04262-2] c17 N71-26773  
 Method for detecting oxygen in gas by  
 thermoluminescence  
 [NASA-CASE-LAR-10668-1] c06 N73-16106  
 Method for obtaining oxygen from lunar or  
 similar soil  
 [NASA-CASE-MSC-12408-1] c13 N74-13011  
 Nonflammable coating compositions --- for use in  
 high oxygen environments  
 [NASA-CASE-MPS-20486-2] c18 N74-17283

**OXYGEN CONSUMPTION**  
 Respiration analyzing method and apparatus for  
 determining subjects oxygen consumption in  
 aerospace environments  
 [NASA-CASE-YFR-08403] c05 N71-11202

**OXYGEN FLUORIDES**  
 Oxygen difluoride in synthesis of fluoropolymers  
 [NASA-CASE-NPO-12061-1] c06 N72-21100

**OXYGEN METABOLISM**  
 Metabolic analyzer --- for measuring metabolic  
 rate and breathing dynamics of human beings  
 [NASA-CASE-MPS-21415-1] c05 N74-20728

P

**P-n JUNCTIONS**  
 Lithium drifted silicon radiation detector with  
 gold rectifying contacts  
 [NASA-CASE-XLE-10529] c14 N69-23191  
 Semiconductor p-n junction on needle apex to  
 provide stress and strain sensor

[NASA-CASE-XLA-04980] c09 N69-27422  
 Improving radiation resistance of silicon  
 semiconductor junctions by doping with lithium  
 [NASA-CASE-XGS-07801] c09 N71-12513  
 Silicon radiation detecting probe design for in  
 vivo biomedical use  
 [NASA-CASE-XMS-01177] c05 N71-19440  
 Electrode connection for n-on-p silicon solar cell  
 [NASA-CASE-XLE-04787] c03 N71-20492  
 Water content in vapor deposition atmosphere for  
 forming n-type and p-type junctions of zinc  
 doped gallium arsenide  
 [NASA-CASE-XNP-01961] c26 N71-29156  
 Method for making semiconductor p-n junction  
 stress and strain sensor  
 [NASA-CASE-XLA-04980-2] c14 N72-28438  
 Graded band gap p-n junction gallium  
 arsenide/gallium aluminum arsenide solar cell  
 [NASA-CASE-LAR-11174-1] c03 N73-26047  
 Resin for protecting p-n semiconductor junction  
 surface  
 [NASA-CASE-ERC-10339-1] c18 N73-30532

**P-TYPE SEMICONDUCTORS**  
 Addition of group 3 elements to silicon  
 semiconductor material for increased  
 resistance to radiation damage in solar cells  
 [NASA-CASE-XLE-02798] c26 N71-23654  
 Integrated P-channel MOS gyrator  
 [NASA-CASE-MPS-22343-1] c09 N74-34638

**PACKAGES**  
 Impact testing machine for imparting large  
 impact forces on high velocity packages  
 [NASA-CASE-XNP-04817] c14 N71-23225  
 One hand backpack harness  
 [NASA-CASE-LAR-10102-1] c05 N72-23085

**PACKAGING**  
 Characteristics of device for folding thin  
 flexible sheets into compact configuration  
 [NASA-CASE-XLA-00137] c15 N70-33180  
 Method of compactly packaging centrifugally  
 expandable lightweight flexible reflector  
 satellite  
 [NASA-CASE-XLA-00138] c31 N70-37981  
 Development and characteristics of system for  
 skin packaging articles using thermoplastic  
 film heating and vacuum operated equipment  
 [NASA-CASE-MPS-20855] c15 N73-27405

**PACKING DENSITY**  
 Micropacked column for rapid chromatographic  
 analysis using low gas flow rates  
 [NASA-CASE-XNP-04816] c06 N69-39936

**PAD**  
 Journal bearings  
 [NASA-CASE-LEW-11076-3] c15 N74-10475

**PAINTS**  
 Nitroaniline sulfate, intumescent paints  
 [NASA-CASE-ARC-10099-1] c18 N71-15469  
 Composition and production method of alkali  
 metal silicate paint with ultraviolet  
 reflection properties  
 [NASA-CASE-XGS-04799] c18 N71-24183  
 White paint production by heating impure  
 aluminum silicate clay having low solar  
 absorptance  
 [NASA-CASE-XNP-02139] c18 N71-24184

**PALLADIUM COMPOUNDS**  
 Preventing pressure buildup in electrochemical  
 cells by reacting palladium oxide with evolved  
 hydrogen  
 [NASA-CASE-XGS-01419] c03 N70-41864  
 Separation of dissolved hydrogen from water and  
 coating with palladium black  
 [NASA-CASE-MSC-13335-1] c06 N72-31140

**PANELS**  
 Nut and bolt fastener permitting all-directional  
 movement of skin sections with respect to  
 supporting structure  
 [NASA-CASE-XLA-01807] c15 N71-10799  
 Multilayer insulation panels for cryogenic  
 liquid containers  
 [NASA-CASE-MPS-14023] c33 N71-25351  
 Method and apparatus for fabricating solar cell  
 panels  
 [NASA-CASE-XNP-03413] c03 N71-26726  
 Method for making pressurized meteoroid  
 penetration detector panels  
 [NASA-CASE-XLA-08916] c15 N71-29018  
 Honeycomb panels of minimal surface, periodic  
 tubule layers

## SUBJECT INDEX

## PARTICULATE SAMPLING

[NASA-CASE-ERC-10364] c18 N72-25540  
Fabrication of light weight panel structure using pairs of elongate hollow ribs of semicircular configuration

[NASA-CASE-LAR-11052-1] c32 N73-13929  
Ultrasonic scanner for radial and flat panels

[NASA-CASE-MFS-20335-1] c14 N74-10415  
A panel for selectively absorbing solar thermal energy and the method for manufacturing the panel

[NASA-CASE-MFS-22562-1] c03 N74-19700  
**PARANOMIC CAMERAS**  
Automatic focus control for facsimile cameras  
[NASA-CASE-LAR-11213-1] c14 N74-10420

**PARABOLIC ANTENNAS**  
Device for improving efficiency of parabolic horn antenna system for linearly polarized signals  
[NASA-CASE-YNP-00611] c09 N70-35219  
Drive system for parabolic tracking antenna with reversible motion and minimal backlash  
[NASA-CASE-NPO-10173] c15 N71-24696

**PARABOLIC REFLECTORS**  
Device for improving efficiency of parabolic reflector horn for linearly or circularly polarized waves  
[NASA-CASE-YNP-00540] c09 N70-35382  
Foldable, double cone and parabolic reflector system for solar ray concentration  
[NASA-CASE-XLA-04622] c03 N70-41580  
Self erecting parabolic reflector design for use in space  
[NASA-CASE-XMS-03454] c09 N71-20658  
Plural beam antenna with parabolic reflectors  
[NASA-CASE-GSC-11013-1] c09 N73-19234  
Multiwave antenna feed system for microwave and broadband communication  
[NASA-CASE-GSC-11046-1] c07 N73-28013  
Two feed dish antenna having switchable beamwidth  
[NASA-CASE-GSC-11968-1] c09 N74-34649

**PARABOLOID MIRRORS**  
Optical data processing system using paraboloidal reflecting surfaces  
[NASA-CASE-GSC-11296-1] c23 N73-30666  
Three mirror glancing incidence system for X-ray telescope  
[NASA-CASE-MFS-21372-1] c14 N74-27866

**PARACHUTE DESCENT**  
Multiple parachute system for landing control of Apollo type spacecraft  
[NASA-CASE-ILA-00898] c02 N70-36804  
Parachute system for lowering manned spacecraft from post-reentry to ocean landing  
[NASA-CASE-XLA-00195] c02 N70-38009  
Piston in bore cutter for severing parachute control lines and sealing cable hole to prevent water leakage into load  
[NASA-CASE-XMS-04072] c15 N70-42017  
Development and operating principles of gas generator for deploying recovery parachutes from space capsules during atmospheric entry  
[NASA-CASE-LAR-10549-1] c31 N73-13898

**PARACHUTE FABRICS**  
Lightweight, variable solidity knitted parachute fabric --- for aerodynamic decelerators  
[NASA-CASE-LAR-10776-1] c02 N74-10034

**PARACHUTES**  
System for controlling torque buildup in suspension of gondola connected to balloon by parachute shroud lines  
[NASA-CASE-GSC-11077-1] c02 N73-13008

**PARAGLIDERS**  
Multiple parachute system for landing control of Apollo type spacecraft  
[NASA-CASE-ILA-00898] c02 N70-36804

**PARALLEL PLATES**  
Describing instrument capable of measuring true shear viscosity of liquids and viscoelastic materials  
[NASA-CASE-YNP-09462] c14 N71-17584

**PARAMETRIC AMPLIFIERS**  
Development of idler feedback system to reduce electronic noise problem in two parametric amplifiers  
[NASA-CASE-LAR-10253-1] c09 N72-25258  
Millimeter wave pumped parametric amplifier  
[NASA-CASE-GSC-11617-1] c09 N74-32660

**PARAWINGS**  
Method for deployment of flexible wing glider from space vehicle with minimum impact and loading  
[NASA-CASE-XMS-00907] c02 N70-41630

**PARTIAL PRESSURE**  
Equipment for measuring partial water vapor pressure in gas tank  
[NASA-CASE-XMS-01618] c14 N71-20741

**PARTICLE ACCELERATION**  
Selector mechanism for mechanical separation and discrimination of high velocity molecular particles  
[NASA-CASE-XLE-01533] c11 N71-10777  
Method and apparatus for use in forming highly collimated beam of microparticles with high charge to mass ratio and injecting beam into electrostatic accelerating tube  
[NASA-CASE-XGS-06628] c24 N71-16213

**PARTICLE ACCELERATOR TARGETS**  
Dispensing targets for ion beam particle generators  
[NASA-CASE-NPO-13112-1] c11 N74-26767

**PARTICLE BEAMS**  
Particle beam power density detection and measurement apparatus  
[NASA-CASE-XLE-00243] c14 N70-38602  
Doppler shift system --- system for measuring velocities of radiating particles  
[NASA-CASE-BQN-10740-1] c24 N74-19310

**PARTICLE COLLISIONS**  
Momentum-velocity analyzer for measuring minute space particles  
[NASA-CASE-XMS-04201] c14 N71-22990

**PARTICLE DENSITY (CONCENTRATION)**  
Particle detector for measuring micrometeoroid velocity in space  
[NASA-CASE-ILA-00495] c14 N70-41332

**PARTICLE EMISSION**  
Mosaic semiconductor radiation detector and position indicator systems engineering for low energy particles  
[NASA-CASE-IGS-03230] c14 N71-23401  
Apparatus for detecting particle emission lower than noise level of multiplier tube  
[NASA-CASE-ILA-07813] c14 N72-17328

**PARTICLE ENERGY**  
Particle detector for indicating incidence and energy of minute space particles  
[NASA-CASE-ILA-00135] c14 N70-33322  
Particulate and aerosol detector --- based on discharge characteristics of charged capacitor under particle impact  
[NASA-CASE-LAR-11434-1] c14 N74-22112

**PARTICLE MASS**  
Cosmic dust analyzer  
[NASA-CASE-MSC-13802-2] c14 N74-32883

**PARTICLE MOTION**  
Moving particle composition analyzer  
[NASA-CASE-GSC-11689-1] c14 N74-32887

**PARTICLE PRODUCTION**  
Heat pipe production of high purity radioiodine for thyroid measurements  
[NASA-CASE-LEW-11390-3] c11 N73-28128

**PARTICLE SIZE DISTRIBUTION**  
Micropacked column for rapid chromatographic analysis using low gas flow rates  
[NASA-CASE-YNP-04816] c06 N69-39936  
Apparatus for producing hydrocarbon slurry containing small particles of magnesium for use as jet aircraft fuel  
[NASA-CASE-XLE-00010] c15 N70-33382  
Production of high strength refractory compounds and microconstituents into refractory metal matrix  
[NASA-CASE-ILE-03940] c18 N71-26153

**PARTICLES**  
Development of device for separating, collecting, and viewing soil particles  
[NASA-CASE-YNP-09770] c15 N71-20440  
Development of apparatus for producing metal powder particles of controlled size  
[NASA-CASE-XLE-06461-2] c17 N72-28535  
Particulate and solar radiation stable coating for spacecraft  
[NASA-CASE-LAR-10805-1] c18 N74-16246

**PARTICULATE SAMPLING**  
Design and development of device to prevent clogging in hoppers containing particulate materials  
[NASA-CASE-LAR-10961-1] c15 N73-12496

PASSAGEWAYS

SUBJECT INDEX

Development and operation of apparatus for sampling particulates in gases in upper atmosphere  
[NASA-CASE-HQN-10037-1] c14 N73-27376

Fine particulate capture device  
[NASA-CASE-LEN-11583-1] c15 N74-13199

Electrophoretic sample insertion --- device for uniformly distributing samples in flow path  
[NASA-CASE-MFS-21395-1] c14 N74-26948

**PASSAGEWAYS**

Space expandable tether device for use as passageway between two docked spacecraft  
[NASA-CASE-XMS-10993] c15 N71-28936

**PASSIVE SATELLITES**

Erectable, inflatable, radio signal reflecting passive communication satellite  
[NASA-CASE-XLA-00210] c30 N70-40309

Apparatus for measuring backscatter and transmission characteristics of sample segment of large spherical passive satellites  
[NASA-CASE-XGS-02608] c07 N70-41678

Forming inflatable panels erectable in space for passive communication satellite  
[NASA-CASE-XLA-03497] c15 N71-23052

**PATENTS**

Electromechanical actuator and its use in rocket thrust control valve  
[NASA-CASE-INP-05975] c15 N69-23185

Gas balancing, cryogenic refrigeration apparatus with Joule-Thomson valve assembly  
[NASA-CASE-NPO-10309] c15 N69-23190

Lithium drifted silicon radiation detector with gold rectifying contacts  
[NASA-CASE-XLE-10529] c14 N69-23191

Fecal waste disposal container  
[NASA-CASE-INS-06761] c05 N69-23192

Thermal shock resistant hafnia ceramic materials  
[NASA-CASE-LAR-10898-1] c18 N73-14584

**PATIENTS**

Stretcher with rigid head and neck support with capability of supporting immobilized person in vertical position for removal from vehicle hatch to exterior also useful as splint stretcher  
[NASA-CASE-INP-06589] c05 N71-23159

**PATTERN RECOGNITION**

Roughness detector for recording surface pattern of irregularities  
[NASA-CASE-XLA-00203] c14 N70-34161

Auditory display for the blind  
[NASA-CASE-HQN-10832-1] c14 N74-21014

**PAYLOADS**

Elastic foam generator for space vehicle instrument payload flotation in water landing  
[NASA-CASE-XLA-00838] c03 N70-36778

Stage separation system for spinning vehicles and payloads  
[NASA-CASE-XLA-02132] c31 N71-10582

Payload/spent rocket engine case separation system  
[NASA-CASE-XLA-05369] c31 N71-15687

High velocity guidance and spin stabilization gyro controlled jet reaction system for launch vehicle payloads  
[NASA-CASE-XLA-01339] c31 N71-15692

Payload soft landing system using stowable gas bag  
[NASA-CASE-XLA-09881] c31 N71-16085

Zero gravity apparatus utilizing pneumatic decelerating means to create payload subjected to zero gravity conditions by dropping its height  
[NASA-CASE-INP-06515] c14 N71-23227

**PCM TELEMETRY**

Variable time constant, wide frequency range smoothing network for noise removal from pulse chains  
[NASA-CASE-XGS-01983] c10 N70-41964

Data acquisition and processing system with buffer storage and timing device for magnetic tape recording of PCM data and timing information  
[NASA-CASE-NPO-12107] c08 N71-27255

High speed direct binary to binary coded decimal converter for use in PCM telemetry systems  
[NASA-CASE-KSC-10326] c08 N72-21197

**PELLETS**

Supporting structure for simultaneous exposure of pellets to X rays  
[NASA-CASE-INP-06031] c15 N71-15606

**PELLIER EFFECTS**

Use of silicon controlled rectifier shorting circuit to protect thermoelectric generator source from thermal destruction  
[NASA-CASE-XGS-04808] c03 N69-25146

**PENETRANTS**

Dye penetrant and technique for nondestructive tests of solid surfaces contacted by liquid oxygen  
[NASA-CASE-INP-02221] c18 N71-27170

**PENETRATION**

Method and device for detection of surface discontinuities or defects  
[NASA-CASE-MSC-14187-1] c14 N74-32879

**PENETROMETERS**

Development and characteristics of penetrometer for measuring physical properties of lunar surface  
[NASA-CASE-XLA-00934] c14 N71-22765

Portable penetrometer for analyzing soil characteristics  
[NASA-CASE-MFS-20774] c14 N73-19420

Auger-type soil penetrometer for burrowing into soil formations  
[NASA-CASE-INP-05530] c14 N73-32321

**PERCEPTION**

Measuring method for cutaneous perception using instrument with elongated tubular housing  
[NASA-CASE-MSC-13609-1] c05 N72-25122

**PERFLUORO COMPOUNDS**

Chemical synthesis of hydroxy terminated perfluoro ethers as intermediates for highly fluorinated polyurethane resins  
[NASA-CASE-NPO-10768] c06 N71-27254

Perfluoro polyether acyl fluorides  
[NASA-CASE-NPO-10765] c06 N72-20121

Reaction of polyperfluoropolyenes with fluorine to produce saturated polymer chain or create reactive sites on chain  
[NASA-CASE-NPO-10862] c06 N72-22107

Silphenylenesiloxane polymer with in-chain perfluoroalkyl groups  
[NASA-CASE-MFS-20979] c06 N72-25151

Polymerization of perfluorobutadiene  
[NASA-CASE-NPO-10863-2] c06 N72-25152

Formation of polyurethane resins from hydroxy terminated perfluoro ethers  
[NASA-CASE-NPO-10768-2] c06 N72-27144

Process for preparing disilanolols with in-chain perfluoroalkyl groups  
[NASA-CASE-MFS-20979-2] c06 N73-32030

**PERFORATED PLATES**

Helium outgassing process for fused glass coating on ion accelerator grid  
[NASA-CASE-LEW-10278-1] c15 N71-28582

**PERFORATED SHELLS**

Method of fabricating an article with cavities --- with thin bottom walls  
[NASA-CASE-LAR-10318-1] c14 N74-18089

**PERFORMANCE TESTS**

Flexible, frangible electrochemical cell and package for operation in low temperature environment  
[NASA-CASE-XGS-10010] c03 N72-15986

Test method and equipment for identifying faulty cells or connections in solar cell assemblies  
[NASA-CASE-NPO-10401] c03 N72-20033

Development of apparatus for detonating explosive devices in order to determine forces generated and detonation propagation rate  
[NASA-CASE-LAR-10800-1] c33 N72-27959

**PERMEABILITY**

Water insoluble, cationic permselective membrane  
[NASA-CASE-NPO-11091] c18 N72-22567

**PEROXIDES**

Low pressure perfluorobutadiene polymerization with peroxide catalysts  
[NASA-CASE-NPO-10447] c06 N70-11252

**PERSPIRATION**

Manufacturing process for making perspiration resistant-stress resistant biopotential electrode  
[NASA-CASE-MSC-90153-2] c05 N72-25120

**PERTURBATION**

Absorbing gas reactivity control system for minimizing power distribution and perturbation in nuclear reactors  
[NASA-CASE-XLE-04599] c22 N72-20597

- Laser Doppler velocimeter for simultaneously measuring orthogonal fluid velocity components without flow field perturbation  
[NASA-CASE-ARC-10637-1] c14 N73-21390
- PHASE COHERENCE**  
Apparatus for estimating amplitude and sign of phase difference or time lag between two signals  
[NASA-CASE-NPO-11203] c10 N72-20224  
Coherent receiver employing nonlinear coherence detection for carrier tracking  
[NASA-CASE-NPO-11921-1] c07 N74-30523
- PHASE CONTROL**  
System designed to reduce time required for obtaining synchronization in data communication with spacecraft utilizing pseudonoise codes  
[NASA-CASE-NPO-10214] c10 N71-26577  
Wideband voltage controlled oscillator with high phase stability  
[NASA-CASE-XLA-03893] c10 N71-27271  
System for generating timing and control signals during repetitive fixed length serial data transmission  
[NASA-CASE-NPO-13125-1] c09 N73-18225  
Voltage controlled oscillator circuit for two-phase induction motor control  
[NASA-CASE-MFS-21465-1] c10 N73-32145
- PHASE DEMODULATORS**  
Development of phase demodulation system with two phase locked loops  
[NASA-CASE-XNP-00777] c10 N71-19469
- PHASE DETECTORS**  
Detector assembly for discriminating first signal with respect to presence or absence of second signal at time of occurrence of first signal  
[NASA-CASE-XMP-00701] c09 N70-40272  
Bipolar phase detector and corrector for split phase PCM data signals  
[NASA-CASE-XGS-01590] c07 N71-12392  
High speed phase detector design indicating phase relationship between two square wave input signals  
[NASA-CASE-XNP-01306-2] c09 N71-24596  
Phase detector with time correlation integrator for frequency multiplexed signals  
[NASA-CASE-GSC-11744-1] c09 N73-23291  
Phase protection system for ac power lines  
[NASA-CASE-MSC-17832-1] c10 N74-14956  
Low distortion automatic phase control circuit --- voltage controlled phase shifter  
[NASA-CASE-MFS-21671-1] c10 N74-22885
- PHASE DEVIATION**  
System for stabilizing cable phase delay utilizing a coaxial cable under pressure  
[NASA-CASE-NPO-13138-1] c09 N74-17927
- PHASE LOCK DEMODULATORS**  
Phase locked demodulator with bandwidth switching amplifier circuit  
[NASA-CASE-XNP-01107] c10 N71-28859
- PHASE LOCKED SYSTEMS**  
System for phase locking onto carrier frequency signal located within receiver bandpass  
[NASA-CASE-XGS-04994] c09 N69-21543  
Phase locked loop with sideband rejecting properties in continuous wave tracking radar  
[NASA-CASE-XNP-02723] c07 N70-41680  
Development of automatic frequency discriminators and control for phase lock loop providing frequency preset capabilities  
[NASA-CASE-XMP-08665] c10 N71-19467  
Development and characteristics of burst synchronization detection system  
[NASA-CASE-XMS-05605-1] c10 N71-19468  
Development of phase demodulation system with two phase locked loops  
[NASA-CASE-XNP-00777] c10 N71-19469  
Diversity receiving system with diversity phase lock  
[NASA-CASE-XGS-01222] c10 N71-20841  
Phase locked phase modulation system with voltage controlled oscillator for final phase linearity  
[NASA-CASE-XNP-05382] c10 N71-23544  
Video sync processor with phase locked system  
[NASA-CASE-KSC-10002] c10 N71-25865  
Characteristics of data-aided carrier tracking loop used for tracking carrier in angle modulated communications system  
[NASA-CASE-NPO-11282] c10 N73-16205  
Filter for third order phase locked loops in signal receivers  
[NASA-CASE-NPO-11941-1] c10 N73-27171  
Improved phase lock loop for receiver in multichannel telemetry system with suppressed carrier  
[NASA-CASE-NPO-11593-1] c07 N73-28012  
Automatic carrier acquisition system for phase locked loop receiver  
[NASA-CASE-NPO-1162B-1] c07 N73-30113  
Digital phase-locked loop for accumulator output signal phase-locked to input signal  
[NASA-CASE-GSC-11623-1] c10 N73-31202  
Low speed phaselock speed control system --- for brushless dc motor  
[NASA-CASE-GSC-11127-1] c09 N74-10202  
Phase-locked servo system --- for synchronizing rotation of two or more rotating systems  
[NASA-CASE-MFS-22073-1] c09 N74-11058
- PHASE MODULATION**  
Plural channel data transmission system with quadrature modulation and complementary demodulation  
[NASA-CASE-XAC-06302] c08 N71-19763  
Adaptive notch filter, using modulation techniques for reversed phase noise signal  
[NASA-CASE-XMP-01892] c10 N71-22986  
Phase locked phase modulation system with voltage controlled oscillator for final phase linearity  
[NASA-CASE-XNP-05382] c10 N71-23544  
Scanning signal phase and amplitude electronic control device with hybrid T waveguide junction  
[NASA-CASE-NPO-10302] c10 N71-26142  
Phase modulator with tuned variable length electrical lines including coupling and varactor diode circuits  
[NASA-CASE-MSC-13201-1] c07 N71-28429  
Multicarrier communications system for transmitting modulated signals from single transmitter  
[NASA-CASE-NPO-11548] c07 N73-26118  
Phase modulation of tone and binary signals on carrier waves in communication systems  
[NASA-CASE-GSC-11743-1] c07 N73-27107  
Decision feedback loop for tracking a polyphase modulated carrier  
[NASA-CASE-NPO-13103-1] c07 N74-20811
- PHASE SHIFT**  
Bipolar phase detector and corrector for split phase PCM data signals  
[NASA-CASE-XGS-01590] c07 N71-12392  
Left and right hand circular electromagnetic polarization excitation by phase shifter and hybrid networks  
[NASA-CASE-GSC-10021-1] c09 N71-24595  
Pulse code modulated data from frequency multiplex communications by digital phase shift or carrier  
[NASA-CASE-NPO-11338] c08 N72-25208
- PHASE SHIFT CIRCUITS**  
Design of gyrator circuit using operational amplifiers to replace ungrounded inductors  
[NASA-CASE-XAC-10608-1] c09 N71-12517  
Phase shifting circuit for selecting phase of input signal  
[NASA-CASE-ARC-10269-1] c10 N72-16172  
Continuously variable, voltage-controlled phase shifter  
[NASA-CASE-NPO-11129] c09 N72-33204  
Voltage controlled oscillator circuit for two-phase induction motor control  
[NASA-CASE-MFS-21465-1] c10 N73-32145  
Low distortion automatic phase control circuit --- voltage controlled phase shifter  
[NASA-CASE-MFS-21671-1] c10 N74-22885
- PHASE SHIFT KEYING**  
Development of communication system for transmitting differential phase shift keyed signals from input data bits without timing or phase reference signals  
[NASA-CASE-MSC-14065-1] c07 N73-10215  
Decision feedback loop for tracking a polyphase modulated carrier  
[NASA-CASE-NPO-13103-1] c07 N74-20811  
Differential phase shift keyed communication system  
[NASA-CASE-MSC-14065-1] c07 N74-26654

PHASE SWITCHING INTERFEROMETERS

SUBJECT INDEX

Differential phase shift keyed signal resolver  
[NASA-CASE-MSC-14066-1] c10 N74-27705

**PHASE SWITCHING INTERFEROMETERS**  
Interferometric tuning acquisition and tracking  
radar antenna system  
[NASA-CASE-XMS-09610] c07 N71-24625

**PHASE TRANSFORMATIONS**  
Magnetohydrodynamic generator for mixing  
nonconductive gas and liquid metal mist to  
form slugs  
[NASA-CASE-XLE-02083] c03 N69-39983  
Method and feed system for separating and  
orienting liquid and vapor phases of liquid  
propellants in zero gravity environment  
[NASA-CASE-XLE-01182] c27 N71-15635

**PHASED ARRAYS**  
Development of phase control coupling for use  
with phased array antenna  
[NASA-CASE-ERC-10285] c10 N73-16206

**PHASED LOCKED SYSTEMS**  
Bit synchronization system using digital data  
transition tracking phased locked loop  
[NASA-CASE-NPO-10844] c07 N72-20140  
Digital second-order phase-locked loop  
[NASA-CASE-NPO-11905-1] c08 N74-12887

**PHEBOLIC RESINS**  
Improved bonding method in the manufacture of  
continuous regression rate sensor devices  
[NASA-CASE-LAR-10337-1] c15 N74-14141

**PHEWOLS**  
Utilization of lithium p-lithiophenoxide to  
prepare star polymers  
[NASA-CASE-NPO-10998-1] c06 N73-32029

**PHONOCARDIOGRAPHY**  
Phonocardiogram simulator producing electrical  
voltage waves to control amplitude and  
duration between simulated sounds  
[NASA-CASE-XKS-10804] c05 N71-24606  
Vibrophonocardiograph comprising low weight and  
small volume piezoelectric microphone with  
amplifier having high input impedance for high  
sensitivity and low frequency response  
[NASA-CASE-IFR-07172] c05 N71-27234

**PHOSPHATES**  
Low concentration alkaline solution treatment of  
aluminum with metal phosphate surface coatings  
to improve chemical bonding and reduce coating  
weight  
[NASA-CASE-XLA-01995] c18 N71-23047

**PHOSPHONITRILES**  
Chemical synthesis of thermally stable  
organometallic polymers with divalent metal  
ion and tetraphenylphosphonitrilic units  
[NASA-CASE-HQN-10364] c06 N71-27363

**PHOTOCATHODES**  
Spectrometer using photoelectric effect to  
obtain spectral data  
[NASA-CASE-XNP-04161] c14 N71-15599

**PHOTOCOndUCTIVITY**  
Photofabrication techniques for selective  
removal of conductive metals oxide coatings  
from nonconductive substrates  
[NASA-CASE-ERC-10108] c06 N72-21094

**PHOTOCOndUCTORS**  
Electronic divider and multiplier for analog  
electric signals  
[NASA-CASE-XPR-05637] c09 N71-19480  
Photoconducting semiconductor system for  
converting stored optical images into video  
signals  
[NASA-CASE-NPO-13131-1] c16 N73-31467

**PHOTOELECTRIC CELLS**  
Sun tracker with rotatable plane-parallel plate  
and two photocells  
[NASA-CASE-XGS-01159] c21 N71-10678  
Method of and device for determining the  
characteristics and flux distribution of  
micrometeorites --- scanning puncture holes in  
sheet material with photoelectric cell  
[NASA-CASE-NPO-12127-1] c14 N74-13130

**PHOTOELECTRIC EFFECT**  
Spectrometer using photoelectric effect to  
obtain spectral data  
[NASA-CASE-XNP-04161] c14 N71-15599

**PHOTOELECTRIC MATERIALS**  
Light radiation direction indicator with baffle  
of two parallel grids  
[NASA-CASE-XNP-03930] c14 N69-24331

Use of thin film light detector  
[NASA-CASE-NPO-11432-2] c14 N74-15090

**PHOTOGRAPHIC EQUIPMENT**  
Camera protecting device for use in  
photographing rocket engine nozzles or other  
engine components  
[NASA-CASE-NFO-10174] c14 N71-18465

**PHOTOGRAPHIC FILM**  
Longitudinalfilm gate and lock mechanism for  
securing film in motion picture cameras under  
vibration and high acceleration loads  
[NASA-CASE-LAR-10686] c14 N71-28935  
Photographic film restoration system using  
Fourier transformation lenses and spatial filter  
[NASA-CASE-MSC-12448-1] c14 N72-20394  
Mechanical exposure interlock device for  
preventing film overexposure in oscilloscope  
camera  
[NASA-CASE-LAR-10319-1] c14 N73-32322  
Photographic film restoration system  
[NASA-CASE-MSC-12448-2] c14 N74-32884

**PHOTOGRAPHIC MEASUREMENT**  
Photographic method for measuring viscoelastic  
strain in solid propellants and other materials  
[NASA-CASE-XNP-01153] c32 N71-17645  
Impact measuring technique for determining size  
of hypervelocity projectiles  
[NASA-CASE-LAR-10913] c14 N72-16282

**PHOTOGRAPHIC PROCESSING**  
An optical process for producing classification  
maps from multispectral data  
[NASA-CASE-MSC-14472-1] c13 N74-32780

**PHOTOGRAPHIC PROCESSING EQUIPMENT**  
Drying chamber for photographic sheet material  
[NASA-CASE-GSC-11074-1] c14 N73-28489

**PHOTOGRAPHIC RECORDING**  
Photographing surface flow patterns on wind  
tunnel test models  
[NASA-CASE-YLA-01353] c14 N70-41366  
Development of focused image holography with  
extended sources  
[NASA-CASE-ERC-10019] c16 N71-15551  
Recording and reconstructing focused image  
holograms  
[NASA-CASE-ERC-10017] c16 N71-15567  
Method and means for recording and  
reconstructing holograms without use of  
reference beam  
[NASA-CASE-ERC-10020] c16 N71-26154  
Multiple image storing system for obtaining  
holographic record on film of high speed  
projectile  
[NASA-CASE-MPS-20596] c14 N72-17324

Phototropic composition of matter with  
sensitivity to ultraviolet light and usable  
for producing positive photographic images  
[NASA-CASE-XGS-03736] c14 N72-22443

Method for determining thermo-physical  
properties of specimens --- photographic  
recording of changes in thin film phase-change  
temperature indicating material in wind tunnel  
[NASA-CASE-LAR-11053-1] c33 N74-18551

**PHOTOIONIZATION**  
Multichannel photoionization chamber for  
measuring absorption, photoionization yield,  
and coefficients of gases  
[NASA-CASE-ERC-10044-1] c14 N71-27090

**PHOTOMETERS**  
Michelson interferometer with photodetector for  
optical direction sensing  
[NASA-CASE-NPO-10320] c14 N71-17655  
Indicator device for monitoring charge of wet  
cell battery, using semiconductor light  
emitter and photodetector  
[NASA-CASE-NPO-10194] c03 N71-20407  
Electro-optical detector for determining  
position of light source  
[NASA-CASE-XNP-01059] c23 N71-21821  
Photometric flow meter with comparator reference  
means  
[NASA-CASE-XGS-01331] c14 N71-22996  
Development of radiant energy sensor to detect  
the radiant energy wavelength bands from  
portions of radiating body  
[NASA-CASE-ERC-10174] c14 N72-25409  
Characteristics of infrared photodetectors  
manufactured from semiconductor material  
irradiated by electron beam  
[NASA-CASE-LAR-10728-1] c14 N73-12445

- Chromato-fluorographic drug detector --- device for detecting and recording fluorescent properties of materials  
[NASA-CASE-ARC-10633-1] c14 N74-26947
- PHOTOMICROGRAPHY**  
Stereo photomicrography system with stereo microscope for viewing specimen at various magnifications  
[NASA-CASE-LAR-10176-1] c14 N72-20380  
Device for displaying and recording angled views of samples to be viewed by microscope  
[NASA-CASE-GSC-11690-1] c14 N73-28499  
Hand-held, lightweight, portable photomicroscope  
[NASA-CASE-ARC-10468-1] c14 N73-33361
- PHOTOMULTIPLIER TUBES**  
Photomultiplier detector of Canopus for spacecraft attitude control  
[NASA-CASE-XNP-03914] c21 N71-10771  
Electronic divider and multiplier for analog electric signals  
[NASA-CASE-XPR-05637] c09 N71-19480  
Circuit design for determining amount of photomultiplier tube light detection utilizing variable current source and dark current signals of opposite polarity  
[NASA-CASE-XMS-03478] c14 N71-21040  
Apparatus for detecting particle emission lower than noise level of multiplier tube  
[NASA-CASE-XLA-07813] c14 N72-17328  
Scan oscilloscope for mapping surface sensitivity of photomultiplier tube  
[NASA-CASE-LAR-10320-1] c09 N72-23172  
Design and development of light sensing device for controlling orientation of object relative to sun or other light source  
[NASA-CASE-NPO-11201] c14 N72-27409  
Photomultiplier circuit including means for rapidly reducing the sensitivity thereof --- and protection from radiation damage  
[NASA-CASE-ARC-10593-1] c09 N74-27682
- PHOTOSENSITIVITY**  
Photosensitive light source device for detecting unmanned spacecraft deviation from reference attitude  
[NASA-CASE-XNP-00438] c21 N70-35089  
Light sensitive control system for automatically opening and closing dome of solar optical telescope  
[NASA-CASE-MSC-10966] c14 N71-19568  
Scan oscilloscope for mapping surface sensitivity of photomultiplier tube  
[NASA-CASE-LAR-10320-1] c09 N72-23172  
Apparatus for calibrating an image dissector tube  
[NASA-CASE-MFS-22208-1] c14 N74-18100  
Holography utilizing surface plasmon resonances  
[NASA-CASE-MFS-22040-1] c14 N74-26946
- PHOTOTRANSISTORS**  
Phototransistor imaging system with mosaic of phototransistors on semiconductor substrate  
[NASA-CASE-MFS-20809] c23 N73-13660  
Phototransistor with base collector junction diode for integration into photo sensor arrays  
[NASA-CASE-MFS-20407] c09 N73-19235
- PHOTOTROPISM**  
Phototropic composition of matter with sensitivity to ultraviolet light and usable for producing positive photographic images  
[NASA-CASE-XGS-03736] c14 N72-22443
- PHOTOVISCOELASTICITY**  
Photographic method for measuring viscoelastic strain in solid propellants and other materials  
[NASA-CASE-XNP-01153] c32 N71-17645
- PHOTOVOLTAIC CELLS**  
Sensor consisting of photocells mounted on pyramidal base for improved pointing accuracy of planetary trackers  
[NASA-CASE-XNP-04180] c07 N69-39736  
Light sensitive digital aspect sensor for attitude control of earth satellites or space probes  
[NASA-CASE-XGS-00359] c14 N70-34158  
Method of producing output voltage from photovoltaic cell using poly-N-vinyl carbazole complexed with iodine  
[NASA-CASE-NPO-10373] c03 N71-18698  
Use of thin film light detector  
[NASA-CASE-NPO-11432-2] c14 N74-15090
- PHOTOVOLTAIC EFFECT**  
Semiconductor in resonant cavity for improving signal to noise ratio of communication receiver  
[NASA-CASE-MSC-12259-1] c07 N70-12616  
Use of thin film light detector  
[NASA-CASE-NPO-11432-2] c14 N74-15090
- PHYSICAL PROPERTIES**  
Chemical and physical properties of synthetic polyurethane polymer prepared by reacting hydroxy carbonate with organic diisocyanate  
[NASA-CASE-MFS-10512] c06 N73-30099  
Ultraviolet and thermally stable polymer compositions --- poly/(diarylsiloxy)/arylazines  
[NASA-CASE-ARC-10592-2] c06 N74-11926  
Polyimides of ether-linked aryl tetracarboxylic dianhydrides  
[NASA-CASE-MFS-22355] c06 N74-29480
- PHYSIOLOGICAL EFFECTS**  
Restraint torso for increased mobility and reduced physiological effects while wearing pressurized suits  
[NASA-CASE-MSC-12397-1] c05 N72-25119
- PHYSIOLOGICAL TESTS**  
Vibrophonocardiograph comprising low weight and small volume piezoelectric microphone with amplifier having high input impedance for high sensitivity and low frequency response  
[NASA-CASE-XPR-07172] c05 N71-27234  
Multichannel medical monitoring system to measure physiological parameters from display device at remote control station  
[NASA-CASE-MSC-14180-1] c05 N73-22045
- PHYSIOLOGY**  
Piezoelectric transducer for monitoring sound waves of physiological origin  
[NASA-CASE-XMS-05365] c14 N71-22993
- PIERCING**  
Pressurized cell micrometeoroid detector  
[NASA-CASE-XLA-00936] c14 N71-14996  
Modification of one man life raft  
[NASA-CASE-LAR-10241-1] c05 N74-14845
- PIEZOELECTRIC CRYSTALS**  
Miniature solid state, direction sensitive, stress transducer design with bonded semiconductive piezoresistive element for sensing residual stresses  
[NASA-CASE-XNP-02983] c14 N71-21091  
Ultra-stable oscillator with complementary transistors  
[NASA-CASE-GSC-11513-1] c09 N74-20862
- PIEZOELECTRIC TRANSDUCERS**  
Piezoelectric transducer for detecting and measuring micrometeoroids  
[NASA-CASE-XAC-01101] c14 N70-41957  
Describing crystal oscillator instrument for detecting condensable gas contaminants in vacuum apparatus  
[NASA-CASE-NPO-10144] c14 N71-17701  
Piezoelectric transducer for monitoring sound waves of physiological origin  
[NASA-CASE-XMS-05365] c14 N71-22993  
Miniature piezoelectric semiconductor transducer with in situ stress coupling  
[NASA-CASE-ERC-10087-2] c14 N72-31446  
Piezoelectric relay --- with pair of bimorphs  
[NASA-CASE-GSC-11627-1] c09 N74-19852
- PIEZOELECTRICITY**  
Piezoelectric means for missile stage separation indication and stage initiation  
[NASA-CASE-ILA-00791] c03 N70-39930  
Piezoelectric pump for supplying fluid at high frequencies to gyroscope fluid suspension system  
[NASA-CASE-XNP-05429] c26 N71-21824  
Miniature electromechanical junction transducer operating on piezoelectric effect and utilizing epoxy for stress coupling component  
[NASA-CASE-ERC-10087] c14 N71-27334
- PIEZORESISTIVE TRANSDUCERS**  
Miniature solid state, direction sensitive, stress transducer design with bonded semiconductive piezoresistive element for sensing residual stresses  
[NASA-CASE-XNP-02983] c14 N71-21091  
Solid state force measuring electromechanical transducers made of piezoresistive materials  
[NASA-CASE-ERC-10088] c26 N71-25490
- PIGMENTS**  
Binder stabilized zinc oxide pigmented coating for spacecraft thermal control  
[NASA-CASE-IMP-07770-2] c18 N71-26772



## PILOT TRAINING

## SUBJECT INDEX

## PILOT TRAINING

- Controlled visibility device for simulating poor visibility conditions in training pilots in instrument landing and flight procedures  
[NASA-CASE-XPR-04147] c11 N71-10748
- Vehicle simulator binocular multiplanar visual display system  
[NASA-CASE-ARC-10808-1] c11 N74-32718
- PILOTS (PERSONNEL)**
- Pilot warning indicator system of intruder aircraft  
[NASA-CASE-ERC-10226-1] c14 N73-16483
- PINS**
- Fatigue resistant shear pin with hollow shaft and two plugs  
[NASA-CASE-ILA-09122] c15 N69-27505
- Blade vibration damping pins for turbomachinery  
[NASA-CASE-XLE-00155] c28 N71-29154
- Design of quick release locking pin for joining two or more load-carrying structural members  
[NASA-CASE-NFS-18495] c15 N72-11385
- PINTLES**
- Describing metal valve pintle with encapsulated elastomeric body  
[NASA-CASE-MSC-12116-1] c15 N71-17698
- PIPE FLOW**
- Design and development of device for moving liquid through pipes without use of mechanical pumps  
[NASA-CASE-LAR-10799-1] c12 N73-12295
- PIPELINES**
- Flexible bellows joint shielding sleeve for propellant transfer pipelines  
[NASA-CASE-IMP-01855] c15 N71-28937
- PIPES (TUBES)**
- Capacitance measuring device for determining flare accuracy on tapered tubes  
[NASA-CASE-IKS-03495] c14 N69-39785
- Low thermal loss piping arrangement for moving cryogenic media through double chamber structure  
[NASA-CASE-IMP-08882] c15 N69-39935
- Foldable conduit capable of springing back as self erecting structural member  
[NASA-CASE-XLE-00620] c32 N70-41579
- Mounting fixture for supporting thermobulb in pipeline  
[NASA-CASE-NPO-10158] c33 N71-16356
- Method and apparatus for shaping and joining large diameter metal tubes using magnetomotive forces  
[NASA-CASE-IMP-05114] c15 N71-17650
- Sealed separable connection for thin wall metal tube  
[NASA-CASE-NPO-10064] c15 N71-17693
- Electrical switching device comprising conductive liquid confined within square loop of deformable nonconductive tubing also used for leveling  
[NASA-CASE-NPO-10037] c09 N71-19610
- Hand tool for forming dimples and nipples on end portion of tubes  
[NASA-CASE-IMS-06876] c15 N71-21536
- Nonconductive tube as feed system for plasma thruster  
[NASA-CASE-XLE-02902] c25 N71-21694
- Apparatus and method for spin forming tubular elbows with high strength, uniform thickness, and close tolerances  
[NASA-CASE-IMP-01083] c15 N71-22723
- Description of portable milling tool for milling tube or pipe ends to desired shape and thickness  
[NASA-CASE-IMP-03511] c15 N71-22799
- Gage for measuring internal angle of flare on end of tube  
[NASA-CASE-IMP-04415] c14 N71-24693
- Method and apparatus for portable high precision magnetomotive bulging, constricting, and joining of large diameter metal tubes  
[NASA-CASE-IMP-05114-3] c15 N71-24865
- Portable cutting machine for piping veld preparation  
[NASA-CASE-IKS-07953] c15 N71-26134
- Method and apparatus for precision sizing and joining of large diameter tubes by bulging or constricting overlapping ends  
[NASA-CASE-IMP-05114-2] c15 N71-26148
- Collapsible antenna boom and coaxial transmission line having inflatable inner tube  
[NASA-CASE-NFS-20068] c07 N71-27191
- Process for developing filament reinforced plastic tubes used in research and development programs  
[NASA-CASE-LAR-10203-1] c15 N72-16330
- Tubular guideway for high speed ground effect machines  
[NASA-CASE-LAR-10256-1] c11 N72-20253
- Torsional disconnect device for releasably coupling distal ends of fluid conduits  
[NASA-CASE-NPO-10704] c15 N72-20445
- Open type urine receptacle with tubular housing  
[NASA-CASE-MSC-12324-1] c05 N72-22093
- Measuring method for cutaneous perception using instrument with elongated tubular housing  
[NASA-CASE-MSC-13609-1] c05 N72-25122
- Low mass truss structure with elongated thin-walled tubular segments  
[NASA-CASE-LAR-10546-1] c11 N72-25287
- Honeycomb panels of minimal surface, periodic tubule layers  
[NASA-CASE-ERC-10364] c18 N72-25540
- Honeycomb core structures of minimal surface tubule sections  
[NASA-CASE-ERC-10363] c18 N72-25541
- Shaped heated tube for distillation and purification of liquid metals  
[NASA-CASE-IMP-08124-2] c06 N73-13129
- Cable guide and restraint device for reefing tubes in uniform manner  
[NASA-CASE-LAR-10129-1] c15 N73-25512
- Twisted wire or tube superconductor for filament windings  
[NASA-CASE-LEW-11015] c26 N73-32571
- Electrical conductivity cell and method for fabricating the same --- using flask with threaded neck  
[NASA-CASE-ARC-10810-1] c14 N74-29772
- Open tube guideway for high speed air cushioned vehicles  
[NASA-CASE-LAR-10256-1] c11 N74-34672
- Method and apparatus for detecting flaws in elongated bodies  
[NASA-CASE-NFS-19218-1] c14 N74-34860
- PISTONS**
- Automatically reciprocating, high pressure pump for use in spacecraft cryogenic propellants  
[NASA-CASE-IMP-04731] c15 N71-24042
- Pumping and metering dual piston system and monitor for reaction chamber constituents  
[NASA-CASE-GSC-10218-1] c15 N72-21465
- Collapsible piston for hypervelocity gun  
[NASA-CASE-MSC-13789-1] c11 N73-32152
- Airflow control system for supersonic inlets  
[NASA-CASE-LEW-11188-1] c02 N74-20646
- PITCH**
- Strapped down gyroscope aligned with sun and star tracker optical axis calibrating roll, yaw and pitch values  
[NASA-CASE-ARC-10716-1] c31 N73-32784
- PIVOTS**
- Apparatus for measuring load on cable under static or dynamic conditions comprising pulleys pivoting structure against restraint of tension strap  
[NASA-CASE-IMS-04545] c15 N71-22878
- PLANE WAVES**
- Characteristics of microwave antenna with conical reflectors to generate plane wave front  
[NASA-CASE-NPO-11661] c07 N73-14130
- PLANET EPHEMERIDES**
- Computation method and apparatus for predicting solar flares by correlating planetary ephemeris data with gravitational force effects on sun  
[NASA-CASE-ERC-10323-1] c30 N70-22183
- PLANETARY ATMOSPHERES**
- Planetary atmospheric investigation using split trajectory dual flyby mode  
[NASA-CASE-IAC-08494] c30 N71-15990
- Wind tunnel method for simulating flow fields around blunt vehicles entering planetary atmospheres without involving high temperatures  
[NASA-CASE-LAR-11138] c12 N71-20436
- Ablation sensor for measuring surface ablation rate of material on vehicles entering earths atmosphere on entry into planetary atmospheres  
[NASA-CASE-XLA-01791] c14 N71-22991
- PLANETARY GRAVITATION**
- Lunar and planetary gravity simulator to test

## SUBJECT INDEX

## PLASMA TEMPERATURE

- vehicular response to landing  
[NASA-CASE-XLA-00493] c11 N70-34786
- Table structure and rotating magnet system  
simulating gravitational forces on spacecraft  
and displaying trajectories between Earth,  
Venus, and Mercury  
[NASA-CASE-XMP-00708] c14 N70-35394
- PLANETARY LANDING**  
Multiple parachute system for landing control of  
Apollo type spacecraft  
[NASA-CASE-XLA-00898] c02 N70-36804  
Payload soft landing system using stowable gas bag  
[NASA-CASE-XLA-09881] c31 N71-16085
- PLANETARY ORBITS**  
Self-erectable space structures of flexible foam  
for application in planetary orbits  
[NASA-CASE-XLA-00686] c31 N70-34135  
Manned space station collapsible for launching  
and self-erectable in orbit  
[NASA-CASE-XLA-00678] c31 N70-34296
- PLANETARY RADIATION**  
Attitude sensor with scanning mirrors for  
detecting orientation of space vehicle with  
respect to planet  
[NASA-CASE-XLA-00793] c21 N71-22880
- PLANETARY SURFACES**  
Spacecraft transponder and ground station radar  
system for mapping planetary surfaces  
[NASA-CASE-NPO-11001] c07 N72-21118
- PLANTS (BOTANY)**  
Rotary plant growth accelerating apparatus ---  
for weightlessness simulation  
[NASA-CASE-ARC-10722-1] c04 N74-13807
- PLASMA ACCELERATION**  
Increasing available power per unit area in ion  
rocket engine by increasing beam density  
[NASA-CASE-XLE-00519] c28 N70-41576  
Coaxial, high density, hypervelocity plasma  
generator and accelerator using electrodes  
[NASA-CASE-NFS-20589] c25 N72-32688
- PLASMA ACCELERATORS**  
Crossed-field plasma accelerator for laboratory  
simulation of atmospheric reentry conditions  
[NASA-CASE-XLA-00675] c25 N70-33267  
Continuous operation, single phased, induction  
plasma accelerator producing supersonic speeds  
[NASA-CASE-XLA-01354] c25 N70-36946  
Crossed field MHD plasma generator-accelerator  
[NASA-CASE-XLA-03374] c25 N71-15562  
Direct current powered self repeating plasma  
accelerator with interconnected annular and  
linear discharge channels  
[NASA-CASE-XLA-03103] c25 N71-21693  
Converging coaxial plasma accelerator for  
generating dense high velocity plasma bursts  
[NASA-CASE-ABC-10109] c25 N71-29181  
Magnetically controlled plasma accelerator  
capable of ignition in low density gaseous  
environment  
[NASA-CASE-XLA-00327] c25 N71-29184  
Two stage light gas plasma projectile accelerator  
[NASA-CASE-NFS-22287-1] c11 N74-18891
- PLASMA CONTROL**  
Development of self-energized plasma compressor  
for compressing plasma discharged from coaxial  
plasma generator  
[NASA-CASE-NFS-22145-1] c25 N73-26721  
Superconducting magnetic field trapping device  
for producing magnetic field in air  
[NASA-CASE-XMP-01185] c26 N73-28710
- PLASMA CYLINDERS**  
Plasma-fluidic hybrid display system combining  
high brightness and memory characteristics  
[NASA-CASE-ERC-10100] c09 N71-33519
- PLASMA DENSITY**  
Apertured electrode focusing system for ion  
sources with nonuniform plasma density  
[NASA-CASE-XMP-03332] c09 N71-10618  
Measurement of plasma temperature and density  
using radiation absorption  
[NASA-CASE-ARC-10598-1] c25 N74-30156
- PLASMA DIAGNOSTICS**  
Plasma probes having guard ring and primary  
sensor at same potential to prevent stray wall  
current collection in ionized gases  
[NASA-CASE-XLE-00690] c25 N69-39884  
Apparatus for measuring conductivity and  
velocity of plasma with multiple sensing coils  
positioned in plasma  
[NASA-CASE-XAC-05695] c25 N71-16073  
Measurement of plasma temperature and density  
using radiation absorption  
[NASA-CASE-ARC-10598-1] c25 N74-30156
- PLASMA DYNAMICS**  
Apparatus for measuring conductivity and  
velocity of plasma with multiple sensing coils  
positioned in plasma  
[NASA-CASE-XAC-05695] c25 N71-16073  
Development of self-energized plasma compressor  
for compressing plasma discharged from coaxial  
plasma generator  
[NASA-CASE-NFS-22145-1] c25 N73-26721
- PLASMA ENGINES**  
Nonconductive tube as feed system for plasma  
thruster  
[NASA-CASE-XLE-02902] c25 N71-21694
- PLASMA GENERATORS**  
Apparatus for producing highly conductive, high  
temperature electron plasma with homogeneous  
temperature and pressure distribution  
[NASA-CASE-XLA-00147] c25 N70-34661  
Crossed field MHD plasma generator-accelerator  
[NASA-CASE-XLA-03374] c25 N71-15562  
Coaxial, high density, hypervelocity plasma  
generator and accelerator using electrodes  
[NASA-CASE-NFS-20589] c25 N72-32688  
Development of self-energized plasma compressor  
for compressing plasma discharged from coaxial  
plasma generator  
[NASA-CASE-NFS-22145-1] c25 N73-26721
- PLASMA GUNS**  
Plasma spraying gun for forming diffusion bonded  
metal or ceramic coatings on substrates  
[NASA-CASE-XLE-01604-2] c15 N71-15610
- PLASMA LAYERS**  
Electrostatic modulator for communicating  
through plasma sheath formed around spacecraft  
during reentry  
[NASA-CASE-XLA-01400] c07 N70-41331  
Method and apparatus for communicating through  
ionized layer of gases surrounding spacecraft  
during reentry into planetary atmospheres  
[NASA-CASE-XLA-01127] c07 N70-41372  
Reentry communication by injection of water  
droplets into plasma layer surrounding space  
vehicle  
[NASA-CASE-XLA-01552] c07 N71-11284
- PLASMA POTENTIALS**  
Method and apparatus for measuring potentials in  
plasmas  
[NASA-CASE-XLE-00821] c25 N71-15650
- PLASMA PROBES**  
Plasma probes having guard ring and primary  
sensor at same potential to prevent stray wall  
current collection in ionized gases  
[NASA-CASE-XLE-00690] c25 N69-39884  
Small plasma probe using tungsten wire collector  
in tubular shield  
[NASA-CASE-XLE-02578] c25 N71-20747
- PLASMA PROPULSION**  
Process for fabricating matched pairs of dished  
screen and accelerator grids for ion thruster  
accelerator system  
[NASA-CASE-LBW-11694-1] c28 N73-22721
- PLASMA RADIATION**  
Development of method for measuring electron  
density gradients of plasma sheath around  
space vehicle during atmospheric entry  
[NASA-CASE-XLA-06232] c25 N71-20563  
Apparatus for producing monochromatic light from  
continuous plasma source  
[NASA-CASE-XMP-04167-2] c25 N72-24753
- PLASMA SHEATHS**  
Space environment simulation system for  
measuring spacecraft electric field strength  
in plasma sheath  
[NASA-CASE-XLE-02038] c09 N71-16086  
Development of method for measuring electron  
density gradients of plasma sheath around  
space vehicle during atmospheric entry  
[NASA-CASE-XLA-06232] c25 N71-20563
- PLASMA SPRAYING**  
Flame or plasma spraying for molybdenum coating  
of carbon or graphite surfaces to prevent  
oxidative corrosion  
[NASA-CASE-XLA-00302] c15 N71-16077
- PLASMA TEMPERATURE**  
Measurement of plasma temperature and density

- using radiation absorption  
[NASA-CASE-ARC-10598-1] c25 N74-30156
- PLASMAS (PHYSICS)**  
Apparatus for measuring conductivity and velocity of plasma with multiple sensing coils positioned in plasma  
[NASA-CASE-IAC-05695] c25 N71-16073
- PLASTIC COATINGS**  
Process permitting application of synthetic resin coating to irregular-shaped objects at ambient temperature  
[NASA-CASE-INP-06508] c18 N69-39895  
Development and characteristics of system for skin packaging articles using thermoplastic film heating and vacuum operated equipment  
[NASA-CASE-NPS-20855] c15 N73-27405  
Polymer coatings for moisture protection of optical windows in infrared spectroscopy  
[NASA-CASE-ARC-10749-1] c23 N73-32542
- PLASTIC DEFOHATION**  
Process for analysis of strain field of structures subjected to large deformations involving low modulus substrate with thin coating  
[NASA-CASE-LAR-10765-1] c32 N73-20740
- PLASTIC TAPES**  
Development of flexible thermocouple in form of tape for adaptation to special temperature measuring conditions  
[NASA-CASE-LEW-11072-1] c14 N73-24472
- PLASTICS**  
Hot forming of plastic sheets  
[NASA-CASE-IHS-05516] c15 N71-17803  
Technique for making foldable, inflatable, plastic honeycomb core panels for use in building and bridge structures, light and radio wave reflectors, and spacecraft  
[NASA-CASE-XLA-03492] c15 N71-22713  
Electrode sealing and insulation for fuel cells containing caustic liquid electrolytes using powdered plastic and metal  
[NASA-CASE-IHS-01625] c15 N71-23022  
Dielectric apparatus for heating, fusing, and hardening of organic matrix to form plastic material into shaped product  
[NASA-CASE-LAR-10121-1] c15 N71-26721  
Plastic sphere for radar tracking and calibration  
[NASA-CASE-XLA-11154] c07 N72-21117  
Molding apparatus --- for thermosetting plastic compositions  
[NASA-CASE-LAR-10489-2] c15 N74-32920
- PLATES (STRUCTURAL MEMBERS)**  
Foil seal between parts moving relative to each other  
[NASA-CASE-XLE-05130] c15 N69-21362
- PLATFOHBS**  
Development of timing device for conserving batteries on remote data collection platform by generating synchronous time windows  
[NASA-CASE-GSC-11182-1] c31 N73-32769
- PLATING**  
Selective plating of etched circuits without removing previous plating  
[NASA-CASE-IGS-03120] c15 N71-24047  
Metal plating process employing spraying of metallic power/peening particle mixture  
[NASA-CASE-GSC-11163-1] c15 N73-32360  
Scanning nozzle plating system --- for etching or plating metals on substrates without masking  
[NASA-CASE-NPO-11758-1] c15 N74-23065
- PLATINUM**  
Electrolytic cell design  
[NASA-CASE-LAR-11042-1] c03 N74-29416
- PLENUM CHAMBERS**  
Platform with several ground effect pads and plenum chambers  
[NASA-CASE-NPS-14685] c31 N71-15689  
Development of filter apparatus for gas separation and characteristics of filter cell support frame for improved operation  
[NASA-CASE-MS-C-12297] c14 N72-23457
- PLOTTERS**  
Plotter device for automatically drawing equipotential lines on sheet of resistance paper  
[NASA-CASE-NPO-11134] c09 N72-21246
- PLOTTING**  
Instrument for measuring potentials on two dimensional electric field plot  
[NASA-CASE-XLA-08493] c10 N71-19421
- PLUG NOZZLES**  
Cascade plug nozzle  
[NASA-CASE-LAR-11674-1] c28 N74-33220
- PLUGS**  
Rocket chamber leak test fixture using tubular plug  
[NASA-CASE-XFR-09479] c14 N69-27503  
Fatigue resistant shear pin with hollow shaft and two plugs  
[NASA-CASE-XLA-09122] c15 N69-27505  
Control of gas flow from pressurized vessel by thermal expansion of metal plug  
[NASA-CASE-NPO-10298] c12 N71-17661  
Beated porous plug microthruster for spacecraft reaction jet controlled systems such as fuel flow regulation, propellant disassociation, and heat transfer augmentation  
[NASA-CASE-GSC-10640-1] c28 N72-18766
- PNEUMATIC CONTROL**  
Pneumatic system for cyclic control of fluid flow in pneumatic device  
[NASA-CASE-IHS-04843] c03 N69-21469  
Pneumatic control of telescopic mirror support system  
[NASA-CASE-XLA-03271] c11 N69-24321  
Actuator using compressed gas as driving force to control valve handling large liquid flows  
[NASA-CASE-XHQ-01208] c15 N70-35409  
Pneumatic mechanism for releasing hook and loop fasteners between large rigid structures  
[NASA-CASE-IHS-10660-1] c15 N71-25975  
Pneumatic foot pedal operated fluidic exercising device  
[NASA-CASE-MS-C-11561-1] c05 N73-32014
- PNEUMATIC EQUIPMENT**  
Development and characteristics of high pressure control valve  
[NASA-CASE-MS-C-11010] c15 N71-19485  
Pneumatic cantilever beams and platform for space erectable structure  
[NASA-CASE-XLA-01731] c32 N71-21045  
Fluid transferring system design for purging toxic, corrosive, or noxious fluids and fumes from materials handling equipment for cleansing and accident prevention  
[NASA-CASE-IHS-01905] c12 N71-21089  
Zero gravity apparatus utilizing pneumatic decelerating means to create payload subjected to zero gravity conditions by dropping its height  
[NASA-CASE-INP-06515] c14 N71-23227  
Pneumatic servoamplifier for controlling flow regulation  
[NASA-CASE-MS-C-12121-1] c15 N71-27147  
Portable device for detecting pneumatic pressure leaks in hermetically sealed housings  
[NASA-CASE-NPS-21761-1] c14 N73-18444  
Inflatable stabilizing system for use on life raft to reduce rocking and preclude capsizing  
[NASA-CASE-MS-C-12393-1] c02 N73-26006  
Ultrasonically bonded valve assembly  
[NASA-CASE-NPO-13360-1] c15 N74-20073
- Airlock**  
[NASA-CASE-NPS-20922-1] c15 N74-22136
- POINT SOURCES**  
Electronic background suppression field scanning sensor for detecting point source targets  
[NASA-CASE-XGS-05211] c07 N69-39980  
X ray collimating structure for focusing radiation directly onto detector  
[NASA-CASE-XHQ-04106] c14 N70-40240
- POINTING CONTROL SYSTEMS**  
Development of reflector system for application to line-of-sight pointing and tracking telescopes  
[NASA-CASE-NPO-10468] c23 N71-33229
- POLAR ORBITS**  
Spin phase synchronization of cartwheel satellite in polar orbit  
[NASA-CASE-IGS-05579] c31 N71-15676
- POLARIMETERS**  
Automatic polarimeter capable of measuring transient birefringence changes in electro-optic materials  
[NASA-CASE-INP-08883] c23 N71-16101  
Two beam interferometer-polarimeter  
[NASA-CASE-NPO-11239] c14 N73-12446
- POLARITY**  
Converting output of positive dc voltage source

- to negative dc voltage across load with common reference point  
[NASA-CASE-IMP-08217] c03 N71-23239
- Peak polarity selector for monitoring waveforms  
[NASA-CASE-FRC-10010] c16 N71-24862
- Precision full wave rectifier circuit for rectifying incoming electrical signals having positive or negative polarity with only positive output signals  
[NASA-CASE-ARC-10101-1] c09 N71-33109
- POLARIZATION (WAVES)**  
Automatic nulling system for interference signal at multichannel receiver by polarization adjustment  
[NASA-CASE-NPO-13140-1] c07 N73-27106
- POLARIZED ELECTROMAGNETIC RADIATION**  
Device for improving efficiency of parabolic horn antenna system for linearly polarized signals  
[NASA-CASE-IMP-00611] c09 N70-35219
- Device for improving efficiency of parabolic reflector horn for linearly or circularly polarized waves  
[NASA-CASE-IMP-00540] c09 N70-35382
- POLARIZED LIGHT**  
Polarization compensator for optical communications  
[NASA-CASE-GSC-11782-1] c07 N74-22827
- POLISHING**  
Conforming polisher for aspheric surfaces of revolution with inflatable tube  
[NASA-CASE-XGS-02884] c15 N71-22705
- POLLUTION MONITORING**  
Fluorescence detector for monitoring atmospheric pollutants  
[NASA-CASE-NPO-13231-1] c14 N74-25932
- POLYBUTADIENE**  
Synthesis of polyfluorobutadiene by polymerization of perfluorobutadiene with diisopropyl peroxydicarbonate  
[NASA-CASE-NPO-10863] c06 N70-11251
- Low pressure perfluorobutadiene polymerization with peroxide catalysts  
[NASA-CASE-NPO-10447] c06 N70-11252
- POLYCARBONATES**  
Transparent polycarbonate resin, shell helmet and latch design for high altitude and space flight  
[NASA-CASE-XMS-04935] c05 N71-11190
- POLYESTERS**  
Carboxyl terminated polyester prepolymers and foams produced from prepolymers and materials  
[NASA-CASE-NPO-10596] c06 N71-25929
- Apparatus for forming drive belts  
[NASA-CASE-NPO-13205-1] c15 N74-32917
- POLYETHER RESINS**  
Preparation of stable polyurethane polymer by reacting polymer with diisocyanate  
[NASA-CASE-MFS-10506] c06 N73-30100
- Preparation of fluorohydroxy ethers by reacting fluoroalkylene oxides with alkali salt of polyfluoroalkylene diol  
[NASA-CASE-MFS-10507] c06 N73-30101
- Preparation of fluorinated polyethers from 2-hydro-perhaloisopropyl alcohols  
[NASA-CASE-MFS-11492] c06 N73-30102
- POLYIMIDES**  
Stable polyimide synthesis from mixtures of monomeric diamines and polycarboxylic acid esters  
[NASA-CASE-LEW-11325-1] c06 N73-27980
- Polyimide foams for the thermal insulation and fire protection  
[NASA-CASE-ARC-10464-1] c06 N74-12812
- Aromatic polyimide preparation --- with low softening temperatures  
[NASA-CASE-LAR-11372-1] c06 N74-19772
- Reinforced structural plastics  
[NASA-CASE-LEW-10199-1] c18 N74-23125
- Polyimides of ether-linked aryl tetracarboxylic dianhydrides  
[NASA-CASE-MFS-22355] c06 N74-29480
- POLYISOBUTYLENE**  
Chemical process for production of polyisobutylene compounds and application as solid rocket propellant binder  
[NASA-CASE-NPO-10893] c27 N73-22710
- POLYMER CHEMISTRY**  
New trifunctional alcohol derived from trimer acid and novel method of preparation  
[NASA-CASE-NPO-10714] c06 N69-31244
- Synthesis of siloxane containing epoxy polymers with low dielectric properties  
[NASA-CASE-MFS-13994-1] c06 N71-11240
- Apparatus for determining volatile condensable material present in polymeric products  
[NASA-CASE-IMP-09699] c06 N71-24607
- Catalytic trimerization of aromatic nitriles and triaryl-s-triazine ring cross-linked high temperature resistant polymers and copolymers made thereby  
[NASA-CASE-LEW-12053-1] c06 N74-34579
- POLYMERIC FILMS**  
Ethylene oxide sterilization and encapsulating process for sterile preservation of instruments and solid propellants  
[NASA-CASE-IMP-09763] c14 N71-20461
- Hydraulic apparatus for casting and molding of liquid polymers  
[NASA-CASE-IMP-07659] c06 N71-22975
- Transparent plastic film for attaching cover glasses to silicon solar cells  
[NASA-CASE-LEW-11065-1] c03 N72-11064
- Thermodielectric radionometer using polymer film as capacitor  
[NASA-CASE-ARC-10138-1] c14 N72-24477
- Silicon solar cell with plastic film binding to cover glass  
[NASA-CASE-LEW-11065-2] c03 N73-26048
- Development and characteristics of system for skin packaging articles using thermoplastic film heating and vacuum operated equipment  
[NASA-CASE-MFS-20855] c15 N73-27405
- POLYMERIZATION**  
Synthesis of polyfluorobutadiene by polymerization of perfluorobutadiene with diisopropyl peroxydicarbonate  
[NASA-CASE-NPO-10863] c06 N70-11251
- Low pressure perfluorobutadiene polymerization with peroxide catalysts  
[NASA-CASE-NPO-10447] c06 N70-11252
- Process for interfacial polymerization of pyromellitic dianhydride and tetraamino benzene  
[NASA-CASE-XLA-03104] c06 N71-11235
- Synthesis and chemical properties of imidazopyrrolone/imide copolymers  
[NASA-CASE-XLA-08802] c06 N71-11238
- Direct synthesis of polymeric schiff bases from two amines and two aldehydes  
[NASA-CASE-IMP-08655] c06 N71-11239
- Synthesis of azine polymers for heat shields by azine-aromatic aldehyde reaction  
[NASA-CASE-IMP-08656] c06 N71-11242
- Synthesis of schiff bases for heat shields by acetal amine reactions  
[NASA-CASE-IMP-08652] c06 N71-11243
- Preparation of elastomeric diamine silazane polymers  
[NASA-CASE-IMP-04133] c06 N71-20717
- Reaction of polyperfluoropolyenes with fluorine to produce saturated polymer chain or create reactive sites on chain  
[NASA-CASE-NPO-10862] c06 N72-22107
- Cross linked polymer system for oil or fat absorption properties  
[NASA-CASE-NPO-11609-1] c06 N72-22114
- Silphenylenesiloxane polymer with in-chain perfluoroalkyl groups  
[NASA-CASE-MFS-20979] c06 N72-25151
- Polymerization of perfluorobutadiene  
[NASA-CASE-NPO-10863-2] c06 N72-25152
- Monomer polymerization by plasma discharge as thin film for water purification membrane  
[NASA-CASE-ARC-10643-1] c06 N73-29074
- Preparation of fluorohydroxy ethers by reacting fluoroalkylene oxides with alkali salt of polyfluoroalkylene diol  
[NASA-CASE-MFS-10507] c06 N73-30101
- Preparation of fluorinated polyethers from 2-hydro-perhaloisopropyl alcohols  
[NASA-CASE-MFS-11492] c06 N73-30102
- Fabrication of polyphenylquinoxaline composite articles by means of in situ polymerization of monomers  
[NASA-CASE-LEW-11879-1] c18 N74-20152
- POLYMERS**  
Preparation of ordered polyarylenesiloxane/polymer

- [NASA-CASE-XMP-10753] c06 N71-11237  
Synthesis of aromatic diamines and dialdehyde  
polymers using Schiff base  
[NASA-CASE-XMP-03074] c06 N71-24740  
Automated ball rebound resilience test equipment  
for determining viscoelastic properties of  
polymers  
[NASA-CASE-XLA-08254] c14 N71-26161  
Infusible polymer production from reaction of  
polyfunctional epoxy resins with  
polyfunctional aziridine compounds  
[NASA-CASE-NPO-10701] c06 N71-28620  
Development of solid state polymer coating for  
obtaining thermal balance in spacecraft  
components  
[NASA-CASE-XLA-01745] c33 N71-28903  
Mercaptan terminated polymer containing sulfonic  
acid salts of nitrosubstituted aromatic amines  
for heat and moisture resistant coatings  
[NASA-CASE-ARC-10325] c06 N72-25147  
Solid propellant containing hydrazinium  
nitroformate oxidizer and polymeric  
hydrocarbon binder  
[NASA-CASE-NPO-12015] c27 N73-16764  
Chemical process for production of  
polyisobutylene compounds and application as  
solid rocket propellant binder  
[NASA-CASE-NPO-10893] c27 N73-22710  
Utilization of lithium p-lithiphenoxide to  
prepare star polymers  
[NASA-CASE-NPO-10998-1] c06 N73-32029  
Ultraviolet and thermally stable polymer  
compositions --- poly(diarylsiloxyl)arylazines  
[NASA-CASE-ARC-10592-2] c06 N74-11926  
Method of fluxless brazing and diffusion bonding  
of aluminum containing components  
[NASA-CASE-MSC-14435-1] c15 N74-20071  
Ultraviolet and thermally stable polymer  
compositions  
[NASA-CASE-ARC-10592-1] c18 N74-21156
- POLYTETRAFLUOROETHYLENE**  
Procedure for bonding polytetrafluoroethylene  
thermal protective sleeves to magnesium alloy  
conical shell components with different  
thermal coefficients  
[NASA-CASE-XLA-01262] c15 N71-21404
- POLYURETHANE FOAM**  
Self-erectable space structures of flexible foam  
for application in planetary orbits  
[NASA-CASE-XLA-00686] c31 N70-34135  
Modification of polyurethanes with alkyl halide  
resins, inorganic salts, and encapsulated  
volatile and reactive halogen for fuel fire  
control  
[NASA-CASE-ARC-10098-1] c06 N71-24739  
Lightweight fire resistant plastic foam for  
thermal protection of reentry vehicles and  
aircraft structures  
[NASA-CASE-ARC-10180-1] c28 N72-20767  
Fiber modified polyurethane foam for ballistic  
protection  
[NASA-CASE-ARC-10714-1] c18 N74-11366  
Flexible fire retardant polyisocyanate modified  
neoprene foam --- for thermal protective devices  
[NASA-CASE-ARC-10180-1] c06 N74-12814  
Mixing insert for foam dispensing apparatus  
[NASA-CASE-MFS-20607-1] c15 N74-26989
- POLYURETHANE RESINS**  
Chemical synthesis of hydroxy terminated  
perfluoro ethers as intermediates for highly  
fluorinated polyurethane resins  
[NASA-CASE-NPO-10768] c06 N71-27254  
Formation of polyurethane resins from hydroxy  
terminated perfluoro ethers  
[NASA-CASE-NPO-10768-2] c06 N72-27144  
Fluorinated polyurethanes produced by reacting  
hydroxy terminated perfluoro polyether with  
diisocyanate  
[NASA-CASE-NPO-10767-2] c06 N72-27151  
Chemical and physical properties of synthetic  
polyurethane polymer prepared by reacting  
hydroxy carbonate with organic diisocyanate  
[NASA-CASE-MFS-10512] c06 N73-30099  
Preparation of stable polyurethane polymer by  
reacting polymer with diisocyanate  
[NASA-CASE-MFS-10506] c06 N73-30100  
Preparation of polyurethane polymer by reacting  
hydroxy polyformal with organic diisocyanate  
[NASA-CASE-MFS-10509] c06 N73-30103
- Chemical and elastic properties of fluorinated  
polyurethanes  
[NASA-CASE-NPO-10767-1] c06 N73-33076
- POROUS MATERIALS**  
Production of refractory bodies with controlled  
porosity by pressing and heating mixtures of  
refractory and inert metal powders  
[NASA-CASE-LEW-10393-1] c17 N71-15468  
Multilayer porous refractory metal ionizer  
design with thick, porous, large-grain  
substrates and thin, porous micron-grain  
substrates  
[NASA-CASE-XMP-04338] c17 N71-23046  
Lubrication for bearings by capillary action  
from oil reservoir of porous material  
[NASA-CASE-XMP-03972] c15 N71-23048  
Method and photodetector device for locating  
abnormal voids in low density materials  
[NASA-CASE-MFS-20044] c14 N71-28993  
Production method for manufacturing porous  
tungsten bodies from tungsten powder particles  
[NASA-CASE-XMP-04339] c17 N71-29137  
Compressible electrolyte saturated sponge  
electrode for biomedical applications  
[NASA-CASE-MSC-13648] c05 N72-27103  
Porous electrode for use in electrochemical cells  
[NASA-CASE-GSC-11368-1] c09 N73-32108  
Method of baking porous conductive supports for  
electrodes --- by electroforming and stacking  
nickel foils  
[NASA-CASE-GSC-11367-1] c03 N74-19692
- POROUS PLATES**  
Method for producing porous tungsten plates for  
ionizing cesium compounds for propulsion of  
ion engines  
[NASA-CASE-XLE-00455] c28 N70-38197
- PORTABLE EQUIPMENT**  
Portable electron beam welding chamber  
[NASA-CASE-LEW-11531] c15 N71-14932  
Portable apparatus producing high velocity  
annular air column surrounding low velocity,  
filtered, superclean air central core for  
industrial clean room environmental control  
[NASA-CASE-XMP-03212] c15 N71-22721  
Portable cutting machine for piping weld  
preparation  
[NASA-CASE-YKS-07953] c15 N71-26134  
Method and apparatus for precision sizing and  
joining of large diameter tubes by bulging or  
constricting overlapping ends  
[NASA-CASE-XMP-05114-2] c15 N71-26148  
Portable cryogenic cooling system design  
including turbine pump, cooling chamber, and  
atomizer  
[NASA-CASE-NPO-10467] c23 N71-26654  
Automatic controlled drive mechanism for  
portable boring bar  
[NASA-CASE-XLA-03661] c15 N71-33518  
One hand backpack harness  
[NASA-CASE-LAR-10102-1] c05 N72-23085  
Portable tester for monitoring bacterial  
contamination by adenosine triphosphate light  
reaction  
[NASA-CASE-GSC-10879-1] c14 N72-25413  
Portable device for detecting pneumatic pressure  
leaks in hermetically sealed housings  
[NASA-CASE-MFS-21761-1] c14 N73-18444  
Portable penetrometer for analyzing soil  
characteristics  
[NASA-CASE-MFS-20774] c14 N73-19420  
Tool exchange capabilities of portable wrench  
characterized by telescopic sleeve  
[NASA-CASE-MFS-22283-1] c15 N73-30462  
Hand-held, lightweight, portable photomicroscope  
[NASA-CASE-ARC-10468-1] c14 N73-33361
- PORTS (OPENINGS)**  
Sealing evacuation port and evacuating vacuum  
container such as space jackets  
[NASA-CASE-XMP-03290] c15 N71-23256
- POSITION (LOCATION)**  
Position locating system for remote aircraft  
using voice communication and digital signals  
[NASA-CASE-GSC-10087-2] c21 N71-13958  
Development of telemetry system for position  
location and data acquisition  
[NASA-CASE-GSC-10083-1] c30 N71-16090  
Automatic braking device for rapidly  
transferring humans or materials from elevated  
location

- [NASA-CASE-XKS-07814] c15 N71-27067  
 System and method for position locating for air traffic control involving supersonic transports  
 [NASA-CASE-GSC-10087-3] c07 N72-12080  
 Location identification system with ground based transmitter and aircraft borne receiver/decoder  
 [NASA-CASE-ERC-10324] c07 N72-25173  
 System for detecting impact position of cosmic dust on detector surface  
 [NASA-CASE-GSC-11291-1] c25 N72-33696  
 Development of radio locating system for monitoring geographic movement of surface vehicles in metropolitan area using unsynchronized radio broadcasting stations  
 [NASA-CASE-NPO-13217-1] c07 N73-26144  
 Collimator for analyzing spatial location of near and distant sources of radiation  
 [NASA-CASE-MPS-20546-2] c14 N73-30389  
 Measuring probe position recorder  
 [NASA-CASE-LAR-10806-1] c14 N74-32877  
 Impact position detector for outer space particles  
 [NASA-CASE-GSC-11829-1] c14 N74-32886
- POSITION INDICATORS**  
 Rocket-borne aspect sensor consisting of radiation sensor, apertured disk, commutator, and counting circuits  
 [NASA-CASE-XGS-08266] c14 N69-27432  
 Characteristics and performance of electrical system to determine angular rotation  
 [NASA-CASE-XMP-00447] c14 N70-33179  
 Magnetic element position sensing device, using misaligned electromagnets  
 [NASA-CASE-XGS-07514] c23 N71-16099  
 Describing angular position and velocity sensing apparatus  
 [NASA-CASE-XGS-05680] c14 N71-17585  
 Mosaic semiconductor radiation detector and position indicator systems engineering for low energy particles  
 [NASA-CASE-XGS-03230] c14 N71-23401  
 Doppler compensated communication system for locating supersonic transport position  
 [NASA-CASE-GSC-10087-4] c07 N73-20174
- POSITIONING**  
 Centering device with ultrafine adjustment for use with roundness measuring apparatus  
 [NASA-CASE-IMP-00480] c14 N70-39898  
 Portable device for aligning surfaces of two adjacent wall or sheet sections for joining at point of junction  
 [NASA-CASE-IMP-01452] c15 N70-41371  
 Electro-optical/computer system for aligning large structural members and maintaining correct position  
 [NASA-CASE-XMP-02029] c14 N70-41955  
 Manual control mechanism for adjusting control rod to null position  
 [NASA-CASE-XLA-01808] c15 N71-20740  
 Rotating raster generator  
 [NASA-CASE-FRC-10071-1] c07 N74-20813
- POSITIONING DEVICES (MACHINERY)**  
 Swivel support for gas bearing for position adjustment between ball and supporting cup  
 [NASA-CASE-IMP-07808] c15 N71-23812  
 Caterpillar micropositioner for positioning machine tools adjacent to workpiece  
 [NASA-CASE-GSC-10780-1] c14 N72-16283  
 Positioning mechanism for converting translatory motion into rotary motion  
 [NASA-CASE-NPO-10679] c15 N72-21462  
 Design and development of test stand system for supporting test items in vacuum chamber  
 [NASA-CASE-MPS-21362] c11 N73-20267  
 Reference apparatus for medical ultrasonic transducer  
 [NASA-CASE-ARC-10753-1] c05 N74-13818  
 Method and apparatus for optically monitoring the angular position of a rotating mirror  
 [NASA-CASE-GSC-11353-1] c23 N74-21304
- POSITIVE FEEDBACK**  
 Complementary regenerative transistorized switch circuit employing positive and negative feedback  
 [NASA-CASE-IGS-02751] c09 N71-23015
- POTABLE WATER**  
 Potable water reclamation from human wastes in zero-G environment  
 [NASA-CASE-XLA-03213] c05 N71-11207  
 Utilization of solar radiation by solar still for converting salt and brackish water into potable water  
 [NASA-CASE-INS-04533] c15 N71-23086  
 Chlorine generator for purifying water in life support systems of manned spacecraft  
 [NASA-CASE-XLA-08913] c14 N71-28933  
 Potable water dispenser  
 [NASA-CASE-MPS-21115-1] c05 N74-12779  
 Metering gun for dispensing precisely measured charges of fluid  
 [NASA-CASE-MPS-21163-1] c05 N74-17853
- POTASSIUM SILICATES**  
 Fireproof potassium silicate coating composition, insoluble in water after application  
 [NASA-CASE-GSC-10072] c18 N71-14014
- POTENTIOMETERS (INSTRUMENTS)**  
 Two axis flight controller with potentiometer control shafts directly coupled to rotatable ball members  
 [NASA-CASE-IFR-04104] c03 N70-42073  
 Device for controlling rotary potentiometer mounted on aircraft steering wheel or aileron control  
 [NASA-CASE-XAC-10019] c15 N71-23809  
 Mechanical function generators with potentiometer as sensing element  
 [NASA-CASE-XAC-00001] c15 N71-28952
- POTTING COMPOUNDS**  
 Removable potting compound for instrument shock protection  
 [NASA-CASE-XLA-00482] c15 N70-36409  
 Flexible, repairable, pottable composition for encapsulating electric connectors  
 [NASA-CASE-XGS-05180] c18 N71-25881  
 Thermally conductive polymer for potting electrical components  
 [NASA-CASE-GSC-11304-1] c06 N72-21105
- POWDER METALLURGY**  
 Freeze casting of metal ceramic and refractory compound powders into plastic slips  
 [NASA-CASE-XLE-00106] c15 N71-16076  
 Production method for manufacturing porous tungsten bodies from tungsten powder particles  
 [NASA-CASE-XNP-04339] c17 N71-29137  
 Dry electrode manufacture, using silver powder with cement  
 [NASA-CASE-FRC-10029-2] c05 N72-25121  
 Grinding mixtures of powdered metals and inert fillers for conversion to halide  
 [NASA-CASE-LEW-10450-1] c15 N72-25448  
 Superalloys from prealloyed powders at high temperatures  
 [NASA-CASE-LEW-10805-1] c15 N73-13465  
 Development of method for fabricating cernets and analysis of various compositions to show electrical and physical properties  
 [NASA-CASE-NPO-13120-1] c18 N73-23629  
 Method of heat treating a formed powder product material  
 [NASA-CASE-LEW-10805-3] c17 N74-10521  
 Method of forming articles of manufacture from superalloy powders  
 [NASA-CASE-LEW-10805-2] c15 N74-13179
- POWER AMPLIFIERS**  
 Characteristics of high power, low distortion, alternating current power amplifier  
 [NASA-CASE-LAR-10218-1] c09 N70-34559  
 Power supply with automatic power factor conversion system  
 [NASA-CASE-XMS-02159] c10 N71-22961  
 Solid state broadband stable power amplifier  
 [NASA-CASE-IMP-10854] c10 N71-26331  
 High efficiency transformerless amplitude modulator coupled to RF power amplifier  
 [NASA-CASE-GSC-10668-1] c07 N71-28430  
 Isolated output system for a class D switching-mode amplifier  
 [NASA-CASE-MPS-21616-1] c09 N74-21859
- POWER EFFICIENCY**  
 Low power drain transistor feedback circuit  
 [NASA-CASE-XGS-04999] c09 N69-24317  
 Excitation and detection circuitry for flux responsive magnetic head  
 [NASA-CASE-IMP-04183] c09 N69-24329  
 Increasing available power per unit area in ion rocket engine by increasing beam density  
 [NASA-CASE-ILE-00519] c28 N70-41576  
 Absorbing gas reactivity control system for minimizing power distribution and perturbation

- in nuclear reactors  
[NASA-CASE-XLE-04599] c22 N72-20597
- POWER GAIN**  
Serrodyne traveling wave tube reentrant amplifier for synchronous communication satellites operating at microwave frequencies [NASA-CASE-XGS-01022] c07 N71-16088  
Switching circuit for control of cathode ray tube beam with fast rise time for output signal [NASA-CASE-KSC-10647-1] c10 N72-31273
- POWER LIMITERS**  
Monostable multivibrator for conserving power in spacecraft systems [NASA-CASE-GSC-10082-1] c10 N72-20221
- POWER LINES**  
Patent data on terminal insert connector for flat electric cables [NASA-CASE-XMP-00324] c09 N70-34596  
Motor run-up system --- for preventing power line disturbances when synchronous motor is connected to line [NASA-CASE-NPO-13374-1] c10 N74-17949
- POWER SEEBIES**  
Describing circuit for obtaining sum of squares of numbers [NASA-CASE-XGS-04765] c08 N71-18693
- POWER SPECTRA**  
Method and apparatus for high resolution power spectrum analysis [NASA-CASE-NPO-10748] c08 N72-20177
- POWER SUPPLIES**  
Tape recorder designed for low power consumption and resistance to operational failure under high stress conditions [NASA-CASE-XGS-08259] c14 N71-23698  
Current dependent variable inductance for input filter chokes of ac or dc power supplies [NASA-CASE-ERC-10139] c09 N72-17154  
Performance of ac power supply developed for CO2 laser system [NASA-CASE-GSC-11222-1] c16 N73-32391
- POWER SUPPLY CIRCUITS**  
Regulated dc to dc converter [NASA-CASE-XGS-03429] c03 N69-21330  
Power control switching circuit using low voltage semiconductor controlled rectifiers for high voltage isolation [NASA-CASE-XNP-02713] c10 N69-39888  
Increasing power conversion efficiency of electronic amplifiers by power supply switching [NASA-CASE-XMS-00945] c09 N71-10798  
Electric power system utilizing thermionic plasma diodes in parallel and heat pipes as cathodes [NASA-CASE-XMP-05843] c03 N71-11055  
Pulsed energy power system for application of combustible gases to turbine controlling ac voltage generator [NASA-CASE-MSC-13112] c03 N71-11057  
Data processor having multiple sections activated at different times by selective power coupling to sections [NASA-CASE-XGS-04767] c08 N71-12494  
Microwave power receiving antenna solving heat dissipation problems by construction of elements as heat pipe devices [NASA-CASE-MPS-20333] c09 N71-13486  
Design, development, and operating principles of power supply with starting circuit which is independent of voltage regulator [NASA-CASE-XMS-01991] c09 N71-21449  
Power supply with automatic power factor conversion system [NASA-CASE-XMS-02159] c10 N71-22961  
Electric circuit for reversing direction of current flow [NASA-CASE-XNP-00952] c10 N71-23271  
Power supply with overload protection for series stage transistor [NASA-CASE-XMS-00913] c10 N71-23543  
Automatic power supply circuit design for driving inductive loads and minimizing power consumption including solenoid example [NASA-CASE-NPO-10716] c09 N71-24892  
Unsaturation magnetic core transformer design with warning signal for electrical power processing equipment [NASA-CASE-ERC-10125] c09 N71-24893
- Device for monitoring voltage by generating signal when voltages drop below predetermined value [NASA-CASE-KSC-10020] c10 N71-27338  
Power point tracker for maintaining optimal output voltage of power source [NASA-CASE-GSC-10376-1] c14 N71-27407  
Microwave power divider for providing variable output power to output waveguide in fixed waveguide system [NASA-CASE-NPO-11031] c07 N71-33606  
Circuit for monitoring power supply by ripple current indication [NASA-CASE-KSC-10162] c09 N72-11225  
Dc to ac to dc converter with transistor driven synchronous rectifiers [NASA-CASE-GSC-11126-1] c09 N72-25253  
Integrated circuit power gyrator with Z-matrix design using parallel transistors [NASA-CASE-MPS-22342-1] c09 N73-24236  
LC-oscillator with automatic stabilized amplitude via bias current control --- power supply circuit for transducers [NASA-CASE-MPS-21698-1] c09 N74-26732
- PRECESSION**  
Dynamic precession damping of spin-stabilized vehicles by using rate gyroscope and angular accelerometer [NASA-CASE-XLA-01989] c21 N70-34295
- PRECIPITATION (CHEMISTRY)**  
Production of pure metals [NASA-CASE-LEW-10906-1] c06 N74-30502
- PRECISION**  
Precision stepping drive device using cam disk [NASA-CASE-MPS-14772] c15 N71-17692  
Method and apparatus for precision sizing and joining of large diameter tubes by bulging or constricting overlapping ends [NASA-CASE-XMP-05114-2] c15 N71-26148
- PREDICTION ANALYSIS TECHNIQUES**  
A space vehicle [NASA-CASE-MPS-22734-1] c31 N74-20541
- PREFLIGHT OPERATIONS**  
Automatic balancing device for use on frictionless supported attitude-controlled test platforms [NASA-CASE-LAR-10774] c10 N71-13545
- PRELAUNCH TESTS**  
Low loss parasitic probe antenna for prelaunch tests of spacecraft antennas [NASA-CASE-XKS-09348] c09 N71-13521  
Digital computer system for automatic prelaunch checkout of spacecraft [NASA-CASE-XKS-08012-2] c31 N71-15566
- PREPOLYMERS**  
Carboxyl terminated polyester prepolymers and foams produced from prepolymers and materials [NASA-CASE-NPO-10596] c06 N71-25929
- PRESSURE CHAMBERS**  
Triggering system for electric arc driven impulse wind tunnel [NASA-CASE-XMP-00411] c11 N70-36913  
Whole body measurement systems --- for weightlessness simulation [NASA-CASE-MSC-13972-1] c05 N74-10975
- PRESSURE DISTRIBUTION**  
Piston device for producing known constant positive pressure within lungs by using thoracic muscles [NASA-CASE-XMS-01615] c05 N70-41329  
Preventing pressure buildup in electrochemical cells by reacting palladium oxide with evolved hydrogen [NASA-CASE-XGS-01419] c03 N70-41864  
Device for suppressing pressure oscillations in fluid transmission line [NASA-CASE-MPS-10354-2] c12 N72-25306
- PRESSURE EFFECTS**  
Vacuum displacement compression molding of tubular bodies from thermosetting plastics [NASA-CASE-LAR-10782-2] c15 N73-31444  
System for stabilizing cable phase delay utilizing a coaxial cable under pressure [NASA-CASE-NPO-13138-1] c09 N74-17927  
An internally supported flexible duct joint --- device for conducting fluids in high pressure systems when flexible joints are required [NASA-CASE-MPS-19193-1] c15 N74-22145

## PRESSURE GAGES

Differential pressure cell insensitive to changes in ambient temperature and extreme overload  
[NASA-CASE-XAC-00042] c14 N70-34816

Flood pressure measuring system for separately recording dc and ac pressure signals of Korotkoff sounds  
[NASA-CASE-XMS-06061] c05 N71-23317

Control system for pressure balance device used in calibrating pressure gages  
[NASA-CASE-XMP-04134] c14 N71-23755

Improved McLeod gage for pressure measurement  
[NASA-CASE-XAC-04458] c14 N71-24232

Ultrahigh vacuum gauge with two collector electrodes  
[NASA-CASE-LAR-02743] c14 N73-32324

**PRESSURE GRADIENTS**

Positive displacement flowmeter for measuring extremely low flows of fluid with self calibrating features  
[NASA-CASE-XMP-02822] c14 N70-41994

Wingtip vortex dissipator for aircraft  
[NASA-CASE-LAR-11645-1] c02 N74-26456

**PRESSURE MEASUREMENTS**

Design and development of inertia diaphragm pressure transducer  
[NASA-CASE-XAC-02981] c14 N71-21072

Design and development of pressure sensor for measuring differential pressures of few pounds per square inch  
[NASA-CASE-XMP-01974] c14 N71-22752

Improved McLeod gage for pressure measurement  
[NASA-CASE-XAC-04458] c14 N71-24232

Coherent light beam device and method for measuring gas density in vacuum chambers  
[NASA-CASE-YER-11203] c14 N71-28994

Design, development, and characteristics of pressure and temperature sensor operating immersed in fluid flow  
[NASA-CASE-LEW-10281-1] c14 N72-17327

Calibration of vacuum gauges for measuring total and partial pressures in ultrahigh vacuum region  
[NASA-CASE-IGS-07752] c14 N73-30390

Absolute pressure measuring device for measuring gas density level in high vacuum range  
[NASA-CASE-LAR-10000] c14 N73-30394

Wind tunnel model and method  
[NASA-CASE-LAR-10812-1] c11 N74-17955

**PRESSURE OSCILLATIONS**

Device for suppressing pressure oscillations in fluid transmission lines  
[NASA-CASE-MFS-10354] c12 N70-41976

**PRESSURE REDUCTION**

Relief valve to permit slow and fast bleeding rates at difference pressure levels  
[NASA-CASE-XMS-05894-1] c15 N69-21924

Sealed electric storage battery with gas manifold interconnecting each cell  
[NASA-CASE-XNP-03378] c03 N71-11051

**PRESSURE REGULATORS**

Pressure regulating system with high pressure fluid source, adapted to maintain constant downstream pressure  
[NASA-CASE-XNP-00450] c15 N70-38603

Pulmonary resuscitation method and apparatus with adjustable pressure regulator  
[NASA-CASE-XMS-01115] c05 N70-39922

Structural design of high pressure regulator valve  
[NASA-CASE-XNP-00710] c15 N71-10778

Space suit with pressure-volume compensator system  
[NASA-CASE-XLA-05332] c05 N71-11194

Portable environmental control and life support system for astronaut in and out of spacecraft  
[NASA-CASE-XMS-09632-1] c05 N71-11203

Antibacklash circuit for hydraulic drive system  
[NASA-CASE-XNP-01020] c03 N71-12260

High impact pressure regulator having minimum number of lightweight movable elements  
[NASA-CASE-NPO-10175] c14 N71-18625

Pressure regulator for space suit worn underwater to simulate space environment for testing and experimentation  
[NASA-CASE-MFS-20332] c05 N72-20097

Underwater space suit pressure control regulator  
[NASA-CASE-MFS-20332-2] c05 N73-25125

Development and characteristics of combined pressure regulator and shutoff valve with variable pressure response characteristics

[NASA-CASE-NPO-13201-1] c15 N73-26474

**PRESSURE SENSORS**

Fabrication of pressure-telemetry transducers  
[NASA-CASE-XNP-09752] c14 N69-21541

Pressure probe for sensing ambient static air pressures  
[NASA-CASE-XLA-00481] c14 N70-36824

Ambient atmospheric pressure sensing device for determining altitude of flight vehicles  
[NASA-CASE-XLA-00128] c15 N70-37925

Dynamic sensor for gas pressure or density measurement  
[NASA-CASE-XAC-02877] c14 N70-41681

Design and development of inertia diaphragm pressure transducer  
[NASA-CASE-XAC-02981] c14 N71-21072

Design and development of pressure sensor for measuring differential pressures of few pounds per square inch  
[NASA-CASE-IMP-01974] c14 N71-22752

Combination pressure transducer-calibrator assembly for measuring fluid  
[NASA-CASE-XNP-01660] c14 N71-23036

Pressure sensor network for measuring liquid dynamic response in flight including fuel tank acceleration, liquid slosh amplitude, and fuel depth monitoring  
[NASA-CASE-XLA-05541] c12 N71-26387

Miniature electromechanical junction transducer operating on piezounjunction effect and utilizing epoxy for stress coupling component  
[NASA-CASE-ERC-10087] c14 N71-27334

Method for making pressurized meteoroid penetration detector panels  
[NASA-CASE-XLA-08916] c15 N71-29018

Design, development, and characteristics of pressure and temperature sensor operating immersed in fluid flow  
[NASA-CASE-LEW-10281-1] c14 N72-17327

Pressure transducer for systems for measuring forces of compression  
[NASA-CASE-NPO-10832] c14 N72-21405

Pressure operated electrical switch responsive to pressure decrease after pressure increase  
[NASA-CASE-LAR-10137-1] c09 N72-22204

Wide range dynamic pressure sensor with vibrating diaphragm for measuring density and pressure of gaseous environment  
[NASA-CASE-ARC-10263-1] c14 N72-22438

Development of differential pressure control system using motion of mechanical diaphragms to operate electric switch  
[NASA-CASE-MFS-14216] c14 N73-13418

Initial systole and diastolic notch detecting circuitry for monitoring arterial pressure pulse  
[NASA-CASE-LEW-11581-1] c05 N73-18139

Portable device for detecting pneumatic pressure leaks in hermetically sealed housings  
[NASA-CASE-MFS-21761-1] c14 N73-18444

System for calibrating pressure transducer  
[NASA-CASE-LAR-10910-1] c14 N74-13132

Trielectrode capacitive pressure transducer  
[NASA-CASE-ARC-10711-1] c14 N74-29773

Stagnation pressure probe --- for measuring pressure of supersonic gas streams  
[NASA-CASE-LAR-11139-1] c14 N74-32878

**PRESSURE SUITS**

Helmet and torso tiedown mechanism for shortening pressure suits upon inflation  
[NASA-CASE-XMS-00784] c05 N71-12335

Design and development of flexible joint for pressure suits  
[NASA-CASE-XMS-09636] c05 N71-12344

Cord restraint system for pressure suit joints  
[NASA-CASE-XMS-09635] c05 N71-24623

Development of improved convolute section for pressurized suits to provide high degree of mobility in response to minimum of applied torque  
[NASA-CASE-XMS-09637-1] c05 N71-24730

Fabrication of root cord restrained fabric suit sections from sheets of fabric  
[NASA-CASE-MSC-12398] c05 N72-20098

Restraint torso for increased mobility and reduced physiological effects while wearing pressurized suits  
[NASA-CASE-MSC-12397-1] c05 N72-25119

Flexible joint for pressurizable garment  
[NASA-CASE-MSC-11072] c05 N74-32546



**PRESSURE SWITCHES**

**SUBJECT INDEX**

**PRESSURE SWITCHES**

Reinforcing beam system for highly flexible diaphragms in valves or pressure switches  
[NASA-CASE-IMP-01962] c32 N70-41370

**PRESSURE VESSELS**

Liquid rocket systems for propulsion and control of spacecraft  
[NASA-CASE-IMP-00610] c28 N70-36910

Thin walled pressure test vessel using low-melting alloy-filled joint to attach shell to heads  
[NASA-CASE-ILE-04677] c15 N71-10577

Control of gas flow from pressurized vessel by thermal expansion of metal plug  
[NASA-CASE-WPO-10298] c12 N71-17661

Method and apparatus for inducing compressive stresses in pressure vessel to prevent stress corrosion  
[NASA-CASE-ILA-07390] c15 N71-18616

Heater-mixer for stored fluids  
[NASA-CASE-ARC-10442-1] c14 N74-15093

**PRESSURE WELDING**

Diffusion welding --- heat treatment of nickel alloys following single step vacuum welding process  
[NASA-CASE-LEN-11388-2] c15 N74-21055

**PRESTRESSING**

Prestressed rocket nozzle with ceramic inner rings and refractory metal outer rings  
[NASA-CASE-IMP-02888] c18 N71-21068

**PRETREATMENT**

Anti-wettable materials brazing processes using titanium and zirconium for surface pretreatment  
[NASA-CASE-IMS-03537] c15 N69-21471

**PRINTED CIRCUITS**

Electrical feedthrough connection for printed circuit boards  
[NASA-CASE-IMP-01483] c14 N69-27431

Electric connector for printed cable to printed cable or to printed board  
[NASA-CASE-IMP-00369] c09 N70-36494

Electrical connection for printed circuits on common board, using bellows principle in rivet  
[NASA-CASE-IMP-05082] c15 N70-81960

Electrical spot terminal assembly for printed circuit boards  
[NASA-CASE-WPO-10034] c15 N71-17685

Solder coating process for printed copper circuit protection  
[NASA-CASE-IMP-01599] c09 N71-20705

Handling tool for printed circuit cards  
[NASA-CASE-MPS-20453] c15 N71-29133

Development and characteristics of polyimide impregnated laminates with fiberglass cloth backing for application as printed circuit boards  
[NASA-CASE-MPS-20408] c18 N73-12604

Techniques for packaging and mounting printed circuit boards  
[NASA-CASE-MPS-21919-1] c10 N73-25243

Device for configuring multiple leads --- method for connecting electric leads to printed circuit board  
[NASA-CASE-MPS-22133-1] c15 N74-26977

**PRINTOUTS**

Handling tool for printed circuit cards  
[NASA-CASE-MPS-20453] c15 N71-29133

**PRISMS**

Interferometer prism and control system for precisely determining direction to remote light source  
[NASA-CASE-ARC-10278-1] c14 N73-25463

**PROBES**

Method and apparatus for connecting two spacecraft with probe of one inserted in rocket engine nozzle of other spacecraft  
[NASA-CASE-MPS-11133] c31 N71-16222

Development of droplet monitoring probe for use in analysis of droplet propagation in mixed-phase fluid stream  
[NASA-CASE-WPO-10985] c14 N73-20478

**PRODUCT DEVELOPMENT**

Using molds for fabricating individual fluid circuit components  
[NASA-CASE-ILA-07829] c15 N72-16329

Process for developing filament reinforced plastic tubes used in research and development programs  
[NASA-CASE-LAR-10203-1] c15 N72-16330

Simplified technique and device for producing industrial grade synthetic diamonds  
[NASA-CASE-MPS-20698-2] c15 N73-19457

**PRODUCTION ENGINEERING**

Standard coupling design for mass production  
[NASA-CASE-IMS-02532] c15 N70-41808

Fabrication of curved reflector segments for solar mirror  
[NASA-CASE-ILE-08917] c15 N71-15597

Production of barium fluoride-calcium fluoride composite lubricant for bearings or seals  
[NASA-CASE-ILE-08511-2] c18 N71-16105

Fabrication of sintered impurity semiconductor brushes for electrical energy transfer  
[NASA-CASE-IMP-01016] c26 N71-17818

Technique for making foldable, inflatable, plastic honeycomb core panels for use in building and bridge structures, light and radio wave reflectors, and spacecraft  
[NASA-CASE-ILA-03492] c15 N71-22713

Multilayer porous refractory metal ionizer design with thick, porous, large-grain substrates and thin, porous micron-grain substrates  
[NASA-CASE-IMP-04338] c17 N71-23046

Permanently magnetized ion engine casing construction for use in spacecraft propulsion systems  
[NASA-CASE-IMP-06942] c28 N71-23293

Dry electrode design with wire sandwiched between two flexible conductive discs for monitoring physiological responses  
[NASA-CASE-FRC-10029] c09 N71-24618

Processes for making metal sheets or plaques with parallel pores of uniform size  
[NASA-CASE-GSC-10984-1] c15 N71-34427

Production method of star tracking reticles for transmitting in visible and near ultraviolet regions  
[NASA-CASE-GSC-11188-1] c14 N73-32320

**PROJECTILES**

Self-obturator gas-operated launcher for launching projectiles in decontaminated medium  
[NASA-CASE-WPO-11013] c11 N72-22247

Two stage light gas plasma projectile accelerator  
[NASA-CASE-MPS-22287-1] c11 N74-18891

**PROJECTORS**

Optical projector system for establishing optimum arrangement of instrument displays in aircraft, spacecraft, other vehicles, and industrial instrument consoles  
[NASA-CASE-IMP-03853] c23 N71-21882

**PROPAGATION MODES**

Dual waveguide mode source for controlling amplitudes of two modes  
[NASA-CASE-IMP-03134] c07 N71-10676

**PROPELLANT BINDERS**

Chemical process for production of polyisobutylene compounds and application as solid rocket propellant binder  
[NASA-CASE-WPO-10893] c27 N73-22710

**PROPELLANT COMBUSTION**

Spherical solid propellant rocket engine having abrupt burnout  
[NASA-CASE-IBQ-01897] c28 N70-35381

Rocket combustion chamber stability by controlling transverse instability during propellant combustion  
[NASA-CASE-ILE-04603] c33 N71-21507

**PROPELLANT DECOMPOSITION**

Unit for generating thrust from catalytic decomposition of hydrogen peroxide, for high altitude aircraft or spacecraft reaction control  
[NASA-CASE-IMS-00583] c28 N70-38504

**PROPELLANT GRAINS**

Grain configuration for solid propellant rocket engines  
[NASA-CASE-IGS-03556] c27 N70-35534

**PROPELLANT TANKS**

Liquid rocket systems for propulsion and control of spacecraft  
[NASA-CASE-IMP-00610] c28 N70-36910

Slosh damping method for liquid rocket propellant tanks  
[NASA-CASE-IMP-00658] c12 N70-38997

Expulsion and measuring device for determining quantity of liquid in tank under conditions of weightlessness  
[NASA-CASE-IMS-01546] c14 N70-40233

- Collapsible auxiliary tank for restarting liquid propellant rocket motors under zero gravity  
[NASA-CASE-INP-01390] c28 N70-01275
- Liquid propellant tank design with semitoroidal bulkhead  
[NASA-CASE-INP-01899] c31 N70-01908
- Microleak detector mounted on weld seam of propellant tank of launch vehicle  
[NASA-CASE-INP-02307] c14 N71-10779
- Fabrication of filament wound propellant tank for cryogenic storage  
[NASA-CASE-XLE-03803-2] c15 N71-17651
- Slosh and swirl alleviator for liquid propellant tanks during transport and flight  
[NASA-CASE-XLA-05749] c15 N71-19569
- Two phase fluid pressurization system for propellant tank  
[NASA-CASE-MSC-12390] c27 N71-29155
- Space vehicle system  
[NASA-CASE-MSC-12561-1] c31 N74-33303
- PROPELLANT TRANSFER**
- Two component valve assembly for cryogenic liquid transfer regulation  
[NASA-CASE-XLE-00397] c15 N70-36492
- Apparatus for cryogenic liquid storage with heat transfer reduction and for liquid transfer at zero gravity conditions  
[NASA-CASE-XLE-00345] c15 N70-38020
- Continuous variation of propellant flow and thrust by application of liquid foam flow theory to injection orifice  
[NASA-CASE-XLE-00177] c28 N70-40367
- Method and feed system for separating and orienting liquid and vapor phases of liquid propellants in zero gravity environment  
[NASA-CASE-XLE-01182] c27 N71-15635
- Electron bombardment ion rocket engine with improved propellant introduction system  
[NASA-CASE-XLE-02066] c28 N71-15661
- Rocket combustion chamber stability by controlling transverse instability during propellant combustion  
[NASA-CASE-XLE-04603] c33 N71-21507
- Vapor-liquid separator design with vapor driven pump for separated liquid pumping for application in propellant transfer  
[NASA-CASE-INP-04042] c15 N71-23023
- Filler valve design for supplying liquid propellants at high pressure to space vehicles  
[NASA-CASE-INP-01747] c15 N71-23024
- Internal labyrinth and shield structure to improve electrical isolation of propellant feed source from ion thruster  
[NASA-CASE-LEW-10210-1] c28 N71-26781
- Flexible bellows joint shielding sleeve for propellant transfer pipelines  
[NASA-CASE-INP-01855] c15 N71-28937
- PROPELLER BLADES**
- Directed fluid stream for propeller blade loading control  
[NASA-CASE-IAC-00139] c02 N70-34856
- PROPORTIONAL CONTROL**
- Proportional controller for regulating aircraft or spacecraft motion about three axes  
[NASA-CASE-IAC-03392] c03 N70-41954
- PROPULSION SYSTEM CONFIGURATIONS**
- Electrothermal rocket engine using resistance heated heat exchanger  
[NASA-CASE-XLE-00267] c28 N70-33356
- Grain configuration for solid propellant rocket engines  
[NASA-CASE-IGS-03556] c27 N70-35534
- Shrouded composite propulsion system configuration  
[NASA-CASE-XLA-01043] c28 N71-10780
- Electrostatic microthrust propulsion system with annular slit colloid thruster  
[NASA-CASE-GSC-10709-1] c28 N71-25213
- Method and apparatus for pressurizing propellant tanks used in propulsion motor feed system  
[NASA-CASE-INP-00650] c27 N71-28929
- PROPULSIVE EFFICIENCY**
- Method and apparatus for improving operating efficiency and reducing low speed noise for turbine aircraft engines  
[NASA-CASE-LAR-11310-1] c28 N73-31699
- PROSTHETIC DEVICES**
- Prosthetic limb with tactile sensing device  
[NASA-CASE-NFS-16570-1] c05 N73-32013
- Orthotic arm joint --- for manipulating objects in response to electrical signals  
[NASA-CASE-NFS-21611-1] c05 N74-10100
- PROTECTION**
- Camera protecting device for use in photographing rocket engine nozzles or other engine components  
[NASA-CASE-EPO-10174] c14 N71-18465
- PROTECTIVE CLOTHING**
- Conditioning tanned sharkskin for use as abrasive resistant clothing  
[NASA-CASE-IMS-09691-1] c18 N71-15545
- One piece human garment for use as contamination proof garment  
[NASA-CASE-EBC-12206-1] c05 N71-17599
- Thermoregulating with cooling flow pipe network for humans  
[NASA-CASE-IMS-10269] c05 N71-24147
- Development of improved convolute section for pressurized suits to provide high degree of mobility in response to minima of applied torque  
[NASA-CASE-IMS-09637-1] c05 N71-24730
- Voice operated receiving and transmitting system for use in protective suits  
[NASA-CASE-EBC-10164] c07 N71-33108
- PROTECTIVE COATINGS**
- Process permitting application of synthetic resin coating to irregular-shaped objects at ambient temperature  
[NASA-CASE-INP-06508] c18 N69-39895
- Ultraviolet radiation resistant alkali-metal silicate coatings for temperature control of spacecraft  
[NASA-CASE-IGS-04119] c18 N69-39979
- Application techniques for protecting materials during salt bath brazing  
[NASA-CASE-XLE-00046] c15 N70-33311
- Removable potting compound for instrument shock protection  
[NASA-CASE-XLA-00482] c15 N70-36409
- Passive thermal control coating on aluminum foil laminate for inflatable spacecraft surfaces  
[NASA-CASE-XLA-01291] c33 N70-36617
- Using ethylene oxide in preparation of sterilized solid rocket propellants and encapsulating materials  
[NASA-CASE-INP-01749] c27 N70-41897
- Fireproof potassium silicate coating composition, insoluble in water after application  
[NASA-CASE-GSC-10072] c18 N71-14014
- Development of bacteriostatic conformal coating and methods of application  
[NASA-CASE-GSC-10007] c18 N71-16046
- Vapor deposited laminated nitride-silicon coating for corrosion prevention of carbonaceous surfaces  
[NASA-CASE-XLA-00284] c15 N71-16075
- Flame or plasma spraying for molybdenum coating of carbon or graphite surfaces to prevent oxidative corrosion  
[NASA-CASE-XLA-00302] c15 N71-16077
- Development and characteristics of protective coatings for spacecraft  
[NASA-CASE-INP-02507] c31 N71-17679
- Development of thermal insulation system for wing and control surfaces of hypersonic aircraft and reentry vehicles  
[NASA-CASE-XLA-00892] c33 N71-17897
- Bismuth and lead surface coatings for gas bearings in aerospace engineering  
[NASA-CASE-IGS-02011] c15 N71-20739
- Composition and production method of alkali metal silicate paint with ultraviolet reflection properties  
[NASA-CASE-IGS-04799] c18 N71-24183
- Method for treating metal surfaces to prevent secondary electron transmission  
[NASA-CASE-INP-09469] c24 N71-25555
- Development of solid state polymer coating for obtaining thermal balance in spacecraft components  
[NASA-CASE-XLA-01745] c33 N71-28903
- Method for coating through-holes in ceramic substrates used in fabricating miniaturized electronic circuits  
[NASA-CASE-INP-05999] c15 N71-29032

PROTECTORS

SUBJECT INDEX

Zinc dust formulation for abrasion resistant steel coatings  
 [NASA-CASE-GSC-10361-1] c18 N72-23581  
 Development of process for constructing protective covers for solar cells  
 [NASA-CASE-GSC-11514-1] c03 N72-24037  
 Development and characteristics of device for applying multiple layers of noble metal to glass substrate for protection of optical surfaces  
 [NASA-CASE-LAR-10362-1] c15 N72-27486  
 Detergent with glyceryl esters and oil as protective coating to prevent fogging of space suit visor  
 [NASA-CASE-MSC-13530-2] c06 N73-11107  
 Improved silicide coatings for refractory metals employed in space shuttles and gas turbine engine components  
 [NASA-CASE-LW-11179-1] c17 N73-22474  
 Resin for protecting p-n semiconductor junction surface  
 [NASA-CASE-ERC-10339-1] c18 N73-30532  
 Particulate and solar radiation stable coating for spacecraft  
 [NASA-CASE-LAR-10805-1] c18 N74-16246  
 Nonflammable coating compositions --- for use in high oxygen environments  
 [NASA-CASE-MPS-20486-2] c18 N74-17283  
 Method of fluxless brazing and diffusion bonding of aluminum containing components  
 [NASA-CASE-MSC-14435-1] c15 N74-20071

**PROTECTORS**  
 Load cell protection device using spring-loaded breakaway mechanism  
 [NASA-CASE-XMS-06782] c32 N71-15974  
 Payload soft landing system using stowable gas bag  
 [NASA-CASE-XLA-09881] c31 N71-16085

**PROTEINS**  
 Protein sterilization of firefly luciferase without denaturation  
 [NASA-CASE-GSC-10225-1] c06 N73-27086

**PROTON FLUX DENSITY**  
 Plane detector operable in presence of proton radiation  
 [NASA-CASE-MFS-21577-1] c03 N74-29410

**PSEUDONOISE**  
 System designed to reduce time required for obtaining synchronization in data communication with spacecraft utilizing pseudonoise codes  
 [NASA-CASE-NPO-10214] c10 N71-26577  
 Linear shift register with feedback logic for generating pseudonoise linear recurring binary sequences  
 [NASA-CASE-NPO-11406] c08 N73-12175  
 Multicarrier communications system for transmitting modulated signals from single transmitter  
 [NASA-CASE-NPO-11548] c07 N73-26118

**PULLEYS**  
 Apparatus for measuring load on cable under static or dynamic conditions comprising pulleys pivoting structure against restraint of tension strap  
 [NASA-CASE-XMS-04545] c15 N71-22878  
 Tensile strength testing device having pulley guides for exerting multiple forces on test specimen  
 [NASA-CASE-XMP-05634] c15 N71-24834

**PULMONARY CIRCULATION**  
 Pulmonary resuscitation method and apparatus with adjustable pressure regulator  
 [NASA-CASE-XMS-01115] c05 N70-39922

**PULMONARY FUNCTIONS**  
 Piston device for producing known constant positive pressure within lungs by using thoracic muscles  
 [NASA-CASE-XMS-01615] c05 N70-41329

**PULSE AMPLITUDE**  
 Monitoring system for signal amplitude ranges over predetermined time interval  
 [NASA-CASE-XMS-04061-1] c09 N69-39885  
 Analog to digital converter for converting pulses to frequencies  
 [NASA-CASE-XLA-00670] c08 N71-12501  
 Electrical testing apparatus for detecting amplitude and width of transient pulse  
 [NASA-CASE-XMP-06519] c09 N71-12519

Analog to digital converter circuit for pulse height analysis  
 [NASA-CASE-XNP-00477] c08 N73-28045  
 Analog to digital converter  
 [NASA-CASE-NPO-13385-1] c08 N74-32646

**PULSE AMPLITUDE MODULATION**  
 Voltage controlled oscillators and pulse amplitude modulation for signal ratio system  
 [NASA-CASE-XMP-04367] c09 N71-23545

**PULSE CODE MODULATION**  
 Adaptive compression signal processor for PCM communication systems  
 [NASA-CASE-XLA-03076] c07 N71-11266  
 Bipolar phase detector and corrector for split phase PCM data signals  
 [NASA-CASE-XGS-01590] c07 N71-12392  
 System for recording and reproducing PCM data from data stored on magnetic tape  
 [NASA-CASE-XGS-01021] c08 N71-21042  
 Frequency shift keying apparatus for use with pulse code modulation data transmission system  
 [NASA-CASE-XGS-01537] c07 N71-23405  
 Data reduction and transmission system for TV PCM data  
 [NASA-CASE-NPO-11243] c07 N72-20154  
 Pulse code modulated data from frequency multiplex communications by digital phase shift or carrier  
 [NASA-CASE-NPO-11338] c08 N72-25208  
 Bit synchronization of PCM communications signal, without separate synchronization channel by digital correlation  
 [NASA-CASE-NPO-11302-1] c07 N73-13149  
 Method and apparatus for a single channel digital communications system --- synchronization of received PCM signal by digital correlation with reference signal  
 [NASA-CASE-NPO-11302-2] c07 N74-10132  
 Multifunction audio digitizer --- producing direct delta and pulse code modulation  
 [NASA-CASE-MSC-13855-1] c07 N74-17885  
 Digital transmitter for data bus communications system  
 [NASA-CASE-MSC-14558-1] c07 N74-17888  
 Pulse code modulated signal synchronizer  
 [NASA-CASE-MSC-12462-1] c07 N74-20809  
 Pulse code modulated signal synchronizer  
 [NASA-CASE-MSC-12494-1] c07 N74-20810

**PULSE COMMUNICATION**  
 Phase shift data transmission system with pseudo-noise synchronization code modulated with digital data into single channel for spacecraft communication  
 [NASA-CASE-XNP-00911] c08 N70-41961

**PULSE DURATION**  
 Frequency to analog converters with unipolar field effect transistor for determining potential charge by pulse duration of input signal  
 [NASA-CASE-XNP-07040] c08 N71-12500  
 Electrical testing apparatus for detecting amplitude and width of transient pulse  
 [NASA-CASE-XMF-06519] c09 N71-12519  
 Design and development of variable pulse width multiplier  
 [NASA-CASE-XLA-02850] c09 N71-20447  
 Device for voltage conversion using controlled pulse widths and arrangements to generate ac output voltage  
 [NASA-CASE-MPS-10068] c10 N71-25139  
 One shot multivibrator circuit for producing long duration output pulses  
 [NASA-CASE-ARC-10137-1] c09 N71-28468  
 Pulse stretcher for narrow pulses  
 [NASA-CASE-HSC-14130-1] c10 N74-32711

**PULSE DURATION MODULATION**  
 Pulse duration modulation multiplier system  
 [NASA-CASE-XER-09213] c07 N71-12390  
 Variable duration pulse integrator design for integrating pulse duration modulated pulses with elimination of ripple content  
 [NASA-CASE-XLA-01219] c10 N71-23084  
 Electric motor control system with pulse width modulation for providing automatic null seeking servo  
 [NASA-CASE-XMP-05195] c10 N71-24861  
 Pulse duration control device for driving slow response time loads in selected sequence including switching and delay circuits and

- magnetic storage  
[NASA-CASE-XGS-04224] c10 N71-26418
- Monostable multivibrator for producing output pulse widths with positive feedback NOR gates  
[NASA-CASE-MSC-13492-1] c10 N71-28860
- Load current sensor for series pulse width modulated power supply  
[NASA-CASE-GSC-10656-1] c09 N72-25249
- Peak holding circuit for extremely narrow pulses  
[NASA-CASE-MSC-14129-1] c10 N73-26231
- PULSE FREQUENCY MODULATION**
- Electric current measuring apparatus design including saturable core transformer and energy storage device to avoid magnetizing current errors from transformer output winding  
[NASA-CASE-XGS-02439] c14 N71-19431
- Digitally controlled frequency synthesizer for pulse frequency modulation telemetry systems  
[NASA-CASE-XGS-02317] c09 N71-23525
- Noninterruptable digital counter circuit design with display device for pulse frequency modulation  
[NASA-CASE-INP-09759] c08 N71-24891
- Threshold extension device for improving operating performance of frequency modulation demodulators by eliminating click-type noise impulses  
[NASA-CASE-MSC-12165-1] c07 N71-33696
- PULSE FREQUENCY MODULATION TELEMETRY**
- Communication system for transmitting biomedical information obtained from patient in moving ambulance to hospital for diagnosis  
[NASA-CASE-FRC-10031] c05 N70-20717
- PULSE GENERATORS**
- High voltage pulse generator for testing flash and ignition limits of nonmetallic materials in controlled atmospheres  
[NASA-CASE-MSC-12178-1] c09 N71-13518
- Interrogator and current driver circuit for combination with transistor flip-flop circuit  
[NASA-CASE-XGS-03058] c10 N71-19547
- Electric circuit for producing high current pulse having fast rise and fall time  
[NASA-CASE-XMS-04919] c09 N71-23270
- Pulse generator for synchronizing or resetting electronic signals without requiring separate external source  
[NASA-CASE-XGS-03632] c09 N71-23311
- Development and characteristics of resettable monostable pulse generator with charge rundown-timing circuit  
[NASA-CASE-GSC-11139] c09 N71-27016
- Pulse generating circuit for operation at very high duty cycles and repetition rates  
[NASA-CASE-INP-00745] c10 N71-28960
- Pulse coupling circuit with switch between generator and winding  
[NASA-CASE-LEW-10433-1] c09 N72-22197
- Circuitry for generating random square wave pulses using white noise source  
[NASA-CASE-MSC-14131-1] c09 N73-26199
- Method and apparatus for nondestructive testing --- using high frequency arc discharges  
[NASA-CASE-MFS-21233-1] c23 N74-15395
- PULSE RATE**
- Circuit for measuring wide range of pulse rates by utilizing high capacity counter  
[NASA-CASE-INP-06234] c10 N71-27137
- PULSE WIDTH AMPLITUDE CONVERTERS**
- Peak holding circuit for extremely narrow pulses  
[NASA-CASE-MSC-14129-1] c10 N73-26231
- PULSED LASERS**
- Repetitively pulsed wavelength selective carbon dioxide laser  
[NASA-CASE-ERC-10178] c16 N71-24832
- Remote detection and measurement of clear air turbulence using pulsed laser radar  
[NASA-CASE-MFS-21244-1] c20 N73-21523
- Procedure and device for effecting dual mode locking in pulsed Nd-YAG lasers  
[NASA-CASE-GSC-11746-1] c16 N73-32398
- PULSED RADIATION**
- Development and characteristics of cyclically operable, optical shutter for use as focal plane shutter for transmitting single radiation pulses  
[NASA-CASE-NPO-10758] c14 N73-14427
- PULSES**
- High resolution radar transmitting system for transmitting optical pulses to targets  
[NASA-CASE-NPO-11426] c07 N73-26119
- PUMP SEALS**
- Flexible barrier membrane comprising porous substrate and incorporating liquid gallium or indium metal used as sealant barriers for spacecraft walls and pumping liquid propellants  
[NASA-CASE-INP-08881] c17 N71-28747
- Spiral groove seal --- for hydraulic rotating shaft  
[NASA-CASE-LEW-10326-3] c15 N74-10474
- PUMPS**
- Piezoelectric pump for supplying fluid at high frequencies to gyroscope fluid suspension system  
[NASA-CASE-INP-05429] c26 N71-21824
- Vapor-liquid separator design with vapor driven pump for separated liquid pumping for application in propellant transfer  
[NASA-CASE-INP-04042] c15 N71-23023
- Automatically reciprocating, high pressure pump for use in spacecraft cryogenic propellants  
[NASA-CASE-INP-04731] c15 N71-24042
- Development and characteristics of variable displacement fluid pump for transforming hydraulic pressures  
[NASA-CASE-MFS-20830] c15 N71-30028
- Pumping and metering dual piston system and monitor for reaction chamber constituents  
[NASA-CASE-GSC-10218-1] c15 N72-21465
- Magnetoaloric pump --- for cryogenic fluids  
[NASA-CASE-LEW-11672-1] c15 N74-27904
- PUNCHED CARDS**
- Describing device for flagging punched business cards  
[NASA-CASE-ILA-02705] c08 N71-15908
- Handling tool for printed circuit cards  
[NASA-CASE-MFS-20453] c15 N71-29133
- PUNCHES**
- Punch and die device for forming convolution series in thin gage metal hemispheres  
[NASA-CASE-INP-05297] c15 N71-23811
- PURGING**
- Carbon dioxide purge systems to prevent condensation in spaces between cryogenic fuel tanks and hypersonic vehicle skin  
[NASA-CASE-ILA-01967] c31 N70-42015
- Developing high pressure gas purification and filtration system for use in test operations of space vehicles  
[NASA-CASE-MFS-12806] c14 N71-17588
- Fluid transferring system design for purging toxic, corrosive, or noxious fluids and fumes from materials handling equipment for cleansing and accident prevention  
[NASA-CASE-XMS-01905] c12 N71-21089
- Device for back purging thrust engines  
[NASA-CASE-XMS-04826] c28 N71-28849
- PURIFICATION**
- Apparatus and method capable of receiving large quantity of high pressure helium, removing impurities, and discharging at received pressure  
[NASA-CASE-INP-06888] c15 N71-24044
- Purification apparatus for vaporization and fractional distillation of liquids  
[NASA-CASE-INP-08124] c15 N71-27184
- PURITY**
- Synthesis of high purity dianilinosilanes  
[NASA-CASE-INP-06409] c06 N71-23230
- PYROLYTIC GRAPHITE**
- Multislit film cooled pyrolytic graphite rocket nozzle  
[NASA-CASE-INP-04389] c28 N71-20942
- PYROLYTIC MATERIALS**
- Design, development, and characteristics of ablation structures  
[NASA-CASE-XMS-01816] c33 N71-15623
- PYROMETERS**
- Sensor device with switches for measuring surface recession of charring and noncharring ablators  
[NASA-CASE-ILA-01781] c14 N69-39975
- PYROTECHNICS**
- Energy source with tantalum capacitors in parallel and miniature silver oxide button cells for initiating pyrotechnic devices on spacecraft and rocket vehicles  
[NASA-CASE-LAR-10367-1] c03 N70-26817
- Development and characteristics of squib actuated explosive disconnect for spacecraft

## Q SWITCHED LASERS

## SUBJECT INDEX

release from launch vehicle  
[NASA-CASE-NPO-11330] c33 N73-26958

## Q

## Q SWITCHED LASERS

Optically detonated explosive device  
[NASA-CASE-NPO-11743-1] c33 N74-27425  
Spatial filter for Q-switched lasers  
[NASA-CASE-LEW-12164-1] c16 N74-34010

## Q VALUES

Design of active RC network capable of operating  
at high Q values with reduced sensitivity to  
gain amplification and number of passive  
components  
[NASA-CASE-ARC-10042-2] c10 N72-11256

## QUADRATURES

Automatic quadrature control and measuring system  
--- using optical coupling circuitry  
[NASA-CASE-MFS-21660-1] c14 N74-21017

## QUALITATIVE ANALYSIS

Ultraviolet chromatographic detector for  
quantitative and qualitative analysis of  
compounds  
[NASA-CASE-HQN-10756-1] c14 N72-25428  
Analysis of volatile organic compounds ---  
quantitative and qualitative analysis of trace  
amounts in gas samples  
[NASA-CASE-MSC-14428-1] c06 N74-19776

## QUANTITATIVE ANALYSIS

Mixed liquid and vapor phase analyzer design  
with thermocouples for relative heat transfer  
measurement  
[NASA-CASE-NPO-10691] c14 N71-26199  
Quantitative liquid measurements in container by  
resonant frequencies  
[NASA-CASE-MNP-02500] c18 N71-27397  
Ultraviolet chromatographic detector for  
quantitative and qualitative analysis of  
compounds  
[NASA-CASE-HQN-10756-1] c14 N72-25428  
Nondispersive gas analysis using radiation  
detection for quantitative analysis  
[NASA-CASE-ARC-10308-1] c06 N72-31141  
Analysis of volatile organic compounds ---  
quantitative and qualitative analysis of trace  
amounts in gas samples  
[NASA-CASE-MSC-14428-1] c06 N74-19776

## QUARTZ

Ultraviolet filter of thorium fluoride and  
cryolite on quartz base  
[NASA-CASE-MNP-02340] c23 N69-24332

## QUARTZ LAMPS

High intensity heat and light unit containing  
quartz lamp elements protectively positioned  
to withstand severe environmental stress  
[NASA-CASE-XLA-00141] c09 N70-33312  
Light shield and cooling apparatus --- high  
intensity ultraviolet lamp  
[NASA-CASE-LAR-10089-1] c15 N74-23066

## R

## RACKS (FRAMES)

Design and development of test stand system for  
supporting test items in vacuum chamber  
[NASA-CASE-MFS-21362] c11 N73-20267  
Thrust-isolating mounting --- characteristics of  
support for loads mounted in spacecraft  
[NASA-CASE-MFS-21680-1] c32 N74-27397

## RADAR ANTENNAS

Interferometric tuning acquisition and tracking  
radar antenna system  
[NASA-CASE-MNS-09610] c07 N71-24625  
Variable beamwidth antenna --- with multiple  
beam, variable feed system  
[NASA-CASE-GSC-11862-1] c09 N74-32674

## RADAR DETECTION

Remote detection and measurement of clear air  
turbulence using pulsed laser radar  
[NASA-CASE-MFS-21244-1] c20 N73-21523

## RADAR EQUIPMENT

Spacecraft transponder and ground station radar  
system for mapping planetary surfaces  
[NASA-CASE-NPO-11001] c07 N72-21118

## RADAR RANGE

Radar signal receiver arrangement for extending  
range and increasing signal to noise ratio  
[NASA-CASE-MNP-00748] c07 N70-36911

## RADAR RECEIVERS

Polarization diversity monopulse tracking  
receiver design without radio frequency switches  
[NASA-CASE-XGS-03501] c09 N71-20864

## RADAR RECEPTION

Radar signal receiver arrangement for extending  
range and increasing signal to noise ratio  
[NASA-CASE-MNP-00748] c07 N70-36911

## RADAR REFLECTORS

Inflatable radar reflector unit - lightweight,  
highly reflective to electromagnetic  
radiation, and adaptable for erection and  
deployment with minimum effort and time  
[NASA-CASE-MNS-00893] c07 N70-40063

## RADAR TRACKING

Tracking antenna system with array for  
synchronous satellite or ground based radar  
[NASA-CASE-GSC-10553-1] c07 N71-19854  
Polarization diversity monopulse tracking  
receiver design without radio frequency switches  
[NASA-CASE-XGS-03501] c09 N71-20864  
Monopulse tracking system with antenna array of  
three radiators for deriving azimuth and  
elevation indications  
[NASA-CASE-XGS-01155] c10 N71-21483  
Plastic sphere for radar tracking and calibration  
[NASA-CASE-ILA-11154] c07 N72-21117

## RADAR TRANSMITTERS

High resolution radar transmitting system for  
transmitting optical pulses to targets  
[NASA-CASE-NPO-11426] c07 N73-26119

## RADIAL FLOW

Radial heat flux transformer for use in heating  
and cooling processes  
[NASA-CASE-NPO-10828] c33 N72-17948

## RADIANCE

Method and apparatus for measuring shock layer  
radiation distribution about high velocity  
objects  
[NASA-CASE-XAC-02970] c14 N69-39896

## RADIANT COOLING

Direct radiation cooling of linear beam  
collector tubes  
[NASA-CASE-MNP-09227] c15 N69-24319  
High thermal emittance black surface coatings  
and process for applying to metal and metal  
alloy surfaces used in radiative cooling of  
spacecraft  
[NASA-CASE-XLA-06199] c15 N71-24875

## RADIANT FLUX DENSITY

High intensity radiant energy pulse source for  
calibrating heat transfer gages with  
thermoluminescent shutter activation  
[NASA-CASE-ARC-10178-1] c09 N72-17152

## RADIANT HEATING

High intensity heat and light unit containing  
quartz lamp elements protectively positioned  
to withstand severe environmental stress  
[NASA-CASE-XLA-00141] c09 N70-33312  
High temperature source of thermal radiation  
[NASA-CASE-XLE-00490] c33 N70-34545  
Refractory filament series circuitry for radiant  
heater  
[NASA-CASE-XLE-00387] c33 N70-34812  
Unfired ceramic insulation for protection from  
radiant heating environments  
[NASA-CASE-MFS-14253] c33 N71-24858

## RADIATION

Development of radiant energy sensor to detect  
the radiant energy wavelength bands from  
portions of radiating body  
[NASA-CASE-ERC-10174] c14 N72-25409  
Development of thermopile with sensor surface to  
receive radiant energy and to provide  
measurement of energy quantity  
[NASA-CASE-NPO-11493] c14 N73-12447  
Integrated structure vacuum tube  
[NASA-CASE-ARC-10445-1] c09 N74-29577

## RADIATION ABSORPTION

An NDIR gas analyzer based on absorption  
modulation ratios for known and unknown samples  
[NASA-CASE-ARC-10802-1] c14 N74-28933

## RADIATION COUNTERS

Particle detector for indicating incidence and  
energy of minute space particles  
[NASA-CASE-ILA-00135] c14 N70-33322  
Sensing method and device for determining  
orientation of space vehicle or satellite by  
using particle traps

## SUBJECT INDEX

## RADIATION SOURCES

[NASA-CASE-XGS-00466] c21 N70-34297  
 Solid state device for mapping flux and power in  
 nuclear reactor cores  
 [NASA-CASE-XLE-00301] c14 N70-36808  
 Particle beam power density detection and  
 measurement apparatus  
 [NASA-CASE-XLE-00243] c14 N70-38602  
 Automatic baseline stabilization for ionization  
 detector used in gas chromatograph  
 [NASA-CASE-XNP-03128] c10 N70-41991  
 Method of forming thin window drifted silicon  
 charged particle detector  
 [NASA-CASE-XLE-00808] c24 N71-10560  
 Development of dosimeter for measuring absorbed  
 dose of high energy ionizing radiation  
 [NASA-CASE-XLA-03645] c14 N71-20430  
 Apparatus for detecting particle emission lower  
 than noise level of multiplier tube  
 [NASA-CASE-XLA-07813] c14 N72-17328  
 Radiation or charged particle detector and  
 amplifier  
 [NASA-CASE-NPO-12128-1] c14 N73-32317  
 Coaxial anode wire for gas radiation counters  
 [NASA-CASE-GSC-11492-1] c14 N74-26949  
 Impact position detector for outer space particles  
 [NASA-CASE-GSC-11829-1] c14 N74-32886

**RADIATION DAMAGE**  
 Addition of group 3 elements to silicon  
 semiconductor material for increased  
 resistance to radiation damage in solar cells  
 [NASA-CASE-XLE-02798] c26 N71-23654  
 Recovering efficiency of solar cells damaged by  
 environmental radiation through thermal  
 annealing  
 [NASA-CASE-XGS-04047-2] c03 N72-11062  
 Photomultiplier circuit including means for  
 rapidly reducing the sensitivity thereof ---  
 and protection from radiation damage  
 [NASA-CASE-ARC-10593-1] c09 N74-27682

**RADIATION DETECTORS**  
 Radiation source and detection system for  
 measuring amount of liquid inside tanks  
 independently of liquid configuration  
 [NASA-CASE-MSC-12280] c27 N71-16348  
 Detection instrument for light emitted from ATP  
 biochemical reaction  
 [NASA-CASE-XGS-05534] c23 N71-16355  
 Circuit design for determining amount of  
 photomultiplier tube light detection utilizing  
 variable current source and dark current  
 signals of opposite polarity  
 [NASA-CASE-XMS-03478] c14 N71-21040  
 Attitude sensor with scanning mirrors for  
 detecting orientation of space vehicle with  
 respect to planet  
 [NASA-CASE-XLA-00793] c21 N71-22880  
 Mosaic semiconductor radiation detector and  
 position indicator systems engineering for low  
 energy particles  
 [NASA-CASE-XGS-03230] c14 N71-23401  
 Nondispersive gas analysis using radiation  
 detection for quantitative analysis  
 [NASA-CASE-ARC-10308-1] c06 N72-31141  
 Radiation source tracker comprised of sectored  
 matrix of detectors with output voltages  
 corresponding to irradiance levels  
 [NASA-CASE-NPO-11686] c14 N73-25462  
 Radiation or charged particle detector and  
 amplifier  
 [NASA-CASE-NPO-12128-1] c14 N73-32317  
 Mossbauer spectrometer radiation detector  
 [NASA-CASE-LAR-11155-1] c14 N74-15091  
 High field CdS detector for infrared radiation  
 [NASA-CASE-LAR-11027-1] c14 N74-18088  
 Wide angle sun sensor --- consisting of  
 cylinder, insulation, and pair of detectors  
 [NASA-CASE-NPO-13327-1] c14 N74-18093  
 Flame detector operable in presence of proton  
 radiation  
 [NASA-CASE-MFS-21577-1] c03 N74-29410

**RADIATION DISTRIBUTION**  
 Space simulator with uniform test region  
 radiation distribution, adapted to simulate  
 Venus solar radiations  
 [NASA-CASE-XNP-00459] c11 N70-38675

**RADIATION DOSAGE**  
 Development of dosimeter for measuring absorbed  
 dose of high energy ionizing radiation  
 [NASA-CASE-XLA-03645] c14 N71-20430

**RADIATION EFFECTS**  
 Method for temperature compensating  
 semiconductor gages by exposure to high energy  
 radiation  
 [NASA-CASE-XLA-04555-1] c14 N71-25892

**RADIATION HARDENING**  
 Radiation hardening of MOS devices by boron ---  
 for stabilizing gate threshold potential of  
 field effect device  
 [NASA-CASE-GSC-11425-1] c24 N74-20329

**RADIATION MEASUREMENT**  
 Development of thermopile with sensor surface to  
 receive radiant energy and to provide  
 measurement of energy quantity  
 [NASA-CASE-NPO-11493] c14 N73-12447

**RADIATION MEASURING INSTRUMENTS**  
 Rocket-borne aspect sensor consisting of  
 radiation sensor, apertured disk, commutator,  
 and counting circuits  
 [NASA-CASE-XGS-08266] c14 N69-27432  
 Infrared scanning system for maintaining  
 spacecraft orientation with earth reference  
 [NASA-CASE-XLA-00120] c21 N70-33181  
 Multiple wavelength radiation measuring  
 instrument for determining hot body or gas  
 temperature  
 [NASA-CASE-XLE-00011] c14 N70-41946  
 Development of method for improving signal to  
 noise ratio and accuracy of Wheatstone bridge  
 type radiation measuring instrument  
 [NASA-CASE-XLA-02810] c14 N71-25901  
 Development of thermopile with sensor surface to  
 receive radiant energy and to provide  
 measurement of energy quantity  
 [NASA-CASE-NPO-11493] c14 N73-12447  
 Phototransistor with base collector junction  
 diode for integration into photo sensor arrays  
 [NASA-CASE-MFS-20407] c09 N73-19235  
 Method and apparatus for measuring  
 electromagnetic radiation  
 [NASA-CASE-LBW-11159-1] c14 N73-28488  
 Design of gamma ray spectrometer for measurement  
 of intense radiation using Compton scattering  
 effect  
 [NASA-CASE-MFS-21441-1] c14 N73-30392  
 Coaxial anode wire for gas radiation counters  
 [NASA-CASE-GSC-11492-1] c14 N74-26949

**RADIATION PROTECTION**  
 Development of method for protecting large and  
 oddly shaped areas from radiant and convective  
 heat  
 [NASA-CASE-XNP-01310] c33 N71-28852  
 Cooling and radiation protection of ruby lasers  
 using copper sulfate solution in alcohol  
 [NASA-CASE-MFS-20180] c16 N72-12440  
 Photomultiplier circuit including means for  
 rapidly reducing the sensitivity thereof ---  
 and protection from radiation damage  
 [NASA-CASE-ARC-10593-1] c09 N74-27682

**RADIATION SHIELDING**  
 Encapsulated heater forming hollow body for  
 cathode used in ion thruster  
 [NASA-CASE-LBW-10814-1] c28 N70-35422  
 Describing hot filament type Bayard-Alpert  
 ionization gage with ion collector buried or  
 removed from grid structure  
 [NASA-CASE-XLA-07424] c14 N71-18482  
 Sealed housing for protecting electronic  
 equipment against electromagnetic interference  
 [NASA-CASE-MSC-12168-1] c09 N71-18600  
 Internal labyrinth and shield structure to  
 improve electrical isolation of propellant  
 feed source from ion thruster  
 [NASA-CASE-LBW-10210-1] c28 N71-26781  
 Light shield and cooling apparatus --- high  
 intensity ultraviolet lamp  
 [NASA-CASE-LAR-10089-1] c15 N74-23066

**RADIATION SOURCES**  
 Sight switch using infrared source and sensor  
 mounted beside eye  
 [NASA-CASE-XNP-03934] c09 N71-22985  
 Apparatus for obtaining isotropic irradiation on  
 film emulsion from parallel radiation source  
 [NASA-CASE-MFS-20095] c24 N72-11595  
 Radiation source tracker comprised of sectored  
 matrix of detectors with output voltages  
 corresponding to irradiance levels  
 [NASA-CASE-NPO-11686] c14 N73-25462

- High powered arc electrodes --- producing solar simulator radiation  
[NASA-CASE-LEW-11162-1] c09 N74-12913
- RADIATION SPECTRA**  
Maksutov spectrograph for low light level research  
[NASA-CASE-XLA-10402] c14 N71-29041
- RADIATION TOLERANCE**  
Ultraviolet radiation resistant alkali-metal silicate coatings for temperature control of spacecraft  
[NASA-CASE-IGS-04119] c18 N69-39979  
Doping silicon material with gadolinium to increase radiation resistance of solar cells  
[NASA-CASE-XLE-02792] c26 N71-10607  
Improving radiation resistance of silicon semiconductor junctions by doping with lithium  
[NASA-CASE-IGS-07801] c09 N71-12513
- RADIATIVE HEAT TRANSFER**  
Heat flux sensor assembly with proviso for heat shield to reduce radiative transfer between sensor elements  
[NASA-CASE-XMS-05909-1] c14 N69-27459  
Capillary radiator for carrying heat transfer liquid in planetary spacecraft structures  
[NASA-CASE-XLE-03307] c33 N71-14035  
Transient heat transfer gage for measuring total radiant intensity from far ultraviolet and ionized high temperature gases  
[NASA-CASE-INP-09802] c33 N71-15641  
Construction and method of arranging plurality of ion engines to form cluster thereby increasing efficiency and control by decreasing heat radiated to space  
[NASA-CASE-INP-02923] c28 N71-23081
- RADIATORS**  
Development and characteristics of natural circulation radiator for use with nuclear power plants installed in lunar space stations  
[NASA-CASE-IHQ-03673] c33 N71-29046
- RADIO ANTENNAS**  
Low loss parasitic probe antenna for prelaunch tests of spacecraft antennas  
[NASA-CASE-IKS-09348] c09 N71-13521  
VHF/UHF parasitic probe antenna for spacecraft communication  
[NASA-CASE-XKS-09340] c07 N71-24614  
Development and characteristics of extensible dipole antenna using deformable tubular metallic strip element  
[NASA-CASE-HQN-00937] c07 N71-26979
- RADIO ASTRONOMY**  
Synchronous detection system for detecting weak radio astronomical signals  
[NASA-CASE-INP-09832] c30 N71-23723
- RADIO CONTROL**  
Radio frequency controlled solid state switch  
[NASA-CASE-ARC-10136-1] c09 N72-22202
- RADIO FREQUENCIES**  
Helical coaxial resonator RF filter  
[NASA-CASE-IGS-02816] c07 N69-24323  
Automatic gain control amplifier system  
[NASA-CASE-IMS-05307] c09 N69-24330  
Method and apparatus for bowing of instrument panels to improve radio frequency shielded enclosure  
[NASA-CASE-IMP-09422] c07 N71-19436  
Development of automatic frequency discriminators and control for phase lock loop providing frequency preset capabilities  
[NASA-CASE-IMP-08665] c10 N71-19467  
System generating sidereal frequency signals from signals of standard solar frequency without use of mixing operations or feedback loops  
[NASA-CASE-IGS-02610] c14 N71-23174  
Radio frequency coaxial filter to provide dc isolation and low frequency signal rejection in audio range  
[NASA-CASE-IGS-01418] c09 N71-23573  
Variable frequency nuclear magnetic resonance spectrometer providing drive signals over wide frequency range and minimizing noise effects  
[NASA-CASE-INP-09830] c14 N71-26266
- High efficiency transformerless amplitude modulator coupled to RF power amplifier  
[NASA-CASE-GSC-10668-1] c07 N71-28430  
Technique and equipment for sputtering using apertured electrode and pulsed substrate bias  
[NASA-CASE-LEW-10920-1] c17 N73-24569
- Radio frequency source resistance measuring instruments of varied design  
[NASA-CASE-NPO-11291-1] c14 N73-30388  
Multichannel logarithmic RF level detector  
[NASA-CASE-LAR-11021-1] c14 N74-20019  
Ion and electron detector for use in an ICR spectrometer  
[NASA-CASE-NPO-13479-1] c14 N74-32890
- RADIO FREQUENCY INTERFERENCE**  
Radio frequency noise generator having microwave slow-wave structure in gas discharge plasma  
[NASA-CASE-XER-11019] c09 N71-23598  
Automatic nulling system for interference signal at multichannel receiver by polarization adjustment  
[NASA-CASE-NPO-13140-1] c07 N73-27106
- RADIO FREQUENCY SHIELDING**  
Gunn effect microwave diodes with RF shielding  
[NASA-CASE-ERC-10119] c26 N72-21701  
Process for making RF shielded cable connector assemblies and resulting structures  
[NASA-CASE-GSC-11215-1] c09 N73-28083
- RADIO RECEIVERS**  
Radio receiver with array of independently steerable antennas for deep space communication  
[NASA-CASE-XLA-00901] c07 N71-10775  
Development of optimum pre-detection diversity combining receiving system adapted for use with amplitude modulation, phase modulation, and frequency modulation systems  
[NASA-CASE-IGS-00740] c07 N71-23098
- RADIO RELAY SYSTEMS**  
Satellite radio communication system with remote steerable antenna  
[NASA-CASE-INP-02389] c07 N71-28900
- RADIO SIGNALS**  
Erectable, inflatable, radio signal reflecting passive communication satellite  
[NASA-CASE-XLA-00210] c30 N70-40309  
Synchronous detection system for detecting weak radio astronomical signals  
[NASA-CASE-INP-09832] c30 N71-23723
- RADIO STARS**  
System generating sidereal frequency signals from signals of standard solar frequency without use of mixing operations or feedback loops  
[NASA-CASE-IGS-02610] c14 N71-23174
- RADIO TELEMETRY**  
Digital telemetry system apparatus to reduce tape recorder wow and flutter noise during playback  
[NASA-CASE-XGS-01812] c07 N71-23001
- RADIO TRANSMITTERS**  
Development of radio locating system for monitoring geographic movement of surface vehicles in metropolitan area using unsynchronized radio broadcasting stations  
[NASA-CASE-NPO-13217-1] c07 N73-26144
- RADIO WAVES**  
Gunn effect microwave diodes with RF shielding  
[NASA-CASE-ERC-10119] c26 N72-21701
- RADIOACTIVE ISOTOPES**  
Radioactive isotope capsule container design for atmospheric reentry protection and heat transmission to spacecraft  
[NASA-CASE-LEW-11227-1] c33 N71-35153  
Thermally cascaded thermoelectric generator with radioisotopic heat source  
[NASA-CASE-NPO-10753] c03 N72-26031
- RADIOBIOLOGY**  
Production of I-123 for use as radiopharmaceutical for low radiation exposure  
[NASA-CASE-LEW-10518-1] c24 N72-33681
- RADIOGRAPHY**  
Nondestructive radiographic tests of resistance welds  
[NASA-CASE-INP-02588] c15 N71-18613
- RADIOMETERS**  
Miniaturized radiometer for detecting low level thermal radiation  
[NASA-CASE-XLA-04556] c14 N69-27484  
Black body radiometer design with temperature sensing and cavity heat source cone winding  
[NASA-CASE-INP-09701] c14 N71-26475  
Black body radiometer having isothermally surrounded cavity for ultraviolet, visible, and infrared radiation  
[NASA-CASE-NPO-10810] c14 N71-27323

## SUBJECT INDEX

## RECEIVERS

Thermodielectric radiometer using polymer film as capacitor  
[NASA-CASE-ARC-10138-1] c14 N72-24477

Development of radiant energy sensor to detect the radiant energy wavelength bands from portions of radiating body  
[NASA-CASE-ERC-10174] c14 N72-25409

Development of radiometric sensor to warn aircraft pilots of region of clear air turbulence along flight path  
[NASA-CASE-ERC-10081] c14 N72-28437

Radiometric measuring system for solar activity and atmospheric attenuation and emission  
[NASA-CASE-ERC-10276] c14 N73-26432

Steady state thermal radiometers  
[NASA-CASE-MFS-21108-1] c14 N74-27861

**RADIOTELEPHONES**

Communication system for transmitting biomedical information obtained from patient in moving ambulance to hospital for diagnosis  
[NASA-CASE-PRC-10031] c05 N70-20717

**RAIN**

Precipitation detector and mechanism for stopping and restarting machinery at initiation and cessation of rain  
[NASA-CASE-XLA-02619] c10 N71-26334

**RANJET ENGINES**

Telescoping-spike supersonic nozzle for turbojet or ranjet engines  
[NASA-CASE-XLE-00005] c28 N70-39899

**RANDOM LOADS**

Fatigue testing device applying random discrete load levels to test specimen and applicable to aircraft structures  
[NASA-CASE-XLA-02131] c32 N70-42003

**RANDOM NOISE**

Circuits for amplitude limiting of random noise inputs  
[NASA-CASE-NPO-10169] c10 N71-24844

Digital servo control of random sound test excitation --- in reverberant acoustic chamber  
[NASA-CASE-NPO-11623-1] c23 N74-31148

**RANDOM PROCESSES**

Circuitry for generating random square wave pulses using white noise source  
[NASA-CASE-MSC-14131-1] c09 N73-26199

**RANGE FINDERS**

Closed loop radio communication ranging system to determine distance between moving airborne vehicle and fixed ground station  
[NASA-CASE-INP-01501] c21 N70-41930

**RANGEPINDING**

Equipment for testing of ground station ranging equipment and spacecraft transponders  
[NASA-CASE-XMS-05454-1] c07 N71-12391

Spacecraft ranging system  
[NASA-CASE-NPO-10066] c09 N71-18598

Binary coded sequential acquisition ranging system for distance measurements  
[NASA-CASE-NPO-11194] c08 N72-25209

Loop transponder for regenerating code of nu-type ranging system  
[NASA-CASE-NPO-11707] c07 N73-25161

Orbital and entry tracking accessory for globes --- to provide range requirements for reentry vehicles to any landing site  
[NASA-CASE-LAR-10626-1] c14 N74-21015

**RARE EARTH COMPOUNDS**

Including didymin hydrate in nickel hydroxide of positive electrode of storage batteries to increase ampere hour capacity  
[NASA-CASE-XGS-03505] c03 N71-10608

**RARE GASES**

Inert gas metallic vapor laser  
[NASA-CASE-NPO-13449-1] c16 N74-16187

**RAREEIRD GASES**

Magnetically controlled plasma accelerator capable of ignition in low density gaseous environment  
[NASA-CASE-XLA-00327] c25 N71-29184

**RATES (PER TIME)**

Apparatus and digital technique for coding rate data  
[NASA-CASE-LAR-10128-1] c08 N73-20217

**RC CIRCUITS**

RC transistor circuit to indicate each pulse of pulse train and occurrence of nth pulse  
[NASA-CASE-INP-00906] c09 N70-41655

Device utilizing RC rate generators for continuous slow speed measurement  
[NASA-CASE-INP-02966] c10 N71-24863

Digital data handling circuits for pulse amplifiers  
[NASA-CASE-INP-01068] c10 N71-28739

Design of active RC network capable of operating at high Q values with reduced sensitivity to gain amplification and number of passive components  
[NASA-CASE-ARC-10042-2] c10 N72-11256

Active RC filter networks and amplifiers for deep space magnetic field measurement  
[NASA-CASE-XAC-05462-2] c10 N72-17171

RC networks with voltage amplifier, RC input circuit, and positive feedback  
[NASA-CASE-ARC-10020] c10 N72-17172

Multiloop RC active filter network with low parameter sensitivity and low amplifier gain  
[NASA-CASE-ARC-10192] c09 N72-21245

Temperature control system comprised of wheatstone bridge with RC circuit  
[NASA-CASE-NPO-11304] c14 N73-26430

Diode quad transducer and discriminator circuit --- characteristics of electrical measuring apparatus  
[NASA-CASE-ARC-10364-3] c10 N74-26760

**REACTION CONTROL**

Development of voice operated controller for controlling reaction jets of spacecraft  
[NASA-CASE-XLA-04063] c31 N71-33160

**REACTION WHEELS**

Satellite stabilization reaction wheel scanner  
[NASA-CASE-XGS-02629] c14 N71-21082

Gravity gradient attitude control system with gravity gradiometer and reaction wheels for artificial satellite attitude control  
[NASA-CASE-GSC-10555-1] c21 N71-27324

**REACTIVITY**

Absorbing gas reactivity control system for minimizing power distribution and perturbation in nuclear reactors  
[NASA-CASE-XLE-04599] c22 N72-20597

**REACTOR CORES**

Simulated fuel assembly-type flow measurement apparatus for coolant flow in reactor core  
[NASA-CASE-XLE-00724] c14 N70-34669

Solid state device for mapping flux and power in nuclear reactor cores  
[NASA-CASE-XLE-00301] c14 N70-36808

Reactor heated in-core diodes for energy conversion  
[NASA-CASE-NPO-10542] c09 N72-27228

**REACTOR TECHNOLOGY**

Nuclear reactor control rod assembly with improved driving mechanism  
[NASA-CASE-XLE-00298] c22 N70-34501

**READOUT**

Flow angle sensor and remote readout system for use with cryogenic fluids  
[NASA-CASE-XLE-04503] c14 N71-24864

System for checking status of several double-throw switches by readout indications  
[NASA-CASE-XLA-08799] c10 N71-27272

**REAL TIME OPERATION**

Respiratory analysis system to determine gas flow rate and frequency of respiration and expiration cycles in real time  
[NASA-CASE-MSC-13436-1] c05 N73-32015

Real time moving scene holographic camera system  
[NASA-CASE-MFS-21087-1] c14 N74-17153

Real time, large volume, moving scene holographic camera system  
[NASA-CASE-MFS-22537-1] c14 N74-28932

Real time liquid crystal image converter  
[NASA-CASE-LAR-11206-1] c23 N74-30118

**RECEIVERS**

Semiconductor in resonant cavity for improving signal to noise ratio of communication receiver  
[NASA-CASE-MSC-12259-1] c07 N70-12616

Improved phase lock loop for receiver in multichannel telemetry system with suppressed carrier  
[NASA-CASE-NPO-11593-1] c07 N73-28012

Automatic carrier acquisition system for phase locked loop receiver  
[NASA-CASE-NPO-11628-1] c07 N73-30113

Coherent receiver employing nonlinear coherence detection for carrier tracking



## RECONSTRUCTION

[NASA-CASE-NPO-11921-1] c07 N74-30523  
**RECONSTRUCTION**  
 Method and means for recording and reconstructing holograms without use of reference beam  
 [NASA-CASE-ERC-10020] c16 N71-26154  
**RECORDING INSTRUMENTS**  
 Weighing and recording device for obtaining precise automatic record of small changes in force  
 [NASA-CASE-ILA-02605] c14 N71-10773  
 Blood pressure measuring system for separately recording dc and ac pressure signals of Korotkoff sounds  
 [NASA-CASE-IMS-06061] c05 N71-23317  
 Helical recorder for multiple channel recording  
 [NASA-CASE-GSC-10614-1] c09 N72-11224  
 Thermomagnetic recording and magneto-optic playback system having constant intensity laser beam control  
 [NASA-CASE-NPO-11317-2] c16 N74-13205  
 Holography utilizing surface plasmon resonances  
 [NASA-CASE-NFS-22040-1] c14 N74-26946  
 Measuring probe position recorder  
 [NASA-CASE-LAR-10806-1] c14 N74-32877  
**RECOVERABILITY**  
 Ejectable underwater sound source recovery assembly  
 [NASA-CASE-LAR-10595-1] c15 N74-16135  
**RECOVERABLE LAUNCH VEHICLES**  
 Techniques for recovery of multistage rocket vehicles by providing lifting surfaces on individual sections  
 [NASA-CASE-IMP-00389] c31 N70-34176  
**RECOVERABLE SPACECRAFT**  
 Describing assembly for opening stabilizing and decelerating flaps of flight capsules used in space research  
 [NASA-CASE-IMP-03169] c31 N71-15675  
**RECOVERY PARACHUTES**  
 Parachute system for lowering manned spacecraft from post-reentry to ocean landing  
 [NASA-CASE-ILA-00195] c02 N70-38009  
 Development and operating principles of gas generator for deploying recovery parachutes from space capsules during atmospheric entry  
 [NASA-CASE-LAR-10549-1] c31 N73-13898  
**RECTANGULAR PANELS**  
 Rectangular solar cell stacked panels to generate electrical power aboard spacecraft  
 [NASA-CASE-NPO-11771] c03 N73-20040  
**RECTIFIERS**  
 Lithium drifted silicon radiation detector with gold rectifying contacts  
 [NASA-CASE-XLE-10529] c14 N69-23191  
 Power control switching circuit using low voltage semiconductor controlled rectifiers for high voltage isolation  
 [NASA-CASE-IMP-02713] c10 N69-39888  
 Precision full wave rectifier circuit for rectifying incoming electrical signals having positive or negative polarity with only positive output signals  
 [NASA-CASE-ARC-10101-1] c09 N71-33109  
 Voltage amplitude-responsive trigger circuit with silicon controlled rectifier  
 [NASA-CASE-GSC-10221-1] c09 N72-23171  
 Dc to ac to dc converter with transistor driven synchronous rectifiers  
 [NASA-CASE-GSC-11126-1] c09 N72-25253  
**REDUCED GRAVITY**  
 Reduced gravity liquid configuration simulator to study propellant behavior in rocket fuel tanks  
 [NASA-CASE-XLE-02624] c12 N69-39988  
 Apparatus for measuring human body mass in zero or reduced gravity environment  
 [NASA-CASE-IMS-03371] c05 N70-42000  
 Cable suspension and inclined walkway system for simulating reduced or zero gravity environments  
 [NASA-CASE-ILA-01787] c11 N71-16028  
 Development of restraint system for securing personnel to ergometer while exercising under weightless conditions  
 [NASA-CASE-NFS-21046-1] c14 N73-27377  
**REDUCTION (CHEMISTRY)**  
 Producing metal powders of controlled particle size by reducing oxide using reactive metal vapor in vacuum

## SUBJECT INDEX

[NASA-CASE-XLE-06461] c17 N72-22530  
**REDUNDANT COMPONENTS**  
 Redundant memory for enhanced reliability of digital data processing system  
 [NASA-CASE-GSC-10564] c10 N71-29135  
**REENTRY COMMUNICATION**  
 Electrostatic modulator for communicating through plasma sheath formed around spacecraft during reentry  
 [NASA-CASE-ILA-01400] c07 N70-41331  
 Method and apparatus for communicating through ionized layer of gases surrounding spacecraft during reentry into planetary atmospheres  
 [NASA-CASE-ILA-01127] c07 N70-41372  
 Reentry communication by injection of water droplets into plasma layer surrounding space vehicle  
 [NASA-CASE-ILA-01552] c07 N71-11284  
**REENTRY SHIELDING**  
 Transpirationally cooled heat ablation system for interplanetary spacecraft reentry shielding  
 [NASA-CASE-IMS-02677] c31 N70-42075  
 Method and apparatus for fabrication of heat insulating and ablative reentry structure  
 [NASA-CASE-IMS-02009] c33 N71-20834  
 Radioactive isotope capsule container design for atmospheric reentry protection and heat transmission to spacecraft  
 [NASA-CASE-LHW-11227-1] c33 N71-35153  
 Ablative heat shield for protection from aerodynamic heating of reentry spacecraft  
 [NASA-CASE-MSC-12143-1] c33 N72-17947  
**REENTRY TRAJECTORIES**  
 Aerodynamic configuration of reentry vehicle heat shield to provide longitudinal and directional stability at hypersonic velocities  
 [NASA-CASE-IMS-04142] c31 N70-41631  
**REENTRY VEHICLES**  
 Leading edge design for hypersonic reentry vehicles  
 [NASA-CASE-XLA-00165] c31 N70-33242  
 Delta winged, manned reentry vehicle capable of horizontal glide landing at low speeds  
 [NASA-CASE-ILA-00241] c31 N70-37986  
 Telespectrograph for analyzing upper atmosphere by tracking bodies reentering atmosphere at high velocities  
 [NASA-CASE-ILA-03273] c14 N71-18699  
 Ablation sensor for measuring surface ablation rate of material on vehicles entering earths atmosphere on entry into planetary atmospheres  
 [NASA-CASE-ILA-01791] c14 N71-22991  
 Design of ring wing vehicle of high drag-to-weight ratio to withstand reentry stress into low density atmosphere  
 [NASA-CASE-ILA-04901] c31 N71-24315  
 Development of auxiliary lifting system to provide ferry capability for entry vehicles  
 [NASA-CASE-LAR-10574-1] c11 N73-13257  
 Development and operating principles of gas generator for deploying recovery parachutes from space capsules during atmospheric entry  
 [NASA-CASE-LAR-10549-1] c31 N73-13898  
 Ceramic coating for silica insulation  
 [NASA-CASE-RSC-14270-2] c18 N74-30004  
**REFERENCE SYSTEMS**  
 Automatic frequency control device for providing frequency reference for voltage controlled oscillator  
 [NASA-CASE-RSC-10393] c09 N72-21247  
**REFINING**  
 Helium refining by superfluidity  
 [NASA-CASE-IMP-00733] c06 N70-34946  
**REFLECTANCE**  
 Optical characteristics measuring apparatus  
 [NASA-CASE-IMP-08840] c23 N71-16365  
 Device for determining acceleration of gravity by interferometric measurement of travel of falling body  
 [NASA-CASE-IMP-05844] c14 N71-17587  
 Highly stable optical mirror assembly optimizing image quality of light diffraction patterns  
 [NASA-CASE-ERC-10001] c23 N71-24868  
 Transmitting and reflecting diffuser  
 [NASA-CASE-LAR-10385-3] c23 N73-32538  
**REFLECTED WAVES**  
 Device and method for determining X ray reflection efficiency, scattering properties, and surface finish of optical surfaces

- [NASA-CASE-MPS-20243] c23 N73-13662
- REFLECTION**
- Vacuum preparation of zinc titanate pigment resistant to loss of reflective properties [NASA-CASE-MPS-13532] c18 N72-17532
- A method and apparatus for compensating reflection losses in a path length modulated absorption-absorption trace gas detector [NASA-CASE-ARC-10631-1] c14 N74-34864
- REFLECTOMETERS**
- Ellipsoidal mirror reflector for measuring reflectance [NASA-CASE-IGS-05291] c23 N71-16341
- REFLECTORS**
- Method of compactly packaging centrifugally expandable lightweight flexible reflector satellite [NASA-CASE-XLA-00138] c31 N70-37981
- Antenna design with self erecting mesh reflector [NASA-CASE-IGS-09190] c31 N71-16102
- Cylindrical reflector for resolving wide angle light beam from telescope into narrow beam for spectroscopic analysis [NASA-CASE-IGS-08269] c23 N71-26206
- Conical reflector antenna with feed approximating line source [NASA-CASE-NPO-10303] c07 N72-22127
- Target acquisition antenna feed with reflector system [NASA-CASE-GSC-10064-1] c10 N72-22235
- Multipurpose microwave antenna, employing dish reflector with plural coaxial horn feeds [NASA-CASE-NPO-11264] c07 N72-25174
- Characteristics of microwave antenna with conical reflectors to generate plane wave front [NASA-CASE-NPO-11661] c07 N73-14130
- REFRACTORY MATERIALS**
- Test apparatus for determining mechanical properties of refractory materials at high temperatures in vacuum or inert atmospheres [NASA-CASE-XLE-00335] c14 N70-35368
- Method for producing refractory molybdenum disilicides [NASA-CASE-IMS-00370] c17 N71-20941
- Prestressed rocket nozzle with ceramic inner rings and refractory metal outer rings [NASA-CASE-INP-02888] c18 N71-21068
- Semiconductor device manufacture using refractory dielectrics as diffusant masks and interconnection insulating materials [NASA-CASE-IBR-08476-1] c26 N72-17820
- Electric furnace for vacuum and zero gravity melting of high melting point materials during earth orbit [NASA-CASE-MPS-20710] c11 N72-23215
- Catalytic trimerization of aromatic nitriles and triaryl-s-triazine ring cross-linked high temperature resistant polymers and copolymers made thereby [NASA-CASE-LEW-12053-1] c06 N74-34579
- REFRACTORY METALS**
- Refractory filament series circuitry for radiant heater [NASA-CASE-XLE-00387] c33 N70-34812
- Production of refractory bodies with controlled porosity by pressing and heating mixtures of refractory and inert metal powders [NASA-CASE-LEW-10393-1] c17 N71-15468
- Multilayer porous refractory metal ionizer design with thick, porous, large-grain substrates and thin, porous micron-grain substrates [NASA-CASE-XNP-04338] c17 N71-23046
- Brazing alloy adapted for brazing corrosion resistant steel to refractory metals, also for brazing refractory metals to other refractory metals [NASA-CASE-XNP-03063] c17 N71-23365
- Development and characteristics of thermal radiation shielding of refractory metal foil used for induction furnace [NASA-CASE-XLE-03432] c33 N71-24145
- Production of high strength refractory compounds and microconstituents into refractory metal matrix [NASA-CASE-XLE-03940] c18 N71-26153
- Silicide coating process and composition for protection of refractory metals from oxidation [NASA-CASE-XLE-10910] c18 N71-29040
- Development of procedure for improved distribution of refractory compounds and micro-constituents in refractory metal matrix [NASA-CASE-XLE-03940-2] c17 N72-28536
- Improved silicide coatings for refractory metals employed in space shuttles and gas turbine engine components [NASA-CASE-LEW-11179-1] c17 N73-22474
- Method of making an apertured casting [NASA-CASE-LEW-11169-1] c15 N74-18131
- REFRIGERATING**
- Heat exchanger and decontamination system for multistage refrigeration unit [NASA-CASE-NPO-10634] c23 N72-25619
- REFRIGERATING MACHINERY**
- Gas balancing, cryogenic refrigeration apparatus with Joule-Thomson valve assembly [NASA-CASE-NPO-10309] c15 N69-23190
- Method and apparatus for producing very low temperature refrigeration based on gas pressure balance [NASA-CASE-INP-08877] c15 N71-23025
- Dual solid cryogens for spacecraft refrigeration insuring low temperature cooling for extended periods [NASA-CASE-GSC-10188-1] c23 N71-24725
- REFRIGERATORS**
- Intermittent type silica gel adsorption refrigerator for providing temperature control for spacecraft components [NASA-CASE-INP-00920] c15 N71-15906
- An improved helium refrigerator [NASA-CASE-NPO-13435-1] c23 N74-28134
- REGENERATION (ENGINEERING)**
- Switching circuit with regeneratively connected transistors eliminating power consumption when not in use [NASA-CASE-INP-02654] c10 N70-42032
- Direct current electromotive system for regenerative braking of electric motor [NASA-CASE-INP-01096] c10 N71-16030
- REGENERATIVE COOLING**
- Metal ribbon wrapped outer wall for regeneratively cooled combustion chamber [NASA-CASE-XLE-00164] c15 N70-36411
- Fabrication method for lightweight regeneratively cooled combustion chamber of channel construction [NASA-CASE-XLE-00150] c28 N70-41818
- Regenerative cooling system for small rocket engine having restart capability and using noncryogenic hypergolic propellants [NASA-CASE-XLE-00685] c28 N70-41992
- Regenerative cooling system for rocket combustion chamber using coolant tubes in convergent-divergent nozzle [NASA-CASE-XLE-04857] c28 N71-23968
- Thermocouple apparatus for measuring wall temperatures in regeneratively cooled rocket engines having thin walled cooling passages [NASA-CASE-XLE-05230-2] c14 N73-13417
- REGENERATIVE FUEL CELLS**
- Electrolytically regenerative hydrogen-oxygen fuel cells [NASA-CASE-XLE-04526] c03 N71-11052
- GENERATORS**
- Loop transponder for regenerating code of nu-type ranging system [NASA-CASE-NPO-11707] c07 N73-25161
- REGISTERS (COMPUTERS)**
- Data processor with plural register stages for selectively interconnecting with each other to effect multiplicity of operations [NASA-CASE-GSC-10186] c08 N71-33110
- REINFORCED PLASTICS**
- Process for developing filament reinforced plastic tubes used in research and development programs [NASA-CASE-LAR-10203-1] c15 N72-16330
- Development of procedure for repairing fiberglass structures which retains geometry and strength of original structure [NASA-CASE-LAR-10416-1] c15 N72-27527
- Reinforced structural plastics [NASA-CASE-LEW-10199-1] c18 N74-23125
- REINFORCEMENT (STRUCTURES)**
- Reinforcing beam system for highly flexible diaphragms in valves or pressure switches [NASA-CASE-INP-01962] c32 N70-41370

Fabrication of light weight panel structure using pairs of elongate hollow ribs of semicircular configuration  
 [NASA-CASE-LAB-11052-1] c32 N73-13929

**REINFORCING FIBERS**

High strength reinforced metallic composites for applications over wide temperature range  
 [NASA-CASE-XLE-02428] c17 N70-33288

Method for producing fiber reinforced metallic composites with high strength and elasticity over wide temperature range  
 [NASA-CASE-XLE-00231] c17 N70-38198

Description of method for producing metallic composites reinforced with ceramic and refractory hard metals that are fibered in place  
 [NASA-CASE-XLE-03925] c18 N71-22894

Production and application of sprayable fiber reinforced ablation material  
 [NASA-CASE-XLA-04251] c18 N71-26100

**RELAXATION OSCILLATORS**

Voltage controlled, variable frequency relaxation oscillator with MOSFET variable current feed  
 [NASA-CASE-GSC-10022-1] c10 N71-25882

**RELAY SATELLITES**

Earth satellite relay station for frequency multiplexed voice transmission  
 [NASA-CASE-GSC-10118-1] c07 N71-24621

**RELEASING**

Bolt-latch mechanism for releasing despin weights from space vehicle  
 [NASA-CASE-XLA-00679] c15 N70-38601

Quick-release coupling for fueling rocket vehicles with cryogenic propellants  
 [NASA-CASE-XKS-01985] c15 N71-10782

Design and development of release mechanism for spacecraft components, releasable despin weights, and extensible gravity booms  
 [NASA-CASE-XGS-08718] c15 N71-24600

Pneumatic mechanism for releasing hook and loop fasteners between large rigid structures  
 [NASA-CASE-XMS-10660-1] c15 N71-25975

Delayed simultaneous appendage release mechanism for use on spacecraft equipped with despin mechanisms and releasable components  
 [NASA-CASE-GSC-10814-1] c03 N73-20039

**RELIABILITY ANALYSIS**

Development of computer program for estimating reliability of self-repair and fault-tolerant systems with respect to selected system and mission parameters  
 [NASA-CASE-NPO-13086-1] c15 N73-12495

**RELIABILITY ENGINEERING**

Improving load capacity and fatigue life of rolling element systems in rockets and missiles  
 [NASA-CASE-XLE-02999] c15 N71-16052

Gage for quality control of sealing surfaces of threaded boss  
 [NASA-CASE-XMP-04966] c14 N71-17658

Reliability of automatic refilling valving device for cryogenic liquid systems  
 [NASA-CASE-MPO-11177] c15 N72-17453

Reliability of electrical connectors after heat sterilization  
 [NASA-CASE-MPO-10694] c09 N72-20200

Reliable electrical element heater using plural wire system and backup power sources  
 [NASA-CASE-MFS-21462-1] c09 N74-14935

Hollow rolling element bearings  
 [NASA-CASE-LEW-11087-3] c15 N74-21064

**RELIEF VALVES**

Relief valve to permit slow and fast bleeding rates at difference pressure levels  
 [NASA-CASE-XMS-05894-1] c15 N69-21924

Describing apparatus for separating gas from cryogenic liquid under zero gravity and for venting gas from fuel tank  
 [NASA-CASE-XLE-00586] c15 N71-15968

Redundant hydraulic control system for actuators with three main valve combination  
 [NASA-CASE-MFS-20944] c15 N73-13466

**REMOTE CONTROL**

Oscillatory electromagnetic mirror drive system for horizon scanners  
 [NASA-CASE-XLA-03724] c14 N69-27461

Stage separation using remote control release of joint with explosive insert  
 [NASA-CASE-XLA-02854] c15 N69-27490

Power controlled bimetallic electromechanical actuator for accurate, timely, and reliable response to remote control signal  
 [NASA-CASE-XMP-09776] c09 N69-39929

Controlled caging and uncaging mechanism for remote instrument control  
 [NASA-CASE-GSC-11063-1] c03 N70-35584

Two component valve assembly for cryogenic liquid transfer regulation  
 [NASA-CASE-XLE-00397] c15 N70-36492

Remotely actuated quick disconnect mechanism for umbilical cables  
 [NASA-CASE-XLA-00711] c03 N71-12258

Remotely actuated quick disconnect for tubular umbilical conduits used to transfer fluids from ground to rocket vehicle  
 [NASA-CASE-XLA-01396] c03 N71-12259

Remote control device operated by movement of finger tips for manual control of spacecraft attitude  
 [NASA-CASE-XAC-02405] c09 N71-16089

Satellite radio communication system with remote steerable antenna  
 [NASA-CASE-XMP-02389] c07 N71-28900

Laser beam projector for continuous, precise alignment between target, laser generator, and astronomical telescope during tracking  
 [NASA-CASE-NPO-11087] c23 N71-29125

Solid state remote circuit selector switching circuit  
 [NASA-CASE-LEW-10387] c09 N72-22201

Design and development of multichannel laser remote control system using modulated helium-neon laser as transmitter and light collector as receiving antenna  
 [NASA-CASE-LAR-10311-1] c16 N73-16536

Remote manipulator system  
 [NASA-CASE-MFS-22022-1] c05 N74-10099

**REMOTE HANDLING**

Manipulator for remote handling in zero gravity environment  
 [NASA-CASE-MFS-14405] c15 N72-28495

Apparatus for remote handling of materials --- mixing or analyzing dangerous chemicals  
 [NASA-CASE-LAR-10634-1] c15 N74-18123

**REMOTE SENSORS**

Passive optical wind and turbulence remote detection system  
 [NASA-CASE-XMF-14032] c20 N71-16340

Ionization control system design for monitoring separately located ion gage pressures on vacuum chambers  
 [NASA-CASE-XLE-00787] c14 N71-21090

Flow angle sensor and remote readout system for use with cryogenic fluids  
 [NASA-CASE-XLE-04503] c14 N71-24864

Time synchronization system for synchronizing clocks at remote locations with master clock using moon reflected coded signals  
 [NASA-CASE-NPO-10143] c10 N71-26326

Development of radiometric sensor to warn aircraft pilots of region of clear air turbulence along flight path  
 [NASA-CASE-ERC-10081] c14 N72-28437

Development of electronic detection system for remotely determining number and movement of enemy personnel  
 [NASA-CASE-ARC-10097-2] c07 N73-25160

Microwave power transmission system wherein level of transmitted power is controlled by reflections from receiver  
 [NASA-CASE-MFS-21470-1] c10 N74-19870

**REMOVAL**

Catalyst bed element removing tool  
 [NASA-CASE-IFR-00811] c15 N70-36901

**REPEATERS**

Time division relay synchronizer with master sync pulse for activating binary counter to produce signal identifying time slot for station  
 [NASA-CASE-GSC-10373-1] c07 N71-19773

**REPLACING**

Indexing mechanism for cathode array substitution in electron beam tube  
 [NASA-CASE-NPO-10625] c09 N71-26182

**RESCUE OPERATIONS**

Backpack carrier with retractable legs suitable for lunar exploration and convertible to rescue vehicle  
 [NASA-CASE-LAR-10056] c05 N71-12351

- Development and characteristics of rescue litter with inflatable flotation device for water rescue application  
[NASA-CASE-XMS-04170] c05 N71-22748
- RESEARCH AND DEVELOPMENT**  
Process for developing filament reinforced plastic tubes used in research and development programs  
[NASA-CASE-LAR-10203-1] c15 N72-16330
- RESEARCH VEHICLES**  
Lunar landing flight research vehicle  
[NASA-CASE-XFR-00929] c31 N70-34966  
Velocity limiting safety system for motor driven research vehicle  
[NASA-CASE-ILA-07473] c15 N71-24895
- RESIDUAL STRESS**  
Miniature solid state, direction sensitive, stress transducer design with bonded semiconductor piezoresistive element for sensing residual stresses  
[NASA-CASE-IMP-02983] c14 N71-21091  
Manufacturing process for making perspiration resistant-stress resistant biopotential electrode  
[NASA-CASE-MS-C-90153-2] c05 N72-25120
- RESILIENCE**  
Automated ball rebound resilience test equipment for determining viscoelastic properties of polymers  
[NASA-CASE-XLA-08254] c14 N71-26161
- RESIN BONDING**  
Procedure for bonding polytetrafluoroethylene thermal protective sleeves to magnesium alloy conical shell components with different thermal coefficients  
[NASA-CASE-XLA-01262] c15 N71-21404  
Silicon solar cell with plastic film binding to cover glass  
[NASA-CASE-LEW-11065-2] c03 N73-26048
- RESINS**  
Modification of polyurethanes with alkyl halide resins, inorganic salts, and encapsulated volatile and reactive halogen for fuel fire control  
[NASA-CASE-ARC-10098-1] c06 N71-24739  
Development of process for bonding resinous body in cavities of honeycomb structures  
[NASA-CASE-MS-C-12357] c15 N73-12489  
Resin for protecting p-n semiconductor junction surface  
[NASA-CASE-ERC-10339-1] c18 N73-30532
- RESISTANCE**  
Manufacturing process for making perspiration resistant-stress resistant biopotential electrode  
[NASA-CASE-MS-C-90153-2] c05 N72-25120  
Variable resistance tension and lubrication device, using oil-saturated leather wiper  
[NASA-CASE-KSC-10723-1] c15 N73-23553
- RESISTANCE HEATING**  
High resistance cross flow heat exchangers for electrothermal rocket engines  
[NASA-CASE-XLB-01783] c28 N70-34175
- RESISTORS**  
High isolation RF signal selection switches  
[NASA-CASE-NPO-13081-1] c07 N74-22814
- RESOLUTION**  
Conversion system for increasing resolution of analog to digital converters  
[NASA-CASE-IAC-00404] c08 N70-40125  
Cylindrical reflector for resolving wide angle light beam from telescope into narrow beam for spectroscopic analysis  
[NASA-CASE-XGS-08269] c23 N71-26206
- RESOLVERS**  
Differential phase shift keyed signal resolver  
[NASA-CASE-MS-C-14066-1] c10 N74-27705
- RESONANT FREQUENCIES**  
Vibrating element electrometer producing high conversion gain by input current control of elements resonant frequency displacement amplitude  
[NASA-CASE-IAC-02807] c09 N71-23021  
Quantitative liquid measurements in container by resonant frequencies  
[NASA-CASE-IMP-02500] c18 N71-27397  
Development of electrical circuit for suppressing oscillations across inductor operating in resonant mode  
[NASA-CASE-ERC-10403-1] c10 N73-26228
- RESONATORS**  
Selective bandpass resonators using bandstop resonator pairs for microwave frequency operation  
[NASA-CASE-GSC-10990-1] c09 N73-26195
- RESPIRATION**  
Respiration analyzing method and apparatus for determining subjects oxygen consumption in aerospace environments  
[NASA-CASE-XFR-08403] c05 N71-11202
- RESPIRATORS**  
Transducer for monitoring oxygen flow in respirator  
[NASA-CASE-FRC-10012] c14 N72-17329
- RESPIRATORY RATE**  
Flowmeters for sensing low fluid flow rate and pressure for application to respiration rate studies  
[NASA-CASE-FRC-10022] c12 N71-26546  
Respiratory analysis system to determine gas flow rate and frequency of respiration and expiration cycles in real time  
[NASA-CASE-MS-C-13436-1] c05 N73-32015  
Metabolic analyzer --- for measuring metabolic rate and breathing dynamics of human beings  
[NASA-CASE-NFS-21415-1] c05 N74-20728
- RESPIROMETERS**  
Metabolic analyzer --- for measuring metabolic rate and breathing dynamics of human beings  
[NASA-CASE-NFS-21415-1] c05 N74-20728
- RESPONSES**  
System for monitoring condition responsive devices by using frequency division multiplex technique  
[NASA-CASE-KSC-10521] c07 N73-20176
- RESTARTABLE ROCKET ENGINES**  
Collapsible auxiliary tank for restarting liquid propellant rocket motors under zero gravity  
[NASA-CASE-IMP-01390] c28 N70-41275  
Regenerative cooling system for small rocket engine having restart capability and using noncryogenic hypergolic propellants  
[NASA-CASE-XLE-00685] c28 N70-41992
- RESTORATION**  
Photographic film restoration system  
[NASA-CASE-MS-C-12448-2] c14 N74-32884
- RESUSCITATION**  
Pulmonary resuscitation method and apparatus with adjustable pressure regulator  
[NASA-CASE-XMS-01115] c05 N70-39922
- REWARDING**  
Ablative resins used for retarding regression in ablative material  
[NASA-CASE-XLB-05913] c33 N71-14032
- RETICLES**  
Optical tracker with pair of PM reticles having patterns 90 deg out of phase  
[NASA-CASE-XGS-05715] c23 N71-16100  
Method for producing reticles for use in outer space  
[NASA-CASE-GSC-11188-2] c21 N73-19630  
Production method of star tracking reticles for transmitting in visible and near ultraviolet regions  
[NASA-CASE-GSC-11188-1] c14 N73-32320  
Formation of star tracking reticles  
[NASA-CASE-GSC-11188-3] c14 N74-20008  
Star scanner --- with a reticle with a pair of slits having differing separation  
[NASA-CASE-GSC-11569-1] c14 N74-30886
- RETRACTABLE EQUIPMENT**  
Retractable runway lights  
[NASA-CASE-XLA-00119] c11 N70-33329  
Support for flexible conductor cable between drawers or racks holding electronic equipment and cabinet assembly housing drawers or racks  
[NASA-CASE-IMP-07587] c15 N71-18701
- RETROFIRING**  
Visual target luminaires for retrofire attitude control  
[NASA-CASE-XMS-12158-1] c31 N69-27499  
Device for use in descending spacecraft as altitude sensor for actuating deceleration retrorockets  
[NASA-CASE-XMS-03792] c14 N70-41812
- RETROREFLECTION**  
Servo system for retroreflector of Michelson interferometer

- [NASA-CASE-WPO-10300] c14 N71-17662
- RETROCKET ENGINES**  
Steerable solid propellant rocket motor adapted to effect payload orientation as multistage rocket stage or reduce velocity as retrorocket [NASA-CASE-XNP-00234] c28 N70-38645
- REUSABLE SPACECRAFT**  
Recoverable, reusable single stage booster capable of injecting large payloads into circular earth orbit [NASA-CASE-XNP-01973] c31 N70-41588  
Spacecraft configurations and aerodynamic characteristics of space shuttle systems with two reusable stages [NASA-CASE-MS-C-12433] c31 N73-14854
- REUSE**  
Silica reusable surface insulation [NASA-CASE-ARC-10721-1] c18 N74-14230
- REVERSED FLOW**  
Multistage multiple reentry axial flow reaction turbine with reverse flow reentry ducting [NASA-CASE-XLE-00170] c15 N70-36412  
Reversible current directing circuitry for reversible motor control [NASA-CASE-XLA-09371] c10 N71-18724  
Positive locking check valve for stopping reversed flow [NASA-CASE-IMS-09310] c15 N71-22706
- REYNOLDS NUMBER**  
Wind tunnel test section for simulating high Reynolds number over transonic speed range [NASA-CASE-MFS-20509] c11 N72-17183
- RIBBONS**  
Metal ribbon wrapped outer wall for regeneratively cooled combustion chamber [NASA-CASE-XLE-00164] c15 N70-36411  
Device for bending metal ribbon or wire [NASA-CASE-XLA-05966] c15 N72-12408  
Controlled diffusion reaction process for masking substrate of twisted multifilament superconductive ribbon [NASA-CASE-LEW-11726-1] c26 N73-26752
- RIBOFLAVIN**  
Bioassay of flavin coenzymes [NASA-CASE-GSC-10565-1] c06 N72-25149
- RIBS (SUPPORTS)**  
Aeroflexible wing structure with air scoop for inflating stiffeners with ram air [NASA-CASE-XLA-06095] c01 N69-39981  
Fabrication of light weight panel structure using pairs of elongate hollow ribs of semicircular configuration [NASA-CASE-LAR-11052-1] c32 N73-13929
- RICE**  
Rice preparation process consisting of cooking, two freezing-thawing cycles, and then freeze drying [NASA-CASE-MS-C-13540-1] c05 N72-33096
- RIGID ROTORS**  
Hingeless helicopter rotor with improved stability [NASA-CASE-ARC-10807-1] c02 N74-34475
- RIGID STRUCTURES**  
Pneumatic mechanism for releasing hook and loop fasteners between large rigid structures [NASA-CASE-XMS-10660-1] c15 N71-25975  
Storage stable, thermally activated foaming compositions for erecting and rigidizing mechanisms of thin sheet solar collectors [NASA-CASE-LAR-10373-1] c18 N71-26155  
Adjustable rigid mount for trihedral mirror formed of alloy with small coefficient of thermal expansion supporting screws and spring-biased plates [NASA-CASE-XNP-08907] c23 N71-29123
- RIGID WINGS**  
Deployment system for flexible wing with rigid superstructure [NASA-CASE-XLA-01220] c02 N70-41863
- RING CURRENTS**  
Design of transistorized ring counter circuit with special steering and triggering circuits [NASA-CASE-IGS-03095] c09 N69-27463
- RING STRUCTURES**  
Reversible ring counter using cascaded single silicon controlled rectifier stages [NASA-CASE-IGS-01473] c09 N71-10673  
Nonreusable energy absorbing device comprising ring member with plurality of recesses, cutting members, and guide member mounted in each recess [NASA-CASE-XNP-10040] c15 N71-22877  
Electron microscope and method of making annular objective aperture [NASA-CASE-ARC-10448-1] c14 N72-21421
- RING WINGS**  
Design of ring wing vehicle of high drag-to-weight ratio to withstand reentry stress into low density atmosphere [NASA-CASE-XLA-04901] c31 N71-24315
- RIPPLES**  
Circuit for monitoring power supply by ripple current indication [NASA-CASE-KSC-10162] c09 N72-11225
- RIVETS**  
Electrical connection for printed circuits on common board, using bellows principle in rivet [NASA-CASE-XNP-05082] c15 N70-41960
- ROCKET ENGINE CASES**  
Method for shaping regeneratively cooled rocket motor casing having minimum thickness at each channel cross section [NASA-CASE-XLE-00409] c28 N71-15658  
Regeneratively cooled rocket motor casing with tapered channels to insure minimum thicknesses at each channel cross section for necessary strength requirements [NASA-CASE-XLE-05689] c28 N71-15659  
Payload/spent rocket engine case separation system [NASA-CASE-XLA-05369] c31 N71-15687  
Liner for hybrid solid propellants to bind propellant to rocket motor case [NASA-CASE-XNP-09744] c27 N71-16392  
Permanently magnetized ion engine casing construction for use in spacecraft propulsion systems [NASA-CASE-XNP-06942] c28 N71-23293
- ROCKET ENGINE DESIGN**  
High thrust annular liquid propellant rocket engine and exhaust nozzle design [NASA-CASE-XLE-00078] c28 N70-33284  
Spherical solid propellant rocket engine design [NASA-CASE-XLA-00105] c28 N70-33331  
Spherical solid propellant rocket engine having abrupt burnout [NASA-CASE-XHQ-01897] c28 N70-35381  
Metal ion rocket engine design [NASA-CASE-XLE-00342] c28 N70-37980  
Improvement in rocket engine performance with swirling flow exhaust nozzle development [NASA-CASE-XNP-03692] c28 N71-24321  
Characteristics of ion rocket engine with combination keeper electrode and electron baffle [NASA-CASE-WPO-11830] c28 N73-24783  
Supersonic-combustion rocket [NASA-CASE-LEW-11058-1] c28 N74-13502  
Rocket chamber and method of making [NASA-CASE-LEW-11118-2] c28 N74-28232  
An improved system for imposing directional stability on a rocket-propelled vehicle [NASA-CASE-MFS-21311-1] c31 N74-30311
- ROCKET ENGINES**  
Channel-type shell construction for rocket engines and related configurations [NASA-CASE-XLE-00144] c28 N70-34860  
Encapsulated heater forming hollow body for cathode used in ion thruster [NASA-CASE-LEW-10814-1] c28 N70-35422  
Apparatus for cooling and injecting hypergolic propellants into combustion chamber of small rocket engine [NASA-CASE-XLE-00303] c15 N70-36535  
Elastic universal joint for rocket motor mounting [NASA-CASE-XNP-00416] c15 N70-36947  
Water electrolysis rocket engine with self-regulating stoichiometric fuel mixing regulator [NASA-CASE-IGS-08729] c28 N71-14044  
Method for igniting solid propellant rocket motors by injecting hypergolic fluids [NASA-CASE-XLE-01988] c27 N71-15634  
Laminar flow of liquid coolants in rocket engines [NASA-CASE-WPO-10122] c12 N71-17631  
Improvement in rocket engine performance with swirling flow exhaust nozzle development [NASA-CASE-XNP-03692] c28 N71-24321  
System for removing and repairing spacecraft control thrusters by use of portable air locks [NASA-CASE-MFS-20325] c28 N71-27095

- Device for back purging thrust engines  
[NASA-CASE-XMS-04826] c28 N71-28849
- Development of method for cooling high temperature wall members with cooling medium having high heat absorption capability  
[NASA-CASE-HQN-00938] c33 N71-29053
- Automatic shunting of ion thruster magnetic field when thruster is not operating  
[NASA-CASE-LEW-10835-1] c28 N72-22771
- Vacuum chamber with scale model of rocket engine base area of space vehicle  
[NASA-CASE-MPS-20620] c11 N72-27262
- Thermocouple apparatus for measuring wall temperatures in regeneratively cooled rocket engines having thin walled cooling passages  
[NASA-CASE-XLE-05230-2] c14 N73-13417
- Improving performance of magnetoplasma dynamic arc rocket engine  
[NASA-CASE-LEW-11180-1] c25 N73-25760
- Method of electroforming a rocket chamber  
[NASA-CASE-LEW-11118-1] c15 N74-32919
- ROCKET EXHAUST**
- Thrust vector control by secondary injection of fluid into rocket nozzle flow field to separate exhaust flow  
[NASA-CASE-XLE-00208] c28 N70-34294
- Development of vortex fluid amplifier for throttling rocket exhaust  
[NASA-CASE-LEW-10374-1] c28 N73-13773
- ROCKET FIRING**
- Design and characteristics of linkage to alleviate rocket vehicle divergence during launch  
[NASA-CASE-XLA-00256] c31 N71-15663
- ROCKET FLIGHT**
- Development of technique for control of free flight rocket vehicles  
[NASA-CASE-XLA-00937] c31 N71-17691
- ROCKET LAUNCHING**
- Design and characteristics of linkage to alleviate rocket vehicle divergence during launch  
[NASA-CASE-XLA-00256] c31 N71-15663
- Controlled release device for use in launching rockets or missiles  
[NASA-CASE-XKS-03338] c15 N71-24043
- ROCKET NOZZLES**
- Gimbaled partially submerged nozzle for solid propellant rocket engines for providing directional control  
[NASA-CASE-XNP-01544] c28 N70-34162
- Large area-ratio nozzles for rocket motor thrust chambers  
[NASA-CASE-XLE-00145] c28 N70-36806
- Flexible rocket motor nozzle closure device to aid ignition and protect rocket chamber from foreign objects  
[NASA-CASE-XLA-02651] c28 N70-41967
- Automatically deploying nozzle exit cone extension  
[NASA-CASE-XLE-01640] c31 N71-15637
- Method for testing rocket nozzles at high tensile stress levels  
[NASA-CASE-NPO-10311] c31 N71-15643
- Development of collapsible nozzle extension for rocket engines  
[NASA-CASE-MPS-11497] c28 N71-16224
- Camera protecting device for use in photographing rocket engine nozzles or other engine components  
[NASA-CASE-NPO-10174] c14 N71-18465
- Multislot film cooled pyrolytic graphite rocket nozzle  
[NASA-CASE-XNP-04389] c28 N71-20942
- Prestressed rocket nozzle with ceramic inner rings and refractory metal outer rings  
[NASA-CASE-XNP-02888] c18 N71-21068
- Improvement in rocket engine performance with swirling flow exhaust nozzle development  
[NASA-CASE-XNP-03692] c28 N71-24321
- Development of method for cooling high temperature wall members with cooling medium having high heat absorption capability  
[NASA-CASE-HQN-00938] c33 N71-29053
- Inflatable rocket engine nozzle skirt with transpiration cooling  
[NASA-CASE-MPS-20619] c28 N72-11708
- Thin walled nozzle with insulative nonablative coating for solid propellant rocket engines  
[NASA-CASE-NPO-11458] c28 N72-23810
- ROCKET OXIDIZERS**
- Preparing oxidizer coated metal fuel particles  
[NASA-CASE-NPO-11975-1] c27 N74-33209
- ROCKET PROPELLANTS**
- Solenoid two-step valve for bipropellant flow rate control to rocket engine  
[NASA-CASE-XMS-04890-1] c15 N70-22192
- Rocket engine injector orifice to accommodate changes in density, velocity, and pressure, thereby maintaining constant mass flow rate of propellant into rocket combustion chamber  
[NASA-CASE-XLE-03157] c28 N71-24736
- Bipropellant injector with pair of concave deflector plates  
[NASA-CASE-XNP-09461] c28 N72-23809
- ROCKET TEST FACILITIES**
- High-vacuum condenser tank for testing ion rocket engines  
[NASA-CASE-XLE-00168] c11 N70-33278
- Micro-pound extended range thrust stand for small rocket engines  
[NASA-CASE-GSC-10710-1] c28 N71-27094
- ROCKET THRUST**
- Solid propellant rocket vehicle thrust control method and apparatus  
[NASA-CASE-XNP-00217] c28 N70-38181
- High voltage insulators for direct current in acceleration system of electrostatic thruster  
[NASA-CASE-XLE-01902] c28 N71-10574
- Characteristics of solid propellant rocket engine with controlled rate of thrust buildup operating in vacuum environment  
[NASA-CASE-NPO-11559] c28 N73-24784
- ROCKET VEHICLES**
- Unibical separator for rockets  
[NASA-CASE-XNP-00425] c11 N70-38202
- Hydraulic support equipment for full scale dynamic testing of large rocket vehicle under free flight conditions  
[NASA-CASE-XMP-01772] c11 N70-41677
- Design and characteristics of linkage to alleviate rocket vehicle divergence during launch  
[NASA-CASE-XLA-00256] c31 N71-15663
- Development of technique for control of free flight rocket vehicles  
[NASA-CASE-XLA-00937] c31 N71-17691
- An improved system for imposing directional stability on a rocket-propelled vehicle  
[NASA-CASE-MPS-21311-1] c31 N74-30311
- ROCKET-BORNE INSTRUMENTS**
- Rocket-borne aspect sensor consisting of radiation sensor, apertured disk, commutator, and counting circuits  
[NASA-CASE-XGS-08266] c14 N69-27432
- ROCKETS**
- Device for detecting hydrogen fires onboard high altitude rockets  
[NASA-CASE-MPS-13130] c10 N72-17173
- ROCKS**
- Rotary impact-type rock drill for recovering rock cuttings  
[NASA-CASE-XNP-07478] c14 N69-21923
- Rock sampling --- apparatus for controlling particle size  
[NASA-CASE-XNP-10007-1] c15 N74-23068
- Rock sampling --- method for controlling particle size distribution  
[NASA-CASE-XNP-09755] c15 N74-23069
- ROLL**
- Measuring roll alignment of test body with respect to reference body  
[NASA-CASE-GSC-10514-1] c14 N72-20379
- ROLLER BEARINGS**
- Solid lubricant applied to porous roller bearings prior to use in ultrahigh vacuum  
[NASA-CASE-XLE-09527] c15 N71-17688
- Semilinear bearing comprising two rows of roller bearings separated by spherical bearings and permitting rotational and translational movement  
[NASA-CASE-XLA-02809] c15 N71-22982
- Low mass rolling element bearing assembly  
[NASA-CASE-LEW-11087-1] c15 N73-30458
- Method of making rolling element bearings  
[NASA-CASE-LEW-11087-2] c15 N74-15128
- ROLLERS**
- Improving load capacity and fatigue life of rolling element systems in rockets and missiles  
[NASA-CASE-XLE-02999] c15 N71-16052

## ROLLING CONTACT LOADS

Development of rolling element bearing for operation in ultrahigh vacuum environment  
[NASA-CASE-XLE-09527-2] c15 N71-26189

## ROLLING MOMENTS

Star sensor system for roll attitude control of spacecraft  
[NASA-CASE-XNP-01307] c21 N70-41856

## ROOM TEMPERATURE

Process permitting application of synthetic resin coating to irregular-shaped objects at ambient temperature  
[NASA-CASE-XNP-06508] c18 N69-39895

## ROTARY STABILITY

Drive mechanism for operating reactance attitude control system for aerospace bodies  
[NASA-CASE-XNP-01598] c21 N71-15583

Combination guide and rotary bearing for freely moving shaft  
[NASA-CASE-XLA-00013] c15 N71-29136

Journal bearings  
[NASA-CASE-LEW-11076-3] c15 N74-10475

## ROTARY WING AIRCRAFT

Aircraft control system for rotary wing aircraft  
[NASA-CASE-ERC-10439] c02 N73-19004

## ROTARY WINGS

Variable geometry rotor system for direct control over wake vortex  
[NASA-CASE-LAR-10557] c02 N72-11018

Hingeless helicopter rotor with improved stability  
[NASA-CASE-ARC-10807-1] c02 N74-34475

## ROTATING BODIES

Optical scanner mounted on rotating support structure with method of compensating for image or satellite rotation  
[NASA-CASE-XGS-02401] c14 N69-27485

Laser device for removing material from rotating object for dynamic balancing  
[NASA-CASE-NFS-11279] c16 N71-20400

Development and characteristics of annular momentum control device for two axis stabilization of spacecraft  
[NASA-CASE-LAR-11051-1] c21 N73-28646

Phase-locked servo system --- for synchronizing rotation of two or more rotating systems  
[NASA-CASE-NFS-22073-1] c09 N74-11058

Axially and radially controllable magnetic bearing  
[NASA-CASE-GSC-11551-1] c15 N74-18132

## ROTATING DISKS

Poil seal between parts moving relative to each other  
[NASA-CASE-XLE-05130] c15 N69-21362

Rocket-borne aspect sensor consisting of radiation sensor, apertured disk, commutator, and counting circuits  
[NASA-CASE-XGS-08266] c14 N69-27432

## ROTATING ELECTRICAL MACHINES

Modulating and controlling intensity of light beam from high temperature source by servocontrolled rotating cylinders  
[NASA-CASE-XMS-04300] c09 N71-19479

Design and development of electric motor with stationary field and armature windings which operates on direct current  
[NASA-CASE-XGS-05290] c09 N71-25999

Double-induction variable speed system for constant-frequency electrical power generation  
[NASA-CASE-ERC-10065] c09 N71-27364

## ROTATING ENVIRONMENTS

Radial module manned space station with artificial gravity environment  
[NASA-CASE-XMS-01906] c31 N70-41373

Artificial gravity system for simulating self-locomotion capability of astronauts in rotating environments  
[NASA-CASE-XLA-03127] c11 N71-10776

Rotary plant growth accelerating apparatus --- for weightlessness simulation  
[NASA-CASE-ARC-10722-1] c04 N74-13807

## ROTATING GENERATORS

Rotating raster generator  
[NASA-CASE-PRC-10071-1] c07 N74-20813

## ROTATING MIRRORS

Optical retrodirective modulator with focus spoiling reflector driven by modulation signal  
[NASA-CASE-GSC-10062] c14 N71-15605

Attitude sensor with scanning mirrors for detecting orientation of space vehicle with respect to planet

[NASA-CASE-XLA-00793] c21 N71-22880  
Optical device containing rotatable prism and reflecting mirror for generating precise angles

[NASA-CASE-XGS-04173] c19 N71-26674  
Method and apparatus for optically monitoring the angular position of a rotating mirror

[NASA-CASE-GSC-11353-1] c23 N74-21304  
ROTATING SHAFTS

Fluid seal formed by flexible disk on rotating shaft to retain lubricating oils around shaft  
[NASA-CASE-XLE-05130-2] c15 N71-19570

Anemometer with braking mechanism to prevent rotation of wind driven elements  
[NASA-CASE-XNP-05224] c14 N71-23726

Electromagnetic braking arrangement for controlling rotor rotation in electric motor  
[NASA-CASE-XNP-06936] c15 N71-24695

Liquid-vapor interface seal design for turbine rotating shafts including helical and molecular pumps and liquid cooling of mercury vapor  
[NASA-CASE-XNP-02862-1] c15 N71-26294

Combination guide and rotary bearing for freely moving shaft  
[NASA-CASE-XLA-00013] c15 N71-29136

Development of Hall effect transducer for converting mechanical shaft rotations into proportional electrical signals  
[NASA-CASE-LAR-10620-1] c09 N72-25255

Development of optical system for detecting defective components in rotating machinery with emphasis on bearing assemblies  
[NASA-CASE-KSC-10752-1] c15 N73-27407

High speed, self-acting shaft seal  
[NASA-CASE-LEW-11274-1] c15 N73-29457

Ergometer calibrator --- for any ergometer utilizing rotating shaft  
[NASA-CASE-NFS-21045-1] c14 N74-11288

Spiral groove seal --- for rotating shaft  
[NASA-CASE-XLE-10326-4] c15 N74-15125

Digital servo controller --- for rotating antenna shaft  
[NASA-CASE-KSC-10769-1] c09 N74-29556

Solid medium thermal engine  
[NASA-CASE-ARC-10461-1] c33 N74-33379

## ROTATION

Seullinear bearing comprising two rows of roller bearings separated by spherical bearings and permitting rotational and translational movement  
[NASA-CASE-XLA-02809] c15 N71-22982

Mechanical actuator wherein linear motion changes to rotational motion  
[NASA-CASE-XGS-04548] c15 N71-24045

Positioning mechanism for converting translatory motion into rotary motion  
[NASA-CASE-NPO-10679] c15 N72-21462

## ROTOR BLADES (TURBOMACHINERY)

Locking device for retaining turbine rotor blades on turbine wheel  
[NASA-CASE-XNP-00816] c28 N71-28928

Blade vibration damping pins for turbomachinery  
[NASA-CASE-XLE-00155] c28 N71-29154

Apparatus for welding blades to rotors  
[NASA-CASE-LEW-10533-2] c15 N74-11300

Supersonic fan blading --- noise reduction in turbofan engines  
[NASA-CASE-LEW-11402-1] c28 N74-28226

## ROTOR SPEED

Brushless dc tachometer design with Hall effect crystals and output voltage magnitude proportional to rotor speed  
[NASA-CASE-NFS-20385] c09 N71-24904

## ROTORS

Multistage, multiple reentry, single rotor, axial flow turbine  
[NASA-CASE-XLE-00085] c28 N70-39895

Describing angular position and velocity sensing apparatus  
[NASA-CASE-XGS-05680] c14 N71-17585

Microwave waveguide switch with rotor position control  
[NASA-CASE-XNP-06507] c09 N71-23548

Electromagnetic braking arrangement for controlling rotor rotation in electric motor  
[NASA-CASE-XNP-06936] c15 N71-24695

Rotary vane attenuator with two stators and intermediary rotor, using resistive and orthogonally disposed cards  
[NASA-CASE-NPO-11418-1] c14 N73-13420

- Process for welding compressor and turbine blades to rotors and discs of jet engines  
[NASA-CASE-LEW-10533-1] c15 N73-28515
- Brushless dc motor with wound rotor  
[NASA-CASE-NPO-13437-1] c09 N74-27688
- RUBBER**  
Rubber composition for expulsion bladders and diaphragms for use with hydrazine  
[NASA-CASE-NPO-11433] c18 N71-31140
- RUBBER COATINGS**  
Intumescent paint containing nitrile rubber for fire protection  
[NASA-CASE-ARC-10196-1] c18 N73-13562
- RUBY LASERS**  
Cooling and radiation protection of ruby lasers using copper sulfate solution in alcohol  
[NASA-CASE-MPS-20180] c16 N72-12440
- RUNWAY ALIGNMENT**  
Magnetic method for detection of aircraft position relative to runway  
[NASA-CASE-ARC-10179-1] c21 N72-22619
- RUNWAY LIGHTS**  
Retractable runway lights  
[NASA-CASE-XLA-00119] c11 N70-33329
- RUPTURING**  
Knife structure for controlling rupture of shock tube diaphragms  
[NASA-CASE-XAC-00731] c11 N71-15960
- S**
- SAFETY DEVICES**  
Helmet and torso tiedown mechanism for shortening pressure suits upon inflation  
[NASA-CASE-XMS-00784] c05 N71-12335
- Positive locking check valve for stopping reversed flow  
[NASA-CASE-XMS-09310] c15 N71-22706
- Description of protective device for providing safe operating conditions around work piece in machine or metal working tool  
[NASA-CASE-XLE-01092] c15 N71-22797
- Velocity limiting safety system for motor driven research vehicle  
[NASA-CASE-XLA-07473] c15 N71-24895
- Device for generating and controlling combustion products for testing of fire detection system  
[NASA-CASE-GSC-11095-1] c14 N72-10375
- Restraint torso for increased mobility and reduced physiological effects while wearing pressurized suits  
[NASA-CASE-MSC-12397-1] c05 N72-25119
- Shoulder harness and lap belt restraint system  
[NASA-CASE-ARC-10519-2] c05 N74-18805
- Totally confined explosive welding --- apparatus to reduce noise level and protect personnel during explosive bonding  
[NASA-CASE-LAR-10941-1] c15 N74-21057
- Deployable flexible ventral fins for use as an emergency spin recovery device in aircraft  
[NASA-CASE-LAR-10753-1] c02 N74-30421
- SALT BATHS**  
Application techniques for protecting materials during salt bath brazing  
[NASA-CASE-XLE-00046] c15 N70-33311
- SAMARIUM**  
Gadolinium or samarium doped-silicon semiconductor material with resistance to radiation damage for use in solar cells  
[NASA-CASE-XLE-10715] c26 N71-23292
- SAMPLERS**  
Portable vacuum probe surface sampler for sampling large surface areas with relatively light loading densities of microorganisms  
[NASA-CASE-LAR-10623-1] c14 N73-30395
- SAMPLING**  
Impact bit for cutting, collecting, and storing samples such as lunar rock cuttings  
[NASA-CASE-INP-01412] c15 N70-42034
- Design and development of fluid sample collector  
[NASA-CASE-IMS-06767-1] c14 N71-20435
- Design and development of two types of atmosphere sampling chambers  
[NASA-CASE-NPO-11373] c13 N72-25323
- Automatic swabbing apparatus for sampling of microbiological surfaces  
[NASA-CASE-LAR-11069-1] c04 N73-16061
- Digital to analog converter for sampled signal reconstruction  
[NASA-CASE-MSC-12458-1] c08 N73-32081
- Rock sampling --- apparatus for controlling particle size  
[NASA-CASE-INP-10007-1] c15 N74-23068
- Rock sampling --- method for controlling particle size distribution  
[NASA-CASE-INP-09755] c15 N74-23069
- SANDWICH STRUCTURES**  
Sandwich panel structure for removing heat from shield between hot and cold areas  
[NASA-CASE-XLA-00349] c33 N70-37979
- Particle detector for measuring micrometeoroid velocity in space  
[NASA-CASE-XLA-00495] c14 N70-41332
- Capacitor sandwich structure containing metal sheets of known thickness for counting penetration rates of meteoroids  
[NASA-CASE-XLE-01246] c14 N71-10797
- Technique for making foldable, inflatable, plastic honeycomb core panels for use in building and bridge structures, light and radio wave reflectors, and spacecraft  
[NASA-CASE-XLA-03492] c15 N71-22713
- Punch and die device for forming convolution series in thin gage metal hemispheres  
[NASA-CASE-INP-05297] c15 N71-23811
- SAPPHIRE**  
High temperature bonding of sapphire to sapphire by eutectic Al2O3 and ZrO2 mixture to form sapphire rubidium maser cell  
[NASA-CASE-GSC-11577-1] c15 N73-19467
- Bonding of sapphire to sapphire by eutectic mixture of aluminum oxide and zirconium oxide  
[NASA-CASE-GSC-11577-2] c15 N74-34002
- SATELLITE ANTENNAS**  
Monopole antenna system for maximum omnidirectional efficiency for use on satellites  
[NASA-CASE-XLA-00414] c07 N70-38200
- Development of antenna system for spin stabilized communication satellite for simultaneous reception and transmission of data  
[NASA-CASE-IGS-02607] c31 N71-23009
- SATELLITE ATTITUDE CONTROL**  
Photosensitive light source device for detecting unmanned spacecraft deviation from reference attitude  
[NASA-CASE-INP-00438] c21 N70-35089
- Attitude control system for spacecraft based on conversion of incident solar radiation on movable control surfaces into mechanical torques  
[NASA-CASE-INP-02982] c31 N70-41855
- Design and development of satellite despinn device  
[NASA-CASE-INP-08523] c31 N71-20396
- Utilization of momentum devices for forming attitude control and damping system for spacecraft  
[NASA-CASE-XLA-02551] c21 N71-21708
- Gravity gradient attitude control system with gravity gradiometer and reaction wheels for artificial satellite attitude control  
[NASA-CASE-GSC-10555-1] c21 N71-27324
- Method and apparatus for providing active attitude control for spacecraft by converting any attitude motion of vehicle into simple rotational motion  
[NASA-CASE-HON-10439] c21 N72-21624
- Momentum wheel design for spacecraft attitude control and magnetic drum and head system for data storage  
[NASA-CASE-NPO-11481] c21 N73-13644
- An attitude control system  
[NASA-CASE-MPS-22787-1] c21 N74-35096
- SATELLITE CONTROL**  
Stabilization system for gravity-oriented satellites using single damper rod  
[NASA-CASE-XAC-01591] c31 N71-17729
- SATELLITE DESIGN**  
Inflation system for balloon type satellites  
[NASA-CASE-IGS-03351] c31 N71-16081
- SATELLITE INSTRUMENTS**  
Satellite stabilization reaction wheel scanner  
[NASA-CASE-IGS-02629] c14 N71-21082
- Economical satellite aided vehicle avoidance system for preventing midair collisions  
[NASA-CASE-EBC-10419] c21 N72-21631
- SATELLITE NETWORKS**  
Satellite network synchronization system with multiple access to multiplex repeater  
[NASA-CASE-GSC-10390-1] c07 N72-11149



## SATELLITE ORBITS

- Development of method and apparatus for spinning satellite about selected axis after reaching predetermined orientation  
[NASA-CASE-HQN-00936] c31 N71-29050
- SATELLITE ORIENTATION**  
Sensing method and device for determining orientation of space vehicle or satellite by using particle traps  
[NASA-CASE-XGS-00466] c21 N70-34297  
Spin phase synchronization of cartwheel satellite in polar orbit  
[NASA-CASE-XGS-05579] c31 N71-15676  
Development of method and apparatus for spinning satellite about selected axis after reaching predetermined orientation  
[NASA-CASE-HQN-00936] c31 N71-29050  
Analog spatial maneuver computer with three output angles for obtaining desired spatial attitude  
[NASA-CASE-GSC-10880-1] c08 N72-11172
- SATELLITE PERTURBATION**  
Flexible turnstile antenna system for reducing nutation in spin-oriented satellites  
[NASA-CASE-XNP-00442] c31 N71-10747
- SATELLITE ROTATION**  
Optical scanner mounted on rotating support structure with method of compensating for image or satellite rotation  
[NASA-CASE-XGS-02401] c14 N69-27485  
Stretch Yo-Yo mechanism for reducing initial spin rate of space vehicle  
[NASA-CASE-XGS-00619] c30 N70-40016  
Development of method and apparatus for spinning satellite about selected axis after reaching predetermined orientation  
[NASA-CASE-HQN-00936] c31 N71-29050
- SATELLITE TELEVISION**  
Adaptive signal generating system and logic circuits for satellite television systems  
[NASA-CASE-GSC-11367] c10 N71-26374
- SATELLITE TRACKING**  
Design and development of tracking receiver for tracking satellites and receiving radio signal transmissions under adverse noise conditions  
[NASA-CASE-XGS-08679] c10 N71-21473  
Simultaneous acquisition of tracking data from two stations  
[NASA-CASE-NPO-13292-1] c07 N74-15838
- SATELLITE TRANSMISSION**  
Asynchronous, multiplexing, single line transmission and recovery data system --- for satellite use  
[NASA-CASE-NPO-13321-1] c07 N74-19806
- SATELLITE-BORNE PHOTOGRAPHY**  
Rotary solenoid shutter drive assembly and rotary inertia damper and stop plate assembly --- for use with cameras mounted in satellites  
[NASA-CASE-GSC-11560-1] c09 N74-20861
- SATURATION**  
Saturable magnetic core and signal detection for indicating impending saturation  
[NASA-CASE-ERC-10089] c23 N72-17747
- SAWTOOTH WAVEFORMS**  
Linear sawtooth voltage wave generator with transistor timing circuit having capacitor and zener diode feedback loops  
[NASA-CASE-XMS-01315] c09 N70-41675
- SCANNERS**  
Electronic and mechanical scanning control system for monopulse tracking antenna  
[NASA-CASE-XGS-05582] c07 N69-27460  
Electronic background suppression field scanning sensor for detecting point source targets  
[NASA-CASE-XGS-05211] c07 N69-39980  
Electron beam scanning system for improved image definition and reduced power requirements for video signal transmission  
[NASA-CASE-ERC-10552] c09 N71-12539  
Satellite stabilization reaction wheel scanner  
[NASA-CASE-XGS-02629] c14 N71-21082  
Monopulse scanning network for scanning volumetric antenna pattern  
[NASA-CASE-GSC-10299-1] c09 N71-24804  
High speed scanner for measuring mass of preselected gases at high sampling rate  
[NASA-CASE-LAR-10766-1] c14 N72-21432  
Scan oscilloscope for mapping surface sensitivity of photomultiplier tube  
[NASA-CASE-LAR-10320-1] c09 N72-23172  
Ultrasonic scanner for radial and flat panels  
[NASA-CASE-MFS-20335-1] c14 N74-10415  
Apparatus for scanning the surface of a cylindrical body  
[NASA-CASE-NPO-11861-1] c14 N74-20009  
Fast scan control for deflection type mass spectrometers  
[NASA-CASE-LAR-11428-1] c14 N74-34857
- SCANNING**  
Conversion system for transforming slow scan rate of Apollo TV camera on moon to fast scan of commercial TV  
[NASA-CASE-XMS-07168] c07 N71-11300  
Operation of vidicon tube for scanning spatial charge density pattern  
[NASA-CASE-XNP-06028] c09 N71-23189  
Electro-optical system for scanning variable transmittance objects  
[NASA-CASE-NPO-11106-2] c23 N72-28696  
Electronic optical transfer function analyzer using scanning image dissection system to produce representative output signal  
[NASA-CASE-MFS-21672-1] c23 N73-22630  
Position determination systems --- using orbital antenna scan of celestial body  
[NASA-CASE-HSC-12593-1] c09 N74-14942
- SCHOOLS**  
Silent alarm system for multiple room facility or school  
[NASA-CASE-NPO-11307-1] c10 N73-30205
- SCHOTTKY DIODES**  
High voltage, high current Schottky barrier solar cell  
[NASA-CASE-NPO-13482-1] c03 N74-30448  
Schottky barrier laser energy converter  
[NASA-CASE-NPO-13390-1] c16 N74-32937
- SCOOPS**  
Aeroflexible wing structure with air scoop for inflating stiffeners with ram air  
[NASA-CASE-XLA-06095] c01 N69-39981
- SCREENS**  
Electromechanical control actuator system using double differential screws  
[NASA-CASE-ERC-10022] c15 N71-26635  
Adjustable support device with jacket screw for altering distance between base and supported member  
[NASA-CASE-NPO-10721] c15 N72-27484
- SCRUBBERS**  
Developing high pressure gas purification and filtration system for use in test operations of space vehicles  
[NASA-CASE-MFS-12806] c14 N71-17588
- SEA ICE**  
Laser technique for breaking ice in ship path  
[NASA-CASE-LAR-10815-1] c16 N72-22520
- SEALERS**  
Design and development of flexible joint for pressure suits  
[NASA-CASE-XMS-09636] c05 N71-12344  
Epoxy resin sealing device for electrochemical cells in high vacuum environments  
[NASA-CASE-XGS-02630] c03 N71-22974  
Leak resistant bonded elastomeric seal for secondary electrochemical cells  
[NASA-CASE-XGS-02631] c03 N71-23006  
Self lubricating fluoride-metal composite materials for outer space applications  
[NASA-CASE-XLE-08511] c18 N71-23710  
Polyimides of ether-linked aryl tetracarboxylic dianhydrides  
[NASA-CASE-MFS-22355] c06 N74-29480
- SEALING**  
Foil seal between parts moving relative to each other  
[NASA-CASE-XLE-05130] c15 N69-21362  
Sealed electric storage battery with gas manifold interconnecting each cell  
[NASA-CASE-XNP-03378] c03 N71-11051  
Epoxy resin sealing device for electrochemical cells in high vacuum environments  
[NASA-CASE-XGS-02630] c03 N71-22974  
Electrode sealing and insulation for fuel cells containing caustic liquid electrolytes using powdered plastic and metal  
[NASA-CASE-XMS-01625] c15 N71-23022  
Sealing evacuation port and evacuating vacuum container such as space jackets

## SUBJECT INDEX

## SEMICONDUCTOR DEVICES

[NASA-CASE-XMF-03290] c15 N71-23256  
 Segmented sealing surface in valve seat  
 [NASA-CASE-NPO-10606] c15 N72-25451

**SEALS (STOPPERS)**  
 Spacecraft battery seals  
 [NASA-CASE-IGS-03864] c15 N69-24320  
 Flexible inflatable seal for butterfly valves  
 [NASA-CASE-XLE-00101] c15 N70-33376  
 Shrink-fit vacuum system gas valve  
 [NASA-CASE-IGS-00587] c15 N70-35087  
 Thin walled pressure test vessel using  
 low-melting alloy-filled joint to attach shell  
 to heads  
 [NASA-CASE-XLE-04677] c15 N71-10577  
 Fluid seal formed by flexible disk on rotating  
 shaft to retain lubricating oils around shaft  
 [NASA-CASE-XLE-05130-2] c15 N71-19570  
 Sealed storage container for channel carriers  
 with mounted miniature electronic components  
 [NASA-CASE-NFS-20075] c09 N71-26133

Liquid-vapor interface seal design for turbine  
 rotating shafts including helical and  
 molecular pumps and liquid cooling of mercury  
 vapor  
 [NASA-CASE-XNP-02862-1] c15 N71-26294  
 High speed, self-acting shaft seal  
 [NASA-CASE-LEW-11274-1] c15 N73-29457  
 Leak detector with high vacuum seals  
 [NASA-CASE-LAR-11237-1] c14 N73-32344  
 Spiral groove seal --- for rotating shaft  
 [NASA-CASE-XLS-10326-4] c15 N74-15125  
 Glass-to-metal seals comprising relatively high  
 expansion metals  
 [NASA-CASE-LEW-10698-1] c15 N74-21063

**SEAMS (JOINTS)**  
 Sealing apparatus for joining two pieces of  
 frangible materials  
 [NASA-CASE-XLA-01494] c15 N71-24164  
 Cord restraint system for pressure suit joints  
 [NASA-CASE-XMS-09635] c05 N71-24623  
 Method of making pressure tight seal for super  
 alloy  
 [NASA-CASE-LAR-10170-1] c15 N74-11301

**SEAT BELTS**  
 Combined shoulder harness and lap belt restraint  
 system for use in aircraft or automobiles  
 [NASA-CASE-ARC-10519-1] c05 N72-31117  
 Shoulder harness and lap belt restraint system  
 [NASA-CASE-ARC-10519-2] c05 N74-18805

**SECTIONS**  
 Journal Bearings  
 [NASA-CASE-LEW-11076-2] c15 N74-32921

**SEGMENTS**  
 Fabrication of curved reflector segments for  
 solar mirror  
 [NASA-CASE-XLE-08917] c15 N71-15597

**SEISMIC WAVES**  
 Determining sway of buildings by low frequency  
 device using pendulum  
 [NASA-CASE-XMF-00479] c14 N70-34794

**SELECTORS**  
 Selector mechanism for mechanical separation and  
 discrimination of high velocity molecular  
 particles  
 [NASA-CASE-XLE-01533] c11 N71-10777  
 Peak polarity selector for monitoring waveforms  
 [NASA-CASE-FRC-10010] c10 N71-24862

**SELF ALIGNMENT**  
 Electro-optical system for maintaining two-axis  
 alignment during milling operations on large  
 tank-sections  
 [NASA-CASE-INP-00908] c14 N70-40238

**SELF ERECTING DEVICES**  
 Self-erectable space structures of flexible foam  
 for application in planetary orbits  
 [NASA-CASE-XLA-00686] c31 N70-34135  
 Manned space station collapsible for launching  
 and self-erectable in orbit  
 [NASA-CASE-XLA-00678] c31 N70-34296  
 Manned space station launched in packaged  
 condition and self erecting in orbit  
 [NASA-CASE-XLA-00258] c31 N70-38676  
 Foldable conduit capable of springing back as  
 self erecting structural member  
 [NASA-CASE-XLE-00620] c32 N70-41579  
 Antenna design with self erecting mesh reflector  
 [NASA-CASE-IGS-09190] c31 N71-16102  
 Self erecting parabolic reflector design for use  
 in space

[NASA-CASE-XMS-03454] c09 N71-20658  
**SELF LUBRICATING MATERIALS**  
 Self lubricating fluoride-metal composite  
 materials for outer space applications  
 [NASA-CASE-XLE-08511] c18 N71-23710  
 Self lubricating gears and other mechanical  
 parts having surface adapted to frictional  
 contact  
 [NASA-CASE-NFS-14971] c15 N71-24984

**SELF MANEUVERING UNITS**  
 Hand-held maneuvering unit for propulsion and  
 attitude control of astronauts in zero or  
 reduced gravity environment  
 [NASA-CASE-XMS-05304] c05 N71-12336  
 Lightweight propulsion unit for movement of  
 personnel and equipment across lunar surface  
 [NASA-CASE-NFS-20130] c28 N71-27585

**SELF PROPAGATION**  
 Self-generating optical frequency waveguide  
 [NASA-CASE-RQN-10541-1] c07 N71-26291

**SEMICONDUCTOR DEVICES**  
 Fixture for simultaneously supporting several  
 components for electrical testing  
 [NASA-CASE-IRP-06032] c09 N69-21926  
 Semiconductor p-n junction on needle apex to  
 provide stress and strain sensor  
 [NASA-CASE-XLA-04980] c09 N69-27422  
 Selective gold diffusion on monolithic silicon  
 chips for switching and nonswitching amplifier  
 devices and circuits and linear and digital  
 logic circuits  
 [NASA-CASE-ERC-10072] c09 N70-11148  
 Extra-long monostable multivibrator employing  
 bistable semiconductor switch to allow  
 charging of timing circuit  
 [NASA-CASE-XGS-00381] c09 N70-34819  
 Method of forming thin window drifted silicon  
 charged particle detector  
 [NASA-CASE-XLE-00808] c24 N71-10560  
 Doping silicon material with gadolinium to  
 increase radiation resistance of solar cells  
 [NASA-CASE-XLE-02792] c26 N71-10607  
 Separation of semiconductor wafer into chips  
 bounded by scribe lines  
 [NASA-CASE-ERC-10138] c26 N71-14354  
 Voltage tunable Gunn effect semiconductor for  
 microwave generation  
 [NASA-CASE-XER-07894] c09 N71-18721  
 Indicator device for monitoring charge of wet  
 cell battery, using semiconductor light  
 emitter and photodetector  
 [NASA-CASE-NPO-10194] c03 N71-20407  
 Signaling summary alarm circuit with  
 semiconductor switch for faulty contact  
 indications  
 [NASA-CASE-XLE-03061-1] c10 N71-24798  
 Method for temperature compensating  
 semiconductor gages by exposure to high energy  
 radiation  
 [NASA-CASE-XLA-04555-1] c14 N71-25892  
 Development and characteristics of fluid  
 oscillator analog to digital converter with  
 variable frequency controlled by signal  
 passing through conditioning circuit  
 [NASA-CASE-LEW-10345-1] c10 N71-25899  
 Volume displacement transducer for leak  
 detection in hermetically sealed semiconductor  
 devices  
 [NASA-CASE-ERC-10033] c14 N71-26672  
 Inverter drive circuit for semiconductor switch  
 [NASA-CASE-LEW-10233] c10 N71-27126  
 Test chambers with orifice and helium mass  
 spectrometer for detecting leak rate of  
 encapsulated semiconductor devices  
 [NASA-CASE-ERC-10150] c14 N71-28992  
 Semiconductor device manufacture using  
 refractory dielectrics as diffusant masks and  
 interconnection insulating materials  
 [NASA-CASE-XER-08476-1] c26 N72-17820  
 Single crystal film semiconductor devices  
 [NASA-CASE-ERC-10222] c09 N72-22199  
 Development of process for forming insulating  
 layer between two electrical conductor or  
 semiconductor materials  
 [NASA-CASE-LEW-10489-1] c15 N72-25447  
 Multiterminal Gunn-type semiconductor microwave  
 generator for producing stable signals  
 [NASA-CASE-XER-07895] c26 N72-25679

- Miniature piezjunction semiconductor transducer with in situ stress coupling  
[NASA-CASE-ERC-10087-2] c14 N72-31446
- Development and characteristics of hermetically sealed coaxial package for containing microwave semiconductor components  
[NASA-CASE-GSC-10791-1] c15 N73-14469
- Photoconducting semiconductor system for converting stored optical images into video signals  
[NASA-CASE-NPO-13131-1] c16 N73-31467
- Process for fabricating SiC semiconductor devices  
[NASA-CASE-LEW-12094-1] c09 N74-33740
- SEMICONDUCTOR JUNCTIONS**
- Gallium arsenide solar cell preparation by surface deposition of cuprous iodide on thin n-type polycrystalline layers and heating in iodine vapor  
[NASA-CASE-XNP-01960] c09 N71-23027
- Miniature electromechanical junction transducer operating on piezjunction effect and utilizing epoxy for stress coupling component  
[NASA-CASE-ERC-10087] c14 N71-27334
- Resin for protecting p-n semiconductor junction surface  
[NASA-CASE-ERC-10339-1] c18 N73-30532
- SEMICONDUCTORS (MATERIALS)**
- Hole mobility of deposited semiconductor films in vacuum utilizing thermal gradient  
[NASA-CASE-XKS-04614] c15 N69-21460
- Semiconductor in resonant cavity for improving signal to noise ratio of communication receiver  
[NASA-CASE-MSC-12259-1] c07 N70-12616
- Improved semiconductor multivibrator circuit which approaches 100 percent efficiency  
[NASA-CASE-IAC-00942] c10 N71-16042
- Fabrication of sintered impurity semiconductor brushes for electrical energy transfer  
[NASA-CASE-XMF-01016] c26 N71-17818
- Binding layer of semiconductor particles by electrodeposition  
[NASA-CASE-XNP-01959] c26 N71-23043
- Gadolinium or samarium doped-silicon semiconductor material with resistance to radiation damage for use in solar cells  
[NASA-CASE-XLE-10715] c26 N71-23292
- Characteristics of infrared photodetectors manufactured from semiconductor material irradiated by electron beam  
[NASA-CASE-LAR-10728-1] c14 N73-12445
- SENSITIVITY**
- Design of active RC network capable of operating at high Q values with reduced sensitivity to gain amplification and number of passive components  
[NASA-CASE-ARC-10042-2] c10 N72-11256
- SENSORS**
- Improved bonding method in the manufacture of continuous regression rate sensor devices  
[NASA-CASE-LAR-10337-1] c15 N74-14141
- SENSORY PERCEPTION**
- Prosthetic limb with tactile sensing device  
[NASA-CASE-MFS-16570-1] c05 N73-32013
- SEPARATED FLOW**
- Thrust vector control by secondary injection of fluid into rocket nozzle flow field to separate exhaust flow  
[NASA-CASE-XLE-00208] c28 N70-34294
- Double hinged flap for boundary layer control over trailing edges of wings  
[NASA-CASE-XLA-01290] c02 N70-42016
- Separation cell with permeable membranes for fluid mixture component separation  
[NASA-CASE-XMS-02952] c18 N71-20742
- SEPARATORS**
- Condenser-separator for dehumidifying air utilizing sintered metal surface  
[NASA-CASE-XLA-08645] c15 N69-21465
- Umbilical separator for rockets  
[NASA-CASE-XNP-00425] c11 N70-38202
- Liquid-gas separator adapted for use in zero gravity environment - drawings  
[NASA-CASE-IMS-01624] c15 N70-40062
- Describing apparatus for separating gas from cryogenic liquid under zero gravity and for venting gas from fuel tank  
[NASA-CASE-XLB-00586] c15 N71-15968
- Liquid-gaseous centrifugal separator for weightlessness environment  
[NASA-CASE-XLA-00415] c15 N71-16079
- Development of liquid separating system using capillary device connected to flexible bladder storage chamber  
[NASA-CASE-XMS-13052] c14 N71-20427
- Vapor-liquid separator design with vapor driven pump for separated liquid pumping for application in propellant transfer  
[NASA-CASE-XMF-04042] c15 N71-23023
- Device for removing air from water for use in life support systems in manned space flight  
[NASA-CASE-XLA-8914] c15 N73-12492
- Fluid control apparatus and method  
[NASA-CASE-LAR-11110-1] c12 N74-29652
- Centrifugal lyophobic separator  
[NASA-CASE-LAR-10194-1] c12 N74-30608
- SEQUENCING**
- Synchronous counter design incorporating cascaded binary stages driven by previous stages and inputs through NAND gates  
[NASA-CASE-XGS-02440] c08 N71-19432
- Pulse duration control device for driving slow response time loads in selected sequence including switching and delay circuits and magnetic storage  
[NASA-CASE-XGS-04224] c10 N71-26418
- Digital function generator for generating any arbitrary single valued function  
[NASA-CASE-NPO-11104] c08 N72-22165
- MOD 2 sequential function generator for multibit sequence, with two-bit shift register for each pair of bits  
[NASA-CASE-NPO-10636] c08 N72-25210
- Linear shift register with feedback logic for generating pseudonoise linear recurring binary sequences  
[NASA-CASE-NPO-11406] c08 N73-12175
- A multitarget sequential sputtering apparatus --- supported with rotatable anode  
[NASA-CASE-NPO-13345-1] c15 N74-25971
- SEQUENTIAL ANALYSIS**
- Binary coded sequential acquisition ranging system for distance measurements  
[NASA-CASE-NPO-11194] c08 N72-25209
- Event sequence detector with several input and shift register responsive to clock pulses  
[NASA-CASE-NPO-11703-1] c10 N73-32144
- SEQUENTIAL CONTROL**
- Linear three-tap feedback shift register  
[NASA-CASE-NPO-10351] c08 N71-12503
- Binary sequence detector with few memory elements and minimized logic circuit complexity  
[NASA-CASE-XNP-05415] c08 N71-12505
- SERVICE LIFE**
- Service life of electromechanical device for generating sine/cosine functions  
[NASA-CASE-LAR-10503-1] c09 N72-21248
- SERVOAMPLIFIERS**
- Pneumatic servoamplifier for controlling flow regulation  
[NASA-CASE-MSC-12121-1] c15 N71-27147
- SERVOCONTROL**
- Electronic and mechanical scanning control system for monopulse tracking antenna  
[NASA-CASE-XGS-05582] c07 N69-27460
- Proportional controller for regulating aircraft or spacecraft motion about three axes  
[NASA-CASE-IAC-03392] c03 N70-41954
- Modulating and controlling intensity of light beam from high temperature source by servocontrolled rotating cylinders  
[NASA-CASE-XMS-04300] c09 N71-19479
- Servocontrol system for measuring local stresses at geometric discontinuity in stressed material  
[NASA-CASE-XLA-08530] c32 N71-25360
- System to control speed of hydraulically movable members by limiting energy applied to actuators with hydraulic servo loop  
[NASA-CASE-ARC-10131-1] c15 N71-27754
- Anthropomorphic master/slave manipulator system  
[NASA-CASE-ARC-10756-1] c15 N74-16139
- Servo-controlled intravitral microscope system  
[NASA-CASE-NPO-13214-1] c14 N74-19093
- Digital servo controller --- for rotating antenna shaft  
[NASA-CASE-KSC-10769-1] c09 N74-29556
- Digital servo control of random sound test excitation --- in reverberant acoustic chamber  
[NASA-CASE-NPO-11623-1] c23 N74-31148

## SERVOMECHANISMS

Servo system for retroreflector of Michelson interferometer  
[NASA-CASE-NPO-10300] c14 N71-17662

Mechanical function generators with potentiometer as sensing element  
[NASA-CASE-XAC-00001] c15 N71-28952

Closed loop servosystem for variable speed tape recorders onboard spacecraft  
[NASA-CASE-NPO-10700] c07 N71-33613

Characteristics of lightweight actuator for imparting linear motion using elongated output shaft  
[NASA-CASE-NPO-11222] c15 N72-25456

Development and characteristics of rotary actuator for use on spacecraft to deploy and support pivotal structures such as solar panels  
[NASA-CASE-NPO-10680] c31 N73-14855

## SERVOMOTORS

Automatic closed circuit television arc guidance control for welding joints  
[NASA-CASE-MPS-13046] c07 N71-19433

Electric motor control system with pulse width modulation for providing automatic null seeking servo  
[NASA-CASE-XMF-05195] c10 N71-24861

Development and characteristics of cyclically operable, optical shutter for use as focal plane shutter for transmitting single radiation pulses  
[NASA-CASE-NPO-10758] c14 N73-14427

Development and characteristics of rotary actuator for use on spacecraft to deploy and support pivotal structures such as solar panels  
[NASA-CASE-NPO-10680] c31 N73-14855

Phase-locked servo system --- for synchronizing rotation of two or more rotating systems  
[NASA-CASE-MPS-22073-1] c09 N74-11058

## SEWAGE

Raw water sewage treatment  
[NASA-CASE-NPO-13224-1] c05 N73-31011

Raw liquid waste treatment system and process  
[NASA-CASE-NPO-13573-1] c05 N74-32552

## SHAFTS (MACHINE ELEMENTS)

Fatigue resistant shear pin with hollow shaft and two plugs  
[NASA-CASE-XLA-09122] c15 N69-27505

Elastic universal joint for rocket motor mounting  
[NASA-CASE-INP-00416] c15 N70-36947

Air brake device for absorbing and measuring power from rotating shafts  
[NASA-CASE-XLE-00720] c14 N70-40201

Two axis flight controller with potentiometer control shafts directly coupled to rotatable ball members  
[NASA-CASE-IPR-04104] c03 N70-42073

Ratchet mechanism for high speed operation at reduced backlash  
[NASA-CASE-MPS-12805] c15 N71-17805

Universal joints for connecting two displaced shafts or members  
[NASA-CASE-NPO-10646] c15 N71-28467

Development of mating flat surfaces to inhibit leakage of fluid around shafts  
[NASA-CASE-XLE-10326-2] c15 N72-29488

Fatigue life of hybrid antifriction bearings at ultrahigh speeds  
[NASA-CASE-LEW-11152-1] c15 N73-32359

Spiral groove seal --- for hydraulic rotating shaft  
[NASA-CASE-LEW-10326-3] c15 N74-10474

Journal bearings  
[NASA-CASE-LEW-11076-4] c15 N74-18134

## SHAPED CHARGES

Coupling device for linear shaped charge for space vehicle abort system  
[NASA-CASE-XLA-00189] c33 N70-36846

Development of remotely controlled shaped charge for lateral displacement of rocket stages after separation  
[NASA-CASE-ILA-04804] c31 N71-23008

## SHAPERS

Mandrel for shaping solid propellant rocket fuel into engine casing  
[NASA-CASE-XLA-00304] c27 N70-34783

Hand tool for forming dimples and nipples on end portion of tubes  
[NASA-CASE-XMS-06876] c15 N71-21536

Dielectric apparatus for heating, fusing, and hardening of organic matrix to form plastic material into shaped product  
[NASA-CASE-LAR-10121-1] c15 N71-26721

## SHARKS

Conditioning tanned sharkskin for use as abrasive resistant clothing  
[NASA-CASE-XMS-09691-1] c18 N71-15545

## SHEAR CREEP

Measuring shear-creep compliance of solid and liquid materials used in spacecraft components  
[NASA-CASE-XLE-01481] c14 N71-10781

## SHEAR FLOW

Shear modulated fluid amplifier of high pressure hydraulic vortex amplifier type  
[NASA-CASE-MFS-10412] c12 N71-17578

## SHEAR PROPERTIES

Describing instrument capable of measuring true shear viscosity of liquids and viscoelastic materials  
[NASA-CASE-XNP-09462] c14 N71-17584

## SHEAR STRESS

Fatigue resistant shear pin with hollow shaft and two plugs  
[NASA-CASE-ILA-09122] c15 N69-27505

Development of combined velocimeter and accelerometer based on color changes in liquid crystalline material subjected to shear stresses  
[NASA-CASE-ERC-10292] c14 N72-25410

Bonded joint and method --- for reducing peak shear stress in adhesive bonds  
[NASA-CASE-LAR-10900-1] c15 N74-23064

## SHELLS (STRUCTURAL FORMS)

Channel-type shell construction for rocket engines and related configurations  
[NASA-CASE-XLE-00144] c28 N70-34860

## SHIELDING

Flexible bellows joint shielding sleeve for propellant transfer pipelines  
[NASA-CASE-INP-01855] c15 N71-28937

Shielded flat conductor cable of ribbonlike wires laminates in thin flexible insulation  
[NASA-CASE-MPS-13687-2] c09 N72-22198

## SHIFT REGISTERS

Binary to binary-coded decimal converter using single set of logic circuits notwithstanding number of shift register decades  
[NASA-CASE-INP-00432] c08 N70-35423

Linear three-tap feedback shift register  
[NASA-CASE-NPO-10351] c08 N71-12503

Computer circuit performing both counting and shifting logic operations also capable of miniaturization and integration in basic circuits  
[NASA-CASE-INP-01753] c08 N71-22897

Commutator for steering precisely controlled bidirectional currents through numerous loads by use of magnetic core shift registers  
[NASA-CASE-NPO-10743] c08 N72-21199

Multistage feedback shift register with states decomposable into cycles of equal length  
[NASA-CASE-NPO-11082] c08 N72-22167

MOD 2 sequential function generator for multibit sequence, with two-bit shift register for each pair of bits  
[NASA-CASE-NPO-10636] c08 N72-25210

Linear shift register with feedback logic for generating pseudonoise linear recurring binary sequences  
[NASA-CASE-NPO-11406] c08 N73-12175

Family of n-ary linear feedback shift register with binary logic  
[NASA-CASE-NPO-11868] c10 N73-20254

Nonrecursive counting digital filter containing shift register  
[NASA-CASE-NPO-11821-1] c08 N73-26175

Event sequence detector with several input and shift register responsive to clock pulses  
[NASA-CASE-NPO-11703-1] c10 N73-32144

Method and apparatus for decoding compatible convolutional codes  
[NASA-CASE-MSC-14070-1] c07 N74-32598

Nonlinear nonsingular feedback shift registers  
[NASA-CASE-NPO-13451-1] c08 N74-32648

## SHOCK ABSORBERS

Pivotal shock absorbing assembly for use as load distributing portion in landing gear systems of space vehicles  
[NASA-CASE-XMF-03856] c31 N70-34159

Energy dissipating shock absorbing system for  
land payload recovery or vehicle braking  
[NASA-CASE-XLA-00754] c15 N70-34850

Shock absorbing couch for body support under  
high acceleration or deceleration forces  
[NASA-CASE-XMS-01240] c05 N70-35152

Low onset rate energy absorber in form of strut  
assembly for crew couch of Apollo command module  
[NASA-CASE-MSC-12279-1] c15 N70-35679

Landing pad assembly for aerospace vehicles  
[NASA-CASE-XMF-02853] c31 N70-36654

Spacecraft shock absorbing system for soft  
landings  
[NASA-CASE-XMF-02108] c31 N70-36845

Shock absorber for landing gear of lunar or  
planetary landing modules  
[NASA-CASE-XMF-01045] c15 N70-40354

Shock absorbing articulated multiple couch  
assembly  
[NASA-CASE-MSC-11253] c05 N71-12343

Design and development of double acting shock  
absorber for spacecraft docking operations  
[NASA-CASE-XMS-03722] c15 N71-21530

Impact energy absorber with decreasing  
absorption rate  
[NASA-CASE-XLA-01530] c14 N71-23092

Energy absorbing crew couch strut for Apollo  
command module  
[NASA-CASE-MSC-12279] c15 N72-17450

Shock absorber for use as protective barrier in  
impact energy absorbing system  
[NASA-CASE-NPO-10671] c15 N72-20443

Viscoelastic shock absorbing mount for  
electrical circuit board  
[NASA-CASE-NPO-13253-1] c15 N73-31445

**SHOCK LOADS**

Damper system for alleviating air flow shock  
loads on wind tunnel models  
[NASA-CASE-XLA-09480] c11 N71-33612

**SHOCK RESISTANCE**

Removable potting compound for instrument shock  
protection  
[NASA-CASE-XLA-00482] c15 N70-36409

Thermal shock resistant hafnia ceramic materials  
[NASA-CASE-IAR-10894-1] c18 N73-14584

**SHOCK TUBES**

Knife structure for controlling rupture of shock  
tube diaphragms  
[NASA-CASE-XAC-00731] c11 N71-15960

Design, development, and operation of shock tube  
with bypass piston tunnel  
[NASA-CASE-NPO-12109] c11 N72-22245

**SHOCK WAVE INTERACTION**

Absorptive, nonreflecting barrier mounted  
between closely spaced jet engines on  
supersonic aircraft, for preventing shock wave  
interference  
[NASA-CASE-XLA-02865] c28 N71-15563

**SHOCK WAVE LUMINESCENCE**

Method and apparatus for measuring shock layer  
radiation distribution about high velocity  
objects  
[NASA-CASE-IAC-02970] c14 N69-39896

**SHOCK WAVE PROFILES**

Method and apparatus for measuring shock layer  
radiation distribution about high velocity  
objects  
[NASA-CASE-IAC-02970] c14 N69-39896

**SHOCK WAVES**

Apparatus for mechanically dispersing ultrafine  
metal powders subjected to shock waves  
[NASA-CASE-XLE-04946] c17 N71-24911

Electrical device for developing converging  
spherical shock waves  
[NASA-CASE-MFS-20890] c14 N72-22439

Production of intermetallic compounds by effect  
of shock waves from explosions and compaction  
of powder  
[NASA-CASE-MFS-20861-1] c18 N73-32437

Shock position sensor for supersonic inlets ---  
development of system to measure pressure in  
throat of supersonic inlet and operate bypass  
valve  
[NASA-CASE-LEW-11915-1] c12 N74-25805

**SHOES**

Jet shoes for space locomotion  
[NASA-CASE-XLA-08491] c05 N69-21380

**SHORT CIRCUITS**

Use of silicon controlled rectifier shorting  
circuit to protect thermoelectric generator  
source from thermal destruction  
[NASA-CASE-YGS-04808] c03 N69-25146

Vacuum thermionic converter with short-circuited  
triodes and increased electron transmission  
and conversion efficiency  
[NASA-CASE-XLE-01015] c03 N69-39898

Apparatus for automatically testing analog to  
digital converters for open and short circuits  
[NASA-CASE-XLA-06713] c14 N71-28991

**SHORT TAKEOFF AIRCRAFT**

Turbofans under wings to provide lift and thrust  
for STOL aircraft  
[NASA-CASE-LEW-11224-1] c02 N72-10033

**SHEROIDS**

Shrouded composite propulsion system configuration  
[NASA-CASE-XLA-01043] c28 N71-10780

**SHUTTERS**

High speed shutter --- electrically actuated  
ribbon loop for shuttering optical or fluid  
passageways  
[NASA-CASE-ARC-10516-1] c23 N74-21300

**SIDEBANDS**

Phase locked loop with sideband rejecting  
properties in continuous wave tracking radar  
[NASA-CASE-XNP-02723] c07 N70-41680

**SIDLOBE REDUCTION**

Multiple node horn antenna with radiation  
pattern of equal beamwidths and suppressed  
sidelobes  
[NASA-CASE-XNP-01057] c07 N71-15907

**SIEVES**

Processes for making metal sheets or plaques  
with parallel pores of uniform size  
[NASA-CASE-GSC-10984-1] c15 N71-34427

**SIGNAL ANALYSIS**

Design and development of signal detection and  
tracking apparatus  
[NASA-CASE-XGS-03502] c10 N71-20852

Phase detector with time correlation integrator  
for frequency multiplexed signals  
[NASA-CASE-GSC-11744-1] c09 N73-23291

Method and apparatus for a single channel  
digital communications system ---  
synchronization of received PCM signal by  
digital correlation with reference signal  
[NASA-CASE-NPO-11302-2] c07 N74-10132

Differential phase shift keyed signal resolver  
[NASA-CASE-MSC-14066-1] c10 N74-27705

**SIGNAL ANALYZERS**

Monitoring system for signal amplitude ranges  
over predetermined time interval  
[NASA-CASE-XMS-04061-1] c09 N69-39885

Feedback controller for sampling error signals  
within single control formulation time interval  
[NASA-CASE-GSC-10554-1] c08 N71-29033

Development of family of frequency to amplitude  
converters for frequency analysis of complex  
input signal waveforms  
[NASA-CASE-MSC-12395] c09 N72-25257

Device for performing statistical time-series  
analysis of complex electrical signal waveforms  
[NASA-CASE-MSC-12428-1] c10 N73-25240

Pulse stretcher for narrow pulses  
[NASA-CASE-MSC-14130-1] c10 N74-32711

**SIGNAL DETECTION**

Position locating system for remote aircraft  
using voice communication and digital signals  
[NASA-CASE-GSC-10087-2] c21 N71-13958

Saturable magnetic core and signal detection for  
indicating impending saturation  
[NASA-CASE-ERC-10089] c23 N72-17747

**SIGNAL DETECTORS**

Roughness detector for recording surface pattern  
of irregularities  
[NASA-CASE-XLA-00203] c14 N70-34161

Electrical testing apparatus for detecting  
amplitude and width of transient pulse  
[NASA-CASE-XMF-06519] c09 N71-12519

System for monitoring presence of neutrals in  
streams of ions - ion engine control  
[NASA-CASE-XNP-02592] c24 N71-20518

Development of apparatus for generating output  
signal commensurate with information contained  
in input signal  
[NASA-CASE-ERC-10041] c08 N71-29138

**SIGNAL ENCODING**

Adaptive compression signal processor for PCM  
communication systems

- [NASA-CASE-XLA-03076] c07 N71-11266
- SIGNAL GENERATORS**
- Plural recorder system which limits signal recording to signals of sufficient interest [NASA-CASE-XMS-06949] c09 N69-21467
- Alternating current signal generator providing plurality of amplitude modulated output signals [NASA-CASE-XNP-05612] c09 N69-21468
- Circuitry for generating sync signals in FM communication systems including video information [NASA-CASE-XNP-10830] c07 N71-11281
- Apparatus for generating microwave signals at progressively related phase angles for driving antenna array [NASA-CASE-ERC-10046] c10 N71-18722
- System generating sidereal frequency signals from signals of standard solar frequency without use of mixing operations or feedback loops [NASA-CASE-XGS-02610] c14 N71-23174
- Hand controller operable about three respectively perpendicular axes and capable of actuating signal generators for attitude control devices [NASA-CASE-XMS-07487] c15 N71-23255
- Voltage controlled oscillators and pulse amplitude modulation for signal ratio system [NASA-CASE-XMF-04367] c09 N71-23545
- Sampling circuit for signal processing in multiplex transmission by Fourier analysis [NASA-CASE-NPO-10388] c07 N71-24622
- Signaling summary alarm circuit with semiconductor switch for faulty contact indications [NASA-CASE-XLE-03061-1] c10 N71-24798
- Adaptive signal generating system and logic circuits for satellite television systems [NASA-CASE-GSC-11367] c10 N71-26374
- Device for monitoring voltage by generating signal when voltages drop below predetermined value [NASA-CASE-KSC-10020] c10 N71-27338
- System for control of variable signal generator [NASA-CASE-NPO-11064] c07 N72-11150
- Digital function generator for generating any arbitrary single valued function [NASA-CASE-NPO-11104] c08 N72-22165
- Development of Hall effect transducer for converting mechanical shaft rotations into proportional electrical signals [NASA-CASE-LAR-10620-1] c09 N72-25255
- Multiterminal Gunn-type semiconductor microwave generator for producing stable signals [NASA-CASE-XER-07895] c26 N72-25679
- Audio frequency analysis circuit for determining, displaying, and recording frequency of sweeping audio frequency signal [NASA-CASE-NPO-11147] c14 N72-27408
- System for generating timing and control signals during repetitive fixed length serial data transmission [NASA-CASE-NPO-13125-1] c09 N73-18225
- Test set for signal conditioner modules [NASA-CASE-KSC-10750-1] c14 N73-23527
- An NDIR gas analyzer based on absorption modulation ratios for known and unknown samples [NASA-CASE-ARC-10802-1] c14 N74-28933
- Digital servo control of random sound test excitation --- in reverberant acoustic chamber [NASA-CASE-NPO-11623-1] c23 N74-31148
- SIGNAL MEASUREMENT**
- Transmitter receiver system for measuring millivolt electrical signals with high common mode potential [NASA-CASE-XLE-03155-2] c09 N72-20205
- SIGNAL MIXING**
- Impedance transformation device for signal mixing [NASA-CASE-IGS-01110] c07 N69-24334
- SIGNAL PROCESSING**
- Adaptive compression signal processor for PCM communication systems [NASA-CASE-XLA-03076] c07 N71-11266
- Conversion system for transforming slow scan rate of Apollo TV camera on moon to fast scan rate of commercial TV [NASA-CASE-XMS-07168] c07 N71-11300
- Difference indicating circuit used in conjunction with device measuring gravitational fields [NASA-CASE-INP-08274] c10 N71-13537
- Circuitry for developing autocorrelation function continuously within signal receiving period [NASA-CASE-XNP-00746] c07 N71-21476
- System generating sidereal frequency signals from signals of standard solar frequency without use of mixing operations or feedback loops [NASA-CASE-IGS-02610] c14 N71-23174
- Feedback integrating circuit with grounded capacitor for signal processing [NASA-CASE-YAC-10607] c10 N71-23669
- Sampling circuit for signal processing in multiplex transmission by Fourier analysis [NASA-CASE-NPO-10388] c07 N71-24622
- Video signal processing system for sampling video brightness levels [NASA-CASE-NPO-10140] c07 N71-24742
- Monopulse scanning network for scanning volumetric antenna pattern [NASA-CASE-GSC-10299-1] c09 N71-24804
- Apparatus for filtering input signals [NASA-CASE-NPO-10198] c09 N71-24806
- Video sync processor with phase locked system [NASA-CASE-KSC-10002] c10 N71-25865
- Transient video signal tape recorder with expanded playback [NASA-CASE-ARC-10003-1] c09 N71-25866
- Scanning signal phase and amplitude electronic control device with hybrid T waveguide junction [NASA-CASE-NPO-10302] c10 N71-26142
- Variable frequency nuclear magnetic resonance spectrometer providing drive signals over wide frequency range and minimizing noise effects [NASA-CASE-XNP-09830] c14 N71-26266
- Development of apparatus for generating output signal commensurate with information contained in input signal [NASA-CASE-ERC-10041] c08 N71-29138
- Development of electric circuit for production of different pulse width signals [NASA-CASE-XLA-07788] c09 N71-29139
- Phase shifting circuit for selecting phase of input signal [NASA-CASE-ARC-10269-1] c10 N72-16172
- Processing system for semiperiodic electrical signals to produce real time contoured display [NASA-CASE-MSC-13407-1] c10 N72-20225
- Design and characteristics of recording system for selective reprocessing and filtering of data to obtain optimum signal to noise ratios [NASA-CASE-ERC-10112] c07 N72-21119
- Technique for deriving logarithm of input signal using exponentially varying electric signal inversely [NASA-CASE-ERC-10267] c09 N72-23173
- Development and characteristics of telemetry system using computer-accessed circuits and remotely controlled from ground station [NASA-CASE-NPO-11358] c07 N72-25172
- Characteristics of digital data processor using pulse from clock source to derive binary singles to show state of various indicators in processor [NASA-CASE-GSC-10975-1] c08 N73-13187
- Characteristics of two channel telemetry system with two data rate channels for high and low data rate communication [NASA-CASE-NPO-11572] c07 N73-16121
- Measurement system for physical quantity represented by or converted to variable frequency signal [NASA-CASE-MPS-20658-1] c14 N73-30386
- Digital to analog converter for sampled signal reconstruction [NASA-CASE-MSC-12458-1] c06 N73-32081
- Anti-multipath digital signal detector [NASA-CASE-LAR-11379-1] c07 N74-11005
- Fluid pressure amplifier and system [NASA-CASE-LAR-10868-1] c09 N74-11050
- Isolated output system for a class D switching-mode amplifier [NASA-CASE-MPS-21616-1] c09 N74-21859
- Low level signal limiter [NASA-CASE-XLE-04791] c14 N74-22096
- Miniature multichannel biotelemeter system [NASA-CASE-NPO-13065-1] c05 N74-26625

- Apparatus and method for processing Korotkov sounds --- for blood pressure measurement  
[NASA-CASE-MSC-13999-1] c05 N74-26626
- Pulse stretcher for narrow pulses  
[NASA-CASE-MSC-14130-1] c10 N74-32711
- SIGNAL RECEPTION**
- Radar signal receiver arrangement for extending range and increasing signal to noise ratio  
[NASA-CASE-INP-00748] c07 N70-36911
- Reflectometer for receiver input impedance match measurement  
[NASA-CASE-INP-10843] c07 N71-11267
- Diversity receiving system with diversity phase lock  
[NASA-CASE-XGS-01222] c10 N71-20841
- Design and development of signal detection and tracking apparatus  
[NASA-CASE-XGS-03502] c10 N71-20852
- Development of optimum pre-detection diversity combining receiving system adapted for use with amplitude modulation, phase modulation, and frequency modulation systems  
[NASA-CASE-XGS-00740] c07 N71-23098
- Binary data decoding device for use at receiving end of communication channel  
[NASA-CASE-NPO-10118] c07 N71-24741
- Development of electronic circuit for combining input signals on two separate antennas to form two processed signals  
[NASA-CASE-MSC-12205-1] c07 N71-27056
- Input signal measurement using liquid crystalline elements  
[NASA-CASE-ERC-10275] c26 N72-25680
- Filter for third order phase locked loops in signal receivers  
[NASA-CASE-NPO-11941-1] c10 N73-27171
- Electromechanical actuator for producing mechanical force and/or motion in response to electrical signals  
[NASA-CASE-NPO-11738-1] c09 N73-30185
- SIGNAL REFLECTION**
- Reflectometer for receiver input impedance match measurement  
[NASA-CASE-INP-10843] c07 N71-11267
- SIGNAL STABILIZATION**
- Linear accelerator frequency control system  
[NASA-CASE-XGS-05441] c10 N71-22962
- Development of apparatus for generating output signal commensurate with information contained in input signal  
[NASA-CASE-ERC-10041] c08 N71-29138
- Automatic nulling system for interference signal at multichannel receiver by polarization adjustment  
[NASA-CASE-NPO-13140-1] c07 N73-27106
- SIGNAL TO NOISE RATIOS**
- Semiconductor in resonant cavity for improving signal to noise ratio of communication receiver  
[NASA-CASE-MSC-12259-1] c07 N70-12616
- Radar signal receiver arrangement for extending range and increasing signal to noise ratio  
[NASA-CASE-INP-00748] c07 N70-36911
- Detector assembly for discriminating first signal with respect to presence or absence of second signal at time of occurrence of first signal  
[NASA-CASE-INP-00701] c09 N70-40272
- Automatic estimation of signal to noise ratio and other parameters in signal communication systems  
[NASA-CASE-INP-05254] c07 N71-20791
- Voltage controlled oscillators and pulse amplitude modulation for signal ratio system  
[NASA-CASE-INP-04367] c09 N71-23545
- Design and characteristics of recording system for selective reprocessing and filtering of data to obtain optimum signal to noise ratios  
[NASA-CASE-ERC-10112] c07 N72-21119
- Development of idler feedback system to reduce electronic noise problem in two parametric amplifiers  
[NASA-CASE-LAR-10253-1] c09 N72-25258
- Superconductive resonant cavity for improved signal to noise ratio in communication signal  
[NASA-CASE-MSC-12259-2] c07 N72-33146
- Signal to noise ratio determination circuit using bandpass limiter  
[NASA-CASE-GSC-11239-1] c10 N73-25241
- Gated compressor, distortionless signal limiter  
[NASA-CASE-NPO-11820-1] c07 N74-19788
- SIGNAL TRANSMISSION**
- Synchronizing apparatus for multi-access satellite time division multiplex system  
[NASA-CASE-XGS-05918] c07 N69-39974
- Electro-mechanical circuit for converting floating intelligence signal to common electrically grounded intelligence recorder  
[NASA-CASE-XAC-00086] c09 N70-33182
- Demodulator for simultaneous demodulation of two modulating ac signal carriers close in frequency  
[NASA-CASE-INP-01160] c07 N71-11298
- Bipolar phase detector and corrector for split phase PCB data signals  
[NASA-CASE-XGS-01590] c07 N71-12392
- Automatic estimation of signal to noise ratio and other parameters in signal communication systems  
[NASA-CASE-INP-05254] c07 N71-20791
- Multiplexed communication system design including automatic correction of transmission errors introduced by frequency spectrum shifts  
[NASA-CASE-INP-01306] c07 N71-20814
- Adaptive notch filter, using modulation techniques for reversed phase noise signal  
[NASA-CASE-INP-01892] c10 N71-22986
- Pulse generator for synchronizing or resetting electronic signals without requiring separate external source  
[NASA-CASE-XGS-03632] c09 N71-23311
- Device for locating electrically nonlinear objects and determining distance to object by FM signal transmission  
[NASA-CASE-KSC-10108] c14 N73-25461
- Phase modulation of tone and binary signals on carrier waves in communication systems  
[NASA-CASE-GSC-11743-1] c07 N73-27107
- Television multiplexing system, using single crystal controlled clock for signal synchronization  
[NASA-CASE-KSC-10654-1] c07 N73-30115
- Controlled oscillator system with a time dependent output frequency  
[NASA-CASE-NPO-11962-1] c09 N74-10194
- Digital transmitter for data bus communications system  
[NASA-CASE-MSC-14558-1] c07 N74-17888
- Pulse code modulated signal synchronizer  
[NASA-CASE-MSC-12462-1] c07 N74-20809
- Pulse code modulated signal synchronizer  
[NASA-CASE-MSC-12494-1] c07 N74-20810
- Aircraft mounted crash activated transmitter device  
[NASA-CASE-MFS-16609-3] c09 N74-34647
- SIGNALS**
- Electronic signal-handling circuit with constant input impedance  
[NASA-CASE-ARC-10348-1] c10 N72-10205
- Photoconducting semiconductor system for converting stored optical images into video signals  
[NASA-CASE-NPO-13131-1] c16 N73-31467
- SILANES**
- Preparation of elastomeric diamine silazane polymers  
[NASA-CASE-INP-04133] c06 N71-20717
- Synthesis of high purity dianilinosilanes  
[NASA-CASE-INP-06409] c06 N71-23230
- Process for preparing high molecular weight polyaryloxysilanes from lower molecular weight forms  
[NASA-CASE-INP-08674] c06 N71-28807
- SILICATES**
- Ultraviolet radiation resistant alkali-metal silicate coatings for temperature control of spacecraft  
[NASA-CASE-XGS-04119] c18 N69-39979
- SILICIDES**
- Silicide coating process and composition for protection of refractory metals from oxidation  
[NASA-CASE-XLE-10910] c18 N71-29040
- Improved silicide coatings for refractory metals employed in space shuttles and gas turbine engine components  
[NASA-CASE-LBW-11179-1] c17 N73-22474
- SILICON**
- Method of forming thin window drifted silicon charged particle detector

- [NASA-CASE-XLE-00808] c24 N71-10560  
Gadolinium or samarium doped-silicon semiconductor material with resistance to radiation damage for use in solar cells  
[NASA-CASE-XLE-10715] c26 N71-23292  
Metal pattern bonding technique for cover glass attachment to silicon solar cells for space applications  
[NASA-CASE-XLE-08569] c03 N71-23449
- SILICON CARBIDES**  
Deposition method for epitaxial beta SiC films having high degree of crystallographic perfection  
[NASA-CASE-ERC-10120] c26 N69-33482  
Producing high purity silicon carbide on carbon base by hydrogen reduction of silicon tetrachloride  
[NASA-CASE-XLA-00158] c26 N70-36805  
Device for producing high purity silicon carbide on carbon base by hydrogen reduction of silicon tetrachloride  
[NASA-CASE-XLA-02057] c26 N70-40015
- SILICON COMPOUNDS**  
Doping silicon material with gadolinium to increase radiation resistance of solar cells  
[NASA-CASE-XLE-02792] c26 N71-10607  
Process for preparing disilanol with in-chain perfluoroalkyl groups  
[NASA-CASE-MFS-20979-2] c06 N73-32030
- SILICON CONTROLLED RECTIFIERS**  
Use of silicon controlled rectifier shorting circuit to protect thermoelectric generator source from thermal destruction  
[NASA-CASE-XGS-04808] c03 N69-25146  
Silicon controlled rectifier inverter with compensation of transients to avoid false gating  
[NASA-CASE-XLA-08507] c09 N69-39984  
Reversible ring counter using cascaded single silicon controlled rectifier stages  
[NASA-CASE-XGS-01473] c09 N71-10673  
Silicon controlled rectifier pulse gate amplifier for blocking false gating caused by negative transient voltages  
[NASA-CASE-XLA-07497] c09 N71-12514
- SILICON DIOXIDE**  
Intermittent type silica gel adsorption refrigerator for providing temperature control for spacecraft components  
[NASA-CASE-XNP-00920] c15 N71-15906  
Nose cone mounted heat resistant antenna comprising plurality of adjacent layers of silica not introducing paths of high thermal conductivity through ablative shield  
[NASA-CASE-XMS-04312] c07 N71-22984  
Silica reusable surface insulation  
[NASA-CASE-ARC-10721-1] c18 N74-14230  
Method and apparatus for stable silicon dioxide layers on silicon grown in silicon nitride ambient  
[NASA-CASE-ERC-10073-1] c06 N74-19769  
Ceramic coating for silica insulation  
[NASA-CASE-MSC-14270-2] c18 N74-30004  
Ceramic coating for silica insulation  
[NASA-CASE-MSC-14270-1] c18 N74-30005
- SILICON FILMS**  
Deposition method for epitaxial beta SiC films having high degree of crystallographic perfection  
[NASA-CASE-ERC-10120] c26 N69-33482
- SILICON JUNCTIONS**  
Improving radiation resistance of silicon semiconductor junctions by doping with lithium  
[NASA-CASE-XGS-07801] c09 N71-12513
- SILICON NITRIDES**  
Method and apparatus for stable silicon dioxide layers on silicon grown in silicon nitride ambient  
[NASA-CASE-ERC-10073-1] c06 N74-19769
- SILICON RADIATION DETECTORS**  
Lithium drifted silicon radiation detector with gold rectifying contacts  
[NASA-CASE-XLE-10529] c14 N69-23191  
Silicon radiation detecting probe design for in vivo biomedical use  
[NASA-CASE-XMS-01177] c05 N71-19440
- SILICON TRANSISTORS**  
Vapor deposition method for forming metallized tungsten contacts on silicon substrates  
[NASA-CASE-GSC-10695-1] c09 N72-25259
- Development of method and apparatus for detecting surface ions on silicon diodes and transistors  
[NASA-CASE-ERC-10325] c15 N72-25457
- SILICONE RESINS**  
Technique for bonding --- process for molding silicone elastomer into fiberglass honeycomb panel  
[NASA-CASE-LAR-10073-1] c32 N74-23449
- SILICONIZING**  
Vapor deposited laminated nitride-silicon coating for corrosion prevention of carbonaceous surfaces  
[NASA-CASE-XLA-00284] c15 N71-16075
- SILOXANES**  
Synthesis of siloxane containing epoxy polymers with low dielectric properties  
[NASA-CASE-MFS-13994-1] c06 N71-11240  
Method for producing alternating ether-siloxane copolymers with stable properties when exposed to elevated temperatures and UV radiation  
[NASA-CASE-XMF-02584] c06 N71-20905  
Synthesis of siloxane containing epoxide and diamine polymers  
[NASA-CASE-MFS-13994-2] c06 N72-25148  
Silphenylenesiloxane polymer with in-chain perfluoroalkyl groups  
[NASA-CASE-MFS-20979] c06 N72-25151  
Fluid polydimethylsiloxane resin with low outgassing properties in cured state  
[NASA-CASE-GSC-11358-1] c06 N73-26100
- SILVER**  
Dry electrode manufacture, using silver powder with cement  
[NASA-CASE-PRC-10029-2] c05 N72-25121
- SILVER CHLORIDES**  
Electrochemically reversible silver-silver chloride electrode for detecting bioelectric potential differences generated by human muscles and organs  
[NASA-CASE-XMS-02872] c05 N69-21925  
Silver chloride use in technique for fusion bonding of graphite to silver, glass, ceramics, and certain other metals  
[NASA-CASE-XGS-00963] c15 N69-39735
- SILVER COMPOUNDS**  
Description of electrical equipment and system for purification of waste water by producing silver ions for bacterial control  
[NASA-CASE-MSC-10960-1] c03 N71-24718
- SILVER ZINC BATTERIES**  
Elimination of two step voltage discharge property of silver zinc batteries by using divalent silver oxide capacity of cell to charge anodes to monovalent silver state  
[NASA-CASE-XGS-01674] c03 N71-29129
- SIMULATORS**  
Development of apparatus for simulating zero gravity conditions  
[NASA-CASE-MFS-12750] c27 N71-16223  
Phonocardiogram simulator producing electrical voltage waves to control amplitude and duration between simulated sounds  
[NASA-CASE-XKS-10804] c05 N71-24606  
Sign wave generation simulator for variable amplitude, frequency, damping, and phase pulses for oscilloscope display  
[NASA-CASE-NPO-10251] c10 N71-27365
- SINE SERIES**  
Service life of electromechanical device for generating sine/cosine functions  
[NASA-CASE-LAR-10503-1] c09 N72-21248  
Function generators for producing complex vibration mode patterns used to identify vibration mode data  
[NASA-CASE-LAR-10310-1] c10 N73-20253
- SINE WAVES**  
Sign wave generation simulator for variable amplitude, frequency, damping, and phase pulses for oscilloscope display  
[NASA-CASE-NPO-10251] c10 N71-27365  
Wideband generator for producing sine wave quadrature and second harmonic of input signal  
[NASA-CASE-NPO-11133] c10 N72-20223  
Brushless electromechanical generator for sine and cosine functions  
[NASA-CASE-LAR-11389-1] c09 N73-32121
- SINGLE CRYSTALS**  
Producing high purity silicon carbide on carbon



- base by hydrogen reduction of silicon tetrachloride  
[NASA-CASE-XLA-00158] c26 N70-36805
- Single crystal film semiconductor devices  
[NASA-CASE-ERC-10222] c09 N72-22199
- Development and characteristics of magnetometer with single Bi2Se3 crystal as sensing element  
[NASA-CASE-LEW-110332-1] c14 N72-25440
- Vapor phase growth of groups III-V compounds by hydrogen chloride transport of the elements  
[NASA-CASE-LAR-11144-1] c26 N74-27261
- SINTERING**
- Condenser-separator for dehumidifying air utilizing sintered metal surface  
[NASA-CASE-XLA-08645] c15 N69-21465
- Production of refractory bodies with controlled porosity by pressing and heating mixtures of refractory and inert metal powders  
[NASA-CASE-LEW-10393-1] c17 N71-15468
- Development of method for fabricating cermets and analysis of various compositions to show electrical and physical properties  
[NASA-CASE-NPO-13120-1] c18 N73-23629
- SIZE (DIMENSIONS)**
- Development of apparatus for producing metal powder particles of controlled size  
[NASA-CASE-XLE-06461-2] c17 N72-28535
- SIZE DETERMINATION**
- Impact measuring technique for determining size of hypervelocity projectiles  
[NASA-CASE-LAR-10913] c14 N72-16282
- SIZE SEPARATION**
- Method and apparatus for precision sizing and joining of large diameter tubes by bulging or constricting overlapping ends  
[NASA-CASE-XMP-05114-2] c15 N71-26148
- Device which separates and screens particles of soil samples for vidicon viewing in vacuum and reduced gravity environments  
[NASA-CASE-XMP-09770-3] c11 N71-27036
- SIZING (SHAPING)**
- Method and apparatus for shaping and joining large diameter metal tubes using magnetomotive forces  
[NASA-CASE-XMP-05114] c15 N71-17650
- SIZING SCREENS**
- Method for making screen with unlimited fineness of mesh and screen thickness  
[NASA-CASE-XLE-00953] c15 N71-15966
- Screen particle separator for soil samples  
[NASA-CASE-XMP-09770-2] c15 N72-22483
- SKETCHES**
- Tape guidance system for multichannel digital recording system  
[NASA-CASE-XMP-09453] c08 N71-19420
- SKID LANDINGS**
- Hose gear steering system for vehicles with main skids to provide directional stability after loss of aerodynamic control  
[NASA-CASE-XLA-01804] c02 N70-34160
- SKIN (ANATOMY)**
- Conditioning tanned sharkskin for use as abrasive resistant clothing  
[NASA-CASE-INS-09691-1] c18 N71-15545
- SKIN (STRUCTURAL MEMBER)**
- Development of resilient fastener for attaching skin of aerospace vehicles to permit movement of skin relative to framework  
[NASA-CASE-XLA-01027] c31 N71-24035
- SKIN TEMPERATURE (NON-BIOLOGICAL)**
- Heat flux sensor adapted for mounting on aircraft or spacecraft to measure aerodynamic heat flux inflow to aircraft skin  
[NASA-CASE-XPR-03802] c33 N71-23085
- SKIETS**
- Inflatable rocket engine nozzle skirt with transpiration cooling  
[NASA-CASE-NFS-20619] c28 N72-11708
- SLEEP**
- Development of apparatus and method for quantitatively measuring brain activity as automatic indication of sleep state and level of consciousness  
[NASA-CASE-NSC-13282-1] c05 N71-24729
- SLEEVES**
- Nonreusable energy absorbing device comprising ring member with plurality of recesses, cutting members, and guide member mounted in each recess  
[NASA-CASE-XMP-10040] c15 N71-22877
- Tool exchange capabilities of portable wrench characterized by telescopic sleeve  
[NASA-CASE-NFS-22283-1] c15 N73-30462
- SLENDER BODIES**
- Support techniques for restraint of slender bodies such as launch vehicles  
[NASA-CASE-XLA-02704] c11 N69-21540
- SLIDING CONTACT**
- Electrical connector pin with wiping action to assure reliable contact  
[NASA-CASE-IMP-04238] c09 N69-39734
- Development of slip ring assembly with inner and outer peripheral surfaces used as electrical contacts for brushes  
[NASA-CASE-XMP-01049] c15 N71-23049
- SLIP CASTING**
- Freeze casting of metal ceramic and refractory compound powders into plastic slips  
[NASA-CASE-XLE-00106] c15 N71-16076
- SLITS**
- Slit regulated gas journal bearing  
[NASA-CASE-XMP-00476] c15 N70-38620
- Method of fabricating an object with a thin wall having a precisely shaped slit  
[NASA-CASE-LAR-10409-1] c15 N74-21059
- SLOT ANTENNAS**
- Planar array circularly polarized antenna with wall slot excitation  
[NASA-CASE-NPO-10301] c07 N72-11148
- Omnidirectional antenna array with circumferential slots for mounting on cylindrical space vehicle  
[NASA-CASE-LAR-10163-1] c09 N72-25247
- Circularly polarized antenna with linearly polarized pair of elements  
[NASA-CASE-ERC-10214] c09 N72-31235
- Turnstile slot antenna  
[NASA-CASE-GSC-11428-1] c09 N74-20864
- SLOTS**
- Belleville spring assembly with elastic guides having low hysteresis  
[NASA-CASE-XMP-09452] c15 N69-27504
- Direct lift control system having flaps with slots adjacent to their leading edge and particularly adapted for lightweight aircraft  
[NASA-CASE-LAR-10249-1] c02 N71-26110
- Slotted fine-adjustment support for optical devices  
[NASA-CASE-NFS-20249] c15 N72-11386
- SLURRY PROPELLANTS**
- Apparatus for producing hydrocarbon slurry containing small particles of magnesium for use as jet aircraft fuel  
[NASA-CASE-XLE-00010] c15 N70-33382
- SMOKE**
- Development of method for protecting large and oddly shaped areas from radiant and convective heat  
[NASA-CASE-XMP-01310] c33 N71-28852
- SODIUM CHLORIDES**
- Composition of diffuse reflective coating containing sodium chloride in combination with diol solvent and organic wetting and drying agents  
[NASA-CASE-GSC-11214-1] c06 N73-13128
- SOFT LANDING**
- Non-reusable kinetic energy absorber for application in soft landing of space vehicles  
[NASA-CASE-XLE-00810] c15 N70-34861
- Spacecraft shock absorbing system for soft landings  
[NASA-CASE-XMP-02108] c31 N70-36845
- Payload soft landing system using stowable gas bag  
[NASA-CASE-XLA-09881] c31 N71-16085
- SOFT LANDING SPACECRAFT**
- Pivotal shock absorbing assembly for use as load distributing portion in landing gear systems of space vehicles  
[NASA-CASE-XMP-03856] c31 N70-34159
- SOIL SCIENCE**
- Auger-type soil penetrometer for burrowing into soil formations  
[NASA-CASE-IMP-05530] c14 N73-32321
- SOILS**
- Screen particle separator for soil samples  
[NASA-CASE-XMP-09770-2] c15 N72-22483
- Soil burrowing mole apparatus  
[NASA-CASE-XMP-07169] c15 N73-32362

## SOLAR ACTIVITY

Computation method and apparatus for predicting solar flares by correlating planetary ephemeris data with gravitational force effects on sun  
[NASA-CASE-ERC-10323-1] c30 N70-22183

Radiometric measuring system for solar activity and atmospheric attenuation and emission  
[NASA-CASE-ERC-10276] c14 N73-26432

## SOLAR ARRAYS

Deployable cantilever support for deploying solar cell arrays aboard spacecraft and reducing transient loading  
[NASA-CASE-NPO-10883] c31 N72-22874

Electrical interconnection of unilluminated solar cells in solar battery array  
[NASA-CASE-GSC-10344-1] c03 N72-27053

Development of solar energy powered heliostropes assembly to orient solar array toward sun  
[NASA-CASE-GSC-10945-1] c21 N72-31637

Method of making silicon solar cell array --- and mounting on flexible substrate  
[NASA-CASE-LEW-11069-1] c03 N74-14784

## SOLAR CELLS

Fabricating solar cells with dielectric layers to improve glass fusion  
[NASA-CASE-IGS-04531] c03 N69-24267

Solar radiation direction detector and device for compensating degradation of photocells  
[NASA-CASE-XLA-00183] c14 N70-40239

Attitude control system for spacecraft based on conversion of incident solar radiation on movable control surfaces into mechanical torques  
[NASA-CASE-XNP-02982] c31 N70-41855

Simulating voltage-current characteristic curves of solar cell panel with different operational parameters  
[NASA-CASE-XMS-01554] c10 N71-10578

Doping silicon material with gadolinium to increase radiation resistance of solar cells  
[NASA-CASE-XLE-02792] c26 N71-10607

Modifying existing solar cells for temperature control  
[NASA-CASE-NPO-10109] c03 N71-11049

Solar battery with interconnecting means for plural cells  
[NASA-CASE-XNP-06506] c03 N71-11050

Fabrication methods for matrices of solar cell submodules  
[NASA-CASE-XNP-05821] c03 N71-11056

Metal strip mounting arrangement for solar cell arrays on spacecraft  
[NASA-CASE-IGS-01475] c03 N71-11058

Conductor for connecting parallel cells into submodules in series to form solar cell matrix  
[NASA-CASE-NPO-10821] c03 N71-19545

Space erectable rollup solar array of arcuate solar panels furling on tapered drum for spacecraft storage during launch  
[NASA-CASE-NPO-10188] c03 N71-20273

Electrode connection for n-on-p silicon solar cell  
[NASA-CASE-XLE-04787] c03 N71-20492

Fabrication of solar cell banks for attaching solar cells to base members or substrates  
[NASA-CASE-XNP-00826] c03 N71-20895

Gallium arsenide solar cell preparation by surface deposition of cuprous iodide on thin n-type polycrystalline layers and heating in iodine vapor  
[NASA-CASE-XNP-01960] c09 N71-23027

Gadolinium or samarium doped-silicon semiconductor material with resistance to radiation damage for use in solar cells  
[NASA-CASE-XLE-10715] c26 N71-23292

Maintaining current flow through solar cells with open connection using shunting diode  
[NASA-CASE-XLE-04535] c03 N71-23354

Metal pattern bonding technique for cover glass attachment to silicon solar cells for space applications  
[NASA-CASE-XLE-08569] c03 N71-23449

Addition of group 3 elements to silicon semiconductor material for increased resistance to radiation damage in solar cells  
[NASA-CASE-XLE-02798] c26 N71-23654

Method of attaching cover glass to silicon solar cell without using adhesive  
[NASA-CASE-XLE-08569-2] c03 N71-24681

Method and apparatus for fabricating solar cell panels  
[NASA-CASE-XNP-03413] c03 N71-26726

Development and characteristics of solar cells with phosphors in cover glass to improve response to solar ultraviolet radiation  
[NASA-CASE-ARC-10050] c03 N71-33409

Electrically coupled individually encapsulated solar cell matrix  
[NASA-CASE-NPO-11190] c03 N71-34044

Recovering efficiency of solar cells damaged by environmental radiation through thermal annealing  
[NASA-CASE-IGS-04047-2] c03 N72-11062

Transparent plastic film for attaching cover glasses to silicon solar cells  
[NASA-CASE-LEW-11065-1] c03 N72-11064

Spacecraft solar cell system with switching circuit to provide compensation for environmental changes  
[NASA-CASE-GSC-10669-1] c03 N72-20031

Test method and equipment for identifying faulty cells or connections in solar cell assemblies  
[NASA-CASE-NPO-10401] c03 N72-20033

Electrically connected matrix of discrete solar cell blanks  
[NASA-CASE-NPO-10591] c03 N72-22041

Solar cell panel with light transmitting cover plate  
[NASA-CASE-NPO-10747] c03 N72-22042

Development of process for constructing protective covers for solar cells  
[NASA-CASE-GSC-11514-1] c03 N72-24037

Apparatus for applying thin glass slides to solar cells  
[NASA-CASE-NPO-10575] c03 N72-25019

Electrical interconnection of unilluminated solar cells in solar battery array  
[NASA-CASE-GSC-10344-1] c03 N72-27053

Rectangular solar cell stacked panels to generate electrical power aboard spacecraft  
[NASA-CASE-NPO-11771] c03 N73-20040

Graded band gap p-n junction gallium arsenide/gallium aluminum arsenide solar cell  
[NASA-CASE-LAR-11174-1] c03 N73-26047

Silicon solar cell with plastic film binding to cover glass  
[NASA-CASE-LEW-11065-2] c03 N73-26048

Method of making silicon solar cell array --- and mounting on flexible substrate  
[NASA-CASE-LEW-11069-1] c03 N74-14784

High voltage, high current Schottky barrier solar cell  
[NASA-CASE-NPO-13482-1] c03 N74-30448

Solar cell assembly  
[NASA-CASE-LEW-11549-1] c03 N74-33484

**SOLAR COLLECTORS**

Expanding and contracting connector strip for solar cell array of Nimbus satellite  
[NASA-CASE-IGS-01395] c03 N69-21539

Concentrator device for controlling direction of solar energy onto energy converters  
[NASA-CASE-XLE-01716] c09 N70-40234

Space erectable rollup solar array of arcuate solar panels furling on tapered drum for spacecraft storage during launch  
[NASA-CASE-NPO-10188] c03 N71-20273

Storage stable, thermally activated foaming compositions for erecting and rigidizing mechanisms of thin sheet solar collectors  
[NASA-CASE-LAR-10373-1] c18 N71-26155

Development and characteristics of solar cells with phosphors in cover glass to improve response to solar ultraviolet radiation  
[NASA-CASE-ARC-10050] c03 N71-33409

**SOLAR ENERGY**

Rectangular solar cell stacked panels to generate electrical power aboard spacecraft  
[NASA-CASE-NPO-11771] c03 N73-20040

Solar energy power system --- using freon  
[NASA-CASE-NPS-21628-1] c29 N74-14496

**SOLAR ENERGY ABSORBERS**

A panel for selectively absorbing solar thermal energy and the method for manufacturing the panel  
[NASA-CASE-NPS-22562-1] c03 N74-19700

**SOLAR FURNACES**

Lens assembly for solar furnace or solar simulator  
[NASA-CASE-XNP-04111] c14 N71-15622

## SOLAR GENERATORS

## SUBJECT INDEX

## SOLAR GENERATORS

Describing method for vapor deposition of gallium arsenide films on manganese substrates to provide semiconductor devices with low resistance substrates  
[NASA-CASE-INP-01328] c26 N71-18064

**SOLAR GRAVITATION**  
Table structure and rotating magnet system simulating gravitational forces on spacecraft and displaying trajectories between Earth, Venus, and Mercury  
[NASA-CASE-INP-00708] c14 N70-35394

**SOLAR OBSERVATORIES**  
Light sensitive control system for automatically opening and closing dome of solar optical telescope  
[NASA-CASE-HSC-10966] c14 N71-19568

**SOLAR RADIATION**  
Space simulator with uniform test region radiation distribution, adapted to simulate Venus solar radiations  
[NASA-CASE-INP-00459] c11 N70-38675  
Design and characteristics of device for sensing solar radiation and providing spacecraft attitude control to maintain direction with respect to incident radiation  
[NASA-CASE-INP-05535] c14 N71-23040  
Utilization of solar radiation by solar still for converting salt and brackish water into potable water  
[NASA-CASE-IMS-04533] c15 N71-23086  
Particulate and solar radiation stable coating for spacecraft  
[NASA-CASE-IAR-10805-1] c18 N74-16246  
Wide angle sun sensor --- consisting of cylinder, insulation, and pair of detectors  
[NASA-CASE-NPO-13327-1] c14 N74-18093

**SOLAR RADIO EMISSION**  
System generating sidereal frequency signals from signals of standard solar frequency without use of mixing operations or feedback loops  
[NASA-CASE-IGS-02610] c14 N71-23174

**SOLAR REFLECTORS**  
Foldable, double cone and parabolic reflector system for solar ray concentration  
[NASA-CASE-XLA-04622] c03 N70-41580  
Modifying existing solar cells for temperature control  
[NASA-CASE-NPO-10109] c03 N71-11049  
Fabrication of curved reflector segments for solar mirror  
[NASA-CASE-XLE-08917] c15 N71-15597  
Thermal pump-compressor for converting solar energy  
[NASA-CASE-XLA-00377] c33 N71-17610  
Forming mold for polishing and machining curved solar magnesium reflector with reinforcing ribs  
[NASA-CASE-XLE-08917-2] c15 N71-24836  
Inorganic thermal control and solar reflector coatings  
[NASA-CASE-MFS-20011] c18 N72-22566

**SOLAR SENSORS**  
Sensor consisting of photocells mounted on pyramidal base for improved pointing accuracy of planetary trackers  
[NASA-CASE-INP-04180] c07 N69-39736  
Spacecraft attitude control system using solar and earth sensors, gyroscopes, and jet actuators  
[NASA-CASE-INP-00465] c21 N70-35395  
Sun tracker with rotatable plane-parallel plate and two photocells  
[NASA-CASE-IGS-01159] c21 N71-10678  
Solar sensor with coarse and fine sensing elements for matching preirradiated cells on degradation rates  
[NASA-CASE-XLA-01584] c14 N71-23269

**SOLAR SIMULATORS**  
Lens assembly for solar furnace or solar simulator  
[NASA-CASE-INP-04111] c14 N71-15622  
High powered arc electrodes --- producing solar simulator radiation  
[NASA-CASE-LEW-11162-1] c09 N74-12913

**SOLDERED JOINTS**  
Soldering device particularly suited to making high quality wiring joints for aerospace engineering utilizing capillary attraction to regulate flow of solder  
[NASA-CASE-XLA-08911] c15 N71-27214

## SOLDERING

Hydrazine monoperofluoro alkanoate solder flux leaving corrosion resistant coating, for metals such as copper  
[NASA-CASE-INP-03459-2] c18 N71-15688

Metal soldering with hydrazine monoperofluoro alkanoate for corrosion resistant coatings  
[NASA-CASE-INP-03459] c15 N71-21078

Method of plating copper on aluminum to permit conventional soldering of structural aluminum bodies  
[NASA-CASE-ILA-08966-1] c17 N71-25903

Device for resistance soldering electrical leads to solder cups of multiple terminal block  
[NASA-CASE-GSC-10913] c15 N72-22491

Development of electrical system for indicating optimum contact between electrode and metal surface to permit improved soldering operation  
[NASA-CASE-KSC-10242] c15 N72-23497

**SOLDERS**  
Solder coating process for printed copper circuit protection  
[NASA-CASE-INP-01599] c09 N71-20705

**SOLENOID VALVES**  
Solenoid two-step valve for bipropellant flow rate control to rocket engine  
[NASA-CASE-XMS-04890-1] c15 N70-22192  
Automatic recording McLeod gage with three electrodes and solenoid valve connection  
[NASA-CASE-XLE-03280] c14 N71-23093  
Solenoid valve including guide for armature and valve member  
[NASA-CASE-GSC-10607-1] c15 N72-20442  
Automatically operable self-leveling load table with plurality of solenoid valves  
[NASA-CASE-MFS-22039-1] c14 N73-30428  
Remote fire stack igniter --- with solenoid-controlled valve  
[NASA-CASE-MFS-21675-1] c33 N74-33378

**SOLENOIDS**  
Water cooled solenoid capable of producing magnetic field intensities up to 100 kilogauss  
[NASA-CASE-INP-01951] c09 N70-41929  
Automatic power supply circuit design for driving inductive loads and minimizing power consumption including solenoid example  
[NASA-CASE-NPO-10716] c09 N71-24892  
Rotary solenoid shutter drive assembly and rotary inertia damper and stop plate assembly --- for use with cameras mounted in satellites  
[NASA-CASE-GSC-11560-1] c09 N74-20861  
Sprag solenoid brake --- development and operations of electrically controlled brake  
[NASA-CASE-MFS-21846-1] c15 N74-26976

**SOLID LUBRICANTS**  
Bonded solid lubricant coatings of calcium fluoride and binder for high temperature stability  
[NASA-CASE-IMS-00259] c18 N70-36400  
Solid lubricant applied to porous roller bearings prior to use in ultrahigh vacuum  
[NASA-CASE-XLE-09527] c15 N71-17688  
Preparation of inorganic solid film lubricants with long wear life and stability in aerospace environments  
[NASA-CASE-IMF-03988] c15 N71-21403  
Development of rolling element bearing for operation in ultrahigh vacuum environment  
[NASA-CASE-XLE-09527-2] c15 N71-26189

**SOLID PROPELLANT IGNITION**  
Solid propellant ignition with hypergolic fluid injected to predetermined portions of propellant  
[NASA-CASE-XLE-00207] c28 N70-33375  
Method for igniting solid propellant rocket motors by injecting hypergolic fluids  
[NASA-CASE-XLE-01988] c27 N71-15634

**SOLID PROPELLANT ROCKET ENGINES**  
Spherical solid propellant rocket engine design  
[NASA-CASE-XLA-00105] c28 N70-33331  
Mandrel for shaping solid propellant rocket fuel into engine casing  
[NASA-CASE-XLA-00304] c27 N70-34783  
Spherical solid propellant rocket engine having abrupt burnout  
[NASA-CASE-IHQ-01897] c28 N70-35381  
Grain configuration for solid propellant rocket engines  
[NASA-CASE-XGS-03556] c27 N70-35534

- Solid propellant rocket vehicle thrust control method and apparatus  
[NASA-CASE-XNP-00217] c28 N70-38181
- Steerable solid propellant rocket motor adapted to effect payload orientation as multistage rocket stage or reduce velocity as retrorocket  
[NASA-CASE-XNP-00234] c28 N70-38645
- Method of making solid propellant rocket motor having reliable high altitude capabilities, long shelf life, and capable of firing with nozzle closure with foamed plastic permanent mandrel  
[NASA-CASE-XLA-04126] c28 N71-26779
- Electrical failure detector in solid rocket propellant motor insulation against thermal degradation by fuel grain  
[NASA-CASE-XMP-03968] c14 N71-27186
- Solid propellant rocket engine with venting system to control effective nozzle throat area  
[NASA-CASE-XNP-03282] c28 N72-20758
- Thin walled nozzle with insulative nonablative coating for solid propellant rocket engines  
[NASA-CASE-NPO-11458] c28 N72-23810
- Characteristics of solid propellant rocket engine with controlled rate of thrust buildup operating in vacuum environment  
[NASA-CASE-NPO-11559] c28 N73-24784
- A space vehicle  
[NASA-CASE-MFS-22734-1] c31 N74-20541
- SOLID PROPELLANTS**
- Variable thrust ion engine using thermal decomposition of solid cesium compound to produce propulsive vapor  
[NASA-CASE-XMP-00923] c28 N70-36802
- Photographic method for measuring viscoelastic strain in solid propellants and other materials  
[NASA-CASE-XNP-01153] c32 N71-17645
- Ethylene oxide sterilization and encapsulating process for sterile preservation of instruments and solid propellants  
[NASA-CASE-XNP-09763] c14 N71-20461
- Chemical process for production of polyisobutylene compounds and application as solid rocket propellant binder  
[NASA-CASE-NPO-10893] c27 N73-22710
- SOLID ROCKET BINDERS**
- Liner for hybrid solid propellants to bind propellant to rocket motor case  
[NASA-CASE-XNP-09744] c27 N71-16392
- SOLID ROCKET PROPELLANTS**
- Using ethylene oxide in preparation of sterilized solid rocket propellants and encapsulating materials  
[NASA-CASE-XNP-01749] c27 N70-41897
- Pressurized gas injection for burning rate control of solid propellants  
[NASA-CASE-XLE-03494] c27 N71-21819
- Solid propellant stabilizer containing nitroguanidine  
[NASA-CASE-NPO-12000] c27 N72-25699
- Solid propellant containing hydrazinium nitroformate oxidizer and polymeric hydrocarbon binder  
[NASA-CASE-NPO-12015] c27 N73-16764
- Preparing oxidizer coated metal fuel particles  
[NASA-CASE-NPO-11975-1] c27 N74-33209
- SOLID STATE**
- Solid state chemical source for ammonia beam masers  
[NASA-CASE-XGS-01504] c16 N70-41578
- SOLID STATE DEVICES**
- Solid state switching circuit design to increase current capacity of low rated relay contacts  
[NASA-CASE-XNP-09228] c09 N69-27500
- Temperature compensated solid state differential amplifier with application in bioinstrumentation circuits  
[NASA-CASE-XAC-00435] c09 N70-35440
- Solid state device for mapping flux and power in nuclear reactor cores  
[NASA-CASE-XLE-00301] c14 N70-36608
- Solid state operational integrator  
[NASA-CASE-NPO-10230] c09 N71-12520
- Microwave power receiving antenna solving heat dissipation problems by construction of elements as heat pipe devices  
[NASA-CASE-MFS-20333] c09 N71-13486
- Computer circuit performing both counting and shifting logic operations also capable of miniaturization and integration in basic circuits  
[NASA-CASE-XNP-01753] c08 N71-22897
- Solid state television camera system consisting of monolithic semiconductor mosaic sensor and molecular digital readout systems  
[NASA-CASE-XMP-06092] c07 N71-24612
- Solid state circuit for switching alternating current input signal as function of direct current gating transistor  
[NASA-CASE-XNP-06505] c10 N71-24799
- Solid state force measuring electromechanical transducers made of piezoresistive materials  
[NASA-CASE-ERC-10088] c26 N71-25490
- Development and characteristics of solid state acoustic variable time delay line using direct current voltage and radio frequency pulses  
[NASA-CASE-ERC-10032] c10 N71-25900
- Solid state broadband stable power amplifier  
[NASA-CASE-XNP-10854] c10 N71-26331
- Solid state remote circuit selector switching circuit  
[NASA-CASE-LEW-10387] c09 N72-22201
- Radio frequency controlled solid state switch  
[NASA-CASE-ARC-10136-1] c09 N72-22202
- Development of thermal to electric power conversion system using solid state switches of electrical currents to load for Seebeck effect compensation  
[NASA-CASE-NPO-11388] c03 N72-23048
- Solid state switch for variable circuit switching  
[NASA-CASE-MPO-10817-1] c08 N73-30135
- Full wave modulator-demodulator amplifier apparatus --- for generating rectified output signal  
[NASA-CASE-FRC-10072-1] c09 N74-14939
- SOLID SURFACES**
- Dye penetrant and technique for nondestructive tests of solid surfaces contacted by liquid oxygen  
[NASA-CASE-XMP-02221] c18 N71-27170
- SOLUBILITY**
- Fireproof potassium silicate coating composition, insoluble in water after application  
[NASA-CASE-GSC-10072] c18 N71-14014
- SOLUTES**
- Specific wavelength colorimeter --- for measuring given solute concentration in test sample  
[NASA-CASE-MSC-14081-1] c14 N74-27860
- SOLVENTS**
- Chemical synthesis of formaldehyde based disinfectants without penetrating odor and eye and ear irritation properties  
[NASA-CASE-NPO-12115-1] c06 N73-17153
- SONIC BOOMS**
- Jet aircraft noise and sonic boom measuring device which converts sound pressure into electric current  
[NASA-CASE-LAR-11173-1] c14 N73-22387
- SOUND GENERATORS**
- Ejectable underwater sound source recovery assembly  
[NASA-CASE-LAR-10595-1] c15 N74-16135
- SOUND PRESSURE**
- Jet aircraft noise and sonic boom measuring device which converts sound pressure into electric current  
[NASA-CASE-LAR-11173-1] c14 N73-22387
- SOUND TRANSDUCERS**
- Method and transducer device for detecting presence of hydrogen gas  
[NASA-CASE-XMF-03873] c06 N69-39733
- Sensor for detecting and measuring energy, velocity and direction of travel of a cosmic dust particle  
[NASA-CASE-GSC-10503-1] c14 N72-20381
- SOUND WAVES**
- Piezoelectric transducer for monitoring sound waves of physiological origin  
[NASA-CASE-IMS-05365] c14 N71-22993
- Application of acoustic transducers for suspending object at center of chamber under near weightless conditions  
[NASA-CASE-NPO-13263-1] c15 N73-31443
- SOUNDING ROCKETS**
- Development of attitude control system for sounding rocket stabilization during ballistic

- phase of flight  
[NASA-CASE-XGS-01654] c31 N71-24750
- System for deploying and ejecting releasable clamshell fairing sections from spinning sounding rockets  
[NASA-CASE-GSC-10590-1] c31 N73-14853
- SPACE CAPSULES**
- Assembly for opening flight capsule stabilizing and decelerating flaps with reference to capsule recovery  
[NASA-CASE-XMP-00641] c31 N70-36410
- Design and configuration of manned space capsule  
[NASA-CASE-XLA-01332] c31 N71-15664
- Describing assembly for opening stabilizing and decelerating flaps of flight capsules used in space research  
[NASA-CASE-IMP-03169] c31 N71-15675
- SPACE COMMUNICATION**
- Radio receiver with array of independently steerable antennas for deep space communication  
[NASA-CASE-XLA-00901] c07 N71-10775
- Design and development of tracking receiver for tracking satellites and receiving radio signal transmissions under adverse noise conditions  
[NASA-CASE-XGS-08679] c10 N71-21473
- Development of antenna system for spin stabilized communication satellite for simultaneous reception and transmission of data  
[NASA-CASE-XGS-02607] c31 N71-23009
- SPACE ENVIRONMENT SIMULATION**
- Simulating voltage-current characteristic curves of solar cell panel with different operational parameters  
[NASA-CASE-IHS-01554] c10 N71-10578
- Method and feed system for separating and orienting liquid and vapor phases of liquid propellants in zero gravity environment  
[NASA-CASE-XLE-01182] c27 N71-15635
- Cable suspension and inclined walkway system for simulating reduced or zero gravity environments  
[NASA-CASE-XLA-01787] c11 N71-16028
- Space environment simulation system for measuring spacecraft electric field strength in plasma sheath  
[NASA-CASE-XLE-02038] c09 N71-16086
- Optical characteristics measuring apparatus  
[NASA-CASE-IMP-08840] c23 N71-16365
- Omnidirectional anisotropic molecular trap, used with vacuum pump to simulate space environments for testing spacecraft components  
[NASA-CASE-XGS-00783] c30 N71-17788
- Space environmental work simulator with portions of space suit mounted to vacuum chamber wall  
[NASA-CASE-IMP-07488] c11 N71-18773
- Low and zero gravity simulator for astronaut training  
[NASA-CASE-MFS-10555] c11 N71-19494
- Self lubricating fluoride-metal composite materials for outer space applications  
[NASA-CASE-XLE-08511] c18 N71-23710
- Test chamber for determining decomposition and autoignition of materials used in spacecraft under controlled environmental conditions  
[NASA-CASE-KSC-10198] c11 N71-28629
- Illumination system design for use as sunlight simulator in space environment simulators with multiple light sources reflected to single virtual source  
[NASA-CASE-HQN-10781] c23 N71-30292
- Pressure regulator for space suit worn underwater to simulate space environment for testing and experimentation  
[NASA-CASE-MFS-20332] c05 N72-20097
- SPACE ERECTABLE STRUCTURES**
- Self-erectable space structures of flexible foam for application in planetary orbits  
[NASA-CASE-XLA-00686] c31 N70-34135
- Manned space station collapsible for launching and self-erectable in orbit  
[NASA-CASE-XLA-00678] c31 N70-34296
- Manned space station launched in packaged condition and self erecting in orbit  
[NASA-CASE-XLA-00258] c31 N70-38676
- Collapsible, space erectable loop antenna system for space vehicle  
[NASA-CASE-XMF-00437] c07 N70-40202
- Erectable, inflatable, radio signal reflecting passive communication satellite  
[NASA-CASE-XLA-00210] c30 N70-40309
- Deployment system for flexible wing with rigid superstructure  
[NASA-CASE-XLA-01220] c02 N70-41863
- Capillary radiator for carrying heat transfer liquid in planetary spacecraft structures  
[NASA-CASE-XLE-03307] c33 N71-14035
- Describing apparatus for manufacturing operations in low and zero gravity environments of orbital space flight  
[NASA-CASE-MFS-20410] c15 N71-19214
- Space erectable rollup solar array of arcuate solar panels furled on tapered drum for spacecraft storage during launch  
[NASA-CASE-NPO-10188] c03 N71-20273
- Self erecting parabolic reflector design for use in space  
[NASA-CASE-XMS-03454] c09 N71-20658
- Pneumatic cantilever beams and platform for space erectable structure  
[NASA-CASE-XLA-01731] c32 N71-21045
- Hydraulic actuator design for space deployment of heat radiators  
[NASA-CASE-MSC-11817-1] c15 N71-26611
- Space expandable tether device for use as passageway between two docked spacecraft  
[NASA-CASE-XMS-10993] c15 N71-28936
- Expandable space frames with high expansion to collapse ratio  
[NASA-CASE-ERC-10365-1] c31 N73-32749
- SPACE EXPLORATION**
- Self-propelled vehicle with wheel, track laying, and walking capability for exploratory expolaration  
[NASA-CASE-NPO-11366] c11 N73-26238
- SPACE FLIGHT**
- Portable environmental control and life support system for astronaut in and out of spacecraft  
[NASA-CASE-XNS-09632-1] c05 N71-11203
- Television simulation for aircraft and space flight  
[NASA-CASE-XPR-03107] c09 N71-19449
- SPACE MAINTENANCE**
- System for removing and repairing spacecraft control thrusters by use of portable air locks  
[NASA-CASE-MFS-20325] c28 N71-27095
- SPACE MANUFACTURING**
- Application of acoustic transducers for suspending object at center of chamber under near weightless conditions  
[NASA-CASE-NPO-13263-1] c15 N73-31443
- Space mirrors  
[NASA-CASE-MSC-12611-1] c23 N74-33142
- SPACE MISSIONS**
- Planetary atmospheric investigation using split trajectory dual flyby node  
[NASA-CASE-XAC-08494] c30 N71-15990
- Elimination of tracking occultation problems occurring during continuous monitoring of interplanetary missions by using Earth orbiting communications satellite  
[NASA-CASE-XAC-06029-1] c31 N71-24813
- Design and development of space shuttle system for delivering payload to earth orbit or celestial orbit  
[NASA-CASE-MSC-12391] c30 N73-12884
- SPACE NAVIGATION**
- Electrical and electromechanical trigonometric computation assembly and space vehicle guidance system for aligning perpendicular axes of two sets of three-axes coordinate references  
[NASA-CASE-XMF-00684] c21 N71-21688
- Momentum wheel design for spacecraft attitude control and magnetic drum and head system for data storage  
[NASA-CASE-NPO-11481] c21 N73-13644
- Method for producing reticles for use in outer space  
[NASA-CASE-GSC-11188-2] c21 N73-19630
- SPACE ORIENTATION**
- Sensing method and device for determining orientation of space vehicle or satellite by using particle traps  
[NASA-CASE-XGS-00466] c21 N70-34297
- SPACE PROBES**
- Spaceflight meteoroid composition experiment --- characteristics of device for capturing meteoroid particles in space  
[NASA-CASE-MSC-12423-1] c14 N74-32885

## SPACE RENDEZVOUS

Method and apparatus for connecting two spacecraft with probe of one inserted in rocket engine nozzle of other spacecraft  
[NASA-CASE-MFS-11133] c31 N71-16222

## SPACE SHUTTLES

Designing spacecraft for flight into space, atmospheric reentry, and landing at selected sites  
[NASA-CASE-XAC-02058] c02 N71-16087

Design and development of space shuttle system for delivering payload to earth orbit or celestial orbit  
[NASA-CASE-MSC-12391] c30 N73-12884

Spacecraft configurations and aerodynamic characteristics of space shuttle systems with two reusable stages  
[NASA-CASE-MSC-12433] c31 N73-14854

Improved silicide coatings for refractory metals employed in space shuttles and gas turbine engine components  
[NASA-CASE-LEW-11179-1] c17 N73-22474

Development and characteristics of variable ratio, mixed-mode, bilateral master-slave control system for space shuttle remote manipulator system  
[NASA-CASE-MSC-14245-1] c31 N73-30832

## SPACE SIMULATORS

Space simulator with uniform test region radiation distribution, adapted to simulate Venus solar radiations  
[NASA-CASE-INP-00459] c11 N70-38675

Variable geometry manned orbital vehicle having high aerodynamic efficiency over wide speed range and incorporating auxiliary pivotal wings  
[NASA-CASE-XLA-03691] c31 N71-15674

Development of method and equipment for testing heat radiative properties of material under controlled environmental conditions  
[NASA-CASE-MFS-20096] c14 N71-30026

## SPACE STATIONS

Manned space station launched in packaged condition and self erecting in orbit  
[NASA-CASE-XLA-00258] c31 N70-38676

Multiple in-line docking capability having intermeshing docking turrets for rotating space stations  
[NASA-CASE-MFS-20855-1] c31 N72-25853

## SPACE SUITS

Astronaut restraint suit for high acceleration protection  
[NASA-CASE-XAC-00405] c05 N70-41819

Space suit with pressure-volume compensator system  
[NASA-CASE-XLA-05332] c05 N71-11194

Equipotential space suits utilizing mechanical aids to minimize astronaut energy at bending joints  
[NASA-CASE-LAR-10007-1] c05 N71-11195

One piece human garment for use as contamination proof garment  
[NASA-CASE-MSC-12206-1] c05 N71-17599

Space environmental work simulator with portions of space suit mounted to vacuum chamber wall  
[NASA-CASE-XMF-07488] c11 N71-18773

Space suit body heat exchanger design composed of thermal conductance yarn and liquid coolant loops  
[NASA-CASE-XMS-09571] c05 N71-19439

Conditioning suit for normal function of astronaut cardiovascular system in gravity environment  
[NASA-CASE-XLA-02898] c05 N71-20268

Space suit using nonflexible material with low leakage and providing protection against thermal extremes, physical punctures, and radiation with high mobility articulation  
[NASA-CASE-XAC-07043] c05 N71-23161

Sealing evacuation port and evacuating vacuum container such as space jackets  
[NASA-CASE-XMF-03290] c15 N71-23256

Structure of fabric layers for micrometeoroid protection garment with capability for eliminating heat shorts for use in manufacturing space suits  
[NASA-CASE-MSC-12109] c18 N71-26285

Venting device for pressurized space suit helmet to eliminate vomit expelled by crewmen  
[NASA-CASE-XMS-09652-1] c05 N71-26333

Automatic control device for regulating inlet water temperature of liquid cooled spacesuit  
[NASA-CASE-MSC-13917-1] c05 N72-15098

Pressure regulator for space suit worn underwater to simulate space environment for testing and experimentation  
[NASA-CASE-MFS-20332] c05 N72-20097

Space suit with improved waist and torso movement  
[NASA-CASE-ARC-10275-1] c05 N72-22092

Underwater space suit pressure control regulator  
[NASA-CASE-MFS-20332-2] c05 N73-25125

Automatic temperature control for liquid cooled space suit  
[NASA-CASE-ARC-10599-1] c05 N73-26071

Process for developing flame retardant elastomeric composition textiles for use in space suits  
[NASA-CASE-MSC-14331-1] c18 N73-27501

Intra- and extravehicular life support space suite for Apollo astronauts  
[NASA-CASE-MSC-12609-1] c05 N73-32012

## SPACE VEHICLE CHECKOUT PROGRAM

Hydraulic support apparatus for dynamic testing of space vehicles under near-free flight conditions  
[NASA-CASE-INP-03248] c11 N71-10604

Digital computer system for automatic prelaunch checkout of spacecraft  
[NASA-CASE-IXS-08012-2] c31 N71-15566

Developing high pressure gas purification and filtration system for use in test operations of space vehicles  
[NASA-CASE-MFS-12806] c14 N71-17588

## SPACECRAFT

Metal strip mounting arrangement for solar cell arrays on spacecraft  
[NASA-CASE-IGS-01475] c03 N71-11058

Attitude sensor with scanning mirrors for detecting orientation of space vehicle with respect to planet  
[NASA-CASE-XLA-00793] c21 N71-22880

Negation of magnetic fields produced by thin waferlike circuit elements in space vehicles  
[NASA-CASE-IGS-03390] c03 N71-23187

Low mass ionizing device for use in electric thrust spacecraft engines  
[NASA-CASE-INP-01954] c28 N71-28850

Vacuum chamber with scale model of rocket engine base area of space vehicle  
[NASA-CASE-MFS-20620] c11 N72-27262

Particulate and solar radiation stable coating for spacecraft  
[NASA-CASE-LAR-10805-1] c18 N74-16246

Auger attachment method for insulation --- of spacecraft  
[NASA-CASE-MSC-12615-1] c15 N74-30916

## SPACECRAFT ANTENNAS

Low loss parasitic probe antenna for prelaunch tests of spacecraft antennas  
[NASA-CASE-IXS-09346] c09 N71-13521

Millimeter wave antenna system for spacecraft use  
[NASA-CASE-GSC-10949-1] c07 N71-28965

Low weight, integrated thermoelectric generator/antenna combination for spacecraft  
[NASA-CASE-XER-09521] c09 N72-12136

Omnidirectional antenna array with circumferential slots for mounting on cylindrical space vehicle  
[NASA-CASE-LAR-10163-1] c09 N72-25247

Purlable antenna for spacecraft  
[NASA-CASE-NPO-11361] c07 N72-32169

Collapsible support for antenna reflector applied to installation of spacecraft antennas  
[NASA-CASE-NPO-11751] c07 N73-24176

## SPACECRAFT CABIN ATMOSPHERES

Thermal control wall panel with application to spacecraft cabins  
[NASA-CASE-XLA-01243] c33 N71-22792

Nonflammable coating compositions --- for use in high oxygen environments  
[NASA-CASE-MFS-20486-2] c18 N74-17283

## SPACECRAFT COMMUNICATION

Synchronizing apparatus for multi-access satellite time division multiplex system  
[NASA-CASE-IGS-05918] c07 N69-39974

Phase shift data transmission system with pseudo-noise synchronization code modulated with digital data into single channel for spacecraft communication

## SPACECRAFT COMPONENTS

## SUBJECT INDEX

[NASA-CASE-XNP-00911] c08 N70-41961  
Design and development of tracking receiver for tracking satellites and receiving radio signal transmissions under adverse noise conditions  
[NASA-CASE-XGS-08679] c10 N71-21473  
Microwave omnidirectional antenna for use on spacecraft  
[NASA-CASE-XLA-03114] c09 N71-22888  
VHF/UHF parasitic probe antenna for spacecraft communication  
[NASA-CASE-XKS-09340] c07 N71-24614  
System designed to reduce time required for obtaining synchronization in data communication with spacecraft utilizing pseudonoise codes  
[NASA-CASE-NPO-10214] c10 N71-26577  
Turnstile slot antenna  
[NASA-CASE-GSC-11428-1] c09 N74-20864

**SPACECRAFT COMPONENTS**  
Rectangular electric conductors for conductor cables to withstand spacecraft vibration and controlled atmosphere  
[NASA-CASE-BFS-14741] c09 N70-20737  
Vibration damping system operating in low vacuum environment for spacecraft mechanisms  
[NASA-CASE-XMS-01620] c23 N71-15673  
Intermittent type silica gel adsorption refrigerator for providing temperature control for spacecraft components  
[NASA-CASE-INP-00920] c15 N71-15906  
Omnidirectional anisotropic molecular trap, used with vacuum pump to simulate space environments for testing spacecraft components  
[NASA-CASE-XGS-00783] c30 N71-17788  
Spacecraft air lock system to provide ingress and egress of astronaut without subjecting vehicular environment to vacuum of space  
[NASA-CASE-XLA-02050] c31 N71-22968  
Development and characteristics of docking structure and apparatus for spacecraft docking  
[NASA-CASE-XMP-05941] c31 N71-23912  
Design and development of release mechanism for spacecraft components, releasable despin weights, and extensible gravity booms  
[NASA-CASE-IGS-08718] c15 N71-24600  
Space environment simulator for testing spacecraft components under aerospace conditions  
[NASA-CASE-NPO-10141] c11 N71-24964  
Design and development of spacecraft with outer shell structure heat shielding and built-in, removable excursion module  
[NASA-CASE-MSC-13047-1] c31 N71-25434  
Electronic detection system for peak acceleration limits in vibrational testing of spacecraft components  
[NASA-CASE-NPO-10556] c14 N71-27185  
Development of solid state polymer coating for obtaining thermal balance in spacecraft components  
[NASA-CASE-XLA-01745] c33 N71-28903  
Development of apparatus for mounting scientific experiments in spacecraft to permit utilization without maneuvering spacecraft  
[NASA-CASE-MSC-12372-1] c31 N72-25842  
Development and characteristics of variable ratio, mixed-node, bilateral master-slave control system for space shuttle remote manipulator system  
[NASA-CASE-MSC-14245-1] c31 N73-30832  
Airlock  
[NASA-CASE-BFS-20922-1] c15 N74-22136  
Thrust-isolating mounting --- characteristics of support for loads mounted in spacecraft  
[NASA-CASE-BFS-21680-1] c32 N74-27397

**SPACECRAFT CONFIGURATIONS**  
Inflatable honeycomb panel element for lightweight structures usable in space stations and other construction  
[NASA-CASE-XLA-00204] c32 N70-36536  
Lenticular vehicle with foldable aerodynamic control flaps and reaction jets for operation above and within earth's atmosphere  
[NASA-CASE-XGS-00260] c31 N70-37924  
Stage separation system for spinning vehicles and payloads  
[NASA-CASE-XLA-02132] c31 N71-10582  
Spacecraft configurations and aerodynamic characteristics of space shuttle systems with two reusable stages

[NASA-CASE-MSC-12433] c31 N73-14854  
A space vehicle  
[NASA-CASE-BFS-22734-1] c31 N74-20541

**SPACECRAFT CONSTRUCTION MATERIALS**  
Pressurized cell micrometeoroid detector  
[NASA-CASE-XLA-00936] c14 N71-14996  
Flexible barrier membrane comprising porous substrate and incorporating liquid gallium or indium metal used as sealant barriers for spacecraft walls and pumping liquid propellants  
[NASA-CASE-XNP-08881] c17 N71-28747

**SPACECRAFT CONTROL**  
Light sensitive digital aspect sensor for attitude control of earth satellites or space probes  
[NASA-CASE-XGS-00359] c14 N70-34158  
Spacecraft attitude control system using solar and earth sensors, gyroscopes, and jet actuators  
[NASA-CASE-XNP-00465] c21 N70-35395  
Multiple parachute system for landing control of Apollo type spacecraft  
[NASA-CASE-XLA-00898] c02 N70-36804  
Attitude control device for space vehicles  
[NASA-CASE-XNP-00294] c21 N70-36938  
Attitude orientation control of spin stabilized final stage space vehicles, using horizon scanners  
[NASA-CASE-XLA-00281] c21 N70-36943  
Aerodynamic configuration of reentry vehicle heat shield to provide longitudinal and directional stability at hypersonic velocities  
[NASA-CASE-XMS-04142] c31 N70-41631  
Star sensor system for roll attitude control of spacecraft  
[NASA-CASE-XNP-01307] c21 N70-41856  
Photomultiplier detector of Canopus for spacecraft attitude control  
[NASA-CASE-XNP-03914] c21 N71-10771  
Development of spacecraft experiment pointing and attitude control system  
[NASA-CASE-XLA-05464] c21 N71-14132  
Development of attitude control system for spacecraft orientation  
[NASA-CASE-IGS-04393] c21 N71-14159  
Drive mechanism for operating reactance attitude control system for aerospace bodies  
[NASA-CASE-XMP-01598] c21 N71-15583  
Attitude detection system using stellar references for three-axis control and spin stabilized spacecraft  
[NASA-CASE-IGS-03431] c21 N71-15642  
Large amplitude, linear inertial reference system of vibrating string type for spacecraft reference plane  
[NASA-CASE-XAC-03107] c23 N71-16098  
Construction and method of arranging plurality of ion engines to form cluster thereby increasing efficiency and control by decreasing heat radiated to space  
[NASA-CASE-XNP-02923] c28 N71-23081  
Ion beam deflector system for electronic thrust vector control for ion propulsion yaw, pitch, and roll forces  
[NASA-CASE-LEW-10689-1] c28 N71-26173  
Heated porous plug microthruster for spacecraft reaction jet controlled systems such as fuel flow regulation, propellant disassociation, and heat transfer augmentation  
[NASA-CASE-GSC-10640-1] c28 N72-18766  
Development of thrust control system for application to control of aircraft and spacecraft  
[NASA-CASE-MSC-13397-1] c21 N72-25595

**SPACECRAFT DESIGN**  
Lunar landing flight research vehicle  
[NASA-CASE-XFR-00929] c31 N70-34966  
Design and configuration of manned space capsule  
[NASA-CASE-XLA-01332] c31 N71-15664  
Development of spacecraft radiator cover  
[NASA-CASE-MSC-12049] c31 N71-16080  
Method and apparatus for connecting two spacecraft with probe of one inserted in rocket engine nozzle of other spacecraft  
[NASA-CASE-BFS-11133] c31 N71-16222  
Development and characteristics of protective coatings for spacecraft  
[NASA-CASE-INP-02507] c31 N71-17679  
Development and characteristics of self supporting space vehicle

## SUBJECT INDEX

## SPACECRAFT MODULES

- [NASA-CASE-XLA-00117] c31 N71-17680  
Multi-mission space vehicle module stage design  
[NASA-CASE-XMF-01543] c31 N71-17730  
Development and characteristics of docking structure and apparatus for spacecraft docking  
[NASA-CASE-XMF-05941] c31 N71-23912  
Design and development of spacecraft with outer shell structure heat shielding and built-in, removable excursion module  
[NASA-CASE-MSC-13047-1] c31 N71-25434  
Spacecraft design with single point aerodynamic and hydrodynamic stability for emergency transport of men from space station to splashdown  
[NASA-CASE-MSC-13281] c31 N72-18859  
A space vehicle  
[NASA-CASE-MPS-22734-1] c31 N74-20541
- SPACECRAFT DOCKING**  
Probe and drogue assembly for mechanical linking of two space vehicles  
[NASA-CASE-XMS-03613] c31 N71-16346  
Development and characteristics of docking structure and apparatus for spacecraft docking  
[NASA-CASE-XMF-05941] c31 N71-23912  
Latch for fastening spacecraft docking rings  
[NASA-CASE-MSC-15474-1] c15 N71-26162  
Multiple in-line docking capability having intermeshing docking turrets for rotating space stations  
[NASA-CASE-MPS-20855-1] c31 N72-25853  
High energy absorption docking system design for docking large spacecraft  
[NASA-CASE-MPS-20863] c31 N73-26876  
Development of spacecraft docking system for optical alignment of spacecraft using television camera system  
[NASA-CASE-MSC-12559-1] c31 N73-26879  
Latch mechanism  
[NASA-CASE-MSC-12549-1] c15 N74-27903
- SPACECRAFT ELECTRONIC EQUIPMENT**  
Equipment for testing of ground station ranging equipment and spacecraft transponders  
[NASA-CASE-XMS-05454-1] c07 N71-12391  
Describing apparatus used in vacuum deposition of thin film inductive windings for spacecraft microcircuitry  
[NASA-CASE-XMF-01667] c15 N71-17647  
Nose cone mounted heat resistant antenna comprising plurality of adjacent layers of silica not introducing paths of high thermal conductivity through ablative shield  
[NASA-CASE-XMS-04312] c07 N71-22984
- SPACECRAFT ENVIRONMENTS**  
Portable environmental control and life support system for astronaut in and out of spacecraft  
[NASA-CASE-XMS-09632-1] c05 N71-11203  
Quick disconnect latch and handle combination for mounting articles on walls or supporting bases in spacecraft under zero gravity conditions  
[NASA-CASE-MPS-11132] c15 N71-17649  
Dual solid cryogenics for spacecraft refrigeration insuring low temperature cooling for extended periods  
[NASA-CASE-GSC-10188-1] c23 N71-24725  
Dual stage check valve for cryogenic supply systems used in space flight environmental control system  
[NASA-CASE-MSC-13587-1] c15 N73-30459  
Metering gun for dispensing precisely measured charges of fluid  
[NASA-CASE-MPS-21163-1] c05 N74-17853
- SPACECRAFT GUIDANCE**  
Automatic ejection valve for attitude control and midcourse guidance of space vehicles  
[NASA-CASE-XMP-00676] c15 N70-38996  
Electrical and electromechanical trigonometric computation assembly and space vehicle guidance system for aligning perpendicular axes of two sets of three-axes coordinate references  
[NASA-CASE-XMP-00684] c21 N71-21688  
Design and characteristics of device for sensing solar radiation and providing spacecraft attitude control to maintain direction with respect to incident radiation  
[NASA-CASE-XMP-05535] c14 N71-23040  
Inertial gimbal alignment system for spacecraft guidance  
[NASA-CASE-XMP-01669] c21 N71-23289  
Hermetically sealed vibration damper design for use in gimbal assembly of spacecraft inertial guidance system  
[NASA-CASE-MSC-10959] c15 N71-26243
- SPACECRAFT INSTRUMENTS**  
Mechanical coordinate converter for use with spacecraft tracking antennas  
[NASA-CASE-XMP-00614] c14 N70-36907  
Air bearings for spacecraft gyros  
[NASA-CASE-XMP-00339] c15 N70-39896  
Unfolding boom assembly with knuckle joints for positioning equipment for spacecraft  
[NASA-CASE-XGS-00938] c32 N70-41367  
Pressurized cell micrometeoroid detector  
[NASA-CASE-XLA-00936] c14 N71-14996  
Guidance analyzer having suspended spacecraft simulating sphere for astronavigation  
[NASA-CASE-XMP-09572] c14 N71-15621  
Inertial component clamping assembly design for spacecraft guidance and control system mounting  
[NASA-CASE-XMS-02184] c15 N71-20813  
Optical projector system for establishing optimum arrangement of instrument displays in aircraft, spacecraft, other vehicles, and industrial instrument consoles  
[NASA-CASE-XMP-03853] c23 N71-21882  
Combined optical attitude and altitude indicating instrument for use in aircraft or spacecraft  
[NASA-CASE-XLA-01907] c14 N71-23268  
Spacecraft transponder and ground station radar system for mapping planetary surfaces  
[NASA-CASE-NPO-11001] c07 N72-21118  
Method and apparatus for providing active attitude control for spacecraft by converting any attitude motion of vehicle into simple rotational motion  
[NASA-CASE-HQN-10439] c21 N72-21624  
Design and development of thermomechanical pump for transmitting warming fluid through fluid circuit to control temperature of spacecraft instrumentation  
[NASA-CASE-NPO-11417] c15 N73-24513  
Deployable pressurized cell structure for a micrometeoroid detector  
[NASA-CASE-LAR-10295-1] c15 N74-21062
- SPACECRAFT LANDING**  
Non-reusable kinetic energy absorber for application in soft landing of space vehicles  
[NASA-CASE-XLE-00810] c15 N70-34861  
Plastic foam generator for space vehicle instrument payload package flotation in water landing  
[NASA-CASE-XLA-00838] c03 N70-36778  
Device for use in descending spacecraft as altitude sensor for actuating deceleration retrorockets  
[NASA-CASE-XMS-03792] c14 N70-41812
- SPACECRAFT LAUNCHING**  
Three stage motion restraining mechanism for restraining and damping three dimensional vibrational movement of gimballed package during launch of spacecraft  
[NASA-CASE-GSC-10306-1] c15 N71-24694  
Development and characteristics of squib actuated explosive disconnect for spacecraft release from launch vehicle  
[NASA-CASE-NPO-11330] c33 N73-26958
- SPACECRAFT MODELS**  
Space environment simulation system for measuring spacecraft electric field strength in plasma sheath  
[NASA-CASE-XLE-02038] c09 N71-16086
- SPACECRAFT MODULES**  
Radial module manned space station with artificial gravity environment  
[NASA-CASE-XMS-01906] c31 N70-41373  
Multi-mission space vehicle module stage design  
[NASA-CASE-XMF-01543] c31 N71-17730  
Design and development of spacecraft with outer shell structure heat shielding and built-in, removable excursion module  
[NASA-CASE-MSC-13047-1] c31 N71-25434  
Development and characteristics of thermal control system for maintaining constant temperature within spacecraft module with wide variations of component heat transfer  
[NASA-CASE-GSC-11018-1] c31 N73-30829



**SPACECRAFT POSITION INDICATORS**

**SUBJECT INDEX**

**SPACECRAFT POSITION INDICATORS**

Device for determining relative angular position of spacecraft and radiating celestial body  
 [NASA-CASE-GSC-11444-1] c14 W73-28490  
 Spacecraft attitude sensing system design with narrow field of view sensor rotating about spacecraft x-y axis  
 [NASA-CASE-GSC-10890-1] c21 W73-30640

**SPACECRAFT POWER SUPPLIES**

Spacecraft battery seals  
 [NASA-CASE-IGS-03864] c15 W69-24320  
 Electrical power system for space flight vehicles operating over extended periods  
 [NASA-CASE-IMP-00517] c03 W70-34157  
 Lightweight, rugged, inexpensive satellite battery for producing electrical power from ionosphere using electrodes with different contact potentials  
 [NASA-CASE-IGS-01593] c03 W70-35408  
 Design and development of electric generator for space power system  
 [NASA-CASE-XLE-04250] c09 W71-20446  
 Monostable multivibrator for conserving power in spacecraft systems  
 [NASA-CASE-GSC-10082-1] c10 W72-20221  
 Control circuit for nuclear thermionic converter power source for spacecraft  
 [NASA-CASE-NPO-13114-1] c22 W73-13656  
 Rectangular solar cell stacked panels to generate electrical power aboard spacecraft  
 [NASA-CASE-NPO-11771] c03 W73-20040  
 Thermoelectric power system --- for outer planet space flight  
 [NASA-CASE-MFS-22002-1] c03 W74-18726

**SPACECRAFT PROPULSION**

Colloidal particle generator for electrostatic engine for propelling space vehicles  
 [NASA-CASE-XLE-00817] c28 W70-33265  
 Spacecraft trajectory correction propulsion system  
 [NASA-CASE-IMP-01104] c28 W70-39931  
 Permanently magnetized ion engine casing construction for use in spacecraft propulsion systems  
 [NASA-CASE-IMP-06942] c28 W71-23293  
 Development of voice operated controller for controlling reaction jets of spacecraft  
 [NASA-CASE-XLA-04063] c31 W71-33160

**SPACECRAFT RECOVERY**

Assembly for opening flight capsule stabilizing and decelerating flaps with reference to capsule recovery  
 [NASA-CASE-IMP-00641] c31 W70-36410  
 Method for deployment of flexible wing glider from space vehicle with minimum impact and loading  
 [NASA-CASE-XMS-00907] c02 W70-41630

**SPACECRAFT REENTRY**

Manned space capsule configuration for orbital flight and atmospheric reentry  
 [NASA-CASE-XLA-00149] c31 W70-37938  
 Event recorder with constant speed motor which rotates recording disk  
 [NASA-CASE-XLA-01832] c14 W71-21006

**SPACECRAFT SHIELDING**

Development and characteristics of protective coatings for spacecraft  
 [NASA-CASE-IMP-02507] c31 W71-17679  
 Double-wall isothermal cylinder containing heat transfer fluid thermal reservoir as spacecraft insulation cover  
 [NASA-CASE-MFS-20355] c33 W71-25353  
 Binder stabilized zinc oxide pigmented coating for spacecraft thermal control  
 [NASA-CASE-IMP-07770-2] c18 W71-26772

**SPACECRAFT STABILITY**

Satellite stabilization reaction wheel scanner  
 [NASA-CASE-IGS-02629] c14 W71-21082  
 Development and characteristics of annular momentum control device for two axis stabilization of spacecraft  
 [NASA-CASE-LAR-11051-1] c21 W73-28646  
 Attitude sensor  
 [NASA-CASE-LAR-10586-1] c14 W74-15089  
 An improved system for imposing directional stability on a rocket-propelled vehicle  
 [NASA-CASE-MFS-21311-1] c31 W74-30311

**SPACECRAFT STRUCTURES**

Collapsible, space erectable loop antenna system for space vehicle

[NASA-CASE-IMP-00437] c07 W70-40202  
 Electro-optical system for maintaining two-axis alignment during milling operations on large tank-sections  
 [NASA-CASE-IMP-00908] c14 W70-40238  
 Development of spacecraft radiator cover  
 [NASA-CASE-MSC-12049] c31 W71-16080  
 Design and construction of satellite appendage tie-down cord  
 [NASA-CASE-IGS-02554] c31 W71-21064  
 Development and characteristics of thermal sensitive panel for controlling ratio of solar absorptivity to surface emissivity for space vehicle temperature control  
 [NASA-CASE-XLA-07728] c33 W71-22890  
 Space expandable tether device for use as passageway between two docked spacecraft  
 [NASA-CASE-XMS-10993] c15 W71-28936  
 Delayed simultaneous appendage release mechanism for use on spacecraft equipped with despinn mechanisms and releasable components  
 [NASA-CASE-GSC-10814-1] c03 W73-20039  
 Development of composite structures for spacecraft to serve as anti-meteoroid device  
 [NASA-CASE-LAR-10788-1] c31 W73-20880  
 Structural heat pipe for spacecraft wall thermal insulation system  
 [NASA-CASE-GSC-11619-1] c33 W73-32828  
 Space vehicle system  
 [NASA-CASE-MSC-12561-1] c31 W74-33303

**SPACECRAFT TELEVISION**

Electrically operated rotary shutter for television camera aboard spacecraft  
 [NASA-CASE-IMP-00637] c14 W70-40273  
 Conversion system for transforming slow scan rate of Apollo TV camera on moon to fast scan of commercial TV  
 [NASA-CASE-XMS-07168] c07 W71-11300

**SPACECRAFT TRACKING**

Spacecraft ranging system  
 [NASA-CASE-NPO-10066] c09 W71-18598  
 Elimination of tracking occultation problems occurring during continuous monitoring of interplanetary missions by using Earth orbiting communications satellite  
 [NASA-CASE-IAC-06029-1] c31 W71-24813  
 Tracking mount for laser telescope employed in tracking large rockets and space vehicles to give information regarding azimuth and elevation  
 [NASA-CASE-MFS-14017] c14 W71-26627  
 Orbital and entry tracking accessory for globes --- to provide range requirements for reentry vehicles to any landing site  
 [NASA-CASE-LAR-10626-1] c14 W74-21015

**SPACECREWS**

Development and characteristics of inflatable structure to provide escape from orbit for spacecrews under emergency conditions  
 [NASA-CASE-XMS-06162] c31 W71-28851

**SPALLATION**

Production of iodine isotope by high energy bombardment of cesium heat pipe causing spallation reaction  
 [NASA-CASE-LEW-11390-2] c24 W73-20763

**SPARK GAPS**

Spark gap type protective circuit for fast sensing and removal of overvoltage conditions  
 [NASA-CASE-IAC-08981] c09 W69-39897  
 Mechanism for measuring nanosecond time differences between luminous events using streak camera  
 [NASA-CASE-XLA-01987] c23 W71-23976

**SPARK IGNITION**

High temperature spark plug for igniting liquid rocket propellants  
 [NASA-CASE-XLE-00660] c28 W70-39925

**SPARK PLUGS**

High temperature spark plug for igniting liquid rocket propellants  
 [NASA-CASE-XLE-00660] c28 W70-39925

**SPATIAL DISTRIBUTION**

Electronic recording system for spatial mass distribution of liquid rocket propellant droplets or vapors ejected from high velocity nozzles  
 [NASA-CASE-NPO-10185] c10 W71-26339

**SPATIAL FILTERING**

Photographic film restoration system using Fourier transformation lenses and spatial filter

## SUBJECT INDEX

## SPOT WELDS

- [NASA-CASE-HSC-12448-1] c14 N72-20394  
Spatial filter for Q-switched lasers  
[NASA-CASE-LEW-12164-1] c16 N74-34010
- SPECTRAL REFLECTANCE**  
Single reflector interference spectrometer and drive system therefor  
[NASA-CASE-NPO-11932-1] c14 N74-23040
- SPECTROMETERS**  
Spectrometer using photoelectric effect to obtain spectral data  
[NASA-CASE-XMP-04161] c14 N71-15599  
Variable frequency nuclear magnetic resonance spectrometer providing drive signals over wide frequency range and minimizing noise effects  
[NASA-CASE-XMP-09830] c14 N71-26266  
Maksutov spectrograph for low light level research  
[NASA-CASE-XLA-10402] c14 N71-29041  
Dual purpose optical instrument capable of simultaneously acting as spectrometer and diffractometer  
[NASA-CASE-XMP-05231] c14 N73-28491  
Integration of spectrometer capability with imagery function of facsimile cameras for use on planetary landers  
[NASA-CASE-LAR-11207-1] c14 N73-28496  
Design of gamma ray spectrometer for measurement of intense radiation using Compton scattering effect  
[NASA-CASE-MPS-21441-1] c14 N73-30392  
Mossbauer spectrometer radiation detector  
[NASA-CASE-LAR-11155-1] c14 N74-15091  
Single reflector interference spectrometer and drive system therefor  
[NASA-CASE-NPO-11932-1] c14 N74-23040  
Ion and electron detector for use in an ICR spectrometer  
[NASA-CASE-NPO-13479-1] c14 N74-32890
- SPECTROPHOTOMETERS**  
Spectrophotofluorometer with 3-dimensional display to identify fluorescence spectra of carcinogenic and noncarcinogenic hydrocarbons  
[NASA-CASE-IGS-01231] c14 N70-41676
- SPECTROSCOPIC ANALYSIS**  
Cylindrical reflector for resolving wide angle light beam from telescope into narrow beam for spectroscopic analysis  
[NASA-CASE-XGS-08269] c23 N71-26206
- SPECTRUM ANALYSIS**  
Spectrometer using photoelectric effect to obtain spectral data  
[NASA-CASE-XMP-04161] c14 N71-15599  
Emission spectroscopy method for contamination monitoring of inert gas metal arc welding  
[NASA-CASE-XMP-02039] c15 N71-15871  
Method and apparatus for high resolution power spectrum analysis  
[NASA-CASE-NPO-10748] c08 N72-20177
- SPEED CONTROL**  
System for maintaining motor at predetermined speed using digital pulses  
[NASA-CASE-XMP-06892] c09 N71-24805  
Optimal control system for automatic speed regulation of electric driven motor vehicle  
[NASA-CASE-NPO-11210] c11 N72-20244  
Low speed phaselock speed control system --- for brushless dc motor  
[NASA-CASE-GSC-11127-1] c09 N74-10202  
Two speed drive system --- mechanical device for changing speed on rotating vehicle wheel  
[NASA-CASE-MFS-20645-1] c15 N74-23070
- SPEED REGULATORS**  
Feedback control for direct current motor to achieve constant speed under varying loads  
[NASA-CASE-MFS-14610] c09 N71-28886
- SPHERES**  
Guidance analyzer having suspended spacecraft simulating sphere for astronavigation  
[NASA-CASE-XMP-09572] c14 N71-15621  
Plastic sphere for radar tracking and calibration  
[NASA-CASE-XLA-11154] c07 N72-21117  
Anti-gravity device  
[NASA-CASE-MFS-22758-1] c15 N74-22146
- SPHERICAL SHELLS**  
Hollow spherical electrode for shielding dielectric junction between high voltage conductor and insulator  
[NASA-CASE-XLE-03778] c09 N69-21542  
Development of mechanical device for measuring distance of point within sphere from surface  
of sphere  
[NASA-CASE-XLA-06683] c14 N72-28436
- SPHERICAL TANKS**  
Gauge for measuring quantity of liquid in spherical tank in reduced gravity  
[NASA-CASE-IHS-06236] c14 N71-21007
- SPHERICAL WAVES**  
Electrical device for developing converging spherical shock waves  
[NASA-CASE-MFS-20890] c14 N72-22439
- SPIKE NOZZLES**  
Constructing fluid spike nozzle to eliminate heat transfer and high temperature problems inherent in physical spikes  
[NASA-CASE-XGS-01143] c31 N71-15647
- SPIN DYNAMICS**  
Mutation damper for use on spinning body  
[NASA-CASE-GSC-11205-1] c15 N73-25513
- SPIN REDUCTION**  
Optical scanner mounted on rotating support structure with method of compensating for image or satellite rotation  
[NASA-CASE-XGS-02401] c14 N69-27485  
Bolt-latch mechanism for releasing despinn weights from space vehicle  
[NASA-CASE-XLA-00679] c15 N70-38601  
Stretch Yo-Yo mechanism for reducing initial spin rate of space vehicle  
[NASA-CASE-XGS-00619] c30 N70-40016  
Stage separation system for spinning vehicles and payloads  
[NASA-CASE-XLA-02132] c31 N71-10582  
Flexible turntable antenna system for reducing nutation in spin-oriented satellites  
[NASA-CASE-XMP-00442] c31 N71-10747
- SPIN STABILIZATION**  
Dynamic precession damping of spin-stabilized vehicles by using rate gyroscope and angular accelerometer  
[NASA-CASE-XLA-01989] c21 N70-34295  
Attitude orientation control of spin stabilized final stage space vehicles, using horizon scanners  
[NASA-CASE-XLA-00281] c21 N70-36943  
Attitude detection system using stellar references for three-axis control and spin stabilized spacecraft  
[NASA-CASE-IGS-03431] c21 N71-15642  
Spin phase synchronization of cartwheel satellite in polar orbit  
[NASA-CASE-XGS-05579] c31 N71-15676  
High velocity guidance and spin stabilization gyro controlled jet reaction system for launch vehicle payloads  
[NASA-CASE-XLA-01339] c31 N71-15692  
Passive dual spin misalignment compensators --- gyro-stabilized device  
[NASA-CASE-GSC-11479-1] c21 N74-28097  
Deployable flexible ventral fins for use as an emergency spin recovery device in aircraft  
[NASA-CASE-LAR-10753-1] c02 N74-30421
- SPIRAL WRAPPING**  
Adjustable spiral wire winding device  
[NASA-CASE-XMS-02383] c15 N71-15918
- SPIRALS (CONCENTRATORS)**  
Spiral groove seal --- for hydraulic rotating shaft  
[NASA-CASE-LEW-10326-3] c15 N74-10474
- SPIROMETERS**  
Compact bellows spirometer for high speed and high altitude space travel  
[NASA-CASE-IAR-01547] c05 N69-21473
- SPLINTS**  
Stretcher with rigid head and neck support with capability of supporting immobilized person in vertical position for removal from vehicle hatch to exterior also useful as splint stretcher  
[NASA-CASE-XMP-06589] c05 N71-23159
- SPORES**  
Lyophilized spore dispenser  
[NASA-CASE-LAR-10544-1] c15 N74-13178
- SPOT WELDS**  
Controlled arc spot welding method  
[NASA-CASE-XMP-00392] c15 N70-34814  
Automatic closed circuit television arc guidance control for welding joints  
[NASA-CASE-MFS-13046] c07 N71-19433

- Electric resistance spot welding and brazing for producing metal bonds with superior mechanical and structural characteristics  
[NASA-CASE-LAR-11072-1] c15 N73-20535
- SPRAYED COATINGS**  
Plasma spraying gun for forming diffusion bonded metal or ceramic coatings on substrates  
[NASA-CASE-XLE-01604-2] c15 N71-15610  
Production and application of sprayable fiber reinforced ablation material  
[NASA-CASE-XLA-04251] c18 N71-26100  
Metal plating process employing spraying of metallic powder/peening particle mixture  
[NASA-CASE-GSC-11163-1] c15 N73-32360
- SPRAYERS**  
External device for liquid spray cooling of gas turbine blades  
[NASA-CASE-XLE-00037] c28 N70-33372  
Adhesive spray process for attaching biomedical skin electrodes  
[NASA-CASE-XPR-07658-1] c05 N71-26293  
Apparatus for liquid spray cooling of turbine blades  
[NASA-CASE-XLE-00027] c33 N71-29152
- SPRAYING**  
Aircraft wheel spray drag alleviator for dual tandem landing gear  
[NASA-CASE-XLA-01583] c02 N70-36825
- SPREADING**  
Tool attachment for spreading or moving away loose elements from terminal posts during winding of filamentary elements  
[NASA-CASE-XMP-02107] c15 N71-10809
- SPEWINGS (ELASTIC)**  
Belleville spring assembly with elastic guides having low hysteresis  
[NASA-CASE-XNP-09452] c15 N69-27504  
Multiple Belleville spring assembly with even load distribution  
[NASA-CASE-XNP-00890] c15 N70-38225  
Switching mechanism with energy stored in coil spring  
[NASA-CASE-XGS-00473] c03 N70-38713  
Load cell protection device using spring-loaded breakaway mechanism  
[NASA-CASE-XMS-06782] c32 N71-15974  
Vibration isolation system, using coaxial helical compression springs  
[NASA-CASE-NPO-11012] c15 N72-11391
- SPUTTERING**  
Deposition method for epitaxial beta SiC films having high degree of crystallographic perfection  
[NASA-CASE-ZRC-10120] c26 N69-33482  
Development of procedure for producing thin transparent films of zinc oxide on transparent refractory substrate  
[NASA-CASE-FRC-10019] c15 N73-12487  
Technique and equipment for sputtering using apertured electrode and pulsed substrate bias  
[NASA-CASE-LEW-10920-1] c17 N73-24569  
A multitarget sequential sputtering apparatus --- supported with rotatable anode  
[NASA-CASE-NPO-13345-1] c15 N74-25971  
Sputtering holes with ion beamlets  
[NASA-CASE-LEW-11646-1] c28 N74-31269
- SQUARE WAVES**  
High speed phase detector design indicating phase relationship between two square wave input signals  
[NASA-CASE-XNP-01306-2] c09 N71-24596  
Circuitry for generating random square wave pulses using white noise source  
[NASA-CASE-MSC-14131-1] c09 N73-26199
- SQUARES (MATHEMATICS)**  
Apparatus for computing square roots  
[NASA-CASE-XGS-04768] c08 N71-19437
- SQUIDS**  
Contamination free separation nut eliminating combustion products from ambient surroundings generated by squib firing  
[NASA-CASE-XGS-01971] c15 N71-15922
- STABILITY DERIVATIVES**  
Aircraft configuration for reducing effects of nose-down pitching moments due to high lift forces, loss of trim lift, and engine-out yawing moments  
[NASA-CASE-LAR-11252-1] c02 N73-26007
- STABILITY TESTS**  
Method and apparatus for checking the stability of a setup for making reflection type holograms  
[NASA-CASE-MFS-21455-1] c16 N74-15146
- STABILIZATION**  
Electro-optical stabilization of calibrated light source  
[NASA-CASE-MSC-12293-1] c14 N72-27411  
System for controlling torque buildup in suspension of gondola connected to balloon by parachute shroud lines  
[NASA-CASE-GSC-11077-1] c02 N73-13008  
Development of aerodynamic control system to control flutter over large range of oscillatory frequencies using stability augmentation techniques  
[NASA-CASE-LAR-10682-1] c02 N73-26004  
Boron radiation hardening for stabilizing gate threshold potential of MOS devices  
[NASA-CASE-GSC-11425-2] c09 N73-32114  
Journal bearings  
[NASA-CASE-LEW-11076-4] c15 N74-18134
- STABILIZED PLATFORMS**  
Hydraulic drive mechanism for leveling isolation platforms  
[NASA-CASE-XMS-03252] c15 N71-10658
- STABILIZERS**  
Design and development of satellite despin device  
[NASA-CASE-XMP-08523] c31 N71-20396
- STABILIZERS (AGENTS)**  
Solid propellant stabilizer containing nitroguanidine  
[NASA-CASE-NPO-12000] c27 N72-25699
- STABILIZERS (FLUID DYNAMICS)**  
Assembly for opening flight capsule stabilizing and decelerating flaps with reference to capsule recovery  
[NASA-CASE-XMP-00641] c31 N70-36410  
Mechanical stabilization system for VTOL aircraft  
[NASA-CASE-XLA-06339] c02 N71-13422  
Attitude stabilizer for nonguided missile or vehicle with respect to trajectory  
[NASA-CASE-ARC-10134] c30 N72-17873  
Inflatable stabilizing system for use on life raft to reduce rocking and preclude capsizing  
[NASA-CASE-MSC-12393-1] c02 N73-26006  
An externally supported internally stabilized flexible duct joint  
[NASA-CASE-MFS-19194-1] c15 N74-34882
- STABLE OSCILLATIONS**  
Automatic measuring and recording of gain and zero drift characteristics of electronic amplifier  
[NASA-CASE-XMS-05562-1] c09 N69-39986
- STACKS**  
Remote fire stack igniter --- with solenoid-controlled valve  
[NASA-CASE-MFS-21675-1] c33 N74-33378
- STAGE SEPARATION**  
Stage separation using remote control release of joint with explosive insert  
[NASA-CASE-XLA-02854] c15 N69-27490  
Piezoelectric means for missile stage separation indication and stage initiation  
[NASA-CASE-XLA-00791] c03 N70-39930  
Space vehicle stage coupling and quick release separation mechanism  
[NASA-CASE-XLA-01441] c15 N70-41679  
Stage separation system for spinning vehicles and payloads  
[NASA-CASE-XLA-02132] c31 N71-10582  
Payload/spent rocket engine case separation system  
[NASA-CASE-XLA-05369] c31 N71-15687  
Separation mechanism for use between stages of multistage rocket vehicles  
[NASA-CASE-XLA-00188] c15 N71-22874  
Development of remotely controlled shaped charge for lateral displacement of rocket stages after separation  
[NASA-CASE-XLA-04804] c31 N71-23008  
Electrical circuit selection device for simulating stage separation of flight vehicle  
[NASA-CASE-XKS-04631] c10 N71-23663  
Frangible connecting link suitable for rocket stage separation  
[NASA-CASE-MSC-11849-1] c15 N72-22488
- STAGNATION PRESSURE**  
Flow meter for measuring stagnation pressure in boundary layer around high speed flight vehicle

[NASA-CASE-XPR-02007] c12 N71-24692  
Stagnation pressure probe --- for measuring  
pressure of supersonic gas streams  
[NASA-CASE-LAR-11139-1] c14 N74-32878

**STAGNATION TEMPERATURE**  
Measuring conductive heat flow and thermal  
conductivity of laminar gas stream in  
cylindrical plug to simulate atmospheric reentry  
[NASA-CASE-XLE-00266] c14 N70-34156

**STAINLESS STEELS**  
Joining aluminum to stainless steel by bonding  
aluminum coatings onto titanium coated  
stainless steel and brazing aluminum to  
aluminum/titanium coated steel  
[NASA-CASE-MFS-07369] c15 N71-20443  
Ultrasonic scanning system for in-place  
inspection of brazed tube joints  
[NASA-CASE-MFS-20767-1] c15 N74-15130  
Method of forming a wick for a heat pipe  
[NASA-CASE-NPO-13391-1] c33 N74-19584

**STAR TRACKERS**  
Star sensor system for roll attitude control of  
spacecraft  
[NASA-CASE-XNP-01307] c21 N70-41856  
Sun tracker with rotatable plane-parallel plate  
and two photocells  
[NASA-CASE-XGS-01159] c21 N71-10678  
Photomultiplier detector of Canopus for  
spacecraft attitude control  
[NASA-CASE-XNP-03914] c21 N71-10771  
Attitude detection system using stellar  
references for three-axis control and spin  
stabilized spacecraft  
[NASA-CASE-XGS-03431] c21 N71-15642  
Relay controlled voltage switching unit for  
scanning circuitry of star tracker  
[NASA-CASE-NPO-11253] c09 N72-17157  
Method for producing reticles for use in outer  
space  
[NASA-CASE-GSC-11188-2] c21 N73-19630  
Production method of star tracking reticles for  
transmitting in visible and near ultraviolet  
regions  
[NASA-CASE-GSC-11188-1] c14 N73-32320  
Strapped down gyroscope aligned with sun and  
star tracker optical axis calibrating roll,  
yaw and pitch values  
[NASA-CASE-ARC-10716-1] c31 N73-32784  
Formation of star tracking reticles  
[NASA-CASE-GSC-11188-3] c14 N74-20008  
Star scanner --- with a reticle with a pair of  
slits having differing separation  
[NASA-CASE-GSC-11569-1] c14 N74-30886

**STARK EFFECT**  
Resonant waveguide Stark cell --- using  
microwave spectrometers  
[NASA-CASE-LAR-11352-1] c09 N74-19854

**STARTERS**  
Starting circuit design for initiating and  
maintaining arcs in vapor lamps  
[NASA-CASE-XNP-01058] c09 N71-12540

**STATIC FRICTION**  
Kinetic and static friction force measurement  
between magnetic tape and magnetic head surfaces  
[NASA-CASE-XNP-08680] c14 N71-22995

**STATIC INVERTERS**  
Describing static inverter with single or  
multiple phase output  
[NASA-CASE-XNP-00663] c08 N71-18752  
Development and characteristics of oscillating  
static inverter  
[NASA-CASE-XGS-05289] c09 N71-19470

**STATIC LOADS**  
Measuring shear-creep compliance of solid and  
liquid materials used in spacecraft components  
[NASA-CASE-XLE-01481] c14 N71-10781  
Apparatus for measuring load on cable under  
static or dynamic conditions comprising  
pulleys pivoting structure against restraint  
of tension strap  
[NASA-CASE-XMS-04545] c15 N71-22878

**STATIC PRESSURE**  
Pressure probe for sensing ambient static air  
pressures  
[NASA-CASE-XLA-00481] c14 N70-36824  
Ambient atmospheric pressure sensing device for  
determining altitude of flight vehicles  
[NASA-CASE-XLA-00128] c15 N70-37925

**STATIONKEEPING**  
Method of stationkeeping for lenticular gravity  
gradient satellites  
[NASA-CASE-XLA-03132] c31 N71-22969

**STATISTICAL CORRELATION**  
Optical sensing of supersonic flows by  
correlating deflections in laser beams through  
flow  
[NASA-CASE-MFS-20642] c14 N72-21407

**STEADY STATE**  
Steady state thermal radioneters  
[NASA-CASE-MFS-21108-1] c14 N74-27861

**STEAM TURBINES**  
Vapor generating boiler system for turbine motor  
[NASA-CASE-XLE-00785] c33 N71-16104

**STEELS**  
Zinc dust formulation for abrasion resistant  
steel coatings  
[NASA-CASE-GSC-10361-1] c18 N72-23581

**STEERABLE ANTENNAS**  
Apparatus for generating microwave signals at  
progressively related phase angles for driving  
antenna array  
[NASA-CASE-ERC-10046] c10 N71-18722  
Satellite radio communication system with remote  
steerable antenna  
[NASA-CASE-XNP-02389] c07 N71-28900  
Amplitude steered array  
[NASA-CASE-GSC-11446-1] c09 N74-20860

**STEERING**  
Steerable solid propellant rocket motor adapted  
to effect payload orientation as multistage  
rocket stage or reduce velocity as retrorocket  
[NASA-CASE-XNP-00234] c28 N70-38645

**STELLAR LUMINOSITY**  
Development of star intensity measuring system  
which minimizes effects of outside interference  
[NASA-CASE-XNP-06510] c14 N71-23797

**STELLAR SPECTRA**  
Development of star intensity measuring system  
which minimizes effects of outside interference  
[NASA-CASE-XNP-06510] c14 N71-23797

**STEREOPHOTOGRAPHY**  
Stereo photomicrography system with stereo  
microscope for viewing specimen at various  
magnifications  
[NASA-CASE-LAR-10176-1] c14 N72-20380  
Field sequential stereo television  
[NASA-CASE-MSC-12616-1] c07 N74-32601

**STEREOSCOPIC VISION**  
Stereoscopic television system, including  
projecting pair of binocular images  
[NASA-CASE-ARC-10160-1] c23 N72-27728

**STERILIZATION**  
Using ethylene oxide in preparation of  
sterilized solid rocket propellants and  
encapsulating materials  
[NASA-CASE-XNP-01749] c27 N70-41897  
Ethylene oxide sterilization and encapsulating  
process for sterile preservation of  
instruments and solid propellants  
[NASA-CASE-XNP-09763] c14 N71-20461  
Environmentally controlled suit for working in  
sterile chamber  
[NASA-CASE-LAR-10076-1] c05 N73-20137  
Protein sterilization of firefly luciferase  
without denaturation  
[NASA-CASE-GSC-10225-1] c06 N73-27086  
An improved heat sterilizable patient ventilator  
[NASA-CASE-NPO-13313-1] c05 N74-17858

**STERILIZATION EFFECTS**  
Reliability of electrical connectors after heat  
sterilization  
[NASA-CASE-NPO-10694] c09 N72-20200

**STIMULATED EMISSION**  
Repetitively pulsed wavelength selective carbon  
dioxide laser  
[NASA-CASE-ERC-10178] c16 N71-24832

**STIRRING**  
Design of mechanical device for stirring several  
test tubes simultaneously  
[NASA-CASE-IAC-06956] c15 N71-21177

**STORAGE**  
Design and development of fluid sample collector  
[NASA-CASE-XMS-06767-1] c14 N71-20435

**STORAGE BATTERIES**  
Leak resistant bonded elastomeric seal for  
secondary electrochemical cells  
[NASA-CASE-XGS-02631] c03 N71-23006

Automatically charging battery of electric storage cells  
 [NASA-CASE-XNP-04758] c03 N71-24605

Elimination of two step voltage discharge property of silver zinc batteries by using divalent silver oxide capacity of cell to charge anodes to monovalent silver state  
 [NASA-CASE-XGS-01674] c03 N71-29129

Electric storage battery with high impact resistance  
 [NASA-CASE-NPO-11021] c03 N72-20032

**STORAGE STABILITY**  
 Storage stable, thermally activated foaming compositions for erecting and rigidizing mechanisms of thin sheet solar collectors  
 [NASA-CASE-LAR-10373-1] c18 N71-26155

**STORAGE TANKS**  
 Expulsion bladder equipped storage tank structure  
 [NASA-CASE-XNP-00612] c11 N70-38182

Development of apparatus and method for testing leakage of large tanks  
 [NASA-CASE-XNP-02392] c32 N71-24285

**STRAIN GAGE ACCELEROMETERS**  
 Accelerometer with FM output signals indicative of mechanical strain on it  
 [NASA-CASE-XLA-00492] c14 N70-34799

Strain gage accelerometer for angular acceleration measurement  
 [NASA-CASE-IAS-05936] c14 N70-41682

**STRAIN GAGE BALANCES**  
 Self-balancing strain gage transducer with bridge circuit  
 [NASA-CASE-MFS-12827] c14 N71-17656

**STRAIN GAGES**  
 Semiconductor p-n junction on needle apex to provide stress and strain sensor  
 [NASA-CASE-XLA-04980] c09 N69-27422

Apparatus for forming wire grids for electric strain gages  
 [NASA-CASE-XLE-00023] c15 N70-33330

Force measuring instrument for structural members, particularly fastening bolts or studs  
 [NASA-CASE-XMF-00456] c14 N70-34705

Difference indicating circuit used in conjunction with device measuring gravitational fields  
 [NASA-CASE-XNP-08274] c10 N71-13537

Water cooled gage for strain measurements in high temperature environments  
 [NASA-CASE-XNP-09205] c14 N71-17657

Development of apparatus for measuring successive increments of strain on elastomers  
 [NASA-CASE-XMF-04680] c15 N71-19489

Strain gage measurement of elongation due to thermally and mechanically induced stresses  
 [NASA-CASE-XGS-04478] c14 N71-24233

Method for temperature compensating semiconductor gages by exposure to high energy radiation  
 [NASA-CASE-XLA-04555-1] c14 N71-25892

Pulsed excitation voltage circuit for strain gage bridge transducers  
 [NASA-CASE-FRC-10036] c09 N72-22200

Method for making semiconductor p-n junction stress and strain sensor  
 [NASA-CASE-XLA-04980-2] c14 N72-28438

Development of strain gage ambiguity sensor for measuring alignment of optical mirror segments  
 [NASA-CASE-MFS-20506-1] c14 N73-17563

Turnbuckle device for tensile stress load measurements  
 [NASA-CASE-MFS-21488-1] c14 N73-23526

Development of strain gage mounting assembly for amplifying measurable deformation applied to strain gage  
 [NASA-CASE-NPO-13170-1] c14 N73-28495

Device for monitoring a change in mass in varying gravimetric environments  
 [NASA-CASE-MFS-21556-1] c14 N74-26945

**STRAIN RATE**  
 Process for analysis of strain field of structures subjected to large deformations involving low modulus substrate with thin coating  
 [NASA-CASE-LAR-10765-1] c32 N73-20740

**STRAPDOWN INERTIAL GUIDANCE**  
 Strapped down gyroscope aligned with sun and star tracker optical axis calibrating roll, yaw and pitch values  
 [NASA-CASE-ARC-10716-1] c31 N73-32784

**STRAPS**  
 A meter for use in detecting tension in straps having predetermined elastic characteristics  
 [NASA-CASE-MFS-22189-1] c14 N74-10421

**STRESS ANALYSIS**  
 Development of system for measuring damping characteristics of structure or system subjected to random forces or influences  
 [NASA-CASE-ARC-10754-1] c14 N72-22440

Process for analysis of strain field of structures subjected to large deformations involving low modulus substrate with thin coating  
 [NASA-CASE-LAR-10765-1] c32 N73-20740

**STRESS CONCENTRATION**  
 Self-supporting strain transducer --- for measuring stress concentration points  
 [NASA-CASE-LAR-11263-1] c14 N74-25931

**STRESS CORROSION**  
 Method to prevent stress corrosion cracking in titanium alloys  
 [NASA-CASE-NPO-10271] c17 N71-16393

Method and apparatus for inducing compressive stresses in pressure vessel to prevent stress corrosion  
 [NASA-CASE-XLA-07390] c15 N71-18616

**STRESS MEASUREMENT**  
 Semiconductor p-n junction on needle apex to provide stress and strain sensor  
 [NASA-CASE-XLA-04980] c09 N69-27422

Force measuring instrument for structural members, particularly fastening bolts or studs  
 [NASA-CASE-XMF-00456] c14 N70-34705

Self-balancing strain gage transducer with bridge circuit  
 [NASA-CASE-MFS-12827] c14 N71-17656

Servocontrol system for measuring local stresses at geometric discontinuity in stressed material  
 [NASA-CASE-XLA-08530] c32 N71-25360

Turnbuckle device for tensile stress load measurements  
 [NASA-CASE-MFS-21488-1] c14 N73-23526

Development of strain gage mounting assembly for amplifying measurable deformation applied to strain gage  
 [NASA-CASE-NPO-13170-1] c14 N73-28495

**STRESS RELIEVING**  
 Nut and bolt fastener permitting all-directional movement of skin sections with respect to supporting structure  
 [NASA-CASE-XLA-01807] c15 N71-10799

**STRESSES**  
 Tape recorder designed for low power consumption and resistance to operational failure under high stress conditions  
 [NASA-CASE-XGS-08259] c14 N71-23698

Strain gage measurement of elongation due to thermally and mechanically induced stresses  
 [NASA-CASE-XGS-04478] c14 N71-24233

Strain arrestor plate --- bonding rigid thermal insulation tiles to metallic plates or structural parts  
 [NASA-CASE-MSC-14182-1] c18 N74-15213

**STRETCHERS**  
 Development and characteristics of rescue litter with inflatable flotation device for water rescue application  
 [NASA-CASE-XMS-04170] c05 N71-22748

Stretcher with rigid head and neck support with capability of supporting immobilized person in vertical position for removal from vehicle hatch to exterior also useful as splint stretcher  
 [NASA-CASE-XMF-06589] c05 N71-23159

**STRETCHING**  
 Device for securing together structural members with axially stretched bolt and nut  
 [NASA-CASE-GSC-11149-1] c15 N73-30457

**STRINGS**  
 Cord restraint system for pressure suit joints  
 [NASA-CASE-XMS-09635] c05 N71-24623

**STRUCTURAL DESIGN**  
 Design of inflatable life raft for aircrafts and boats  
 [NASA-CASE-XHS-00863] c05 N70-34857

Structural design of high pressure regulator valve  
 [NASA-CASE-XNP-00710] c15 N71-10778

- Graphic illustration of lifting body design  
[NASA-CASE-FRC-10063] c01 N71-12217
- Design of ring wing vehicle of high  
drag-to-weight ratio to withstand reentry  
stress into low density atmosphere  
[NASA-CASE-XLA-04901] c31 N71-24315
- Airfoil with cambered trailing edge section for  
supersonic flight  
[NASA-CASE-LAR-10585-1] c01 N73-14981
- STRUCTURAL MEMBERS**
- Broadband chokes and absorbers to reduce  
spurious radiation patterns of antenna array  
caused by support structures  
[NASA-CASE-XMS-05303] c07 N69-27462
- Electro-optical/computer system for aligning  
large structural members and maintaining  
correct position  
[NASA-CASE-XNP-02029] c14 N70-41955
- Nut and bolt fastener permitting all-directional  
movement of skin sections with respect to  
supporting structure  
[NASA-CASE-XLA-01807] c15 N71-10799
- Universal joints for connecting two displaced  
shafts or members  
[NASA-CASE-NPO-10646] c15 N71-28467
- Fabrication of light weight panel structure  
using pairs of elongate hollow ribs of  
semicircular configuration  
[NASA-CASE-LAR-11052-1] c32 N73-13929
- Device for securing together structural members  
with axially stretched bolt and nut  
[NASA-CASE-GSC-11149-1] c15 N73-30457
- Strain arrestor plate --- bonding rigid thermal  
insulation tiles to metallic plates or  
structural parts  
[NASA-CASE-MSC-14182-1] c18 N74-15213
- Method of laminating structural members  
[NASA-CASE-XLA-11028-1] c18 N74-27035
- STRUCTURAL STABILITY**
- Improved latching device for joining structural  
components in motionless relationship  
[NASA-CASE-MFS-21606-1] c15 N73-22417
- STRUCTURAL VIBRATION**
- Rectangular electric conductors for conductor  
cables to withstand spacecraft vibration and  
controlled atmosphere  
[NASA-CASE-MFS-14741] c09 N70-20737
- Determining sway of buildings by low frequency  
device using pendulum  
[NASA-CASE-XNP-00479] c14 N70-34794
- Transducer for measuring deflections from  
vibrating structures  
[NASA-CASE-XLA-03135] c32 N71-16428
- STRUCTURES**
- Deformation measuring apparatus with feedback  
control for arbitrarily shaped structures  
[NASA-CASE-LAR-10098] c32 N71-26681
- STRUTS**
- Low onset rate energy absorber in form of strut  
assembly for crew couch of Apollo command module  
[NASA-CASE-MSC-12279-1] c15 N70-35679
- Collapsible support for antenna reflector  
applied to installation of spacecraft antennas  
[NASA-CASE-NPO-11751] c07 N73-24176
- STUDS (STRUCTURAL MEMBERS)**
- Design of quick release locking pin for joining  
two or more load-carrying structural members  
[NASA-CASE-MFS-18495] c15 N72-11385
- Tool for mounting and removing studs with  
adhesive coated head portion  
[NASA-CASE-MFS-20299] c15 N72-11392
- Insert facing tool --- manually operated cutting  
tool for forming studs in honeycomb material  
[NASA-CASE-MFS-21485-1] c15 N74-25968
- SUBMINIATURIZATION**
- Microamperere current measuring circuit, with  
two subminiature thermionic diodes with  
filament cathodes  
[NASA-CASE-XNP-00384] c09 N71-13530
- SUBREFLECTORS**
- Dish antenna having switching beamwidth with  
truncated concave ellipsoid subreflector  
[NASA-CASE-GSC-11760-1] c09 N73-32116
- SUBSONIC SPEED**
- Aerospace vehicle with variable planform for  
hypersonic and subsonic flight  
[NASA-CASE-XLA-00805] c31 N70-38010
- Construction of leading edges of surfaces for  
aerial vehicles performing from subsonic to  
above transonic speeds  
[NASA-CASE-XLA-01486] c01 N71-23497
- SUBSONIC WIND TUNNELS**
- Variable geometry wind tunnel for testing  
aircraft models at subsonic speeds  
[NASA-CASE-XLA-07430] c11 N72-22246
- SUBSTRATES**
- Means and methods of depositing thin films on  
substrates  
[NASA-CASE-XNP-00595] c15 N70-34967
- Fabrication of solar cell banks for attaching  
solar cells to base members or substrates  
[NASA-CASE-XNP-00826] c03 N71-20895
- Method and apparatus for fabricating solar cell  
panels  
[NASA-CASE-XNP-03413] c03 N71-26726
- SUBSTRUCTURES**
- Supporting structure for simultaneous exposure  
of pellets to X rays  
[NASA-CASE-XNP-06031] c15 N71-15606
- SULFATES**
- Nitroaniline sulfate, intumescent paints  
[NASA-CASE-ARC-10099-1] c18 N71-15469
- SULFORES**
- Electrolytic cell design  
[NASA-CASE-LAR-11042-1] c03 N74-29416
- SULFUR COMPOUNDS**
- Mercaptan terminated polymer containing sulfonic  
acid salts of nitrosubstituted aromatic amines  
for heat and moisture resistant coatings  
[NASA-CASE-ARC-10325] c06 N72-25147
- SUM RULES**
- Describing circuit for obtaining sum of squares  
of numbers  
[NASA-CASE-XGS-04765] c08 N71-18693
- SUNGLASSES**
- Pliable frame for sunglasses in emergency  
survival kits  
[NASA-CASE-XMS-06064] c05 N71-23096
- SUNLIGHT**
- Illumination system design for use as sunlight  
simulator in space environment simulators with  
multiple light sources reflected to single  
virtual source  
[NASA-CASE-HQN-10781] c23 N71-30292
- SUPERCONDUCTING MAGNETS**
- Cryogenic flux-gated magnetometer using  
superconductors  
[NASA-CASE-XAC-02407] c14 N69-27423
- Improved alternator with windings of  
superconducting materials acting as permanent  
magnet  
[NASA-CASE-XLE-02824] c03 N69-39890
- Segmented superconducting magnet producing  
staggered magnetic field and suitable for  
broadband traveling wave masers  
[NASA-CASE-XGS-10518] c16 N71-28554
- Operating properties of superconducting magnet  
in vacuum environment  
[NASA-CASE-XNP-06503] c23 N71-29049
- SUPERCONDUCTIVITY**
- Superconducting alternator design with cryogenic  
fluid for cooling windings below critical  
temperature  
[NASA-CASE-XLE-02823] c09 N71-23443
- Superconductive resonant cavity for improved  
signal to noise ratio in communication signal  
[NASA-CASE-MSC-12259-2] c07 N72-33146
- Superconducting magnetic field trapping device  
for producing magnetic field in air  
[NASA-CASE-XNP-01185] c26 N73-28710
- A doped Josephson tunneling junction for use in  
a sensitive IR detector  
[NASA-CASE-NPO-13348-1] c14 N74-20022
- SUPERCONDUCTORS**
- Superconductive accelerometer employing variable  
force principle to determine acceleration of  
bodies  
[NASA-CASE-XMP-01099] c14 N71-15969
- Controlled diffusion reaction process for  
masking substrate of twisted multifilaent  
superconductive ribbon  
[NASA-CASE-LEW-11726-1] c26 N73-26752
- Twisted wire or tube superconductor for filament  
windings  
[NASA-CASE-LEW-11015] c26 N73-32571
- Method of manufacturing composite superconductors  
[NASA-CASE-LEW-11582-1] c09 N74-33739

## SUPERFLUIDITY

## SUBJECT INDEX

## SUPERFLUIDITY

- Helium refining by superfluidity  
[NASA-CASE-XNP-00733] c06 N70-34946
- SUPERSONIC AIRCRAFT**  
Variable sweep wing configuration for supersonic aircraft  
[NASA-CASE-XLA-00230] c02 N70-33255  
Supersonic aircraft variable sweep wing planform for varying aspect ratio  
[NASA-CASE-XLA-00350] c02 N70-38011  
Development and characteristics of variable sweep wing control system for supersonic aircraft  
[NASA-CASE-XLA-03659] c02 N71-11041  
Development and characteristics of translating horizontal tail assembly for supersonic aircraft  
[NASA-CASE-XLA-08801-1] c02 N71-11043  
Design of supersonic aircraft with novel fixed, swept wing planform  
[NASA-CASE-XLA-04451] c02 N71-12243  
Absorptive, nonreflecting barrier mounted between closely spaced jet engines on supersonic aircraft, for preventing shock wave interference  
[NASA-CASE-XLA-02865] c28 N71-15563  
Single wing supersonic aircraft --- with pivotal attachment of airfoil  
[NASA-CASE-ARC-10470-3] c01 N74-30414
- SUPERSONIC AIRFOILS**  
Airfoil with cambered trailing edge section for supersonic flight  
[NASA-CASE-LAR-10585-1] c01 N73-14981
- SUPERSONIC COMBUSTION**  
Supersonic-combustion rocket  
[NASA-CASE-LEW-11058-1] c28 N74-13502
- SUPERSONIC DRAG**  
Bluff-shaped annular configuration for supersonic decelerator for reentry vehicles  
[NASA-CASE-XLE-00222] c02 N70-37939
- SUPERSONIC FLIGHT**  
Variable aspect ratio and variable sweep delta wing planforms for supersonic aircraft  
[NASA-CASE-XLA-00221] c02 N70-33266  
Supersonic or hypersonic vehicle control system comprising elevons with hinge line sweep and free of adverse aerodynamic cross coupling  
[NASA-CASE-XLA-08967] c02 N71-27088
- SUPERSONIC FLOW**  
Optical sensing of supersonic flows by correlating deflections in laser beams through flow  
[NASA-CASE-MFS-20642] c14 N72-21407  
Stagnation pressure probe --- for measuring pressure of supersonic gas streams  
[NASA-CASE-LAR-11139-1] c14 N74-32878
- SUPERSONIC INLETS**  
Airflow control system for supersonic inlets  
[NASA-CASE-LEW-11188-1] c02 N74-20646
- SUPERSONIC NOZZLES**  
Penshaped, supersonic exhaust nozzle design  
[NASA-CASE-XLE-00057] c28 N70-38711  
Telescoping-spike supersonic nozzle for turbojet or ramjet engines  
[NASA-CASE-XLE-00005] c28 N70-39899  
Electric arc heater with supersonic nozzle and fixed arc length for use in high temperature wind tunnels  
[NASA-CASE-XAC-01677] c09 N71-20816
- SUPERSONIC SPEEDS**  
Continuous operation, single phased, induction plasma accelerator producing supersonic speeds  
[NASA-CASE-XLA-01354] c25 N70-36946
- SUPERSONIC TRANSPORTS**  
Position locating system for remote aircraft using voice communication and digital signals  
[NASA-CASE-GSC-10087-2] c21 N71-13958  
Traffic control system for supersonic transports using synchronous satellite for data relay between vehicles and ground station  
[NASA-CASE-GSC-10087-1] c02 N71-19287  
System and method for position locating for air traffic control involving supersonic transports  
[NASA-CASE-GSC-10087-3] c07 N72-12080  
Doppler compensated communication system for locating supersonic transport position  
[NASA-CASE-GSC-10087-4] c07 N73-20174
- SUPPORT SYSTEMS**  
Hydraulic support apparatus for dynamic testing of space vehicles under near-free flight conditions  
[NASA-CASE-XMF-03248] c11 N71-10604  
Supporting structure for simultaneous exposure of pellets to X rays  
[NASA-CASE-XNP-06031] c15 N71-15606  
Multilegged support system for wind tunnel test models subjected to thermal dynamic loading  
[NASA-CASE-XLA-01326] c11 N71-21481  
Adjustable support device with jacket screw for altering distance between base and supported member  
[NASA-CASE-NPO-10721] c15 N72-27484
- SUPPORTS**  
Support techniques for restraint of slender bodies such as launch vehicles  
[NASA-CASE-XLA-02704] c11 N69-21540  
Pneumatic control of telescopic mirror support system  
[NASA-CASE-XLA-03271] c11 N69-24321  
Optical scanner mounted on rotating support structure with method of compensating for image or satellite rotation  
[NASA-CASE-IGS-02401] c14 N69-27485  
Support for flexible conductor cable between drawers or racks holding electronic equipment and cabinet assembly housing drawers or racks  
[NASA-CASE-XMF-07587] c15 N71-18701  
Swivel support for gas bearing for position adjustment between ball and supporting cup  
[NASA-CASE-XMF-07808] c15 N71-23812  
Tracking mount for laser telescope employed in tracking large rockets and space vehicles to give information regarding azimuth and elevation  
[NASA-CASE-MFS-14017] c14 N71-26627  
Gas bearing for model support with capacity for measuring angular displacement of model in bearing  
[NASA-CASE-XLA-09346] c15 N71-28740  
Adjustable rigid mount for trihedral mirror formed of alloy with small coefficient of thermal expansion supporting screws and spring-biased plates  
[NASA-CASE-XNP-08907] c23 N71-29123  
Slotted fine-adjustment support for optical devices  
[NASA-CASE-MFS-20249] c15 N72-11386  
Base support for expandable and contractible coupling between two members  
[NASA-CASE-NPO-11059] c15 N72-17454  
Optical mirror support system  
[NASA-CASE-XER-07896-2] c23 N72-22673  
Fixture for supporting articles during vibration tests comprising integral annular unit  
[NASA-CASE-MFS-20523] c14 N72-27412  
Design and development of test stand system for supporting test items in vacuum chamber  
[NASA-CASE-MFS-21362] c11 N73-20267  
Collapsible support for antenna reflector applied to installation of spacecraft antennas  
[NASA-CASE-NPO-11751] c07 N73-24176  
Viscoelastic shock absorbing mount for electrical circuit board  
[NASA-CASE-NPO-13253-1] c15 N73-31445  
Method of making porous conductive supports for electrodes --- by electroforming and stacking nickel foils  
[NASA-CASE-GSC-11367-1] c03 N74-19692  
Thrust-isolating mounting --- characteristics of support for loads mounted in spacecraft  
[NASA-CASE-MFS-21680-1] c32 N74-27397
- SUPPRESSORS**  
Electronic background suppression field scanning sensor for detecting point source targets  
[NASA-CASE-XGS-05211] c07 N69-39980
- SURFACE DEFECTS**  
Surface defect detection by reflected microwave radiation pattern  
[NASA-CASE-ARC-10009-1] c15 N71-17822  
Method and device for detection of surface discontinuities or defects  
[NASA-CASE-MSC-14187-1] c14 N74-32879
- SURFACE DIFFUSION**  
Metallic film diffusion into metal or ceramic surfaces for boundary lubrication in aerospace environments  
[NASA-CASE-XLE-01765] c18 N71-10772
- SURFACE FINISHING**  
Development of procedure for producing thin transparent films of zinc oxide on transparent

- refractory substrate  
[NASA-CASE-PRC-10019] c15 N73-12487
- Device and method for determining X ray reflection efficiency, scattering properties, and surface finish of optical surfaces  
[NASA-CASE-MPS-20243] c23 N73-13662
- SURFACE IONIZATION**  
Electrodes having array of small surfaces for field ionization  
[NASA-CASE-ERC-10013] c09 N71-26678
- Development of method and apparatus for detecting surface ions on silicon diodes and transistors  
[NASA-CASE-ERC-10325] c15 N72-25457
- SURFACE LAYERS**  
Bismuth and lead surface coatings for gas bearings in aerospace engineering  
[NASA-CASE-IGS-02011] c15 N71-20739
- Method and apparatus for stable silicon dioxide layers on silicon grown in silicon nitride ambient  
[NASA-CASE-ERC-10073-1] c06 N74-19769
- SURFACE PROPERTIES**  
Anti-wettable materials brazing processes using titanium and zirconium for surface pretreatment  
[NASA-CASE-XMS-03537] c15 N69-21471
- Automatic swabbing apparatus for sampling of microbiological surfaces  
[NASA-CASE-LAR-11069-1] c04 N73-16061
- Ablation article and surface for analyzing flow transition on ablative surface  
[NASA-CASE-LAR-10439-1] c33 N73-27796
- Dual measurement ablation sensor  
[NASA-CASE-LAR-10105-1] c33 N74-15652
- Apparatus for scanning the surface of a cylindrical body  
[NASA-CASE-NPO-11861-1] c14 N74-20009
- SURFACE REACTIONS**  
Chemical spot test for identifying magnesium or magnesium alloys used in aerospace applications  
[NASA-CASE-LAR-10953-1] c17 N73-27446
- SURFACE ROUGHNESS**  
Roughness detector for recording surface pattern of irregularities  
[NASA-CASE-XLA-00203] c14 N70-34161
- Optical apparatus for visual detection of roundness and regularity of cone surfaces  
[NASA-CASE-XMP-00462] c14 N70-34298
- Describing device for surveying contour of surface using X-Y plotter and traveling transducer  
[NASA-CASE-XLA-08646] c14 N71-17586
- SURFACE ROUGHNESS EFFECTS**  
Aerodynamically stable meteorological balloon using surface roughness effect  
[NASA-CASE-XMP-04163] c02 N71-23007
- SURFACE VEHICLES**  
Optimal control system for automatic speed regulation of electric driven motor vehicle  
[NASA-CASE-NPO-11210] c11 N72-20244
- Development of radio locating system for monitoring geographic movement of surface vehicles in metropolitan area using unsynchronized radio broadcasting stations  
[NASA-CASE-NPO-13217-1] c07 N73-26144
- Self-propelled vehicle with wheel, track laying, and walking capability for exploratory expolaration  
[NASA-CASE-NPO-11366] c11 N73-26238
- Short range laser obstacle detector --- for surface vehicles using laser diode array  
[NASA-CASE-NPO-11856-1] c16 N74-15145
- Recording apparatus  
[NASA-CASE-LAR-11353-1] c14 N74-20020
- SURFACE WAVES**  
Development of method for suppressing excitation of electromagnetic surface waves on dielectric converter antenna  
[NASA-CASE-XLA-10772] c07 N71-28980
- SURFACES**  
Techniques for recovery of multistage rocket vehicles by providing lifting surfaces on individual sections  
[NASA-CASE-XMP-00389] c31 N70-34176
- Kinetic and static friction force measurement between magnetic tape and magnetic head surfaces  
[NASA-CASE-XNP-08680] c14 N71-22995
- Three-axis adjustable loading structure  
[NASA-CASE-PRC-10051-1] c14 N74-13129
- SURGERY**  
Surgical liquification pump for removing macerated tissue from eye  
[NASA-CASE-LEW-12051-1] c04 N73-32000
- SURGES**  
Silicon controlled rectifier inverter with compensation of transients to avoid false gating  
[NASA-CASE-XLA-08507] c09 N69-39984
- Turn on current transient limiter for controlling peak current flow in high capacity load  
[NASA-CASE-GSC-10413] c10 N71-26531
- SURGICAL INSTRUMENTS**  
Ultrasonic device for ophthalmic eye surgery with safe removal of macerated material  
[NASA-CASE-LEW-11669-1] c05 N73-27062
- Surgical liquification pump for removing macerated tissue from eye  
[NASA-CASE-LEW-12051-1] c04 N73-32000
- SURVIVAL EQUIPMENT**  
Survival couch for aircraft or spacecraft crews  
[NASA-CASE-XLA-00118] c05 N70-33285
- Lightweight life preserver without fastening devices  
[NASA-CASE-XMS-00864] c05 N70-36493
- Pliable frame for sunglasses in emergency survival kits  
[NASA-CASE-XMS-06064] c05 N71-23096
- SUSPENDING (HANGING)**  
Parallel motion suspension device for measuring instruments  
[NASA-CASE-XNP-01567] c15 N70-41310
- Cable suspension and inclined walkway system for simulating reduced or zero gravity environments  
[NASA-CASE-XLA-01787] c11 N71-16028
- Suspended mass oscillation damper based on impact energy absorption for damping wind induced oscillations of tall stacks, antennas, and umbilical towers  
[NASA-CASE-LAR-10193-1] c15 N71-27146
- SWEAT COOLING**  
Transpiration cooled turbine blade made from metallic or ceramic wires  
[NASA-CASE-XLE-00020] c15 N70-33226
- Transpirationally cooled heat ablation system for interplanetary spacecraft reentry shielding  
[NASA-CASE-XMS-02677] c31 N70-42075
- Method of electroforming a rocket chamber  
[NASA-CASE-LEW-11118-1] c15 N74-32919
- SWEEP CIRCUITS**  
Transistorized circuit for producing multiple slope voltage sweep  
[NASA-CASE-XMS-03542] c09 N71-28926
- SWEEP EFFECT**  
Supersonic or hypersonic vehicle control system comprising elevons with hinge line sweep and free of adverse aerodynamic cross coupling  
[NASA-CASE-XLA-08967] c02 N71-27088
- SWELLING**  
Para-benzoquinone dioxide and concentrated mineral acid processed to yield intumescent or fire resistant, heat insulating materials  
[NASA-CASE-ARC-10304-1] c18 N73-26572
- SWEPT WINGS**  
Design of supersonic aircraft with novel fixed, swept wing planform  
[NASA-CASE-XLA-04451] c02 N71-12243
- SWIRLING**  
Slosh and swirl alleviator for liquid propellant tanks during transport and flight  
[NASA-CASE-ILA-05749] c15 N71-19569
- Swirl can, full-annulus combustion chambers for high performance gas turbine engines  
[NASA-CASE-LEW-11326-1] c23 N73-30665
- SWITCHES**  
Switching mechanism with energy stored in coil spring  
[NASA-CASE-XGS-00473] c03 N70-38713
- Digital memory system with multiple switch cores for driving each word location  
[NASA-CASE-XNP-01466] c10 N71-26434
- Radio frequency controlled solid state switch  
[NASA-CASE-ARC-10136-1] c09 N72-22202
- SWITCHING CIRCUITS**  
Solid state switching circuit design to increase current capacity of low rated relay contacts  
[NASA-CASE-XNP-09228] c09 N69-27500
- Power control switching circuit using low voltage semiconductor controlled rectifiers



- for high voltage isolation  
[NASA-CASE-INP-02713] c10 N69-39888
- Selective gold diffusion on monolithic silicon chips for switching and nonswitching amplifier devices and circuits and linear and digital logic circuits  
[NASA-CASE-ERC-10072] c09 N70-11148
- Electrical power system for space flight vehicles operating over extended periods  
[NASA-CASE-INP-00517] c03 N70-34157
- High speed low level voltage commutating switch  
[NASA-CASE-IAC-00060] c09 N70-39915
- Switching circuit with regeneratively connected transistors eliminating power consumption when not in use  
[NASA-CASE-INP-02654] c10 N70-42032
- Using electron beam switching for brushless motor commutation  
[NASA-CASE-IGS-01451] c09 N71-10677
- Increasing power conversion efficiency of electronic amplifiers by power supply switching  
[NASA-CASE-IHS-00945] c09 N71-10798
- Silicon controlled rectifier pulse gate amplifier for blocking false gating caused by negative transient voltages  
[NASA-CASE-XLA-07497] c09 N71-12514
- Describing magnetic core current switching device for steering bipolar current pulses to memory units  
[NASA-CASE-NPO-10201] c08 N71-18694
- Transistorized dc-coupled multivibrator with noninverted output signal  
[NASA-CASE-INP-09450] c10 N71-18723
- Reversible current directing circuitry for reversible motor control  
[NASA-CASE-XLA-09371] c10 N71-18724
- Constructing Exclusive-Or digital logic circuit in single module  
[NASA-CASE-XLA-07732] c08 N71-18751
- Polarization diversity monopulse tracking receiver design without radio frequency switches  
[NASA-CASE-IGS-03501] c09 N71-20864
- Sight switch using infrared source and sensor mounted beside eye  
[NASA-CASE-XAR-03934] c09 N71-22985
- Complementary regenerative transistorized switch circuit employing positive and negative feedback  
[NASA-CASE-IGS-02751] c09 N71-23015
- Reliable magnetic core circuit apparatus with application in selection matrices for digital memories  
[NASA-CASE-INP-01318] c10 N71-23033
- Electric circuit for producing high current pulse having fast rise and fall time  
[NASA-CASE-IHS-04919] c09 N71-23270
- Electric circuit for reversing direction of current flow  
[NASA-CASE-INP-00952] c10 N71-23271
- Switching series regulator with gating control network  
[NASA-CASE-IHS-09352] c09 N71-23316
- Microwave waveguide switch with rotor position control  
[NASA-CASE-INP-06507] c09 N71-23548
- Signaling summary alarm circuit with semiconductor switch for faulty contact indications  
[NASA-CASE-XLE-03061-1] c10 N71-24798
- Solid state circuit for switching alternating current input signal as function of direct current gating transistor  
[NASA-CASE-INP-06505] c10 N71-24799
- Inverters for changing direct current to alternating current  
[NASA-CASE-IGS-06226] c10 N71-25950
- Design and development of multistage current steering switch with inductively coupled magnetic cores  
[NASA-CASE-INP-08567] c09 N71-26000
- Pulse duration control device for driving slow response time loads in selected sequence including switching and delay circuits and magnetic storage  
[NASA-CASE-IGS-04224] c10 N71-26418
- Turn on current transient limiter for controlling peak current flow in high capacity load  
[NASA-CASE-GSC-10413] c10 N71-26531
- Input radio frequency circuit for switching type absolute temperature measuring radiometer for noise sources  
[NASA-CASE-ERC-11020] c14 N71-26774
- Inverter drive circuit for semiconductor switch  
[NASA-CASE-LEW-10233] c10 N71-27126
- Phase locked demodulator with bandwidth switching amplifier circuit  
[NASA-CASE-INP-01107] c10 N71-28859
- Monostable multivibrator for producing output pulse widths with positive feedback NOR gates  
[NASA-CASE-HSC-13492-1] c10 N71-28860
- Digital magnetic core memory with sensing amplifier circuits  
[NASA-CASE-INP-01012] c08 N71-28925
- Current regulating voltage divider design with load current shunting  
[NASA-CASE-HPS-20935] c09 N71-34212
- Relay controlled voltage switching unit for scanning circuitry of star tracker  
[NASA-CASE-NPO-11253] c09 N72-17157
- Spacecraft solar cell system with switching circuit to provide compensation for environmental changes  
[NASA-CASE-GSC-10669-1] c03 N72-20031
- Flow rate switch for detecting variations in fluid flow velocity through conduits of pressurized systems  
[NASA-CASE-NPO-10722] c09 N72-20199
- Switching type voltage regulator with relatively simple circuit arrangement  
[NASA-CASE-LEW-11005-1] c09 N72-21243
- Development and characteristics of data multiplexer circuit using field effect transistors arranged in tree switching configuration  
[NASA-CASE-NPO-11333] c08 N72-22162
- Pulse coupling circuit with switch between generator and winding  
[NASA-CASE-LEW-10433-1] c09 N72-22197
- Solid state remote circuit selector switching circuit  
[NASA-CASE-LEW-10387] c09 N72-22201
- Pressure operated electrical switch responsive to pressure decrease after pressure increase  
[NASA-CASE-LAR-10137-1] c09 N72-22204
- Transistorized switching logic circuits with tunnel diodes  
[NASA-CASE-GSC-10878-1] c10 N72-22236
- Switching circuit for control of cathode ray tube beam with fast rise time for output signal  
[NASA-CASE-KSC-10647-1] c10 N72-31273
- Electronic video editor for switching video input signals to common output channel  
[NASA-CASE-KSC-10003] c10 N73-13235
- Solid state switch for variable circuit switching  
[NASA-CASE-NPO-10817-1] c08 N73-30135
- Manually and automatically operable video switching system  
[NASA-CASE-HSC-10782-1] c07 N73-32063
- Transparent switchboard which permits optical display devices to be adapted for use in man machine communications  
[NASA-CASE-HSC-13746-1] c10 N73-32143
- Isolated output system for a class D switching-mode amplifier  
[NASA-CASE-HPS-21616-1] c09 N74-21859
- High isolation RF signal selection switches  
[NASA-CASE-NPO-13081-1] c07 N74-22814
- SWITCHING THEORY**
- Multiple circuit switch apparatus requiring minimum hand and eye movement by operator  
[NASA-CASE-IAC-03777] c10 N71-15909
- SWIVELS**
- Swivel support for gas bearing for position adjustment between ball and supporting cup  
[NASA-CASE-INP-07808] c15 N71-23812
- SYNCHRONISM**
- Synchronizing apparatus for multi-access satellite time division multiplex system  
[NASA-CASE-IGS-05918] c07 N69-39974
- Circuitry for generating sync signals in FM communication systems including video information  
[NASA-CASE-INP-10830] c07 N71-11281
- Development of method for synchronizing clocks at several ground stations based on signals received from spacecraft or satellites  
[NASA-CASE-INP-08875] c10 N71-23099

- Pulse generator for synchronizing or resetting electronic signals without requiring separate external source  
[NASA-CASE-IGS-03632] c09 N71-23311
- Time synchronization system for synchronizing clocks at remote locations with master clock using moon reflected coded signals  
[NASA-CASE-NPO-10143] c10 N71-26326
- System designed to reduce time required for obtaining synchronization in data communication with spacecraft utilizing pseudonoise codes  
[NASA-CASE-NPO-10214] c10 N71-26577
- SYNCHRONIZED OSCILLATORS**
- Development of phase demodulation system with two phase locked loops  
[NASA-CASE-XNF-00777] c10 N71-19469
- Phase locked phase modulation system with voltage controlled oscillator for final phase linearity  
[NASA-CASE-XNF-05382] c10 N71-23544
- Automatic frequency control device for providing frequency reference for voltage controlled oscillator  
[NASA-CASE-KSC-10393] c09 N72-21247
- SYNCHRONIZERS**
- Development and characteristics of burst synchronization detection system  
[NASA-CASE-IES-05605-1] c10 N71-19468
- Time division relay synchronizer with master sync pulse for activating binary counter to produce signal identifying time slot for station  
[NASA-CASE-GSC-10373-1] c07 N71-19773
- Design and development of asynchronous servo loop control system  
[NASA-CASE-XNF-03794] c10 N71-20448
- Digital synchronizer for extracting binary data in receiver of PSK/PCM communication system  
[NASA-CASE-NPO-10851] c07 N71-24613
- Video sync processor with phase locked system  
[NASA-CASE-KSC-10002] c10 N71-25865
- System for generating timing and control signals during repetitive fixed length serial data transmission  
[NASA-CASE-NPO-13125-1] c09 N73-18225
- Pulse code modulated signal synchronizer  
[NASA-CASE-NSC-12462-1] c07 N74-20809
- Pulse code modulated signal synchronizer  
[NASA-CASE-NSC-12494-1] c07 N74-20810
- SYNCHRONOUS MOTORS**
- Synchronous dc direct-drive system comprising multiple-loop hybrid control system controlling load directly connected to actuator  
[NASA-CASE-GSC-10085-1] c10 N71-27136
- Motor run-up system --- for preventing power line disturbances when synchronous motor is connected to line  
[NASA-CASE-NPO-13374-1] c10 N74-17949
- SYNCHRONOUS SATELLITES**
- Position locating system for remote aircraft using voice communication and digital signals  
[NASA-CASE-GSC-10087-2] c21 N71-13958
- Serrodyne traveling wave tube reentrant amplifier for synchronous communication satellites operating at microwave frequencies  
[NASA-CASE-IGS-01022] c07 N71-16088
- Traffic control system for supersonic transports using synchronous satellite for data relay between vehicles and ground station  
[NASA-CASE-GSC-10087-1] c02 N71-19287
- Tracking antenna system with array for synchronous satellite or ground based radar  
[NASA-CASE-GSC-10553-1] c07 N71-19854
- Satellite network synchronization system with multiple access to multiplex repeater  
[NASA-CASE-GSC-10390-1] c07 N72-11149
- Development of device for simulating charge and discharge cycle of battery in synchronous orbit  
[NASA-CASE-GSC-11211-1] c03 N72-25020
- SYNTHESIS**
- Synthesis of polymeric schiff bases by schiff-base exchange reactions  
[NASA-CASE-XNF-08651] c06 N71-11236
- Preparation of ordered poly(arylenesiloxane)/polymers  
[NASA-CASE-XNF-10753] c06 N71-11237
- Synthesis and chemical properties of imidazopyrrolone/imide copolymers  
[NASA-CASE-XLA-08802] c06 N71-11238
- Chemical synthesis of formaldehyde based disinfectants without penetrating odor and eye and ear irritation properties  
[NASA-CASE-NPO-12115-1] c06 N73-17153
- Stable polyimide synthesis from mixtures of monomeric diamines and polycarboxylic acid esters  
[NASA-CASE-LEW-11325-1] c06 N73-27980
- SYNTHESIZERS**
- Digitally controlled frequency synthesizer for pulse frequency modulation telemetry systems  
[NASA-CASE-IGS-02317] c09 N71-23525
- SYNTHETIC FIBERS**
- Manufacture of fluid containers from fused coated polyester sheets having resealable septum  
[NASA-CASE-NPO-10123] c15 N71-24835
- Structure of fabric layers for micrometeoroid protection garment with capability for eliminating heat shorts for use in manufacturing space suits  
[NASA-CASE-ESC-12109] c18 N71-26285
- Flexible barrier membrane comprising porous substrate and incorporating liquid gallium or indium metal used as sealant barriers for spacecraft walls and pumping liquid propellants  
[NASA-CASE-XNF-08881] c17 N71-28747
- SYNTHETIC RESINS**
- Process permitting application of synthetic resin coating to irregular-shaped objects at ambient temperature  
[NASA-CASE-XNF-06508] c18 N69-39895
- SYSTEM FAILURES**
- Tape recorder designed for low power consumption and resistance to operational failure under high stress conditions  
[NASA-CASE-IGS-08259] c14 N71-23698
- Fault-tolerant clock apparatus for use in digital logic systems which maintains output pulses during component failure  
[NASA-CASE-HSC-12531-1] c14 N73-22386
- SYSTEMS ANALYSIS**
- Analog to digital converter analyzing system  
[NASA-CASE-NPO-10560] c08 N72-22166
- Pseudo-noise test set for communication system evaluation  
[NASA-CASE-HFS-22671-1] c14 N74-13146
- SYSTEMS ENGINEERING**
- Design of magnetohydrodynamic induction machine with end poles which produce compensating magnetic fields  
[NASA-CASE-XNF-07481] c25 N69-21929
- Hovering type flying vehicle design and principle mechanisms for manned or unmanned use  
[NASA-CASE-NSC-12111-1] c02 N71-11039
- Solar battery with interconnecting means for plural cells  
[NASA-CASE-XNF-06506] c03 N71-11050
- Transparent polycarbonate resin, shell helmet and latch design for high altitude and space flight  
[NASA-CASE-XMS-04935] c05 N71-11190
- Design and operation of multi-feed cone Cassegrain antenna  
[NASA-CASE-NPO-10539] c07 N71-11285
- Method and apparatus for measuring potentials in plasmas  
[NASA-CASE-XLE-00821] c25 N71-15650
- Design and operation of viscous pendulum damper  
[NASA-CASE-XLA-02079] c12 N71-16894
- Alarm system design for monitoring one or more relay circuits  
[NASA-CASE-IMS-10984-1] c10 N71-19417
- Wide range analog data compression system  
[NASA-CASE-IGS-02612] c08 N71-19435
- Space suit body heat exchanger design composed of thermal conductance yarn and liquid coolant loops  
[NASA-CASE-IMS-09571] c05 N71-19439
- Silicon radiation detecting probe design for in vivo biomedical use  
[NASA-CASE-IMS-01177] c05 N71-19440
- Design and operation of high speed binary to decimal conversion system  
[NASA-CASE-IGS-01230] c08 N71-19544
- Sputter proof evaporant source design for use in vacuum deposition of solid thin films on substrates  
[NASA-CASE-XNF-06065] c15 N71-20395

- Method and apparatus for fabrication of heat insulating and ablative reentry structure  
[NASA-CASE-XNS-02009] c33 N71-20834
- Polarization diversity monopulse tracking receiver design without radio frequency switches  
[NASA-CASE-XGS-03501] c09 N71-20864
- Pneumatic cantilever beams and platform for space erectable structure  
[NASA-CASE-XLA-01731] c32 N71-21045
- Magnetically opened diaphragm design with camera shutter and expansion tube applications  
[NASA-CASE-XLA-03660] c15 N71-21060
- Portable apparatus producing high velocity annular air column surrounding low velocity, filtered, superclean air central core for industrial clean room environmental control  
[NASA-CASE-XMF-03212] c15 N71-22721
- Rotary spindle lathe attachments for machining geometrical cones  
[NASA-CASE-XMS-04292] c15 N71-22722
- Apparatus and method for spin forming tubular elbows with high strength, uniform thickness, and close tolerances  
[NASA-CASE-XMP-01083] c15 N71-22723
- Spacecraft air lock system to provide ingress and egress of astronaut without subjecting vehicular environment to vacuum of space  
[NASA-CASE-XLA-02050] c31 N71-22968
- Method of stationkeeping for lenticular gravity gradient satellites  
[NASA-CASE-XLA-03132] c31 N71-22969
- Filler valve design for supplying liquid propellants at high pressure to space vehicles  
[NASA-CASE-XMP-01747] c15 N71-23024
- Method and apparatus for producing very low temperature refrigeration based on gas pressure balance  
[NASA-CASE-XNP-08877] c15 N71-23025
- Monitoring circuit design for sampling circuit control and reduction of time-bandwidth in video communication systems  
[NASA-CASE-XNP-02791] c07 N71-23026
- Multisample test chamber for exposing materials to X rays, temperature change, and gaseous conditions and determination of material effects  
[NASA-CASE-XNS-02930] c11 N71-23042
- Variable duration pulse integrator design for integrating pulse duration modulated pulses with elimination of ripple content  
[NASA-CASE-XLA-01219] c10 N71-23084
- Sealed electrochemical cell with flexible casing for varying electrolyte level in cell  
[NASA-CASE-XGS-01513] c03 N71-23336
- Mosaic semiconductor radiation detector and position indicator systems engineering for low energy particles  
[NASA-CASE-XGS-03230] c14 N71-23401
- Device for measuring two orthogonal components of force with gallium flotation of measuring target for use in vacuum environments  
[NASA-CASE-XAC-04885] c14 N71-23790
- Transducer circuit design with single coaxial cable for input and output connections including incorporation into miniaturized catheter transducer  
[NASA-CASE-ARC-10132-1] c09 N71-24597
- Method of attaching cover glass to silicon solar cell without using adhesive  
[NASA-CASE-XLE-08569-2] c03 N71-24681
- Development of attitude control system for sounding rocket stabilization during ballistic phase of flight  
[NASA-CASE-XGS-01654] c31 N71-24750
- Temperature telemetric transmitter with frequency determining tank circuit for short range transmission  
[NASA-CASE-NPO-10649] c07 N71-24840
- Tuning arrangement for frequency control of magnetron-type electron discharge device  
[NASA-CASE-XNP-09771] c09 N71-24841
- Broadband modified turnstile antenna for use in space tracking and communications  
[NASA-CASE-MSC-12209] c09 N71-24842
- Apparatus to determine electric field strength by measuring deflection of electron beam impinging on target  
[NASA-CASE-XMP-06617] c09 N71-24843
- Binary to decimal decoder logic circuit design with feedback control and display device  
[NASA-CASE-XKS-06167] c08 N71-24890
- Noninterruptable digital counter circuit design with display device for pulse frequency modulation  
[NASA-CASE-XNP-09759] c08 N71-24891
- Quick disconnect duct coupling device for single-handed operation  
[NASA-CASE-MFS-20395] c15 N71-24903
- Brushless dc tachometer design with Hall effect crystals and output voltage magnitude proportional to rotor speed  
[NASA-CASE-MFS-20385] c09 N71-24904
- Pneumatic mechanism for releasing hook and loop fasteners between large rigid structures  
[NASA-CASE-XMS-10660-1] c15 N71-25975
- Sealed fluorescent tube light unit capable of connection with other units to form string of work lights  
[NASA-CASE-XKS-05932] c09 N71-26787
- Apparatus for semiautomatic inspection of microfilmed documents for density, resolution, size, and position  
[NASA-CASE-MFS-20240] c14 N71-26788
- Method and apparatus for remote measurement of displacement of marks on specimen undergoing tensile test  
[NASA-CASE-NPO-10778] c14 N72-11364
- Spacecraft solar cell system with switching circuit to provide compensation for environmental changes  
[NASA-CASE-GSC-10669-1] c03 N72-20031
- Electric storage battery with high impact resistance  
[NASA-CASE-NPO-11021] c03 N72-20032
- Method and apparatus for providing active attitude control for spacecraft by converting any attitude motion of vehicle into simple rotational motion  
[NASA-CASE-HQN-10439] c21 N72-21624
- Development of light sensing system for controlled orientation of object relative to sun or other light source  
[NASA-CASE-NPO-11311] c14 N72-25414
- Development of thrust control system for application to control of aircraft and spacecraft  
[NASA-CASE-MSC-13397-1] c21 N72-25595
- Combined shoulder harness and lap belt restraint system for use in aircraft or automobiles  
[NASA-CASE-ARC-10519-1] c05 N72-31117
- Development of computer program for estimating reliability of self-repair and fault-tolerant systems with respect to selected system and mission parameters  
[NASA-CASE-NPO-13086-1] c15 N73-12495
- Design and development of active control system for air cushion vehicle to reduce or eliminate effects of excessive vertical vibratory acceleration  
[NASA-CASE-LAR-10531-1] c02 N73-13023
- Measurement system for physical quantity represented by or converted to variable frequency signal  
[NASA-CASE-MFS-20658-1] c14 N73-30386
- Holographic system for nondestructive testing  
[NASA-CASE-MFS-21704-1] c16 N73-30478
- Design of precision vertical alignment system using laser with gravitationally sensitive cavity  
[NASA-CASE-ARC-10444-1] c16 N73-33397
- System for calibrating pressure transducer  
[NASA-CASE-LAR-10910-1] c14 N74-13132
- Three mirror glancing incidence system for X-ray telescope  
[NASA-CASE-MFS-21372-1] c14 N74-27866
- Photographic film restoration system  
[NASA-CASE-MSC-12448-2] c14 N74-32884
- SYSTEMS STABILITY**
- Development and characteristics of annular momentum control device for two axis stabilization of spacecraft  
[NASA-CASE-LAR-11051-1] c21 N73-28646
- SYSTEMIC PRESSURE**
- Automatic system for measuring and monitoring systolic and diastolic blood pressure in humans  
[NASA-CASE-MSC-13999-1] c05 N72-25142

## T

- TACHOMETERS**  
 Digital cardiometer incorporating circuit for measuring heart rate of subject over predetermined portion of one minute also converting rate to beats per minute  
 [NASA-CASE-XMS-02399] c05 N71-22896  
 Brushless dc tachometer design with Hall effect crystals and output voltage magnitude proportional to rotor speed  
 [NASA-CASE-MFS-20385] c09 N71-24904  
 Development of instantaneous reading tachometer for measuring electrocardiogram signal rate  
 [NASA-CASE-MFS-20418] c14 N73-24473
- TAKEOFF**  
 Aircraft instrument for indicating malfunctions during takeoff  
 [NASA-CASE-XLA-00100] c14 N70-36807  
 Aircraft indicator for pilot control of takeoff roll, climbout path and verticle flight path in poor visibility conditions  
 [NASA-CASE-XLA-00467] c14 N70-40157
- TARGETS**  
 Integrated circuit tangnet function generator  
 [NASA-CASE-MSC-13907-1] c10 N73-26230
- TANK GEOMETRY**  
 Liquid propellant tank design with semitoroidal bulkhead  
 [NASA-CASE-XNP-01899] c31 N70-41948
- TANKS (CONTAINERS)**  
 Radiation source and detection system for measuring amount of liquid inside tanks independently of liquid configuration  
 [NASA-CASE-MSC-12280] c27 N71-16348  
 Development of apparatus and method for testing leakage of large tanks  
 [NASA-CASE-XMF-02392] c32 N71-24285  
 Design and development of device to prevent clogging in hoppers containing particulate materials  
 [NASA-CASE-LAR-10961-1] c15 N73-12496  
 Floating baffle for tank drain  
 [NASA-CASE-KSC-10639] c15 N73-26472
- TANTALUM**  
 Oxygen-doped tantalum emitter for thermionic devices such as cesium vapor diodes  
 [NASA-CASE-NPO-11138] c03 N70-34646  
 Arc electrode of graphite with tantalum ball tip  
 [NASA-CASE-XLE-04788] c09 N71-22987  
 Organometallic compounds of niobium and tantalum useful for film deposition  
 [NASA-CASE-XNP-04023] c06 N71-28808
- TANTALUM ALLOYS**  
 Evaporating crucible of tantalum-tungsten foil, nickel alumina bonding agent, and ceramic coating  
 [NASA-CASE-XLA-03105] c15 N69-27483
- TANTALUM OXIDES**  
 Development of thin film temperature sensor from TaO  
 [NASA-CASE-NPO-11775] c26 N72-28761
- TAPE RECORDERS**  
 Plural recorder system which limits signal recording to signals of sufficient interest  
 [NASA-CASE-XMS-06949] c09 N69-21467  
 Endless loop tape transport mechanism for driving and tensioning recording medium in magnetic tape recorder  
 [NASA-CASE-XGS-01223] c07 N71-10609  
 Development of low friction magnetic recording tape  
 [NASA-CASE-XGS-00373] c23 N71-15978  
 Tape guidance system for multichannel digital recording system  
 [NASA-CASE-XNP-09453] c08 N71-19420  
 Design and development of synchronous servo loop control system  
 [NASA-CASE-XNP-03744] c10 N71-20448  
 Development of data storage system for storing digital data in high density format on magnetic tape  
 [NASA-CASE-XNP-02778] c08 N71-22710  
 Digital telemetry system apparatus to reduce tape recorder wow and flutter noise during playback  
 [NASA-CASE-XGS-01812] c07 N71-23001
- Tape recorder designed for low power consumption and resistance to operational failure under high stress conditions  
 [NASA-CASE-XGS-08259] c14 N71-23698  
 Transient video signal tape recorder with expanded playback  
 [NASA-CASE-ARC-10003-1] c09 N71-25866  
 Closed loop servosystem for variable speed tape recorders onboard spacecraft  
 [NASA-CASE-NPO-10700] c07 N71-33613  
 Design and characteristics of recording system for selective reproprocessing and filtering of data to obtain optimum signal to noise ratios  
 [NASA-CASE-ERC-10112] c07 N72-21119  
 Video tape recorder with scan conversion playback for color television signals  
 [NASA-CASE-NPO-10166-1] c07 N73-22076  
 Recording apparatus  
 [NASA-CASE-LAR-11353-1] c14 N74-20020
- TAPERED COLUMNS**  
 Method for shaping regeneratively cooled rocket motor casing having minimum thickness at each channel cross section  
 [NASA-CASE-XLE-00409] c28 N71-15658  
 Regeneratively cooled rocket motor casing with tapered channels to insure minimum thicknesses at each channel cross section for necessary strength requirements  
 [NASA-CASE-XLE-05689] c28 N71-15659
- TARGET ACQUISITION**  
 Acquisition and tracking system for optical radar  
 [NASA-CASE-MFS-20125] c16 N72-13437  
 Target acquisition antenna feed with reflector system  
 [NASA-CASE-GSC-10064-1] c10 N72-22235  
 Development of electronic detection system for remotely determining number and movement of enemy personnel  
 [NASA-CASE-ARC-10097-2] c07 N73-25160
- TARGET RECOGNITION**  
 Electronic background suppression field scanning sensor for detecting point source targets  
 [NASA-CASE-XGS-05211] c07 N69-39980
- TARGETS**  
 A multitarget sequential sputtering apparatus --- supported with rotatable anode  
 [NASA-CASE-NPO-13345-1] c15 N74-25971
- TEFLON (TRADEMARK)**  
 Reinforced FEP Teflon composite material diffusion bonded to metal substrate  
 [NASA-CASE-MFS-20482] c15 N72-22492
- TELECOMMUNICATION**  
 Adaptive compression signal processor for PCM communication systems  
 [NASA-CASE-XLA-03076] c07 N71-11266  
 Circuitry for generating sync signals in FM communication systems including video information  
 [NASA-CASE-INP-10830] c07 N71-11281  
 Automatic estimation of signal to noise ratio and other parameters in signal communication systems  
 [NASA-CASE-XNP-05254] c07 N71-20791  
 Digital synchronizer for extracting binary data in receiver of PSK/PCM communication system  
 [NASA-CASE-NPO-10851] c07 N71-24613  
 Encoders designed to generate comma free biorthogonal Reed-Muller type code comprising conversion of 64 6-bit words into 64 32-bit data for communication purposes  
 [NASA-CASE-NPO-10595] c10 N71-25917  
 Multicarrier communications system for transmitting modulated signals from single transmitter  
 [NASA-CASE-NPO-11548] c07 N73-26118  
 Phase modulation of tone and binary signals on carrier waves in communication systems  
 [NASA-CASE-GSC-11743-1] c07 N73-27107  
 Synchronized digital communication system  
 [NASA-CASE-XNP-03623] c09 N73-28084  
 Pseudo-noise test set for communication system evaluation  
 [NASA-CASE-MFS-22671-1] c14 N74-13146  
 Coherent receiver employing nonlinear coherence detection for carrier tracking  
 [NASA-CASE-NPO-11921-1] c07 N74-30523
- TELEMETRY**  
 Fabrication of pressure-telemetry transducers  
 [NASA-CASE-XNP-09752] c14 N69-21541

- Telemetry data unit to form multibit words for use between demodulator and computer  
[NASA-CASE-XNP-09225] c09 N69-24333
- Development of telemetry system for position location and data acquisition  
[NASA-CASE-GSC-10083-1] c30 N71-16090
- Telespectrograph for analyzing upper atmosphere by tracking bodies reentering atmosphere at high velocities  
[NASA-CASE-XLA-03273] c14 N71-18699
- Digitally controlled frequency synthesizer for pulse frequency modulation telemetry systems  
[NASA-CASE-XGS-02317] c09 N71-23525
- Time division multiplexed telemetry transmitting system controlled by programmed memory  
[NASA-CASE-GSC-10131-1] c07 N71-24624
- Temperature telemetric transmitter with frequency determining tank circuit for short range transmission  
[NASA-CASE-NPO-10649] c07 N71-24840
- System designed to reduce time required for obtaining synchronization in data communication with spacecraft utilizing pseudonoise codes  
[NASA-CASE-NPO-10214] c10 N71-26577
- Zero power telemetry actuated switch for biomedical equipment  
[NASA-CASE-ARC-10105] c09 N72-17153
- Development and characteristics of telemetry system using computer-accessed circuits and remotely controlled from ground station  
[NASA-CASE-NPO-11358] c07 N72-25172
- Control and information system for digital telemetry data using analog converter to digitize sensed parameter values  
[NASA-CASE-NPO-11016] c08 N72-31226
- Characteristics of two channel telemetry system with two data rate channels for high and low data rate communication  
[NASA-CASE-NPO-11572] c07 N73-16121
- Telemetry and transmission system with programmed sampling and multiplexing  
[NASA-CASE-GSC-11388-1] c07 N73-24187
- Improved phase lock loop for receiver in multichannel telemetry system with suppressed carrier  
[NASA-CASE-NPO-11593-1] c07 N73-28012
- TELEPHONY**
- Digital communication system  
[NASA-CASE-MS-C-13912-1] c07 N74-30524
- TELESCOPES**
- Pneumatic control of telescopic mirror support system  
[NASA-CASE-XLA-03271] c11 N69-24321
- Tracking mount for laser telescope employed in tracking large rockets and space vehicles to give information regarding azimuth and elevation  
[NASA-CASE-MPS-14017] c14 N71-26627
- Development of reflector system for application to line-of-sight pointing and tracking telescopes  
[NASA-CASE-NPO-10468] c23 N71-33229
- Design and development of light sensing device for controlling orientation of object relative to sun or other light source  
[NASA-CASE-NPO-11201] c14 N72-27409
- Borescope with adjustable hinged telescoping optical system  
[NASA-CASE-MPS-15162] c14 N72-32452
- Ritchey-Chretien telescope responsive to images located off telescope optical axis  
[NASA-CASE-GSC-11487-1] c14 N73-30393
- Servo-controlled intravitral microscope system  
[NASA-CASE-NPO-13214-1] c14 N74-19093
- TELETYPEWRITER SYSTEMS**
- Teletypewriter video communication system and apparatus  
[NASA-CASE-XNP-06611] c07 N71-26102
- TELEVISION CAMERAS**
- Electrically operated rotary shutter for television camera aboard spacecraft  
[NASA-CASE-XNP-00637] c14 N70-40273
- TV camera output signal control system for digital spacecraft communication  
[NASA-CASE-XNP-01472] c14 N70-41807
- Solid state television camera system consisting of monolithic semiconductor mosaic sensor and molecular digital readout systems  
[NASA-CASE-XMF-06092] c07 N71-24612
- Color television system for allowing monochrome television camera to produce color pictures  
[NASA-CASE-MS-C-12146-1] c07 N72-17109
- TELEVISION EQUIPMENT**
- Conversion system for transforming slow scan rate of Apollo TV camera on moon to fast scan rate of commercial TV  
[NASA-CASE-XMS-07168] c07 N71-11300
- Automatic closed circuit television arc guidance control for welding joints  
[NASA-CASE-MPS-13046] c07 N71-19433
- Color television system utilizing single gun current sensitive color cathode ray tube  
[NASA-CASE-ERC-10098] c09 N71-28618
- Development of spacecraft docking system for optical alignment of spacecraft using television camera system  
[NASA-CASE-MS-C-12559-1] c31 N73-26879
- Television multiplexing system, using single crystal controlled clock for signal synchronization  
[NASA-CASE-KSC-10654-1] c07 N73-30115
- Rotating raster generator  
[NASA-CASE-FRC-10071-1] c07 N74-20813
- Auditory display for the blind  
[NASA-CASE-BQN-10832-1] c14 N74-21014
- TELEVISION RECEIVERS**
- Improvements in receiver of narrow bandwidth television system  
[NASA-CASE-XMS-06740-1] c07 N71-26579
- TELEVISION SYSTEMS**
- Electron beam scanning system for improved image definition and reduced power requirements for video signal transmission  
[NASA-CASE-ERC-10552] c09 N71-12539
- Development and characteristics of burst synchronization detection system  
[NASA-CASE-XMS-05605-1] c10 N71-19468
- Improvements in receiver of narrow bandwidth television system  
[NASA-CASE-XMS-06740-1] c07 N71-26579
- Stereoscopic television system, including projecting pair of binocular images  
[NASA-CASE-ARC-10160-1] c23 N72-27728
- TELEVISION TRANSMISSION**
- Television simulation for aircraft and space flight  
[NASA-CASE-XPR-03107] c09 N71-19449
- Automatic frequency control for FM transmitter  
[NASA-CASE-MPS-21540-1] c07 N74-19790
- TEMPERATURE**
- Fluorinated esters of polycarboxylic acid and lubricating compositions for use at extreme temperature  
[NASA-CASE-MPS-21040-1] c06 N73-30098
- TEMPERATURE COMPENSATION**
- Temperature compensated solid state differential amplifier with application in bioinstrumentation circuits  
[NASA-CASE-YAC-00435] c09 N70-35440
- Variable frequency magnetic coupled multivibrator with temperature compensated frequency control circuit  
[NASA-CASE-XGS-00458] c09 N70-38604
- Matched thermistors for microwave power meters with compensation for temperature changes  
[NASA-CASE-NPO-10348] c10 N71-12554
- Development of temperature compensated thrust measuring gage for measuring forces as function of time in environment with varying temperature  
[NASA-CASE-XGS-02319] c14 N71-22965
- Variable frequency subcarrier oscillator with temperature compensation  
[NASA-CASE-XNP-03916] c09 N71-28810
- Omnidirectional liquid filled accelerometer design with liquid and housing temperature compensation  
[NASA-CASE-BQN-10780] c14 N71-30265
- Development of thermal compensating structure which maintains uniform length with changes in temperature  
[NASA-CASE-MPS-20433] c15 N72-28496
- Development of temperature compensated light source with components and circuitry for maintaining luminous intensity independent of temperature variations  
[NASA-CASE-ARC-10467-1] c09 N73-14214

## SUBJECT INDEX

## TEMPERATURE MEASURING INSTRUMENTS

## TEMPERATURE CONTROL

Method and apparatus using temperature control for wavelength tuning of liquid lasers  
[NASA-CASE-ERC-10187] c16 N69-31343

Ultraviolet radiation resistant alkali-metal silicate coatings for temperature control of spacecraft  
[NASA-CASE-XGS-04119] c18 N69-39979

Passive thermal control coating on aluminum foil laminate for inflatable spacecraft surfaces  
[NASA-CASE-XLA-01291] c33 N70-36617

Thermal switch for transferring excess heat from one region to another heat dissipating one  
[NASA-CASE-XNP-00463] c33 N70-36847

Sandwich panel structure for removing heat from shield between hot and cold areas  
[NASA-CASE-XLA-00349] c33 N70-37979

Device for adding water to high velocity exhaust jets to reduce velocity, noise, and temperature  
[NASA-CASE-XMP-01813] c28 N70-41582

Modifying existing solar cells for temperature control  
[NASA-CASE-NPO-10109] c03 N71-11049

Temperature sensor warning system for pneumatic tires of aircraft and ground vehicles  
[NASA-CASE-XLA-01926] c14 N71-15620

Intermittent type silica gel adsorption refrigerator for providing temperature control for spacecraft components  
[NASA-CASE-XNP-00920] c15 N71-15906

Using heat control unit to preheat circulating fluid  
[NASA-CASE-XMP-04237] c33 N71-16278

Mounting apparatus for temperature control system  
[NASA-CASE-NPO-10138] c33 N71-16357

Design and development of device for cooling inner conductor of coaxial cable  
[NASA-CASE-XNP-09775] c09 N71-20445

Thermal control wall panel with application to spacecraft cabins  
[NASA-CASE-XLA-01243] c33 N71-22792

Development and characteristics of thermal sensitive panel for controlling ratio of solar absorptivity to surface emissivity for space vehicle temperature control  
[NASA-CASE-XLA-07728] c33 N71-22890

Method and apparatus for adjusting thermal conductance in electronic components for space use  
[NASA-CASE-XNP-05524] c33 N71-24876

Device for rapid adjustment and maintenance of temperature in electronic components  
[NASA-CASE-XNP-02792] c14 N71-28958

Automatic control device for regulating inlet water temperature of liquid cooled spacesuit  
[NASA-CASE-HSC-13917-1] c05 N72-15098

Development of method for controlling vapor content of gas  
[NASA-CASE-NPO-10633] c03 N72-28025

Atomic hydrogen maser with bulb temperature control by output frequency difference signal for wall shift elimination  
[NASA-CASE-HQN-10654-1] c16 N73-13489

Design and development of thermomechanical pump for transmitting warning fluid through fluid circuit to control temperature of spacecraft instrumentation  
[NASA-CASE-NPO-11417] c15 N73-24513

Automatic temperature control for liquid cooled space suit  
[NASA-CASE-ARC-10599-1] c05 N73-26071

Temperature control system comprised of wheatstone bridge with RC circuit  
[NASA-CASE-NPO-11304] c14 N73-26430

Development and characteristics of thermal control system for maintaining constant temperature within spacecraft module with wide variations of component heat transfer  
[NASA-CASE-GSC-11018-1] c31 N73-30829

Self-regulating proportionally controlled heating apparatus and technique  
[NASA-CASE-GSC-11752-1] c33 N74-19583

Apparatus for controlling the temperature of balloon-borne equipment  
[NASA-CASE-GSC-11620-1] c14 N74-23039

Rocket chamber and method of making  
[NASA-CASE-LEW-11118-2] c28 N74-28232

**TEMPERATURE DISTRIBUTION**

Oven for heat treating heat shields

[NASA-CASE-XMS-04318] c15 N69-27871

**TEMPERATURE EFFECTS**

Shock and vibration damping device using temperature sensitive solid amorphous polymers  
[NASA-CASE-XAC-11225] c14 N69-27486

Differential pressure cell insensitive to changes in ambient temperature and extreme overload  
[NASA-CASE-XAC-00042] c14 N70-34816

Fluid flow control valve for regulating fluids in molecular quantities  
[NASA-CASE-XLE-00703] c15 N71-15967

Describing device for changing flow rate of fluid in duct in response to change in temperature  
[NASA-CASE-NPS-14259] c15 N71-19213

Temperature sensitive magnetometer with pulsating thermally cycled magnetic core  
[NASA-CASE-XAC-03740] c14 N71-26135

Development of system with electrical properties which vary with changes in temperature for use with feedback loop in operational amplifier circuit  
[NASA-CASE-HSC-13276-1] c14 N71-27058

**TEMPERATURE GRADIENTS**

Differential thermopile for measuring cooling water temperature rise  
[NASA-CASE-XAC-00812] c14 N71-15598

Development of temperature compensated light source with components and circuitry for maintaining luminous intensity independent of temperature variations  
[NASA-CASE-ARC-10467-1] c09 N73-14214

Method for compression molding of thermosetting plastics utilizing a temperature gradient across the plastic to cure the article  
[NASA-CASE-LAR-10489-1] c15 N74-18124

Method and apparatus for checking fire detectors  
[NASA-CASE-GSC-11600-1] c14 N74-21019

**TEMPERATURE MEASUREMENT**

Filter arrangement for controlling light intensity in motion picture camera used in optical pyrometry  
[NASA-CASE-XLA-00062] c14 N70-33254

Development of apparatus for measuring thermal conductivity  
[NASA-CASE-IGS-01052] c14 N71-15992

Design and characteristics of thermocouples consisting of flexible tape for improved attachment to temperature source  
[NASA-CASE-XNP-01659] c14 N71-23039

Black body cavity radiometer with thermal resistance wire bridge circuit  
[NASA-CASE-XNP-08961] c14 N71-24809

Design, development, and characteristics of pressure and temperature sensor operating immersed in fluid flow  
[NASA-CASE-LEW-10281-1] c14 N72-17327

Development of thermocouple instrument for measuring temperature of wall heated by flowing fluid without disturbing boundary layer  
[NASA-CASE-XLE-05230] c14 N72-27410

Thermocouple apparatus for measuring wall temperatures in regeneratively cooled rocket engines having thin walled cooling passages  
[NASA-CASE-XLE-05230-2] c14 N73-13417

Thermochromic compositions for detecting heat levels in electronic circuits and devices  
[NASA-CASE-NPO-10764-1] c14 N73-14428

Method of fabricating an article with cavities --- with thin bottom walls  
[NASA-CASE-LAR-10318-1] c14 N74-18089

Method for determining thermo-physical properties of specimens --- photographic recording of changes in thin film phase-change temperature indicating material in wind tunnel  
[NASA-CASE-LAR-11053-1] c33 N74-18551

**TEMPERATURE MEASURING INSTRUMENTS**

Temperature sensor warning system for pneumatic tires of aircraft and ground vehicles  
[NASA-CASE-XLA-01926] c14 N71-15620

Electric network for monitoring temperatures, detecting critical temperatures, and indicating critical time duration  
[NASA-CASE-XMP-01097] c10 N71-16058

Electromagnetic energy detection by thermal sensor with vibrating electrode  
[NASA-CASE-XAC-10768] c09 N71-18830

- Input radio frequency circuit for switching type absolute temperature measuring radiometer for noise sources  
[NASA-CASE-ERC-11020] c14 N71-26774
- High intensity radiant energy pulse source for calibrating heat transfer gages with thermoluminescent shutter activation  
[NASA-CASE-ARC-10178-1] c09 N72-17152
- Ingestible miniaturized telemetry device for deep body temperature measurements on humans and animals  
[NASA-CASE-ARC-10583-1] c05 N73-14093
- Development of flexible thermocouple in form of tape for adaptation to special temperature measuring conditions  
[NASA-CASE-LEW-11072-1] c14 N73-24472
- TEMPERATURE PROBES**
- Thermally sensitive tuning probe for nullifying detuning effects in microwave cavity resonator of amplifier  
[NASA-CASE-XNP-00449] c14 N70-35220
- Design, development, and characteristics of pressure and temperature sensor operating immersed in fluid flow  
[NASA-CASE-LEW-10281-1] c14 N72-17327
- Organic amine and nitroaromatic mixed compound for heat change detection in microelectronic components  
[NASA-CASE-NPO-10764-2] c10 N73-20259
- TEMPERATURE SENSORS**
- Miniaturized radiometer for detecting low level thermal radiation  
[NASA-CASE-XLA-04556] c14 N69-27484
- Mounting fixture for supporting thermobulb in pipeline  
[NASA-CASE-NPO-10158] c33 N71-16356
- Mounting apparatus for temperature control system  
[NASA-CASE-NPO-10138] c33 N71-16357
- Heat flux sensor adapted for mounting on aircraft or spacecraft to measure aerodynamic heat flux inflow to aircraft skin  
[NASA-CASE-XFR-03802] c33 N71-23085
- Temperature telemetric transmitter with frequency determining tank circuit for short range transmission  
[NASA-CASE-NPO-10649] c07 N71-24840
- Black body radiometer design with temperature sensing and cavity heat source cone winding  
[NASA-CASE-XNP-09701] c14 N71-26475
- Thin film capacitive bolometer and capacitance temperature interchange sensor  
[NASA-CASE-NPO-10607] c09 N71-27232
- Development of thin film temperature sensor from TaO  
[NASA-CASE-NPO-11775] c26 N72-28761
- TEMPLATES**
- Precision surface cutter for screen circuit negatives and other microcircuits  
[NASA-CASE-XLA-09843] c15 N72-27485
- TENSILE STRENGTH**
- Method for producing fiber reinforced metallic composites with high strength and elasticity over wide temperature range  
[NASA-CASE-XLE-00231] c17 N70-38198
- Composites reinforced with short metal fibers or whiskers and having high tensile strength  
[NASA-CASE-XLE-00228] c17 N70-38490
- Apparatus for tensile strength testing of specimen by pressurized fluid  
[NASA-CASE-IKS-06250] c14 N71-15600
- Process for fiberizing ceramic materials with high fusion temperatures and tensile strength  
[NASA-CASE-XNP-00597] c18 N71-23088
- Tensile strength testing device having pulley guides for exerting multiple forces on test specimen  
[NASA-CASE-XNP-05634] c15 N71-24834
- TENSILE STRESS**
- Method for testing rocket nozzles at high tensile stress levels  
[NASA-CASE-NPO-10311] c31 N71-15643
- Device for measuring tensile forces  
[NASA-CASE-MPS-21728-1] c14 N74-27865
- Solid medium thermal engine  
[NASA-CASE-ARC-10461-1] c33 N74-33379
- TENSILE TEST**
- Tensile strength testing device having pulley guides for exerting multiple forces on test specimen  
[NASA-CASE-XNP-05634] c15 N71-24834
- TENSILE TESTS**
- Apparatus for tensile strength testing of specimen by pressurized fluid  
[NASA-CASE-IKS-06250] c14 N71-15600
- Apparatus for measuring load on cable under static or dynamic conditions comprising pulleys pivoting structure against restraint of tension strap  
[NASA-CASE-XMS-04545] c15 N71-22878
- Method and apparatus for remote measurement of displacement of marks on specimen undergoing tensile test  
[NASA-CASE-NPO-10778] c14 N72-11364
- Anti-buckling fatigue test assembly --- for subjecting metal specimen to tensile and compressive loads at constant temperature  
[NASA-CASE-LAR-10426-1] c32 N74-19528
- Method and apparatus for tensile testing of metal foil  
[NASA-CASE-LAR-10208-1] c14 N74-30894
- TENSION**
- A meter for use in detecting tension in straps having predetermined elastic characteristics  
[NASA-CASE-MFS-22189-1] c14 N74-10421
- TERMINAL GUIDANCE**
- Data processing and display system for terminal guidance of F-15 aircraft  
[NASA-CASE-XFR-00756] c02 N71-13421
- Terminal guidance system --- for guiding aircraft into preselected altitude and/or heading at terminal point  
[NASA-CASE-PRC-10049-1] c21 N74-13420
- TERRAIN**
- Vertically descending flight vehicle landing gear for rough terrain  
[NASA-CASE-I&P-01174] c02 N70-41589
- TEST CHAMBERS**
- System for continuous monitoring of exhalations, weighing, and cage cleaning for animal exposed to controlled atmosphere for toxic study  
[NASA-CASE-XAC-05333] c11 N71-22875
- Multisample test chamber for exposing materials to X rays, temperature change, and gaseous conditions and determination of material effects  
[NASA-CASE-XMS-02930] c11 N71-23042
- Flammability test chamber for testing materials in certain predetermined environments  
[NASA-CASE-KSC-10126] c11 N71-24985
- Pressure seals suitable for use in environmental test chambers  
[NASA-CASE-NPO-10796] c15 N71-27068
- Test chamber for determining decomposition and autoignition of materials used in spacecraft under controlled environmental conditions  
[NASA-CASE-KSC-10198] c11 N71-28629
- Test chambers with orifice and helium mass spectrometer for detecting leak rate of encapsulated semiconductor devices  
[NASA-CASE-ERC-10150] c14 N71-28992
- TEST EQUIPMENT**
- Equipment for testing of ground station ranging equipment and spacecraft transponders  
[NASA-CASE-XMS-05454-1] c07 N71-12391
- Apparatus for tensile strength testing of specimen by pressurized fluid  
[NASA-CASE-IKS-06250] c14 N71-15600
- Development of black-body source calibration furnace  
[NASA-CASE-XLE-01399] c33 N71-15625
- Design and characteristics of thermocouples consisting of flexible tape for improved attachment to temperature source  
[NASA-CASE-XNP-01659] c14 N71-23039
- Automatic controlled thermal fatigue testing apparatus  
[NASA-CASE-XLA-02059] c33 N71-24276
- Development and characteristics of electric circuitry for detecting electrical pulses rise time and amplitude  
[NASA-CASE-XMP-08804] c09 N71-24717
- Automated ball rebound resilience test equipment for determining viscoelastic properties of polymers  
[NASA-CASE-XLA-08254] c14 N71-26161
- Portable equipment for validating C band launch pad antennas and transmission lines used for spacecraft checkout  
[NASA-CASE-IKS-10543] c07 N71-26292

- Acoustic vibration test apparatus for wiring harnesses  
[NASA-CASE-MSC-15158-1] c14 N72-17325
- Design and development of two types of atmosphere sampling chambers  
[NASA-CASE-NPO-11373] c13 N72-25323
- Development of apparatus for testing burning rate and flammability of materials  
[NASA-CASE-XMS-09690] c33 N72-25913
- Development of apparatus for detonating explosive devices in order to determine forces generated and detonation propagation rate  
[NASA-CASE-LAR-10800-1] c33 N72-27959
- Equipment for vibration testing of assemblies, components, and other articles  
[NASA-CASE-GSC-11302-1] c14 N73-13416
- Design and development of test stand system for supporting test items in vacuum chamber  
[NASA-CASE-MFS-21362] c11 N73-20267
- Test set for signal conditioner modules  
[NASA-CASE-RSC-10750-1] c14 N73-23527
- Development and characteristics of apparatus for measuring intensity of electric field in atmosphere  
[NASA-CASE-KSC-10730-1] c14 N73-32318
- Test equipment to prevent buckling of small diameter specimens during compression tests  
[NASA-CASE-LAR-10440-1] c14 N73-32323
- Pseudo-noise test set for communication system evaluation  
[NASA-CASE-MFS-22671-1] c14 N74-13146
- Wind tunnel model and method  
[NASA-CASE-LAR-10812-1] c11 N74-17955
- Testing device using X-ray lasers  
[NASA-CASE-MFS-22409-1] c16 N74-18153
- Anti-buckling fatigue test assembly --- for subjecting metal specimen to tensile and compressive loads at constant temperature  
[NASA-CASE-LAR-10426-1] c32 N74-19528
- Visual examination apparatus  
[NASA-CASE-ARC-10329-2] c05 N74-19761
- Gas chromatograph injection system  
[NASA-CASE-ARC-10344-2] c14 N74-20021
- Method and apparatus for checking fire detectors  
[NASA-CASE-GSC-11600-1] c14 N74-21019
- Particulate and aerosol detector --- based on discharge characteristics of charged capacitor under particle impact  
[NASA-CASE-LAR-11434-1] c14 N74-22112
- Improved method of detecting and counting bacteria  
[NASA-CASE-GSC-11917-1] c04 N74-26619
- Battery testing device --- for testing cells of multiple-cell battery  
[NASA-CASE-MFS-20761-1] c03 N74-27519
- Multiparameter vision tester  
[NASA-CASE-MSC-13601-2] c05 N74-32549
- TEST FACILITIES**
- Electric propulsion engine test chamber  
[NASA-CASE-XLE-00252] c11 N70-34844
- Test apparatus for determining mechanical properties of refractory materials at high temperatures in vacuum or inert atmospheres  
[NASA-CASE-XLE-00335] c14 N70-35368
- Gas analyzer for bi-gaseous mixtures suitable for use in test facilities  
[NASA-CASE-XLA-01131] c14 N71-10774
- Design and characteristics of device for launching models in wind tunnels without disturbance of air flow  
[NASA-CASE-XNP-03578] c11 N71-23030
- Design, development, and operation of shock tube with bypass piston tunnel  
[NASA-CASE-NPO-12109] c11 N72-22245
- TEST STANDS**
- Automatic balancing device for use on frictionless supported attitude-controlled test platforms  
[NASA-CASE-LAR-10774] c10 N71-13545
- Micro-pound extended range thrust stand for small rocket engines  
[NASA-CASE-GSC-10710-1] c28 N71-27094
- TETHERING**
- Force separation rigid tethering device using cables  
[NASA-CASE-XLA-02332] c32 N71-17609
- Space expandable tether device for use as passageway between two docked spacecraft  
[NASA-CASE-XMS-10993] c15 N71-28936
- TETHERLINES**
- Flexible cable that can be made rigid  
[NASA-CASE-MSC-13512-1] c15 N72-22485
- TETRAPHENYLS**
- Chemical synthesis of thermally stable organometallic polymers with divalent metal ion and tetraphenylphosphonitrilic units  
[NASA-CASE-HQN-10364] c06 N71-27363
- TEXTILES**
- Process for developing flame retardant elastomeric composition textiles for use in space suits  
[NASA-CASE-MSC-14331-1] c18 N73-27501
- THERMAL ABSORPTION**
- Development and characteristics of calorimeter with integral heat sink for maintenance of constant temperature  
[NASA-CASE-IMP-04208] c33 N71-29051
- THERMAL CONDUCTIVITY**
- Measuring conductive heat flow and thermal conductivity of laminar gas stream in cylindrical plug to simulate atmospheric reentry  
[NASA-CASE-XLE-00266] c14 N70-34156
- Development of apparatus for measuring thermal conductivity  
[NASA-CASE-XGS-01052] c14 N71-15992
- Heated element sensor for fluid flow detection in thermal conductive conduit with adaptive means to determine flow rate and direction  
[NASA-CASE-MSC-12084-1] c12 N71-17569
- Method and apparatus for adjusting thermal conductance in electronic components for space use  
[NASA-CASE-XNP-05524] c33 N71-24876
- Thermally conductive polymer for potting electrical components  
[NASA-CASE-GSC-11304-1] c06 N72-21105
- Electrostatically controlled heat transfer system for conducting thermal energy  
[NASA-CASE-NPO-11942-1] c33 N73-32818
- THERMAL CONDUCTORS**
- Thermal conductive, electrically insulated cleavable adhesive connection between electronic module and heat sink  
[NASA-CASE-XMS-02087] c09 N70-41717
- THERMAL CONTROL COATINGS**
- Low concentration alkaline solution treatment of aluminum with metal phosphate surface coatings to improve chemical bonding and reduce coating weight  
[NASA-CASE-XLA-01995] c18 N71-23047
- Binder stabilized zinc oxide pigmented coating for spacecraft thermal control  
[NASA-CASE-XNP-07770-2] c18 N71-26772
- Inorganic thermal control and solar reflector coatings  
[NASA-CASE-MFS-20011] c18 N72-22566
- Mercaptan terminated polymer containing sulfonic acid salts of nitrosubstituted aromatic amines for heat and moisture resistant coatings  
[NASA-CASE-ARC-10325] c06 N72-25147
- Refractory porcelain enamel passive thermal control coating for high temperature alloys  
[NASA-CASE-MFS-22320-1] c18 N73-21471
- THERMAL DEGRADATION**
- Use of silicon controlled rectifier shorting circuit to protect thermoelectric generator source from thermal destruction  
[NASA-CASE-XGS-04808] c03 N69-25146
- Electrical failure detector in solid rocket propellant motor insulation against thermal degradation by fuel grain  
[NASA-CASE-IMP-03968] c14 N71-27186
- THERMAL ENERGY**
- Direct conversion of thermal energy into electrical energy using crossed electric and magnetic fields  
[NASA-CASE-XLE-00212] c03 N70-34134
- Concentrator device for controlling direction of solar energy onto energy converters  
[NASA-CASE-XLE-01716] c09 N70-40234
- Storage stable, thermally activated foaming compositions for erecting and rigidizing mechanisms of thin sheet solar collectors  
[NASA-CASE-LAR-10373-1] c18 N71-26155
- Gaseous core diffusion nuclear reactor for thermal energy generation  
[NASA-CASE-LEW-10250-1] c22 N71-28759



- Electrostatically controlled heat transfer system for conducting thermal energy  
[NASA-CASE-NPO-11942-1] c33 N73-32818
- Solid medium thermal engine  
[NASA-CASE-ARC-10461-1] c33 N74-33379
- THERMAL EXPANSION**
- Gas valve operated by thermally expanding and contracting device  
[NASA-CASE-ILE-00815] c15 N70-35407
- Adjustable rigid mount for trihedral mirror formed of alloy with small coefficient of thermal expansion supporting screws and spring-biased plates  
[NASA-CASE-INP-08907] c23 N71-29123
- Application of spiral, bimetallic strip to create circular motion on mechanical shaft by changing strip temperature  
[NASA-CASE-NPO-11283] c09 N72-25260
- Glass-to-metal seals comprising relatively high expansion metals  
[NASA-CASE-LRW-10698-1] c15 N74-21063
- THERMAL FATIGUE**
- Automatic controlled thermal fatigue testing apparatus  
[NASA-CASE-ILA-02059] c33 N71-24276
- THERMAL INSULATION**
- Low thermal loss piping arrangement for moving cryogenic media through double chamber structure  
[NASA-CASE-INP-08882] c15 N69-39935
- Insulating system for receptacles of liquefied gases using wire cloth for forming frost layer  
[NASA-CASE-INP-00341] c15 N70-33323
- Unfired-ceramic, highly reflective composite insulation for large launch vehicles  
[NASA-CASE-INP-01030] c18 N70-41583
- Carbon dioxide purge systems to prevent condensation in spaces between cryogenic fuel tanks and hypersonic vehicle skin  
[NASA-CASE-ILA-01967] c31 N70-42015
- Preparation and characteristics of lightweight refractory insulation  
[NASA-CASE-INP-05279] c18 N71-16124
- Development of thermal insulation system for wing and control surfaces of hypersonic aircraft and reentry vehicles  
[NASA-CASE-ILA-00892] c33 N71-17897
- Prefabricated multilayered self-evacuating insulation panels using gas with low vapor pressure at cryogenic temperatures for application to storage of cryogens  
[NASA-CASE-ILE-04222] c23 N71-22881
- Light weight plastic foam thermal insulation for cryogenic storage  
[NASA-CASE-ILE-02647] c18 N71-23658
- Development of foam insulation for filament wound cryogenic storage tank  
[NASA-CASE-ILE-03803] c15 N71-23816
- Multilayer insulation panels for cryogenic liquid containers  
[NASA-CASE-MPS-14023] c33 N71-25351
- Double-wall isothermal cylinder containing heat transfer fluid thermal reservoir as spacecraft insulation cover  
[NASA-CASE-MPS-20355] c33 N71-25353
- Structure of fabric layers for micrometeoroid protection garment with capability for eliminating heat shorts for use in manufacturing space suits  
[NASA-CASE-MSC-12109] c18 N71-26285
- Foam insulation thickness measuring and injection device for spacecraft applications  
[NASA-CASE-MPS-20261] c14 N71-27005
- Development of thermal insulation material for insulating liquid hydrogen tanks in spacecraft  
[NASA-CASE-INP-05046] c33 N71-28892
- Para-benzoquinone dioxide and concentrated mineral acid processed to yield intumescent or fire resistant, heat insulating materials  
[NASA-CASE-ARC-10304-1] c18 N73-26572
- Development and characteristics of thermal control system for maintaining constant temperature within spacecraft module with wide variations of component heat transfer  
[NASA-CASE-GSC-11018-1] c31 N73-30829
- Structural heat pipe for spacecraft wall thermal insulation system  
[NASA-CASE-GSC-11619-1] c33 N73-32828
- Heater-mixer for stored fluids  
[NASA-CASE-ARC-10442-1] c14 N74-15093
- Strain arrestor plate --- bonding rigid thermal insulation tiles to metallic plates or structural parts  
[NASA-CASE-MSC-14182-1] c18 N74-15213
- Intumescent composition, foamed product prepared therewith and process for making same  
[NASA-CASE-ARC-10304-2] c18 N74-27037
- High current electrical lead --- for thermionic converters  
[NASA-CASE-LRW-10950-1] c09 N74-27683
- Auger attachment method for insulation --- of spacecraft  
[NASA-CASE-MSC-12615-1] c15 N74-30916
- THERMAL PLASMAS**
- Apparatus for producing monochromatic light from continuous plasma source  
[NASA-CASE-INP-04167-2] c25 N72-24753
- THERMAL PROTECTION**
- Thermoprotective device for balances  
[NASA-CASE-XAC-00648] c14 N70-40400
- Design, development, and characteristics of ablation structures  
[NASA-CASE-IMS-01816] c33 N71-15623
- Development of spacecraft radiator cover  
[NASA-CASE-MSC-12049] c31 N71-16080
- Characteristics of foamed-in-place ceramic refractory insulating material and method of fabrication  
[NASA-CASE-XGS-02435] c18 N71-22998
- Unfired ceramic insulation for protection from radiant heating environments  
[NASA-CASE-MPS-14253] c33 N71-24858
- Development of solid state polymer coating for obtaining thermal balance in spacecraft components  
[NASA-CASE-XLA-01745] c33 N71-28903
- Anodizing method for providing metal surfaces with temperature reducing coatings against flames  
[NASA-CASE-XLE-00035] c33 N71-29151
- Ablative heat shield for protection from aerodynamic heating of reentry spacecraft  
[NASA-CASE-MSC-12143-1] c33 N72-17947
- Lightweight fire resistant plastic foam for thermal protection of reentry vehicles and aircraft structures  
[NASA-CASE-ARC-10180-1] c28 N72-20767
- Flexible fire retardant polyisocyanate modified neoprene foam --- for thermal protective devices  
[NASA-CASE-ARC-10180-1] c06 N74-12814
- THERMAL RADIATION**
- Miniaturized radiometer for detecting low level thermal radiation  
[NASA-CASE-XLA-04556] c14 N69-27484
- Temperature sensitive capacitor device for detecting very low intensity infrared radiation  
[NASA-CASE-INP-09750] c14 N69-39937
- High temperature source of thermal radiation  
[NASA-CASE-ILE-00490] c33 N70-34545
- Development and characteristics of thermal radiation shielding of refractory metal foil used for induction furnace  
[NASA-CASE-XLE-03432] c33 N71-24145
- Black body cavity radiometer with thermal resistance wire bridge circuit  
[NASA-CASE-INP-08961] c14 N71-24809
- Development of method for protecting large and oddly shaped areas from radiant and convective heat  
[NASA-CASE-INP-01310] c33 N71-28852
- THERMAL REACTORS**
- Power control system for thermal nuclear reactor  
[NASA-CASE-XLE-05799] c22 N72-21644
- Fuel system for thermal nuclear reactor which uses inorganic ion exchanger  
[NASA-CASE-LRW-11645-2] c22 N73-28660
- THERMAL RESISTANCE**
- Single electrical circuit component combining diode, fuse, and blown indicator with elongated tube of heat resistant transparent material  
[NASA-CASE-XKS-03381] c09 N71-22796
- Polyimide foam for the thermal insulation and fire protection  
[NASA-CASE-ARC-10464-1] c06 N74-12812
- Dual measurement ablation sensor  
[NASA-CASE-LAR-10105-1] c33 N74-15652
- Self-regulating proportionally controlled heating apparatus and technique

- [NASA-CASE-GSC-11752-1] c33 N74-19583
- THERMAL SHOCK**  
Development of equipment for measuring thermal shock resistance of thin discs of material [NASA-CASE-XLE-02024] c14 N71-22964  
Thermal shock resistant hafnia ceramic materials [NASA-CASE-LAR-10894-1] c18 N73-14584
- THERMAL SIMULATION**  
Simulating operation of thermopile vacuum gage tube at high and low pressures [NASA-CASE-XLA-02758] c14 N71-18481
- THERMAL STABILITY**  
Bonded solid lubricant coatings of calcium fluoride and binder for high temperature stability [NASA-CASE-XMS-00259] c18 N70-36400  
Portable environmental control and life support system for astronaut in and out of spacecraft [NASA-CASE-XMS-09632-1] c05 N71-11203  
Chemical synthesis of thermally stable organometallic polymers with divalent metal ion and tetraphenylphosphonitrilic units [NASA-CASE-HQM-10364] c06 N71-27363  
Cernat for nuclear fuel constructed by pressing metal coated ceramic particles in die at temperature to cause bonding of metal coatings, and tested for thermal stability [NASA-CASE-LEW-10219-1] c18 N71-28729  
Ultraviolet and thermally stable polymer compositions [NASA-CASE-ARC-10592-1] c18 N74-21156
- THERMAL STRESSES**  
Multilegged support system for wind tunnel test models subjected to thermal dynamic loading [NASA-CASE-XLA-01326] c11 N71-21481  
Development of device for simulating cyclic thermal loading of flexible materials by application of mechanical stresses and deformations [NASA-CASE-LAR-10270-1] c32 N72-25877
- THERMIONIC CATHODES**  
Thermionic cesium diode converter with cavity emitters [NASA-CASE-NPO-10412] c09 N71-28421
- THERMIONIC CONVERTERS**  
Vacuum thermionic converter with short-circuited triodes and increased electron transmission and conversion efficiency [NASA-CASE-XLE-01015] c03 N69-39898  
Thermionic converter for converting heat energy directly into electrical energy [NASA-CASE-XLE-01903] c22 N71-23599  
Thermionic cesium diode converter with cavity emitters [NASA-CASE-NPO-10412] c09 N71-28421  
Development and characteristics of solar cells with phosphors in cover glass to improve response to solar ultraviolet radiation [NASA-CASE-ARC-10050] c03 N71-33409  
Reactor heated in-core diodes for energy conversion [NASA-CASE-NPO-10542] c09 N72-27228  
Low cost efficient thermionic converter for use in nuclear reactors [NASA-CASE-NPO-13121-1] c22 N73-12702  
Control circuit for nuclear thermionic converter power source for spacecraft [NASA-CASE-NPO-13114-1] c22 N73-13656  
Electric power generation system directly from laser power [NASA-CASE-NPO-13308-1] c03 N74-19702  
High current electrical lead --- for thermionic converters [NASA-CASE-LEW-10950-1] c09 N74-27683
- THERMIONIC DIODES**  
Electric power system utilizing thermionic plasma diodes in parallel and heat pipes as cathodes [NASA-CASE-INP-05843] c03 N71-11055  
Thermionic diode switch for use in high temperature region to chop current from dc source [NASA-CASE-NPO-10404] c03 N71-12255  
Microampere current measuring circuit, with two subminiature thermionic diodes with filament cathodes [NASA-CASE-INP-00384] c09 N71-13530  
Electric power system with thermionic diodes and circulatory liquid metal coolant lines [NASA-CASE-MFS-14114] c33 N71-27862  
Reactor heated in-core diodes for energy conversion [NASA-CASE-NPO-10542] c09 N72-27228
- THERMIONIC EMITTERS**  
Oxygen-doped tantalum emitter for thermionic devices such as cesium vapor diodes [NASA-CASE-NPO-11138] c03 N70-34646
- THERMISTORS**  
Matched thermistors for microwave power meters with compensation for temperature changes [NASA-CASE-NPO-10348] c10 N71-12554
- THERMOCHROMATIC MATERIALS**  
Thermochromic compositions for detecting heat levels in electronic circuits and devices [NASA-CASE-NPO-10764-1] c14 N73-14428
- THERMOCOUPLE PYROMETERS**  
Dual measurement ablation sensor [NASA-CASE-LAR-10105-1] c33 N74-15652
- THERMOCOUPLES**  
Heat flux sensor assembly with proviso for heat shield to reduce radiative transfer between sensor elements [NASA-CASE-XMS-05909-1] c14 N69-27459  
Gas cooled high temperature thermocouple [NASA-CASE-XLE-09475-1] c33 N71-15568  
Control of fusion welding through use of thermocouple wire [NASA-CASE-MFS-06074] c15 N71-20393  
Heat sensing instrument, using thermocouple junction connected under heavy conducting material [NASA-CASE-XLA-01551] c14 N71-22989  
Design and characteristics of thermocouples consisting of flexible tape for improved attachment to temperature source [NASA-CASE-INP-01659] c14 N71-23039  
Mixed liquid and vapor phase analyzer design with thermocouples for relative heat transfer measurement [NASA-CASE-NPO-10691] c14 N71-26199  
Development of thermocouple instrument for measuring temperature of wall heated by flowing fluid without disturbing boundary layer [NASA-CASE-XLE-05230] c14 N72-27410  
Development of perforated attachable thermocouple from thermoelectrically different metals [NASA-CASE-LEW-11072-2] c14 N72-28443  
Thermocouple apparatus for measuring wall temperatures in regeneratively cooled rocket engines having thin walled cooling passages [NASA-CASE-XLE-05230-2] c14 N73-13417  
Development of flexible thermocouple in form of tape for adaptation to special temperature measuring conditions [NASA-CASE-LEW-11072-1] c14 N73-24472
- THERMODYNAMIC PROPERTIES**  
Development of equipment for measuring thermal shock resistance of thin discs of material [NASA-CASE-XLE-02024] c14 N71-22964  
Characteristics of foamed-in-place ceramic refractory insulating material and method of fabrication [NASA-CASE-XGS-02435] c18 N71-22998  
Operating properties of superconducting magnet in vacuum environment [NASA-CASE-INP-06503] c23 N71-29049  
Design and development of device for moving liquid through pipes without use of mechanical pumps [NASA-CASE-LAR-10799-1] c12 N73-12295  
Cobalt-tungsten alloys with superior strength at elevated temperatures [NASA-CASE-LEW-10436-1] c17 N73-32415
- THERMOELECTRIC GENERATORS**  
Use of silicon controlled rectifier shorting circuit to protect thermoelectric generator source from thermal destruction [NASA-CASE-XGS-04808] c03 N69-25146  
Procedure for segmenting lead telluride and silicon germanium thermoelectric elements to obtain composite elements effective over wide temperature range [NASA-CASE-XGS-05718] c26 N71-16037  
Low weight, integrated thermoelectric generator/antenna combination for spacecraft [NASA-CASE-XER-09521] c09 N72-12136  
Thermally cascaded thermoelectric generator with radioisotopic heat source

- [NASA-CASE-NPO-10753] c03 N72-26031  
**THERMOELECTRIC MATERIALS**  
 Bonding method for improving contact between lead telluride thermoelectric elements and tungsten electrodes [NASA-CASE-IGS-04554] c15 N69-39786  
 Procedure for segmenting lead telluride and silicon germanium thermoelectric elements to obtain composite elements effective over wide temperature range [NASA-CASE-IGS-05718] c26 N71-16037  
**THERMOELECTRIC POWER GENERATION**  
 Thermoelectric power conversion by liquid metal flowing through magnetic field [NASA-CASE-INP-00644] c03 N70-36803  
 Operation method for combined electrolysis device and fuel cell using molten salt to produce power by thermoelectric regeneration mechanism [NASA-CASE-XLE-01645] c03 N71-20904  
 Thermoelectric power system --- for outer planet space flight [NASA-CASE-NPS-22002-1] c03 N74-18726  
**THERMOELECTRICITY**  
 Development of flexible thermocouple in form of tape for adaptation to special temperature measuring conditions [NASA-CASE-LEW-11072-1] c14 N73-24472  
 Device for measuring thermoelectric properties of materials under high pressure [NASA-CASE-NPO-11749] c14 N73-28486  
**THERMOLUMINESCENCE**  
 Method for detecting oxygen in gas by thermoluminescence [NASA-CASE-LAR-10668-1] c06 N73-16106  
**THERMOMAGNETIC EFFECTS**  
 Thermomagnetic recording and magneto-optic playback system having constant intensity laser beam control [NASA-CASE-NPO-11317-2] c16 N74-13205  
**THERMOPHYSICAL PROPERTIES**  
 Method for determining thermo-physical properties of specimens --- photographic recording of changes in thin film phase-change temperature indicating material in wind tunnel [NASA-CASE-LAR-11053-1] c33 N74-18551  
**THERMOPILES**  
 Differential thermopile for measuring cooling water temperature rise [NASA-CASE-XAC-00812] c14 N71-15598  
 Horizon sensor design with digital sampling of spaced radiation-compensated thermopile infrared detectors [NASA-CASE-INP-06957] c14 N71-21088  
 Development of thermopile with sensor surface to receive radiant energy and to provide measurement of energy quantity [NASA-CASE-NPO-11493] c14 N73-12447  
**THERMOREGULATION**  
 Thermoregulating with cooling flow pipe network for humans [NASA-CASE-XMS-01269] c05 N71-24147  
**THERMOSETTING RESINS**  
 Vacuum method for molding thermosetting compounds used as ablative materials [NASA-CASE-XLA-01091] c15 N71-10672  
 Procedure for bonding polytetrafluoroethylene thermal protective sleeves to magnesium alloy conical shell components with different thermal coefficients [NASA-CASE-XLA-01262] c15 N71-21404  
 Method for honeycomb panel bonding by thermosetting film adhesive with electrical heat means [NASA-CASE-XBF-01402] c18 N71-21651  
 Heat treatment and tooling for forming shapes from thermosetting honeycomb core sheets [NASA-CASE-NPO-11036] c15 N72-24522  
 Fluorinated polyurethanes produced by reacting hydroxy terminated perfluoro polyether with diisocyanate [NASA-CASE-NPO-10767-2] c06 N72-27151  
 Vacuum displacement compression molding of tubular bodies from thermosetting plastics [NASA-CASE-LAR-10782-2] c15 N73-31444  
 Evacuated displacement compression molding [NASA-CASE-LAR-10782-1] c15 N74-14133  
 Method for compression molding of thermosetting plastics utilizing a temperature gradient across the plastic to cure the article [NASA-CASE-LAR-10489-1] c15 N74-18124  
**THERMOSTATS**  
 Thermal switch for transferring excess heat from one region to another heat dissipating one [NASA-CASE-INP-00463] c33 N70-36847  
 Design and development of linear actuator based on bimetallic spring expansion [NASA-CASE-NPO-10637] c15 N72-12409  
**THICK FILMS**  
 Material compositions and processes for developing dielectric thick films used in microcircuit capacitors [NASA-CASE-LAR-10294-1] c26 N72-28762  
**THIN FILMS**  
 Temperature sensitive capacitor device for detecting very low intensity infrared radiation [NASA-CASE-INP-09750] c14 N69-39937  
 Means and methods of depositing thin films on substrates [NASA-CASE-INP-00595] c15 N70-34967  
 Method of forming thin window drifted silicon charged particle detector [NASA-CASE-XLE-00808] c24 N71-10560  
 Describing apparatus used in vacuum deposition of thin film inductive windings for spacecraft microcircuitry [NASA-CASE-XMF-01667] c15 N71-17647  
 Describing method for vapor deposition of gallium arsenide films to manganese substrates to provide semiconductor devices with low resistance substrates [NASA-CASE-INP-01328] c26 N71-18064  
 Development of stable electronic amplifier adaptable for monolithic and thin film construction [NASA-CASE-IGS-02812] c09 N71-19466  
 Sputter proof evaporant source design for use in vacuum deposition of solid thin films on substrates [NASA-CASE-XMF-06065] c15 N71-20395  
 Binding layer of semiconductor particles by electrodeposition [NASA-CASE-INP-01959] c26 N71-23043  
 Device for high vacuum film deposition with electromagnetic ion steering [NASA-CASE-NPO-10331] c09 N71-26701  
 Magnetic recording head composed of ferrite core coated with thin film of aluminum-iron-silicon alloy [NASA-CASE-GSC-10097-1] c08 N71-27210  
 Thin film capacitive bolometer and capacitance temperature interchange sensor [NASA-CASE-NPO-10607] c09 N71-27232  
 Electrical connections for thin film hybrid microcircuits [NASA-CASE-IMS-02182] c10 N71-28783  
 Single crystal film semiconductor devices [NASA-CASE-ERC-10222] c09 N72-22199  
 Waveguide, thin film window and microwave irises [NASA-CASE-LAR-10513-1] c07 N72-25170  
 Thin absorbing metallic film for increased visible light transmission [NASA-CASE-LAR-10836-1] c26 N72-27784  
 Development of thin film microwave iris installed in microwave waveguide transverse to flow of energy in waveguide [NASA-CASE-LAR-10511-1] c09 N72-29172  
 Development of procedure for producing thin transparent films of zinc oxide on transparent refractory substrate [NASA-CASE-FRC-10019] c15 N73-12487  
 Process for analysis of strain field of structures subjected to large deformations involving low modulus substrate with thin coating [NASA-CASE-LAR-10765-1] c32 N73-20740  
 Method for vapor deposition of thin films [NASA-CASE-NPS-20775-1] c26 N73-23770  
 Dual wavelength system for monitoring film deposition [NASA-CASE-NPS-20675] c26 N73-26751  
 Monomer polymerization by plasma discharge as thin film for water purification membrane [NASA-CASE-ARC-10643-1] c06 N73-29074  
 Thin film analyzer utilizing holographic techniques [NASA-CASE-NPS-20823-1] c16 N73-30476

- Transparent switchboard which permits optical display devices to be adapted for use in man machine communications  
[NASA-CASE-MSC-13746-1] c10 N73-32143
- Method for determining thermo-physical properties of specimens --- photographic recording of changes in thin film phase-change temperature indicating material in wind tunnel  
[NASA-CASE-LAR-11053-1] c33 N74-18551
- Integrated structure vacuum tube  
[NASA-CASE-ARC-10445-1] c09 N74-29577
- THIN PLATES**
- Dichroic plate  
[NASA-CASE-NPO-13506-1] c09 N74-27690
- THIN WALLED SHELLS**
- Thin walled pressure test vessel using low-melting alloy-filled joint to attach shell to heads  
[NASA-CASE-XLE-04677] c15 N71-10577
- THIN WALLS**
- Channel-type shell construction for rocket engines and related configurations  
[NASA-CASE-XLE-00144] c28 N70-34860
- Sealed separable connection for thin wall metal tube  
[NASA-CASE-NPO-10064] c15 N71-17693
- Low mass truss structure with elongated thin-walled tubular segments  
[NASA-CASE-LAR-10546-1] c11 N72-25287
- Development of differential pressure control system using notion of mechanical diaphragms to operate electric switch  
[NASA-CASE-MFS-14216] c14 N73-13418
- Method of fabricating an article with cavities --- with thin bottom walls  
[NASA-CASE-LAR-10318-1] c14 N74-18089
- Method of fabricating an object with a thin wall having a precisely shaped slit  
[NASA-CASE-LAR-10409-1] c15 N74-21059
- THORIUM FLUORIDES**
- Ultraviolet filter of thorium fluoride and cryolite on quartz base  
[NASA-CASE-XNP-02340] c23 N69-24332
- THREADS**
- Gage for quality control of sealing surfaces of threaded boss  
[NASA-CASE-XNP-04966] c14 N71-17658
- Threadless fastener apparatus comprising receiving apertures for plurality of articles, self-locked condition, and capable of using nonmalleable materials in both ends  
[NASA-CASE-IFR-05302] c15 N71-23254
- THREE DIMENSIONAL MOTION**
- Solid state controller three axes controller  
[NASA-CASE-MSC-12394-1] c03 N74-10942
- THRESHOLD GATES**
- Apparatus with summing network for compression of analog data by decreasing slope threshold sampling  
[NASA-CASE-NPO-10769] c08 N72-11171
- Boron radiation hardening for stabilizing gate threshold potential of MOS devices  
[NASA-CASE-GSC-11425-2] c09 N73-32114
- THRESHOLD LOGIC**
- Silicon controlled rectifier pulse gate amplifier for blocking false gating caused by negative transient voltages  
[NASA-CASE-XLA-07497] c09 N71-12514
- THRUST**
- Turbofans under wings to provide lift and thrust for STOL aircraft  
[NASA-CASE-LEW-11224-1] c02 N72-10033
- THRUST AUGMENTATION**
- Exhaust nozzle with afterburning for generating thrust  
[NASA-CASE-XLA-00154] c28 N70-33374
- Construction and method of arranging plurality of ion engines to form cluster thereby increasing efficiency and control by decreasing heat radiated to space  
[NASA-CASE-XNP-02923] c28 N71-23081
- Adjustable airfoil for reversible cowl flap inlet thrust augmentation  
[NASA-CASE-ARC-10754-1] c28 N73-32624
- THRUST CHAMBERS**
- Rocket chamber leak test fixture using tubular plug  
[NASA-CASE-XPR-09479] c14 N69-27503
- Supporting and protecting frame structure and plug for empty thrust chamber assembly, handling, and shipping  
[NASA-CASE-XMF-00580] c11 N70-35383
- Large area-ratio nozzles for rocket motor thrust chambers  
[NASA-CASE-XLE-00145] c28 N70-36806
- Method for shaping regeneratively cooled rocket motor casing having minimum thickness at each channel cross section  
[NASA-CASE-XLE-00409] c28 N71-15658
- Regeneratively cooled rocket motor casing with tapered channels to insure minimum thicknesses at each channel cross section for necessary strength requirements  
[NASA-CASE-XLE-05689] c28 N71-15659
- Rocket engine injector orifice to accommodate changes in density, velocity, and pressure, thereby maintaining constant mass flow rate of propellant into rocket combustion chamber  
[NASA-CASE-XLE-03157] c28 N71-24736
- Fuel and oxidizer injection head for thrust chamber of reaction engine  
[NASA-CASE-NPO-10046] c28 N72-17843
- Continuous gas flow control by fluidic proportional thruster system  
[NASA-CASE-ARC-10106-1] c28 N72-22769
- Radial magnetic field for ion thruster  
[NASA-CASE-LEW-10770-1] c28 N72-22770
- Thermal flux transfer system for maintaining thrust chamber of operative reaction motor at given temperatures  
[NASA-CASE-NPO-12070-1] c28 N73-32606
- THRUST CONTROL**
- Electromechanical actuator and its use in rocket thrust control valve  
[NASA-CASE-XNP-05975] c15 N69-23185
- Solid propellant rocket vehicle thrust control method and apparatus  
[NASA-CASE-XNP-00217] c28 N70-38181
- Thrust and attitude control apparatus using jet nozzle in movable canard surface or fin configuration  
[NASA-CASE-XLE-03583] c31 N71-17629
- Detonation reaction engine comprising outer housing enclosing pair of inner walls for continuous flow  
[NASA-CASE-XMF-06926] c28 N71-22983
- Low mass ionizing device for use in electric thrust spacecraft engines  
[NASA-CASE-XNP-01954] c28 N71-28850
- Heated porous plug microthruster for spacecraft reaction jet controlled systems such as fuel flow regulation, propellant disassociation, and heat transfer augmentation  
[NASA-CASE-GSC-10640-1] c28 N72-18766
- THRUST MEASUREMENT**
- Dynamometer measuring microforce thrust produced by ion engine  
[NASA-CASE-XLE-00702] c14 N70-40203
- Development of thrust dynamometer for measuring performance of jet and rocket engines  
[NASA-CASE-XLE-05260] c14 N71-20429
- Development of temperature compensated thrust measuring gage for measuring forces as function of time in environment with varying temperature  
[NASA-CASE-XGS-02319] c14 N71-22965
- Micro-pound extended range thrust stand for small rocket engines  
[NASA-CASE-GSC-10710-1] c28 N71-27094
- THRUST VECTOR CONTROL**
- Thrust vector control by secondary injection of fluid into rocket nozzle flow field to separate exhaust flow  
[NASA-CASE-XLE-00208] c28 N70-34294
- High velocity guidance and spin stabilization gyro controlled jet reaction system for launch vehicle payloads  
[NASA-CASE-XLA-01339] c31 N71-15692
- Ion beam deflector system for electronic thrust vector control for ion propulsion yaw, pitch, and roll forces  
[NASA-CASE-LEW-10689-1] c28 N71-26173
- Tertiary flow injection system for thrust vectoring of propulsive nozzle flow  
[NASA-CASE-MFS-20831] c28 N71-29153
- Development of thrust control system for application to control of aircraft and

spacecraft  
 [NASA-CASE-MSC-13397-1] c21 N72-25595  
 Development of vortex fluid amplifier for  
 throttling rocket exhaust  
 [NASA-CASE-LEW-10374-1] c28 N73-13773  
 An improved system for imposing directional  
 stability on a rocket-propelled vehicle  
 [NASA-CASE-MFS-21311-1] c31 N74-30311  
**THRUST-WEIGHT RATIO**  
 Launch pad missile release system with bending  
 moment change rate reduction in thrust  
 distribution structure at liftoff  
 [NASA-CASE-XMF-03198] c30 N70-40353  
**THYROID GLAND**  
 Apparatus for producing high purity I-123 ---  
 for thyroid measurement  
 [NASA-CASE-LEW-10518-3] c15 N74-10476  
**TILES**  
 Strain arrestor plate --- bonding rigid thermal  
 insulation tiles to metallic plates or  
 structural parts  
 [NASA-CASE-MSC-14182-1] c18 N74-15213  
**TIME CONSTANT**  
 Variable time constant, wide frequency range  
 smoothing network for noise removal from pulse  
 chains  
 [NASA-CASE-IGS-01983] c10 N70-41964  
**TIME DISCRIMINATION**  
 Extra-long monostable multivibrator employing  
 bistable semiconductor switch to allow  
 charging of timing circuit  
 [NASA-CASE-IGS-00381] c09 N70-34819  
**TIME DIVISION MULTIPLEXING**  
 Synchronizing apparatus for multi-access  
 satellite time division multiplex system  
 [NASA-CASE-IGS-05918] c07 N69-39974  
 Time division multiplexer with magnetic latching  
 relays  
 [NASA-CASE-XNP-00431] c09 N70-38998  
 Data processor having multiple sections  
 activated at different times by selective  
 power coupling to sections  
 [NASA-CASE-IGS-04767] c08 N71-12494  
 Minimum time delay unit for conventional time  
 multiplexed data compression channels  
 [NASA-CASE-XNP-08832] c08 N71-12506  
 Time division relay synchronizer with master  
 sync pulse for activating binary counter to  
 produce signal identifying time slot for station  
 [NASA-CASE-GSC-10373-1] c07 N71-19773  
 Sampling circuit for signal processing in  
 multiplex transmission by Fourier analysis  
 [NASA-CASE-NPO-10388] c07 N71-24622  
 Time division multiplexed telemetry transmitting  
 system controlled by programmed memory  
 [NASA-CASE-GSC-10131-1] c07 N71-24624  
**TIME FUNCTIONS**  
 Cathode ray oscilloscope for analyzing  
 electrical waveforms representing amplitude  
 distribution of time function  
 [NASA-CASE-XNP-01383] c09 N71-10659  
**TIME LAG**  
 Closed loop radio communication ranging system  
 to determine distance between moving airborne  
 vehicle and fixed ground station  
 [NASA-CASE-XNP-01501] c21 N70-41930  
 Minimum time delay unit for conventional time  
 multiplexed data compression channels  
 [NASA-CASE-XNP-08832] c08 N71-12506  
 Apparatus for estimating amplitude and sign of  
 phase difference or time lag between two signals  
 [NASA-CASE-NPO-11203] c10 N72-20224  
**TIME MEASURING INSTRUMENTS**  
 Mechanism for measuring nanosecond time  
 differences between luminous events using  
 streak camera  
 [NASA-CASE-XLA-01987] c23 N71-23976  
**TIME OF FLIGHT SPECTROMETERS**  
 Design and characteristics of time of flight  
 mass spectrometer to measure or analyze gases  
 at low pressures and time of flight of single  
 gas molecule  
 [NASA-CASE-XNP-01056] c14 N71-23041  
 Cosmic dust analyzer using ion time of flight  
 techniques to determine constituency of  
 hypervelocity particles such as micrometeoroids  
 [NASA-CASE-MSC-13802-1] c30 N72-20805  
**TIME SERIES ANALYSIS**  
 Device for performing statistical time-series

analysis of complex electrical signal waveforms  
 [NASA-CASE-MSC-12428-1] c10 N73-25240  
**TIME SHARING**  
 Integrated time shared instrumentation display  
 for aerospace vehicle simulators  
 [NASA-CASE-XLA-01952] c08 N71-12507  
**TIME SIGNALS**  
 Monitoring system for signal amplitude ranges  
 over predetermined time interval  
 [NASA-CASE-XMS-04061-1] c09 N69-39885  
 Development of method for synchronizing clocks  
 at several ground stations based on signals  
 received from spacecraft or satellites  
 [NASA-CASE-XNF-08875] c10 N71-23099  
 Time synchronization system for synchronizing  
 clocks at remote locations with master clock  
 using moon reflected coded signals  
 [NASA-CASE-NPO-10143] c10 N71-26326  
 Circuit for measuring wide range of pulse rates  
 by utilizing high capacity counter  
 [NASA-CASE-XNF-06234] c10 N71-27137  
 System for generating timing and control signals  
 during repetitive fixed length serial data  
 transmission  
 [NASA-CASE-NPO-13125-1] c09 N73-18225  
**TIMING DEVICES**  
 Design and development of synchronous servo loop  
 control system  
 [NASA-CASE-XNF-03744] c10 N71-20448  
 Development of method for synchronizing clocks  
 at several ground stations based on signals  
 received from spacecraft or satellites  
 [NASA-CASE-INP-08875] c10 N71-23099  
 Development and characteristics of resettable  
 monostable pulse generator with charge  
 rundown-timing circuit  
 [NASA-CASE-GSC-11139] c09 N71-27016  
 Data acquisition and processing system with  
 buffer storage and timing device for magnetic  
 tape recording of PCM data and timing  
 information  
 [NASA-CASE-NPO-12107] c08 N71-27255  
 High speed photo-optical time recorder for  
 indicating time at exposure of each frame of  
 high speed movie camera film  
 [NASA-CASE-KSC-10294] c14 N72-18411  
**TIRES**  
 Temperature sensor warning system for pneumatic  
 tires of aircraft and ground vehicles  
 [NASA-CASE-XLA-01926] c14 N71-15620  
 Resilient wheel design with woven wire tire and  
 abrasive treads for lunar surface vehicles  
 [NASA-CASE-MFS-13929] c15 N71-27091  
**TISSUES (BIOLOGY)**  
 Servo-controlled intravital microscope system  
 [NASA-CASE-NPO-13214-1] c14 N74-19093  
**TITANATES**  
 Vacuum preparation of zinc titanate pigment  
 resistant to loss of reflective properties  
 [NASA-CASE-MFS-13532] c18 N72-17532  
**TITANIUM**  
 Joining aluminum to stainless steel by bonding  
 aluminum coatings onto titanium coated  
 stainless steel and brazing aluminum to  
 aluminum/titanium coated steel  
 [NASA-CASE-MFS-07369] c15 N71-20443  
**TITANIUM ALLOYS**  
 Method to prevent stress corrosion cracking in  
 titanium alloys  
 [NASA-CASE-NPO-10271] c17 N71-16393  
 Chemical spot tests for identification of  
 titanium and titanium alloys used in aerospace  
 vehicles  
 [NASA-CASE-LAR-10539-1] c17 N73-12547  
**TOLERANCES (MECHANICS)**  
 Mechanism for restraining universal joints to  
 prevent separation while allowing bending,  
 angulation, and lateral offset in any position  
 about axis  
 [NASA-CASE-XNP-02278] c15 N71-28951  
**TOOLS**  
 Tool attachment for spreading or moving away  
 loose elements from terminal posts during  
 winding of filamentary elements  
 [NASA-CASE-XNP-02107] c15 N71-10809  
 Development of adjustable attitude guide block  
 for setting pins perpendicular to irregular  
 convex work surface  
 [NASA-CASE-XLA-07911] c15 N71-15571

## SUBJECT INDEX

## TRANSDUCERS

- Hand tool for forming dimples and nipples on end portion of tubes  
[NASA-CASE-XMS-06876] c15 N71-21536
- Tool for mounting and removing studs with adhesive coated head portion  
[NASA-CASE-MFS-20299] c15 N72-11392
- Insert facing tool --- manually operated cutting tool for forming studs in honeycomb material  
[NASA-CASE-MFS-21485-1] c15 N74-25968
- TOOTH DISEASES**  
Process for preparing calcium phosphate salts for tooth repair  
[NASA-CASE-ERC-10338] c04 N72-33072
- TORCHES**  
Computer controlled apparatus for maintaining welding torch angle and velocity during seam tracking  
[NASA-CASE-XMF-03287] c15 N71-15607
- Development of electric weeding torch with casing on one end to form inert gas shield  
[NASA-CASE-XMF-02330] c15 N71-23798
- TOROIDS**  
Flux gate magnetometer with toroidal gating coil and solenoidal output coil for signal modulation or amplification  
[NASA-CASE-XGS-01881] c09 N70-40123
- Improved structure and method of producing composite of gapped and ungapped cores  
[NASA-CASE-NPO-13413-1] c09 N74-33738
- TORQUE**  
Gearing system for eliminating backlash and filtering input torque fluctuations from high inertia load  
[NASA-CASE-XGS-04227] c15 N71-21744
- Coupling arrangement for isolating torque loads from axial, radial, and bending loads  
[NASA-CASE-XLA-04897] c15 N72-22482
- TORQUE MOTORS**  
Low speed phaselock speed control system --- for brushless dc motor  
[NASA-CASE-GSC-11127-1] c09 N74-10202
- TORQUEMETERS**  
Remote-reading torquemeter for use where high horsepowers are transmitted at high rotative speeds  
[NASA-CASE-XLE-00503] c14 N70-34818
- Torque meter for determining magnitude of torque generated by interaction of magnetic dipole between test specimen and ambient magnetic field  
[NASA-CASE-XGS-01013] c14 N71-23725
- TORSO**  
Restraint torso for increased mobility and reduced physiological effects while wearing pressurized suits  
[NASA-CASE-MSC-12397-1] c05 N72-25119
- TOUCH**  
Mechanically operated hand which can depress trigger using touch control device  
[NASA-CASE-MFS-20413] c15 N72-21463
- Measuring method for cutaneous perception using instrument with elongated tubular housing  
[NASA-CASE-MSC-13609-1] c05 N72-25122
- Prosthetic limb with tactile sensing device  
[NASA-CASE-MFS-16570-1] c05 N73-32013
- TOWERS**  
Aerial capsule emergency separation device using jettisonable towers  
[NASA-CASE-XLA-00115] c03 N70-33343
- TOXICITY AND SAFETY HAZARD**  
Apparatus for remote handling of materials --- mixing or analyzing dangerous chemicals  
[NASA-CASE-LAR-10634-1] c15 N74-18123
- TOXICOLOGY**  
System for continuous monitoring of exhalations, weighing, and cage cleaning for animal exposed to controlled atmosphere for toxic study  
[NASA-CASE-XAC-05333] c11 N71-22875
- TRACE CONTAMINANTS**  
Describing crystal oscillator instrument for detecting condensable gas contaminants in vacuum apparatus  
[NASA-CASE-NPO-10144] c14 N71-17701
- Heated tungsten filter for removing oxygen impurities from cesium  
[NASA-CASE-XNP-04262-2] c17 N71-26773
- TRACE ELEMENTS**  
Ion microprobe mass spectrometer with cooled electrode target for analyzing traces of fluids  
[NASA-CASE-ERC-10014] c14 N71-28863
- TRACKING (POSITION)**  
Sensor consisting of photocells mounted on pyramidal base for improved pointing accuracy of planetary trackers  
[NASA-CASE-XNP-04180] c07 N69-39736
- Telespectrograph for analyzing upper atmosphere by tracking bodies reentering atmosphere at high velocities  
[NASA-CASE-XLA-03273] c14 N71-18699
- Laser beam projector for continuous, precise alignment between target, laser generator, and astronomical telescope during tracking  
[NASA-CASE-NPO-11087] c23 N71-29125
- TRACKING FILTERS**  
System for phase locking onto carrier frequency signal located within receiver bandpass  
[NASA-CASE-XGS-04994] c09 N69-21543
- TRACKING RADAR**  
Electronic and mechanical scanning control system for monopulse tracking antenna  
[NASA-CASE-XGS-05582] c07 N69-27460
- Phase locked loop with sideband rejecting properties in continuous wave tracking radar  
[NASA-CASE-XNP-02723] c07 N70-41680
- Interferometric tuning acquisition and tracking radar antenna system  
[NASA-CASE-XMS-09670] c07 N71-24625
- Acquisition and tracking system for optical radar  
[NASA-CASE-MFS-20125] c16 N72-13437
- TRACKING STATIONS**  
Optical monitor panel consisting of translucent screen with test or meter information projected onto it from rear for application in control rooms of missile launching and tracking stations  
[NASA-CASE-IXS-03509] c14 N71-23175
- Simultaneous acquisition of tracking data from two stations  
[NASA-CASE-NPO-13292-1] c07 N74-15838
- TRAILING-EDGE FLAPS**  
Double hinged flap for boundary layer control over trailing edges of wings  
[NASA-CASE-XLA-01290] c02 N70-42016
- Apparatus for span loading to alleviate wake-vortex hazard behind aircraft  
[NASA-CASE-ARC-10801-1] c02 N74-32428
- TRAINING SIMULATORS**  
Low and zero gravity simulator for astronaut training  
[NASA-CASE-MFS-10555] c11 N71-19494
- Apparatus for training astronaut crews to perform on simulated lunar surface under conditions of lunar gravity  
[NASA-CASE-XMS-04798] c11 N71-21474
- TRAJECTORY ANALYSIS**  
Table structure and rotating magnet system simulating gravitational forces on spacecraft and displaying trajectories between Earth, Venus, and Mercury  
[NASA-CASE-XNP-00708] c14 N70-35394
- Planetary atmospheric investigation using split trajectory dual flyby mode  
[NASA-CASE-XAC-08494] c30 N71-15990
- Micrometeoroid velocity and trajectory analyzer  
[NASA-CASE-GSC-11892-1] c14 N74-32888
- TRAJECTORY CONTROL**  
Spacecraft trajectory correction propulsion system  
[NASA-CASE-XNP-01104] c28 N70-39931
- Development of technique for control of free flight rocket vehicles  
[NASA-CASE-XLA-00937] c31 N71-17691
- Attitude stabilizer for nonguided missile or vehicle with respect to trajectory  
[NASA-CASE-ARC-10134] c30 N72-17873
- TRANSDUCERS**  
Fabrication of pressure-telemetry transducers  
[NASA-CASE-XNP-09752] c14 N69-21541
- Bootstrap unloading circuits for sampling transducer voltage sources without drawing current  
[NASA-CASE-XNP-09768] c09 N71-12516
- Transducer for measuring deflections from vibrating structures  
[NASA-CASE-XLA-03135] c32 N71-16428
- Describing device for surveying contour of surface using X-Y plotter and traveling transducer  
[NASA-CASE-XLA-08646] c14 N71-17586

Rotary bead dropper and selector for testing micrometeorite transducers  
[NASA-CASE-XGS-03304] c09 N71-22988

Development and characteristics of self-calibrating displacement transducer for measuring magnitude and frequency of displacement of bodies  
[NASA-CASE-XLA-00781] c09 N71-22999

Transducer frame for use with extensometer to continuously monitor specimen sample  
[NASA-CASE-XLA-10322] c15 N72-17452

Split range transducer  
[NASA-CASE-XLA-11189] c10 N72-20222

Pulsed excitation voltage circuit for strain gage bridge transducers  
[NASA-CASE-FRC-10036] c09 N72-22200

Passive type, magnifying scratch gage, force transducer  
[NASA-CASE-LAR-10496-1] c14 N72-22437

Development of electronic detection system for remotely determining number and movement of enemy personnel  
[NASA-CASE-ARC-10097-2] c07 N73-25160

Acoustical transducer calibrating system including differential pressure activating device  
[NASA-CASE-FRC-10060-1] c14 N73-27379

Demodulator for carrier transducers  
[NASA-CASE-MUC-10107-1] c09 N74-17930

Self-supporting strain transducer --- for measuring stress concentration points  
[NASA-CASE-LAR-11263-1] c14 N74-25931

LC-oscillator with automatic stabilized amplitude via bias current control --- power supply circuit for transducers  
[NASA-CASE-MFS-21698-1] c09 N74-26732

Diode quad transducer and discriminator circuit --- characteristics of electrical measuring apparatus  
[NASA-CASE-ARC-10364-3] c10 N74-26760

Arterial pulse wave pressure transducer  
[NASA-CASE-GSC-11531-1] c05 N74-27566

**TRANSFER FUNCTIONS**  
Electronic optical transfer function analyzer using scanning image dissection system to produce representative output signal  
[NASA-CASE-MFS-21672-1] c23 N73-22630

**TRANSFORMERS**  
Impedance transformation device for signal mixing  
[NASA-CASE-XGS-01110] c07 N69-24334

High impedance alternating current sensing transformer device between two bolometers for measuring insertion loss of test component  
[NASA-CASE-XNP-01193] c10 N71-16057

Magnetic current regulator for saturable core transformer  
[NASA-CASE-ERC-10075] c09 N71-24800

Unsaturating magnetic core transformer design with warning signal for electrical power processing equipment  
[NASA-CASE-ERC-10125] c09 N71-24893

Development and characteristics of electronically resettable fuse with saturable core current sensing transformer having two outside legs and center leg  
[NASA-CASE-XGS-11177] c09 N71-27001

Development and characteristics of voltage regulator for connection in series with alternating current source and load using three leg, two-window transformer  
[NASA-CASE-ERC-10113] c09 N71-27053

Radial heat flux transformer for use in heating and cooling processes  
[NASA-CASE-NPO-10828] c33 N72-17948

Current protection equipment for saturable core transformers  
[NASA-CASE-ERC-10075-2] c09 N72-22196

Fail-safe multiple transformer circuit configuration  
[NASA-CASE-NPO-11078] c09 N72-25262

Banded transformer cores  
[NASA-CASE-NPO-11966-1] c09 N74-17928

**TRANSIENT LOADS**  
Deployable cantilever support for deploying solar cell arrays aboard spacecraft and reducing transient loading  
[NASA-CASE-NPO-10883] c31 N72-22874

**TRANSISTOR AMPLIFIERS**  
Overcurrent protecting circuit for push-pull transistor amplifiers  
[NASA-CASE-NSC-12033-1] c09 N71-13531

**TRANSISTOR CIRCUITS**  
Low power drain transistor feedback circuit  
[NASA-CASE-XGS-04999] c09 N69-24317

Design of transistorized ring counter circuit with special steering and triggering circuits  
[NASA-CASE-XGS-03095] c09 N69-27463

RC transistor circuit to indicate each pulse of pulse train and occurrence of nth pulse  
[NASA-CASE-XMF-00906] c09 N70-41655

Linear sawtooth voltage wave generator with transistor timing circuit having capacitor and zener diode feedback loops  
[NASA-CASE-XMS-01315] c09 N70-41675

Switching circuit with regeneratively connected transistors eliminating power consumption when not in use  
[NASA-CASE-XNP-02654] c10 N70-42032

High voltage transistor circuit  
[NASA-CASE-XNP-06937] c09 N71-19516

Complementary regenerative transistorized switch circuit employing positive and negative feedback  
[NASA-CASE-XGS-02751] c09 N71-23015

Inverter drive circuit for semiconductor switch  
[NASA-CASE-LEW-10233] c10 N71-27126

Transistorized circuit for producing multiple slope voltage sweep  
[NASA-CASE-XMS-03542] c09 N71-28926

Circuitry for high input impedance video processor with high noise immunity  
[NASA-CASE-NPO-10199] c09 N72-17156

Ultra-stable oscillator with complementary transistors  
[NASA-CASE-GSC-11513-1] c09 N74-20862

**TRANSISTORS**  
Power supply with overload protection for series stage transistor  
[NASA-CASE-XMS-00913] c10 N71-23543

Solid state circuit for switching alternating current input signal as function of direct current gating transistor  
[NASA-CASE-XNP-06505] c10 N71-24799

Broadband distribution amplifier with complementary pair transistor output stages  
[NASA-CASE-NPO-10003] c10 N71-26415

Transistorized switching logic circuits with tunnel diodes  
[NASA-CASE-GSC-10878-1] c10 N72-22236

Integrated microcircuits and complementary four-phase logic system  
[NASA-CASE-NSC-14240-1] c10 N73-21240

Inverted geometry transistor for use with monolithic integrated circuit  
[NASA-CASE-ARC-10330-1] c09 N73-32112

**TRANSITION FLOW**  
Ablation article and surface for analyzing flow transition on ablative surface  
[NASA-CASE-LAR-10439-1] c33 N73-27796

**TRANSITIONAL MOTION**  
Centrifuge mounted motion simulator with elevator mechanism  
[NASA-CASE-XAC-00399] c11 N70-34815

Development and characteristics of translating horizontal tail assembly for supersonic aircraft  
[NASA-CASE-ILA-08801-1] c02 N71-11043

Semilinear bearing comprising two rows of roller bearings separated by spherical bearings and permitting rotational and translational movement  
[NASA-CASE-XLA-02809] c15 N71-22982

Positioning mechanism for converting translatory motion into rotary motion  
[NASA-CASE-NPO-10679] c15 N72-21462

**TRANSMISSION EFFICIENCY**  
Microwave power transmission system wherein level of transmitted power is controlled by reflections from receiver  
[NASA-CASE-MFS-21470-1] c10 N74-19870

**TRANSMISSION LINES**  
Portable equipment for validating C band launch pad antennas and transmission lines used for spacecraft checkout  
[NASA-CASE-XKS-10543] c07 N71-26292

Collapsible antenna boom and coaxial transmission line having inflatable inner tube  
[NASA-CASE-MFS-20068] c07 N71-27191

Phase modulator with tuned variable length electrical lines including coupling and varactor diode circuits

- [NASA-CASE-MSC-13201-1] c07 N71-28429  
Shielded flat conductor cable of ribbonlike wires laminates in thin flexible insulation
- [NASA-CASE-MFS-13687-2] c09 N72-22198  
Development of phase control coupling for use with phased array antenna
- [NASA-CASE-ERC-10285] c10 N73-16206  
Phase protection system for ac power lines
- [NASA-CASE-MSC-17832-1] c10 N74-14956  
System for stabilizing cable phase delay utilizing a coaxial cable under pressure
- [NASA-CASE-NPO-13138-1] c09 N74-17927
- TRANSMITTANCE**  
Electro-optical system for scanning variable transmittance objects
- [NASA-CASE-NPO-11106-2] c23 N72-28696  
Transmitting and reflecting diffuser
- [NASA-CASE-LAR-10385-3] c23 N73-32538
- TRANSMITTER RECEIVERS**  
Low weight, integrated thermoelectric generator/antenna combination for spacecraft
- [NASA-CASE-XER-09521] c09 N72-12136  
Transmitter receiver system for measuring millivolt electrical signals with high common mode potential
- [NASA-CASE-XLE-03155-2] c09 N72-20205  
Location identification system with ground based transmitter and aircraft borne receiver/decoder
- [NASA-CASE-ERC-10324] c07 N72-25173  
Development of timing device for conserving batteries on remote data collection platform by generating synchronous time windows
- [NASA-CASE-GSC-11182-1] c31 N73-32769  
Automatic vehicle location system
- [NASA-CASE-NPO-11850-1] c09 N74-12912  
Digital communication system
- [NASA-CASE-MSC-13912-1] c07 N74-30524
- TRANSMITTERS**  
Temperature telemetric transmitter with frequency determining tank circuit for short range transmission
- [NASA-CASE-NPO-10649] c07 N71-24840  
Multicarrier communications system for transmitting modulated signals from single transmitter
- [NASA-CASE-NPO-11548] c07 N73-26118  
Digital transmitter for data bus communications system
- [NASA-CASE-MSC-14558-1] c07 N74-17888  
Miniature multichannel biotelemeter system
- [NASA-CASE-NPO-13065-1] c05 N74-26625
- TRANSONIC SPEED**  
Construction of leading edges of surfaces for aerial vehicles performing from subsonic to above transonic speeds
- [NASA-CASE-XLA-01486] c01 N71-23497
- TRANSONIC WIND TUNNELS**  
Wind tunnel test section for simulating high Reynolds number over transonic speed range
- [NASA-CASE-MFS-20509] c11 N72-17183
- TRANSPARENCE**  
Transparent polycarbonate resin, shell helmet and latch design for high altitude and space flight
- [NASA-CASE-XNS-04935] c05 N71-11190
- TRANSPIRATION**  
Rocket chamber and method of making
- [NASA-CASE-LEW-11118-2] c28 N74-28232
- TRANSPONDERS**  
Equipment for testing of ground station ranging equipment and spacecraft transponders
- [NASA-CASE-XMS-05454-1] c07 N71-12391  
Spacecraft transponder and ground station radar system for mapping planetary surfaces
- [NASA-CASE-NPO-11001] c07 N72-21118  
Loop transponder for regenerating code of nu-type ranging system
- [NASA-CASE-NPO-11707] c07 N73-25161  
Automatic vehicle location system
- [NASA-CASE-NPO-11850-1] c09 N74-12912  
Simultaneous acquisition of tracking data from two stations
- [NASA-CASE-NPO-13292-1] c07 N74-15838
- TRANSPORTATION**  
Supporting and protecting frame structure and plug for empty thrust chamber assembly, handling, and shipping
- [NASA-CASE-XMP-00580] c11 N70-35383
- TRAVELING WAVE AMPLIFIERS**  
Serrrodyne traveling wave tube reentrant amplifier for synchronous communication satellites operating at microwave frequencies
- [NASA-CASE-IGS-01022] c07 N71-16088
- TRAVELING WAVE MASERS**  
Design of folded traveling wave maser structure
- [NASA-CASE-XNP-05219] c16 N71-15550  
Comb type traveling wave maser amplifier for improved high gain broadband output
- [NASA-CASE-NPO-10548] c16 N71-24831
- TRAVELING WAVE TUBES**  
Segmented superconducting magnet producing staggered magnetic field and suitable for broadband traveling wave masers
- [NASA-CASE-IGS-10518] c16 N71-28554
- TRAVELING WAVES**  
Traveling wave maser for operation in 7 to 20 GHz frequency range
- [NASA-CASE-NPO-11437] c16 N72-28521
- TRIGGER CIRCUITS**  
Design of transistorized ring counter circuit with special steering and triggering circuits
- [NASA-CASE-IGS-03095] c09 N69-27463  
Triggering system for electric arc driven impulse wind tunnel
- [NASA-CASE-IXF-00411] c11 N70-36913  
Voltage range selection apparatus for sensing and applying voltages to electronic instruments without loading signal source
- [NASA-CASE-XMS-06497] c14 N71-26244  
One shot multivibrator circuit for producing long duration output pulses
- [NASA-CASE-ARC-10137-1] c09 N71-28468  
Voltage amplitude-responsive trigger circuit with silicon controlled rectifier
- [NASA-CASE-GSC-10221-1] c09 N72-23171  
Rapidly pulsed, high intensity, incoherent light source
- [NASA-CASE-XLE-2529-3] c09 N74-20859
- TRIGONOMETRY**  
Electrical and electromechanical trigonometric computation assembly and space vehicle guidance system for aligning perpendicular axes of two sets of three-axes coordinate references
- [NASA-CASE-IXF-00684] c21 N71-21688
- TRIMERS**  
New trifunctional alcohol derived from trimer acid and novel method of preparation
- [NASA-CASE-NPO-10714] c06 N69-31244  
Catalytic trimerization of aromatic nitriles and triaryl-s-triazine ring cross-linked high temperature resistant polymers and copolymers made thereby
- [NASA-CASE-LEW-12053-1] c06 N74-34579
- TRIODES**  
Vacuum thermionic converter with short-circuited triodes and increased electron transmission and conversion efficiency
- [NASA-CASE-XLE-01015] c03 N69-39898
- TRITIUM**  
Method for determining state of charge of alkali batteries by using tritium as tracer
- [NASA-CASE-INP-01464] c03 N71-10728
- TRUSSES**  
Low mass truss structure with elongated thin-walled tubular segments
- [NASA-CASE-LAR-10546-1] c11 N72-25287
- TUBE HEAT EXCHANGERS**  
High resistance cross flow heat exchangers for electrothermal rocket engines
- [NASA-CASE-XLE-01783] c28 N70-34175  
Gas chromatographic method for determining water in nitrogen tetroxide rocket propellant
- [NASA-CASE-NPO-10234] c06 N72-17094
- TUBES**  
Forming tubes from long thin flat metal strips
- [NASA-CASE-IGS-04175] c15 N71-18579  
Hermetic sealing device for ends of tubular bodies during materials testing operations
- [NASA-CASE-NPO-10431] c15 N71-29132
- TUMBLING MOTION**  
Tumbling motion system for object demagnetization
- [NASA-CASE-IGS-02437] c15 N69-21472
- TUNGSTEN**  
Bonding method for improving contact between lead telluride thermoelectric elements and tungsten electrodes



- [NASA-CASE-IGS-04554] c15 N69-39786  
Method for producing porous tungsten plates for ionizing cesium compounds for propulsion of ion engines
- [NASA-CASE-XLE-00455] c28 N70-38197  
Two step process for cladding nuclear fuels with tungsten
- [NASA-CASE-INP-03704] c15 N71-17695  
Small plasma probe using tungsten wire collector in tubular shield
- [NASA-CASE-XLE-02578] c25 N71-20747  
Production method for manufacturing porous tungsten bodies from tungsten powder particles
- [NASA-CASE-INP-04335] c17 N71-29137  
Vapor deposition method for forming metallized tungsten contacts on silicon substrates
- [NASA-CASE-GSC-10695-1] c09 N72-25259
- TUNGSTEN ALLOYS**  
Evaporating crucible of tantalum-tungsten foil, nickel alumina bonding agent, and ceramic coating
- [NASA-CASE-XLA-03105] c15 N69-27483  
Cobalt-tungsten alloys with superior strength at elevated temperatures
- [NASA-CASE-LEW-10436-1] c17 N73-32415
- TUNING**  
Active tuned circuits for microelectronic construction
- [NASA-CASE-GSC-11340-1] c10 N72-33230  
Microwave generator using Gunn effect for magnetic tuning
- [NASA-CASE-NPO-12106] c09 N73-15235
- TUNNEL DIODES**  
Low power drain transistor feedback circuit
- [NASA-CASE-IGS-04999] c09 N69-24317
- TURBINE BLADES**  
Transpiration cooled turbine blade made from metallic or ceramic wires
- [NASA-CASE-XLE-00020] c15 N70-33226  
Modification and improvement of turbine blades for maximum cooling efficiency
- [NASA-CASE-XLE-00092] c15 N70-33264  
Preparation of nickel alloys for jet turbine blades operating at high temperatures
- [NASA-CASE-XLE-00151] c17 N70-33283  
External device for liquid spray cooling of gas turbine blades
- [NASA-CASE-XLE-00037] c28 N70-33372  
Apparatus for liquid spray cooling of turbine blades
- [NASA-CASE-XLE-00027] c33 N71-29152  
Process for welding compressor and turbine blades to rotors and discs of jet engines
- [NASA-CASE-LEW-10533-1] c15 N73-28515
- TURBINE ENGINES**  
Method and apparatus for improving operating efficiency and reducing low speed noise for turbine aircraft engines
- [NASA-CASE-LAR-11310-1] c28 N73-31699
- TURBINE PUMPS**  
Pulsed energy power system for application of combustible gases to turbine controlling ac voltage generator
- [NASA-CASE-MSC-13112] c03 N71-11057  
Portable cryogenic cooling system design including turbine pump, cooling chamber, and atomizer
- [NASA-CASE-NPO-10467] c23 N71-26654  
Supersonic-combustion rocket
- [NASA-CASE-LEW-11058-1] c28 N74-13502
- TURBINE WHEELS**  
Locking device for retaining turbine rotor blades on turbine wheel
- [NASA-CASE-INP-00816] c28 N71-28928  
Apparatus for welding blades to rotors
- [NASA-CASE-LEW-10533-2] c15 N74-11300
- TURBINES**  
Liquid-vapor interface seal design for turbine rotating shafts including helical and molecular pumps and liquid cooling of mercury vapor
- [NASA-CASE-INP-02862-1] c15 N71-26294
- TURBOCOMPRESSORS**  
Multistage multiple reentry axial flow reaction turbine with reverse flow reentry ducting
- [NASA-CASE-XLE-00170] c15 N70-36412
- TURBOFAN ENGINES**  
Supersonic fan blading --- noise reduction in turbofan engines
- [NASA-CASE-LEW-11402-1] c28 N74-28226  
Noise suppressor --- for turbofan engine by incorporating annular acoustically porous elements in exhaust and inlet ducts
- [NASA-CASE-LAR-11141-1] c02 N74-32418
- TURBOPANS**  
Turbofans under wings to provide lift and thrust for STOL aircraft
- [NASA-CASE-LEW-11224-1] c02 N72-10033
- TURBOJET ENGINES**  
Telescoping-spike supersonic nozzle for turbojet or ramjet engines
- [NASA-CASE-XLE-00005] c28 N70-39899  
Design and development of gas turbine combustion unit with nozzle guide vanes for introducing diluent air into combustion gases
- [NASA-CASE-XLE-103477-1] c28 N71-20330
- TURBOMACHINERY**  
Blade vibration damping pins for turbomachinery
- [NASA-CASE-XLE-00155] c28 N71-29154
- TURBOSHAFTS**  
Remote-reading torque meter for use where high horsepower are transmitted at high rotational speeds
- [NASA-CASE-XLE-00503] c14 N70-34818
- TURBULENT FLOW**  
System for measuring drag forces in a turbulently flowing fluid
- [NASA-CASE-ARC-10755-1] c14 N74-14115
- TURBULENT WAKES**  
Apparatus for span loading to alleviate wake-vortex hazard behind aircraft
- [NASA-CASE-ARC-10801-1] c02 N74-32428
- TURNSTILE ANTENNAS**  
Flexible turnstile antenna system for reducing nutation in spin-oriented satellites
- [NASA-CASE-INP-00442] c31 N71-10747  
Broadband modified turnstile antenna for use in space tracking and communications
- [NASA-CASE-MSC-12209] c09 N71-24842  
Turnstile slot antenna
- [NASA-CASE-GSC-11428-1] c09 N74-20864
- TURBTT**  
Indexing mechanism for cathode array substitution in electron beam tube
- [NASA-CASE-NPO-10625] c09 N71-26182
- TWO BODY PROBLEM**  
Instrument for measuring potentials on two dimensional electric field plot
- [NASA-CASE-XLA-08493] c10 N71-19421
- TWO PHASE FLOW**  
Solenoid two-step valve for bipropellant flow rate control to rocket engine
- [NASA-CASE-XMS-04890-1] c15 N70-22192  
Two phase fluid pressurization system for propellant tank
- [NASA-CASE-MSC-12390] c27 N71-29155  
Two-phase flow system with discrete, impinging two-phase jets
- [NASA-CASE-NPO-11556] c12 N72-25292
- TYPEWRITERS**  
Guide accessories for correctly aligning paper in typewriter to correct typographical errors
- [NASA-CASE-MFS-15218-1] c15 N73-31438
- U**
- U BENDS**  
Elbow forming in jacketed pipes while maintaining separation between core shape and jacket pipes
- [NASA-CASE-INP-10475] c15 N71-24679  
U shaped heated tube for distillation and purification of liquid metals
- [NASA-CASE-INP-08124-2] c06 N73-13129
- ULLAGE**  
Radiation source and detection system for measuring amount of liquid inside tanks independently of liquid configuration
- [NASA-CASE-MSC-12280] c27 N71-16348
- ULTRAHIGH VACUUM**  
Solid lubricant applied to porous roller bearings prior to use in ultrahigh vacuum
- [NASA-CASE-XLE-09527] c15 N71-17688  
Calibration of vacuum gauges for measuring total and partial pressures in ultrahigh vacuum region
- [NASA-CASE-IGS-07752] c14 N73-30390  
Ultrahigh vacuum gauge with two collector electrodes

- [NASA-CASE-LAR-02743] c14 N73-32324  
In situ transfer standard for ultrahigh vacuum  
gage calibration  
[NASA-CASE-LAR-10862-1] c14 N74-15092
- ULTRASONIC AGITATION**  
Development of ultrasonic radiation equipment  
for removing material from host surface and  
vacuum apparatus for recovery of material  
[NASA-CASE-NPO-11213] c15 N73-20514
- ULTRASONIC RADIATION**  
Ultrasonic biomedical measuring and recording  
apparatus --- for recording motion of internal  
organs such as heart valves  
[NASA-CASE-ARC-10597-1] c05 N74-20726
- ULTRASONIC TESTS**  
Ultrasonic scanner for radial and flat panels  
[NASA-CASE-NFS-20335-1] c14 N74-10415  
Ultrasonic scanning system for in-place  
inspection of brazed tube joints  
[NASA-CASE-NFS-20767-1] c15 N74-15130  
Method and apparatus for nondestructive testing  
--- using high frequency arc discharges  
[NASA-CASE-NFS-21233-1] c23 N74-15395
- ULTRASONIC WAVE TRANSDUCERS**  
Development of ultrasonic radiation equipment  
for removing material from host surface and  
vacuum apparatus for recovery of material  
[NASA-CASE-NPO-11213] c15 N73-20514  
Ultrasonic bone densitometer for measuring  
calcium content of bone structures  
[NASA-CASE-NFS-20994-1] c05 N73-30090  
Reference apparatus for medical ultrasonic  
transducer  
[NASA-CASE-ARC-10753-1] c05 N74-13818
- ULTRASONICS**  
Ultrasonic wrench for applying vibratory energy  
to mechanical fasteners  
[NASA-CASE-NFS-20586] c15 N71-17686
- ULTRAVIOLET FILTERS**  
Ultraviolet filter of thorium fluoride and  
cryolite on quartz base  
[NASA-CASE-XNP-02340] c23 N69-24332  
Development of ultraviolet resonance lamp with  
improved transmission of radiation  
[NASA-CASE-ARC-10030] c09 N71-12521
- ULTRAVIOLET RADIATION**  
Ultraviolet radiation resistant alkali-metal  
silicate coatings for temperature control of  
spacecraft  
[NASA-CASE-IGS-04119] c18 N69-39979  
Development of ultraviolet resonance lamp with  
improved transmission of radiation  
[NASA-CASE-ARC-10030] c09 N71-12521  
Gas leak detection in evacuated systems using  
ultraviolet radiation probe  
[NASA-CASE-BRC-10034] c15 N71-24896  
Phototropic composition of matter with  
sensitivity to ultraviolet light and usable  
for producing positive photographic images  
[NASA-CASE-IGS-03736] c14 N72-22043  
Transmitting and reflecting diffuser  
[NASA-CASE-LAR-10385-3] c23 N73-32538  
Transmitting and reflecting diffuser --- for  
ultraviolet light  
[NASA-CASE-LAR-10385-2] c23 N74-13436  
Ultraviolet and thermally stable polymer  
compositions  
[NASA-CASE-ARC-10592-1] c18 N74-21156  
Light shield and cooling apparatus --- high  
intensity ultraviolet lamp  
[NASA-CASE-LAR-10089-1] c15 N74-23066  
Flame detector operable in presence of proton  
radiation  
[NASA-CASE-NFS-21577-1] c03 N74-29410
- ULTRAVIOLET REFLECTION**  
Composition and production method of alkali  
metal silicate paint with ultraviolet  
reflection properties  
[NASA-CASE-IGS-04799] c18 N71-24183  
Ultraviolet light reflective coating  
[NASA-CASE-GSC-11786-1] c18 N74-10542
- ULTRAVIOLET SPECTRA**  
Ultraviolet chromatographic detector for  
quantitative and qualitative analysis of  
compounds  
[NASA-CASE-BQN-10756-1] c14 N72-25428
- ULTRAVIOLET SPECTROMETERS**  
Concave grating spectrometer for use in near and  
vacuum ultraviolet regions
- [NASA-CASE-IGS-01036] c14 N70-40003  
Telespectrograph for analyzing upper atmosphere  
by tracking bodies reentering atmosphere at  
high velocities  
[NASA-CASE-ILA-03273] c14 N71-18699
- UMBILICAL CONNECTORS**  
Umbilical separator for rockets  
[NASA-CASE-XNP-00425] c11 N70-38202  
Remotely actuated quick disconnect mechanism for  
umbilical cables  
[NASA-CASE-XLA-00711] c03 N71-12258  
Remotely actuated quick disconnect for tubular  
umbilical conduits used to transfer fluids  
from ground to rocket vehicle  
[NASA-CASE-XLA-01396] c03 N71-12259  
Internal and external serpentine devices for  
performing physical operations around orbital  
space stations  
[NASA-CASE-XNP-05344] c31 N71-16345  
Breakaway multiwire electrical cable connector  
with particular application for umbilical type  
cables  
[NASA-CASE-NPO-11140] c15 N72-17455  
Gas operated quick disconnect coupling for  
umbilical connectors  
[NASA-CASE-NPO-11202] c15 N72-25450
- UMBILICAL TOWERS**  
Emergency escape cabin system for launch towers  
[NASA-CASE-IRS-02342] c05 N71-11199
- UNDERWATER ENGINEERING**  
Ejectable underwater sound source recovery  
assembly  
[NASA-CASE-LAR-10595-1] c15 N74-16135
- UNDERWATER TESTS**  
Pressure regulator for space suit worn  
underwater to simulate space environment for  
testing and experimentation  
[NASA-CASE-NFS-20332] c05 N72-20097  
Underwater space suit pressure control regulator  
[NASA-CASE-NFS-20332-2] c05 N73-25125
- UNIFORM FLOW**  
Procedure for generating uniform flow at varying  
velocities in wind tunnel test section  
[NASA-CASE-ARC-10710-1] c11 N73-27175
- UNLOADING**  
Bootstrap unloading circuits for sampling  
transducer voltage sources without drawing  
current  
[NASA-CASE-XNP-09768] c09 N71-12516
- UNMANNED SPACECRAFT**  
Device which separates and screens particles of  
soil samples for vidicon viewing in vacuum and  
reduced gravity environments  
[NASA-CASE-XNP-09770-3] c11 N71-27036
- UPPER ATMOSPHERE**  
Telespectrograph for analyzing upper atmosphere  
by tracking bodies reentering atmosphere at  
high velocities  
[NASA-CASE-ILA-03273] c14 N71-18699  
Development and operation of apparatus for  
sampling particulates in gases in upper  
atmosphere  
[NASA-CASE-BQN-10037-1] c14 N73-27376  
Rocket having barium release system to create  
ion clouds in the upper atmosphere  
[NASA-CASE-LAR-10670-2] c31 N74-27360
- URINALYSIS**  
Automated fluid chemical analyzer for  
microchemical analysis of small quantities of  
liquids by use of selected reagents and  
analyzer units  
[NASA-CASE-XNP-09451] c06 N71-26754  
Enzymatic luminescent bioassay method for  
determining bacterial levels in urine  
[NASA-CASE-GSC-11092-2] c04 N73-27052  
Automatic device for assaying urine on bacterial  
adenosine triphosphate content  
[NASA-CASE-GSC-11169-2] c05 N73-32011
- URINATION**  
Open type urine receptacle with tubular housing  
[NASA-CASE-BSC-12324-1] c05 N72-22093
- V**
- V GROOVES**  
Vee-notching device --- with adjustable carriage  
[NASA-CASE-NFS-20730-1] c14 N74-13131
- VACUUM**  
Hole mobility of deposited semiconductor films

VACUUM APPARATUS

SUBJECT INDEX

in vacuum utilizing thermal gradient  
 [NASA-CASE-YKS-04614] c15 N69-21460  
 Operating properties of superconducting magnet  
 in vacuum environment  
 [NASA-CASE-XNP-06503] c23 N71-29049

**VACUUM APPARATUS**

Null-type vacuum microbalance for measuring  
 minute mechanical displacements  
 [NASA-CASE-YAC-00472] c15 N70-40180  
 Sealing evacuation port and evacuating vacuum  
 container such as space jackets  
 [NASA-CASE-XNP-03290] c15 N71-23256  
 Apparatus for determining volatile condensable  
 material present in polymeric products  
 [NASA-CASE-XNP-09699] c06 N71-24607  
 Oil trap for preventing diffusion pump  
 backstreaming into evacuated system  
 [NASA-CASE-GSC-10518-1] c15 N72-22489  
 Inductance device with vacuum insulation and  
 materials of low gas entrapping capability  
 [NASA-CASE-LEW-10330-1] c09 N72-27226  
 Development of apparatus for producing metal  
 powder particles of controlled size  
 [NASA-CASE-XLE-06461-2] c17 N72-28535  
 Portable vacuum probe surface sampler for  
 sampling large surface areas with relatively  
 light loading densities of microorganisms  
 [NASA-CASE-LAR-10623-1] c14 N73-30395  
 Electrostatic entrained material measurement  
 system --- comprising vacuum source and tube  
 [NASA-CASE-MFS-22128-2] c14 N74-18098  
 Fiber separating and cleaning method and apparatus  
 [NASA-CASE-LAR-11224-1] c15 N74-20072  
 Apparatus for positioning modular components on  
 a vertical or overhead surface  
 [NASA-CASE-LAR-11465-1] c15 N74-32926

**VACUUM CHAMBERS**

High-vacuum condenser tank for testing ion  
 rocket engines  
 [NASA-CASE-XLE-00168] c11 N70-33278  
 Portable electron beam welding chamber  
 [NASA-CASE-LEW-11531] c15 N71-14932  
 Space environmental work simulator with portions  
 of space suit mounted to vacuum chamber wall  
 [NASA-CASE-XNP-07488] c11 N71-18773  
 Ionization control system design for monitoring  
 separately located ion gage pressures on  
 vacuum chambers  
 [NASA-CASE-XLE-00787] c14 N71-21090  
 Coherent light beam device and method for  
 measuring gas density in vacuum chambers  
 [NASA-CASE-YER-11203] c14 N71-28994  
 Transferring liquid nitrogen through vacuum  
 chamber to cryopanel  
 [NASA-CASE-LAR-10031] c15 N72-22484  
 Vacuum chamber with scale model of rocket engine  
 base area of space vehicle  
 [NASA-CASE-MFS-20620] c11 N72-27262  
 Packless valve for use with evacuation chamber  
 with adapter for attachment to vacuum line and  
 vacuum pump  
 [NASA-CASE-LAR-10061-1] c15 N72-31483  
 Apparatus for analyzing gas samples in  
 containers including vacuum chamber, mass  
 spectrometer, and gas chromatography  
 [NASA-CASE-GSC-10903-1] c14 N73-12444  
 Design and development of test stand system for  
 supporting test items in vacuum chamber  
 [NASA-CASE-MFS-21362] c11 N73-20267

**VACUUM DEPOSITION**

Deposition method for epitaxial beta SiC films  
 having high degree of crystallographic  
 perfection  
 [NASA-CASE-ERC-10120] c26 N69-33482  
 Describing apparatus used in vacuum deposition  
 of thin film inductive windings for spacecraft  
 microcircuitry  
 [NASA-CASE-XNP-01667] c15 N71-17647  
 Sputter proof evaporant source design for use in  
 vacuum deposition of solid thin films on  
 substrates  
 [NASA-CASE-XNP-06065] c15 N71-20395  
 Device for high vacuum film deposition with  
 electromagnetic ion steering  
 [NASA-CASE-NPO-10331] c09 N71-26701

**VACUUM FURNACES**

Apparatus for inserting and removing specimens  
 from high temperature vacuum furnaces  
 [NASA-CASE-LAR-10841-1] c15 N74-27900

**VACUUM GAGES**

Simulating operation of thermopile vacuum gage  
 tube at high and low pressures  
 [NASA-CASE-XLA-02758] c14 N71-18481  
 Calibration of vacuum gauges for measuring total  
 and partial pressures in ultrahigh vacuum region  
 [NASA-CASE-XGS-07752] c14 N73-30390  
 Ionization gage for measuring ultrahigh vacuum  
 levels  
 [NASA-CASE-XLA-05087] c14 N73-30391  
 In situ transfer standard for ultrahigh vacuum  
 gage calibration  
 [NASA-CASE-LAR-10862-1] c14 N74-15092

**VACUUM MELTING**

Electric furnace for vacuum and zero gravity  
 melting of high melting point materials during  
 earth orbit  
 [NASA-CASE-MFS-20710] c11 N72-23215

**VACUUM SYSTEMS**

Shrink-fit vacuum system gas valve  
 [NASA-CASE-XGS-00587] c15 N70-35087  
 Leakproof soft metal seal for use in very high  
 vacuum systems operating at cryogenic  
 temperatures  
 [NASA-CASE-XGS-02441] c15 N70-41629  
 Describing hot filament type Bayard-Alpert  
 ionization gage with ion collector buried or  
 removed from grid structure  
 [NASA-CASE-XLA-07424] c14 N71-18482  
 Describing sorption vacuum trap having housing  
 with group of reentrant wall portions  
 projecting into internal gas-pervious  
 container filled with gas and vapor sorbent  
 material  
 [NASA-CASE-YER-09519] c14 N71-18483

**VACUUM TUBES**

Integrated structure vacuum tube  
 [NASA-CASE-ARC-10445-1] c09 N74-29577

**VALVE**

High impact pressure regulator having minimum  
 number of lightweight movable elements  
 [NASA-CASE-NPO-10175] c14 N71-18625

**VALVES**

Actuator using compressed gas as driving force  
 to control valve handling large liquid flows  
 [NASA-CASE-XHQ-01208] c15 N70-35409  
 Two component valve assembly for cryogenic  
 liquid transfer regulation  
 [NASA-CASE-XLE-00397] c15 N70-36492  
 High pressure four-way valve with O ring adapted  
 to pass across inlet port  
 [NASA-CASE-XNP-00214] c15 N70-36908  
 Reinforcing beam system for highly flexible  
 diaphragms in valves or pressure switches  
 [NASA-CASE-XNP-01962] c32 N70-41370  
 Multiple vortex amplifier system as fluid valve  
 [NASA-CASE-XNP-04709] c15 N71-15609  
 Throttle valve for regulating fluid flow volume  
 [NASA-CASE-XNP-09698] c15 N71-18580  
 Development and characteristics of high pressure  
 control valve  
 [NASA-CASE-MSC-11010] c15 N71-19485  
 Valve seat with resilient support ring for  
 venting valves subjected to high pressure  
 sealing loads  
 [NASA-CASE-YKS-02582] c15 N71-21234  
 Positive locking check valve for stopping  
 reversed flow  
 [NASA-CASE-XMS-09310] c15 N71-22706  
 Valve assembly for controlling simultaneously  
 more than one fluid flow, and having stable  
 qualities under loads  
 [NASA-CASE-XMS-05890] c09 N71-23191  
 Segmented sealing surface in valve seat  
 [NASA-CASE-NPO-10606] c15 N72-25451  
 Packless valve for use with evacuation chamber  
 with adapter for attachment to vacuum line and  
 vacuum pump  
 [NASA-CASE-LAR-10061-1] c15 N72-31483  
 Development and characteristics of combined  
 pressure regulator and shutoff valve with  
 variable pressure response characteristics  
 [NASA-CASE-NPO-13201-1] c15 N73-26474  
 Ultrasonically bonded valve assembly  
 [NASA-CASE-NPO-13360-1] c15 N74-20073  
 Flow control valve --- for high temperature fluids  
 [NASA-CASE-NPO-11951-1] c15 N74-21065

Airlock  
 [NASA-CASE-MFS-20922-1] c15 N74-22136

## VANES

Design and Characteristics of device for sensing solar radiation and providing spacecraft attitude control to maintain direction with respect to incident radiation  
[NASA-CASE-XMP-05535] c14 N71-23040

Rotary vane attenuator with two stators and intermediary rotor, using resistive and orthogonally disposed cards  
[NASA-CASE-NPO-11418-1] c14 N73-13420

## VAPOR DEPOSITION

Deposition method for epitaxial beta sic films having high degree of crystallographic perfection  
[NASA-CASE-ERC-10120] c26 N69-33482

Device for producing high purity silicon carbide on carbon base by hydrogen reduction of silicon tetrachloride  
[NASA-CASE-XLA-02057] c26 N70-40015

Water content in vapor deposition atmosphere for forming n-type and p-type junctions of zinc doped gallium arsenide  
[NASA-CASE-XNP-01961] c26 N71-29156

Vapor deposition method for forming metallized tungsten contacts on silicon substrates  
[NASA-CASE-GSC-10695-1] c09 N72-25259

Means of vapor deposition using electric current and evaporator filament  
[NASA-CASE-LAR-10541-1] c15 N72-32487

Method for vapor deposition of thin films  
[NASA-CASE-NFS-20775-1] c26 N73-23770

Deposition of alloy films --- on irregularly shaped metal object  
[NASA-CASE-LEW-11262-1] c18 N74-13270

## VAPOR PHASES

Method and feed system for separating and orienting liquid and vapor phases of liquid propellants in zero gravity environment  
[NASA-CASE-XLE-01182] c27 N71-15635

Gallium arsenide solar cell preparation by surface deposition of cuprous iodide on thin n-type polycrystalline layers and heating in iodine vapor  
[NASA-CASE-XNP-01960] c09 N71-23027

Mixed liquid and vapor phase analyzer design with thermocouples for relative heat transfer measurement  
[NASA-CASE-NPO-10691] c14 N71-26199

Electronic recording system for spatial mass distribution of liquid rocket propellant droplets or vapors ejected from high velocity nozzles  
[NASA-CASE-NPO-10185] c10 N71-26339

## VAPOR PRESSURE

Fuel tank pressure-relief device for venting cryogenic liquid vapors through tubes with porous plug  
[NASA-CASE-XLE-00288] c15 N70-34247

vapor-liquid separator design with vapor driven pump for separated liquid pumping for application in propellant transfer  
[NASA-CASE-XMP-04042] c15 N71-23023

## VAPOR TRAPS

Describing sorption vacuum trap having housing with group of reentrant wall portions projecting into internal gas-pervious container filled with gas and vapor sorbent material  
[NASA-CASE-XER-09519] c14 N71-18483

## VAPORIZERS

Vapor generating boiler system for turbine motor  
[NASA-CASE-XLE-00785] c33 N71-16104

## VAPORIZING

Apparatus and process for volumetrically dispensing reagent quantities of volatile chemicals for small batch reactions  
[NASA-CASE-NPO-10070] c15 N71-27372

development of method for controlling vapor content of gas  
[NASA-CASE-NPO-10633] c03 N72-28025

## VARACTOR DIODE CIRCUITS

Phase modulator with tuned variable length electrical lines including coupling and varactor diode circuits  
[NASA-CASE-MSC-13201-1] c07 N71-28429

## VARACTOR DIODES

Varactor microwave frequency mixing circuit  
[NASA-CASE-XGS-02171] c09 N69-24324

Multiple varactor for generating high frequencies with high power and high conversion efficiency  
[NASA-CASE-XMF-04958-1] c10 N71-26414

Millimeter wave pumped parametric amplifier  
[NASA-CASE-GSC-11617-1] c09 N74-32660

## VARIABLE GEOMETRY STRUCTURES

Aerospace configuration with low and high aspect ratio variability for high and low speed flight  
[NASA-CASE-XLA-00142] c02 N70-33286

Variable geometry wind tunnel for testing aircraft models at subsonic speeds  
[NASA-CASE-XLA-07430] c11 N72-22246

## VARIABLE SWEEP WINGS

Variable sweep wing configuration for supersonic aircraft  
[NASA-CASE-XLA-00230] c02 N70-33255

Variable aspect ratio and variable sweep delta wing planforms for supersonic aircraft  
[NASA-CASE-XLA-00221] c02 N70-33266

Supersonic aircraft configuration providing for variable aspect ratio and variable sweep wings  
[NASA-CASE-XLA-00166] c02 N70-34178

Supersonic aircraft variable sweep wing planform for varying aspect ratio  
[NASA-CASE-XLA-00350] c02 N70-38011

Development and characteristics of variable sweep wing control system for supersonic aircraft  
[NASA-CASE-XLA-03659] c02 N71-11041

Design of dual fuselage aircraft with pivoting wing and horizontal stabilizer to permit yawing of wing in flight for high speed operation  
[NASA-CASE-ARC-10470-1] c02 N73-26005

## VARIABLE THRUST

Variable thrust ion engine using thermal decomposition of solid cesium compound to produce propulsive vapor  
[NASA-CASE-XNF-00923] c28 N70-36802

Continuous variation of propellant flow and thrust by application of liquid foam flow theory to injection orifice  
[NASA-CASE-XLE-00177] c28 N70-40367

## VARIATIONS

Gearing system for eliminating backlash and filtering input torque fluctuations from high inertia load  
[NASA-CASE-XGS-04227] c15 N71-21744

## VECTOR ANALYSIS

Development of two force component measuring device  
[NASA-CASE-IAC-04886-1] c14 N71-20439

## VECTORCARDIOGRAPHY

Electromedical garment, applying vectorcardiologic type electrodes to human torsos for data recording during physical activity  
[NASA-CASE-XFP-10856] c05 N71-11189

## VEGETATION GROWTH

Rotary plant growth accelerating apparatus --- for weightlessness simulation  
[NASA-CASE-ARC-10722-1] c04 N74-13807

## VEHICLE WHEELS

Resilient vehicle wheel for lunar surface travel  
[NASA-CASE-MFS-20400] c31 N71-18611

Resilient wheel design with woven wire tire and abrasive treads for lunar surface vehicles  
[NASA-CASE-MFS-13929] c15 N71-27091

Omnidirectional wheel  
[NASA-CASE-MFS-21309-1] c15 N74-18125

Two speed drive system --- mechanical device for changing speed on rotating vehicle wheel  
[NASA-CASE-MFS-20645-1] c15 N74-23070

## VELOCITY

Velocity limiting safety system for motor driven research vehicle  
[NASA-CASE-XLA-07473] c15 N71-24895

## VELOCITY MEASUREMENT

Particle detector for measuring microneteoroid velocity in space  
[NASA-CASE-XLA-00495] c14 N70-41332

Superconductive accelerometer employing variable force principle to determine acceleration of bodies  
[NASA-CASE-XMF-01099] c14 N71-15969

Device for determining acceleration of gravity by interferometric measurement of travel of falling body

## VELOCITY MODULATION

## SUBJECT INDEX

- [NASA-CASE-XHF-05844] c14 N71-17587  
Describing laser Doppler velocimeter for  
measuring mean velocity and turbulence of  
fluid flow
- [NASA-CASE-MFS-20386] c21 N71-19212  
Momentum-velocity analyzer for measuring minute  
space particles
- [NASA-CASE-XMS-04201] c14 N71-22990  
Development of combined velocimeter and  
accelerometer based on color changes in liquid  
crystalline material subjected to shear stresses
- [NASA-CASE-ERC-10292] c14 N72-25410  
Instrument for measuring magnitude and direction  
of flow velocity in flow field
- [NASA-CASE-LAR-10855-1] c14 N73-13415  
Laser Doppler velocimeter for simultaneously  
measuring orthogonal fluid velocity components  
without flow field perturbation
- [NASA-CASE-ARC-10637-1] c14 N73-21390  
Doppler shift system --- system for measuring  
velocities of radiating particles
- [NASA-CASE-BQN-10740-1] c24 N74-19310
- VELOCITY MODULATION**  
Selector mechanism for mechanical separation and  
discrimination of high velocity molecular  
particles
- [NASA-CASE-XLE-01533] c11 N71-10777  
Describing device for velocity control of  
electromechanical drive mechanism of scanning  
mirror of interferometer
- [NASA-CASE-XGS-03532] c14 N71-17627
- VENTILATORS**  
An improved heat sterilizable patient ventilator
- [NASA-CASE-NPO-13313-1] c05 N74-17858
- VENTING**  
Fuel tank pressure-relief device for venting  
cryogenic liquid vapors through tubes with  
porous plug
- [NASA-CASE-XLE-00288] c15 N70-34247  
Venting device for liquid propellant storage  
tank using magnetic field to separate liquid  
and gaseous phases
- [NASA-CASE-XLE-01449] c15 N70-41646  
Valve seat with resilient support ring for  
venting valves subjected to high pressure  
sealing loads
- [NASA-CASE-XKS-02582] c15 N71-21234  
Venting device for pressurized space suit helmet  
to eliminate vomit expelled by crewmen
- [NASA-CASE-XMS-09652-1] c05 N71-26333  
Solid propellant rocket engine with venting  
system to control effective nozzle throat area
- [NASA-CASE-INP-03282] c28 N72-20758
- VENUS (PLANET)**  
Space simulator with uniform test region  
radiation distribution, adapted to simulate  
Venus solar radiations
- [NASA-CASE-XNP-00459] c11 N70-38675
- VERTICAL FLIGHT**  
Aircraft indicator for pilot control of takeoff  
roll, climbout path and verticle flight path  
in poor visibility conditions
- [NASA-CASE-XLA-00487] c14 N70-40157
- VERTICAL LANDING**  
Vertically descending flight vehicle landing  
gear for rough terrain
- [NASA-CASE-XMP-01174] c02 N70-41589
- VERTICAL TAKEOFF AIRCRAFT**  
Mechanical stabilization system for VTOL aircraft
- [NASA-CASE-XLA-06339] c02 N71-13422  
Development of attitude control system for  
vertical takeoff aircraft using reaction  
nozzles displaced from various axes of aircraft
- [NASA-CASE-XAC-08972] c02 N71-20570
- VERY HIGH FREQUENCIES**  
VHF/UHF parasitic probe antenna for spacecraft  
communication
- [NASA-CASE-IKS-09340] c07 N71-24614
- VESTS**  
Lightweight life preserver without fastening  
devices
- [NASA-CASE-XMS-00864] c05 N70-36493
- VIBRATION**  
Three stage motion restraining mechanism for  
restraining and damping three dimensional  
vibrational movement of gimbaled package  
during launch of spacecraft
- [NASA-CASE-GSC-10306-1] c15 N71-24694
- Vibration control of flexible bodies in steady  
accelerating environment
- [NASA-CASE-LAR-10106-1] c15 N71-27169
- VIBRATION DAMPING**  
Mercury filled pendulum damper for controlling  
bending vibration induced by wind effects
- [NASA-CASE-LAR-10274-1] c14 N71-17626  
Digital filter for reducing jitter in digital  
control systems
- [NASA-CASE-NPO-11088] c08 N71-29034  
Blade vibration damping pins for turbomachinery
- [NASA-CASE-XLE-00155] c28 N71-29154
- VIBRATION EFFECTS**  
Electromagnetic energy detection by thermal  
sensor with vibrating electrode
- [NASA-CASE-XAC-10768] c09 N71-18830  
Development of ultrasonic radiation equipment  
for removing material from host surface and  
vacuum apparatus for recovery of material
- [NASA-CASE-NPO-11213] c15 N73-20514  
Development of optical system for detecting  
defective components in rotating machinery  
with emphasis on bearing assemblies
- [NASA-CASE-KSC-10752-1] c15 N73-27407
- VIBRATION ISOLATORS**  
Shock and vibration damping device using  
temperature sensitive solid amorphous polymers
- [NASA-CASE-YAC-11225] c14 N69-27486  
Miniature vibration isolator utilizing elastic  
tubing material
- [NASA-CASE-XLA-01019] c15 N70-40156  
Vibration damping system operating in low vacuum  
environment for spacecraft mechanisms
- [NASA-CASE-XMS-01620] c23 N71-15673  
Hermetically sealed vibration damper design for  
use in gimballed assembly of spacecraft inertial  
guidance system
- [NASA-CASE-MSC-10959] c15 N71-26243  
Tuned damped vibration absorber for mass  
vibrating in more than one degree of freedom  
for use with wind tunnel models
- [NASA-CASE-LAR-10083-1] c15 N71-27006  
Vibration isolation system, using coaxial  
helical compression springs
- [NASA-CASE-NPO-11012] c15 N72-11391  
Thrust-isolating mounting --- characteristics of  
support for loads mounted in spacecraft
- [NASA-CASE-MFS-21680-1] c32 N74-27397
- VIBRATION MEASUREMENT**  
Development of system for measuring damping  
characteristics of structure or system  
subjected to random forces or influences
- [NASA-CASE-ARC-10154-1] c14 N72-22440  
Recording apparatus
- [NASA-CASE-LAR-11353-1] c14 N74-20020
- VIBRATION METERS**  
Fiber optic transducers for monitoring and  
analysis of vibration in aerospace vehicles  
and onboard equipment
- [NASA-CASE-XHF-02433] c14 N71-10616
- VIBRATION MODE**  
Function generators for producing complex  
vibration mode patterns used to identify  
vibration mode data
- [NASA-CASE-LAR-10310-1] c10 N73-20253
- VIBRATION SIMULATORS**  
Equipment for vibration testing of assemblies,  
components, and other articles
- [NASA-CASE-GSC-11302-1] c14 N73-13416
- VIBRATION TESTS**  
Electronic detection system for peak  
acceleration limits in vibrational testing of  
spacecraft components
- [NASA-CASE-NPO-10556] c14 N71-27185  
Fixture for supporting articles during vibration  
tests comprising integral annular unit
- [NASA-CASE-MFS-20523] c14 N72-27412  
Equipment for vibration testing of assemblies,  
components, and other articles
- [NASA-CASE-GSC-11302-1] c14 N73-13416  
Multi-axis vibration device for making vibration  
tests along orthogonal axes of test specimen
- [NASA-CASE-MFS-20242] c14 N73-19421
- VIBRATIONAL SPECTRA**  
Tuned damped vibration absorber for mass  
vibrating in more than one degree of freedom  
for use with wind tunnel models
- [NASA-CASE-LAR-10083-1] c15 N71-27006

## VIDEO COMMUNICATION

Circuitry for generating sync signals in PM communication systems including video information  
[NASA-CASE-XNP-10830] c07 N71-11281

Monitoring circuit design for sampling circuit control and reduction of time-bandwidth in video communication systems  
[NASA-CASE-XNP-02791] c07 N71-23026

Teletypewriter video communication system and apparatus  
[NASA-CASE-XNP-06611] c07 N71-26102

## VIDEO DATA

TV camera output signal control system for digital spacecraft communication  
[NASA-CASE-XNP-01472] c14 N70-41807

Transient video signal tape recorder with expanded playback  
[NASA-CASE-ARC-10003-1] c09 N71-25866

Restoration and improvement of demodulated facsimile video signals  
[NASA-CASE-GSC-10185-1] c07 N72-12081

Photoconducting semiconductor system for converting stored optical images into video signals  
[NASA-CASE-NPO-13131-1] c16 N73-31467

Manually and automatically operable video switching system  
[NASA-CASE-KSC-10782-1] c07 N73-32063

## VIDEO EQUIPMENT

Video signal processing system for sampling video brightness levels  
[NASA-CASE-NPO-10140] c07 N71-24742

Video sync processor with phase locked system  
[NASA-CASE-KSC-10002] c10 N71-25865

Teletypewriter video communication system and apparatus  
[NASA-CASE-XNP-06611] c07 N71-26102

Video signal enhancement of signal component representing brightness of scene element in low contrast  
[NASA-CASE-NPO-10343] c07 N71-27341

Circuitry for high input impedance video processor with high noise immunity  
[NASA-CASE-NPO-10199] c09 N72-17156

Electronic video editor for switching video input signals to common output channel  
[NASA-CASE-KSC-10003] c10 N73-13235

Video tape recorder with scan conversion playback for color television signals  
[NASA-CASE-NPO-10166-1] c07 N73-22076

## VIDICONS

Operation of vidicon tube for scanning spatial charge density pattern  
[NASA-CASE-XNP-06028] c09 N71-23189

Device which separates and screens particles of soil samples for vidicon viewing in vacuum and reduced gravity environments  
[NASA-CASE-XNP-09770-3] c11 N71-27036

## VINYL POLYMERES

Method of producing output voltage from photovoltaic cell using poly-N-vinyl carbazole complexed with iodine  
[NASA-CASE-NPO-10373] c03 N71-18698

## VINYLIDENE

Preparation of dicyanoacetylene and vinylidene copolymers using organic compounds  
[NASA-CASE-INP-03250] c06 N71-23500

## VISCOELASTICITY

Automated ball rebound resilience test equipment for determining viscoelastic properties of polymers  
[NASA-CASE-XLA-08254] c14 N71-26161

Development and characteristics of parallel plate viscometer for determination of absolute viscosity of liquids and viscoelastic materials  
[NASA-CASE-NPO-11387] c14 N73-14429

Viscoelastic shock absorbing mount for electrical circuit board  
[NASA-CASE-NPO-13253-1] c15 N73-31445

## VISCOMETERS

Describing instrument capable of measuring true shear viscosity of liquids and viscoelastic materials  
[NASA-CASE-XNP-09462] c14 N71-17584

Development and characteristics of parallel plate viscometer for determination of absolute viscosity of liquids and viscoelastic materials  
[NASA-CASE-NPO-11387] c14 N73-14429

## VISCOSITY

Low density and low viscosity magnetic propellant for use under zero gravity conditions  
[NASA-CASE-XLE-01512] c12 N70-40124

## VISCIOUS DAMPING

Shock and vibration damping device using temperature sensitive solid amorphous polymers  
[NASA-CASE-XAC-11225] c14 N69-27486

Design and operation of viscous pendulum damper  
[NASA-CASE-XLA-02079] c12 N71-16894

Mercury filled pendulum damper for controlling bending vibration induced by wind effects  
[NASA-CASE-LAR-10274-1] c14 N71-17626

## VISIBILITY

Controlled visibility device for simulating poor visibility conditions in training pilots in instrument landing and flight procedures  
[NASA-CASE-XFR-04147] c11 N71-10748

Detergent with glyceryl esters and oil as protective coating to prevent fogging of space suit visor  
[NASA-CASE-MSC-13530-2] c06 N73-11107

## VISORS

Detergent with glyceryl esters and oil as protective coating to prevent fogging of space suit visor  
[NASA-CASE-MSC-13530-2] c06 N73-11107

## VISUAL ACUITY

Multiparameter vision tester  
[NASA-CASE-MSC-13601-2] c05 N74-32549

## VISUAL CONTROL

Visual target luminaires for retrofire attitude control  
[NASA-CASE-XMS-12158-1] c31 N69-27499

## VISUAL FIELDS

Automated visual sensitivity tester for determining visual field sensitivity and blind spot size  
[NASA-CASE-ARC-10329-1] c05 N73-26072

## VISUAL OBSERVATION

Optical vision testing unit for testing eyes and visual system of human subject  
[NASA-CASE-MSC-13601-1] c05 N72-11088

## VISUAL PERCEPTION

High pressure liquid flow sight assembly for wide temperature range applications including cryogenic fluids  
[NASA-CASE-XLE-02998] c14 N70-42074

## VISUAL STIMULI

Reaction tester for testing reaction to light stimuli  
[NASA-CASE-MSC-13604-1] c05 N73-13114

## VOICE COMMUNICATION

Position locating system for remote aircraft using voice communication and digital signals  
[NASA-CASE-GSC-10087-2] c21 N71-13958

Earth satellite relay station for frequency multiplexed voice transmission  
[NASA-CASE-GSC-10118-1] c07 N71-24621

Voice operated receiving and transmitting system for use in protective suits  
[NASA-CASE-KSC-10164] c07 N71-33108

Technique for recovery of voice data from heat damaged magnetic tape  
[NASA-CASE-MSC-14219-1] c07 N74-27612

## VOICE DATA PROCESSING

Digital communication system  
[NASA-CASE-MSC-13912-1] c07 N74-30524

## VOLATILITY

Apparatus for determining volatile condensable material present in polymeric products  
[NASA-CASE-INP-09699] c06 N71-24607

## VOLT-AMPERE CHARACTERISTICS

Simulating voltage-current characteristic curves of solar cell panel with different operational parameters  
[NASA-CASE-INS-01554] c10 N71-10578

## VOLTAGE AMPLIFIERS

Increasing power conversion efficiency of electronic amplifiers by power supply switching  
[NASA-CASE-XMS-00945] c09 N71-10798

Bootstrap unloading circuits for sampling transducer voltage sources without drawing current  
[NASA-CASE-XNP-09768] c09 N71-12516

RC networks with voltage amplifier, RC input circuit, and positive feedback  
[NASA-CASE-ARC-10020] c10 N72-17172

- Wide range analog to digital converter with variable gain amplifier  
[NASA-CASE-NPO-11018] c08 N72-21200
- VOLTAGE CONVERTERS (DC TO DC)**  
Regulated dc-to-dc converter for voltage step-up or step-down with input-output isolation  
[NASA-CASE-HQN-10792-1] c09 N74-11049
- VOLTAGE GENERATORS**  
Pulsed energy power system for application of combustible gases to turbine controlling ac voltage generator  
[NASA-CASE-MSC-13112] c03 N71-11057  
Biotelemetry apparatus with dual voltage generators for implanting in animals  
[NASA-CASE-XAC-05706] c05 N71-12342  
Transistorized circuit for producing multiple slope voltage sweep  
[NASA-CASE-XMS-03542] c09 N71-28926  
Inductive-capacitive loops as load insensitive power converters  
[NASA-CASE-ERC-10268] c09 N72-25252
- VOLTAGE REGULATORS**  
Regulated dc to dc converter  
[NASA-CASE-XGS-03429] c03 N69-21330  
Power control switching circuit using low voltage semiconductor controlled rectifiers for high voltage isolation  
[NASA-CASE-XNP-02713] c10 N69-39888  
Automatic measuring and recording of gain and zero drift characteristics of electronic amplifier  
[NASA-CASE-XMS-05562-1] c09 N69-39986  
Automatic control of voltage supply to direct current motor  
[NASA-CASE-XMS-04215-1] c09 N69-39987  
Design, development, and operating principles of power supply with starting circuit which is independent of voltage regulator  
[NASA-CASE-XMS-01991] c09 N71-21449  
High voltage divider system for attenuating high voltages to convenient levels suitable for introduction to measuring circuits  
[NASA-CASE-XLE-02008] c09 N71-21583  
Power supply with overload protection for series stage transistor  
[NASA-CASE-XMS-00913] c10 N71-23543  
Voltage controlled, variable frequency relaxation oscillator with MOSFET variable current feed  
[NASA-CASE-GSC-10022-1] c10 N71-25882  
Design and development of buck-boost voltage regulator circuit with additive or subtractive alternating current impressed on variable direct current source voltage  
[NASA-CASE-GSC-10735-1] c10 N71-26085  
Voltage range selection apparatus for sensing and applying voltages to electronic instruments without loading signal source  
[NASA-CASE-XMS-06497] c14 N71-26244  
Dissipative voltage regulator system for minimizing heat dissipation  
[NASA-CASE-GSC-10891-1] c10 N71-26626  
Power point tracker for maintaining optimal output voltage of power source  
[NASA-CASE-GSC-10376-1] c14 N71-27407  
Microwave power divider for providing variable output power to output waveguide in fixed waveguide system  
[NASA-CASE-NPO-11031] c07 N71-33606  
Relay controlled voltage switching unit for scanning circuitry of star tracker  
[NASA-CASE-NPO-11253] c09 N72-17157  
Switching type voltage regulator with relatively simple circuit arrangement  
[NASA-CASE-LEW-11005-1] c09 N72-21243  
Inductive-capacitive loops as load insensitive power converters  
[NASA-CASE-ERC-10268] c09 N72-25252  
Voltage monitoring system for remote application  
[NASA-CASE-KSC-10736-1] c09 N73-23290  
Regulated dc-to-dc converter for voltage step-up or step-down with input-output isolation  
[NASA-CASE-HQN-10792-1] c09 N74-11049  
Overvoltage protection network  
[NASA-CASE-ARC-10197-1] c09 N74-17929  
Low distortion automatic phase control circuit --- voltage controlled phase shifter  
[NASA-CASE-MFS-21671-1] c10 N74-22885
- VOLTMETERS**  
Voltage monitoring system for remote application  
[NASA-CASE-KSC-10736-1] c09 N73-23290
- VOMITTING**  
Venting device for pressurized space suit helmet to eliminate vomit expelled by crewmen  
[NASA-CASE-XMS-09652-1] c05 N71-26133
- VORTEX BREAKDOWN**  
Wingtip vortex dissipator for aircraft  
[NASA-CASE-LAR-11645-1] c02 N74-26456
- VORTEX GENERATORS**  
Multiple vortex amplifier system as fluid valve  
[NASA-CASE-XMF-04709] c15 N71-15609
- VORTICES**  
Wingtip vortex dissipator for aircraft  
[NASA-CASE-LAR-11645-1] c02 N74-26456
- VULCANIZING**  
Method for compression molding of thermosetting plastics utilizing a temperature gradient across the plastic to cure the article  
[NASA-CASE-LAR-10489-1] c15 N74-18124
- W**
- WAFERS**  
Separation of semiconductor wafer into chips bounded by scribe lines  
[NASA-CASE-ERC-10138] c26 N71-14354
- WALL TEMPERATURES**  
Thermocouple apparatus for measuring wall temperatures in regeneratively cooled rocket engines having thin walled cooling passages  
[NASA-CASE-XLE-05230-2] c14 N73-13417  
Structural heat pipe for spacecraft wall thermal insulation system  
[NASA-CASE-GSC-11619-1] c33 N73-32828
- WALLS**  
Metal ribbon wrapped outer wall for regeneratively cooled combustion chamber  
[NASA-CASE-XLE-00164] c15 N70-36411
- WARNING SYSTEMS**  
Alarm system design for monitoring one or more relay circuits  
[NASA-CASE-XMS-10984-1] c10 N71-19417  
Unsaturating magnetic core transformer design with warning signal for electrical power processing equipment  
[NASA-CASE-EBC-10125] c09 N71-24893  
Electrical failure detector in solid rocket propellant motor insulation against thermal degradation by fuel grain  
[NASA-CASE-XMP-03968] c14 N71-27186  
Device for generating and controlling combustion products for testing of fire detection system  
[NASA-CASE-GSC-11095-1] c14 N72-10375  
Vertically stacked collinear array of independently fed omnidirectional antennas for use in collision warning systems on commercial aircraft  
[NASA-CASE-LAR-10545-1] c09 N72-21244  
Development and operating principles of collision warning system for aircraft accident prevention  
[NASA-CASE-HQN-10703] c21 N73-13643  
Pilot warning indicator system of intruder aircraft  
[NASA-CASE-EBC-10226-1] c14 N73-16483  
Silent alarm system for multiple room facility or school  
[NASA-CASE-NPO-11307-1] c10 N73-30205  
Development and characteristics of electronic signalling system and data processing equipment for warning systems to avoid midair collisions between aircraft  
[NASA-CASE-LAR-10717-1] c21 N73-30641  
Inverter ratio failure detector  
[NASA-CASE-NPO-13160-1] c14 N74-18090
- WASTE DISPOSAL**  
Fecal waste disposal container  
[NASA-CASE-XMS-06761] c05 N69-23192  
Airlock for waste transferal from pressurized enclosure aboard space vehicle to waste receiver at negative pressure  
[NASA-CASE-MFS-20922] c31 N72-20840  
Pressurized tank for feeding liquid waste into processing equipment  
[NASA-CASE-LAR-10365-1] c05 N72-27102  
Automatic liquid collection and disposal system  
[NASA-CASE-LAR-11071-1] c15 N73-18474

## SUBJECT INDEX

## WAVELENGTHS

Reduced gravity fecal collector seat and urinal  
[NASA-CASE-MFS-22102-1] c05 N74-20725

Airlock  
[NASA-CASE-MFS-20922-1] c15 N74-22136

Raw liquid waste treatment system and process  
[NASA-CASE-NPO-13573-1] c05 N74-32552

**WATER**

Variable water load for dissipating large amounts of electrical power during high voltage power supply tests  
[NASA-CASE-XNP-05381] c09 N71-20842

Gas chromatographic method for determining water in nitrogen tetroxide rocket propellant  
[NASA-CASE-NPO-10234] c06 N72-17094

**WATER FLOW**

Potable water dispenser  
[NASA-CASE-MFS-21115-1] c05 N74-12779

**WATER INJECTION**

Reentry communication by injection of water droplets into plasma layer surrounding space vehicle  
[NASA-CASE-XLA-01552] c07 N71-11284

**WATER LANDING**

Parachute system for lowering manned spacecraft from post-reentry to ocean landing  
[NASA-CASE-XLA-00195] c02 N70-38009

Spacecraft design with single point aerodynamic and hydrodynamic stability for emergency transport of men from space station to splashdown  
[NASA-CASE-MSC-13281] c31 N72-18859

**WATER MANAGEMENT**

Description of electrical equipment and system for purification of waste water by producing silver ions for bacterial control  
[NASA-CASE-MSC-10960-1] c03 N71-24718

**WATER POLLUTION**

Utilization of solar radiation by solar still for converting salt and brackish water into potable water  
[NASA-CASE-XMS-04533] c15 N71-23086

Portable tester for monitoring bacterial contamination by adenosine triphosphate light reaction  
[NASA-CASE-GSC-10879-1] c14 N72-25413

**WATER RECLAMATION**

Potable water reclamation from human wastes in zero-G environment  
[NASA-CASE-XLA-03213] c05 N71-11207

**WATER TEMPERATURE**

Differential thermopile for measuring cooling water temperature rise  
[NASA-CASE-XAC-00812] c14 N71-15598

**WATER TREATMENT**

Description of electrical equipment and system for purification of waste water by producing silver ions for bacterial control  
[NASA-CASE-MSC-10960-1] c03 N71-24718

Raw water sewage treatment  
[NASA-CASE-NPO-13224-1] c05 N73-31011

Raw liquid waste treatment system and process  
[NASA-CASE-NPO-13573-1] c05 N74-32552

**WATER VAPOR**

Equipment for measuring partial water vapor pressure in gas tank  
[NASA-CASE-XMS-01618] c14 N71-20741

**WATERPROOFING**

Glass-to-metal seals comprising relatively high expansion metals  
[NASA-CASE-LEW-10698-1] c15 N74-21063

**WAVE FRONT RECONSTRUCTION**

Recording and reconstructing focused image holograms  
[NASA-CASE-ERC-10017] c16 N71-15567

**WAVE GENERATION**

Wind tunnel air flow modulating device and apparatus for selectively generating wave motion in wind tunnel airstream  
[NASA-CASE-XLA-00112] c11 N70-33287

Linear sawtooth voltage wave generator with transistor timing circuit having capacitor and zener diode feedback loops  
[NASA-CASE-XMS-01315] c09 N70-41675

Sign wave generation simulator for variable amplitude, frequency, damping, and phase pulses for oscilloscope display  
[NASA-CASE-NPO-10251] c10 N71-27365

Wideband generator for producing sine wave quadrature and second harmonic of input signal  
[NASA-CASE-NPO-11133] c10 N72-20223

Application of acoustic transducers for suspending object at center of chamber under near weightless conditions  
[NASA-CASE-NPO-13263-1] c15 N73-31443

**WAVE REFLECTION**

Surface defect detection by reflected microwave radiation pattern  
[NASA-CASE-ARC-10009-1] c15 N71-17822

Millimeter wave antenna system for spacecraft use  
[NASA-CASE-GSC-10949-1] c07 N71-28965

**WAVE SCATTERING**

Device and method for determining X ray reflection efficiency, scattering properties, and surface finish of optical surfaces  
[NASA-CASE-MFS-20243] c23 N73-13662

**WAVEFORMS**

Variable frequency magnetic coupled multivibrator with output signal of constant amplitude and waveform  
[NASA-CASE-XGS-00131] c09 N70-38995

Cathode ray oscilloscope for analyzing electrical waveforms representing amplitude distribution of time function  
[NASA-CASE-XNP-01383] c09 N71-10659

Peak polarity selector for monitoring waveforms  
[NASA-CASE-ERC-10010] c10 N71-24862

Development of family of frequency to amplitude converters for frequency analysis of complex input signal waveforms  
[NASA-CASE-HSC-12395] c09 N72-25257

Device for performing statistical time-series analysis of complex electrical signal waveforms  
[NASA-CASE-MSC-12428-1] c10 N73-25240

Anti-multipath digital signal detector  
[NASA-CASE-LAR-11379-1] c07 N74-11005

Controllable high voltage source having fast settling time  
[NASA-CASE-GSC-11844-1] c09 N74-19853

**WAVEGUIDE ANTENNAS**

Planar array circularly polarized antenna with wall slot excitation  
[NASA-CASE-NPO-10301] c07 N72-11148

Dielectric loaded aperture antenna with directive radiation pattern from waveguide  
[NASA-CASE-LAR-11084-1] c09 N73-12216

**WAVEGUIDE FILTERS**

Microwave power divider for providing variable output power to output waveguide in fixed waveguide system  
[NASA-CASE-NPO-11031] c07 N71-33606

Dichroic plate  
[NASA-CASE-NPO-13506-1] c09 N74-27690

**WAVEGUIDE WINDOWS**

Broadband microwave waveguide window to compensate dielectric material filling  
[NASA-CASE-XNP-08860] c09 N71-24808

**WAVEGUIDES**

Dual waveguide mode source for controlling amplitudes of two modes  
[NASA-CASE-XNP-03134] c07 N71-10676

Design of folded traveling wave maser structure  
[NASA-CASE-XNP-05219] c16 N71-15550

Quasi-optical microwave circuit with dielectric body for use with oversize waveguides  
[NASA-CASE-ERC-10011] c07 N71-29065

Microwave waveguide mixer  
[NASA-CASE-ERC-10179] c07 N72-20141

Waveguide, thin film window and microwave irises  
[NASA-CASE-LAR-10513-1] c07 N72-25170

Development of thin film microwave iris installed in microwave waveguide transverse to flow of energy in waveguide  
[NASA-CASE-LAR-10511-1] c09 N72-29172

Resonant waveguide Stark cell --- using microwave spectrometers  
[NASA-CASE-LAR-11352-1] c09 N74-19854

**WAVELENGTHS**

Method and apparatus using temperature control for wavelength tuning of liquid lasers  
[NASA-CASE-ERC-10187] c16 N69-31343

Multiple wavelength radiation measuring instrument for determining hot body or gas temperature  
[NASA-CASE-XLE-00011] c14 N70-41946

Laser utilizing infrared rotation transitions of diatomic gas for production of different wavelengths  
[NASA-CASE-ARC-10370-1] c16 N72-10432



- Optical system for selecting particular wavelength light beams from multiple wavelength light source  
[NASA-CASE-BRC-10248] c14 N72-17323
- Development of radiant energy sensor to detect the radiant energy wavelength bands from portions of radiating body  
[NASA-CASE-BRC-10174] c14 N72-25409
- Dual wavelength system for monitoring film deposition  
[NASA-CASE-BFS-20675] c26 N73-26751
- WEATHERPROOFING**
- Weatherproof helix antenna  
[NASA-CASE-XKS-08485] c07 N71-19493
- WEIGHT (MASS)**
- Suspended mass oscillation damper based on impact energy absorption for damping wind induced oscillations of tall stacks, antennas, and umbilical towers  
[NASA-CASE-LAR-10193-1] c15 N71-27186
- WEIGHT INDICATORS**
- Device for monitoring a change in mass in varying gravimetric environments  
[NASA-CASE-BFS-21556-1] c14 N74-26945
- WEIGHT MEASUREMENT**
- Weighing and recording device for obtaining precise automatic record of small changes in force  
[NASA-CASE-XLA-02605] c14 N71-10773
- Device for monitoring a change in mass in varying gravimetric environments  
[NASA-CASE-BFS-21556-1] c14 N74-26945
- WEIGHTLESSNESS**
- Apparatus for cryogenic liquid storage with heat transfer reduction and for liquid transfer at zero gravity conditions  
[NASA-CASE-XLE-00345] c15 N70-38020
- Liquid-gas separator adapted for use in zero gravity environment - drawings  
[NASA-CASE-XNS-01624] c15 N70-40062
- Expulsion and measuring device for determining quantity of liquid in tank under conditions of weightlessness  
[NASA-CASE-XNS-01546] c14 N70-40233
- Collapsible auxiliary tank for restarting liquid propellant rocket motors under zero gravity  
[NASA-CASE-XMP-01390] c28 N70-41275
- Absorbent apparatus for separating gas from liquid-gas stream used in environmental control under zero gravity conditions  
[NASA-CASE-XNS-01492] c05 N70-41297
- Potable water reclamation from human wastes in zero-G environment  
[NASA-CASE-XLA-03213] c05 N71-11207
- Describing apparatus for separating gas from cryogenic liquid under zero gravity and for venting gas from fuel tank  
[NASA-CASE-XLE-00586] c15 N71-15968
- Cable suspension and inclined walkway system for simulating reduced or zero gravity environments  
[NASA-CASE-XLA-01787] c11 N71-16028
- Development of apparatus for simulating zero gravity conditions  
[NASA-CASE-BFS-12750] c27 N71-16223
- Quick disconnect latch and handle combination for mounting articles on walls or supporting bases in spacecraft under zero gravity conditions  
[NASA-CASE-BFS-11132] c15 N71-17649
- Gauge for measuring quantity of liquid in spherical tank in reduced gravity  
[NASA-CASE-XNS-06236] c14 N71-21007
- Zero gravity apparatus utilizing pneumatic decelerating means to create payload subjected to zero gravity conditions by dropping its height  
[NASA-CASE-XMP-06515] c14 N71-23227
- Method and apparatus for applying compressional forces to skeletal structure of subject to simulate force during ambulatory conditions  
[NASA-CASE-ARC-10100-1] c05 N71-24738
- Device which separates and screens particles of soil samples for vidicon viewing in vacuum and reduced gravity environments  
[NASA-CASE-XMP-09770-3] c11 N71-27036
- Description of method for making homogeneous foamed materials in weightless environment using materials having different physical properties  
[NASA-CASE-XMP-09902] c15 N72-11387
- Manipulator for remote handling in zero gravity environment  
[NASA-CASE-BFS-14405] c15 N72-28495
- Apparatus for mixing two or more liquids under zero gravity conditions  
[NASA-CASE-LAR-10195-1] c15 N73-19458
- Zero gravity liquid transfer device, using spiral shaped screen  
[NASA-CASE-KSC-10626] c14 N73-27378
- Reduced gravity fecal collector seat and urinal  
[NASA-CASE-BFS-22102-1] c05 N74-20725
- Apparatus for conducting flow electrophoresis in the substantial absence of gravity  
[NASA-CASE-BFS-21394-1] c12 N74-27744
- Fluid control apparatus and method  
[NASA-CASE-LAR-11110-1] c12 N74-29652
- WEIGHTLESSNESS SIMULATION**
- Reduced gravity liquid configuration simulator to study propellant behavior in rocket fuel tanks  
[NASA-CASE-XLE-02624] c12 N69-39988
- Apparatus for measuring human body mass in zero or reduced gravity environment  
[NASA-CASE-XNS-03371] c05 N70-42000
- Harness assembly adapted to support man on ground based apparatus which simulates weightlessness  
[NASA-CASE-BFS-14671] c05 N71-12341
- Whole body measurement systems --- for weightlessness simulation  
[NASA-CASE-BSC-13972-1] c05 N74-10975
- Rotary plant growth accelerating apparatus --- for weightlessness simulation  
[NASA-CASE-ARC-10722-1] c04 N74-13807
- WELD STRENGTH**
- Refinement control in TIG arc welding  
[NASA-CASE-BSC-19095-1] c15 N74-32925
- WELD TESTS**
- Nondestructive radiographic tests of resistance welds  
[NASA-CASE-XMP-02588] c15 N71-18613
- Method and apparatus for testing integrated circuit microtab welds  
[NASA-CASE-ARC-10176-1] c15 N72-21464
- WELDED JOINTS**
- Apparatus for welding blades to rotors  
[NASA-CASE-LEM-10533-2] c15 N74-11300
- Ultrasonic scanning system for in-place inspection of brazed tube joints  
[NASA-CASE-BFS-20767-1] c15 N74-15130
- WELDED STRUCTURES**
- Refinement control in TIG arc welding  
[NASA-CASE-BSC-19095-1] c15 N74-32925
- WELDING**
- Segmented back-up bar for butt welding large tubular structures such as rocket booster bodies or tanks  
[NASA-CASE-XMP-00640] c15 N70-39924
- Flexible backup bar for welding awkwardly shaped structures  
[NASA-CASE-XMP-00722] c15 N70-40204
- WELDING MACHINES**
- Computer controlled apparatus for maintaining welding torch angle and velocity during seam tracking  
[NASA-CASE-XMP-03287] c15 N71-15607
- Welding torch with automatic speed controller using speed sensing wheel and closed servo system  
[NASA-CASE-XMP-01730] c15 N71-23050
- Development of electric weeding torch with casing on one end to form inert gas shield  
[NASA-CASE-XMP-02330] c15 N71-23798
- Development of apparatus for automatically changing carriage speed of welding machine to obtain constant speed of torch along work surface  
[NASA-CASE-XMP-07069] c15 N71-23815
- WET CELLS**
- Indicator device for monitoring charge of wet cell battery, using semiconductor light emitter and photodetector  
[NASA-CASE-NFO-10194] c03 N71-20407
- WETTING**
- Anti-wettable materials brazing processes using titanium and zirconium for surface pretreatment  
[NASA-CASE-XNS-03537] c15 N69-21471

- WHEATSTONE BRIDGES**  
 Self-balancing strain gage transducer with bridge circuit  
 [NASA-CASE-NFS-12827] c14 N71-17656  
 Development of method for improving signal to noise ratio and accuracy of Wheatstone bridge type radiation measuring instrument  
 [NASA-CASE-ILA-02810] c14 N71-25901  
 Temperature control system comprised of wheatstone bridge with RC circuit  
 [NASA-CASE-NPO-11304] c14 N73-26430
- WHISKER COMPOSITES**  
 Composites reinforced with short metal fibers or whiskers and having high tensile strength  
 [NASA-CASE-ILR-00228] c17 N70-38490
- WHISKERS (SINGLE CRYSTALS)**  
 Catalyst for increased growth of boron carbide crystal whiskers  
 [NASA-CASR-IHQ-03903] c15 N69-21922
- WHITE NOISE**  
 Circuitry for generating random square wave pulses using white noise source  
 [NASA-CASR-MSC-14131-1] c09 N73-26199
- WICKS**  
 Method of forming a wick for a heat pipe  
 [NASA-CASE-NPO-13391-1] c33 N74-19584
- WIDE ANGLE LENSES**  
 Wide angle eyepiece with long eye-relief distance  
 [NASA-CASE-XMS-06056-1] c23 N71-24857
- WIRECHES**  
 Design and characteristics of device for showing amount of cable payed out from winch and load imposed  
 [NASA-CASE-MSC-12052-1] c15 N71-24599
- WIND EFFECTS**  
 Mercury filled pendulum damper for controlling bending vibration induced by wind effects  
 [NASA-CASE-LAR-10274-1] c14 N71-17626
- WIND MEASUREMENT**  
 Passive optical wind and turbulence remote detection system  
 [NASA-CASE-IMP-14032] c20 N71-16340  
 Anemometers for measuring peak wind speeds during severe environmental conditions  
 [NASA-CASE-NFS-20916] c14 N73-25460
- WIND PROFILES**  
 Free-fall body for obtaining wind velocity profiles by radar tracking  
 [NASA-CASE-XLA-02081] c20 N71-16281
- WIND TUNNEL APPARATUS**  
 Wind tunnel air flow modulating device and apparatus for selectively generating wave motion in wind tunnel airstream  
 [NASA-CASE-ILA-00112] c11 N70-33287  
 Electric arc device for minimizing electrode ablation and heating gases to supersonic or hypersonic wind tunnel temperatures  
 [NASA-CASE-IAC-00319] c25 N70-41628  
 Free flight suspension system for use with aircraft models in wind tunnel tests  
 [NASA-CASE-ILA-00939] c11 N71-15926  
 Burst diaphragm flow initiator for installation in short duration wind tunnels  
 [NASA-CASE-NFS-12915] c11 N71-17600  
 Electric arc heater with supersonic nozzle and fixed arc length for use in high temperature wind tunnels  
 [NASA-CASE-IAC-01677] c09 N71-20816  
 Design and characteristics of device for launching models in wind tunnels without disturbance of air flow  
 [NASA-CASE-IMP-03578] c11 N71-23030  
 Development of wind tunnel microphone structure to minimize effects of vibrations and eliminate unwanted signals in microphone output  
 [NASA-CASE-IMP-00250] c11 N71-28779
- WIND TUNNEL DRIVES**  
 Triggering system for electric arc driven impulse wind tunnel  
 [NASA-CASE-IMP-00411] c11 N70-36913
- WIND TUNNEL MODELS**  
 Wind tunnel method for simulating flow fields around blunt vehicles entering planetary atmospheres without involving high temperatures  
 [NASA-CASE-LAR-11138] c12 N71-20436  
 Multilegged support system for wind tunnel test models subjected to thermal dynamic loading  
 [NASA-CASE-XLA-01326] c11 N71-21481
- Design and characteristics of device for launching models in wind tunnels without disturbance of air flow  
 [NASA-CASE-IMP-03578] c11 N71-23030  
 Damper system for alleviating air flow shock loads on wind tunnel models  
 [NASA-CASE-ILA-09480] c11 N71-33612  
 Wind tunnel model and method  
 [NASA-CASE-LAR-10812-1] c11 N74-17955  
 Method for determining thermo-physical properties of specimens --- photographic recording of changes in thin film phase-change temperature indicating material in wind tunnel  
 [NASA-CASE-LAR-11053-1] c33 N74-18551
- WIND TUNNELS**  
 Procedure for generating uniform flow at varying velocities in wind tunnel test section  
 [NASA-CASE-ARC-10710-1] c11 N73-27175  
 Thin film gauge --- for measuring convective heat transfer rates along test surfaces in wind tunnels  
 [NASA-CASE-NPO-10617-1] c14 N74-22095
- WIND VELOCITY MEASUREMENT**  
 Free-fall body for obtaining wind velocity profiles by radar tracking  
 [NASA-CASE-XLA-02081] c20 N71-16281
- WINDING**  
 Black body radiometer design with temperature sensing and cavity heat source cone winding  
 [NASA-CASE-IMP-09701] c14 N71-26475  
 Pulse coupling circuit with switch between generator and winding  
 [NASA-CASE-LEW-10433-1] c09 N72-22197
- WINDOWS (APERTURES)**  
 Waveguide, thin film window and microwave irises  
 [NASA-CASE-LAR-10513-1] c07 N72-25170  
 Observation window for internal gas confining chamber  
 [NASA-CASE-NPO-10890] c11 N73-12265  
 Polymer coatings for moisture protection of optical windows in infrared spectroscopy  
 [NASA-CASE-ARC-10749-1] c23 N73-32542
- WINDSHIELDS**  
 Transparent fire resistant polymeric structures  
 [NASA-CASE-ARC-10813-1] c18 N74-16249
- WING FLAPS**  
 Upper surface, external flow, jet-augmented flap configuration for high wing jet aircraft for noise reduction  
 [NASA-CASE-ILA-00087] c02 N70-33332
- WING PLANFORMS**  
 Apparatus for span loading to alleviate wake-vortex hazard behind aircraft  
 [NASA-CASE-ARC-10801-1] c02 N74-32428
- WING PROFILES**  
 Supersonic aircraft configuration providing for variable aspect ratio and variable sweep wings  
 [NASA-CASE-ILA-00166] c02 N70-34178
- WINGS**  
 Development of auxiliary lifting system to provide ferry capability for entry vehicles  
 [NASA-CASE-LAR-10574-1] c11 N73-13257
- WIRE**  
 Transpiration cooled turbine blade made from metallic or ceramic wires  
 [NASA-CASE-ILE-00020] c15 N70-33226  
 Soldering device particularly suited to making high quality wiring joints for aerospace engineering utilizing capillary attraction to regulate flow of solder  
 [NASA-CASE-ILA-08911] c15 N71-27214  
 Device for bending metal ribbon or wire  
 [NASA-CASE-ILA-05966] c15 N72-12408  
 Method of fabricating equal length insulated wire  
 [NASA-CASE-FRC-10038] c15 N72-20444  
 Shielded flat conductor cable of ribbonlike wires laminates in thin flexible insulation  
 [NASA-CASE-NFS-13687-2] c09 N72-22198  
 Twisted wire or tube superconductor for filament windings  
 [NASA-CASE-LEW-11015] c26 N73-32571
- WIRE BRIDGE CIRCUITS**  
 Black body cavity radiometer with thermal resistance wire bridge circuit  
 [NASA-CASE-IMP-08961] c14 N71-24809
- WIRE CLOTH**  
 Insulating system for receptacles of liquefied gases using wire cloth for forming frost layer  
 [NASA-CASE-IMP-00341] c15 N70-33323

Method for making screen with unlimited fineness of mesh and screen thickness  
[NASA-CASE-XLE-00953] c15 N71-15966

## WIRE WINDING

Adjustable spiral wire winding device  
[NASA-CASE-IMS-02383] c15 N71-15918  
Superconducting alternator design with cryogenic fluid for cooling windings below critical temperature  
[NASA-CASE-XLE-02823] c09 N71-23443  
Direct current motor including stationary field windings and stationary armature winding  
[NASA-CASE-IGS-07805] c15 N72-33476

## WIRELESS COMMUNICATIONS

Silent alarm system for multiple room facility or school  
[NASA-CASE-NPO-11307-1] c10 N73-30205

## WIRING

Acoustic vibration test apparatus for wiring harnesses  
[NASA-CASE-NSC-15158-1] c14 N72-17325

## WORDS (LANGUAGE)

Encoders designed to generate comma free biorthogonal Reed-Muller type code comprising conversion of 64 6-bit words into 64 32-bit data for communication purposes  
[NASA-CASE-NPO-10595] c10 N71-25917  
Logic circuit for generating multibit binary code word in parallel  
[NASA-CASE-XNP-04623] c10 N71-26103  
Digital memory system with multiple switch cores for driving each word location  
[NASA-CASE-XNP-01466] c10 N71-26434

## WRENCHES

Ultrasonic wrench for applying vibratory energy to mechanical fasteners  
[NASA-CASE-NFS-20586] c15 N71-17686  
Tool exchange capabilities of portable wrench characterized by telescopic sleeve  
[NASA-CASE-NFS-22283-1] c15 N73-30462

## X

## X RAY APPARATUS

Device and method for determining X ray reflection efficiency, scattering properties, and surface finish of optical surfaces  
[NASA-CASE-NFS-20243] c23 N73-13662

## X RAY INSPECTION

Method of determining bond quality of power transistors attached to lead substrates --- X ray inspection of junction microstructure  
[NASA-CASE-NFS-21931-1] c09 N74-21858

## X RAY IRRADIATION

Multisample test chamber for exposing materials to X rays, temperature change, and gaseous conditions and determination of material effects  
[NASA-CASE-XMS-02930] c11 N71-23042

## X RAY TELESCOPES

X ray collimating structure for focusing radiation directly onto detector  
[NASA-CASE-XHQ-04106] c14 N70-40240  
Three mirror grazing incidence system for X-ray telescope  
[NASA-CASE-NFS-21372-1] c14 N74-27866

## X RAYS

Supporting structure for simultaneous exposure of pellets to X rays  
[NASA-CASE-XNP-06031] c15 N71-15606  
Testing device using X-ray lasers  
[NASA-CASE-NFS-22409-1] c16 N74-18153

## X-Y PLOTTERS

Describing device for surveying contour of surface using X-Y plotter and traveling transducer  
[NASA-CASE-XLA-08646] c14 N71-17586

## X-15 AIRCRAFT

Data processing and display system for terminal guidance of X-15 aircraft  
[NASA-CASE-IFR-00756] c02 N71-13421

## XENON ISOTOPES

Apparatus for producing high purity I-123 from Xe-123 by bombarding tellurium target with cyclotron beam  
[NASA-CASE-LEW-10518-2] c24 N72-28714

## XENON LAMPS

Xenon flashtube driver system for optical laser pumping  
[NASA-CASE-BRC-10283] c16 N72-25485

## Y

## YAG LASERS

Procedure and device for effecting dual mode locking in pulsed Nd-YAG lasers  
[NASA-CASE-GSC-11746-1] c16 N73-32398

## YAW

Three-axis controller operated by hand-wrist motion for yaw, pitch, and roll control  
[NASA-CASE-XAC-01404] c05 N70-41581  
Strapped down gyroscope aligned with sun and star tracker optical axis calibrating roll, yaw and pitch values  
[NASA-CASE-ARC-10716-1] c31 N73-32784

## YAWING MOMENTS

Characteristics of system for providing yaw control of vehicles at high supersonic and hypersonic speeds by deflecting flaps mounted on upper wing surface  
[NASA-CASE-LAR-11140-1] c02 N73-20008

## YO-YO DEVICES

Stretch Yo-Yo mechanism for reducing initial spin rate of space vehicle  
[NASA-CASE-XGS-00619] c30 N70-40016

## Z

## ZEOLITES

Development of filter system for control of outgas contamination in vacuum conditions using absorbent beds of molecular sieve zeolite, silica gel, and charcoal  
[NASA-CASE-NFS-14711] c15 N71-26185

## ZINC

Zinc dust formulation for abrasion resistant steel coatings  
[NASA-CASE-GSC-10361-1] c18 N72-23581  
A panel for selectively absorbing solar thermal energy and the method for manufacturing the panel  
[NASA-CASE-NFS-22562-1] c03 N74-19700

## ZINC COMPOUNDS

Water content in vapor deposition atmosphere for forming n-type and p-type junctions of zinc doped gallium arsenide  
[NASA-CASE-XNP-01961] c26 N71-29156  
Vacuum preparation of zinc titanate pigment resistant to loss of reflective properties  
[NASA-CASE-NFS-13532] c18 N72-17532

## ZINC OXIDES

Binder stabilized zinc oxide pigmented coating for spacecraft thermal control  
[NASA-CASE-XNP-07770-2] c18 N71-26772  
Development of procedure for producing thin transparent films of zinc oxide on transparent refractory substrate  
[NASA-CASE-FRC-10019] c15 N73-12487

## ZIRCONIUM OXIDES

Bonding of sapphire to sapphire by eutectic mixture of aluminum oxide and zirconium oxide  
[NASA-CASE-GSC-11577-2] c15 N74-34002

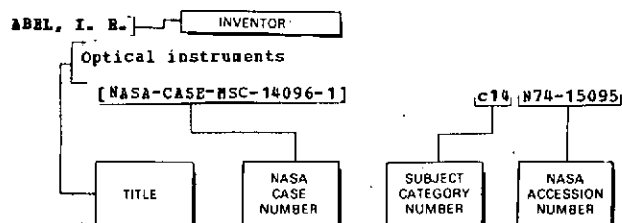
# Inventor Index

NASA PATENT ABSTRACTS BIBLIOGRAPHY

JANUARY 1975

Section 2

Typical Inventor Index Listing



Listings in this index are arranged alphabetically by inventor. The title of the document provides the user with a brief description of the subject matter. The NASA Case Number is the prime access point to patent documents. The subject category number indicates the category in Section 1 (Abstracts) in which the citation is located. The NASA accession number denotes the number by which the citation is identified within the subject category. The titles are arranged under each inventor in ascending accession number order.

## A

ABEL, I. R.  
Optical instruments  
[NASA-CASE-MSC-14096-1] c14 N74-15095

ABEBHATHY, W. J.  
Insert facing tool  
[NASA-CASE-MFS-21485-1] c15 N74-25968

ABHYANKAR, K. D.  
Interferometer-polarimeter  
[NASA-CASE-NPO-11239] c14 N73-12446

ABSHER, J. B.  
Polarization compensator for optical communications  
[NASA-CASE-GSC-11782-1] c07 N74-22827

ACORD, J. D.  
Photosensitive device to detect bearing deviation Patent  
[NASA-CASE-XNP-00438] c21 N70-35089  
Space vehicle attitude control Patent  
[NASA-CASE-XNP-00465] c21 N70-35395  
Attitude control for spacecraft Patent  
[NASA-CASE-XNP-02982] c31 N70-41855  
Anti-backlash circuit for hydraulic drive system Patent  
[NASA-CASE-XNP-01020] c03 N71-12260  
Solar vane actuator Patent  
[NASA-CASE-XNP-05535] c14 N71-23040

ACUNA, E. B.  
Two axis fluxgate magnetometer Patent  
[NASA-CASE-GSC-10441-1] c14 N71-27325  
Controllable high voltage source having fast settling time  
[NASA-CASE-GSC-11844-1] c09 N74-19853

ADACHI, H. R.  
Programmable physiological infusion  
[NASA-CASE-ARC-10447-1] c05 N74-22771

ADAMS, C. H., JR.  
Pretreatment method for anti-wettable materials  
[NASA-CASE-XMS-03537] c15 N69-21471

ADAMS, G. D.  
Vacuum deposition apparatus Patent  
[NASA-CASE-XMP-01667] c15 N71-17647  
Evaporant source for vapor deposition Patent  
[NASA-CASE-XMP-06065] c15 N71-20395

ADAMSON, B. J.  
Ultraviolet and thermally stable polymer compositions  
[NASA-CASE-ARC-10592-2] c06 N74-11926  
Ultraviolet and thermally stable polymer compositions  
[NASA-CASE-ARC-10592-1] c18 N74-21156

Electrical conductivity cell and method for fabricating the same  
[NASA-CASE-ARC-10810-1] c14 N74-29772

AIRTH, E. B., JR.  
Regulated power supply Patent  
[NASA-CASE-XMS-01991] c09 N71-21449

AISENBERG, S.  
Doppler shift system  
[NASA-CASE-HQN-10740-1] c24 N74-19310

AJIOKA, J. S.  
High efficiency multifrequency feed  
[NASA-CASE-GSC-11317-3] c09 N74-20863

AKAWIE, B. I.  
Thiophenyl ether disiloxanes and trisiloxanes useful as lubricant fluids  
[NASA-CASE-MFS-22411-1] c15 N74-21058

ALBRIGHT, C. F.  
Water management system and an electrolytic cell therefor Patent  
[NASA-CASE-MSC-10960-1] c03 N71-24718  
Process for separation of dissolved hydrogen from water by use of palladium and process for coating palladium with palladium black  
[NASA-CASE-MSC-13335-1] c06 N72-31140

ALBUS, J. S.  
Light sensitive digital aspect sensor Patent  
[NASA-CASE-IGS-00359] c14 N70-34158

ALDRICH, E. B.  
Underwater space suit pressure control regulator  
[NASA-CASE-MFS-20332] c05 N72-20097  
Underwater space suit pressure control regulator  
[NASA-CASE-MFS-20332-2] c05 N73-25125

ALERS, G. A.  
Method and apparatus for detecting flaws in elongated bodies  
[NASA-CASE-MFS-19218-1] c14 N74-34860

ALESNA, R. E.  
Flexible joint for pressurizable garment  
[NASA-CASE-MSC-11072] c05 N74-32546

ALEXANDER, P., JR.  
Disconnect unit  
[NASA-CASE-NPO-11330] c33 N73-26958

ALFORD, W. J., JR.  
Variable sweep wing configuration Patent  
[NASA-CASE-ILA-00230] c02 N70-33255

ALGER, D. L.  
Deuterium pass through target  
[NASA-CASE-LEW-11866-1] c11 N74-32719

ALLEN, G. V.  
Electric welding torch Patent  
[NASA-CASE-IMP-02330] c15 N71-23798

ALLEN, H., JR.  
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[NASA-CASE-XLE-00207] c28 N70-33375  
Method of igniting solid propellants Patent  
[NASA-CASE-XLE-01988] c27 N71-15634

ALLEN, J. G., JR.  
Lunar landing flight research vehicle Patent  
[NASA-CASE-IFR-00929] c31 N70-34966

ALLEN, J. H., SR.  
Apparatus for machining geometric cones Patent  
[NASA-CASE-IMS-04292] c15 N71-22722

ALLEN, L. D.  
Method of improving heat transfer characteristics in a nucleate boiling process Patent  
[NASA-CASE-IMS-04268] c33 N71-16277

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Method and apparatus for aligning a laser beam projector Patent  
[NASA-CASE-NPO-11087] c23 N71-29125

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INVENTOR

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 [NASA-CASE-XGS-05918] c07 N69-39974  
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 amplifier system Patent  
 [NASA-CASE-XGS-01022] c07 N71-16088  
 Traffic control system and method Patent  
 [NASA-CASE-GSC-10087-1] c02 N71-19287  
 Satellite interlace synchronization system  
 [NASA-CASE-GSC-10390-1] c07 N72-11149  
 Doppler compensation by shifting transmitted  
 object frequency within limits  
 [NASA-CASE-GSC-10087-4] c07 N73-20174

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 [NASA-CASE-NPO-10560] c08 N72-22166

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 body Patent  
 [NASA-CASE-MSC-12116-1] c15 N71-17648

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 [NASA-CASE-ERC-10150] c14 N71-28992

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 [NASA-CASE-NPO-11340] c15 N72-33477

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 [NASA-CASE-XLA-03273] c14 N71-18699

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 Ritchey-Chretien Telescope  
 [NASA-CASE-GSC-11487-1] c14 N73-30393

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 Forming tool for ribbon or wire  
 [NASA-CASE-XLA-05966] c15 N72-12408

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 Static inverters which sum a plurality of waves  
 Patent  
 [NASA-CASE-XMF-00663] c08 N71-18752

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 [NASA-CASE-XNP-03262] c28 N72-20758

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 [NASA-CASE-XMF-00701] c09 N70-40272

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 cesium Patent  
 [NASA-CASE-XNP-04262-2] c17 N71-26773

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 [NASA-CASE-FRC-10036] c09 N72-22200

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 [NASA-CASE-XLA-00349] c33 N70-37979

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 [NASA-CASE-NPO-10112] c08 N71-12502  
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 [NASA-CASE-NPO-10066] c09 N71-18596  
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 [NASA-CASE-NPO-10068] c08 N71-19288  
 Data compressor Patent  
 [NASA-CASE-XNP-04067] c08 N71-22707  
 Error correcting method and apparatus Patent  
 [NASA-CASE-XNP-02748] c08 N71-22749  
 Comparator for the comparison of two binary  
 numbers Patent  
 [NASA-CASE-XNP-04819] c08 N71-23295  
 Digital synchronizer Patent  
 [NASA-CASE-NPO-10851] c07 N71-24613  
 Decoder system Patent  
 [NASA-CASE-NPO-10118] c07 N71-24741  
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 sequence Patent  
 [NASA-CASE-XNP-04623] c10 N71-26103  
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 [NASA-CASE-NPO-10214] c10 N71-26577  
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 digital control systems Patent  
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 synchronizable binary code Patent  
 [NASA-CASE-NPO-10342] c10 N71-33407

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 [NASA-CASE-NPO-10629] c08 N72-18184  
 Transition tracking bit synchronization system  
 [NASA-CASE-NPO-10844] c07 N72-20140  
 Digital quasi-exponential function generator  
 [NASA-CASE-NPO-11130] c08 N72-20176  
 MOD 2 sequential function generator for multibit  
 binary sequence  
 [NASA-CASE-NPO-10636] c08 N72-25210  
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 [NASA-CASE-NPO-11630] c08 N72-33172  
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 transmission and recovery data system  
 [NASA-CASE-NPO-13321-1] c07 N74-19806

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 element system Patent  
 [NASA-CASE-XLE-02999] c15 N71-16052  
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 [NASA-CASE-LEW-10856-1] c15 N72-22490  
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 bearing and a rolling bearing connected in  
 series  
 [NASA-CASE-LEW-11152-1] c15 N73-32359

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 stabilization of space vehicles and the like  
 [NASA-CASE-LAR-11051-1] c21 N73-28646

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 [NASA-CASE-XLA-04556] c14 N69-27484  
 Semi-linear ball bearing Patent  
 [NASA-CASE-XLA-02809] c15 N71-22982

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 flow phenomena Patent  
 [NASA-CASE-XLA-01353] c14 N70-41366

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 Inverter ratio failure detector  
 [NASA-CASE-NPO-13160-1] c14 N74-18090

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 Adjustable support  
 [NASA-CASE-NPO-10721] c15 N72-27484

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 [NASA-CASE-XMP-00324] c09 N70-34596  
 Instrument support with precise lateral  
 adjustment Patent  
 [NASA-CASE-XMP-00480] c14 N70-39898  
 Support apparatus for dynamic testing Patent  
 [NASA-CASE-XMP-01772] c11 N70-41677  
 Method of making a molded connector Patent  
 [NASA-CASE-XMP-03499] c15 N71-15986  
 Method of making shielded flat cable Patent  
 [NASA-CASE-MFS-13687] c09 N71-28691  
 Shielded flat cable  
 [NASA-CASE-MFS-13687-2] c09 N72-22198  
 Electrical connector  
 [NASA-CASE-MFS-20757] c09 N72-28225  
 Cryogenic gyroscope housing  
 [NASA-CASE-MFS-21136-1] c23 N74-18323

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 Propellant tank pressurization system Patent  
 [NASA-CASE-XNP-00650] c27 N71-28929

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 A device for use in loading tension members  
 [NASA-CASE-MFS-21488-1] c14 N73-23526  
 Device for measuring tensile forces  
 [NASA-CASE-MFS-21728-1] c14 N74-27865

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 Method for generating ultra-precise angles Patent  
 [NASA-CASE-XGS-04173] c19 N71-26674

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 Omnidirectional slot antenna for mounting on  
 cylindrical space vehicle  
 [NASA-CASE-LAR-10163-1] c09 N72-25247

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 Method for determining the state of charge of  
 batteries by the use of tracers Patent  
 [NASA-CASE-XNP-01464] c03 N71-10728

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 Method of forming a wick for a heat pipe  
 [NASA-CASE-NPO-13391-1] c33 N74-19584

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 Apparatus for positioning and loading a test  
 specimen Patent  
 [NASA-CASE-XLE-01300] c15 N70-41993  
 Thermal shock apparatus Patent  
 [NASA-CASE-XLE-02024] c14 N71-22964

Production of metal powders  
[NASA-CASE-XLE-06461] c17 N72-22530

Method for producing dispersion strengthened alloys by converting metal to a halide, consinuating, reducing the metal halide to the metal and sintering  
[NASA-CASE-LEW-10450-1] c15 N72-25448

Apparatus for producing metal powders  
[NASA-CASE-XLE-06461-2] c17 N72-28535

**ARMSTRONG, H. T.**  
Coupling for linear shaped charge Patent  
[NASA-CASE-ILA-00189] c33 N70-36846

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System for improving signal-to-noise ratio of a communication signal Patent Application  
[NASA-CASE-MSC-12259-1] c07 N70-12616

System for improving signal-to-noise ratio of a communication signal  
[NASA-CASE-MSC-12259-2] c07 N72-33146

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[NASA-CASE-LAR-11072-1] c15 N73-20535

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Method of making membranes  
[NASA-CASE-XMP-04264] c03 N69-21337

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High temperature cobalt-base alloy Patent  
[NASA-CASE-XLE-00726] c17 N71-15644

High temperature cobalt-base alloy Patent  
[NASA-CASE-XLE-02991] c17 N71-16025

High temperature ferromagnetic cobalt-base alloy Patent  
[NASA-CASE-XLE-03629] c17 N71-23248

Method of forming superalloys  
[NASA-CASE-LEW-10805-1] c15 N73-13465

Method of heat treating a formed powder product material  
[NASA-CASE-LEW-10805-3] c17 N74-10521

Method of forming articles of manufacture from superalloy powders  
[NASA-CASE-LEW-10805-2] c15 N74-13179

**ASEWORTH, B. R.**  
Apparatus for applying simulator g-forces to an arm of an aircraft simulator pilot  
[NASA-CASE-LAR-10550-1] c11 N74-30597

**ASTHEIMER, R. W.**  
Multi-lobar scan horizon sensor Patent  
[NASA-CASE-XGS-00809] c21 N70-35427

**ATKISSON, E. A.**  
Apparatus having coaxial capacitor structure for measuring fluid density Patent  
[NASA-CASE-XLE-00143] c14 N70-36618

**AUBLE, C. H.**  
Instrument for the quantitative measurement of radiation at multiple wave lengths Patent  
[NASA-CASE-XLE-00011] c14 N70-41946

**AUEE, S. O.**  
Cosmic dust or other similar outer space particles impact location detector  
[NASA-CASE-GSC-11291-1] c25 N72-33696

Micrometeoroid analyzer  
[NASA-CASE-ARC-10443-1] c14 N73-20477

Impact position detector for outer space particles  
[NASA-CASE-GSC-11829-1] c14 N74-32886

Moving particle composition analyzer  
[NASA-CASE-GSC-11889-1] c14 N74-32887

Micrometeoroid velocity and trajectory analyzer  
[NASA-CASE-GSC-11892-1] c14 N74-32888

**AUKER, B. H.**  
Refractory porcelain enamel passive thermal control coating for high temperature alloys  
[NASA-CASE-MPS-22324-1] c18 N73-21471

**AUSTIN, W. E.**  
Compton scatter attenuation gamma ray spectrometer  
[NASA-CASE-MPS-21441-1] c14 N73-30392

**AVIZIENIS, A. A.**  
Self-testing and repairing computer Patent  
[NASA-CASE-NPO-10567] c08 N71-24633

**AYVAZIAN, B. A.**  
Laminar flow enhancement Patent  
[NASA-CASE-NPO-10122] c12 N71-17631

Propellant mass distribution metering apparatus Patent  
[NASA-CASE-NPO-10185] c10 N71-26339

**B**

**BABA, P. D.**  
A method for making conductors for ferrite memory arrays  
[NASA-CASE-LAR-10994-1] c18 N73-30536

**BABB, B. D.**  
Method and apparatus for cryogenic wire stripping Patent  
[NASA-CASE-MPS-10340] c15 N71-17628

Self-balancing strain gage transducer Patent  
[NASA-CASE-MPS-12827] c14 N71-17656

**BABECKI, A. J.**  
Peen plating  
[NASA-CASE-GSC-11163-1] c15 N73-32360

**BACCCHI, R.**  
Valve actuator Patent  
[NASA-CASE-IHQ-01208] c15 N70-35409

**BACHLE, W. H.**  
Mechanically extendible telescoping boom  
[NASA-CASE-NPO-11118] c03 N72-25021

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Space simulation and radiative property testing system and method Patent  
[NASA-CASE-MPS-20096] c14 N71-30026

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Channel-type shell construction for rocket engines and the like Patent  
[NASA-CASE-XLE-00144] c28 N70-34860

Rocket thrust chamber Patent  
[NASA-CASE-XLE-00145] c28 N70-36806

Method of making a regeneratively cooled combustion chamber Patent  
[NASA-CASE-XLE-00150] c28 N70-41818

Method of making a rocket motor casing Patent  
[NASA-CASE-XLE-00409] c28 N71-15658

Rocket motor casing Patent  
[NASA-CASE-XLE-05689] c28 N71-15659

Ophthalmic liquefaction pump  
[NASA-CASE-LEW-12051-1] c04 N73-32000

**BAER, D. A.**  
Synchronous orbit battery cyclor  
[NASA-CASE-GSC-11211-1] c03 N72-25020

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[NASA-CASE-XAC-00731] c11 N71-15960

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[NASA-CASE-XLE-00815] c15 N70-35407

**BAHMAN, B.**  
Self-erecting reflector Patent  
[NASA-CASE-XGS-09190] c31 N71-16102

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[NASA-CASE-NPO-10700] c07 N71-33613

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[NASA-CASE-NPO-13437-1] c09 N74-27688

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[NASA-CASE-LAR-10545-1] c09 N72-21244

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[NASA-CASE-NPO-10174] c14 N71-18465

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[NASA-CASE-NPO-11458] c28 N72-23810

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Electrical connector  
[NASA-CASE-MPO-10694] c09 N72-20200  
Pressure transducer  
[NASA-CASE-MPO-10832] c14 N72-21405

BAKER, E. H.  
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[NASA-CASE-IAC-00399] c11 N70-34815

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kinetic energy to change the heat sensitive  
resistance of the detection probe Patent  
[NASA-CASE-XLE-00243] c14 N70-38602  
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[NASA-CASE-XLE-00519] c28 N70-41576

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[NASA-CASE-XLA-07390] c15 N71-18616  
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[NASA-CASE-XPR-04104] c03 N70-42073

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[NASA-CASE-XLA-00838] c03 N70-36778

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[NASA-CASE-XNP-00416] c15 N70-36947  
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[NASA-CASE-NPO-10064] c15 N71-17693

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plurality of monitored circuits Patent  
[NASA-CASE-IMS-10984-1] c10 N71-19417

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[NASA-CASE-LEW-10689-1] c28 N71-26173  
Ion thruster accelerator system Patent  
[NASA-CASE-LEW-10106-1] c28 N71-26642  
Process for glass coating an ion accelerator  
grid Patent  
[NASA-CASE-LEW-10278-1] c15 N71-28582  
Ion thruster magnetic field control  
[NASA-CASE-LEW-10835-1] c28 N72-22771  
Dished ion thruster grids  
[NASA-CASE-LEW-11694-1] c28 N73-22721  
Electromagnetic flow rate meter  
[NASA-CASE-LEW-10981-1] c14 N74-21018  
Apparatus for forming dished ion thruster grids  
[NASA-CASE-LEW-11694-2] c15 N74-22147  
Sputtering holes with ion beamlets  
[NASA-CASE-LEW-11646-1] c28 N74-31269

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[NASA-CASE-KSC-10242] c15 N72-23497

BARBER, J. B.  
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[NASA-CASE-XLA-04295] c16 N71-24170

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for a solar array  
[NASA-CASE-GSC-10344-1] c03 N72-27053

BARGER, R. L.  
Continuously operating induction plasma  
accelerator Patent  
[NASA-CASE-XLA-01354] c25 N70-36946

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Pulsed energy power system Patent  
[NASA-CASE-MSC-13112] c03 N71-11057

BARKEE, P.  
Vibrophonocardiograph Patent  
[NASA-CASE-IFR-07172] c05 N71-27234

BARRETT, J. H., JR.  
Life raft stabilizer  
[NASA-CASE-MSC-12393-1] c02 N73-26006

BARWISKIS, W. A.  
Bus voltage compensation circuit for controlling  
direct current motor  
[NASA-CASE-XMS-04215-1] c09 N69-39987

BARRETT, T. W.  
Personal propulsion unit Patent  
[NASA-CASE-MPS-20130] c28 N71-27585

BARRINGTON, A. B.  
Sorption vacuum trap Patent  
[NASA-CASE-XER-09519] c14 N71-18483

BARRINGTON, A. E.  
Leak detector wherein a probe is monitored with  
ultraviolet radiation Patent  
[NASA-CASE-ERC-10034] c15 N71-24896  
Field ionization electrodes Patent  
[NASA-CASE-ERC-10013] c09 N71-26678  
Ion microprobe mass spectrometer for analyzing  
fluid materials Patent  
[NASA-CASE-ERC-10014] c14 N71-28863  
Device for measuring light scattering wherein  
the measuring beam is successively reflected  
between a pair of parallel reflectors Patent  
[NASA-CASE-XER-11203] c14 N71-28994

BARTHLONE, D. E.  
Space suit pressure stabilizer Patent  
[NASA-CASE-XLA-05332] c05 N71-11194  
Equipotential space suit Patent  
[NASA-CASE-LAR-10007-1] c05 N71-11195

BASIULIS, A.  
Method and apparatus for distillation of liquids  
Patent  
[NASA-CASE-XNP-08124] c15 N71-27184  
Radial heat flux transformer  
[NASA-CASE-NPO-10828] c33 N72-17948  
Method for distillation of liquids  
[NASA-CASE-XNP-08124-2] c06 N73-13129

BASS, A. H.  
Ultraviolet resonance lamp Patent  
[NASA-CASE-ARC-10030] c09 N71-12521  
Ultraviolet atomic emission detector  
[NASA-CASE-BQN-10756-1] c14 N72-25428

BASTIEN, G. J.  
Fluid flow restrictor Patent  
[NASA-CASE-NPO-10117] c15 N71-15608

BATE, E. R., JR.  
Apparatus for establishing flow of a fluid mass  
having a known velocity  
[NASA-CASE-MPS-21424-1] c12 N74-27730

BATES, H. E.  
Segmenting lead telluride-silicon germanium  
thermoelements Patent  
[NASA-CASE-XGS-05718] c26 N71-16037

BATHKER, D. A.  
Dual frequency microwave reflex feed  
[NASA-CASE-NPO-13091-1] c09 N73-12214

BATSCH, F. P.  
Attitude control for spacecraft Patent  
[NASA-CASE-XNP-00294] c21 N70-36938  
Slit regulated gas journal bearing Patent  
[NASA-CASE-INP-00476] c15 N70-38620

BATTE, W. G.  
Exclusive-Or digital logic module Patent  
[NASA-CASE-XLA-07732] c08 N71-18751

BATTERSON, S. A.  
Runway light Patent  
[NASA-CASE-XLA-00119] c11 N70-33329

BATTS, C. W.  
Contour surveying system Patent  
[NASA-CASE-XLA-08646] c14 N71-17586

BAUCON, R. H.  
Extensometer frame  
[NASA-CASE-XLA-10322] c15 N72-17452

BAUER, H. B.  
Air conditioning system and component therefore  
distributing air flow from opposite directions  
[NASA-CASE-GSC-11445-1] c15 N74-27902

BAUBERNSCHUB, J. P., JR.  
Folding boom assembly Patent  
[NASA-CASE-XGS-00938] c32 N70-41367

Nonmagnetic, explosive actuated indexing device Patent  
[NASA-CASE-XGS-02422] c15 N71-21529

BAUGHMAN, J. R.  
Observation window for a gas confining chamber  
[NASA-CASE-NPO-10890] c11 N73-12265  
Droplet monitoring probe  
[NASA-CASE-NPO-10985] c14 N73-20478

BAUMAN, A. J.  
Solder flux which leaves corrosion-resistant coating Patent  
[NASA-CASE-INP-03459-2] c18 N71-15688  
Soldering with solder flux which leaves corrosion resistant coating Patent  
[NASA-CASE-INP-03459] c15 N71-21078  
Fluid impervious barrier including liquid metal alloy and method of making same Patent  
[NASA-CASE-INP-08881] c17 N71-28747

BAUMER, W. E.  
Counter Patent  
[NASA-CASE-INP-06234] c10 N71-27137

BAWTER, B. D.  
Heat flux measuring system Patent  
[NASA-CASE-IFR-03802] c33 N71-23085

BEALE, H. A.  
Hall effect magnetometer  
[NASA-CASE-LEW-11632-1] c14 N72-25440  
Hall effect magnetometer  
[NASA-CASE-LEW-11632-2] c14 N73-29437  
Hall effect magnetometer  
[NASA-CASE-LEW-11632-3] c14 N74-33944

BEAN, B. H.  
Thermodielectric radiometer utilizing polymer film  
[NASA-CASE-ARC-10138-1] c14 N72-24477

BEAN, R. A.  
Optical projector system Patent  
[NASA-CASE-INP-03853] c23 N71-21882

BEAN, R. H.  
Solid medium thermal engine  
[NASA-CASE-ARC-10461-1] c33 N74-33379

BEASLEY, R. H.  
Ceramic coating for silica insulation  
[NASA-CASE-NSC-14270-2] c18 N74-30004  
Ceramic coating for silica insulation  
[NASA-CASE-NSC-14270-1] c18 N74-30005

BEASLEY, W. D.  
Continuously operating induction plasma accelerator Patent  
[NASA-CASE-XLA-Q1354] c25 N70-36946

BEATTY, R. W.  
Rotary vane attenuator wherein rotor has orthogonally disposed resistive and dielectric cards  
[NASA-CASE-NPO-11418-1] c14 N73-13420

BEAUREGARD, W. W.  
Water separating system Patent  
[NASA-CASE-XMS-13052] c14 N71-20427

BECK, A. F.  
Small plasma probe Patent  
[NASA-CASE-XLB-02578] c25 N71-20747

BECK, T. R.  
Method of inhibiting stress corrosion cracks in titanium alloys Patent  
[NASA-CASE-NPO-10271] c17 N71-16393

BECKER, H. B.  
Apparatus and method for applying protective coatings  
[NASA-CASE-LAR-10362-1] c15 N72-27486

BECKER, R. A.  
Photoelectric energy spectrometer Patent  
[NASA-CASE-INP-04161] c14 N71-15599

BECKERLE, L. D.  
Heat shield oven  
[NASA-CASE-XMS-04318] c15 N69-27871

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Probes having ring and primary sensor at same potential to prevent collection of stray wall currents in ionized gases  
[NASA-CASE-XLB-00690] c25 N69-39884

BECKWITH, R. H.  
Mechanical coordinate converter Patent  
[NASA-CASE-INP-00614] c14 N70-36907

BEHN, J. H.  
Optical tracking mount Patent  
[NASA-CASE-NFS-14017] c14 N71-26627

BEER, J. F.  
Method and apparatus for measuring electromagnetic radiation  
[NASA-CASE-LEW-11159-1] c14 N73-28488

BEHN, J. W.  
Solid propellant rocket motor  
[NASA-CASE-NPO-11559] c28 N73-24784

BELANGER, R. J.  
Fluid lubricant system Patent  
[NASA-CASE-INP-03972] c15 N71-23048

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Medical subject monitoring systems  
[NASA-CASE-NSC-14180-1] c05 N73-22045

BELEW, E. W., JR.  
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[NASA-CASE-NFS-20620] c11 N72-27262

BELEW, R. E.  
Thermal compensating structural member  
[NASA-CASE-NFS-20433] c15 N72-28496  
Docking structure for spacecraft  
[NASA-CASE-NFS-20863] c31 N73-26876

BELL, D., III  
Heated element fluid flow sensor Patent  
[NASA-CASE-MSC-12084-1] c12 N71-17569

BELL, V. L.  
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[NASA-CASE-LAR-11372-1] c06 N74-19772

BELL, V. L., JR.  
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[NASA-CASE-XLA-03104] c06 N71-11235  
Imidazopyrrolone/imide copolymers Patent  
[NASA-CASE-XLA-08802] c06 N71-11238  
Dosimeter for high levels of absorbed radiation Patent  
[NASA-CASE-XLA-03645] c14 N71-20430

BEMENT, L. J.  
Linear explosive comparison  
[NASA-CASE-LAR-10800-1] c33 N72-27959  
Explosively welded scarf joint  
[NASA-CASE-LAR-11211-1] c15 N73-14480  
Totally confined explosive welding  
[NASA-CASE-LAR-10941-2] c15 N73-32371  
Totally confined explosive welding  
[NASA-CASE-LAR-10941-1] c15 N74-21057

BENEDICT, R. D.  
Transient augmentation circuit for pulse amplifiers Patent  
[NASA-CASE-INP-01068] c10 N71-28739

BENGTSON, R. D.  
Fast opening diaphragm Patent  
[NASA-CASE-XLA-03660] c15 N71-21060

BENNINGT, J. D.  
Method and apparatus for precision sizing and joining of large diameter tubes Patent  
[NASA-CASE-IMP-05114] c15 N71-17650  
Method and apparatus for precision sizing and joining of large diameter tubes Patent  
[NASA-CASE-IMP-05114-3] c15 N71-24865  
Method and apparatus for precision sizing and joining of large diameter tubes Patent  
[NASA-CASE-IMP-05114-2] c15 N71-26148

BERNHARD, G. B.  
Method of making fiber composites  
[NASA-CASE-LEW-10424-2-2] c18 N72-25539

BERG, O. E.  
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[NASA-CASE-IGS-06628] c24 N71-16213  
Cosmic dust sensor  
[NASA-CASE-GSC-10503-1] c14 N72-20381

BERGLUND, R. A.  
Erectable modular space station Patent  
[NASA-CASE-XLA-00678] c31 N70-34296

BERNARDIN, R. H.  
Measuring device Patent  
[NASA-CASE-XMS-01546] c14 N70-40233

BERNATOWICZ, D. T.  
Method of making silicon solar cell array  
[NASA-CASE-LEW-11069-1] c03 N74-14784

BERNSEN, B.  
Electrical apparatus for detection of thermal decomposition of insulation Patent  
[NASA-CASE-IMP-03968] c14 N71-27186

BERRY, E. H.  
Positive dc to positive dc converter Patent  
[NASA-CASE-IMP-14301] c09 N71-23188  
Positive dc to negative dc converter Patent  
[NASA-CASE-IMP-08217] c03 N71-23239

BESSETTE, R. J.  
Space suit



[NASA-CASE-MSC-12609-1] c05 N73-32012

BESWICK, A. G.  
Lunar penetrometer Patent  
[NASA-CASE-ILA-00934] c14 N71-22765

BEYUKTIAN, C. S.  
Tube dimpling tool Patent  
[NASA-CASE-IMS-06876] c15 N71-21536

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Pressure seal Patent  
[NASA-CASE-NPO-10796] c15 N71-27068

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A method for making conductors for ferrite  
memory arrays  
[NASA-CASE-IAR-10994-1] c18 N73-30536

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Metal containing polymers from cyclic tetrameric  
phenylphosphonitrilamides Patent  
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Amplitude modulated laser transmitter Patent  
[NASA-CASE-IMS-04269] c16 N71-22895

BILES, J. R., JR.  
High impact pressure regulator Patent  
[NASA-CASE-NPO-10175] c14 N71-18625

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Temperature controller for a fluid cooled garment  
[NASA-CASE-ARC-10599-1] c05 N73-26071

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Emergency escape system Patent  
[NASA-CASE-IMS-07814] c15 N71-27067

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Electro-optical scanning apparatus Patent  
Application  
[NASA-CASE-NPO-11106] c14 N70-34697  
Electro-optical scanning apparatus  
[NASA-CASE-NPO-11106-2] c23 N72-28696  
Image data rate converter having a drum with a  
fixed head and a rotatable head  
[NASA-CASE-NPO-11659-1] c14 N74-11283

BILLMAN, K. W.  
Method and apparatus for wavelength tuning of  
liquid lasers  
[NASA-CASE-ERC-10167] c16 N69-31343  
Infrared tunable laser  
[NASA-CASE-ARC-10463-1] c09 N73-32111  
Alignment apparatus using a laser having a  
gravitationally sensitive cavity reflector  
[NASA-CASE-ARC-10444-1] c16 N73-33397  
Measurement of plasma temperature and density  
using radiation absorption  
[NASA-CASE-ARC-10598-1] c25 N74-30156

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Thiophenyl ether disiloxanes and trisiloxanes  
useful as lubricant fluids  
[NASA-CASE-MFS-22411-1] c15 N74-21058

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Voltage regulator with plural parallel power  
source sections Patent  
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Switching regulator  
[NASA-CASE-LEW-11005-1] c09 N72-21243

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Jet shoes  
[NASA-CASE-ILA-08491] c05 N69-21380

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Broadband choke for antenna structure  
[NASA-CASE-IMS-05303] c07 N69-27462

BISHOP, R. E.  
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[NASA-CASE-INP-02029] c14 N70-41955

BLACK, I. A.  
Apparatus for measuring thermal conductivity  
Patent  
[NASA-CASE-IGS-01052] c14 N71-15992

BLACK, J. H.  
Full wave modulator-demodulator amplifier  
apparatus  
[NASA-CASE-PRC-10072-1] c09 N74-14939

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Automatic gain control system  
[NASA-CASE-IMS-05307] c09 N69-24330

BLACK, W. W.  
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Temperature controller for a fluid cooled garment  
[NASA-CASE-ARC-10599-1] c05 N73-26071

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Ferry system  
[NASA-CASE-LAR-10574-1] c11 N73-13257

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Inorganic thermal control pigment Patent  
[NASA-CASE-INP-02139] c18 N71-24184

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[NASA-CASE-MFS-14685] c31 N71-15689  
Methods and apparatus employing vibratory energy  
for wrenching Patent  
[NASA-CASE-MFS-20586] c15 N71-17686  
Remote manipulator system  
[NASA-CASE-MFS-22022-1] c05 N74-10099

BLANCHARD, W. S., JR.  
Space capsule Patent  
[NASA-CASE-XLA-00149] c31 N70-37938  
Space capsule Patent  
[NASA-CASE-XLA-01332] c31 N71-15664  
Lateral displacement system for separated rocket  
stages Patent  
[NASA-CASE-XLA-04804] c31 N71-23008  
High lift aircraft  
[NASA-CASE-LAR-11252-1] c02 N73-26007  
Quiet jet transport aircraft  
[NASA-CASE-LAR-11087-1] c02 N73-26008

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Electrical feed-through connection for printed  
circuit boards and printed cable  
[NASA-CASE-INP-01483] c14 N69-27431

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Bacteriostatic conformal coating and methods of  
application Patent  
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Survival couch Patent  
[NASA-CASE-XLA-00118] c05 N70-33285

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Protective device for machine and metalworking  
tools Patent  
[NASA-CASE-XLB-01092] c15 N71-22797

BLASE, C. J.  
Formed metal ribbon wrap Patent  
[NASA-CASE-ILB-00164] c15 N70-36411

BLOSSER, E. R.  
Method for determining presence of OH in  
magnesium oxide  
[NASA-CASE-NPO-10774] c06 N72-17095

BLUE, J. W.  
Apparatus for producing high purity I-123  
[NASA-CASE-LEW-10518-2] c24 N72-28714  
Production of high purity I-123  
[NASA-CASE-LEW-10518-1] c24 N72-33681  
Method of producing I-123  
[NASA-CASE-LEW-11390-2] c24 N73-20763  
Production of I-123  
[NASA-CASE-LEW-11390-3] c11 N73-28128  
Apparatus for producing high purity I-123  
[NASA-CASE-LEW-10518-3] c15 N74-10476

BLUM, P.  
Rock sampling  
[NASA-CASE-INP-10007-1] c15 N74-23068  
Rock sampling  
[NASA-CASE-INP-09755] c15 N74-23069

BLUME, H. C.  
Parametric amplifiers with idler circuit feedback  
[NASA-CASE-LAR-10253-1] c09 N72-25258  
Apparatus and method for applying protective  
coatings  
[NASA-CASE-LAR-10362-1] c15 N72-27486

BLUMBICH, J. F.  
Pivotal shock absorbing pad assembly Patent  
[NASA-CASE-INP-03856] c31 N70-34159  
Landing pad assembly for aerospace vehicles Patent  
[NASA-CASE-INP-02853] c31 N70-36654  
Double-acting shock absorber Patent  
[NASA-CASE-INP-01045] c15 N70-40354  
Tank construction for space vehicles Patent  
[NASA-CASE-INP-01899] c31 N70-41948  
Docking structure for spacecraft Patent  
[NASA-CASE-INP-05941] c31 N71-23912  
Omnidirectional wheel  
[NASA-CASE-MFS-21309-1] c15 N74-18125

BLUTINGER, B.  
Signal generator  
[NASA-CASE-INP-05612] c09 N69-21468

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BLYHILLER, E. R.  
 Microcircuit negative cutter  
 [NASA-CASE-XLA-09843] c15 N72-27485

BOATRIGHT, W. B.  
 Apparatus and method for generating large mass  
 flow of high temperature air at hypersonic  
 speeds  
 [NASA-CASE-LAR-10578-1] c12 N73-25262

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 Narrow bandwidth video Patent  
 [NASA-CASE-XMS-06740-1] c07 N71-26579

BOEDI, D. D.  
 Power supply circuit Patent  
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 Gravity device Patent  
 [NASA-CASE-IMP-00424] c11 N70-38196

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 High field CdS detector for infrared radiation  
 [NASA-CASE-LAR-11027-1] c14 N74-18088

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 [NASA-CASE-MSC-14273-1] c12 N73-28179

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 [NASA-CASE-XNP-01660] c14 N71-23036

BOIRS, R. D.  
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 dimensional electric field plots Patent  
 [NASA-CASE-XLA-08493] c10 N71-19421

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 Optical machine tool alignment indicator Patent  
 [NASA-CASE-XAC-09489-1] c15 N71-26673

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 [NASA-CASE-XMS-05303] c07 N69-27462

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 Connector internal force gauge Patent  
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BONN, J. L.  
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 [NASA-CASE-XLB-00023] c15 N70-33330

BONNER, T. F., JR.  
 Quiet jet transport aircraft  
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BONO, P.  
 Recoverable single stage spacecraft booster Patent  
 [NASA-CASE-XNP-01973] c31 N70-41588

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 Connector strips-positive, negative and T tabs  
 [NASA-CASE-XGS-01395] c03 N69-21539

BOOTE, F. W.  
 Condenser - Separator  
 [NASA-CASE-XLA-08645] c15 N69-21465  
 Separator Patent  
 [NASA-CASE-XLA-09415] c15 N71-16079  
 Thermal pump-compressor for space use Patent  
 [NASA-CASE-XLA-00377] c33 N71-17610  
 Soldering device Patent  
 [NASA-CASE-XLA-08911] c15 N71-27214  
 Air removal device  
 [NASA-CASE-XLA-8914] c15 N73-12492  
 Zero gravity liquid mixer  
 [NASA-CASE-LAR-10195-1] c15 N73-19458  
 Centrifugal lyophobic separator  
 [NASA-CASE-LAR-10194-1] c12 N74-30608

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 [NASA-CASE-XNP-09228] c09 N69-27500

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 [NASA-CASE-XNP-01892] c10 N71-22986

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 [NASA-CASE-MFS-20761-1] c03 N74-27519  
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 [NASA-CASE-MFS-22749-1] c14 N74-34861

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 [NASA-CASE-GSC-11582-1] c09 N73-32120

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 delay unit Patent  
 [NASA-CASE-XNP-08832] c08 N71-12506

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 Hingeless helicopter rotor with improved stability  
 [NASA-CASE-AHC-10807-1] c02 N74-34475

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 Buffered analog converter  
 [NASA-CASE-KSC-10397] c08 N72-25206

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 Balance torquemeter Patent  
 [NASA-CASE-IGS-01013] c14 N71-23725

BOYLE, J. V., JR.  
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 [NASA-CASE-ILA-07911] c15 N71-15571  
 Canister closing device Patent  
 [NASA-CASE-XLA-01446] c15 N71-21528

BOZAJIAN, J. H.  
 Thermal switch Patent  
 [NASA-CASE-XNP-00463] c33 N70-36847

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 Telemetry processor  
 [NASA-CASE-GSC-11388-1] c07 N73-24187

BRADLEY, R. H.  
 Emergency earth orbital escape device  
 [NASA-CASE-MSC-13281] c31 N72-18859  
 A method of delivering a vehicle to earth orbit  
 and returning the reusable portion thereof to  
 earth  
 [NASA-CASE-MSC-12391] c30 N73-12884

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 Surface roughness detector Patent  
 [NASA-CASE-XLA-00203] c14 N70-34161

BRANDHORST, H. W., JR.  
 Rapidly pulsed, high intensity, incoherent light  
 source  
 [NASA-CASE-XLE-2529-3] c09 N74-20859  
 Solar cell assembly  
 [NASA-CASE-LEW-11549-1] c03 N74-33484

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 Black-body furnace Patent  
 [NASA-CASE-XLE-01399] c33 N71-15625

BRASCHWITZ, J. H.  
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 Patent  
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 Ultraviolet atomic emission detector  
 [NASA-CASE-NQM-10756-1] c14 N72-25428

BRAUNER, C. C.  
 Specific wavelength colorimeter  
 [NASA-CASE-MSC-14081-1] c14 N74-27860

BRAUNER, E. L.  
 Color perception tester  
 [NASA-CASE-KSC-10278] c05 N72-16015

BRACKENRIDGE, E. A.  
 Vapor phase growth of groups III-V compounds by  
 hydrogen chloride transport of the elements  
 [NASA-CASE-LAR-11144-1] c26 N74-27261

BREED, L. L.  
 Fluorinated esters of polycarboxylic acids  
 [NASA-CASE-NFS-21040-1] c06 N73-30098

BREED, L. W.  
 Preparation of ordered poly /arylenesiloxane/  
 polymers  
 [NASA-CASE-XNP-10753] c06 N71-11237

BREER, E. K.  
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 [NASA-CASE-XFR-08403] c05 N71-11202

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		Superconductive magnetic-field-trapping device	
		[NASA-CASE-XNP-01185]	c26 N73-28710
		Material suspension within an acoustically excited resonant chamber	
		[NASA-CASE-NPO-13263-1]	c15 N73-31443
		Magnetic-flux pump	
		[NASA-CASE-XNP-01188]	c15 N73-32361
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		ELLIOTT, D. G.	
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		Two-fluid magnetohydrodynamic system and method for thermal-electric power conversion Patent	
		[NASA-CASE-XNP-00644]	c03 N70-36803
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		ELLIOTT, R. L.	
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 [NASA-CASE-MFS-20916] c14 N73-25460

**KAUFMAN, W. B.**  
 High current electrical lead  
 [NASA-CASE-LEW-10950-1] c09 N74-27683

**KAZNOFF, A. I.**  
 Method of making a cernet Patent  
 [NASA-CASE-LEW-10219-1] c18 N71-28729

**KAZOKAS, G. P.**  
 Vacuum leak detector  
 [NASA-CASE-LAR-11237-1] c14 N73-32344

**KEAFER, L. S., JR.**  
 Transmitting and reflecting diffuser  
 [NASA-CASE-LAR-10385-3] c23 N73-32538  
 Transmitting and reflecting diffuser  
 [NASA-CASE-LAR-10385-2] c23 N74-13436

**KEARNS, W. J.**  
 Mount for thermal control system Patent  
 [NASA-CASE-NPO-10138] c33 N71-16357

**KEATHLEY, W. H.**  
 Energy absorbing structure Patent Application  
 [NASA-CASE-MSC-12279-1] c15 N70-35679  
 Low onset rate energy absorber  
 [NASA-CASE-MSC-12279] c15 N72-17450

**KEATING, J. H.**  
 Method and apparatus for attaching physiological monitoring electrodes Patent  
 [NASA-CASE-XFR-07656-1] c05 N71-26293

**KEEFER, J. M.**  
 Phonocardiogram simulator Patent  
 [NASA-CASE-XKS-10804] c05 N71-24606

**KEENE, W. H.**  
 Clear air turbulence detector  
 [NASA-CASE-MFS-21244-1] c20 N73-21523

**KEHLET, A. B.**  
 Parachute glider Patent  
 [NASA-CASE-XLA-00898] c02 N70-36604  
 Space and atmospheric reentry vehicle Patent  
 [NASA-CASE-IGS-00260] c31 N70-37924  
 Space capsule Patent  
 [NASA-CASE-XLA-00149] c31 N70-37938  
 Space capsule Patent  
 [NASA-CASE-XLA-01332] c31 N71-15664

**KELBAUGH, B. M.**  
 Automatic instrument for chemical processing to detect microorganism in biological samples by measuring light reactions  
 [NASA-CASE-GSC-11169-2] c05 N73-32011

**KELLER, G. C.**  
 Plural beam antenna  
 [NASA-CASE-GSC-11013-1] c09 N73-19234

**KELLER, O. F.**  
 Pressure regulating system Patent  
 [NASA-CASE-IMP-00450] c15 N70-38603

**KELLEY, J. R.**  
 Mechanical stability augmentation system Patent  
 [NASA-CASE-XLA-06339] c02 N71-13422

**KELLS, E. C.**  
 Device for measuring pressure Patent  
 [NASA-CASE-IAC-04458] c14 N71-24232

**KELLY, D. L.**  
 Multistage aerospace craft  
 [NASA-CASE-IMP-02263] c02 N74-10907

**KELLY, W. L., IV**  
 A spectrometer integrated with a facsimile camera  
 [NASA-CASE-LAR-11207-1] c14 N73-28496

**KELSEY, E. L.**  
 Transient-compensated SCR inverter  
 [NASA-CASE-XLA-08507] c09 N69-39984  
 SCR blocking pulse gate amplifier Patent  
 [NASA-CASE-XLA-07497] c09 N71-12514

**KEMP, K. L.**  
 Pneumatic mirror support system  
 [NASA-CASE-XLA-03271] c11 N69-24321

**KEMP, R. F.**  
 Method and apparatus for measuring potentials in plasmas Patent  
 [NASA-CASE-XLE-00821] c25 N71-15650  
 Apparatus for field strength measurement of a space vehicle Patent  
 [NASA-CASE-XLE-00820] c14 N71-16014

**KEMP, R. H.**  
 Thin-walled pressure vessel Patent  
 [NASA-CASE-XLE-04677] c15 N71-10577

**KENDALL, J. H., SR.**  
 Conically shaped cavity radiometer with a dual purpose cone winding Patent  
 [NASA-CASE-IMP-09701] c14 N71-26475  
 Black body cavity radiometer Patent  
 [NASA-CASE-NPO-10810] c14 N71-27323

KENDRICK, W. P.  
 Ablative resin Patent [NASA-CASE-XLE-05913] c33 N71-14032  
 Reinforced structural plastics [NASA-CASE-LEW-10199-1] c18 N74-23125

KENNEDY, B. W.  
 Electrical connector Patent Application [NASA-CASE-MFS-14741] c09 N70-20737  
 Filter system for control of outgas contamination in vacuum Patent [NASA-CASE-MFS-14711] c15 N71-26185  
 Method of making shielded flat cable [NASA-CASE-MFS-13687] c09 N71-28691  
 Shielded flat cable [NASA-CASE-MFS-13687-2] c09 N72-22198  
 Polyimide resin-fiberglass cloth laminates for printed circuit boards [NASA-CASE-MFS-20408] c18 N73-12604  
 Integrated circuit package with lead structure and method of preparing the same [NASA-CASE-MFS-21374-1] c10 N74-12951

KENNEWAY, A. J., III  
 Space suit [NASA-CASE-MSC-12609-1] c05 N73-32012

KENNEY, B. L.  
 An improved Geneva mechanism [NASA-CASE-NPO-13281-1] c15 N74-23071

KENT, W. D.  
 An improved heat sterilizable patient ventilator [NASA-CASE-NPO-13313-1] c05 N74-17858

KENYON, G. C.  
 Flight craft Patent [NASA-CASE-IAC-02058] c02 N71-16087

KEPPEL, C. B.  
 Tertiary flow injection thrust vectoring system Patent [NASA-CASE-MFS-20831] c28 N71-29153

KEHLEY, J. J., JR.  
 Apparatus for vibrational testing of articles [NASA-CASE-GSC-11302-1] c14 N73-13416

KEBN, C. V.  
 Deformable vehicle wheel Patent [NASA-CASE-MFS-20400] c31 N71-18611

KEEN, J. D.  
 Magnetic recording head and method of making same Patent [NASA-CASE-GSC-10097-1] c08 N71-27210

KEBHODLE, B. H.  
 Inherent redundancy electric heater [NASA-CASE-MFS-21462-1] c09 N74-14935

KERSBY, E. D., JR.  
 Angular displacement indicating gas bearing support system Patent [NASA-CASE-XLA-09346] c15 N71-28740

KEBSLAKE, W. R.  
 Ion thruster cathode [NASA-CASE-XLE-07087] c06 N69-39889  
 Electronic cathode having a brush-like structure and a relatively thick oxide emissive coating Patent [NASA-CASE-XLE-04501] c09 N71-23190

KERWIN, W. J.  
 Nonmagnetic thermal motor for a magnetometer [NASA-CASE-XAR-03786] c09 N69-21313  
 Demodulation system Patent [NASA-CASE-XAC-04030] c10 N71-19472  
 Transducer circuit and catheter transducer Patent [NASA-CASE-ARC-10132-1] c09 N71-24597  
 Active RC networks [NASA-CASE-ARC-10042-2] c10 N72-11256  
 RC networks and amplifiers employing the same [NASA-CASE-XAC-05462-2] c10 N72-17171  
 Active RC networks [NASA-CASE-ARC-10020] c10 N72-17172  
 Multiloop RC active filter apparatus having low parameter sensitivity with low amplifier gain [NASA-CASE-ARC-10192] c09 N72-21245  
 Integrated structure vacuum tube [NASA-CASE-ARC-10445-1] c09 N74-29577

KESSEL, J. E.  
 Plural recorder system [NASA-CASE-XMS-06349] c09 N69-21467

KEY, C. F.  
 Nonflammable coating compositions [NASA-CASE-MFS-20486-2] c18 N74-17283

KEYTTON, R. J.  
 Technique for control of free-flight rocket vehicles Patent [NASA-CASE-XLA-00937] c31 N71-17691

KIBBE, R. K.  
 Load cell protection device Patent [NASA-CASE-XMS-06782] c32 N71-15974

KIEPER, P. J., JR.  
 Thermal conductive connection and method of making same Patent [NASA-CASE-XMS-02087] c09 N70-41717

KIKIN, G. M.  
 Multiducted electromagnetic pump Patent [NASA-CASE-NPO-10755] c15 N71-27084  
 Shell side liquid metal boiler [NASA-CASE-NPO-10831] c33 N72-20915

KILLALEA, W. P.  
 Clamping assembly for inertial components Patent [NASA-CASE-XMS-02184] c15 N71-20813

KIM, C.  
 Arterial pulse wave pressure transducer [NASA-CASE-GSC-11531-1] c05 N74-27566

KIM, H. H.  
 A multichannel photoionization chamber for absorption analysis Patent [NASA-CASE-ERC-10044-1] c14 N71-27090

KIMBALL, R. B.  
 Apparatus for remote handling of materials [NASA-CASE-LAR-10634-1] c15 N74-18123

KINARD, W. H.  
 Particle detection apparatus Patent [NASA-CASE-XLA-00135] c14 N70-33322  
 Gas actuated bolt disconnect Patent [NASA-CASE-XLA-00326] c03 N70-34667  
 Micrometeoroid velocity measuring device Patent [NASA-CASE-XLA-00495] c14 N70-41332  
 Micrometeoroid penetration measuring device Patent [NASA-CASE-XLA-00941] c14 N71-23240  
 Deployable pressurized cell structure for a micrometeoroid detector [NASA-CASE-LAR-10295-1] c15 N74-21062  
 Particulate and aerosol detector [NASA-CASE-LAR-11434-1] c14 N74-22112

KINELL, D. K.  
 Improved four phase logic systems [NASA-CASE-MSC-14240-1] c10 N73-21240

KING, C. B.  
 Method of obtaining permanent record of surface flow phenomena Patent [NASA-CASE-XLA-01353] c14 N70-41366  
 Method and apparatus for bonding a plastics sleeve onto a metallic body Patent [NASA-CASE-XLA-01262] c15 N71-21404  
 Dielectric molding apparatus Patent [NASA-CASE-LAR-10121-1] c15 N71-26721

KING, B. J.  
 Gas regulator Patent [NASA-CASE-NPO-10298] c12 N71-17661

KING, H. M.  
 Method of making impurity-type semiconductor electrical contacts Patent [NASA-CASE-IMF-01016] c26 N71-17818

KING, B. B.  
 Preparation of high purity copper fluoride [NASA-CASE-LEW-10794-1] c06 N72-17093

KING, R. F.  
 Anthropomorphic master/slave manipulator system [NASA-CASE-ARC-10756-1] c15 N74-16139

KING, R. W.  
 Method and apparatus for making a heat insulating and ablative structure Patent [NASA-CASE-XMS-02009] c33 N71-20834

KINKEL, J. F.  
 Data transfer system Patent [NASA-CASE-NPO-12107] c08 N71-27255

KINWARD, K. F.  
 Laser Doppler system for measuring three dimensional vector velocity Patent [NASA-CASE-MFS-20386] c21 N71-19212

KINSELE, R. C.  
 Signal multiplexer [NASA-CASE-XGS-01110] c07 N69-24334

KINZLER, J. A.  
 Emergency escape system Patent [NASA-CASE-HSC-12086-1] c05 N71-12345

KIRCHMAN, E. J.  
 Accelerometer with FM output Patent [NASA-CASE-XLA-00492] c14 N70-34799

KIS, G.  
 Optical alignment system Patent [NASA-CASE-INP-02029] c14 N70-41955

KISSELL, R. R.  
 Rateneter

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KRAUSE, S. J.

[NASA-CASE-MFS-20418] c14 N73-24473  
**RISZKO, W.**  
 Portable superclean air column device Patent  
 [NASA-CASE-XMF-03212] c15 N71-22721

**KITTS, W. T.**  
 Cryogenic connector for vacuum use Patent  
 [NASA-CASE-IGS-02441] c15 N70-41629

**KLECHKE, E. W.**  
 Nickel aluminide coated low alloy stainless steel  
 [NASA-CASE-LEW-11267-1] c17 N73-32414

**KLEIN, E. L.**  
 Apparatus for inspecting microfilm Patent  
 [NASA-CASE-MFS-20240] c14 N71-26788

**KLEIN, M. G.**  
 Electrolytically regenerative hydrogen-oxygen  
 fuel cell Patent  
 [NASA-CASE-XLE-04526] c03 N71-11052

**KLEINBERG, L. L.**  
 Stable amplifier having a stable quiescent point  
 Patent  
 [NASA-CASE-IGS-02812] c09 N71-19466  
 Complementary regenerative switch Patent  
 [NASA-CASE-XGS-02751] c09 N71-23015  
 Monostable multivibrator  
 [NASA-CASE-GSC-10082-1] c10 N72-20221  
 Active tuned circuit  
 [NASA-CASE-GSC-11340-1] c10 N72-33230  
 Ultra-stable oscillator with complementary  
 transistors  
 [NASA-CASE-GSC-11513-1] c09 N74-20862

**KLEINBOCK, L.**  
 Data compression system  
 [NASA-CASE-XNF-09785] c08 N69-21928  
 Method and apparatus for data compression by a  
 decreasing slope threshold test  
 [NASA-CASE-NPO-10769] c08 N72-11171

**KLIMA, S. J.**  
 High temperature cobalt-base alloy Patent  
 [NASA-CASE-XLE-00726] c17 N71-15644

**KLINE, A. J.**  
 Capacitance multiplier and filter synthesizing  
 network  
 [NASA-CASE-NPO-11948-1] c10 N74-32712

**KLINE, A. J., JR.**  
 Automatic frequency discriminators and control  
 for a phase-lock loop providing frequency  
 preset capabilities Patent  
 [NASA-CASE-XMF-08665] c10 N71-19467

**KLINGMAN, E. E., III**  
 Electronic optical transfer function analyzer  
 [NASA-CASE-MFS-21672-1] c23 N73-22630  
 Apparatus for calibrating an image dissector tube  
 [NASA-CASE-MFS-22208-1] c14 N74-18100

**KLISCH, J. A.**  
 Combustion products generating and metering device  
 [NASA-CASE-GSC-11095-1] c14 N72-10375

**KNAUER, W.**  
 Ion thruster  
 [NASA-CASE-LEW-10770-1] c28 N72-22770

**KNECHTEL, E. D.**  
 Two force component measuring device Patent  
 [NASA-CASE-XAC-04886-1] c14 N71-20439  
 Floating two force component measuring device  
 Patent  
 [NASA-CASE-XAC-04885] c14 N71-23790

**KNOOS, S. P.**  
 Shock tube bypass piston tunnel  
 [NASA-CASE-NPO-12109] c11 N72-22245

**KOBAYASHI, H. S.**  
 Pulse code modulated signal synchronizer  
 [NASA-CASE-MSC-12462-1] c07 N74-20809  
 Pulse code modulated signal synchronizer  
 [NASA-CASE-MSC-12498-1] c07 N74-20810

**KOCH, E. F.**  
 Expulsion bladder-equipped storage tank  
 structure Patent  
 [NASA-CASE-XNF-00612] c11 N70-38182  
 Combined pressure regulator and shutoff valve  
 [NASA-CASE-NPO-13201-1] c15 N73-26474

**KOCH, K. P.**  
 CRT blanking and brightness control circuit  
 [NASA-CASE-KSC-10647-1] c10 N72-31273

**KOCZELA, L. J.**  
 Adaptive voting computer system  
 [NASA-CASE-MSC-13932-1] c08 N74-14920

**KODIS, R. D.**  
 Clear air turbulence detector  
 [NASA-CASE-ERC-10081] c14 N72-28437

**KOLBLY, R. B.**  
 High power microwave power divider Patent  
 [NASA-CASE-NPO-11031] c07 N71-33606  
 System for controlling the operation of a  
 variable signal device  
 [NASA-CASE-NPO-11064] c07 N72-11150

**KOLOBOFF, G. J.**  
 Amplitude steered array  
 [NASA-CASE-GSC-11446-1] c09 N74-20860

**KOLSTEE, H. M.**  
 Radiator deployment actuator Patent  
 [NASA-CASE-MSC-11817-1] c15 N71-26611

**KOPELSON, S.**  
 Rate augmented digital to analog converter Patent  
 [NASA-CASE-ILA-07828] c08 N71-27057

**KOPETSKI, P. J.**  
 Ring counter  
 [NASA-CASE-IGS-03095] c09 N69-27463

**KOPIA, L. P.**  
 Transmitting and reflecting diffuser  
 [NASA-CASE-LAR-10385-3] c23 N73-32538  
 Transmitting and reflecting diffuser  
 [NASA-CASE-LAR-10385-2] c23 N74-13436

**KORABOWSKI, J. J.**  
 Pressure garment joint Patent  
 [NASA-CASE-YMS-09636] c05 N71-12344  
 Method of forming a root cord restrained  
 convolute section  
 [NASA-CASE-MSC-12398] c05 N72-20098

**KORDES, E. E.**  
 High intensity heat and light unit Patent  
 [NASA-CASE-XLA-00141] c09 N70-33312

**KORVIN, W.**  
 Self-erecting reflector Patent  
 [NASA-CASE-IGS-09190] c31 N71-16102  
 Tracking antenna system Patent  
 [NASA-CASE-GSC-10553-1] c07 N71-19854  
 Antenna array at focal plane of reflector with  
 coupling network for beam switching Patent  
 [NASA-CASE-GSC-10220-1] c07 N71-27233

**KOSCHMEDEE, L. A.**  
 Bi-polar phase detector and corrector for split  
 phase PCM data signals Patent  
 [NASA-CASE-IGS-01590] c07 N71-12392

**KOSNAHL, H. G.**  
 Linear magnetic brake with two windings Patent  
 [NASA-CASE-XLE-05079] c15 N71-17652  
 Electrostatic collector for charged particles  
 [NASA-CASE-LEW-11192-1] c09 N73-13208  
 Electron beam controller  
 [NASA-CASE-LEW-11617-1] c09 N74-10195

**KOSMO, J. J.**  
 Extravehicular tunnel suit system Patent  
 [NASA-CASE-MSC-12243-1] c05 N71-24728

**KOVELL, S. F.**  
 Method for etching copper Patent  
 [NASA-CASE-IGS-06306] c17 N71-16044

**KOZIOL, J. S., JR.**  
 Aircraft control system  
 [NASA-CASE-ERC-10439] c02 N73-19004

**KRAMER, F.**  
 Device for suppressing sound and heat produced  
 by high-velocity exhaust jets Patent  
 [NASA-CASE-XMF-01813] c28 N70-41582

**KRAMER, M.**  
 Electronic amplifier with power supply switching  
 Patent  
 [NASA-CASE-YMS-00945] c09 N71-10798  
 Power supply Patent  
 [NASA-CASE-XMS-02159] c10 N71-22961

**KRAUSE, F. R.**  
 Passive optical wind and turbulence detection  
 system Patent  
 [NASA-CASE-XMF-14032] c20 N71-16340

**KRAUSE, I. A.**  
 Satellite interlace synchronization system  
 [NASA-CASE-GSC-10390-1] c07 N72-11149

**KRAUSE, L. H.**  
 Enthalpy and stagnation temperature  
 determination of a high temperature laminar  
 flow gas stream Patent  
 [NASA-CASE-XLE-00266] c14 N70-34156  
 Sensing probe  
 [NASA-CASE-LEW-10281-1] c14 N72-17327

**KRAUSE, S. J.**  
 Method and device for determining battery state  
 of charge Patent  
 [NASA-CASE-NPO-10194] c03 N71-20407



KRAUSHAAR, W. L.  
Coaxial anode wire for gas radiation counters  
[NASA-CASE-GSC-11492-1] c14 N74-26949

KRANCZOWEK, W. B.  
Isolated amplifier for measuring millivolt  
electrical signals with reference to a high  
common mode potential  
[NASA-CASE-XLB-03155-2] c09 N72-20205

KREISHMAN, W. S.  
Inflation system for balloon type satellites  
Patent  
[NASA-CASE-IGS-03351] c31 N71-16081

KRIEVE, W. F.  
High-voltage cable Patent  
[NASA-CASE-XNP-00738] c09 N70-38201

KROPP, C. J.  
Determination of spot weld quality Patent  
[NASA-CASE-XNP-02588] c15 N71-18613

KRSEK, A., JR.  
Optical torque meter Patent  
[NASA-CASE-XLB-00503] c14 N70-34818

KRUPNICK, A. C.  
Method for detecting hydrogen gas  
[NASA-CASE-IMP-03873] c06 N69-39733  
Inorganic thermal control coatings  
[NASA-CASE-MFS-20011] c18 N72-22566  
Nonflammable coating compositions  
[NASA-CASE-MFS-20486-2] c18 N74-17283

KUBICA, A. J.  
Decomposition unit Patent  
[NASA-CASE-XMS-00583] c28 N70-38504

KUBICKI, A. F.  
Signal path series step biased multidevice high  
efficiency amplifier Patent  
[NASA-CASE-GSC-10668-1] c07 N71-28430  
Power responsive overload sensing circuit Patent  
[NASA-CASE-GSC-10667-1] c10 N71-33129  
Infinite range electronics gain control circuit  
[NASA-CASE-GSC-10786-1] c10 N72-28241

KUBIK, C. F.  
Method and construction for protecting heat  
sensitive bodies from thermal radiation and  
convective heat Patent  
[NASA-CASE-XNP-01310] c33 N71-28852

KUBIK, J. S.  
Device for preventing high voltage arcing in  
electron beam welding Patent  
[NASA-CASE-IMP-08522] c15 N71-19486

KUBOKAWA, C. C.  
Fastener apparatus Patent  
[NASA-CASE-ARC-10140-1] c15 N71-17653

KUEBLER, E. E.  
Method and means for damping nutation in a  
satellite Patent  
[NASA-CASE-IMP-00442] c31 N71-10747

KUGATH, D. A.  
Remote manipulator system  
[NASA-CASE-MFS-22022-1] c05 N74-10099

KUSH, E. E.  
Quiet jet transport aircraft  
[NASA-CASE-IAR-11087-1] c02 N73-26008

KUHN, R. F., JR.  
Universal restrainer and joint Patent  
[NASA-CASE-IMP-02278] c15 N71-28951  
An internally supported flexible duct joint  
[NASA-CASE-MFS-19193-1] c15 N74-22145

KUBNS, P. W.  
Generator for a space power system Patent  
[NASA-CASE-XLB-04250] c09 N71-20446

KUPPERMAN, J. E., JR.  
Low friction magnetic recording tape Patent  
[NASA-CASE-XGS-00373] c23 N71-15978

KUNAL, H. H.  
Strain arrestor plate  
[NASA-CASE-HSC-14182-1] c18 N74-15213

KURIGER, W. L.  
Short range laser obstacle detector  
[NASA-CASE-NPO-11856-1] c16 N74-15145

KURZZ, E. L.  
Hybrid holographic system using reflected and  
transmitted object beams simultaneously Patent  
[NASA-CASE-MFS-20074] c16 N71-15565  
Multiple image storing system for high speed  
projectile holography  
[NASA-CASE-MFS-20596] c14 N72-17324  
Holographic system for nondestructive testing  
[NASA-CASE-MFS-21704-1] c16 N73-30478  
Real time moving scene holographic camera system  
[NASA-CASE-MFS-21087-1] c14 N74-17153

Real time, large volume, moving scene  
holographic camera system  
[NASA-CASE-MFS-22537-1] c14 N74-28932  
A holographic motion picture camera  
[NASA-CASE-MFS-22517-1] c14 N74-33943

KURVIN, C. W.  
Remote platform power conserving system  
[NASA-CASE-GSC-11182-1] c31 N73-32769

KURYLO, H. J., III  
Ultraviolet atomic emission detector  
[NASA-CASE-HQN-10756-1] c14 N72-25428

KURZHALS, P. R.  
Spacecraft experiment pointing and attitude  
control system Patent  
[NASA-CASE-XLA-05464] c21 N71-14132  
Attitude control and damping system for  
spacecraft Patent  
[NASA-CASE-XLA-02551] c21 N71-21708

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LA RUSSA, F. J.  
Array phasing device Patent  
[NASA-CASE-ERC-10046] c10 N71-18722

LA VIGNA, T. A.  
Buck boost voltage regulation circuit Patent  
[NASA-CASE-GSC-10735-1] c10 N71-26085

LACKNER, H. G.  
Method and apparatus of simulating zero gravity  
conditions Patent  
[NASA-CASE-MFS-12750] c27 N71-16223  
Method and apparatus for checking the stability  
of a setup for making reflection type holograms  
[NASA-CASE-MFS-21455-1] c16 N74-15146

LAIACONA, F. P.  
Graphite-reinforced aluminum composite and  
method of preparing the same  
[NASA-CASE-MFS-21077] c18 N71-34502  
Bonding of reinforced Teflon to metals  
[NASA-CASE-MFS-20482] c15 N72-22492

LAIKE, D. D.  
Electromechanical actuator  
[NASA-CASE-XNP-05975] c15 N69-23185

LANS, R. H.  
Hypersonic reentry vehicle Patent  
[NASA-CASE-XMS-04142] c31 N70-41631

LANPHER, H. H.  
Bismuth-lead coatings for gas bearings used in  
atmospheric environments and vacuum chambers  
Patent  
[NASA-CASE-XGS-02011] c15 N71-20739

LANDAUER, F. P.  
Means for generating a sync signal in an FM  
communication system Patent  
[NASA-CASE-XNP-10830] c07 N71-11281

LANDEL, R. F.  
Method for controlling vapor content of a gas  
[NASA-CASE-NPO-10633] c03 N72-28025  
Parallel-plate viscometer with double diaphragm  
suspension  
[NASA-CASE-NPO-11387] c14 N73-14429  
Preparation of alkali metal dispersions  
[NASA-CASE-XNP-08876] c17 N73-28573

LANDES, H. S.  
Active microwave irises and windows  
[NASA-CASE-IAR-10513-1] c07 N72-25170  
Thin film microwave iris  
[NASA-CASE-IAR-10511-1] c09 N72-29172

LANE, J. W.  
Wide range dynamic pressure sensor  
[NASA-CASE-ARC-10263-1] c14 N72-22438

LANEY, C. C., JR.  
Micrometeoroid velocity measuring device Patent  
[NASA-CASE-XLA-00495] c14 N70-41332  
Micrometeoroid penetration measuring device Patent  
[NASA-CASE-XLA-00941] c14 N71-23240

LANFORD, W. E.  
Folding apparatus Patent  
[NASA-CASE-XLA-00137] c15 N70-33180  
Reflector space satellite Patent  
[NASA-CASE-XLA-00138] c31 N70-37981

LANG, E.  
Venting device for pressurized space suit helmet  
Patent  
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LANGE, O. H.  
Continuous detonation reaction engine Patent  
[NASA-CASE-XNP-06926] c28 N71-22983

**LANGMUIR, R. V.**  
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 [NASA-CASE-IMP-04231] c14 N73-32325

**LANSING, J. C., JR.**  
 Method and apparatus for optically monitoring the angular position of a rotating mirror  
 [NASA-CASE-GSC-11353-1] c23 N74-21304

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 Gaseous control system for nuclear reactors  
 [NASA-CASE-XLE-04599] c22 N72-20597

**LANZO, C. D.**  
 Simulated fuel assembly Patent  
 [NASA-CASE-XLE-00724] c14 N70-34669

**LARNER, J. W.**  
 Conforming polisher for aspheric surface of revolution Patent  
 [NASA-CASE-XGS-02884] c15 N71-22705

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 Coaxial injector for reaction motors  
 [NASA-CASE-NPO-11095] c15 N72-25455

**LARSON, T. P.**  
 Filter regeneration systems  
 [NASA-CASE-MSC-14273-1] c12 N73-28179

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 Small rocket engine Patent  
 [NASA-CASE-XLE-00685] c28 N70-41992

**LAUB, J. H.**  
 Attitude control for spacecraft Patent  
 [NASA-CASE-IMP-00294] c21 N70-36938  
 Slit regulated gas journal bearing Patent  
 [NASA-CASE-IMP-00476] c15 N70-38620

**LAUENBERG, W. R.**  
 Method and apparatus for securing to a spacecraft Patent  
 [NASA-CASE-NFS-11133] c31 N71-16222

**LAUE, E. G.**  
 Irradiance measuring device  
 [NASA-CASE-NPO-11493] c14 N73-12447

**LAUE, H. B.**  
 Driving lamps by induction  
 [NASA-CASE-NFS-21214-1] c09 N73-30181

**LAUE, J. H.**  
 Multi-mission module Patent  
 [NASA-CASE-IMP-01543] c31 N71-17730

**LAUGHLIN, C. R., JR.**  
 Position location system and method Patent  
 [NASA-CASE-GSC-10087-2] c21 N71-13958  
 Position location and data collection system and method Patent  
 [NASA-CASE-GSC-10083-1] c30 N71-16090  
 Traffic control system and method Patent  
 [NASA-CASE-GSC-10087-1] c02 N71-19287  
 Diversity receiving system with diversity phase lock Patent  
 [NASA-CASE-XGS-01222] c10 N71-20841  
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 [NASA-CASE-GSC-10087-3] c07 N72-12080  
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 [NASA-CASE-GSC-10087-4] c07 N73-20174

**LAURENCE, J. C.**  
 Method of fabricating a twisted composite superconductor  
 [NASA-CASE-LEN-11015] c26 N73-32571

**LAURIE, B. O.**  
 Adjustable mount for a trihedral mirror Patent  
 [NASA-CASE-IMP-08907] c23 N71-29123

**LAUVENSTEIN, H. L.**  
 Telemetry processor  
 [NASA-CASE-GSC-11388-1] c07 N73-24187

**LAVIGNE, B. C.**  
 Position location and data collection system and method Patent  
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 Drying apparatus for photographic sheet material  
 [NASA-CASE-GSC-11074-1] c14 N73-28489

**LAWRENCE, E. D.**  
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 [NASA-CASE-IMP-03916] c09 N71-28810

**LAWSON, A. J.**  
 Electrical resistance spot welding and brazing techniques for metal bonding  
 [NASA-CASE-LAR-11072-1] c15 N73-20535

**LAWSON, B. D.**  
 Assembly for recovering a capsule Patent  
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 Space capsule ejection assembly Patent  
 [NASA-CASE-IMP-03169] c31 N71-15675

**LAYLAND, J. W.**  
 Communications link for computers  
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**LE BEL, P. J.**  
 Ablation sensor Patent  
 [NASA-CASE-XLA-01794] c33 N71-21586

**LE DOUY, P. H.**  
 Bacteriostatic conformal coating and methods of application Patent  
 [NASA-CASE-GSC-10007] c18 N71-16046

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 [NASA-CASE-IMP-03637] c15 N71-21311

**LEATHERWOOD, J. D.**  
 Active vibration isolator for flexible bodies Patent  
 [NASA-CASE-LAR-10106-1] c15 N71-27169  
 Active air cushion control system minimizing vertical cushion response  
 [NASA-CASE-LAR-10531-1] c02 N73-13023

**LEAVY, W. A.**  
 Switching mechanism with energy storage means Patent  
 [NASA-CASE-XGS-00473] c03 N70-38713

**LEE, C. E.**  
 Trigonometric vehicle guidance assembly which aligns the three perpendicular axes of two three-axis systems Patent  
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**LEE, D. A.**  
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**LEE, D. H.**  
 Ignition means for monopropellant Patent  
 [NASA-CASE-IMP-00876] c28 N70-41311

**LEE, J. S.**  
 High voltage transistor circuit Patent  
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**LEE, M. C.**  
 Dual resonant cavity absorption cell Patent  
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**LEE, R. D.**  
 Telemetry actuated switch  
 [NASA-CASE-ARC-10105] c09 N72-17153  
 Bio-isolated dc operational amplifier  
 [NASA-CASE-ARC-10596-1] c09 N72-27233  
 Metallic intrusion detector system  
 [NASA-CASE-ARC-10265-1] c10 N72-28240  
 Intruder detection system  
 [NASA-CASE-ARC-10097-2] c07 N73-25160  
 Reference apparatus for medical ultrasonic transducer  
 [NASA-CASE-ARC-10753-1] c05 N74-13818  
 Ultrasonic biomedical measuring and recording apparatus  
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 Bio-isolated dc operational amplifier  
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**LEE, S. Y.**  
 Physical correction filter for improving the optical quality of an image  
 [NASA-CASE-HQM-10542-1] c23 N72-21663

**LEEFER, W. A.**  
 High efficiency multifrequency feed  
 [NASA-CASE-GSC-11317-3] c09 N74-20863

**LEES, W. L.**  
 Field ionization electrodes Patent  
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 Method and apparatus for limiting field emission current  
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**LEFFKE, W. O.**  
 Flexibly connected support and skin Patent  
 [NASA-CASE-XLA-01027] c31 N71-24035

**LEFFWICH, R. F.**  
 Multi-lobe scan horizon sensor Patent  
 [NASA-CASE-IGS-00809] c21 N70-35427

**LEGER, L. J.**  
 Method and device for detection of surface discontinuities or defects  
 [NASA-CASE-MSC-14187-1] c14 N74-32879

**LEIBECKI, H. P.**  
 Electrically conductive fluorocarbon polymer

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Silica reusable surface insulation  
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LEISS, A.  
Air frame drag balance Patent  
[NASA-CASE-XLA-00113] c14 N70-33386

LENSON, P. H.  
Broadband modified turnstile antenna Patent  
[NASA-CASE-BSC-12209] c09 N71-24842

LENT, W. E.  
Method for fiberizing ceramic materials Patent  
[NASA-CASE-INP-00597] c18 N71-23088

LECH, H. A.  
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[NASA-CASE-IAC-06956] c15 N71-21177  
Automatic real-time pair-feeding system for  
animals  
[NASA-CASE-ARC-10302-1] c04 N74-15778

LEONARD, E. T.  
Alignment apparatus using a laser having a  
gravitationally sensitive cavity reflector  
[NASA-CASE-ARC-10444-1] c16 N73-33397

LEPP, D. E.  
Phototropic composition of matter  
[NASA-CASE-XGS-03736] c14 N72-22443

LEPPER, T.  
Modulator for tone and binary signals  
[NASA-CASE-GSC-11743-1] c07 N73-27107

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Programmable telemetry system Patent  
[NASA-CASE-GSC-10131-1] c07 N71-24624

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Variable digital processor including a register  
for shifting and rotating bits in either  
direction Patent  
[NASA-CASE-GSC-10186] c08 N71-33110  
Data processor with conditionally supplied clock  
signals  
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LESSLEY, R. L.  
Rotating shaft seal Patent  
[NASA-CASE-INP-02862-1] c15 N71-26294

LEVIN, H.  
Refractory porcelain enamel passive thermal  
control coating for high temperature alloys  
[NASA-CASE-MFS-22324-1] c18 N73-21471

LEVIN, K. L.  
Lunar landing flight research vehicle Patent  
[NASA-CASE-XPR-00929] c31 N70-34966

LEVINE, M. W.  
Atomic hydrogen maser with bulb temperature  
control to remove wall shift in maser output  
frequency  
[NASA-CASE-HQN-10654-1] c16 N73-13489  
Tunable cavity resonator with ramp shaped supports  
[NASA-CASE-HQN-10790-1] c16 N74-11313

LEVINE, S. R.  
Improved coatings for refractory metals  
[NASA-CASE-LEW-11179-1] c17 N73-22474

LEVINSON, M.  
Conforming polisher for aspheric surface of  
revolution Patent  
[NASA-CASE-XGS-02884] c15 N71-22705

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Multi-feed cone Cassegrain antenna Patent  
[NASA-CASE-NPO-10539] c07 N71-11285

LEWICKI, G. W.  
High voltage transistor amplifier with constant  
current load  
[NASA-CASE-NPO-11023] c09 N72-17155  
Stored charged device  
[NASA-CASE-NPO-11156-2] c03 N73-30974  
Thermomagnetic recording and magneto-optic  
playback system having constant intensity  
laser beam control  
[NASA-CASE-NPO-11317-2] c16 N74-13205  
Use of thin film light detector  
[NASA-CASE-NPO-11432-2] c14 N74-15090

LEWIS, B. W.  
Process for applying black coating to metals  
Patent  
[NASA-CASE-XLA-06199] c15 N71-24875  
Barium release system  
[NASA-CASE-LAR-10670-1] c06 N73-30097  
Rocket having barium release system to create  
ion clouds in the upper atmosphere  
[NASA-CASE-LAR-10670-2] c31 N74-27360

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by means of unmodified conventional voice  
communication systems Patent Application  
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into a motor casing Patent  
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High temperature ferromagnetic cobalt-base alloy  
Patent  
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LEWIS, T. L.  
Acoustical transducer calibrating system and  
apparatus  
[NASA-CASE-FRC-10060-1] c14 N73-27379

LEWYN, L. L.  
Analog-to-digital converter  
[NASA-CASE-INP-00477] c08 N73-28045

LIBBEY, C. E.  
Flexible wing deployment device Patent  
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LIBBY, J. M.  
Ultra-long monostable multivibrator employing  
bistable semiconductor switch to allow  
charging of timing circuit Patent  
[NASA-CASE-XGS-00381] c09 N70-34819  
Reversible ring counter employing cascaded  
single SCR stages Patent  
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LIBBY, W. F.  
Continuous plasma light source  
[NASA-CASE-XNP-04167-3] c25 N72-21693  
Continuous plasma light source  
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LIBEROTTI, J.  
Valving device for automatic refilling in  
cryogenic liquid systems  
[NASA-CASE-NPO-11177] c15 N72-17453

LIBBERMAN, S.  
Resonant infrasonic gauging apparatus  
[NASA-CASE-MSC-11847-1] c14 N72-11363

LIGHT, D. J.  
Fixture for supporting articles during vibration  
tests  
[NASA-CASE-MPS-20523] c14 N72-27412

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monoacetic diamines and esters of  
polycarboxylic acids  
[NASA-CASE-LEW-11325-1] c06 N73-27980

LILLEY, A. E.  
Clear air turbulence detector  
[NASA-CASE-ERC-10061] c14 N72-28437

LIN, L. Y.  
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transmission Patent  
[NASA-CASE-NPO-10388] c07 N71-24622

LINDBERG, J. G.  
Method and apparatus for varying thermal  
conductivity Patent  
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An airlock  
[NASA-CASE-MFS-20922] c31 N72-20840  
Airlock  
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LINDGREN, J. R.  
Tungsten seal coat Patent  
[NASA-CASE-XNP-03704] c15 N71-17695

LINDSEY, J. F., III  
Flexible blade antenna Patent  
[NASA-CASE-MSC-12101] c09 N71-18720

LINDSEY, R. S., JR.  
Random pulse generator  
[NASA-CASE-MSC-14131-1] c09 N73-26199  
Pulse stretcher for narrow pulses  
[NASA-CASE-MSC-14130-1] c10 N74-32711

LINDSEY, W. C.  
Transition tracking bit synchronization system  
[NASA-CASE-NPO-10844] c07 N72-20140  
Data-aided carrier tracking loops  
[NASA-CASE-NPO-11282] c10 N73-16205  
Coherent receiver employing nonlinear coherence  
detection for carrier tracking  
[NASA-CASE-NPO-11921-1] c07 N74-30523

LINDSEY, W. F.  
Stereo photoacriography system

[NASA-CASE-LAR-10176-1] c14 N72-20380  
**LINEBACK, L. D.**  
 Thermal shock resistant hafnia ceramic material  
 [NASA-CASE-LAR-10894-1] c18 N73-14584

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 Flame detector operable in presence of proton radiation  
 [NASA-CASE-MPS-21577-1] c03 N74-29410

**LING, S. C.**  
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 [NASA-CASE-GSC-10041-1] c10 N71-19418  
 Static inverter Patent  
 [NASA-CASE-XGS-05289] c09 N71-19470

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 Medical subject monitoring systems  
 [NASA-CASE-MSC-14180-1] c05 N73-22045

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 [NASA-CASE-XMS-07168] c07 N71-11300  
 Burst synchronization detection system Patent  
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 Data storage, image tube type  
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**LIPPITT, H. W., JR.**  
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 [NASA-CASE-XMS-02872] c05 N69-21925  
 Instrument for use in performing a controlled Valsalva maneuver Patent  
 [NASA-CASE-XMS-01615] c05 N70-41329

**LISAGOR, M. E.**  
 Controlled glass bead peening Patent  
 [NASA-CASE-XLA-07390] c15 N71-18616

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 [NASA-CASE-KSC-10807-1] c14 N74-22113

**LIST, W. F.**  
 Solid state television camera system Patent  
 [NASA-CASE-XMF-06092] c07 N71-24612  
 Phototransistor imaging system  
 [NASA-CASE-MFS-20809] c23 N73-13660

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 Thermally conductive polymers  
 [NASA-CASE-GSC-11304-1] c06 N72-21105

**LITANT, I.**  
 Apparatus and method for separating a semiconductor wafer Patent  
 [NASA-CASE-ERC-10138] c26 N71-14354  
 Method for detecting leaks in hermetically sealed containers Patent  
 [NASA-CASE-ERC-10045] c15 N71-24910

**LITCHFORD, G. B.**  
 Altitude measuring system  
 [NASA-CASE-ERC-10412-1] c09 N73-12211

**LITTLE, R. E.**  
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 [NASA-CASE-LAR-10170-1] c15 N74-11301

**LITTLEJOHN, D. P.**  
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 Respiratory analysis system and method  
 [NASA-CASE-MSC-13436-1] c05 N73-32015

**LLOYD, W. B.**  
 Bearing and gimbal lock mechanism and spiral flex lead module Patent  
 [NASA-CASE-GSC-10556-1] c31 N71-26537

**LOCK, P. J.**  
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 [NASA-CASE-MSC-12165-1] c07 N71-33696

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 Leak detector Patent  
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**LOCKWOOD, V. E.**  
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 [NASA-CASE-XLA-00142] c02 N70-33286

Landing arrangement for aerial vehicle Patent  
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 Landing arrangement for aerospace vehicle Patent  
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**LOFTIN, L. K., JR.**  
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 [NASA-CASE-MSC-14180-1] c05 N73-22045

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 Variable stiffness polymeric damper  
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 [NASA-CASE-GSC-10022-1] c10 N71-25882  
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 [NASA-CASE-GSC-11582-1] c09 N73-32120

**LONBORG, J. O.**  
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 [NASA-CASE-XNF-02982] c31 N70-41855

**LONG, H. B.**  
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 [NASA-CASE-MPS-10354] c12 N70-41976  
 Accumulator  
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 High temperature compositions Patent  
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**LONG, W. C.**  
 Technique for extending the frequency range of digital dividers  
 [NASA-CASE-LAR-10730-1] c10 N74-10223

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 Omnidirectional acceleration device Patent  
 [NASA-CASE-RQN-10780] c14 N71-30265

**LOOK, G. F.**  
 Foan generator Patent  
 [NASA-CASE-XLA-00838] c03 N70-36778

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 Device to prevent clogging in a hopper  
 [NASA-CASE-LAR-10961-1] c15 N73-12496

**LOOP, R. W.**  
 Absolute focus lock for microscopes  
 [NASA-CASE-LAR-10184] c14 N72-22445

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**LORD, B. C., III**  
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 [NASA-CASE-NPO-11322] c06 N72-25146

**LOBELL, K. R.**  
 High temperature lens construction Patent  
 [NASA-CASE-XNP-04111] c14 N71-15622  
 All sky pointing attitude control system  
 [NASA-CASE-ARC-10716-1] c31 N73-32784

**LOTHSCHUETZ, P. X.**  
 Stretcher Patent  
 [NASA-CASE-XMF-06589] c05 N71-23159

**LOUGHEAD, A. G.**  
 Linear differential pressure sensor Patent  
 [NASA-CASE-XMF-01974] c14 N71-22752

**LOUNSBERRY, E. D.**  
 Jet shoes  
 [NASA-CASE-XLA-08491] c05 N69-21380

**LOVALL, D. D.**  
 Electric field measuring and display system  
 [NASA-CASE-KSC-10731-1] c14 N74-27862

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 Atmospheric sampling devices  
 [NASA-CASE-NPO-11373] c13 N72-25323

**LOVINGER, D. W.**  
 Voice operated controller Patent  
 [NASA-CASE-XLA-04063] c31 N71-33160

**LOW, C. A., JR.**  
 Electrostatic propulsion system with a direct nuclear electrogenerator Patent  
 [NASA-CASE-XLE-00818] c22 N70-34248

**LOWE, E. G.**  
 Continuous turning slip ring assembly Patent  
 [NASA-CASE-XMF-01049] c15 N71-23049

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LOWEN, I. B.  
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reference Patent  
[NASA-CASE-IGS-03431] c21 N71-15642  
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[NASA-CASE-GSC-10514-1] c14 N72-20379

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energy and the method for manufacturing the  
panel  
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Variable-span aircraft Patent  
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LOY, C. A.  
Tank construction for space vehicles Patent  
[NASA-CASE-XMP-01899] c31 N70-41948

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System for maintaining a motor at a  
predetermined speed utilizing digital feedback  
means Patent  
[NASA-CASE-XMP-06892] c09 N71-24805  
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Patent  
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[NASA-CASE-XLE-05913] c33 N71-14032  
Reinforced structural plastics  
[NASA-CASE-LEW-10199-1] c18 N74-23125

LUCAS, C. B.  
Analog to digital converter  
[NASA-CASE-NPO-13385-1] c08 N74-32646

LUCE, R. S.  
Medical subject monitoring systems  
[NASA-CASE-MSC-14180-1] c05 N73-22045

LUCEBO, D. P.  
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[NASA-CASE-XMP-03873] c06 N69-39733

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A technique for breaking ice in the path of a ship  
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for adjusting the relative amplitude of two  
modes Patent  
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antennas  
[NASA-CASE-NPO-11361] c07 N72-32169  
Dual frequency microwave reflex feed  
[NASA-CASE-NPO-13091-1] c09 N73-12214  
Low loss dichroic plate  
[NASA-CASE-NPO-13171-1] c07 N74-11000

LUDWIG, L. P.  
Poil seal  
[NASA-CASE-XLE-05130] c15 N69-21362  
Poil seal Patent  
[NASA-CASE-XLE-05130-2] c15 N71-19570  
Spiral groove seal  
[NASA-CASE-XLE-10326-2] c15 N72-29488  
High speed, self-acting shaft seal  
[NASA-CASE-LEW-11274-1] c15 N73-29457  
Spiral groove seal  
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RASHUSSEN, H. P.  
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 Electro-optical alignment control system Patent  
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 Underwater space suit pressure control regulator  
 [NASA-CASE-MFS-20332] c05 N72-20097  
 Apparatus for making diamonds  
 [NASA-CASE-MFS-20698] c15 N72-20446  
 High temperature furnace for melting materials  
 in space  
 [NASA-CASE-MFS-20710] c11 N72-23215  
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 Digital computing cardiographometer  
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 RAY, W. L.  
 Remote fire stack igniter  
 [NASA-CASE-MFS-21675-1] c33 N74-33378  
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 the like  
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 reflectors Patent  
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 magnetic circuit Patent  
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 explosive compaction of powders  
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 crystalline materials  
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[NASA-CASE-XMS-05909-1]	c14 N69-27459	refrigerator Patent	
ROBINSON, M.		[NASA-CASE-XNP-00920]	c15 N71-15906
Solid state chemical source for ammonia beam		RONEY, B. W.	
maser Patent		Evacuation valve	
[NASA-CASE-IGS-01504]	c16 N70-41578	[NASA-CASE-LAR-10061-1]	c15 N72-31483
ROBINSON, W. J., JR.		ROOT, G. L.	
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level of transmitted power is controlled by		[NASA-CASE-NPO-10606]	c15 N72-25451
reflections from receiver		ROSALES, L. A.	
[NASA-CASE-MFS-21470-1]	c10 N74-19870	Control valve and co-axial variable injector	
ROCHOW, S. E.		Patent	
Hydroxy terminated perfluoro ethers Patent		[NASA-CASE-XNP-09702]	c15 N71-17654
[NASA-CASE-NPO-10768]	c06 N71-27254	Multiple orifice throttle valve Patent	
Perfluoro polyether acyl fluorides		[NASA-CASE-XNP-09698]	c15 N71-18580
[NASA-CASE-NPO-10765]	c06 N72-20121	ROSEN, H. A.	
Polyurethane resins from hydroxy terminated		Varactor high level mixer	
perfluoro ethers		[NASA-CASE-XGS-02171]	c09 N69-24324
[NASA-CASE-NPO-10768-2]	c06 N72-27144	Apparatus for changing the orientation and	
Highly fluorinated polyurethanes		velocity of a spinning body traversing a path	
[NASA-CASE-NPO-10767-2]	c06 N72-27151	Patent	
Highly fluorinated polyurethanes		[NASA-CASE-HQN-00936]	c31 N71-29050
[NASA-CASE-NPO-10767-1]	c06 N73-33076	ROSEN, L.	
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Solar cell counting Patent		Patent	
[NASA-CASE-XNP-00826]	c03 N71-20895	[NASA-CASE-ERC-10019]	c16 N71-15551
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Inductive liquid level detection system Patent		holograms Patent	
[NASA-CASE-XLE-01609]	c14 N71-10500	[NASA-CASE-ERC-10017]	c16 N71-15567
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Aeroflexible structures		reconstructing holograms without use of a	
[NASA-CASE-XLA-06095]	c01 N69-39981	reference beam Patent	
Jet aircraft configuration Patent		[NASA-CASE-ERC-10020]	c16 N71-26154
[NASA-CASE-XLA-00087]	c02 N70-33332	ROSENBAUM, B. J.	
Control for flexible parawing Patent		Flow test device	
[NASA-CASE-XLA-06958]	c02 N71-11038	[NASA-CASE-XMS-04917]	c14 N69-24257
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[NASA-CASE-XAC-00472]	c15 N70-40180	determining oxide content of alkali metal Patent	
Thermo-protective device for balances Patent		[NASA-CASE-XLE-01997]	c06 N71-23527
[NASA-CASE-XAC-00648]	c14 N70-40400	ROSEN, A. D.	
Force transducer Patent		Zero gravity separator Patent	
[NASA-CASE-XAC-01101]	c14 N70-41957	[NASA-CASE-XLE-00586]	c15 N71-15968
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containing the same		[NASA-CASE-XMS-06056-1]	c23 N71-24857
[NASA-CASE-MFS-13532]	c18 N72-17532	Ritchey-Chretien Telescope	
ROLF, E.		[NASA-CASE-GSC-11487-1]	c14 N73-30393
Laser Doppler system for measuring three		ROSIK, M. K.	
dimensional vector velocity Patent		Adjustable force probe	
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Solar cell panels with light transmitting plate		Ultra-flexible biomedical electrodes and wires	
[NASA-CASE-NPO-10747]	c03 N72-22042	Patent Application	
BOLLER, R. P.		[NASA-CASE-ARC-10268-1]	c09 N70-12620
Demodulator for carrier transducers		Visual examination apparatus	
[NASA-CASE-MUC-10107-1]	c09 N74-17930	[NASA-CASE-ARC-10329-1]	c05 N73-26072
BOLLINS, G. W.		Ultra-flexible biomedical electrodes and wires	
System for calibrating pressure transducer		[NASA-CASE-ARC-10268-2]	c05 N74-11900
[NASA-CASE-LAR-10910-1]	c14 N74-13132	Ultra-flexible biomedical electrode and wires	
BOLLINS, J. R.		[NASA-CASE-ARC-10268-3]	c05 N74-11901
An externally supported internally stabilized		Visual examination apparatus	
flexible duct joint		[NASA-CASE-ARC-10329-2]	c05 N74-19761
[NASA-CASE-MFS-19194-1]	c15 N74-34882	ROSSER, R. W.	
BON, F. E.		Fiber modified polyurethane foam for ballistic	
Gaseous nuclear rocket Patent		protection	
[NASA-CASE-XLE-00321]	c22 N70-34572	[NASA-CASE-ARC-10714-1]	c18 N74-11366
Gas core nuclear reactor Patent		Polyimide foam for the thermal insulation and	
[NASA-CASE-LEW-10250-1]	c22 N71-28759	fire protection	
BONMAN, J. A.		[NASA-CASE-ARC-10464-1]	c06 N74-12812
Biomedical electrode arrangement Patent		ROSSI, B. B.	
[NASA-CASE-XPR-10856]	c05 N71-11189	X-ray reflection collimator adapted to focus	
Method and apparatus for attaching physiological		X-radiation directly on a detector Patent	
monitoring electrodes Patent		[NASA-CASE-XHQ-04106]	c14 N70-40240
[NASA-CASE-XPR-07658-1]	c05 N71-26293	ROSSOW, V. J.	
Gas low pressure low flow rate metering system		Apparatus for measuring conductivity and	
Patent		velocity of plasma utilizing a plurality of	
[NASA-CASE-FRC-10022]	c12 N71-26546	sensing coils positioned in the plasma Patent	
Respiration monitor		[NASA-CASE-XAC-05695]	c25 N71-16073
[NASA-CASE-FRC-10012]	c14 N72-17329	Apparatus for span loading to alleviate	
BONANCZYK, K. C.		wake-vortex hazard behind aircraft	
Fringe counter for interferometers Patent		[NASA-CASE-ARC-10801-1]	c02 N74-32428

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 [NASA-CASE-ARC-10598-1] c25 N74-30156

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**ROY, R. L.**  
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 [NASA-CASE-XLA-01353] c14 N70-41366  
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 Electricity measurement devices employing liquid crystalline materials  
 [NASA-CASE-ERC-10275] c26 N72-25680

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Method of improving the reliability of a rolling  
element system Patent  
[NASA-CASE-XLE-02999] c15 N71-16052

ZAVADA, E. J.  
Frangible tube energy dissipation Patent  
[NASA-CASE-XLA-00754] c15 N70-34850

ZAVIANTSEFF, V.  
Apparatus for ionization analysis  
[NASA-CASE-ARC-10017-1] c14 N72-29464

ZEBBOWSKI, Z. E.  
Attitude control system for sounding rockets  
Patent  
[NASA-CASE-XGS-01654] c31 N71-24750

ZEIGER, E. J.  
Concentric differential gearing arrangement  
[NASA-CASE-ARC-10462-1] c15 N74-27901

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Gas cooled high temperature thermocouple Patent  
[NASA-CASE-XLE-09475-1] c33 N71-15568

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Lamp modulator  
[NASA-CASE-KSC-10565] c09 N72-25250

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Constant temperature heat sink for calorimeters  
Patent  
[NASA-CASE-XMF-04208] c33 N71-29051

ZERLAUT, G. A.  
Stabilized zinc oxide coating compositions Patent  
[NASA-CASE-XMF-07770-2] c18 N71-26772  
Synthesis of zinc titanate pigment and coatings  
containing the same  
[NASA-CASE-MFS-13532] c18 N72-17532

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Constant temperature heat sink for calorimeters  
Patent  
[NASA-CASE-XMF-04208] c33 N71-29051

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and two photocells Patent  
[NASA-CASE-XGS-01159] c21 N71-10678  
Gravity gradient attitude control system Patent  
[NASA-CASE-GSC-10555-1] c21 N71-27324  
Passive dual spin misalignment compensators  
[NASA-CASE-GSC-11479-1] c21 N74-28097

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Apparatus for applying cover slides  
[NASA-CASE-NPO-10575] c03 N72-25019

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Thermally operated valve Patent  
[NASA-CASE-XLE-00815] c15 N70-35407  
Double optic system for ion engine Patent  
[NASA-CASE-XNP-02839] c28 N70-41922

ZIOLKOWSKI, A. J.  
Multi-lobar scan horizon sensor Patent  
[NASA-CASE-XGS-00809] c21 N70-35427

ZLATKIS, A.  
Analysis of volatile organic compounds  
[NASA-CASE-MSC-14428-1] c06 N74-19776

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Safety-type locking pin  
[NASA-CASE-MFS-18495] c15 N72-11385

ZOHAR, S.  
Counting digital filters  
[NASA-CASE-NPO-11821-1] c08 N73-26175

ZOOK, H. A.  
Spaceflight meteoroid composition experiment  
[NASA-CASE-MSC-12423-1] c14 N74-32885

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[NASA-CASE-XLA-01396] c03 N71-12259  
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[NASA-CASE-NPO-10201] c08 N71-18694  
Drive circuit utilizing two cores Patent  
[NASA-CASE-XNP-01318] c10 N71-23033  
Current steering switch Patent  
[NASA-CASE-XMF-08567] c09 N71-26000  
Digital memory in which the driving of each word  
location is controlled by a switch core Patent  
[NASA-CASE-XNP-01466] c10 N71-26434

## INVENTOR INDEX

ZYGIELBAUM, A. I.

ZRUBEK, W. E.  
System for monitoring signal amplitude ranges  
[NASA-CASE-XMS-04061-1] c09 N69-39885

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Electrode construction Patent  
[NASA-CASE-AHC-10043-1] c05 N71-11193

ZUCKERWAR, A. J.  
Instrumentation for measurement of aircraft  
noise and sonic boom  
[NASA-CASE-LAR-11173-1] c14 N73-22387

ZURASKY, J. L.  
Monitoring deposition of films  
[NASA-CASE-MFS-20675] c26 N73-26751

ZYGIELBAUM, A. I.  
Communications link for computers  
[NASA-CASE-NPO-11161] c08 N72-25207  
Digital video display system using cathode ray  
tube  
[NASA-CASE-NPO-11342] c09 N72-25248  
Numerical computer peripheral interactive device  
with manual controls  
[NASA-CASE-NPO-11497] c08 N73-25206



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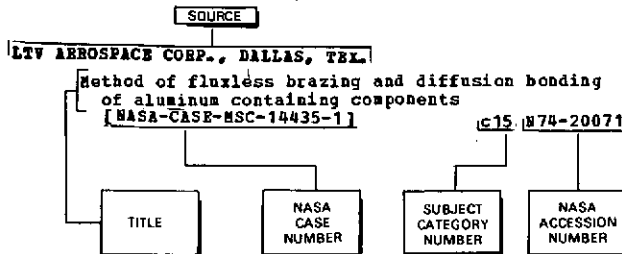
# Source Index

## NASA PATENT ABSTRACTS BIBLIOGRAPHY

JANUARY 1975

### Section 2

#### Typical Source Index Listing



Listings in this index are arranged alphabetically by source. The title of the document provides the user with a brief description of the subject matter. The NASA Case Number is the prime access point to patent documents. The subject category number indicates the category in Section 1 (Abstracts) in which the citation is located. The NASA accession number denotes the number by which the citation is identified within the subject category. The titles are arranged under each source in ascending accession number order.

## A

**ACCESSORY PRODUCTS CO., WHITTIER, CALIF.**  
Rubber composition for use with hydrazine Patent Application  
[NASA-CASE-NPO-11433] c18 N71-31140

**ACCOMMETRICS CORP., CAMBRIDGE, MASS.**  
Piezoelectric relay  
[NASA-CASE-GSC-11627-1] c09 N74-19852

**AEROFLEX LABS., INC., PLAINVIEW, N.Y.**  
Rotary actuator  
[NASA-CASE-NPO-10244] c15 N72-26371

**AEROJET-GENERAL CORP., EL MONTE, CALIF.**  
High-speed infrared furnace  
[NASA-CASE-XLE-10466] c17 N69-25147

Ammonium perchlorate composite propellant containing an organic transitional metal chelate catalytic additive Patent  
[NASA-CASE-LAR-10173-1] c27 N71-14090

Swirling flow nozzle Patent  
[NASA-CASE-INP-03692] c28 N71-24321

Automatic battery charger Patent  
[NASA-CASE-INP-04758] c03 N71-24605

Attitude control system for sounding rockets Patent  
[NASA-CASE-XGS-01654] c31 N71-24750

Tensile strength testing device Patent  
[NASA-CASE-INP-05634] c15 N71-24834

Hydroforming techniques using epoxy molds Patent  
[NASA-CASE-XLE-05641-1] c15 N71-26346

Electrical apparatus for detection of thermal decomposition of insulation Patent  
[NASA-CASE-IMP-03968] c14 N71-27186

**AEROJET-GENERAL CORP., GLENDALE, CALIF.**  
Rotating shaft seal Patent  
[NASA-CASE-INP-02862-1] c15 N71-26294

**AEROJET-GENERAL CORP., SACRAMENTO, CALIF.**  
Process of forming particles in a cryogenic path Patent  
[NASA-CASE-NPO-10250] c23 N71-16212

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[NASA-CASE-ARC-10456-1] c02 N73-30938

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Rotary plant growth accelerating apparatus  
[NASA-CASE-ARC-10722-1] c04 N74-13807

**AIRBORNE INSTRUMENTS LAB., DEER PARK, N.Y.**  
High-Q bandpass resonators utilizing bandstop resonator pairs  
[NASA-CASE-GSC-10990-1] c09 N73-26195

**AIRTRONICS, INC., WASHINGTON, D.C.**  
Protection for energy conversion systems

[NASA-CASE-XGS-04808] c03 N69-25146  
Inverter with means for base current shaping for sweeping charge carriers from base region Patent  
[NASA-CASE-IGS-06226] c10 N71-25950

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Gas filter mounting structure  
[NASA-CASE-MSC-12297] c14 N72-23457

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Telespectrograph Patent  
[NASA-CASE-XLA-03273] c14 N71-18699

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Pneumatic mirror support system  
[NASA-CASE-XLA-03271] c11 N69-24321

**AMERICAN SCIENCE AND ENGINEERING, INC., CAMBRIDGE, MASS.**  
X-ray reflection collimator adapted to focus X-radiation directly on a detector Patent  
[NASA-CASE-XHQ-04106] c14 N70-40240

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A method for making conductors for ferrite memory arrays  
[NASA-CASE-LAB-10994-1] c18 N73-30536

**APPLIED MAGNETICS CORP., GOLETA, CALIF.**  
Magnetic recording head and method of making same Patent  
[NASA-CASE-GSC-10097-1] c08 N71-27210

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Intumescent paints Patent  
[NASA-CASE-ARC-10099-1] c18 N71-15469

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Exhaust flow deflector  
[NASA-CASE-LAR-11570-1] c28 N74-28233

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Hingeless helicopter rotor with improved stability  
[NASA-CASE-ARC-10807-1] c02 N74-34475

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Linear differential pressure sensor Patent  
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Spherically-shaped rocket motor Patent  
[NASA-CASE-XHQ-01897] c28 N70-35381

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Shear modulated fluid amplifier Patent  
[NASA-CASE-MPS-10412] c12 N71-17578

Laser coolant and ultraviolet filter  
[NASA-CASE-MPS-20180] c16 N72-12440

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[NASA-CASE-MPS-21540-1] c07 N74-19790

Isolated output system for a class D switching-mode amplifier  
[NASA-CASE-MPS-21616-1] c09 N74-21859

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[NASA-CASE-MSC-13932-1] c08 N74-14920

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[NASA-CASE-IGS-01110] c07 N69-24334

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[NASA-CASE-XMS-02009] c33 N71-20834

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Valve actuator Patent  
[NASA-CASE-IXQ-01208] c15 N70-35409

**BALL BROS. RESEARCH CORP., BOULDER, COLO.**  
Turnstile slot antenna  
[NASA-CASE-GSC-11428-1] c09 N74-20864

Star scanner  
[NASA-CASE-GSC-11569-1] c14 N74-30886

S  
O  
U  
R  
C  
E

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 positioned radiation compensated radiation  
 sensitive detectors Patent  
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 Method for determining presence of OH in  
 magnesium oxide  
 [NASA-CASE-NPO-10774] c06 N72-17095  
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 pieces of corrugated metal foil  
 [NASA-CASE-GSC-11368-1] c09 N73-32108  
 Method of making porous conductive supports for  
 electrodes  
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 lens Patent  
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 source Patent  
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 Patent  
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 photocells Patent  
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 Pulse generating circuit employing switch means  
 on ends of delay line for alternately charging  
 and discharging same Patent  
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 Correlation type phase detector  
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 Modulator for tone and binary signals  
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 Flexibly connected support and skin Patent  
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 Injection head for delivering liquid fuel and  
 oxidizers  
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 Flight control system  
 [NASA-CASE-MSC-13397-1] c21 N72-25595

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 optical quality of an image  
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 relays Patent  
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 Multi axes vibration fixtures  
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 Color perception tester  
 [NASA-CASE-KSC-10278] c05 N72-16015

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 Evacuation valve  
 [NASA-CASE-LAR-10061-1] c15 N72-31483

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 Image tube  
 [NASA-CASE-GSC-11602-1] c09 N74-21850

BOEING CO., COCOA BEACH, FLA.  
 Positive contact resistance soldering unit  
 [NASA-CASE-KSC-10242] c15 N72-23497  
 Variable resistance constant tension and  
 lubrication device  
 [NASA-CASE-KSC-10723-1] c15 N73-23553

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 Hydrogen fire blink detector  
 [NASA-CASE-MFS-15063] c14 N72-25412  
 Bore scope with variable angle scope  
 [NASA-CASE-MFS-15162] c14 N72-32452  
 A guide for a typewriter  
 [NASA-CASE-MFS-15218-1] c15 N73-31438

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 titanium alloys Patent  
 [NASA-CASE-NPO-10271] c17 N71-16393  
 Strain sensor for high temperatures Patent  
 [NASA-CASE-XNP-09205] c14 N71-17657  
 Forming tool for ribbon or wire  
 [NASA-CASE-XLA-05966] c15 N72-12408  
 Solar cell assembly test method  
 [NASA-CASE-NPO-10401] c03 N72-20033  
 Thermal compression bonding of interconnectors  
 [NASA-CASE-GSC-10303] c15 N72-22487  
 Extrusion can  
 [NASA-CASE-NPO-10812] c15 N73-13464  
 Radiation sensitive solid state switch  
 [NASA-CASE-NPO-10817-1] c08 N73-30135  
 Miniature hydraulic actuator  
 [NASA-CASE-LAR-11522-1] c15 N74-34881

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 Data transfer system Patent  
 [NASA-CASE-NPO-12107] c08 N71-27255

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 Anti-fog composition  
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 Air bearing Patent  
 [NASA-CASE-XMF-01887] c15 N71-10617  
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 Patent  
 [NASA-CASE-MFS-11497] c28 N71-16224  
 Inspection gage for boss Patent  
 [NASA-CASE-XMF-04966] c14 N71-17658  
 Method of recording a gas flow pattern Patent  
 [NASA-CASE-XMF-01779] c12 N71-20815  
 Trigonometric vehicle guidance assembly which  
 aligns the three perpendicular axes of two  
 three-axes systems Patent  
 [NASA-CASE-XMF-00684] c21 N71-21688  
 Vapor liquid separator Patent  
 [NASA-CASE-XMF-04042] c15 N71-23023  
 Thruster maintenance system Patent  
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 Inflatable transpiration cooled nozzle  
 [NASA-CASE-MFS-20619] c28 N72-11708

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 Continuous plasma light source

[NASA-CASE-XNP-04167-3] c25 N72-21693  
 Continuous plasma light source  
 [NASA-CASE-XNP-04167-2] c25 N72-24753  
**CATHOLIC UNIV. OF AMERICA, WASHINGTON, D.C.**  
 Electromagnetic wave energy converter  
 [NASA-CASE-GSC-11394-1] c09 N73-32109  
**CHANCE VOUGHT CORP., DALLAS, TEX.**  
 Coupling for linear shaped charge Patent  
 [NASA-CASE-XLA-00189] c33 N70-36846  
 Spin forming tubular elbows Patent  
 [NASA-CASE-XMF-01083] c15 N71-22723  
 Single action separation mechanism Patent  
 [NASA-CASE-XLA-00188] c15 N71-22874  
**CHRYSLER CORP., DETROIT, MICH.**  
 Ceramic insulation for radiant heating  
 environments and method of preparing the same  
 Patent  
 [NASA-CASE-MFS-14253] c33 N71-24858  
 Constant temperature heat sink for calorimeters  
 Patent  
 [NASA-CASE-XMP-04208] c33 N71-29051  
**CHRYSLER CORP., HUNTSVILLE, ALA.**  
 Apparatus for ejection of an instrument cover  
 [NASA-CASE-XMF-04132] c15 N69-27502  
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 Power responsive overload sensing circuit Patent  
 [NASA-CASE-GSC-10667-1] c10 N71-33129  
**COLLINS RADIO CO., DALLAS, TEX.**  
 Signal path series step biased multidevice high  
 efficiency amplifier Patent  
 [NASA-CASE-GSC-10668-1] c07 N71-28430  
 Heat conductive resiliently compressible  
 structure for space electronics package  
 modules Patent  
 [NASA-CASE-MSC-12389] c33 N71-29052  
 Infinite range electronics gain control circuit  
 [NASA-CASE-GSC-10786-1] c10 N72-28241  
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 Vehicle for use in planetary exploration  
 [NASA-CASE-NPO-11366] c11 N73-26238  
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 Test fixture for pellet-like electrical elements  
 [NASA-CASE-XNP-06032] c09 N69-21926  
 Support structure for irradiated elements Patent  
 [NASA-CASE-XNP-06031] c15 N71-15606  
 Counter Patent  
 [NASA-CASE-XNP-06234] c10 N71-27137  
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 amount of liquid in a tank Patent  
 [NASA-CASE-MSC-12280] c27 N71-16348  
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 toroidal gating coil and solenoidal output  
 coil wound thereon Patent  
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 Hydraulic transformer Patent  
 [NASA-CASE-MFS-20830] c15 N71-30028  
**CURTISS-WRIGHT CORP., WOOD-RIDGE, N.J.**  
 Gas turbine combustion apparatus Patent  
 [NASA-CASE-XLE-103477-1] c28 N71-20330

## D

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 High field Cds detector for infrared radiation  
 [NASA-CASE-LAR-11027-1] c14 N74-18088  
**DENVER UNIV., COLO.**  
 Metal shearing energy absorber  
 [NASA-CASE-HQN-10638-1] c15 N73-30460  
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 Nose cone mounted heat resistant antenna Patent  
 [NASA-CASE-XMS-04312] c07 N71-22984  
**DOUGLAS AIRCRAFT CO., INC., SANTA MONICA, CALIF.**  
 Recoverable single stage spacecraft booster Patent  
 [NASA-CASE-XMF-01973] c31 N70-41588  
 Switching circuit employing regeneratively  
 connected complementary transistors Patent  
 [NASA-CASE-XNP-02654] c10 N70-42032  
 Split nut separation system Patent  
 [NASA-CASE-XNP-06914] c15 N71-21489  
 Artificial gravity spin deployment system Patent  
 [NASA-CASE-XNP-02595] c31 N71-21881  
 Portable superclean air column device Patent  
 [NASA-CASE-XMF-03212] c15 N71-22721  
 Energy absorption device Patent  
 [NASA-CASE-XNP-01848] c15 N71-28959

Collapsible pistons  
 [NASA-CASE-MSC-13789-1] c11 N73-32152  
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 or step-down with input-output isolation  
 [NASA-CASE-HQN-10792-1] c09 N74-11049

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 [NASA-CASE-XNP-01263-2] c15 N71-26312  
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 Optimum predetection diversity receiving system  
 Patent  
 [NASA-CASE-XGS-00740] c07 N71-23098  
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 Patent  
 [NASA-CASE-XGS-01674] c03 N71-29129  
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 Focussing system for an ion source having  
 apertured electrodes Patent  
 [NASA-CASE-XNP-03332] c09 N71-10618  
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 fuel cell Patent  
 [NASA-CASE-XLE-04526] c03 N71-11052  
 Method of producing refractory bodies having  
 controlled porosity Patent  
 [NASA-CASE-LEH-10393-1] c17 N71-15468  
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 Patent  
 [NASA-CASE-XNP-09770] c15 N71-20440  
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 ballistic pendulum Patent  
 [NASA-CASE-XMS-04201] c14 N71-22990  
 Polarity sensitive circuit Patent  
 [NASA-CASE-XNP-00952] c10 N71-23271  
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 making same Patent  
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 [NASA-CASE-XNP-09770-3] c11 N71-27036  
 Screen particle separator  
 [NASA-CASE-XNP-09770-2] c15 N72-22483  
**ELECTRONIC IMAGE SYSTEMS CORP., CAMBRIDGE, MASS.**  
 Drying apparatus for photographic sheet material  
 [NASA-CASE-GSC-11074-1] c14 N73-28489  
**ESB, INC., RALEIGH, N.C.**  
 Storage battery comprising negative plates of a  
 wedge shaped configuration  
 [NASA-CASE-NPO-11806-1] c03 N74-19693  
**ESB, INC., YARDLEY, PA.**  
 Electric storage battery  
 [NASA-CASE-NPO-11021] c03 N72-20032  
**EWEN KNIGHT CORP., EAST MATICK, MASS.**  
 Method and means for providing an absolute power  
 measurement capability Patent  
 [NASA-CASE-ERC-11020] c14 N71-26774

## F

**FAIRCHILD HILLER CORP., GERMANTOWN, MD.**  
 Two axis fluxgate magnetometer Patent  
 [NASA-CASE-GSC-10441-1] c14 N71-27325  
 Space simulation and radiative property testing  
 system and method Patent  
 [NASA-CASE-MFS-20096] c14 N71-30026  
 Thermal control system for a spacecraft modular  
 housing  
 [NASA-CASE-GSC-11018-1] c31 N73-30829  
**FEDERAL-MOGUL CORP., LOS ALAMITOS, CALIF.**  
 Hydraulic casting of liquid polymers Patent  
 [NASA-CASE-IMP-07659] c06 N71-22975  
**FMC CORP., NEW YORK.**  
 Decomposition unit Patent  
 [NASA-CASE-XMS-00583] c28 N70-38504  
**FORD MOTOR CO., DEARBORN, MICH.**  
 Omnidirectional acceleration device Patent  
 [NASA-CASE-HQN-10780] c14 N71-30265

## G

**GARRETT CORP., LOS ANGELES, CALIF.**  
 Relief valve  
 [NASA-CASE-XMS-05894-1] c15 N69-21924  
 Portable environmental control system Patent  
 [NASA-CASE-XMS-09632-1] c05 N71-11203

Dual latching solenoid valve Patent  
[NASA-CASE-XMS-05890] c09 N71-23191

Water management system and an electrolytic cell therefor Patent  
[NASA-CASE-MSC-10960-1] c03 N71-24718

Low cycle fatigue testing machine  
[NASA-CASE-LAR-10270-1] c32 N72-25877

Process for separation of dissolved hydrogen from water by use of palladium and process for coating palladium with palladium black  
[NASA-CASE-MSC-13335-1] c06 N72-31140

Flexible joint for pressurizable garment  
[NASA-CASE-MSC-110/72] c05 N74-32546

**GCA CORP., BEDFORD, MASS.**  
Analytical photoionization mass spectrometer with an argon gas filter between the light source and monochromator Patent  
[NASA-CASE-LAR-10180-1] c06 N71-13461

**GENERAL DYNAMICS CORP., SAN DIEGO, CALIF.**  
Light radiation direction indicator with a baffle of two parallel grids  
[NASA-CASE-XNP-03930] c14 N69-24331

Method and apparatus for attaching physiological monitoring electrodes Patent  
[NASA-CASE-XPK-07658-1] c05 N71-26293

Driving lamps by induction  
[NASA-CASE-MPS-21214-1] c09 N73-30181

**GENERAL DYNAMICS/ASTRONAUTICS, SAN DIEGO, CALIF.**  
Determination of spot weld quality Patent  
[NASA-CASE-XNP-02588] c15 N71-18613

Pressure transducer calibrator Patent  
[NASA-CASE-INP-01660] c14 N71-23036

Plating nickel on aluminum castings Patent  
[NASA-CASE-XNP-04148] c17 N71-24830

**GENERAL DYNAMICS/CONVAIR, SAN DIEGO, CALIF.**  
Signal generator  
[NASA-CASE-XNP-05612] c09 N69-21468

Separation nut Patent  
[NASA-CASE-XGS-01971] c15 N71-15922

Zero gravity separator Patent  
[NASA-CASE-XLE-00586] c15 N71-15968

Catalyst cartridge for carbon dioxide reduction unit  
[NASA-CASE-LAR-10551-1] c06 N74-12813

**GENERAL ELECTRIC CO., PHILADELPHIA, PA.**  
Catalyst for growth of boron carbide single crystal whiskers  
[NASA-CASE-XHQ-03903] c15 N69-21922

Didymium hydrate additive to nickel hydroxide electrodes Patent  
[NASA-CASE-XGS-03505] c03 N71-10608

Bismuth-lead coatings for gas bearings used in atmospheric environments and vacuum chambers Patent  
[NASA-CASE-XGS-02011] c15 N71-20739

Multiparameter vision tester apparatus  
[NASA-CASE-MSC-13601-1] c05 N72-11088

Automatic control of liquid cooling garment by cutaneous and external auditory meatus temperatures  
[NASA-CASE-MSC-13917-1] c05 N72-15098

Method for measuring cutaneous sensory perception  
[NASA-CASE-MSC-13609-1] c05 N72-25122

Reaction tester  
[NASA-CASE-MSC-13604-1] c05 N73-13114

Air conditioned suit  
[NASA-CASE-LAR-10076-1] c05 N73-20137

Compton scatter attenuation gamma ray spectrometer  
[NASA-CASE-MPS-21441-1] c14 N73-30392

Inverter ratio failure detector  
[NASA-CASE-NPO-13160-1] c14 N74-18090

Method of determining bond quality of power transistors attached to bed substrates  
[NASA-CASE-MPS-21931-1] c09 N74-21858

Electrophoretic sample insertion  
[NASA-CASE-MPS-21395-1] c14 N74-26948

Apparatus for conducting flow electrophoresis in the substantial absence of gravity  
[NASA-CASE-MPS-21394-1] c12 N74-27744

Multiparameter vision tester  
[NASA-CASE-MSC-13601-2] c05 N74-32549

**GENERAL ELECTRIC CO., PLEASANTON, CALIF.**  
Method of making a cermet Patent  
[NASA-CASE-LEW-10219-1] c18 N71-28729

**GENERAL ELECTRIC CO., SCHENECTADY, N.Y.**  
Superconductive accelerometer Patent  
[NASA-CASE-XNP-01099] c14 N71-15969

**GENERAL MOTORS CORP., DETROIT, MICH.**  
Hermetic sealed vibration damper Patent  
[NASA-CASE-MSC-10959] c15 N71-26243

**GENERAL MOTORS CORP., MILWAUKEE, WIS.**  
Adjustable tension wire guide Patent  
[NASA-CASE-XMS-02383] c15 N71-15918

**GENERAL MOTORS CORP., SANTA BARBARA, CALIF.**  
Resilient wheel Patent  
[NASA-CASE-MPS-13929] c15 N71-27091

**GENERAL PRECISION SYSTEMS, INC., LITTLE FALLS, N.J.**  
Fluidic-thermochromic display device Patent  
[NASA-CASE-ERC-10031] c12 N71-18603

**GENERAL PRECISION, INC., LITTLE FALLS, N.J.**  
Reversible current control apparatus Patent  
[NASA-CASE-XLA-09371] c10 N71-18724

**GENERAL PRECISION, INC., SUNNYVALE, CALIF.**  
Broadband video process with very high input impedance  
[NASA-CASE-NPO-10199] c09 N72-17156

**GEOPHYSICS CORP. OF AMERICA, BEDFORD, MASS.**  
Inflation system for balloon type satellites Patent  
[NASA-CASE-XGS-03351] c31 N71-16081

**GEOPHYSICS CORP. OF AMERICA, BOSTON, MASS.**  
Ionospheric battery Patent  
[NASA-CASE-XGS-01593] c03 N70-35408

**GEORGE WASHINGTON UNIV., WASHINGTON, D.C.**  
Bacteria detection instrument and method  
[NASA-CASE-GSC-11533-1] c14 N73-13435

Arterial pulse wave pressure transducer  
[NASA-CASE-GSC-11531-1] c05 N74-27566

**GLOBE-UNION, INC., MILWAUKEE, WIS.**  
Method of coating solar cell with borosilicate glass and resultant product  
[NASA-CASE-GSC-11514-1] c03 N72-24037

**GOODYEAR AEROSPACE CORP., AKRON, OHIO.**  
Foldable solar concentrator Patent  
[NASA-CASE-XLA-04622] c03 N70-41580

Method of making a filament-wound container Patent  
[NASA-CASE-XLE-03603-2] c15 N71-17651

Filament wound container Patent  
[NASA-CASE-XLE-03803] c15 N71-23816

Panelized high performance multilayer insulation Patent  
[NASA-CASE-MPS-14023] c33 N71-25351

Thermally activated foaming compositions Patent  
[NASA-CASE-LAR-10373-1] c18 N71-26155

Compression test assembly  
[NASA-CASE-LAR-10440-1] c14 N73-32323

**GRACE (W. R.) AND CO., CLARKSVILLE, MD.**  
Metal containing polymers from cyclic tetrameric phenylphosphonitriamides Patent  
[NASA-CASE-HQN-10364] c06 N71-27363

**GRUMMAN AIRCRAFT ENGINEERING CORP., BETHPAGE, N.Y.**  
Sealed cabinetry Patent  
[NASA-CASE-MSC-12168-1] c09 N71-18600

Out of tolerance warning alarm system for plurality of monitored circuits Patent  
[NASA-CASE-XMS-10964-1] c10 N71-19417

**GULF GENERAL ATOMIC, SAN DIEGO, CALIF.**  
Tungsten seal coat Patent  
[NASA-CASE-XNP-03704] c15 N71-17695

Waveform simulator Patent  
[NASA-CASE-NPO-10251] c10 N71-27365

**GULTON INDUSTRIES, INC., ALBUQUERQUE, N.MEX.**  
Analog-to-digital converter  
[NASA-CASE-MSC-13110-1] c08 N72-22163

## H

**HAMILTON STANDARD, WINDSOR LOCKS, CONN.**  
Venting device for pressurized space suit helmet Patent  
[NASA-CASE-XMS-09652-1] c05 N71-26333

Condensate removal device for heat exchange  
[NASA-CASE-MSC-14143-1] c33 N73-32823

**HAYES INTERNATIONAL CORP., BIRMINGHAM, ALA.**  
Space craft soft landing system Patent  
[NASA-CASE-XMP-02108] c31 N70-36845

Device for preventing high voltage arcing in electron beam welding Patent  
[NASA-CASE-XMP-08522] c15 N71-19486

**HAYES INTERNATIONAL CORP., HUNTSVILLE, ALA.**  
Method and apparatus for cryogenic wire stripping Patent  
[NASA-CASE-MPS-10340] c15 N71-17628

Self-balancing strain gage transducer Patent  
[NASA-CASE-MPS-12827] c14 N71-17656

Automatic closed circuit television arc guidance control Patent  
[NASA-CASE-MPS-13046] c07 N71-19433

**BAZLETON LABS., FALLS CHURCH, VA.**  
 Use of the enzyme hexokinase for the reduction of inherent light levels [NASA-CASE-XGS-05533] c04 N69-27487  
 Light detection instrument Patent [NASA-CASE-XGS-05534] c23 N71-16355  
 Lyophilized reaction mixtures Patent [NASA-CASE-XGS-05532] c06 N71-17705  
 Firefly pump-metering system [NASA-CASE-GSC-10218-1] c15 N72-21465  
**HEBECLES, INC., WILMINGTON, DEL.**  
 Method of repairing discontinuity in fiberglass structures [NASA-CASE-LAR-10416-1] c18 N74-30001  
**HOPFMAN ELECTRONICS CORP., EL MONTE, CALIF.**  
 Method for producing a solar cell having an integral protective covering [NASA-CASE-XGS-04531] c03 N69-24267  
**HOPEWELL, INC., HOPKINS, MINN.**  
 Frequency control network for a current feedback oscillator Patent [NASA-CASE-GSC-10041-1] c10 N71-19418  
**HOPEWELL, INC., MINNEAPOLIS, MINN.**  
 Bus voltage compensation circuit for controlling direct current motor [NASA-CASE-XMS-04215-1] c09 N69-39987  
 Apparatus for overcurrent protection of a push-pull amplifier Patent [NASA-CASE-MSC-12033-1] c09 N71-13531  
 Static inverter Patent [NASA-CASE-XGS-05289] c09 N71-19470  
 High impedance measuring apparatus Patent [NASA-CASE-XMS-08589-1] c09 N71-20569  
 Clamping assembly for inertial components Patent [NASA-CASE-XMS-02184] c15 N71-20813  
 Piezoelectric pump Patent [NASA-CASE-XNP-05429] c26 N71-21824  
 Controllers Patent [NASA-CASE-XMS-07487] c15 N71-23255  
 Convoluting device for forming convolutions and the like Patent [NASA-CASE-XNP-05297] c15 N71-23811  
 Failure sensing and protection circuit for converter networks Patent [NASA-CASE-GSC-10114-1] c10 N71-27366  
 Voice operated controller Patent [NASA-CASE-XLA-04063] c31 N71-33160  
 Load current sensor for a series pulse width modulated power supply [NASA-CASE-GSC-10656-1] c09 N72-25249  
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 Optical instruments [NASA-CASE-MSC-14096-1] c14 N74-15095  
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 Analysis of volatile organic compounds [NASA-CASE-MSC-14428-1] c06 N74-19776  
**HUGHES AIRCRAFT CO., CANOGA PARK, CALIF.**  
 Refractory porcelain enamel passive thermal control coating for high temperature alloys [NASA-CASE-MFS-22324-1] c18 N73-21471  
**HUGHES AIRCRAFT CO., CULVER CITY, CALIF.**  
 Varactor high level mixer [NASA-CASE-XGS-02171] c09 N69-24324  
 Thermally operated valve Patent [NASA-CASE-XLE-00815] c15 N70-35407  
 Thrust dynamometer Patent [NASA-CASE-XLE-00702] c14 N70-40203  
 Solid state chemical source for ammonia beam maser Patent [NASA-CASE-XGS-01504] c16 N70-41578  
 Canopus detector including automotive gain control of photomultiplier tube Patent [NASA-CASE-XNP-03914] c21 N71-10771  
 Horn feed having overlapping apertures Patent [NASA-CASE-GSC-10452] c07 N71-12396  
 Deflective rod switch with elastic support and sealing means Patent [NASA-CASE-XNP-09808] c09 N71-12518  
 Guidance and maneuver analyzer Patent [NASA-CASE-XNP-09572] c14 N71-15621  
 Method of making screen by casting Patent [NASA-CASE-XLE-00953] c15 N71-15966  
 Fluid flow control valve Patent [NASA-CASE-XLE-00703] c15 N71-15967  
 Low noise single aperture multimode monopulse antenna feed system Patent [NASA-CASE-XNP-01735] c07 N71-22750  
 Multilayer porous ionizer Patent [NASA-CASE-XNP-04338] c17 N71-23046  
 Construction and method of arranging a plurality of ion engines to form a cluster Patent [NASA-CASE-XNP-02923] c28 N71-23081  
 Method for fiberizing ceramic materials Patent [NASA-CASE-XNP-00597] c18 N71-23088  
 Inorganic thermal control pigment Patent [NASA-CASE-XNP-02139] c18 N71-24184  
 Triaxial antenna Patent [NASA-CASE-XGS-02290] c07 N71-28809  
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**HUGHES AIRCRAFT CO., LOS ANGELES, CALIF.**  
 Power control circuit [NASA-CASE-XNP-02713] c10 N69-39888  
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 High voltage transistor circuit Patent [NASA-CASE-XNP-06937] c09 N71-19516  
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 System for monitoring the presence of neutrals in a stream of ions Patent [NASA-CASE-XNP-02592] c24 N71-20518  
 Broadband frequency discriminator Patent [NASA-CASE-NPO-10096] c07 N71-24583  
 Flexible, repairable, pottable material for electrical connectors Patent [NASA-CASE-XGS-05180] c18 N71-25881  
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 Thrust dynamometer Patent [NASA-CASE-XLE-05260] c14 N71-20429

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[NASA-CASE-XMF-02039] c15 N71-15871  
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[NASA-CASE-XMF-05279] c18 N71-16124  
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[NASA-CASE-XMF-07770-2] c18 N71-26772  
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**IMAGE INFORMATION, INC., DANBURY, CONN.**  
Recorder/processor apparatus  
[NASA-CASE-GSC-11553-1] c07 N74-15831

**INCA ENGINEERING CORP., SAN GABRIEL, CALIF.**  
Apparatus for establishing flow of a fluid mass having a known velocity  
[NASA-CASE-MFS-21424-1] c12 N74-27730

**INSTITUTE FOR RESEARCH, INC., HOUSTON, TEX.**  
Method of making a perspiration resistant biopotential electrode  
[NASA-CASE-RSC-90153-2] c05 N72-25120

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Pressed disc type sensing electrodes with ion-screening means Patent  
[NASA-CASE-RMS-04212-1] c05 N71-12346

**INTERNATIONAL BUSINESS MACHINES CORP., NEW YORK.**  
Electrical connector pin with wiping action  
[NASA-CASE-XMF-04238] c09 N69-39734  
Tool attachment for spreading loose elements away from work Patent  
[NASA-CASE-XMF-02107] c15 N71-10809  
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[NASA-CASE-GSC-10564] c10 N71-29135

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Silicide coatings for refractory metals Patent  
[NASA-CASE-XLE-10910] c18 N71-29040

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**IIT CORP., NUTLEY, N.J.**  
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[NASA-CASE-GSC-10373-1] c07 N71-19773  
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[NASA-CASE-XGS-08679] c10 N71-21473  
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Pressure variable capacitor  
[NASA-CASE-XNP-09752] c14 N69-21541  
Rock drill for recovering samples  
[NASA-CASE-XNP-07478] c14 N69-21923  
Data compression system  
[NASA-CASE-XNP-09785] c08 N69-21928  
Magnetohydrodynamic induction machine  
[NASA-CASE-XNP-07481] c25 N69-21929  
Electromechanical actuator  
[NASA-CASE-XNP-05975] c15 N69-23185  
Refrigeration apparatus  
[NASA-CASE-NPO-10309] c15 N69-23190  
Direct radiation cooling of the collector of linear beam tubes  
[NASA-CASE-XNP-09227] c15 N69-24319  
Excitation and detection circuitry for a flux responsive magnetic head  
[NASA-CASE-XNP-04183] c09 N69-24329  
Telemetry word forming unit  
[NASA-CASE-XNP-09225] c09 N69-24333  
Solid state switch  
[NASA-CASE-XNP-09228] c09 N69-27500  
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[NASA-CASE-XNP-09452] c15 N69-27504  
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[NASA-CASE-NPO-10714] c06 N69-31244  
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[NASA-CASE-XNP-04180] c07 N69-39736  
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[NASA-CASE-XNP-06508] c18 N69-39995  
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[NASA-CASE-XNP-09776] c09 N69-39929  
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[NASA-CASE-NPO-11138] c03 N70-34646  
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[NASA-CASE-XNP-00595] c15 N70-34967  
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[NASA-CASE-XNP-00438] c21 N70-35089  
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[NASA-CASE-XNP-00540] c09 N70-35382  
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[NASA-CASE-XNP-00432] c08 N70-35423  
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[NASA-CASE-XNP-00646] c14 N70-35666  
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[NASA-CASE-XNP-00644] c03 N70-36803  
Mechanical coordinate converter Patent  
[NASA-CASE-XNP-00614] c14 N70-36907  
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[NASA-CASE-XNP-00214] c15 N70-36908  
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[NASA-CASE-XNP-00294] c21 N70-36938  
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[NASA-CASE-XNP-00217] c28 N70-38181  
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[NASA-CASE-XNP-00425] c11 N70-38202  
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[NASA-CASE-XNP-00840] c15 N70-38225  
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[NASA-CASE-XNP-00249] c28 N70-38249  
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[NASA-CASE-XNP-00450] c15 N70-38603  
Slit regulated gas journal bearing Patent  
[NASA-CASE-XNP-00476] c15 N70-38620

Steerable solid propellant rocket motor Patent [NASA-CASE-XNP-00234]	c28 N70-38645	[NASA-CASE-XNP-08832]	c08 N71-12506
Space simulator Patent [NASA-CASE-XNP-00459]	c11 N70-38675	Magnetic counter Patent [NASA-CASE-XNP-08836]	c09 N71-12515
Ejection unit Patent [NASA-CASE-XNP-00676]	c15 N70-38996	Operational integrator Patent [NASA-CASE-NPO-10230]	c09 N71-12520
Time-division multiplexer Patent [NASA-CASE-XNP-00431]	c09 N70-38998	Starting circuit for vapor lamps and the like Patent [NASA-CASE-XNP-01058]	c09 N71-12540
Trajectory-correction propulsion system Patent [NASA-CASE-XNP-01104]	c28 N70-39931	Matched thermistors for microwave power meters Patent [NASA-CASE-NPO-10348]	c10 N71-12554
Electrically-operated rotary shutter Patent [NASA-CASE-XNP-00637]	c14 N70-40273	Micro current measuring device using plural logarithmic response heated filamentary type diodes Patent [NASA-CASE-XNP-00384]	c09 N71-13530
Zero gravity starting means for liquid propellant motors Patent [NASA-CASE-XNP-01390]	c28 N70-41275	Automatic thermal switch Patent [NASA-CASE-XNP-03796]	c23 N71-15467
Parallel motion suspension device Patent [NASA-CASE-XNP-01567]	c15 N70-41310	Photoelectric energy spectrometer Patent [NASA-CASE-XNP-04161]	c14 N71-15599
Ignition means for monopropellant Patent [NASA-CASE-XNP-00876]	c28 N70-41311	Anti-glare improvement for optical imaging systems Patent [NASA-CASE-NPO-10337]	c14 N71-15604
Reinforcing means for diaphragms Patent [NASA-CASE-XNP-01962]	c32 N70-41370	Fluid flow restrictor Patent [NASA-CASE-NPO-10117]	c15 N71-15608
High pressure filter Patent [NASA-CASE-XNP-00732]	c28 N70-41447	High temperature lens construction Patent [NASA-CASE-XNP-04111]	c14 N71-15622
Phase-locked loop with sideband rejecting properties Patent [NASA-CASE-XNP-02723]	c07 N70-41680	Solder flux which leaves corrosion-resistant coating Patent [NASA-CASE-XNP-03459-2]	c18 N71-15688
Digital television camera control system Patent [NASA-CASE-XNP-01472]	c14 N70-41807	Intermittent type silica gel adsorption refrigerator Patent [NASA-CASE-XNP-00920]	c15 N71-15906
Antiflutter ball check valve Patent [NASA-CASE-XNP-01152]	c15 N70-41811	Dual mode horn antenna Patent [NASA-CASE-XNP-01057]	c07 N71-15907
Roll attitude star sensor system Patent [NASA-CASE-XNP-01307]	c21 N70-41856	Means for controlling rupture of shock tube diaphragms Patent [NASA-CASE-XAC-00731]	c11 N71-15960
Process for preparing sterile solid propellants Patent [NASA-CASE-XNP-01749]	c27 N70-41897	Insertion loss measuring apparatus having transformer means connected across a pair of bolometers Patent [NASA-CASE-XNP-01193]	c10 N71-16057
Solenoid construction Patent [NASA-CASE-XNP-01951]	c09 N70-41929	Polarimeter for transient measurement Patent [NASA-CASE-XNP-08883]	c23 N71-16101
Closed loop ranging system Patent [NASA-CASE-XNP-01501]	c21 N70-41930	Flexible composite membrane Patent [NASA-CASE-XNP-08837]	c18 N71-16210
Printed circuit board with bellows rivet connection Patent [NASA-CASE-XNP-05082]	c15 N70-41960	Mount for thermal control system Patent [NASA-CASE-NPO-10138]	c33 N71-16357
Phase-shift data transmission system having a pseudo-noise SYNC code modulated with the data in a single channel Patent [NASA-CASE-XNP-00911]	c08 N70-41961	Optical characteristics measuring apparatus Patent [NASA-CASE-XNP-08840]	c23 N71-16365
Baseline stabilization system for ionization detector Patent [NASA-CASE-XNP-03128]	c10 N70-41991	Parallel plate viscometer Patent [NASA-CASE-XNP-09462]	c14 N71-17584
Single or joint amplitude distribution analyzer Patent [NASA-CASE-XNP-01383]	c09 N71-10659	Means and method of measuring viscoelastic strain Patent [NASA-CASE-XNP-01153]	c32 N71-17645
Dual waveguide mode source having control means for adjusting the relative amplitude of two modes Patent [NASA-CASE-XNP-03134]	c07 N71-10676	Interferometer direction sensor Patent [NASA-CASE-NPO-10320]	c14 N71-17655
Method for determining the state of charge of batteries by the use of tracers Patent [NASA-CASE-XNP-01464]	c03 N71-10728	Interferometer servo system Patent [NASA-CASE-NPO-10300]	c14 N71-17662
High pressure regulator valve Patent [NASA-CASE-XNP-00710]	c15 N71-10778	Electrical spot terminal assembly Patent [NASA-CASE-NPO-10034]	c15 N71-17685
Solar battery with interconnecting means for plural cells Patent [NASA-CASE-XNP-06506]	c03 N71-11050	Sealed separable connection Patent [NASA-CASE-NPO-10064]	c15 N71-17693
Sealed battery gas manifold construction Patent [NASA-CASE-XNP-03378]	c03 N71-11051	Incremental motion drive system Patent [NASA-CASE-XNP-08897]	c15 N71-17694
Solar cell submodule Patent [NASA-CASE-XNP-05821]	c03 N71-11056	Microbalance including crystal oscillators for measuring contaminants in a gas system Patent [NASA-CASE-NPO-10144]	c14 N71-17701
Reflectometer for receiver input impedance match measurement Patent [NASA-CASE-XNP-10843]	c07 N71-11267	Apparatus and method for protecting a photographic device Patent [NASA-CASE-NPO-10174]	c14 N71-18465
Means for generating a sync signal in an FM communication system Patent [NASA-CASE-XNP-10830]	c07 N71-11281	Ranging system Patent [NASA-CASE-NPO-10066]	c09 N71-18598
Multi-feed cone Cassegrain antenna Patent [NASA-CASE-NPO-10539]	c07 N71-11285	High impact pressure regulator Patent [NASA-CASE-NPO-10175]	c14 N71-18625
Thermionic diode switch Patent [NASA-CASE-NPO-10404]	c03 N71-12255	Magnetic core current steering commutator Patent [NASA-CASE-NPO-10201]	c08 N71-18694
Anti-backlash circuit for hydraulic drive system Patent [NASA-CASE-XNP-01020]	c03 N71-12260	Method of using photovoltaic cell using poly-N-vinylcarbazole complex Patent [NASA-CASE-NPO-10373]	c03 N71-18698
Binary number sorter Patent [NASA-CASE-NPO-10112]	c08 N71-12502	A dc-coupled noninverting one-shot Patent [NASA-CASE-XNP-09450]	c10 N71-18723
Linear three-tap feedback shift register Patent [NASA-CASE-NPO-10351]	c08 N71-12503	Automatic fault correction system for parallel signal channels Patent [NASA-CASE-XNP-03263]	c09 N71-18843
Binary sequence detector Patent [NASA-CASE-XNP-05415]	c08 N71-12505	Data compressor processor Patent [NASA-CASE-NPO-10068]	c08 N71-19288
Data compression system with a minimum time delay unit Patent		Tape guidance system and apparatus for the provision thereof Patent [NASA-CASE-XNP-09453]	c08 N71-19420



High voltage transistor circuit Patent [NASA-CASE-XNP-06937]	c09 N71-19516	Zeta potential flowmeter Patent [NASA-CASE-XNP-06509]	c14 N71-23226
Solar cell matrix Patent [NASA-CASE-NPO-10821]	c03 N71-19545	Comparator for the comparison of two binary numbers Patent [NASA-CASE-XNP-04819]	c08 N71-23295
Electrical switching device Patent [NASA-CASE-NPO-10037]	c09 N71-19610	Decontamination of petroleum products Patent [NASA-CASE-XNP-03635]	c06 N71-23499
Drift compensation circuit for analog to digital converter Patent [NASA-CASE-XNP-04780]	c08 N71-19687	Dicyanoacetylene polymers Patent [NASA-CASE-XNP-03250]	c06 N71-23500
Roll-up solar array Patent [NASA-CASE-NPO-10188]	c03 N71-20273	Indexing microwave switch Patent [NASA-CASE-XNP-06507]	c09 N71-23548
Method and device for determining battery state of charge Patent [NASA-CASE-NPO-10194]	c03 N71-20407	Millimeter wave radiometer for radio astronomy Patent [NASA-CASE-XNP-09832]	c30 N71-23723
Soil particles separator, collector and viewer Patent [NASA-CASE-XNP-09770]	c15 N71-20440	Radiant energy intensity measurement system Patent [NASA-CASE-XNP-06510]	c14 N71-23797
Transmission line thermal short Patent [NASA-CASE-XNP-09775]	c09 N71-20445	High speed phase detector Patent [NASA-CASE-XNP-01306-2]	c09 N71-24596
Synchronous servo loop control system Patent [NASA-CASE-XNP-03744]	c10 N71-20448	Apparatus for testing polymeric materials Patent [NASA-CASE-XNP-09699]	c06 N71-24607
Processing for producing a sterilized instrument Patent [NASA-CASE-XNP-09763]	c14 N71-20461	Digital synchronizer Patent [NASA-CASE-NPO-10851]	c07 N71-24613
Signal-to-noise ratio estimating by taking ratio of mean and standard deviation of integrated signal samples Patent [NASA-CASE-XNP-05254]	c07 N71-20791	Signal processing apparatus for multiplex transmission Patent [NASA-CASE-NPO-10388]	c07 N71-24622
Elimination of frequency shift in a multiplex communication system Patent [NASA-CASE-XNP-01306]	c07 N71-20814	Self-testing and repairing computer Patent [NASA-CASE-NPO-10567]	c08 N71-24633
High power-high voltage waterload Patent [NASA-CASE-XNP-05381]	c09 N71-20842	Serial digital decoder Patent [NASA-CASE-NPO-10150]	c08 N71-24650
Coaxial cable connector Patent [NASA-CASE-XNP-04732]	c09 N71-20851	Detenting servomotor Patent [NASA-CASE-XNP-06936]	c15 N71-24695
Soldering with solder flux which leaves corrosion resistant coating Patent [NASA-CASE-XNP-03459]	c15 N71-21078	Reversible motion drive system Patent [NASA-CASE-NPO-10173]	c15 N71-24696
Miniature stress transducer Patent [NASA-CASE-XNP-02983]	c14 N71-21091	Decoder system Patent [NASA-CASE-NPO-10118]	c07 N71-24741
Holder for crystal resonators Patent [NASA-CASE-XNP-03637]	c15 N71-21311	Television signal processing system Patent [NASA-CASE-NPO-10140]	c07 N71-24742
Correlation function apparatus Patent [NASA-CASE-XNP-00746]	c07 N71-21476	Switching circuit Patent [NASA-CASE-XNP-06505]	c10 N71-24799
Split nut separation system Patent [NASA-CASE-XNP-06914]	c15 N71-21489	Magnetic power switch Patent [NASA-CASE-NPO-10242]	c09 N71-24803
Light position locating system Patent [NASA-CASE-XNP-01059]	c23 N71-21821	Remodulator filter Patent [NASA-CASE-NPO-10198]	c09 N71-24806
Electron bombardment ion engine Patent [NASA-CASE-XNP-04124]	c28 N71-21822	Broadband microwave waveguide window Patent [NASA-CASE-XNP-08880]	c09 N71-24808
Data compressor Patent [NASA-CASE-XNP-04067]	c08 N71-22707	Cavity radiometer Patent [NASA-CASE-XNP-08961]	c14 N71-24809
Error correcting method and apparatus Patent [NASA-CASE-XNP-02748]	c08 N71-22749	High-gain, broadband traveling wave maser Patent [NASA-CASE-NPO-10548]	c16 N71-24831
Counter and shift register Patent [NASA-CASE-XNP-01753]	c08 N71-22897	Fluid containers and resealable septum therefor Patent [NASA-CASE-NPO-10123]	c15 N71-24835
Friction measuring apparatus Patent [NASA-CASE-XNP-08680]	c14 N71-22995	Temperature telemetric transmitter Patent [NASA-CASE-NPO-10649]	c07 N71-24840
Hybrid lubrication system and bearing Patent [NASA-CASE-XNP-01641]	c15 N71-22997	Tuning arrangement for an electron discharge device or the like Patent [NASA-CASE-XNP-09771]	c09 N71-24841
Filler valve Patent [NASA-CASE-XNP-01747]	c15 N71-23024	Noise limiter Patent [NASA-CASE-NPO-10169]	c10 N71-24844
Refrigeration apparatus Patent [NASA-CASE-XNP-08877]	c15 N71-23025	Noninterruptable digital counting system Patent [NASA-CASE-XNP-09759]	c08 N71-24891
Reduced bandwidth video communication system utilizing sampling techniques Patent [NASA-CASE-XNP-02791]	c07 N71-23026	Drive circuit for minimizing power consumption in inductive load Patent [NASA-CASE-NPO-10716]	c09 N71-24892
Model launcher for wind tunnels Patent [NASA-CASE-XNP-03578]	c11 N71-23030	Space simulator Patent [NASA-CASE-NPO-10141]	c11 N71-24964
Drive circuit utilizing two cores Patent [NASA-CASE-XNP-01318]	c10 N71-23033	Process for reducing secondary electron emission Patent [NASA-CASE-XNP-09469]	c24 N71-25555
Solar vane actuator Patent [NASA-CASE-XNP-05535]	c14 N71-23040	Minimal logic block encoder Patent [NASA-CASE-NPO-10595]	c10 N71-25917
Time of flight mass spectrometer with feedback means from the detector to the low source and a specific counter Patent [NASA-CASE-XNP-01056]	c14 N71-23041	Novel polycarboxylic prepolymeric materials and polymers thereof Patent [NASA-CASE-NPO-10596]	c06 N71-25929
Connector internal force gauge Patent [NASA-CASE-XNP-03918]	c14 N71-23087	Current steering switch Patent [NASA-CASE-XNP-08567]	c09 N71-26000
Circulator having quarter wavelength resonant post and parametric amplifier circuits utilizing the same Patent [NASA-CASE-XNP-02140]	c09 N71-23097	Dual polarity full wave dc motor drive Patent [NASA-CASE-XNP-07477]	c09 N71-26092
Method of resolving clock synchronization error and means therefor Patent [NASA-CASE-XNP-08875]	c10 N71-23099	High impact antenna Patent [NASA-CASE-NPO-10231]	c07 N71-26101
Impact testing machine Patent [NASA-CASE-XNP-04817]	c14 N71-23225	Video communication system and apparatus Patent [NASA-CASE-XNP-06611]	c07 N71-26102
		Parallel generation of the check bits of a PN sequence Patent [NASA-CASE-XNP-04623]	c10 N71-26103
		Phase multiplying electronic scanning system Patent [NASA-CASE-NPO-10302]	c10 N71-26142

Electron beam tube containing a multiple cathode array employing indexing means for cathode substitution Patent [NASA-CASE-NPO-10625]	c09 N71-26182	A dc servosystem including an ac motor Patent [NASA-CASE-NPO-10700]	c07 N71-33613
Fluid phase analyzer Patent [NASA-CASE-NPO-10691]	c14 N71-26199	Solar cell matrix [NASA-CASE-NPO-11190]	c03 N71-34044
Variable frequency nuclear magnetic resonance spectrometer Patent [NASA-CASE-XNP-09830]	c14 N71-26266	Manually actuated heat pump [NASA-CASE-NPO-10677]	c05 N72-11084
Time synchronization system utilizing moon reflected coded signals Patent [NASA-CASE-NPO-10143]	c10 N71-26326	Virtual wall slot circularly polarized planar array antenna [NASA-CASE-NPO-10301]	c07 N72-11148
Broadband stable power multiplier Patent [NASA-CASE-XNP-10854]	c10 N71-26331	System for controlling the operation of a variable signal device [NASA-CASE-NPO-11064]	c07 N72-11150
Cascaded complementary pair broadband transistor amplifiers Patent [NASA-CASE-NPO-10003]	c10 N71-26415	Method and apparatus for data compression by a decreasing slope threshold test [NASA-CASE-NPO-10769]	c08 N72-11171
Digital memory in which the driving of each word location is controlled by a switch core Patent [NASA-CASE-XNP-01466]	c10 N71-26434	Apparatus for remote measurement of displacement of marks on a specimen undergoing a tensile test [NASA-CASE-NPO-10778]	c14 N72-11364
Conically shaped cavity radiometer with a dual purpose cone winding Patent [NASA-CASE-XNP-09701]	c14 N71-26475	Vibration isolation system using compression springs [NASA-CASE-NPO-11012]	c15 N72-11391
Analog signal integration and reconstruction system Patent [NASA-CASE-NPO-10344]	c10 N71-26544	Feed system for an ion thruster [NASA-CASE-NPO-10737]	c28 N72-11709
Rapid sync acquisition system Patent [NASA-CASE-NPO-10214]	c10 N71-26577	Thermostatic actuator [NASA-CASE-NPO-10637]	c15 N72-12409
Cryogenic cooling system Patent [NASA-CASE-NPO-10467]	c23 N71-26654	High voltage transistor amplifier with constant current load [NASA-CASE-NPO-11023]	c09 N72-17155
Vacuum evaporator with electromagnetic ion steering Patent [NASA-CASE-NPO-10331]	c09 N71-26701	Reference voltage switching unit [NASA-CASE-NPO-11253]	c09 N72-17157
Automated fluid chemical analyzer Patent [NASA-CASE-XNP-09451]	c06 N71-26754	Valving device for automatic refilling in cryogenic liquid systems [NASA-CASE-NPO-11177]	c15 N72-17453
Material handling device Patent [NASA-CASE-XNP-09770-3]	c11 N71-27036	Expandable support means [NASA-CASE-NPO-11059]	c15 N72-17454
Pressure seal Patent [NASA-CASE-NPO-10796]	c15 N71-27068	Breakaway connector [NASA-CASE-NPO-11140]	c15 N72-17455
Multiducted electromagnetic pump Patent [NASA-CASE-NPO-10755]	c15 N71-27084	Modular encoder [NASA-CASE-NPO-10629]	c08 N72-18184
Peak acceleration limiter for vibrational tester Patent [NASA-CASE-NPO-10556]	c14 N71-27185	Transition tracking bit synchronization system [NASA-CASE-NPO-10844]	c07 N72-20140
Thin film capacitive bolometer and temperature sensor Patent [NASA-CASE-NPO-10607]	c09 N71-27232	Data compression system [NASA-CASE-NPO-11243]	c07 N72-20154
Black body cavity radiometer Patent [NASA-CASE-NPO-10810]	c14 N71-27323	Digital quasi-exponential function generator [NASA-CASE-NPO-11130]	c08 N72-20176
Video signal enhancement system with dynamic range compression and modulation index expansion Patent [NASA-CASE-NPO-10343]	c07 N71-27341	Method and apparatus for high resolution spectral analysis [NASA-CASE-NPO-10748]	c06 N72-20177
Force-balanced, throttle valve Patent [NASA-CASE-NPO-10808]	c15 N71-27432	Flow rate switch [NASA-CASE-NPO-10722]	c09 N72-20199
Cavity emitter for thermionic converter Patent [NASA-CASE-NPO-10412]	c09 N71-28421	Electrical connector [NASA-CASE-NPO-10694]	c09 N72-20200
Frictionless universal joint Patent [NASA-CASE-NPO-10646]	c15 N71-28467	Wide band doubler and sine wave quadrature generator [NASA-CASE-NPO-11133]	c10 N72-20223
Epoxy-aziridine polymer product Patent [NASA-CASE-NPO-10701]	c06 N71-28620	Signal phase estimator [NASA-CASE-NPO-11203]	c10 N72-20224
Fluid impervious barrier including liquid metal alloy and method of making same Patent [NASA-CASE-XNP-08881]	c17 N71-28747	Optimal control system for an electric motor driven vehicle [NASA-CASE-NPO-11210]	c11 N72-20244
Wind tunnel microphone structure Patent [NASA-CASE-XNP-00250]	c11 N71-28779	Impact energy absorbing system utilizing fracturable material [NASA-CASE-NPO-10671]	c15 N72-20443
Trialkyl-dihalotantalum and niobium compounds Patent [NASA-CASE-XNP-04023]	c06 N71-28808	Torsional disconnect unit [NASA-CASE-NPO-10704]	c15 N72-20445
Digital memory sense amplifying means Patent [NASA-CASE-XNP-01012]	c08 N71-28925	Solid propellant rocket motor [NASA-CASE-XNP-03282]	c28 N72-20758
Digital filter for reducing sampling jitter in digital control systems Patent [NASA-CASE-NPO-11088]	c08 N71-29034	Shell side liquid metal boiler [NASA-CASE-NPO-10831]	c33 N72-20915
Method and apparatus for aligning a laser beam projector Patent [NASA-CASE-NPO-11087]	c23 N71-29125	Method and apparatus for mapping planets [NASA-CASE-NPO-11001]	c07 N72-21118
Rubber composition for use with hydrazine Patent Application [NASA-CASE-NPO-11433]	c18 N71-31140	Current steering commutator [NASA-CASE-NPO-10743]	c08 N72-21199
Rotable accurate reflector system for telescopes Patent [NASA-CASE-NPO-10468]	c23 N71-33229	Automated equipotential plotter [NASA-CASE-NPO-11134]	c09 N72-21246
Encoder/decoder system for a rapidly synchronizable binary code Patent [NASA-CASE-NPO-10342]	c10 N71-33407	Pressure transducer [NASA-CASE-NPO-10832]	c14 N72-21405
High power microwave power divider Patent [NASA-CASE-NPO-11031]	c07 N71-33606	Positioning mechanism [NASA-CASE-NPO-10679]	c15 N72-21462
		Solid state matrices [NASA-CASE-NPO-10591]	c03 N72-22041
		Solar cell panels with light transmitting plate [NASA-CASE-NPO-10747]	c03 N72-22042
		Oil and fat absorbing polymers [NASA-CASE-NPO-11609-1]	c06 N72-22114
		Data multiplexer using tree switching configuration [NASA-CASE-NPO-11333]	c08 N72-22162

System for quantizing graphic displays [NASA-CASE-NPO-10745]	c08 N72-22164	Singly-curved reflector for use in high-gain antennas [NASA-CASE-NPO-11361]	c07 N72-32165
Digital function generator [NASA-CASE-NPO-11104]	c08 N72-22165	Digital slope threshold data compressor [NASA-CASE-NPO-11630]	c08 N72-33172
Analog-to-digital converter analyzing system [NASA-CASE-NPO-10560]	c08 N72-22166	Continuously variable voltage controlled phase shifter [NASA-CASE-NPO-11129]	c09 N72-33204
Feedback shift register with states decomposed into cycles of equal length [NASA-CASE-NPO-11082]	c08 N72-22167	Pseudonoise sequence generators with three tap linear feedback shift registers [NASA-CASE-NPO-11406]	c08 N73-12175
Self-obturator, gas operated launcher [NASA-CASE-NPO-11013]	c11 N72-22247	Versatile arithmetic unit for high speed sequential decoder [NASA-CASE-NPO-11371]	c08 N73-12177
Optical binocular scanning apparatus [NASA-CASE-NPO-11002]	c14 N72-22441	Dual frequency microwave reflex feed [NASA-CASE-NPO-13091-1]	c09 N73-12214
Ionene membrane separator [NASA-CASE-NPO-11091]	c18 N72-22567	Audio system with means for reducing noise effects [NASA-CASE-NPO-11631]	c10 N73-12244
Deployable solar cell array [NASA-CASE-NPO-10883]	c31 N72-22874	Interferometer-polarimeter [NASA-CASE-NPO-11239]	c14 N73-12446
Thermal to electrical power conversion system with solid-state switches with Seebeck effect compensation [NASA-CASE-NPO-11388]	c03 N72-23048	Irradiance measuring device [NASA-CASE-NPO-11493]	c14 N73-12447
Optical frequency waveguide and transmission system [NASA-CASE-HQN-10541-3]	c23 N72-23695	Program for computer aided reliability estimation [NASA-CASE-NPO-13086-1]	c15 N73-12495
Bipropellant injector [NASA-CASE-IMP-09461]	c28 N72-23809	Nuclear thermionic converter [NASA-CASE-NPO-13121-1]	c22 N73-12702
Solid propellant rocket motor nozzle [NASA-CASE-NPO-11458]	c28 N72-23810	Apparatus for deriving synchronizing pulses from pulses in a single channel PCM communications system [NASA-CASE-NPO-11302-1]	c07 N73-13149
Analysis of hydrogen-deuterium mixtures [NASA-CASE-NPO-11322]	c06 N72-25146	Rotary vane attenuator wherein rotor has orthogonally disposed resistive and dielectric cards [NASA-CASE-NPO-11418-1]	c14 N73-13420
Flexible computer accessed telemetry [NASA-CASE-NPO-11358]	c07 N72-25172	Gas flow control device [NASA-CASE-NPO-11479]	c15 N73-13462
Multi-purpose antenna employing dish reflector with plural coaxial horn feeds [NASA-CASE-NPO-11264]	c07 N72-25174	Electrolytic gas operated actuator [NASA-CASE-NPO-11369]	c15 N73-13467
Communications link for computers [NASA-CASE-NPO-11161]	c08 N72-25207	Dual purpose momentum wheels for spacecraft with magnetic recording [NASA-CASE-NPO-11481]	c21 N73-13644
Method and apparatus for frequency-division multiplex communications by digital phase shift of carrier [NASA-CASE-NPO-11338]	c08 N72-25208	Control for nuclear thermionic power source [NASA-CASE-NPO-13114-1]	c22 N73-13656
Binary coded sequential acquisition ranging system [NASA-CASE-NPO-11194]	c08 N72-25209	Multiple reflection conical microwave antenna [NASA-CASE-NPO-11661]	c07 N73-14130
MOD 2 sequential function generator for multibit binary sequence [NASA-CASE-NPO-10636]	c08 N72-25210	Cyclically operable optical shutter [NASA-CASE-NPO-10758]	c14 N73-14427
Digital video display system using cathode ray tube [NASA-CASE-NPO-11342]	c09 N72-25248	Heat detection and compositions and devices therefor [NASA-CASE-NPO-10764-1]	c14 N73-14428
Inverter oscillator with voltage feedback [NASA-CASE-NPO-10760]	c09 N72-25254	Parallel-plate viscometer with double diaphragm suspension [NASA-CASE-NPO-11387]	c14 N73-14429
Thermal motor [NASA-CASE-NPO-11283]	c09 N72-25260	Rotary actuator [NASA-CASE-NPO-10680]	c31 N73-14855
Two phase flow system with discrete impinging two-phase jets [NASA-CASE-NPO-11556]	c12 N72-25292	Magnetically actuated tuning method for Gunn oscillators [NASA-CASE-NPO-12106]	c09 N73-15235
Atmospheric sampling devices [NASA-CASE-NPO-11373]	c13 N72-25323	Multichannel telemetry system [NASA-CASE-NPO-11572]	c07 N73-16121
Light sensor [NASA-CASE-NPO-11311]	c14 N72-25414	Data-aided carrier tracking loops [NASA-CASE-NPO-11282]	c10 N73-16205
Quick disconnect coupling [NASA-CASE-NPO-11202]	c15 N72-25450	A system for generating timing and control signals [NASA-CASE-NPO-13125-1]	c09 N73-18225
Coaxial injector for reaction motors [NASA-CASE-NPO-11095]	c15 N72-25455	Method of producing a storage bulb for an atomic hydrogen maser [NASA-CASE-NPO-13050-1]	c16 N73-18508
Ball screw linear actuator [NASA-CASE-NPO-11222]	c15 N72-25456	Stacked solar cell arrays [NASA-CASE-NPO-11771]	c03 N73-20040
Helium refrigerator and method for decontaminating the refrigerator [NASA-CASE-NPO-10634]	c23 N72-25619	A m-ary linear feedback shift register with binary logic [NASA-CASE-NPO-11868]	c10 N73-20254
Uninsulated in-core thermionic diode [NASA-CASE-NPO-10542]	c09 N72-27228	Heat detection and compositions and devices therefor [NASA-CASE-NPO-10764-2]	c10 N73-20259
Audio frequency marker system [NASA-CASE-NPO-11147]	c14 N72-27408	Apparatus for recovering matter adhered to a host surface [NASA-CASE-NPO-11213]	c15 N73-20514
Light direction sensor [NASA-CASE-NPO-11201]	c14 N72-27409	Scan converting video tape recorder [NASA-CASE-NPO-10166-1]	c07 N73-22076
Adjustable support [NASA-CASE-NPO-10721]	c15 N72-27484	Cermet composition and method of fabrication [NASA-CASE-NPO-13120-1]	c18 N73-23629
Method for controlling vapor content of a gas [NASA-CASE-NPO-10633]	c03 N72-28025	Collapsible structure for an antenna reflector [NASA-CASE-NPO-11751]	c07 N73-24176
Maser for frequencies in the 7-20 GHz range [NASA-CASE-NPO-11437]	c16 N72-28521	Pump for delivering heated fluids [NASA-CASE-NPO-11417]	c15 N73-24513
Electro-optical scanning apparatus [NASA-CASE-NPO-11106-2]	c23 N72-28696	Ion thruster with a combination keeper electrode and electron baffle [NASA-CASE-NPO-11880]	c28 N73-24783
Thin film temperature sensor and method of making same [NASA-CASE-NPO-11775]	c26 N72-28761		
Circularly polarized antenna [NASA-CASE-ERC-10214]	c09 N72-31235		

Solid propellant rocket motor  
[NASA-CASE-NPO-11559] c28 N73-24784

Code regenerative clean-up loop transponder for  
a mu-type ranging system  
[NASA-CASE-NPO-11707] c07 N73-25161

Numerical computer peripheral interactive device  
with manual controls  
[NASA-CASE-NPO-11497] c08 N73-25206

Radiant source tracker independent of  
nonconstant irradiance  
[NASA-CASE-NPO-11686] c14 N73-25462

Two carrier communication system with single  
transmitter  
[NASA-CASE-NPO-11548] c07 N73-26118

High pulse rate high resolution optical radar  
system  
[NASA-CASE-NPO-11426] c07 N73-26119

Vehicle locating system utilizing AM  
broadcasting station carriers  
[NASA-CASE-NPO-13247-1] c07 N73-26144

Counting digital filters  
[NASA-CASE-NPO-11821-1] c08 N73-26175

Automated attendance accounting system  
[NASA-CASE-NPO-11456] c08 N73-26176

Low phase noise digital frequency divider  
[NASA-CASE-NPO-11569] c10 N73-26229

Vehicle for use in planetary exploration  
[NASA-CASE-NPO-11366] c11 N73-26238

Temperature control system with a pulse width  
modulated bridge  
[NASA-CASE-NPO-11304] c14 N73-26430

Combined pressure regulator and shutoff valve  
[NASA-CASE-NPO-13201-1] c15 N73-26474

Disconnect unit  
[NASA-CASE-NPO-11330] c33 N73-26958

System for interference signal nulling by  
polarization adjustment  
[NASA-CASE-NPO-13140-1] c07 N73-27106

Filter for third order phase locked loops  
[NASA-CASE-NPO-11941-1] c10 N73-27171

Acoustically controlled distributed feedback laser  
[NASA-CASE-NPO-13175-1] c16 N73-27431

Receiver with an improved phase lock loop in a  
multichannel telemetry system with suppressed  
carrier  
[NASA-CASE-NPO-11593-1] c07 N73-28012

Analog-to-digital converter  
[NASA-CASE-NXP-00477] c08 N73-28045

Pseudonoise (PN) synchronization of data system  
with derivation of clock frequency from  
received signal for clocking receiver PN  
generator  
[NASA-CASE-NXP-03623] c09 N73-28084

Apparatus and method for measuring the Seebeck  
coefficient and resistivity of materials  
[NASA-CASE-NPO-11749] c14 N73-28486

Dual purpose optical instrument capable of  
simultaneously acting as spectrometer and  
diffractometer  
[NASA-CASE-NXP-05231] c14 N73-28491

Strain gage mounting assembly  
[NASA-CASE-NPO-13170-1] c14 N73-28495

Continuous magnetic flux pump  
[NASA-CASE-NXP-01187] c15 N73-28516

Preparation of alkali metal dispersions  
[NASA-CASE-NXP-08876] c17 N73-28573

Superconductive magnetic-field-trapping device  
[NASA-CASE-NXP-01185] c26 N73-28710

Automatic carrier acquisition system  
[NASA-CASE-NPO-11628-1] c07 N73-30113

Ferrofluidic solenoid  
[NASA-CASE-NPO-11738-1] c09 N73-30185

Silent emergency alarm system for schools and  
the like  
[NASA-CASE-NPO-11307-1] c10 N73-30205

RF-source resistance meters  
[NASA-CASE-NPO-11291-1] c14 N73-30388

Stored charged device  
[NASA-CASE-NPO-11156-2] c03 N73-30974

Raw liquid waste treatment system and process  
[NASA-CASE-NPO-13224-1] c05 N73-31011

Material suspension within an acoustically  
excited resonant chamber  
[NASA-CASE-NPO-13263-1] c15 N73-31443

Shock absorbing mount for electrical components  
[NASA-CASE-NPO-13253-1] c15 N73-31445

Deep trap, laser activated image converting system  
[NASA-CASE-NPO-13131-1] c16 N73-31467

Event sequence detector  
[NASA-CASE-NPO-11703-1] c10 N73-32144

Soil penetrometer  
[NASA-CASE-NXP-05530] c14 N73-32321

Quadrupole mass filter with means to generate a  
noise spectrum exclusive of the resonant  
frequency of the desired ions to deflect  
stable ions  
[NASA-CASE-NXP-04231] c14 N73-32325

Magnetic-flux pump  
[NASA-CASE-NXP-01188] c15 N73-32361

Burrowing apparatus  
[NASA-CASE-NXP-07169] c15 N73-32362

Electrostatically controlled heat shutter  
[NASA-CASE-NPO-11942-1] c33 N73-32818

Method and apparatus for a single channel  
digital communications system  
[NASA-CASE-NPO-11302-2] c07 N74-10132

Controlled oscillator system with a time  
dependent output frequency  
[NASA-CASE-NPO-11962-1] c09 N74-10194

Low loss dichroic plate  
[NASA-CASE-NPO-13171-1] c07 N74-11000

Image data rate converter having a drum with a  
fixed head and a rotatable head  
[NASA-CASE-NPO-11659-1] c14 N74-11283

Monitoring atmospheric pollutants with a  
heterodyne radiometer transmitter-receiver  
[NASA-CASE-NPO-11919-1] c14 N74-11284

Digital second-order phase-locked loop  
[NASA-CASE-NPO-11905-1] c08 N74-12887

Automatic vehicle location system  
[NASA-CASE-NPO-11850-1] c09 N74-12912

Thermomagnetic recording and magneto-optic  
playback system having constant intensity  
laser beam control  
[NASA-CASE-NPO-11317-2] c16 N74-13205

Use of thin film light detector  
[NASA-CASE-NPO-11432-2] c14 N74-15090

Temperature compensated digital inertial sensor  
[NASA-CASE-NPO-13044-1] c14 N74-15094

Compact hydrogenator  
[NASA-CASE-NPO-11682-1] c15 N74-15127

Short range laser obstacle detector  
[NASA-CASE-NPO-11856-1] c16 N74-15145

Simultaneous acquisition of tracking data from  
two stations  
[NASA-CASE-NPO-13292-1] c07 N74-15838

Inert gas metallic vapor laser  
[NASA-CASE-NPO-13449-1] c16 N74-16187

An improved heat sterilizable patient ventilator  
[NASA-CASE-NPO-13313-1] c05 N74-17858

Shared memory for a fault-tolerant computer  
[NASA-CASE-NPO-13139-1] c08 N74-17911

System for stabilizing cable phase delay  
utilizing a coaxial cable under pressure  
[NASA-CASE-NPO-13138-1] c09 N74-17927

Motor run-up system  
[NASA-CASE-NPO-13374-1] c10 N74-17949

Wide angle sun sensor  
[NASA-CASE-NPO-13327-1] c14 N74-18093

Symmetrical odd-modulus frequency divider  
[NASA-CASE-NPO-13426-1] c09 N74-18869

Servo-controlled intravital microscope system  
[NASA-CASE-NPO-13214-1] c14 N74-19093

Method of forming a wick for a heat pipe  
[NASA-CASE-NPO-13391-1] c33 N74-19584

Storage battery comprising negative plates of a  
wedge shaped configuration  
[NASA-CASE-NPO-11606-1] c03 N74-19693

Heat operated cryogenic electrical generator  
[NASA-CASE-NPO-13303-1] c03 N74-19701

Electric power generation system directly from  
laser power  
[NASA-CASE-NPO-13308-1] c03 N74-19702

Gated compressor, distortionless signal limiter  
[NASA-CASE-NPO-11820-1] c07 N74-19788

Asynchronous, multiplexing, single line  
transmission and recovery data system  
[NASA-CASE-NPO-13321-1] c07 N74-19806

Apparatus for scanning the surface of a  
cylindrical body  
[NASA-CASE-NPO-11861-1] c14 N74-20009

A doped Josephson tunneling junction for use in  
a sensitive IR detector  
[NASA-CASE-NPO-13348-1] c14 N74-20022

Ultrasonically bonded valve assembly  
[NASA-CASE-NPO-13360-1] c15 N74-20073

Decision feedback loop for tracking a polyphase modulated carrier  
 [NASA-CASE-NPO-13103-1] c07 N74-20811

Optically actuated two position mechanical mover  
 [NASA-CASE-NPO-13105-1] c15 N74-21060

Thin film gauge  
 [NASA-CASE-NPO-10617-1] c14 N74-22095

High isolation RF signal selection switches  
 [NASA-CASE-NPO-13081-1] c07 N74-22814

Single reflector interference spectrometer and drive system therefor  
 [NASA-CASE-NPO-11932-1] c14 N74-23040

Scanning nozzle plating system  
 [NASA-CASE-NPO-11758-1] c15 N74-23065

Rock sampling  
 [NASA-CASE-XNP-10007-1] c15 N74-23068

Rock sampling  
 [NASA-CASE-XNP-09755] c15 N74-23069

An improved Geneva mechanism  
 [NASA-CASE-NPO-13281-1] c15 N74-23071

Fluorescence detector for monitoring atmospheric pollutants  
 [NASA-CASE-NPO-13231-1] c14 N74-25932

A multitarget sequential sputtering apparatus  
 [NASA-CASE-NPO-13345-1] c15 N74-25971

Miniature multichannel biotelermeter system  
 [NASA-CASE-NPO-13065-1] c05 N74-26625

Dispensing targets for ion beam particle generators  
 [NASA-CASE-NPO-13112-1] c11 N74-26767

Optically detonated explosive device  
 [NASA-CASE-NPO-11743-1] c33 N74-27425

Brushless dc motor with wound rotor  
 [NASA-CASE-NPO-13437-1] c09 N74-27688

Refrigerated coaxial coupling  
 [NASA-CASE-NPO-13504-1] c09 N74-27689

Dichroic plate  
 [NASA-CASE-NPO-13506-1] c09 N74-27690

An improved helium refrigerator  
 [NASA-CASE-NPO-13435-1] c23 N74-28134

High voltage, high current Schottky barrier solar cell  
 [NASA-CASE-NPO-13482-1] c03 N74-30448

Coherent receiver employing nonlinear coherence detection for carrier tracking  
 [NASA-CASE-NPO-11921-1] c07 N74-30523

Computer interface system  
 [NASA-CASE-NPO-13428-1] c08 N74-30549

Digital servo control of random sound test excitation  
 [NASA-CASE-NPO-11623-1] c23 N74-31148

Raw liquid waste treatment system and process  
 [NASA-CASE-NPO-13573-1] c05 N74-32552

Analog to digital converter  
 [NASA-CASE-NPO-13385-1] c08 N74-32646

Nonlinear nonsingular feedback shift registers  
 [NASA-CASE-NPO-13451-1] c08 N74-32648

A dc regulator having feedforward control  
 [NASA-CASE-NPO-13481-1] c09 N74-32675

Ion and electron detector for use in an ICR spectrometer  
 [NASA-CASE-NPO-13479-1] c14 N74-32890

Apparatus for forming drive belts  
 [NASA-CASE-NPO-13205-1] c15 N74-32917

Tool for use in lifting pin supported objects  
 [NASA-CASE-NPO-13157-1] c15 N74-32918

Schottky barrier laser energy converter  
 [NASA-CASE-NPO-13390-1] c16 N74-32937

Preparing oxidizer coated metal fuel particles  
 [NASA-CASE-NPO-11975-1] c27 N74-33209

Improved structure and method of producing composite of gapped and ungapped cores  
 [NASA-CASE-NPO-13413-1] c09 N74-33738

Double discharge metal vapor laser with metal halide as a lasant  
 [NASA-CASE-NPO-13448-1] c16 N74-34012

responsive magnetic head  
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Tape guidance system and apparatus for the provision thereof Patent  
 [NASA-CASE-INP-09453] c08 N71-19420

Incremental tape recorder and data rate converter Patent  
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 Wide angle long eye relief eyepiece Patent  
 [NASA-CASE-IHS-06056-1] c23 N71-24857

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 Digital modulator and demodulator Patent  
 [NASA-CASE-ERC-10041] c08 N71-29138

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 [NASA-CASE-GSC-11487-1] c14 N73-30393

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 Laser apparatus for removing material from rotating objects Patent  
 [NASA-CASE-NFS-11279] c16 N71-20400

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Analysis of volatile organic compounds  
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 Apparatus for measuring thermal conductivity Patent  
 [NASA-CASE-XGS-01052] c14 N71-15992

Flame retardant elastomeric compositions  
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 Life support system  
 [NASA-CASE-MSC-12411-1] c05 N72-20096

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 [NASA-CASE-XGS-00587] c15 N70-35087

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 Apparatus for sampling particulates in gases  
 [NASA-CASE-BQN-10037-1] c14 N73-27376

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 Aerodynamic protection for space flight vehicles Patent  
 [NASA-CASE-XNP-02507] c31 N71-17679

**LOCKHEED ELECTRONICS CO., HOUSTON, TEX.**  
 Television signal scan rate conversion system Patent  
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Burst synchronization detection system Patent  
 [NASA-CASE-XMS-05605-1] c10 N71-19468

Automatic signal range selector for metering devices Patent  
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Monostable multivibrator with complementary NOR gates Patent  
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Method and apparatus for decoding compatible convolutional codes  
 [NASA-CASE-MSC-14070-1] c07 N72-27178

Ultrastable calibrated light source  
 [NASA-CASE-MSC-12293-1] c14 N72-27411

Differential phase shift keyed communication system  
 [NASA-CASE-MSC-14065-1] c07 N73-10215

Random pulse generator  
 [NASA-CASE-MSC-14131-1] c09 N73-26199

Peak holding circuit for extremely narrow pulses  
 [NASA-CASE-MSC-14129-1] c10 N73-26231

Data storage, image tube type  
 [NASA-CASE-MSC-14053-1] c08 N74-12888

Digital transmitter for data bus communications system  
 [NASA-CASE-MSC-14558-1] c07 N74-17888

Differential phase shift keyed communication system  
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 [NASA-CASE-MSC-14066-1] c10 N74-27705

Method and apparatus for decoding compatible convolutional codes  
 [NASA-CASE-MSC-14070-1] c07 N74-32598

Pulse stretcher for narrow pulses  
 [NASA-CASE-MSC-14130-1] c10 N74-32711

**LOCKHEED MISSILES AND SPACE CO., SUNNYVALE, CALIF.**  
 Device for handling heavy loads  
 [NASA-CASE-INP-04969] c11 N69-27466

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**KELSEY-HAYES CO., HONOLULU, HICH.**  
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 [NASA-CASE-XMP-00923] c28 N70-36802

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Transient heat transfer gauge Patent  
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 [NASA-CASE-MSC-13284] c31 N72-18859  
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 Improved four phase logic systems  
 [NASA-CASE-MSC-14240-1] c10 N73-21240  
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 buried emitter  
 [NASA-CASE-ARC-10330-1] c09 N73-32112  
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 [NASA-CASE-MSC-13972-1] c05 N74-10975  
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 [NASA-CASE-XGS-03556] c27 N70-35534  
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 supersonic engine air inlets Patent  
 [NASA-CASE-XLA-02865] c28 N71-15563  
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 Method of fluxless brazing and diffusion bonding  
 of aluminum containing components  
 [NASA-CASE-MSC-14435-1] c15 N74-20071

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**MAELIN-ROCKWELL CORP., JAMESTOWN, N.Y.**  
 Drilled ball bearing with a one piece  
 anti-tipping cage assembly  
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 engines Patent  
 [NASA-CASE-MSC-12139-1] c28 N71-14058  
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 Device to prevent clogging in a hopper  
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 Variable ratio mixed-mode bilateral master-slave  
 control system for shuttle remote manipulator  
 system  
 [NASA-CASE-MSC-14245-1] c31 N73-30832  
 Fiber separating and cleaning method and apparatus  
 [NASA-CASE-LAR-11224-1] c15 N74-20072  
 Method and apparatus for tensile testing of  
 metal foil  
 [NASA-CASE-LAR-10208-1] c14 N74-30894  
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 [NASA-CASE-MSC-13512-1] c15 N72-22485  
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 integrated circuit four-quadrant multiplier  
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 light signal Patent  
 [NASA-CASE-GSC-10216-1] c23 N71-26722  
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 Pretreatment method for anti-wettable materials  
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 system Patent  
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 system  
 [NASA-CASE-HQN-10541-3] c23 N72-23695  
 Display research collision warning system  
 [NASA-CASE-HQN-10703] c21 N73-13643  
 Fault-tolerant clock apparatus  
 [NASA-CASE-MSC-12531-1] c14 N73-22386  
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 Method for making a heat insulating and ablative  
 structure  
 [NASA-CASE-XMS-01108] c15 N69-24322  
 Heat flux sensor assembly  
 [NASA-CASE-XMS-05909-1] c14 N69-27459  
 Apparatus for purging systems handling toxic,  
 corrosive, noxious and other fluids Patent  
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**MCDONNELL-DOUGLAS ASTRONAUTICS CO., NEWPORT BEACH,  
 CALIF.**  
 A meter for use in detecting tension in straps  
 having predetermined elastic characteristics  
 [NASA-CASE-MFS-22189-1] c14 N74-10421  
**MCDONNELL-DOUGLAS ASTRONAUTICS CO., SANTA MONICA,  
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 [NASA-CASE-NPO-10863] c06 N70-11251  
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**MCDONNELL-DOUGLAS CORP., HUNTINGTON BEACH, CALIF.**  
 Variable direction force coupler  
 [NASA-CASE-MFS-20317] c15 N73-13463  
 Potable water dispenser  
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 Metering gun for dispensing precisely measured  
 charges of fluid  
 [NASA-CASE-MFS-21163-1] c05 N74-17853  
 Airlock  
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 Device for monitoring a change in mass in  
 varying gravimetric environments  
 [NASA-CASE-MFS-21556-1] c14 N74-26945  
 Thrust-isolating mounting  
 [NASA-CASE-MFS-21680-1] c32 N74-27397  
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 [NASA-CASE-MFS-21728-1] c14 N74-27865  
 Plane detector operable in presence of proton  
 radiation  
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 A device for use in loading tension members  
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**MCDONNELL-DOUGLAS CORP., NEWPORT BEACH, CALIF.**  
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 Prevention of hydrogen embrittlement of high  
 strength steel  
 [NASA-CASE-NPO-12122-1] c27 N74-20397  
**MCDONNELL-DOUGLAS CORP., ST. LOUIS, MO.**  
 Utilization of oxygen difluoride for syntheses

of fluoropolymers  
[NASA-CASE-NPO-12061-1] c06 N72-21100

Thermally conductive polymers  
[NASA-CASE-GSC-11304-1] c06 N72-21105

Latching device  
[NASA-CASE-MFS-21606-1] c15 N73-22417

Vacuum leak detector  
[NASA-CASE-LAR-11237-1] c14 N73-32344

Phase-locked servo system  
[NASA-CASE-MFS-22073-1] c09 N74-11058

Electrolytic cell design  
[NASA-CASE-LAR-11042-1] c03 N74-29416

**MELLCN INST., PITTSBURGH, PA.**  
Instrument for measuring torsional creep and recovery Patent  
[NASA-CASE-XLE-01481] c14 N71-10781

**MELPAR, INC., FALLS CHURCH, VA.**  
Television simulation for aircraft and space flight Patent  
[NASA-CASE-XFR-03107] c09 N71-19449

Compact solar still Patent  
[NASA-CASE-XMS-04533] c15 N71-23086

**METCOM, INC., SALEM, MASS.**  
Tuning arrangement for an electron discharge device or the like Patent  
[NASA-CASE-XNP-09771] c09 N71-24841

**MICROWAVE ELECTRONICS CORP., PALO ALTO, CALIF.**  
Folded traveling wave maser structure Patent  
[NASA-CASE-XNP-05219] c16 N71-15550

Superconducting magnet Patent  
[NASA-CASE-XNP-06503] c23 N71-29049

**MIDWEST RESEARCH INST., KANSAS CITY, MO.**  
Preparation of ordered poly /arylenesiloxane/ polymers  
[NASA-CASE-XMF-10753] c06 N71-11237

Inorganic solid film lubricants Patent  
[NASA-CASE-XMP-03988] c15 N71-21403

Fluorinated esters of polycarboxylic acids  
[NASA-CASE-MFS-21040-1] c06 N73-30098

**MILLIKEN (D. B.) CO., ARCADIA, CALIF.**  
Film feed camera having a detent means Patent  
[NASA-CASE-LAR-10686] c14 N71-28935

**MINNEAPOLIS-HONEYWELL REGULATOR CO., MINN.**  
Microelectronic module package Patent  
[NASA-CASE-XMS-02182] c10 N71-28783

**MODERN MACHINE AND TOOL CO., NEWPORT NEWS, VA.**  
Means for accommodating large overstrain in lead wires  
[NASA-CASE-LAR-10168-1] c09 N74-22865

**MONSANTO RESEARCH CORP., DAYTON, OHIO.**  
Ether-linked aryl tetracarboxylic dianhydrides  
[NASA-CASE-MFS-22356-1] c06 N74-29479

Polyimides of ether-linked aryl tetracarboxylic dianhydrides  
[NASA-CASE-MFS-22355] c06 N74-29480

**MOTOBOLA, INC., PHOENIX, ARIZ.**  
Automatic frequency discriminators and control for a phase-lock loop providing frequency preset capabilities Patent  
[NASA-CASE-XMF-08665] c10 N71-19467

**MOTOBOLA, INC., SCOTTSDALE, ARIZ.**  
Sealed cabinetry Patent  
[NASA-CASE-MSC-12168-1] c09 N71-18600

Digital frequency discriminator Patent  
[NASA-CASE-MFS-14322] c08 N71-18692

Phase modulator Patent  
[NASA-CASE-MSC-13201-1] c07 N71-28429

Capacitance multiplier and filter synthesizing network  
[NASA-CASE-NPO-11948-1] c10 N74-32712

**N**

**NATIONAL ACADEMY OF SCIENCES - NATIONAL RESEARCH COUNCIL, WASHINGTON, D.C.**  
Converging barrel plasma accelerator Patent  
[NASA-CASE-ARC-10109] c25 N71-29181

Electron microscope aperture system  
[NASA-CASE-ARC-10448-1] c14 N72-21421

Automated method for studying the oxidative metabolism of aniline and similar compounds  
[NASA-CASE-ARC-10469-1] c06 N72-31145

Gyrator employing field effect transistors  
[NASA-CASE-MFS-21433] c09 N73-20232

Integrable power gyrator  
[NASA-CASE-MFS-22342-1] c09 N73-24236

Suppression of flutter  
[NASA-CASE-LAR-10682-1] c02 N73-26004

Optical data processing using paraboloidal mirror segments  
[NASA-CASE-GSC-11296-1] c23 N73-30666

Power supply for carbon dioxide lasers  
[NASA-CASE-GSC-11222-1] c16 N73-32191

Electron microscope aperture system  
[NASA-CASE-ARC-10448-2] c14 N74-12190

Electron microscope aperture system  
[NASA-CASE-ARC-10448-3] c14 N74-12191

High field CDS detector for infrared radiation  
[NASA-CASE-LAR-11027-1] c14 N74-18088

Anti-gravity device  
[NASA-CASE-MFS-22758-1] c15 N74-22146

Holography utilizing surface plasmon resonances  
[NASA-CASE-MFS-22040-1] c14 N74-26946

Vapor phase growth of groups III-V compounds by hydrogen chloride transport of the elements  
[NASA-CASE-LAR-11144-1] c26 N74-27261

Stagnation pressure probe  
[NASA-CASE-LAR-11139-1] c14 N74-32878

Impact position detector for outer space particles  
[NASA-CASE-GSC-11829-1] c14 N74-32886

Moving particle composition analyzer  
[NASA-CASE-GSC-11889-1] c14 N74-32887

Micrometeoroid velocity and trajectory analyzer  
[NASA-CASE-GSC-11892-1] c14 N74-32888

Integrated P-channel MOS gyrator  
[NASA-CASE-MFS-22343-1] c09 N74-34638

**NATIONAL AERONAUTICS AND SPACE ADMINISTRATION. ARNS RESEARCH CENTER, HOFFETT FIELD, CALIF.**  
Nonmagnetic thermal motor for a magnetometer  
[NASA-CASE-XAR-03786] c09 N69-21313

Balanced bellows spirometer  
[NASA-CASE-XAR-01547] c05 N69-21473

Cryogenic apparatus for measuring the intensity of magnetic fields  
[NASA-CASE-XAC-02407] c14 N69-27423

Variable stiffness polymeric damper  
[NASA-CASE-XAC-11225] c14 N69-27486

Shock-layer radiation measurement  
[NASA-CASE-XAC-02970] c14 N69-39896

Protective circuit of the spark gap type  
[NASA-CASE-XAC-08961] c09 N69-39897

Ultra-flexible biomedical electrodes and wires Patent Application  
[NASA-CASE-ARC-10268-1] c09 N70-12620

Apparatus for coupling a plurality of ungrounded circuits to a grounded circuit Patent  
[NASA-CASE-XAC-00086] c09 N70-33182

Modified polyisocyanurate polymer foam Patent Application  
[NASA-CASE-ARC-10280-1] c18 N70-34695

Two-plane balance Patent  
[NASA-CASE-XAC-00073] c14 N70-34813

Centrifuge mounted motion simulator Patent  
[NASA-CASE-XAC-00399] c11 N70-34815

Differential pressure cell Patent  
[NASA-CASE-XAC-00042] c14 N70-34816

High-temperature, high-pressure spherical segment valve Patent  
[NASA-CASE-XAC-00074] c15 N70-34817

Magnetically centered liquid column float Patent  
[NASA-CASE-XAC-00030] c14 N70-34820

Propeller blade loading control Patent  
[NASA-CASE-XAC-00139] c02 N70-34856

Temperature compensated solid state differential amplifier Patent  
[NASA-CASE-XAC-00435] c09 N70-35440

High speed low level electrical stepping switch Patent  
[NASA-CASE-XAC-00060] c09 N70-39915

Analog-to-digital conversion system Patent  
[NASA-CASE-XAC-00404] c08 N70-40125

Null-type vacuum microbalance Patent  
[NASA-CASE-XAC-00472] c15 N70-40180

Thermo-protective device for balances Patent  
[NASA-CASE-XAC-00648] c14 N70-40400

Three-axis controller Patent  
[NASA-CASE-XAC-01404] c05 N70-41581

Electric arc device for heating gases Patent  
[NASA-CASE-XAC-00319] c25 N70-41628

Dynamic sensor Patent  
[NASA-CASE-XAC-02877] c14 N70-41681

Universal pilot restraint suit and body support therefor Patent  
[NASA-CASE-XAC-00405] c05 N70-41819

Proportional controller Patent  
[NASA-CASE-XAC-03392] c03 N70-41954

Force transducer Patent [NASA-CASE-XAC-01101]	c14 N70-41957	Means for suppressing or attenuating bending motion of elastic bodies Patent [NASA-CASE-XAC-05632]	c32 N71-23971
Electrode construction Patent [NASA-CASE-ARC-10043-1]	c05 N71-11193	Device for measuring pressure Patent [NASA-CASE-XAC-04458]	c14 N71-24232
Telemeter adaptable for implanting in an animal Patent [NASA-CASE-XAC-05706]	c05 N71-12342	Transducer circuit and catheter transducer Patent [NASA-CASE-ARC-10132-1]	c09 N71-24597
Generator type circuit Patent [NASA-CASE-XAC-10608-1]	c09 N71-12517	Skeletal stressing method and apparatus Patent [NASA-CASE-ARC-10100-1]	c05 N71-24738
Ultraviolet resonance lamp Patent [NASA-CASE-ARC-10030]	c09 N71-12521	Modified polyurethane foams for fuel-fire Patent [NASA-CASE-ARC-10098-1]	c06 N71-24739
Differential temperature transducer Patent [NASA-CASE-XAC-00812]	c14 N71-15598	Deep space monitor communication satellite system Patent [NASA-CASE-XAC-06029-1]	c31 N71-24813
Multiple circuit switch apparatus with improved pivot actuator structure Patent [NASA-CASE-XAC-03777]	c10 N71-15909	Laser fluid velocity detector Patent [NASA-CASE-XAC-10770-1]	c16 N71-24828
Method of planetary atmospheric investigation using a split-trajectory dual flyby mode Patent [NASA-CASE-XAC-08494]	c30 N71-15990	Transient video signal recording with expanded playback Patent [NASA-CASE-ARC-10003-1]	c09 N71-25866
High efficiency multivibrator Patent [NASA-CASE-XAC-00942]	c10 N71-16042	Thermally cycled magnetometer Patent [NASA-CASE-XAC-03740]	c14 N71-26135
Apparatus for measuring conductivity and velocity of plasma utilizing a plurality of sensing coils positioned in the plasma Patent [NASA-CASE-XAC-05695]	c25 N71-16073	Optical machine tool alignment indicator Patent [NASA-CASE-XAC-09489-1]	c15 N71-26673
Flight craft Patent [NASA-CASE-XAC-02058]	c02 N71-16087	Energy limiter for hydraulic actuators Patent [NASA-CASE-ARC-10131-1]	c15 N71-27754
Three-axis finger tip controller for switches Patent [NASA-CASE-XAC-02405]	c09 N71-16089	Multivibrator circuit with means to prevent false triggering from supply voltage fluctuations Patent [NASA-CASE-ARC-10137-1]	c09 N71-28468
Electrostatic charged particle analyzer having deflection members shaped according to the periodic voltage applied thereto Patent [NASA-CASE-XAC-05506-1]	c24 N71-16095	Locomotion and restraint aid Patent [NASA-CASE-ARC-10153]	c05 N71-28619
Inertial reference apparatus Patent [NASA-CASE-XAC-03107]	c23 N71-16098	Line following servosystem Patent [NASA-CASE-XAC-00001]	c15 N71-28952
Fastener apparatus Patent [NASA-CASE-ARC-10140-1]	c15 N71-17653	Mechanically limited, electrically operated hydraulic valve system for aircraft controls Patent [NASA-CASE-XAC-00048]	c02 N71-29128
Stabilization of gravity oriented satellites Patent [NASA-CASE-XAC-01591]	c31 N71-17729	Precision rectifier with PET switching means Patent [NASA-CASE-ARC-10101-1]	c09 N71-33109
Microwave flaw detector Patent [NASA-CASE-ARC-10009-1]	c15 N71-17822	Solar cell Patent [NASA-CASE-ARC-10050]	c03 N71-33409
Hypervelocity gun Patent [NASA-CASE-XAC-05902]	c11 N71-18578	Signal conditioning circuit apparatus [NASA-CASE-ARC-10348-1]	c10 N72-10205
Nonlinear analog-to-digital converter Patent [NASA-CASE-XAC-04031]	c08 N71-18594	Diatomic infrared gasdynamic laser [NASA-CASE-ARC-10370-1]	c16 N72-10432
Demodulation system Patent [NASA-CASE-XAC-04030]	c10 N71-19472	Phase shift circuit apparatus [NASA-CASE-ARC-10269-1]	c10 N72-16172
Phase quadrature-plural channel data transmission system Patent [NASA-CASE-XAC-06302]	c08 N71-19763	High intensity radiant energy pulse source having means for opening shutter when light flux has reached a desired level [NASA-CASE-ARC-10178-1]	c09 N72-17152
Two force component measuring device Patent [NASA-CASE-XAC-04886-1]	c14 N71-20439	Telemetry actuated switch [NASA-CASE-ARC-10105]	c09 N72-17153
Attitude controls for VTOL aircraft [NASA-CASE-XAC-08972]	c02 N71-20570	Active RC networks [NASA-CASE-ARC-10020]	c10 N72-17172
Electric arc apparatus Patent [NASA-CASE-XAC-01677]	c09 N71-20816	Apparatus for automatically stabilizing the attitude of a nonguided vehicle [NASA-CASE-ARC-10134]	c30 N72-17873
Inertia diaphragm pressure transducer Patent [NASA-CASE-XAC-02981]	c14 N71-21072	Flexible fire retardant foam [NASA-CASE-ARC-10180-1]	c28 N72-20767
Stirring apparatus for plural test tubes Patent [NASA-CASE-XAC-06956]	c15 N71-21177	Gas chromatograph injection system [NASA-CASE-ARC-10344-1]	c14 N72-21433
Exposure system for animals Patent [NASA-CASE-XAC-05333]	c11 N71-22875	Method and apparatus for swept-frequency impedance measurements of welds [NASA-CASE-ARC-10176-1]	c15 N72-21464
Vibrating element electrometer with output signal magnified over input signal by a function of the mechanical Q of the vibrating element Patent [NASA-CASE-XAC-02807]	c09 N71-23021	Space suit having improved waist and torso movement [NASA-CASE-ARC-10275-1]	c05 N72-22092
Ball current measuring apparatus having a series resistor for temperature compensation Patent [NASA-CASE-XAC-01662]	c14 N71-23037	RF controlled solid state switch [NASA-CASE-ARC-10136-1]	c09 N72-22202
Transfer valve Patent [NASA-CASE-XAC-01158]	c15 N71-23051	Wide range dynamic pressure sensor [NASA-CASE-ARC-10263-1]	c14 N72-22438
Hard space suit Patent [NASA-CASE-XAC-07043]	c05 N71-23161	Method and apparatus for measuring the damping characteristics of a structure [NASA-CASE-ARC-10154-1]	c14 N72-22440
Method and apparatus for continuously monitoring blood oxygenation, blood pressure, pulse rate and the pressure pulse curve utilizing an ear oximeter as transducer Patent [NASA-CASE-XAC-05422]	c04 N71-23185	Magnetic position detection method and apparatus [NASA-CASE-ARC-10179-1]	c21 N72-22619
Feedback integrator with grounded capacitor Patent [NASA-CASE-XAC-10607]	c10 N71-23669	Fluidic proportional thruster system [NASA-CASE-ARC-10106-1]	c28 N72-22769
Floating two force component measuring device Patent [NASA-CASE-XAC-04885]	c14 N71-23790	Thermoelectric radiometer utilizing polymer film [NASA-CASE-ARC-10138-1]	c14 N72-24477
Control device Patent [NASA-CASE-XAC-10019]	c15 N71-23809	Polymeric vehicles as carriers for sulfonic acid salt of nitrosubstituted aromatic amines [NASA-CASE-ARC-10325]	c06 N72-25147
		Bio-isolated dc operational amplifier [NASA-CASE-ARC-10596-1]	c09 N72-27233
		Stereoscopic television system and apparatus [NASA-CASE-ARC-10160-1]	c23 N72-27728



Metallic intrusion detector system  
[NASA-CASE-ARC-10265-1] c10 N72-28240

Apparatus for ionization analysis  
[NASA-CASE-ARC-10017-1] c14 N72-29460

Shoulder harness and lap belt restraint system  
[NASA-CASE-ARC-10519-1] c05 N72-31117

Nondispersive gas analyzing method and apparatus wherein radiation is serially passed through a reference and unknown gas  
[NASA-CASE-ARC-10308-1] c06 N72-31141

Two degree inverted flexure  
[NASA-CASE-ARC-10345-1] c15 N73-12488

Intumescent paint containing nitrile rubber  
[NASA-CASE-ARC-10196-1] c18 N73-13562

Miniature ingestible telemeter devices to measure deep body temperature  
[NASA-CASE-ARC-10583-1] c05 N73-14093

Temperature compensated light source using a light emitting diode  
[NASA-CASE-ARC-10467-1] c09 N73-14214

Self-tuning bandpass filter  
[NASA-CASE-ARC-10264-1] c09 N73-20231

Micrometeoroid analyzer  
[NASA-CASE-ARC-10443-1] c14 N73-20477

Multiple pass reimaging optical system  
[NASA-CASE-ARC-10194-1] c23 N73-20741

Continuous Fourier transform method and apparatus  
[NASA-CASE-ARC-10466-1] c08 N73-21199

Dual wavelength scanning Doppler velocimeter  
[NASA-CASE-ARC-10637-1] c14 N73-21390

Intruder detection system  
[NASA-CASE-ARC-10097-2] c07 N73-25160

Interferometric rotation sensor  
[NASA-CASE-ARC-10278-1] c14 N73-25463

Dual-fuselage aircraft having yawable wing and horizontal stabilizer  
[NASA-CASE-ARC-10470-1] c02 N73-26005

Temperature controller for a fluid cooled garment  
[NASA-CASE-ARC-10599-1] c05 N73-26071

Visual examination apparatus  
[NASA-CASE-ARC-10329-1] c05 N73-26072

Intumescent composition, foamed product prepared therewith, and process for making same  
[NASA-CASE-ARC-10304-1] c18 N73-26572

Wind tunnel flow generation section  
[NASA-CASE-ARC-10710-1] c11 N73-27175

Water purification membranes and method of preparation  
[NASA-CASE-ARC-10643-1] c06 N73-29074

Infrared tunable laser  
[NASA-CASE-ARC-10463-1] c09 N73-32111

Low power electromagnetic flowmeter providing accurate zero set  
[NASA-CASE-ARC-10362-1] c14 N73-32326

Protection of moisture sensitive optical components  
[NASA-CASE-ARC-10749-1] c23 N73-32542

All sky pointing attitude control system  
[NASA-CASE-ARC-10716-1] c31 N73-32784

Hand-held photomicroscope  
[NASA-CASE-ARC-10468-1] c14 N73-33361

Alignment apparatus using a laser having a gravitationally sensitive cavity reflector  
[NASA-CASE-ARC-10444-1] c16 N73-33397

Fiber modified polyurethane foam for ballistic protection  
[NASA-CASE-ARC-10714-1] c18 N74-11366

Ultra-flexible biomedical electrodes and wires  
[NASA-CASE-ARC-10268-2] c05 N74-11900

Ultra-flexible biomedical electrode and wires  
[NASA-CASE-ARC-10268-3] c05 N74-11901

Ultraviolet and thermally stable polymer compositions  
[NASA-CASE-ARC-10592-2] c06 N74-11926

Polyimide foam for the thermal insulation and fire protection  
[NASA-CASE-ARC-10464-1] c06 N74-12812

Flexible fire retardant polyisocyanate modified neoprene foam  
[NASA-CASE-ARC-10180-1] c06 N74-12814

Reference apparatus for medical ultrasonic transducer  
[NASA-CASE-ARC-10753-1] c05 N74-13818

Silica reusable surface insulation  
[NASA-CASE-ARC-10721-1] c18 N74-14230

Diode-quad bridge circuit means  
[NASA-CASE-ARC-10364-2(B)] c09 N74-14941

Heater-mixer for stored fluids  
[NASA-CASE-ARC-10402-1] c14 N74-15093

Bi-metallic fluid displacement apparatus  
[NASA-CASE-ARC-10441-1] c15 N74-15126

Automatic real-time pair-feeding system for animals  
[NASA-CASE-ARC-10302-1] c04 N74-15778

Anthropomorphic master/slave manipulator system  
[NASA-CASE-ARC-10756-1] c15 N74-16739

Transparent fire resistant polymeric structures  
[NASA-CASE-ARC-10813-1] c18 N74-16249

Overvoltage protection network  
[NASA-CASE-ARC-10197-1] c09 N74-17929

Combined dual scatter, local oscillator laser Doppler velocimeter  
[NASA-CASE-ARC-10642-1] c14 N74-18099

Shoulder harness and lap belt restraint system  
[NASA-CASE-ARC-10519-2] c05 N74-18805

Visual examination apparatus  
[NASA-CASE-ARC-10329-2] c05 N74-19761

Gas chromatograph injection system  
[NASA-CASE-ARC-10344-2] c14 N74-20021

Ultrasonic biomedical measuring and recording apparatus  
[NASA-CASE-ARC-10597-1] c05 N74-20726

Ultraviolet and thermally stable polymer compositions  
[NASA-CASE-ARC-10592-1] c18 N74-21156

High speed shutter  
[NASA-CASE-ARC-10516-1] c23 N74-21300

Bi-isolated dc operational amplifier  
[NASA-CASE-ARC-10586-1] c09 N74-21851

Programmable physiological infusion  
[NASA-CASE-ARC-10447-1] c05 N74-22771

Diode quad transducer and discriminator circuit  
[NASA-CASE-ARC-10364-3] c10 N74-26760

Chromato-fluorographic drug detector  
[NASA-CASE-ARC-10633-1] c14 N74-26947

Intumescent composition, foamed product prepared therewith and process for making same  
[NASA-CASE-ARC-10304-2] c18 N74-27037

Photomultiplier circuit including means for rapidly reducing the sensitivity thereof  
[NASA-CASE-ARC-10593-1] c09 N74-27682

G-load measuring and indicator apparatus  
[NASA-CASE-ARC-10806] c14 N74-27872

Modulated hydrogen ion flame detector  
[NASA-CASE-ARC-10322-1] c14 N74-27875

Concentric differential gearing arrangement  
[NASA-CASE-ARC-10462-1] c15 N74-27901

An NDIR gas analyzer based on absorption modulation ratios for known and unknown samples  
[NASA-CASE-ARC-10802-1] c14 N74-28933

Integrated structure vacuum tube  
[NASA-CASE-ARC-10445-1] c09 N74-29577

Electrical conductivity cell and method for fabricating the same  
[NASA-CASE-ARC-10810-1] c14 N74-29772

Trielectrode capacitive pressure transducer  
[NASA-CASE-ARC-10711-1] c14 N74-29773

Measurement of plasma temperature and density using radiation absorption  
[NASA-CASE-ARC-10598-1] c25 N74-30156

Single wing supersonic aircraft  
[NASA-CASE-ARC-10470-3] c01 N74-30414

Apparatus for span loading to alleviate wake-vortex hazard behind aircraft  
[NASA-CASE-ARC-10801-1] c02 N74-32428

Vehicle simulator binocular multiplanar visual display system  
[NASA-CASE-ARC-10808-1] c11 N74-32718

Abating exhaust noises in jet engines  
[NASA-CASE-ARC-10712-1] c28 N74-33218

Solid medium thermal engine  
[NASA-CASE-ARC-10461-1] c33 N74-33379

Hingeless helicopter rotor with improved stability  
[NASA-CASE-ARC-10807-1] c02 N74-34475

A method and apparatus for compensating reflection losses in a path length modulated absorption-absorption trace gas detector  
[NASA-CASE-ARC-10631-1] c14 N74-34864

**NATIONAL AERONAUTICS AND SPACE ADMINISTRATION. ELECTRONICS RESEARCH CENTER, CAMBRIDGE, MASS.**

Method and apparatus for wavelength tuning of liquid lasers  
[NASA-CASE-ERC-10187] c16 N69-31343

A method for the deposition of beta-silicon carbide by isoeptaxy  
[NASA-CASE-ERC-10120] c26 N69-33482

Full flow with shut off and selective drainage control valve Patent application

## SOURCE INDEX

## NATIONAL AERONAUTICS AND SPACE ADMINISTRATION. CONTD

[NASA-CASE-ERC-10208] c15 N70-10867  
 Method for selective gold diffusion of  
 monolithic silicon devices and/or circuits  
 Patent application  
 [NASA-CASE-ERC-10072] c09 N70-11148  
 Method and apparatus for predicting the  
 occurrence of major solar events Patent  
 Application  
 [NASA-CASE-ERC-10323-1] c30 N70-22183  
 Method and means for an improved electron beam  
 scanning system Patent  
 [NASA-CASE-ERC-10552] c09 N71-12539  
 Apparatus and method for separating a  
 semiconductor wafer Patent  
 [NASA-CASE-ERC-10138] c26 N71-14354  
 Focused image holography with extended sources  
 Patent  
 [NASA-CASE-ERC-10019] c16 N71-15551  
 Recording and reconstructing focused image  
 holograms Patent  
 [NASA-CASE-ERC-10017] c16 N71-15567  
 Sorption vacuum trap Patent  
 [NASA-CASE-IER-09519] c14 N71-18483  
 Voltage tunable Gunn-type microwave generator  
 Patent  
 [NASA-CASE-IER-07894] c09 N71-18721  
 Array phasing device Patent  
 [NASA-CASE-ERC-10046] c10 N71-18722  
 Parametric microwave noise generator Patent  
 [NASA-CASE-IER-11019] c09 N71-23598  
 Saturation current protection apparatus for  
 saturable core transformers Patent  
 [NASA-CASE-ERC-10075] c09 N71-24800  
 Repetitively pulsed, wavelength selective laser  
 Patent  
 [NASA-CASE-ERC-10178] c16 N71-24832  
 Optical mirror apparatus Patent  
 [NASA-CASE-ERC-10001] c23 N71-24868  
 Unsaturation saturable core transformer Patent  
 [NASA-CASE-ERC-10125] c09 N71-24893  
 Leak detector wherein a probe is monitored with  
 ultraviolet radiation Patent  
 [NASA-CASE-ERC-10034] c15 N71-24896  
 Method for detecting leaks in hermetically  
 sealed containers Patent  
 [NASA-CASE-ERC-10045] c15 N71-24910  
 Satellite aided vehicle avoidance system Patent  
 [NASA-CASE-ERC-10090] c21 N71-24948  
 Transverse piezoresistance and pinch effect  
 electromechanical transducers Patent  
 [NASA-CASE-ERC-10088] c26 N71-25490  
 A solid state acoustic variable time delay line  
 Patent  
 [NASA-CASE-ERC-10032] c10 N71-25900  
 Method and means for recording and  
 reconstructing holograms without use of a  
 reference beam Patent  
 [NASA-CASE-ERC-10020] c16 N71-26154  
 Electromechanical control actuator system Patent  
 [NASA-CASE-ERC-10022] c15 N71-26635  
 Method and apparatus for detecting gross leaks  
 Patent  
 [NASA-CASE-ERC-10033] c14 N71-26672  
 Field ionization electrodes Patent  
 [NASA-CASE-ERC-10013] c09 N71-26678  
 Voltage regulator Patent  
 [NASA-CASE-ERC-10113] c09 N71-27053  
 A multichannel photoionization chamber for  
 absorption analysis Patent  
 [NASA-CASE-ERC-10044-1] c14 N71-27090  
 Pressure sensitive transducers Patent  
 [NASA-CASE-ERC-10087] c14 N71-27334  
 Constant frequency output two stage induction  
 machine systems Patent  
 [NASA-CASE-ERC-10065] c09 N71-27364  
 Fluid power transmitting gas bearing Patent  
 [NASA-CASE-ERC-10097] c15 N71-28465  
 Color television systems using a single gun  
 color cathode ray tube Patent  
 [NASA-CASE-ERC-10098] c09 N71-28618  
 Ion microprobe mass spectrometer for analyzing  
 fluid materials Patent  
 [NASA-CASE-ERC-10014] c14 N71-28863  
 Orifice gross leak tester Patent  
 [NASA-CASE-ERC-10150] c14 N71-28992  
 Device for measuring light scattering wherein  
 the measuring beam is successively reflected  
 between a pair of parallel reflectors Patent  
 [NASA-CASE-IER-11203] c14 N71-28994  
 Quasi-optical microwave component Patent  
 [NASA-CASE-ERC-10011] c07 N71-29065  
 Multiple hologram recording and readout system  
 Patent  
 [NASA-CASE-ERC-10151] c16 N71-29131  
 Plasma fluidic hybrid display Patent  
 [NASA-CASE-ERC-10100] c09 N71-33519  
 Optical systems having spatially invariant outputs  
 [NASA-CASE-ERC-10248] c14 N72-17323  
 Method of detecting impending saturation of  
 magnetic cores  
 [NASA-CASE-ERC-10089] c23 N72-17747  
 Improved satellite aided vehicle avoidance system  
 [NASA-CASE-ERC-10419] c21 N72-21631  
 Logarithmic function generator utilizing an  
 exponentially varying signal in an inverse  
 radner  
 [NASA-CASE-ERC-10267] c09 N72-23173  
 Method and apparatus for limiting field emission  
 current  
 [NASA-CASE-ERC-10015-2] c10 N72-27246  
**NATIONAL AERONAUTICS AND SPACE ADMINISTRATION.**  
**FLIGHT RESEARCH CENTER, EDWARDS, CALIF.**  
 Rocket chamber leak test fixture  
 [NASA-CASE-XFR-09479] c14 N69-27503  
 System for communicating biomedical information  
 by means of unmodified conventional voice  
 communication systems Patent Application  
 [NASA-CASE-PRC-10031] c05 N70-20717  
 Three axis controller Patent  
 [NASA-CASE-IFR-00181] c21 N70-33279  
 Catalyst bed removing tool Patent  
 [NASA-CASE-XFR-00811] c15 N70-36901  
 Two-axis controller Patent  
 [NASA-CASE-IFR-04104] c03 N70-42073  
 Controlled visibility device for an aircraft  
 Patent  
 [NASA-CASE-IFR-04147] c11 N71-10748  
 Biomedical electrode arrangement Patent  
 [NASA-CASE-IFR-10856] c05 N71-11189  
 Lifting body Patent Application  
 [NASA-CASE-PRC-10063] c01 N71-12217  
 Energy management system for glider type vehicle  
 Patent  
 [NASA-CASE-XFR-00756] c02 N71-13421  
 Quick attach mechanism Patent  
 [NASA-CASE-XFR-05421] c15 N71-22994  
 Heat flux measuring system Patent  
 [NASA-CASE-IFR-03802] c33 N71-23085  
 Threadless fastener apparatus Patent  
 [NASA-CASE-IFR-05302] c15 N71-23254  
 Traversing probe Patent  
 [NASA-CASE-XFR-02007] c12 N71-24692  
 Layout tool Patent  
 [NASA-CASE-PRC-10005] c15 N71-26145  
 Pulsed excitation voltage circuit for transducers  
 [NASA-CASE-PRC-10036] c09 N72-22200  
 Acoustical transducer calibrating system and  
 apparatus  
 [NASA-CASE-PRC-10060-1] c14 N73-27379  
 Three-axis adjustable loading structure  
 [NASA-CASE-PRC-10051-1] c14 N74-13129  
 Terminal guidance system  
 [NASA-CASE-PRC-10049-1] c21 N74-13420  
 Full wave modulator-demodulator amplifier  
 apparatus  
 [NASA-CASE-PRC-10072-1] c09 N74-14939  
 Rotating raster generator  
 [NASA-CASE-PRC-10071-1] c07 N74-20813  
**NATIONAL AERONAUTICS AND SPACE ADMINISTRATION.**  
**GODDARD SPACE FLIGHT CENTER, GREENBELT, MD.**  
 Regulated dc to dc converter  
 [NASA-CASE-IGS-03429] c03 N69-21330  
 Apparatus for measuring swelling characteristics  
 of membranes  
 [NASA-CASE-IGS-03865] c14 N69-21363  
 Tumbler system to provide random motion  
 [NASA-CASE-IGS-02437] c15 N69-21472  
 Automatic acquisition system for phase-lock loop  
 [NASA-CASE-IGS-04994] c09 N69-21543  
 Low power drain semi-conductor circuit  
 [NASA-CASE-XGS-04999] c09 N69-24317  
 Spacecraft battery seals  
 [NASA-CASE-IGS-03864] c15 N69-24320  
 Scanning aspect sensor employing an apertured  
 disc and a commutator  
 [NASA-CASE-XGS-08266] c14 N69-27432  
 Monopulse system with an electronic scanner  
 [NASA-CASE-XGS-05582] c07 N69-27460

Ring counter [NASA-CASE-XGS-03095]	c09 N69-27463	Passively regulated water electrolysis rocket engine Patent [NASA-CASE-XGS-08729]	c28 N71-14044
Retrodirective optical system [NASA-CASE-XGS-04480]	c16 N69-27491	Attitude control system Patent [NASA-CASE-XGS-04393]	c21 N71-14159
Time division multiplex system [NASA-CASE-XGS-05918]	c07 N69-39974	Retrodirective modulator Patent [NASA-CASE-GSC-10062]	c14 N71-15605
Doppler frequency spread correction device for multiplex transmissions [NASA-CASE-XGS-02749]	c07 N69-39978	Spacecraft attitude detection system by stellar reference Patent [NASA-CASE-XGS-03431]	c21 N71-15642
Alkali-metal silicate protective coating [NASA-CASE-XGS-04119]	c18 N69-39979	Cartwheel satellite synchronization system Patent [NASA-CASE-XGS-05579]	c31 N71-15676
Device for measuring electron-beam intensities and for subjecting materials to electron irradiation in an electron microscope [NASA-CASE-XGS-01725]	c14 N69-39982	Wide range linear fluxgate magnetometer Patent [NASA-CASE-XGS-01587]	c14 N71-15962
Light sensitive digital aspect sensor Patent [NASA-CASE-XGS-00359]	c14 N70-34158	Low friction magnetic recording tape Patent [NASA-CASE-XGS-00373]	c23 N71-15978
Method and apparatus for determining satellite orientation utilizing spatial energy sources Patent [NASA-CASE-XGS-00466]	c21 N70-34297	Method for etching copper Patent [NASA-CASE-XGS-06306]	c17 N71-16044
Binary magnetic memory device Patent [NASA-CASE-XGS-00174]	c08 N70-34743	Bacteriostatic conformal coating and methods of application Patent [NASA-CASE-GSC-10007]	c18 N71-16046
Full binary adder Patent [NASA-CASE-XGS-00689]	c08 N70-34787	Serrodyne frequency converter re-entrant amplifier system Patent [NASA-CASE-XGS-01022]	c07 N71-16088
Ultra-long monostable multivibrator employing bistable semiconductor switch to allow charging of timing circuit Patent [NASA-CASE-XGS-00381]	c09 N70-34819	Position location and data collection system and method Patent [NASA-CASE-GSC-10083-1]	c30 N71-16090
Controlled caging and uncaging mechanism Patent Application [NASA-CASE-GSC-11063-1]	c03 N70-35584	Position sensing device employing misaligned magnetic field generating and detecting apparatus Patent [NASA-CASE-XGS-07514]	c23 N71-16099
Space and atmospheric reentry vehicle Patent [NASA-CASE-XGS-00260]	c31 N70-37924	Optical tracker having overlapping reticles on parallel axes Patent [NASA-CASE-XGS-05715]	c23 N71-16100
Variable frequency magnetic multivibrator Patent [NASA-CASE-XGS-00458]	c09 N70-38604	Self-erecting reflector Patent [NASA-CASE-XGS-09190]	c31 N71-16102
Switching mechanism with energy storage means Patent [NASA-CASE-XGS-00473]	c03 N70-38713	Dust particle injector for hypervelocity accelerators Patent [NASA-CASE-XGS-06628]	c24 N71-16213
Variable frequency magnetic multivibrator Patent [NASA-CASE-XGS-00131]	c09 N70-38995	Ellipsoidal mirror reflectometer including means for averaging the radiation reflected from the sample Patent [NASA-CASE-XGS-05291]	c23 N71-16341
Stretch de-spin mechanism Patent [NASA-CASE-XGS-00619]	c30 N70-40016	Angular position and velocity sensing apparatus Patent [NASA-CASE-XGS-05680]	c14 N71-17585
Folding boom assembly Patent [NASA-CASE-XGS-00938]	c32 N70-41367	Apparatus for controlling the velocity of an electromechanical drive for interferometers and the like Patent [NASA-CASE-XGS-03532]	c14 N71-17627
Cryogenic connector for vacuum use Patent [NASA-CASE-XGS-02441]	c15 N70-41629	Omni-directional anisotropic molecular trap Patent [NASA-CASE-XGS-00783]	c30 N71-17788
Endless tape cartridge Patent [NASA-CASE-XGS-00769]	c14 N70-41647	Method of making tubes Patent [NASA-CASE-XGS-04175]	c15 N71-18579
Apparatus for producing three-dimensional recordings of fluorescence spectra Patent [NASA-CASE-XGS-01231]	c14 N70-41676	Pulse-type magnetic core memory element circuit with blocking oscillator feedback Patent [NASA-CASE-XGS-03303]	c08 N71-18595
Method and apparatus for determining electromagnetic characteristics of large surface area passive reflectors Patent [NASA-CASE-XGS-02608]	c07 N70-41678	Ripple add and ripple subtract binary counters Patent [NASA-CASE-XGS-04766]	c08 N71-18602
Prevention of pressure build-up in electrochemical cells Patent [NASA-CASE-XGS-01419]	c03 N70-41864	Computing apparatus Patent [NASA-CASE-XGS-04765]	c08 N71-18693
Variable time constant smoothing circuit Patent [NASA-CASE-XGS-01983]	c10 N70-41964	Stepping motor control circuit Patent [NASA-CASE-GSC-10366-1]	c10 N71-18772
Endless tape transport mechanism Patent [NASA-CASE-XGS-01223]	c07 N71-10609	Traffic control system and method Patent [NASA-CASE-GSC-10087-1]	c02 N71-19287
Reversible ring counter employing cascaded single SCR stages Patent [NASA-CASE-XGS-01473]	c09 N71-10673	Apparatus for measuring current flow Patent [NASA-CASE-XGS-02439]	c14 N71-19431
Electronic beam switching commutator Patent [NASA-CASE-XGS-01451]	c09 N71-10677	Synchronous counter Patent [NASA-CASE-XGS-02440]	c08 N71-19432
Sun tracker with rotatable plane-parallel plate and two photocells Patent [NASA-CASE-XGS-01159]	c21 N71-10678	Wide range data compression system Patent [NASA-CASE-XGS-02612]	c08 N71-19435
Non-magnetic battery case Patent [NASA-CASE-XGS-00886]	c03 N71-11053	Apparatus for computing square roots Patent [NASA-CASE-XGS-04768]	c08 N71-19437
Interconnection of solar cells Patent [NASA-CASE-XGS-01475]	c03 N71-11058	Method and apparatus for battery charge control Patent [NASA-CASE-XGS-05432]	c03 N71-19438
Frequency shift keyed demodulator Patent [NASA-CASE-XGS-02889]	c07 N71-11282	Stable amplifier having a stable quiescent point Patent [NASA-CASE-XGS-02812]	c09 N71-19466
Bi-polar phase detector and corrector for split phase PCM data signals Patent [NASA-CASE-XGS-01590]	c07 N71-12392	Tracking antenna system Patent [NASA-CASE-GSC-10553-1]	c07 N71-19854
Data processor having multiple sections activated at different times by selective power coupling to the sections Patent [NASA-CASE-XGS-04767]	c08 N71-12494	Electrochemical coulometer and method of forming same Patent [NASA-CASE-XGS-05434]	c03 N71-20491
Position location system and method Patent [NASA-CASE-GSC-10087-2]	c21 N71-13958	Display for binary characters Patent [NASA-CASE-XGS-04987]	c08 N71-20571
Fire resistant coating composition Patent [NASA-CASE-GSC-10072]	c18 N71-14014	Amplifier clamping circuit for horizon scanner Patent	

[NASA-CASE-XGS-01784]	c10 N71-20782	Redundant actuating mechanism Patent
Diversity receiving system with diversity phase lock Patent		[NASA-CASE-XGS-08718] c15 N71-24600
[NASA-CASE-XGS-01222]	c10 N71-20841	Satellite communication system and method Patent
Signal detection and tracking apparatus Patent		[NASA-CASE-GSC-10118-1] c07 N71-24621
[NASA-CASE-XGS-03502]	c10 N71-20852	Programmable telemetry system Patent
Polarization diversity monopulse tracking receiver Patent		[NASA-CASE-GSC-10131-1] c07 N71-24624
[NASA-CASE-XGS-03501]	c09 N71-20864	Coulometer and third electrode battery charging circuit Patent
System for recording and reproducing pulse code modulated data Patent		[NASA-CASE-GSC-10487-1] c03 N71-24719
[NASA-CASE-XGS-01021]	c08 N71-21042	Electronic scanning of 2-channel monopulse patterns Patent
Satellite appendage tie down cord Patent		[NASA-CASE-GSC-10299-1] c09 N71-24804
[NASA-CASE-XGS-02554]	c31 N71-21064	Annular slit colloid thruster Patent
Reaction wheel scanner Patent		[NASA-CASE-GSC-10709-1] c28 N71-25213
[NASA-CASE-XGS-02629]	c14 N71-21082	Voltage to frequency converter Patent
Nonmagnetic, explosive actuated indexing device Patent		[NASA-CASE-GSC-10022-1] c10 N71-25882
[NASA-CASE-XGS-02422]	c15 N71-21529	Direct current motor with stationary armature and field Patent
Bidirectional step torque filter with zero backlash characteristic Patent		[NASA-CASE-XGS-05290] c09 N71-25999
[NASA-CASE-XGS-04227]	c15 N71-21744	Buck boost voltage regulation circuit Patent
Conforming polisher for aspheric surface of revolution Patent		[NASA-CASE-GSC-10735-1] c10 N71-26085
[NASA-CASE-XGS-02884]	c15 N71-22705	Adaptive system and method for signal generation Patent
Precision thrust gage Patent		[NASA-CASE-GSC-11367] c10 N71-26374
[NASA-CASE-XGS-02319]	c14 N71-22965	Control apparatus for applying pulses of selectively predetermined duration to a sequence of loads Patent
Sealing device for an electrochemical cell Patent		[NASA-CASE-XGS-04224] c10 N71-26418
[NASA-CASE-XGS-02630]	c03 N71-22974	Turn on transient limiter Patent
Rotary bead dropper and selector for testing micrometeorite detectors Patent		[NASA-CASE-GSC-10413] c10 N71-26531
[NASA-CASE-XGS-03304]	c09 N71-22988	Voltage regulator with plural parallel power source sections Patent
Moment of inertia test fixture Patent		[NASA-CASE-GSC-10891-1] c10 N71-26626
[NASA-CASE-XGS-01023]	c14 N71-22992	Method for generating ultra-precise angles Patent
Fluid flow meter with comparator reference means Patent		[NASA-CASE-XGS-04173] c19 N71-26674
[NASA-CASE-XGS-01331]	c14 N71-22996	Resettable monostable pulse generator Patent
Foamed in place ceramic refractory insulating material Patent		[NASA-CASE-GSC-11139] c09 N71-27016
[NASA-CASE-XGS-02435]	c18 N71-22998	Micro-pound extended range thrust stand Patent
Digital telemetry system Patent		[NASA-CASE-GSC-10710-1] c28 N71-27094
[NASA-CASE-XGS-01812]	c07 N71-23001	Synchronous dc direct drive system Patent
Bonded elastomeric seal for electrochemical cells Patent		[NASA-CASE-GSC-10065-1] c10 N71-27136
[NASA-CASE-XGS-02631]	c03 N71-23006	Antenna array at focal plane of reflector with coupling network for beam switching Patent
Apparatus providing a directive field pattern and attitude sensing of a spin stabilized satellite Patent		[NASA-CASE-GSC-10220-1] c07 N71-27233
[NASA-CASE-XGS-02607]	c31 N71-23009	Gravity gradient attitude control system Patent
Complementary regenerative switch Patent		[NASA-CASE-GSC-10555-1] c21 N71-27324
[NASA-CASE-XGS-02751]	c09 N71-23015	Magnetic bearing Patent Application
Solid state pulse generator with constant output width, for variable input width, in nanosecond range Patent		[NASA-CASE-GSC-11079-1] c21 N71-28461
[NASA-CASE-XGS-03427]	c10 N71-23029	Segmented superconducting magnet for a broadband traveling wave maser Patent
Sidereal frequency generator Patent		[NASA-CASE-XGS-10518] c16 N71-28554
[NASA-CASE-XGS-02610]	c14 N71-23174	Millimeter wave antenna system Patent Application
Solar cell and circuit array and process for nullifying magnetic fields Patent		[NASA-CASE-GSC-10949-1] c07 N71-28965
[NASA-CASE-XGS-03390]	c03 N71-23187	Sampled data controller Patent
Passive synchronized spike generator with high input impedance and low output impedance and capacitor power supply Patent		[NASA-CASE-GSC-10554-1] c08 N71-29033
[NASA-CASE-XGS-03632]	c09 N71-23311	Variable digital processor including a register for shifting and rotating bits in either direction Patent
Sealed electrochemical cell provided with a flexible casing Patent		[NASA-CASE-GSC-10186] c08 N71-33110
[NASA-CASE-XGS-01513]	c03 N71-23336	Processes for making sheets with parallel pores of uniform size
Digitally controlled frequency synthesizer Patent		[NASA-CASE-GSC-10984-1] c15 N71-34427
[NASA-CASE-XGS-02317]	c09 N71-23525	Combustion products generating and metering device
Radio frequency coaxial high pass filter Patent		[NASA-CASE-GSC-11095-1] c14 N71-10375
[NASA-CASE-XGS-01418]	c09 N71-23573	Analog spatial maneuver computer
Apparatus for phase stability determination Patent		[NASA-CASE-GSC-10880-1] c08 N71-11172
[NASA-CASE-XGS-01118]	c10 N71-23662	Helical recorder arrangement for multiple channel recording on both sides of the tape
Tape recorder Patent		[NASA-CASE-GSC-10614-1] c09 N71-11224
[NASA-CASE-XGS-08259]	c14 N71-23698	Method and apparatus for eliminating coherent noise in a coherent energy imaging system without destroying spatial coherence
Balance torque meter Patent		[NASA-CASE-GSC-11133-1] c23 N71-11568
[NASA-CASE-XGS-01013]	c14 N71-23725	Position location system and method
Mechanical actuator Patent		[NASA-CASE-GSC-10087-3] c07 N71-12080
[NASA-CASE-XGS-04548]	c15 N71-24045	Facsimile video remodulation network
Selective plating of etched circuits without removing previous plating Patent		[NASA-CASE-GSC-10185-1] c07 N71-12081
[NASA-CASE-XGS-03120]	c15 N71-24047	Frangible electrochemical cell
Alkali metal silicate protective coating Patent		[NASA-CASE-XGS-10010] c03 N71-15986
[NASA-CASE-XGS-04799]	c18 N71-24183	Caterpillar micro positioner
Strain gauge measuring techniques Patent		[NASA-CASE-GSC-10780-1] c14 N71-16283
[NASA-CASE-XGS-04478]	c14 N71-24233	Minimech self-deploying boom mechanism
Electromagnetic polarization systems and methods Patent		[NASA-CASE-GSC-10566-1] c15 N71-18477
[NASA-CASE-GSC-10021-1]	c09 N71-24595	Heated porous plug microthruster
		[NASA-CASE-GSC-10640-1] c28 N71-18766
		Optimum performance spacecraft solar cell system
		[NASA-CASE-GSC-10669-1] c03 N71-20031
		Monostable multivibrator
		[NASA-CASE-GSC-10082-1] c10 N71-20221

Roll alignment detector [NASA-CASE-GSC-10514-1]	c14 N72-20379	Method of detecting and counting bacteria in body fluids [NASA-CASE-GSC-11092-2]	c04 N73-27052
Cosmic dust sensor [NASA-CASE-GSC-10503-1]	c14 N72-20381	Protein sterilization method of firefly luciferase using reduced pressure and molecular sieves [NASA-CASE-GSC-10225-1]	c06 N73-27086
Solenoid valve including guide for armature and valve member [NASA-CASE-GSC-10607-1]	c15 N72-20442	Process for making RF shielded cable connector assemblies and the products formed thereby [NASA-CASE-GSC-11215-1]	c09 N73-28083
Fast response low power drain logic circuits [NASA-CASE-GSC-10878-1]	c10 N72-22236	Device for determining relative angular position between a spacecraft and a radiation emitting celestial body [NASA-CASE-GSC-11444-1]	c14 N73-28490
Trap for preventing diffusion pump backstreaming [NASA-CASE-GSC-10518-1]	c15 N72-22489	Microscope multi-angle, reflection, viewing adaptor and photographic recording system [NASA-CASE-GSC-11690-1]	c14 N73-28499
Resistance soldering apparatus [NASA-CASE-GSC-10913]	c15 N72-22491	Fastener stretcher [NASA-CASE-GSC-11149-1]	c15 N73-30457
Optical system support apparatus [NASA-CASE-XER-07896-2]	c23 N72-22673	Spacecraft attitude sensor [NASA-CASE-GSC-10890-1]	c21 N73-30640
SCR lamp driver [NASA-CASE-GSC-10221-1]	c09 N72-23171	Digital phase locked loop [NASA-CASE-GSC-11623-1]	c10 N73-31202
Potassium silicate zinc coatings [NASA-CASE-GSC-10361-1]	c18 N72-23581	Automatic instrument for chemical processing to detect microorganism in biological samples by measuring light reactions [NASA-CASE-GSC-11169-2]	c05 N73-32011
Synchronous orbit battery cyclor [NASA-CASE-GSC-11211-1]	c03 N72-25020	Radiation hardening of MOS devices by boron [NASA-CASE-GSC-11425-2]	c09 N73-32114
Flavin coenzyme assay [NASA-CASE-GSC-10565-1]	c06 N72-25149	Dish antenna having switchable beamwidth [NASA-CASE-GSC-11760-1]	c09 N73-32116
Location identification system [NASA-CASE-ERC-10324]	c07 N72-25173	Alphanumeric character generator for oscilloscopes [NASA-CASE-GSC-11582-1]	c09 N73-32120
A dc to ac to dc converter having transistor synchronous rectifiers [NASA-CASE-GSC-11126-1]	c09 N72-25253	Star tracking reticles [NASA-CASE-GSC-11188-1]	c14 N73-32320
Tungsten contacts on silicon substrates [NASA-CASE-GSC-10695-1]	c09 N72-25259	Peen plating [NASA-CASE-GSC-11163-1]	c15 N73-32360
Bacterial contamination monitor [NASA-CASE-GSC-10879-1]	c14 N72-25413	A dually mode locked Nd:YAG laser [NASA-CASE-GSC-11746-1]	c16 N73-32398
Honeycomb panels formed of minimal surface periodic tubule layers [NASA-CASE-ERC-10364]	c18 N72-25540	Structural heat pipe [NASA-CASE-GSC-11619-1]	c33 N73-32828
Honeycomb core structures of minimal surface tubule sections [NASA-CASE-ERC-10363]	c18 N72-25541	Low speed phase lock speed control system [NASA-CASE-GSC-11127-1]	c09 N74-10202
Gunn-type solid state devices [NASA-CASE-XER-07895]	c26 N72-25679	Ultraviolet light reflective coating [NASA-CASE-GSC-11786-1]	c18 N74-10542
Use of unilluminated solar cells as shunt diodes for a solar array [NASA-CASE-GSC-10344-1]	c03 N72-27053	Recorder/processor apparatus [NASA-CASE-GSC-11553-1]	c07 N74-15831
Active tuned circuit [NASA-CASE-GSC-11340-1]	c10 N72-33230	Axially and radially controllable magnetic bearing [NASA-CASE-GSC-11551-1]	c15 N74-18132
Electric motive machine including magnetic bearing [NASA-CASE-IGS-07805]	c15 N72-33476	Self-regulating proportionally controlled heating apparatus and technique [NASA-CASE-GSC-11752-1]	c33 N74-19583
Cosmic dust or other similar outer space particles impact location detector [NASA-CASE-GSC-11291-1]	c25 N72-33696	Method of making porous conductive supports for electrodes [NASA-CASE-GSC-11367-1]	c03 N74-19692
Method and apparatus for determining the contents of contained gas samples [NASA-CASE-GSC-10903-1]	c14 N73-12444	Piezoelectric relay [NASA-CASE-GSC-11627-1]	c09 N74-19852
System for stabilizing torque between a balloon and gondola [NASA-CASE-GSC-11077-1]	c02 N73-13008	Controllable high voltage source having fast settling time [NASA-CASE-GSC-11844-1]	c09 N74-19853
Diffuse reflective coating [NASA-CASE-GSC-11214-1]	c06 N73-13128	Formation of star tracking reticles [NASA-CASE-GSC-11188-3]	c14 N74-20008
Data processor with conditionally supplied clock signals [NASA-CASE-GSC-10975-1]	c08 N73-13187	Radiation hardening of MOS devices by boron [NASA-CASE-GSC-11425-1]	c24 N74-20329
Apparatus for vibrational testing of articles [NASA-CASE-GSC-11302-1]	c14 N73-13416	Amplitude steered array [NASA-CASE-GSC-11446-1]	c09 N74-20860
Method and system for ejecting fairing sections from a rocket vehicle [NASA-CASE-GSC-10590-1]	c31 N73-14853	Rotary solenoid shutter drive assembly and rotary inertia damper and stop plate assembly [NASA-CASE-GSC-11560-1]	c09 N74-20861
Elural beam antenna [NASA-CASE-GSC-11013-1]	c09 N73-19234	Ultra-stable oscillator with complementary transistors [NASA-CASE-GSC-11513-1]	c09 N74-20862
Bonding of sapphire to sapphire by eutectic mixture aluminum oxide and zirconium oxide [NASA-CASE-GSC-11577-1]	c15 N73-19467	High efficiency multifrequency feed [NASA-CASE-GSC-11317-3]	c09 N74-20863
Star tracking reticles and process for the production thereof [NASA-CASE-GSC-11188-2]	c21 N73-19630	Turnstile slot antenna [NASA-CASE-GSC-11428-1]	c09 N74-20864
Delayed simultaneous release mechanism [NASA-CASE-GSC-10814-1]	c03 N73-20039	Method and apparatus for checking fire detectors [NASA-CASE-GSC-11600-1]	c14 N74-21019
Doppler compensation by shifting transmitted object frequency within limits [NASA-CASE-GSC-10087-4]	c07 N73-20174	Long range laser traversing system [NASA-CASE-GSC-11262-1]	c16 N74-21091
Telemetry processor [NASA-CASE-GSC-11388-1]	c07 N73-24187	Method and apparatus for optically monitoring the angular position of a rotating mirror [NASA-CASE-GSC-11353-1]	c23 N74-21304
Signal-to-noise ratio determination circuit [NASA-CASE-GSC-11239-1]	c10 N73-25241	Image tube [NASA-CASE-GSC-11602-1]	c09 N74-21850
Mutation damper [NASA-CASE-GSC-11205-1]	c15 N73-25513	Polarization compensator for optical communications [NASA-CASE-GSC-11782-1]	c07 N74-22827
Low outgassing polydimethylsiloxane material and preparation thereof [NASA-CASE-GSC-11358-1]	c06 N73-26100		

High voltage distributor  
[NASA-CASE-GSC-11849-1] c09 N74-22873

Apparatus for controlling the temperature of  
balloon-borne equipment  
[NASA-CASE-GSC-11620-1] c14 N74-23039

Improved method of detecting and counting bacteria  
[NASA-CASE-GSC-11917-1] c04 N74-26619

Coaxial anode wire for gas radiation counters  
[NASA-CASE-GSC-11492-1] c14 N74-26949

Arterial pulse wave pressure transducer  
[NASA-CASE-GSC-11531-1] c05 N74-27566

Beat flow calorimeter  
[NASA-CASE-GSC-11434-1] c14 N74-27859

Air conditioning system and component therefore  
distributing air flow from opposite directions  
[NASA-CASE-GSC-11445-1] c15 N74-27902

Passive dual spin misalignment compensators  
[NASA-CASE-GSC-11479-1] c21 N74-28097

Apparatus for simulating optical transmission  
links  
[NASA-CASE-GSC-11877-1] c07 N74-30532

Star scanner  
[NASA-CASE-GSC-11569-1] c14 N74-30886

Millimeter wave pumped parametric amplifier  
[NASA-CASE-GSC-11617-1] c09 N74-32660

Variable beamwidth antenna  
[NASA-CASE-GSC-11862-1] c09 N74-32674

Impact position detector for outer space particles  
[NASA-CASE-GSC-11829-1] c14 N74-32886

Moving particle composition analyzer  
[NASA-CASE-GSC-11889-1] c14 N74-32887

Micrometeoroid velocity and trajectory analyzer  
[NASA-CASE-GSC-11892-1] c14 N74-32888

Atomic standard with variable storage volume  
[NASA-CASE-GSC-11895-1] c15 N74-33997

Bonding of sapphire to sapphire by eutectic  
mixture of aluminum oxide and zirconium oxide  
[NASA-CASE-GSC-11577-2] c15 N74-34002

Two feed dish antenna having switchable beamwidth  
[NASA-CASE-GSC-11968-1] c09 N74-34649

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on a flared tube  
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Patent  
[NASA-CASE-XKS-01985] c15 N71-10782

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[NASA-CASE-XKS-09348] c09 N71-13521

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vehicles Patent  
[NASA-CASE-XKS-08012-2] c31 N71-15566

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[NASA-CASE-XKS-06250] c14 N71-15600

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[NASA-CASE-XKS-08485] c07 N71-19493

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[NASA-CASE-XKS-03509] c14 N71-23175

Separator simulator Patent  
[NASA-CASE-XKS-04631] c10 N71-23663

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[NASA-CASE-XKS-03338] c15 N71-24043

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[NASA-CASE-XKS-09340] c07 N71-24614

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equipment Patent  
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[NASA-CASE-XKS-07814] c15 N71-27067

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[NASA-CASE-KSC-10020] c10 N71-27338

Autoignition test cell Patent  
[NASA-CASE-KSC-10198] c11 N71-28629

Protective suit having an audio transceiver Patent  
[NASA-CASE-KSC-10164] c07 N71-33108

Ripple indicator  
[NASA-CASE-KSC-10162] c09 N72-11225

High speed photo-optical time recording  
[NASA-CASE-KSC-10294] c14 N72-18411

High speed direct binary-to-binary coded decimal  
converter  
[NASA-CASE-KSC-10326] c08 N72-21197

Automatic frequency control loop including  
synchronous switching circuits  
[NASA-CASE-KSC-10393] c09 N72-21247

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component housing  
[NASA-CASE-KSC-10031] c15 N72-22486

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[NASA-CASE-KSC-10397] c08 N72-25206

Lamp modulator  
[NASA-CASE-KSC-10565] c09 N72-25250

Cable stabilizer for open shaft cable operated  
elevators  
[NASA-CASE-KSC-10513] c15 N72-25453

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[NASA-CASE-KSC-10644] c09 N72-27227

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converter and scaler  
[NASA-CASE-KSC-10595] c08 N73-12176

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transfer pipe  
[NASA-CASE-KSC-10615] c15 N73-12466

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[NASA-CASE-XKS-00348] c09 N73-14215

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[NASA-CASE-KSC-10736-1] c09 N73-23290

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[NASA-CASE-KSC-10750-1] c14 N73-23527

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[NASA-CASE-KSC-10392] c07 N73-26117

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transfer from tanks  
[NASA-CASE-KSC-10639] c15 N73-26472

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[NASA-CASE-KSC-10626] c14 N73-27378

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[NASA-CASE-KSC-10752-1] c15 N73-27407

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fields inside electrified clouds  
[NASA-CASE-KSC-10730-1] c14 N73-32318

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[NASA-CASE-KSC-10807-1] c14 N74-22113

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[NASA-CASE-XLA-01288] c09 N69-21470

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launch vehicles  
[NASA-CASE-ILA-02704] c11 N69-21540

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[NASA-CASE-ILA-03724] c14 N69-27461

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[NASA-CASE-ILA-02854] c15 N69-27490

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 [NASA-CASE-XLA-00482] c15 N70-36409  
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 [NASA-CASE-XLA-00204] c32 N70-36536  
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 [NASA-CASE-XLA-00158] c26 N70-36805  
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 [NASA-CASE-XLA-00100] c14 N70-36807  
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 [NASA-CASE-XLA-00481] c14 N70-36824  
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 [NASA-CASE-XLA-01583] c02 N70-36825  
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 [NASA-CASE-XLA-01354] c25 N70-36946  
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 [NASA-CASE-XLA-00128] c15 N70-37925  
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 [NASA-CASE-XLA-00149] c31 N70-37938  
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 [NASA-CASE-XLA-00679] c15 N70-38601  
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 [NASA-CASE-XLA-01019] c15 N70-40156  
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 [NASA-CASE-XLA-00487] c14 N70-40157  
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 [NASA-CASE-XLA-01400] c07 N70-41331  
 Micrometeoroid velocity measuring device Patent  
 [NASA-CASE-XLA-00495] c14 N70-41332  
 Method of obtaining permanent record of surface  
 flow phenomena Patent  
 [NASA-CASE-XLA-01353] c14 N70-41366  
 Means for communicating through a layer of  
 ionized gases Patent  
 [NASA-CASE-XLA-01127] c07 N70-41372  
 Quick release separation mechanism Patent  
 [NASA-CASE-XLA-01441] c15 N70-41679  
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 [NASA-CASE-XLA-01220] c02 N70-41863  
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 [NASA-CASE-XLA-02651] c28 N70-41967  
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 [NASA-CASE-XLA-02131] c32 N70-42003  
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 [NASA-CASE-XLA-01967] c31 N70-42015  
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 [NASA-CASE-XLA-01290] c02 N70-42016  
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 [NASA-CASE-XLA-02132] c31 N71-10582  
 Method for molding compounds Patent  
 [NASA-CASE-XLA-01091] c15 N71-10672  
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 [NASA-CASE-XLA-02605] c14 N71-10773  
 Gas analyzer for bi-gaseous mixtures Patent  
 [NASA-CASE-XLA-01131] c14 N71-10774

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[NASA-CASE-XLA-00901] c07 N71-10775

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Control for flexible parawing Patent  
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Integrated time shared instrumentation display Patent  
[NASA-CASE-XLA-01952] c08 N71-12507

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[NASA-CASE-XLA-05369] c31 N71-15687

Velocity package Patent  
[NASA-CASE-XLA-01339] c31 N71-15692

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Hypersonic test facility Patent  
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[NASA-CASE-XLA-00939] c11 N71-15926

Reduced gravity simulator Patent  
[NASA-CASE-XLA-01787] c11 N71-16028

Method of coating carbonaceous base to prevent oxidation destruction and coated base Patent  
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[NASA-CASE-XLA-00415] c15 N71-16079

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 [NASA-CASE-XLA-01262] c15 N71-21404

Hypersonic test facility Patent  
 [NASA-CASE-XLA-05378] c11 N71-21475

Multilegged support system Patent  
 [NASA-CASE-XLA-01326] c11 N71-21481

Nacelle afterbody for jet engines Patent  
 [NASA-CASE-XLA-10450] c28 N71-21493

Canister closing device Patent  
 [NASA-CASE-XLA-01446] c15 N71-21528

Ablation sensor Patent  
 [NASA-CASE-XLA-01794] c33 N71-21586

Self-repeating plasma generator having communicating annular and linear arc discharge passages Patent  
 [NASA-CASE-XLA-03103] c25 N71-21693

Attitude control and damping system for spacecraft Patent  
 [NASA-CASE-XLA-02551] c21 N71-21708

Method of making inflatable honeycomb Patent  
 [NASA-CASE-XLA-03492] c15 N71-22713

Lunar penetrometer Patent  
 [NASA-CASE-XLA-00934] c14 N71-22765

Thermal control wall panel Patent  
 [NASA-CASE-XLA-01243] c33 N71-22792

Attitude sensor for space vehicles Patent  
 [NASA-CASE-XLA-00793] c21 N71-22880

Omnidirectional microwave spacecraft antenna Patent  
 [NASA-CASE-XLA-03114] c09 N71-22888

Thermal control panel Patent  
 [NASA-CASE-XLA-07728] c33 N71-22890

Spacecraft airlock Patent  
 [NASA-CASE-XLA-02050] c31 N71-22968

Station keeping of a gravity gradient stabilized satellite Patent  
 [NASA-CASE-XLA-03132] c31 N71-22969

Semi-linear ball bearing Patent  
 [NASA-CASE-XLA-02809] c15 N71-22982

Heat sensing instrument Patent  
 [NASA-CASE-XLA-01551] c14 N71-22989

Ablation sensor Patent  
 [NASA-CASE-XLA-01791] c14 N71-22991

Self-calibrating displacement transducer Patent  
 [NASA-CASE-XLA-00781] c09 N71-22999

Lateral displacement system for separated rocket stages Patent  
 [NASA-CASE-XLA-04804] c31 N71-23008

Thermal control coating Patent  
 [NASA-CASE-XLA-01995] c18 N71-23047

Method of making an inflatable panel Patent  
 [NASA-CASE-XLA-03497] c15 N71-23052

Variable duration pulse integrator Patent  
 [NASA-CASE-XLA-01219] c10 N71-23084

Impact energy absorber Patent  
 [NASA-CASE-XLA-01530] c14 N71-23092

Micrometeoroid penetration measuring device Patent  
 [NASA-CASE-XLA-00941] c14 N71-23240

Combined optical attitude and altitude indicating instrument Patent  
 [NASA-CASE-XLA-01907] c14 N71-23268

Solar sensor having coarse and fine sensing with matched preirradiated cells and method of selecting cells Patent  
 [NASA-CASE-XLA-01584] c14 N71-23269

Variable width pulse integrator Patent  
 [NASA-CASE-XLA-03356] c10 N71-23315

Leading edge curvature based on convective heating Patent  
 [NASA-CASE-XLA-01486] c01 N71-23497

Measurement of time differences between luminous events Patent  
 [NASA-CASE-XLA-01987] c23 N71-23976

Method for measuring the characteristics of a gas Patent  
 [NASA-CASE-XLA-03375] c16 N71-24074

Laser grating interferometer Patent  
 [NASA-CASE-XLA-04295] c16 N71-24170

Automatic fatigue test temperature programmer Patent  
 [NASA-CASE-XLA-02059] c33 N71-24276

Ring wing tension vehicle Patent  
 [NASA-CASE-XLA-04901] c31 N71-24315

Process for applying black coating to metals Patent  
 [NASA-CASE-XLA-06199] c15 N71-24875

Velocity limiting safety system Patent  
 [NASA-CASE-XLA-07873] c15 N71-24895

Strain coupled servo control system Patent  
 [NASA-CASE-XLA-08530] c32 N71-25360

Method of temperature compensating semiconductor strain gages Patent  
 [NASA-CASE-XLA-04555-1] c14 N71-25892

Method for improving the signal-to-noise ratio of the Wheatstone bridge type bolometer Patent  
 [NASA-CASE-XLA-02810] c14 N71-25901

Method of plating copper on aluminum Patent  
 [NASA-CASE-XLA-08966-1] c17 N71-25903

Laser calibrator Patent  
 [NASA-CASE-XLA-03410] c16 N71-25914

Thermal protection ablation spray system Patent  
 [NASA-CASE-XLA-04251] c18 N71-26100

Direct lift control system Patent  
 [NASA-CASE-LAR-10249-1] c02 N71-26110

Light shield and infrared reflector for fatigue testing Patent  
 [NASA-CASE-XLA-01782] c14 N71-26136

Dual resonant cavity absorption cell Patent  
 [NASA-CASE-LAR-10305] c14 N71-26137

Resilience testing device Patent  
 [NASA-CASE-XLA-08254] c14 N71-26161

Precipitation detector Patent  
 [NASA-CASE-XLA-02619] c10 N71-26334

Instrument for measuring the dynamic behavior of liquids Patent  
 [NASA-CASE-XLA-05541] c12 N71-26387

Arbitrarily shaped model survey system Patent  
 [NASA-CASE-LAR-10098] c32 N71-26681

Dielectric molding apparatus Patent  
 [NASA-CASE-LAR-10121-1] c15 N71-26721

Method of making a solid propellant rocket motor Patent  
 [NASA-CASE-XLA-04126] c28 N71-26779

Dynamic vibration absorber Patent  
 [NASA-CASE-LAR-10083-1] c15 N71-27006

Rate augmented digital to analog converter Patent  
 [NASA-CASE-XLA-07828] c08 N71-27057

High speed flight vehicle control Patent  
 [NASA-CASE-XLA-08967] c02 N71-27088

Suspended mass impact damper Patent  
 [NASA-CASE-LAR-10193-1] c15 N71-27146

Active vibration isolator for flexible bodies Patent  
 [NASA-CASE-LAR-10106-1] c15 N71-27169

Soldering device Patent  
 [NASA-CASE-XLA-08911] c15 N71-27214

Fringe counter for interferometers Patent  
 [NASA-CASE-LAR-10204] c14 N71-27215

Wideband VCO with high phase stability Patent  
 [NASA-CASE-XLA-03893] c10 N71-27271

Plural position switch status and operativeness checker Patent  
 [NASA-CASE-XLA-08799] c10 N71-27272

Angular displacement indicating gas bearing support system Patent  
 [NASA-CASE-XLA-09346] c15 N71-28740

Solid state thermal control polymer coating Patent  
 [NASA-CASE-XLA-01745] c33 N71-28903

Specialized halogen generator for purification of water Patent  
 [NASA-CASE-XLA-08913] c14 N71-28933

Optical communications system Patent  
 [NASA-CASE-XLA-01090] c16 N71-28963

Antenna design for surface wave suppression Patent  
 [NASA-CASE-XLA-10772] c07 N71-28980

Analog to digital converter tester Patent  
 [NASA-CASE-XLA-06713] c14 N71-28991

Method of making pressurized panel Patent  
 [NASA-CASE-XLA-08916] c15 N71-29018

Maksutov spectrograph Patent  
 [NASA-CASE-XLA-10402] c14 N71-29041

Two component bearing Patent  
 [NASA-CASE-XLA-00013] c15 N71-29136

Digital pulse width selection circuit Patent  
 [NASA-CASE-XLA-07788] c09 N71-29139

Magnetically controlled plasma accelerator Patent  
 [NASA-CASE-XLA-00327] c25 N71-29184

Boring bar drive mechanism Patent  
 [NASA-CASE-XLA-03661] c15 N71-33518

Wind tunnel model damper Patent  
 [NASA-CASE-XLA-09480] c11 N71-33612

Variable geometry rotor system [NASA-CASE-LAR-10557]	c02 N72-11018	Screened circuit capacitors [NASA-CASE-LAR-10294-1]	c26 N72-28762
Flared tube strainer [NASA-CASE-XLA-05056]	c15 N72-11389	Deposition apparatus [NASA-CASE-LAR-10541-1]	c15 N72-32487
Impact measuring technique [NASA-CASE-LAR-10913]	c14 N72-16282	Dielectric loaded aperture antenna [NASA-CASE-LAR-11084-1]	c09 N73-12216
Technique of duplicating fragile core [NASA-CASE-XLA-07829]	c15 N72-16329	Lift balancing device [NASA-CASE-LAR-10348-1]	c11 N73-12264
Tube fabricating process [NASA-CASE-LAR-10203-1]	c15 N72-16330	Heat exchanger system and method [NASA-CASE-LAR-10799-1]	c12 N73-12295
Air bearing [NASA-CASE-WLP-10002]	c15 N72-17451	Air removal device [NASA-CASE-XLA-8914]	c15 N73-12492
Extensometer frame [NASA-CASE-XLA-10322]	c15 N72-17452	Nondestructive spot test method for titanium and titanium alloys [NASA-CASE-LAR-10539-1]	c17 N73-12547
Split range transducer [NASA-CASE-XLA-11189]	c10 N72-20222	Active air cushion control system minimizing vertical cushion response [NASA-CASE-LAR-10531-1]	c02 N73-13023
Open tube guideway for high speed air cushioned vehicles [NASA-CASE-LAR-10256-1]	c11 N72-20253	Logical function generator [NASA-CASE-XLA-05099]	c09 N73-13209
Stereo photomicrography system [NASA-CASE-LAR-10176-1]	c14 N72-20380	Ferry system [NASA-CASE-LAR-10574-1]	c11 N73-13257
Radar calibration sphere [NASA-CASE-XLA-11154]	c07 N72-21117	Flow velocity and directional instrument [NASA-CASE-LAR-10855-1]	c14 N73-13415
Recorder using selective noise filter [NASA-CASE-ERC-10112]	c07 N72-21119	Vortex breech high pressure gas generator [NASA-CASE-LAR-10549-1]	c31 N73-13898
Stacked array of omnidirectional antennas [NASA-CASE-LAR-10545-1]	c09 N72-21244	Structural panel [NASA-CASE-LAR-11052-1]	c32 N73-13929
Electro-mechanical sine/cosine generator [NASA-CASE-LAR-10503-1]	c09 N72-21248	Explosively welded scarf joint [NASA-CASE-LAR-11211-1]	c15 N73-14480
Fast scan control for deflection type mass spectrometers [NASA-CASE-LAR-10766-1]	c14 N72-21432	Airfoil shape for flight at supersonic speeds [NASA-CASE-LAR-10585-1]	c01 N73-14981
Lathe tool bit and holder for machining fiberglass materials [NASA-CASE-XLA-10470]	c15 N72-21489	Apparatus for microbiological sampling [NASA-CASE-LAR-11069-1]	c04 N73-16061
Pressure operated electrical switch responsive to a pressure decrease after a pressure increase [NASA-CASE-LAR-10137-1]	c09 N72-22204	Automatic inoculating apparatus [NASA-CASE-LAR-11074-1]	c05 N73-16096
Variable geometry wind tunnels [NASA-CASE-XLA-07430]	c11 N72-22246	Method of detecting oxygen in a gas [NASA-CASE-LAR-10668-1]	c06 N73-16106
Magnifying scratch gage force transducer [NASA-CASE-LAR-10496-1]	c14 N72-22437	Combustion detector [NASA-CASE-LAR-10739-1]	c14 N73-16484
Star image motion compensator [NASA-CASE-LAR-10523-1]	c14 N72-22444	Laser communication system for controlling several functions at a location remote to the laser [NASA-CASE-LAR-10311-1]	c16 N73-16536
Absolute focus lock for microscopes [NASA-CASE-LAR-10184]	c14 N72-22445	An automatic liquid inventory collecting and dispensing unit [NASA-CASE-LAR-11071-1]	c15 N73-18474
Cryogenic feedthrough [NASA-CASE-LAR-10031]	c15 N72-22484	Apparatus for photographing meteors [NASA-CASE-LAR-10226-1]	c14 N73-19419
A technique for breaking ice in the path of a ship [NASA-CASE-LAR-10815-1]	c16 N72-22520	Zero gravity liquid mixer [NASA-CASE-LAR-10195-1]	c15 N73-19458
One hand backpack harness [NASA-CASE-LAR-10102-1]	c05 N72-23085	Cascade plug nozzle [NASA-CASE-LAR-10951-1]	c28 N73-19819
Method and apparatus for mapping the sensitivity of the face of a photodetector specifically a PMT [NASA-CASE-LAR-10320-1]	c09 N72-23172	Wing upper surface flap [NASA-CASE-LAR-11140-1]	c02 N73-20008
Omnidirectional slot antenna for mounting on cylindrical space vehicle [NASA-CASE-LAR-10163-1]	c09 N72-25247	Rate data encoder [NASA-CASE-LAR-10128-1]	c08 N73-20217
Ball effect transducer [NASA-CASE-LAR-10620-1]	c09 N72-25255	Function generator for synthesizing complex vibration mode patterns [NASA-CASE-LAR-10310-1]	c10 N73-20253
Radio frequency filter device [NASA-CASE-XLA-02609]	c09 N72-25256	Infrared horizon locator [NASA-CASE-LAR-10726-1]	c14 N73-20475
Parametric amplifiers with idler circuit feedback [NASA-CASE-LAR-10253-1]	c09 N72-25258	Electrical resistance spot welding and brazing techniques for metal bonding [NASA-CASE-LAR-11072-1]	c15 N73-20535
Variable angle tube holder [NASA-CASE-LAR-10507-1]	c11 N72-25284	Light intensity strain analysis [NASA-CASE-LAR-10765-1]	c32 N73-20740
Low mass truss structure [NASA-CASE-LAR-10546-1]	c11 N72-25287	Anti-meteoroid device [NASA-CASE-LAR-10788-1]	c31 N73-20880
Liquid waste feed system [NASA-CASE-LAR-10365-1]	c05 N72-27102	Instrumentation for measurement of aircraft noise and sonic boom [NASA-CASE-LAR-11173-1]	c14 N73-22387
Microcircuit negative cutter [NASA-CASE-XLA-09843]	c15 N72-27485	Apparatus and method for generating large mass flow of high temperature air at hypersonic speeds [NASA-CASE-LAR-10578-1]	c12 N73-25262
Apparatus and method for applying protective coatings [NASA-CASE-LAR-10362-1]	c15 N72-27486	Cable restraint [NASA-CASE-LAR-10129-1]	c15 N73-25512
Method of repairing discontinuity in fiber glass structures [NASA-CASE-LAR-10416-1]	c15 N72-27527	A laser head for simultaneous optical pumping of several dye lasers [NASA-CASE-LAR-11341-1]	c16 N73-25564
Light regulator [NASA-CASE-LAR-10836-1]	c26 N72-27784	High lift aircraft [NASA-CASE-LAR-11252-1]	c02 N73-26007
Linear explosive comparison [NASA-CASE-LAR-10800-1]	c33 N72-27959	Quiet jet transport aircraft [NASA-CASE-LAR-11087-1]	c02 N73-26008
Spherical measurement device [NASA-CASE-XLA-06683]	c14 N72-28436	Graded bandgap Al(x)Ga(1-x) & S-GaAs solar cell [NASA-CASE-LAR-11174-1]	c03 N73-26047
Method of making semiconductor p-n junction stress and strain sensor [NASA-CASE-XLA-04980-2]	c14 N72-28438	Determining particle density using known material Rogoniot curves	

[NASA-CASE-LAR-11059-1] c30 N73-26838  
 Electronic strain-level counter [NASA-CASE-LAR-11027-1] c14 N74-18088  
 [NASA-CASE-LAR-10756-1] c32 N73-26910  
 Nondestructive spot test method for magnesium  
 and magnesium alloys [NASA-CASE-LAR-10318-1] c14 N74-18089  
 [NASA-CASE-LAR-10953-1] c17 N73-27446  
 Apparatus for remote handling of materials  
 [NASA-CASE-LAR-10634-1] c15 N74-18123  
 Ablation article and method [NASA-CASE-LAR-10439-1] c33 N73-27796  
 Method for compression molding of thermosetting  
 plastics utilizing a temperature gradient  
 across the plastic to cure the article  
 [NASA-CASE-LAR-10489-1] c15 N74-18124  
 Apparatus and method for generating large mass  
 flow of high temperature air at hypersonic  
 speeds [NASA-CASE-LAR-10612-1] c12 N73-28144  
 A spectrometer integrated with a facsimile camera  
 [NASA-CASE-LAR-11207-1] c14 N73-28496  
 Annular momentum control device used for  
 stabilization of space vehicles and the like  
 [NASA-CASE-LAR-11051-1] c21 N73-28646  
 Apparatus for aiding a pilot in avoiding a  
 midair collision between aircraft  
 [NASA-CASE-LAR-10717-1] c21 N73-30641  
 Evacuated displacement compression molding  
 [NASA-CASE-LAR-10782-2] c15 N73-31444  
 Dual cycle aircraft turbine engine  
 [NASA-CASE-LAR-11310-1] c28 N73-31699  
 Electro-mechanical sine/cosine generator  
 [NASA-CASE-LAR-11389-1] c09 N73-32121  
 Exposure interlock for oscilloscope cameras  
 [NASA-CASE-LAR-10319-1] c14 N73-32322  
 Meteoroid detector [NASA-CASE-LAR-10483-1] c14 N73-32327  
 Meteoroid impact position locator aid for manned  
 space vehicles [NASA-CASE-LAR-10625-1] c14 N73-32348  
 Totally confined explosive welding  
 [NASA-CASE-LAR-10941-2] c15 N73-32371  
 Transmitting and reflecting diffuser  
 [NASA-CASE-LAR-10385-3] c23 N73-32538  
 Lightweight, variable solidity knitted parachute  
 fabric [NASA-CASE-LAR-10776-1] c02 N74-10034  
 Technique for extending the frequency range of  
 digital dividers [NASA-CASE-LAR-10730-1] c10 N74-10223  
 Automatic focus control for facsimile cameras  
 [NASA-CASE-LAR-11213-1] c14 N74-10420  
 Automatic microbial transfer device  
 [NASA-CASE-LAR-11354-1] c14 N74-10422  
 Anti-multipath digital signal detector  
 [NASA-CASE-LAR-11379-1] c07 N74-11005  
 Fluid pressure amplifier and system  
 [NASA-CASE-LAR-10868-1] c09 N74-11050  
 Method of making pressure tight seal for super  
 alloy [NASA-CASE-LAR-10170-1] c15 N74-11301  
 Adjustable frequency response microphone  
 [NASA-CASE-LAR-11170-1] c07 N74-12843  
 System for calibrating pressure transducer  
 [NASA-CASE-LAR-10910-1] c14 N74-13132  
 Molding process for imidazopyrrolone  
 polymers [NASA-CASE-LAR-10547-1] c15 N74-13177  
 Lyophilized spore dispenser [NASA-CASE-LAR-10544-1] c15 N74-13178  
 Transmitting and reflecting diffuser  
 [NASA-CASE-LAR-10385-2] c23 N74-13436  
 Evacuated displacement compression molding  
 [NASA-CASE-LAR-10782-1] c15 N74-14133  
 Improved bonding method in the manufacture of  
 continuous regression rate sensor devices  
 [NASA-CASE-LAR-10337-1] c15 N74-14141  
 Modification of one man life raft  
 [NASA-CASE-LAR-10241-1] c05 N74-14845  
 Attitude sensor [NASA-CASE-LAR-10586-1] c14 N74-15089  
 Mossbauer spectrometer radiation detector  
 [NASA-CASE-LAR-11155-1] c14 N74-15091  
 In situ transfer standard for ultrahigh vacuum  
 gage calibration [NASA-CASE-LAR-10862-1] c14 N74-15092  
 Dual measurement ablation sensor  
 [NASA-CASE-LAR-10105-1] c33 N74-15652  
 Ejectable underwater sound source recovery  
 assembly [NASA-CASE-LAR-10595-1] c15 N74-16135  
 Particulate and solar radiation stable coating  
 for spacecraft [NASA-CASE-LAR-10805-1] c18 N74-16246  
 Wind tunnel model and method [NASA-CASE-LAR-10812-1] c11 N74-17955

High field CdS detector for infrared radiation  
 [NASA-CASE-LAR-11027-1] c14 N74-18088  
 Method of fabricating an article with cavities  
 [NASA-CASE-LAR-10318-1] c14 N74-18089  
 Apparatus for remote handling of materials  
 [NASA-CASE-LAR-10634-1] c15 N74-18123  
 Method for compression molding of thermosetting  
 plastics utilizing a temperature gradient  
 across the plastic to cure the article  
 [NASA-CASE-LAR-10489-1] c15 N74-18124  
 Method for determining thermo-physical  
 properties of specimens [NASA-CASE-LAR-11053-1] c33 N74-18551  
 Anti-buckling fatigue test assembly  
 [NASA-CASE-LAR-10426-1] c32 N74-19528  
 Aromatic polyimide preparation  
 [NASA-CASE-LAR-11372-1] c06 N74-19772  
 Resonant waveguide Stark cell  
 [NASA-CASE-LAR-11352-1] c09 N74-19854  
 Multichannel logarithmic RF level detector  
 [NASA-CASE-LAR-11021-1] c14 N74-20019  
 Recording apparatus [NASA-CASE-LAR-11353-1] c14 N74-20020  
 Reefing system [NASA-CASE-LAR-10129-2] c15 N74-20063  
 Fiber separating and cleaning method  
 and apparatus [NASA-CASE-LAR-11224-1] c15 N74-20072  
 A synchronous binary array divider  
 [NASA-CASE-ERC-10180-1] c08 N74-20836  
 Orbital and entry tracking accessory  
 for globes [NASA-CASE-LAR-10626-1] c14 N74-21015  
 Digital controller for a Baum folding  
 machine [NASA-CASE-LAR-10688-1] c15 N74-21056  
 Totally confined explosive welding  
 [NASA-CASE-LAR-10941-1] c15 N74-21057  
 Method of fabricating an object with a thin wall  
 having a precisely shaped slit  
 [NASA-CASE-LAR-10409-1] c15 N74-21059  
 Deployable pressurized cell structure for a  
 micrometeoroid detector [NASA-CASE-LAR-10295-1] c15 N74-21062  
 Particulate and aerosol detector  
 [NASA-CASE-LAR-11434-1] c14 N74-22112  
 Means for accommodating large overstrain in lead  
 wires [NASA-CASE-LAR-10168-1] c09 N74-22865  
 Bonded joint and method [NASA-CASE-LAR-10900-1] c15 N74-23064  
 Light shield and cooling apparatus  
 [NASA-CASE-LAR-10089-1] c15 N74-23066  
 Technique for bonding [NASA-CASE-LAR-10073-1] c32 N74-23449  
 Self-supporting strain transducer  
 [NASA-CASE-LAR-11263-1] c14 N74-25931  
 Wingtip vortex dissipator for aircraft  
 [NASA-CASE-LAR-11645-1] c02 N74-26456  
 Method of laminating structural members  
 [NASA-CASE-XLA-11028-1] c18 N74-27035  
 Vapor phase growth of groups III-V compounds by  
 hydrogen chloride transport of the elements  
 [NASA-CASE-LAR-11144-1] c26 N74-27261  
 Rocket having barium release system to create  
 ion clouds in the upper atmosphere  
 [NASA-CASE-LAR-10670-2] c31 N74-27360  
 Apparatus for inserting and removing specimens  
 from high temperature vacuum furnaces  
 [NASA-CASE-LAR-10841-1] c15 N74-27900  
 Grinding arrangement for ball nose milling cutters  
 [NASA-CASE-LAR-10450-1] c15 N74-27905  
 Exhaust flow deflector [NASA-CASE-LAR-11570-1] c28 N74-28233  
 Electrolytic cell design [NASA-CASE-LAR-11042-1] c03 N74-29416  
 Horn antenna having V-shaped corrugated slots  
 [NASA-CASE-LAR-11112-1] c09 N74-29575  
 Fluid control apparatus and method  
 [NASA-CASE-LAR-11110-1] c12 N74-29652  
 Method of repairing discontinuity in fiberglass  
 structures [NASA-CASE-LAR-10416-1] c18 N74-30001  
 Real time liquid crystal image converter  
 [NASA-CASE-LAR-11206-1] c23 N74-30118  
 Deployable flexible ventral fins for use as an  
 emergency spin recovery device in aircraft  
 [NASA-CASE-LAR-10753-1] c02 N74-30421  
 Apparatus for applying simulator g-forces to an  
 arm of an aircraft simulator pilot  
 [NASA-CASE-LAR-10550-1] c11 N74-30597

Centrifugal lyophobic separator  
[NASA-CASE-LAR-10194-1] c12 N74-30608

Method and apparatus for tensile testing of metal foil  
[NASA-CASE-LAR-10208-1] c14 N74-30894

Variably positioned guide vanes for aerodynamic choking  
[NASA-CASE-LAR-10642-1] c28 N74-31270

Noise suppressor  
[NASA-CASE-LAR-11141-1] c02 N74-32418

Measurement of gas production of microorganisms  
[NASA-CASE-LAR-11326-1] c04 N74-32518

Measuring probe position recorder  
[NASA-CASE-LAR-10806-1] c14 N74-32877

Stagnation pressure probe  
[NASA-CASE-LAR-11139-1] c14 N74-32878

Clock setter  
[NASA-CASE-LAR-11458-1] c14 N74-32882

Holding apparatus  
[NASA-CASE-LAR-10489-2] c15 N74-32920

Apparatus for positioning modular components on a vertical or overhead surface  
[NASA-CASE-LAR-11465-1] c15 N74-32926

Cascade plug nozzle  
[NASA-CASE-LAR-11674-1] c28 N74-33220

Remote fire stack igniter  
[NASA-CASE-MFS-21675-1] c33 N74-33378

Open tube guideway for high speed air cushioned vehicles  
[NASA-CASE-LAR-10256-1] c11 N74-34672

Past scan control for deflection type mass spectrometers  
[NASA-CASE-LAR-11428-1] c14 N74-34857

Miniature hydraulic actuator  
[NASA-CASE-LAR-11522-1] c15 N74-34881

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Foil seal  
[NASA-CASE-XLE-05130] c15 N69-21362

Fluid jet amplifier  
[NASA-CASE-XLE-03512] c12 N69-21466

Electrode and insulator with shielded dielectric junction  
[NASA-CASE-XLE-03778] c09 N69-21542

Thin window, drifted silicon, charged particle detector  
[NASA-CASE-XLE-10529] c14 N69-23191

Probes having ring and primary sensor at same potential to prevent collection of stray wall currents in ionized gases  
[NASA-CASE-XLE-00690] c25 N69-39884

Ion thruster cathode  
[NASA-CASE-XLE-07087] c06 N69-39889

Superconducting alternator  
[NASA-CASE-XLE-02824] c03 N69-39890

Triode thermionic energy converter  
[NASA-CASE-XLE-01015] c03 N69-39898

Slug flow magnetohydrodynamic generator  
[NASA-CASE-XLE-02083] c03 N69-39983

Reduced gravity liquid configuration simulator  
[NASA-CASE-XLE-02624] c12 N69-39988

Transpiration cooled turbine blade manufactured from wires Patent  
[NASA-CASE-XLE-00020] c15 N70-33226

Rocket propellant injector Patent  
[NASA-CASE-XLE-00103] c28 N70-33241

Modification and improvements to cooled blades Patent  
[NASA-CASE-XLE-00092] c15 N70-33264

Colloid propulsion method and apparatus Patent  
[NASA-CASE-XLE-00817] c28 N70-33265

High-vacuum condenser tank for ion rocket tests Patent  
[NASA-CASE-XLE-00168] c11 N70-33278

High temperature nickel-base alloy Patent  
[NASA-CASE-XLE-00151] c17 N70-33283

Annular rocket motor and nozzle configuration Patent  
[NASA-CASE-XLE-00078] c28 N70-33284

Reinforced metallic composites Patent  
[NASA-CASE-XLE-02428] c17 N70-33288

Process for applying a protective coating for salt bath brazing Patent  
[NASA-CASE-XLE-00046] c15 N70-33311

Wire grid forming apparatus Patent  
[NASA-CASE-XLE-00023] c15 N70-33330

Electro-thermal rocket Patent  
[NASA-CASE-XLE-00267] c28 N70-33356

External liquid-spray cooling of turbine blades Patent  
[NASA-CASE-XLE-00037] c28 N70-33372

Apparatus for igniting solid propellants Patent  
[NASA-CASE-XLE-00207] c28 N70-33375

Flexible seal for valves Patent  
[NASA-CASE-XLE-00101] c15 N70-33376

Apparatus for making a metal slurry product Patent  
[NASA-CASE-XLE-00010] c15 N70-33382

Energy conversion apparatus Patent  
[NASA-CASE-XLE-00212] c03 N70-34134

Enthalpy and stagnation temperature determination of a high temperature laminar flow gas stream Patent  
[NASA-CASE-XLE-00266] c14 N70-34156

Electrothermal rockets having improved heat exchangers Patent  
[NASA-CASE-XLE-01783] c28 N70-34175

Venting vapor apparatus Patent  
[NASA-CASE-XLE-00288] c15 N70-34247

Electrostatic propulsion system with a direct nuclear electrogenerator Patent  
[NASA-CASE-XLE-00818] c22 N70-34248

Thrust vector control apparatus Patent  
[NASA-CASE-XLE-00208] c28 N70-34294

Nuclear reactor control rod assembly with improved driving mechanism Patent  
[NASA-CASE-XLE-00298] c22 N70-34501

High temperature heat source Patent  
[NASA-CASE-XLE-00490] c33 N70-34545

Gaseous nuclear rocket Patent  
[NASA-CASE-XLE-00321] c22 N70-34572

Simulated fuel assembly Patent  
[NASA-CASE-XLE-00724] c14 N70-34669

Inlet deflector for jet engines Patent  
[NASA-CASE-XLE-00388] c28 N70-34788

Radiant heater having formed filaments Patent  
[NASA-CASE-XLE-00387] c33 N70-34812

Optical torqueometer Patent  
[NASA-CASE-XLE-00503] c14 N70-34818

Electric propulsion engine test chamber Patent  
[NASA-CASE-XLE-00252] c11 N70-34844

Conical valve plug Patent  
[NASA-CASE-XLE-00715] c15 N70-34859

Channel-type shell construction for rocket engines and the like Patent  
[NASA-CASE-XLE-00144] c28 N70-34860

Non-reusable kinetic energy absorber Patent  
[NASA-CASE-XLE-00810] c15 N70-34861

High temperature testing apparatus Patent  
[NASA-CASE-XLE-00335] c14 N70-35368

Ion thruster cathode Patent Application  
[NASA-CASE-LEW-10814-1] c28 N70-35422

Formed metal ribbon wrap Patent  
[NASA-CASE-XLE-00164] c15 N70-36411

Multistage multiple-reentry turbine Patent  
[NASA-CASE-XLE-00170] c15 N70-36412

Fluid coupling Patent  
[NASA-CASE-XLE-00397] c15 N70-36492

Injector-valve device Patent  
[NASA-CASE-XLE-00303] c15 N70-36535

Nickel-base alloy Patent  
[NASA-CASE-XLE-00283] c17 N70-36616

Apparatus having coaxial capacitor structure for measuring fluid density Patent  
[NASA-CASE-XLE-00143] c14 N70-36618

Rocket thrust chamber Patent  
[NASA-CASE-XLE-00145] c28 N70-36806

Solid state power mapping instrument Patent  
[NASA-CASE-XLE-00301] c14 N70-36808

Ion rocket Patent  
[NASA-CASE-XLE-00376] c28 N70-37245

Annular supersonic decelerator or drogue Patent  
[NASA-CASE-XLE-00222] c02 N70-37939

Rocket engine Patent  
[NASA-CASE-XLE-00342] c28 N70-37980

Variable sweep aircraft wing Patent  
[NASA-CASE-XLA-00350] c02 N70-38011

Apparatus for transferring cryogenic liquids Patent  
[NASA-CASE-XLE-00345] c15 N70-38020

Method of producing porous tungsten ionizers for ion rocket engines Patent  
[NASA-CASE-XLE-00455] c28 N70-38197

Method of making fiber reinforced metallic composites Patent  
[NASA-CASE-XLE-00231] c17 N70-38198

Rocket engine injector Patent  
[NASA-CASE-XLE-00111] c28 N70-38199

Reinforced metallic composites Patent [NASA-CASE-XLE-00228]	c17 N70-38490	[NASA-CASE-XLE-01604-2]	c15 N71-15610
Rocket motor system Patent [NASA-CASE-XLE-00323]	c28 N70-38505	Black-body furnace Patent [NASA-CASE-XLE-01399]	c33 N71-15625
Particle beam measurement apparatus using beam kinetic energy to change the heat sensitive resistance of the detection probe Patent [NASA-CASE-XLE-00243]	c14 N70-38602	Method of igniting solid propellants Patent [NASA-CASE-XLE-01988]	c27 N71-15634
Penshape exhaust nozzle for supersonic engine Patent [NASA-CASE-XLE-00057]	c28 N70-38711	Fluid dispensing apparatus and method Patent [NASA-CASE-XLE-01182]	c27 N71-15635
Multistage multiple-reentry turbine Patent [NASA-CASE-XLE-00065]	c28 N70-39895	Automatically deploying nozzle exit cone extension Patent [NASA-CASE-XLE-01640]	c31 N71-15637
Gas lubricant compositions Patent [NASA-CASE-XLE-00353]	c18 N70-39897	High temperature cobalt-base alloy Patent [NASA-CASE-XLE-00726]	c17 N71-15644
Telescoping-spike supersonic inlet for aircraft engines Patent [NASA-CASE-XLE-00005]	c28 N70-39899	Method of making a rocket motor casing Patent [NASA-CASE-XLE-00409]	c28 N71-15658
High temperature spark plug Patent [NASA-CASE-XLE-00660]	c28 N70-39925	Rocket motor casing Patent [NASA-CASE-XLE-05689]	c28 N71-15659
Low viscosity magnetic fluid obtained by the colloidal suspension of magnetic particles Patent [NASA-CASE-XLE-01512]	c12 N70-40124	Electrostatic ion rocket engine Patent [NASA-CASE-XLE-02066]	c28 N71-15661
Apparatus for absorbing and measuring power Patent [NASA-CASE-XLE-00720]	c14 N70-40201	High temperature cobalt-base alloy Patent [NASA-CASE-XLE-02991]	c17 N71-16025
Device for directionally controlling electromagnetic radiation Patent [NASA-CASE-XLE-01716]	c09 N70-40234	Nickel-base alloy containing Mo-W-Al-Cr-Ta-Zr-C-Nb-B Patent [NASA-CASE-XLE-02082]	c17 N71-16026
Method for continuous variation of propellant flow and thrust in propulsive devices Patent [NASA-CASE-XLE-00177]	c28 N70-40367	Method of improving the reliability of a rolling element system Patent [NASA-CASE-XLE-02999]	c15 N71-16052
Apparatus for increasing ion engine beam density Patent [NASA-CASE-XLE-00519]	c28 N70-41576	Process of casting heavy slips Patent [NASA-CASE-XLE-00106]	c15 N71-16076
Foldable conduit Patent [NASA-CASE-XLE-00620]	c32 N70-41579	Boiler for generating high quality vapor Patent [NASA-CASE-XLE-00785]	c33 N71-16104
Liquid storage tank venting device for zero gravity environment Patent [NASA-CASE-XLE-01449]	c15 N70-41646	Method of making self lubricating fluoride-metal composite materials Patent [NASA-CASE-XLE-08511-2]	c18 N71-16105
Method of making a regeneratively cooled combustion chamber Patent [NASA-CASE-XLE-00150]	c28 N70-41818	Thrust and direction control apparatus Patent [NASA-CASE-XLE-03583]	c31 N71-17629
Instrument for the quantitative measurement of radiation at multiple wave lengths Patent [NASA-CASE-XLE-00011]	c14 N70-41946	Linear magnetic brake with two windings Patent [NASA-CASE-XLE-05079]	c15 N71-17652
Small rocket engine Patent [NASA-CASE-XLE-00685]	c28 N70-41992	Method of lubricating rolling element bearings Patent [NASA-CASE-XLE-09527]	c15 N71-17688
Apparatus for positioning and loading a test specimen Patent [NASA-CASE-XLE-01300]	c15 N70-41993	Hot wire liquid level detector for cryogenic fluids Patent [NASA-CASE-XLE-00454]	c23 N71-17802
Liquid flow sight assembly Patent [NASA-CASE-XLE-02998]	c14 N70-42074	Pulsed differential comparator circuit Patent [NASA-CASE-XLE-03804]	c10 N71-19471
Inductive liquid level detection system Patent [NASA-CASE-XLE-01609]	c14 N71-10500	Foil seal Patent [NASA-CASE-XLE-05130-2]	c15 N71-19570
Method of forming thin window drifted silicon charged particle detector Patent [NASA-CASE-XLE-00808]	c24 N71-10560	Generator for a space power system Patent [NASA-CASE-XLE-04250]	c09 N71-20446
Electrostatic thruster with improved insulators Patent [NASA-CASE-XLE-01902]	c28 N71-10574	Method of making electrical contact on silicon solar cell and resultant product Patent [NASA-CASE-XLE-04787]	c03 N71-20492
Thin-walled pressure vessel Patent [NASA-CASE-XLE-04677]	c15 N71-10577	Small plasma probe Patent [NASA-CASE-XLE-02578]	c25 N71-20747
Method of making a silicon semiconductor device Patent [NASA-CASE-XLE-02792]	c26 N71-10607	Combined electrolysis device and fuel cell and method of operation Patent [NASA-CASE-XLE-01645]	c03 N71-20904
Metallic film diffusion for boundary lubrication Patent [NASA-CASE-XLE-01765]	c18 N71-10772	Pressure monitoring with a plurality of ionization gauges controlled at a central location Patent [NASA-CASE-XLE-00787]	c14 N71-21090
Molecular beam velocity selector Patent [NASA-CASE-XLE-01533]	c11 N71-10777	Control of transverse instability in rocket combustors Patent [NASA-CASE-XLE-04603]	c33 N71-21507
Meteoroid sensing apparatus having a coincidence network connected to a pair of capacitors Patent [NASA-CASE-XLE-01246]	c14 N71-10797	High voltage divider system Patent [NASA-CASE-XLE-02008]	c09 N71-21583
Capacitor and method of making same Patent [NASA-CASE-XLE-10364-1]	c09 N71-13522	Plasma device feed system Patent [NASA-CASE-XLE-02902]	c25 N71-21694
Capillary radiator Patent [NASA-CASE-XLE-03307]	c33 N71-14035	Burning rate control of solid propellants Patent [NASA-CASE-XLE-03494]	c27 N71-21819
Electrostatic ion engine having a permanent magnetic circuit Patent [NASA-CASE-XLE-01124]	c28 N71-14043	Protective device for machine and metalworking tools Patent [NASA-CASE-XLE-01092]	c15 N71-22797
Split welding chamber Patent [NASA-CASE-XLE-11531]	c15 N71-14932	Cryogenic insulation system Patent [NASA-CASE-XLE-04222]	c23 N71-22881
Method and apparatus for making curved reflectors Patent [NASA-CASE-XLE-08917]	c15 N71-15597	Method for producing fiber reinforced metallic composites Patent [NASA-CASE-XLE-03925]	c18 N71-22894
Method of making a diffusion bonded refractory coating Patent		Thermal shock apparatus Patent [NASA-CASE-XLE-02024]	c14 N71-22964
		Arc electrode of graphite with ball tip Patent [NASA-CASE-XLE-04788]	c09 N71-22987
		Gas purged dry box glove Patent [NASA-CASE-XLE-02531]	c05 N71-23080
		Automatic recording McLeod gauge Patent [NASA-CASE-XLE-03280]	c14 N71-23093
		Electronic cathode having a brush-like structure and a relatively thick oxide emissive coating Patent	

[NASA-CASE-XLE-04501]	c09 N71-23190	Cyclic switch Patent	
High temperature ferromagnetic cobalt-base alloy Patent		[NASA-CASE-LEW-10155-1]	c09 N71-29035
[NASA-CASE-XLE-03629]	c17 N71-23248	Temperature reducing coating for metals subject to flame exposure Patent	
Induction furnace with perforated tungsten foil shielding Patent		[NASA-CASE-XLE-00035]	c33 N71-29151
[NASA-CASE-XLE-04026]	c14 N71-23267	Liquid spray cooling method Patent	
6d or 5d doped silicon semiconductor composition Patent		[NASA-CASE-XLE-00027]	c33 N71-29152
[NASA-CASE-XLE-10715]	c26 N71-23292	Turbo-machine blade vibration damper Patent	
Protection of serially connected solar cells against open circuits by the use of shunting diode Patent		[NASA-CASE-XLE-00155]	c28 N71-29154
[NASA-CASE-XLE-04535]	c03 N71-23354	Corrosion resistant beryllium Patent	
Superconducting alternator Patent		[NASA-CASE-LEW-10327]	c17 N71-33408
[NASA-CASE-XLE-02823]	c09 N71-23443	A protected isotope heat source	
Silicon solar cell with cover glass bonded to cell by metal pattern Patent		[NASA-CASE-LEW-11227-1]	c33 N71-35153
[NASA-CASE-XLE-08569]	c03 N71-23449	Multiple fan integrated propulsion wing system	
Analytical test apparatus and method for determining oxide content of alkali metal Patent		[NASA-CASE-LEW-11224-1]	c02 N72-10033
[NASA-CASE-XLE-01997]	c06 N71-23527	Attaching cover glasses to solar cells	
Thermionic converter with current augmented by self induced magnetic field Patent		[NASA-CASE-LEW-11065-1]	c03 N72-11064
[NASA-CASE-XLE-01903]	c22 N71-23599	Integrated thermoelectric generator/space antenna combination	
Semiconductor material and method of making same Patent		[NASA-CASE-XER-09521]	c09 N72-12136
[NASA-CASE-XLE-02798]	c26 N71-23654	Sensing probe	
Insulation system Patent		[NASA-CASE-LEW-10281-1]	c14 N72-17327
[NASA-CASE-XLE-02647]	c18 N71-23658	Method of making emf cell	
Self-lubricating fluoride metal composite materials Patent		[NASA-CASE-LEW-11359-2]	c03 N72-20034
[NASA-CASE-XLE-08511]	c18 N71-23710	Isolated amplifier for measuring millivolt electrical signals with reference to a high common mode potential	
Alloys for bearings Patent		[NASA-CASE-XLE-03155-2]	c09 N72-20205
[NASA-CASE-XLE-05033]	c15 N71-23810	Gaseous control system for nuclear reactors	
Extrusion die for refractory metals Patent		[NASA-CASE-XLE-04599]	c22 N72-20597
[NASA-CASE-XLE-06773]	c15 N71-23817	Switching regulator	
Combustion chamber Patent		[NASA-CASE-LEW-11005-1]	c09 N72-21243
[NASA-CASE-XLE-04857]	c28 N71-23968	Method and apparatus for controlling thermal nuclear reactors	
Metallic film diffusion for boundary lubrication Patent		[NASA-CASE-XLE-05799]	c22 N72-21644
[NASA-CASE-XLE-10337]	c15 N71-24046	Saturation current protection apparatus for saturable core transformers	
Process for producing dispersion strengthened nickel with aluminum Patent		[NASA-CASE-ERC-10075-2]	c09 N72-22196
[NASA-CASE-XLE-06969]	c17 N71-24142	Pulse coupling circuit	
Thermal radiation shielding Patent		[NASA-CASE-LEW-10433-1]	c09 N72-22197
[NASA-CASE-XLE-03432]	c33 N71-24145	Solid state remote circuit selector switch	
Method of attaching a cover glass to a silicon solar cell Patent		[NASA-CASE-LEW-10387]	c09 N72-22201
[NASA-CASE-XLE-08569-2]	c03 N71-24681	Load-insensitive electrical device	
Rocket engine injector Patent		[NASA-CASE-XER-11046]	c09 N72-22203
[NASA-CASE-XLE-03157]	c28 N71-24736	High speed rolling element bearing	
Multialarm summary alarm Patent		[NASA-CASE-LEW-10856-1]	c15 N72-22490
[NASA-CASE-XLE-03061-1]	c10 N71-24798	Production of metal powders	
Apparatus for making curved reflectors Patent		[NASA-CASE-XLE-06461]	c17 N72-22530
[NASA-CASE-XLE-08917-2]	c15 N71-24836	Nickel base alloy	
Flow angle sensor and read out system Patent		[NASA-CASE-LEW-10874-1]	c17 N72-22535
[NASA-CASE-XLE-04503]	c14 N71-24864	Ion thruster magnetic field control	
Shock tube powder dispersing apparatus Patent		[NASA-CASE-LEW-10835-1]	c28 N72-22771
[NASA-CASE-XLE-04946]	c17 N71-24911	Electrically conductive fluorocarbon polymer	
Pneumatic oscillator Patent		[NASA-CASE-XLE-06774-2]	c06 N72-25150
[NASA-CASE-LEW-10345-1]	c10 N71-25899	Analog Signal to Discrete Time Interval Converter (ASDTIC)	
Heat activated cell with alkali anode and alkali salt electrolyte Patent		[NASA-CASE-ERC-10048]	c09 N72-25251
[NASA-CASE-LEW-11358]	c03 N71-26084	Controllable load insensitive power converters	
Method of producing refractory composites containing tantalum carbide, hafnium carbide, and hafnium boride Patent		[NASA-CASE-ERC-10268]	c09 N72-25252
[NASA-CASE-XLE-03940]	c18 N71-26153	Angular velocity and acceleration measuring apparatus	
Ion beam deflector Patent		[NASA-CASE-ERC-10292]	c14 N72-25410
[NASA-CASE-LEW-10689-1]	c28 N71-26173	Hall effect magnetometer	
Rolling element bearings Patent		[NASA-CASE-LEW-11632-1]	c14 N72-25440
[NASA-CASE-XLE-09527-2]	c15 N71-26189	Electrical insulating layer process	
Ion thruster accelerator system Patent		[NASA-CASE-LEW-10489-1]	c15 N72-25447
[NASA-CASE-LEW-10106-1]	c28 N71-26642	Method for producing dispersion strengthened alloys by converting metal to a halide, comminuting, reducing the metal halide to the metal and sintering	
Propellant feed isolator Patent		[NASA-CASE-LEW-10450-1]	c15 N72-25448
[NASA-CASE-LEW-10210-1]	c28 N71-26781	Selective nickel deposition	
Heat activated cell Patent		[NASA-CASE-LEW-10965-1]	c15 N72-25452
[NASA-CASE-LEW-11359]	c03 N71-28579	Aluminized nickel coatings for nickel-base superalloys	
Process for glass coating an ion accelerator grid Patent		[NASA-CASE-LEW-11348-1]	c17 N72-25517
[NASA-CASE-LEW-10278-1]	c15 N71-28582	Method of making fiber composites	
Fluid jet amplifier Patent		[NASA-CASE-LEW-10424-2-2]	c18 N72-25539
[NASA-CASE-XLE-09341]	c12 N71-28741	Electricity measurement devices employing liquid crystalline materials	
Gas core nuclear reactor Patent		[NASA-CASE-ERC-10275]	c26 N72-25680
[NASA-CASE-LEW-10250-1]	c22 N71-28759	Ablative system	
Gas turbine combustor Patent		[NASA-CASE-LEW-10359]	c33 N72-25911
[NASA-CASE-LEW-10286-1]	c28 N71-28915	Inductance device with vacuum insulation	
		[NASA-CASE-LEW-10330-1]	c09 N72-27226
		Apparatus for sensing temperature	
		[NASA-CASE-XLE-05230]	c14 N72-27410
		Thermocouple tape	
		[NASA-CASE-LEW-11072-2]	c14 N72-28443

Apparatus for producing metal powders [NASA-CASE-XLE-06461-2]	c17 N72-28535	Nuclear fuel elements [NASA-CASE-XLE-00209]	c22 N73-32528
Refractory metal base alloy composites [NASA-CASE-XLE-03940-2]	c17 N72-28536	Method of fabricating a twisted composite superconductor [NASA-CASE-LEW-11015]	c26 N73-32571
Apparatus for producing high purity I-123 [NASA-CASE-LEW-10518-2]	c24 N72-28714	Space vehicle with artificial gravity and earth-like environment [NASA-CASE-LEW-11101-1]	c31 N73-32750
Spiral groove seal [NASA-CASE-XLE-10326-2]	c15 N72-29488	Production of hollow components for rolling element bearings by diffusion welding [NASA-CASE-LEW-11026-1]	c15 N73-33383
Production of high purity I-123 [NASA-CASE-LEW-10518-1]	c24 N72-33681	Electron beam controller [NASA-CASE-LEW-11617-1]	c09 N74-10195
Duplex aluminized coatings [NASA-CASE-LEW-11696-1]	c15 N73-10502	Spiral groove seal [NASA-CASE-LEW-10326-3]	c15 N74-10474
Electrostatic collector for charged particles [NASA-CASE-LEW-11192-1]	c09 N73-13208	Journal bearings [NASA-CASE-LEW-11076-3]	c15 N74-10475
Method of making apparatus for sensing temperature [NASA-CASE-XLE-05230-2]	c14 N73-13417	Apparatus for producing high purity I-123 [NASA-CASE-LEW-10518-3]	c15 N74-10476
Method of forming superalloys [NASA-CASE-LEW-10805-1]	c15 N73-13465	Method of heat treating a formed powder product material [NASA-CASE-LEW-10805-3]	c17 N74-10521
Rocket thrust throttling system [NASA-CASE-LEW-10374-1]	c28 N73-13773	Apparatus for welding blades to rotors [NASA-CASE-LEW-10533-2]	c15 N74-11300
Circuit for detecting initial systole and dicrotic notch [NASA-CASE-LEW-11581-1]	c05 N73-18139	High powered arc electrodes [NASA-CASE-LEW-11162-1]	c09 N74-12913
Gas turbine engine fuel control [NASA-CASE-LEW-11187-1]	c28 N73-19793	Method of forming articles of manufacture from superalloy powders [NASA-CASE-LEW-10805-2]	c15 N74-13179
Method of producing I-123 [NASA-CASE-LEW-11390-2]	c24 N73-20763	Fine particulate capture device [NASA-CASE-LEW-11583-1]	c15 N74-13199
Insulation foil and method of making [NASA-CASE-LEW-11484-1]	c15 N73-22415	Deposition of alloy films [NASA-CASE-LEW-11262-1]	c18 N74-13270
Improved coatings for refractory metals [NASA-CASE-LEW-11179-1]	c17 N73-22474	Supersonic-combustion rocket [NASA-CASE-LEW-11058-1]	c28 N74-13502
Dished ion thruster grids [NASA-CASE-LEW-11694-1]	c28 N73-22721	Method of making silicon solar cell array [NASA-CASE-LEW-11069-1]	c03 N74-14784
Thermocouple tape [NASA-CASE-LEW-11072-1]	c14 N73-24472	Spiral groove seal [NASA-CASE-XLE-10326-4]	c15 N74-15125
Method and apparatus for sputtering utilizing an apertured electrode and a pulsed substrate bias [NASA-CASE-LEW-10920-1]	c17 N73-24569	Method of making rolling element bearings [NASA-CASE-LEW-11087-2]	c15 N74-15128
Magneto-plasma-dynamic arc thruster [NASA-CASE-LEW-11180-1]	c25 N73-25760	Gas turbine exhaust nozzle [NASA-CASE-LEW-11569-1]	c28 N74-15453
Controlled separation combustor [NASA-CASE-LEW-11593-1]	c28 N73-25816	Demodulator for carrier transducers [NASA-CASE-NUC-10107-1]	c09 N74-17930
Ablative system [NASA-CASE-LEW-10359-2]	c33 N73-25952	Flow measuring apparatus [NASA-CASE-LEW-12078-1]	c14 N74-18101
Covered silicon solar cells [NASA-CASE-LEW-11065-2]	c03 N73-26048	Diffusion welding in air [NASA-CASE-LEW-11387-1]	c15 N74-18128
Parasitic suppressing circuit [NASA-CASE-ERC-10403-1]	c10 N73-26228	Method of making an apertured casting [NASA-CASE-LEW-11169-1]	c15 N74-18131
Twisted multifilament superconductor [NASA-CASE-LEW-11726-1]	c26 N73-26752	Drilled ball bearing with a one piece anti-tipping cage assembly [NASA-CASE-LEW-11925-1]	c15 N74-18133
Ophthalmic method and apparatus [NASA-CASE-LEW-11669-1]	c05 N73-27062	Journal bearings [NASA-CASE-LEW-11076-4]	c15 N74-18134
Rocket propellant injection [NASA-CASE-LEW-11071-1]	c27 N73-27695	Duplex aluminized coatings [NASA-CASE-LEW-11696-2]	c18 N74-18197
Single grid accelerator for an ion thruster [NASA-CASE-XLE-10453-2]	c28 N73-27699	Fabrication of polyphenylquinoxaline composite articles by means of in situ polymerization of monomers [NASA-CASE-LEW-11879-1]	c18 N74-20152
Preparation of polyimides from mixtures of monomeric diamines and esters of polycarboxylic acids [NASA-CASE-LEW-11325-1]	c06 N73-27980	Airflow control system for supersonic inlets [NASA-CASE-LEW-11188-1]	c02 N74-20646
Production of I-123 [NASA-CASE-LEW-11390-3]	c11 N73-28128	Rapidly pulsed, high intensity, incoherent light source [NASA-CASE-XLE-2529-3]	c09 N74-20859
Method and apparatus for measuring electromagnetic radiation [NASA-CASE-LEW-11159-1]	c14 N73-28488	Electromagnetic flow rate meter [NASA-CASE-LEW-10981-1]	c14 N74-21018
Welding blades to rotors [NASA-CASE-LEW-10533-1]	c15 N73-28515	Diffusion welding [NASA-CASE-LEW-11388-2]	c15 N74-21055
An ion exchange nuclear reactor [NASA-CASE-LEW-11645-2]	c22 N73-28660	Journal bearings [NASA-CASE-LEW-11076-1]	c15 N74-21061
Hall effect magnetometer [NASA-CASE-LEW-11632-2]	c14 N73-29437	Glass-to-metal seals comprising relatively high expansion metals [NASA-CASE-LEW-10698-1]	c15 N74-21063
High speed, self-acting shaft seal [NASA-CASE-LEW-11274-1]	c15 N73-29457	Hollow rolling element bearings [NASA-CASE-LEW-11087-3]	c15 N74-21064
Low mass rolling element for bearings [NASA-CASE-LEW-11087-1]	c15 N73-30458	Low level signal limiter [NASA-CASE-XLE-04791]	c14 N74-22096
Swirl can primary combustor [NASA-CASE-LEW-11326-1]	c23 N73-30665	Apparatus for forming dished ion thruster grids [NASA-CASE-LEW-11694-2]	c15 N74-22147
Ophthalmic liquefaction pump [NASA-CASE-LEW-12051-1]	c04 N73-32000	Load insensitive electrical device [NASA-CASE-XER-11046-2]	c09 N74-22864
Enhanced diffusion welding [NASA-CASE-LEW-11388-1]	c15 N73-32358	Reinforced structural plastics [NASA-CASE-LEW-10199-1]	c18 N74-23125
High speed hybrid bearing comprising a fluid bearing and a rolling bearing connected in series [NASA-CASE-LEW-11152-1]	c15 N73-32359	Shock position sensor for supersonic inlets [NASA-CASE-LEW-11915-1]	c12 N74-25805
Nickel aluminate coated low alloy stainless steel [NASA-CASE-LEW-11267-1]	c17 N73-32414		
Cobalt-base alloy [NASA-CASE-LEW-10436-1]	c17 N73-32415		

Jet exhaust noise suppressor [NASA-CASE-LEW-11286-1]	c02 N74-27490	Cryogenic storage system Patent [NASA-CASE-XMS-04390]	c31 N70-41871
High current electrical lead [NASA-CASE-LEW-10950-1]	c09 N74-27683	Mass measuring system Patent [NASA-CASE-XMS-03371]	c05 N70-42000
Magnetocaloric pump [NASA-CASE-LEW-11672-1]	c15 N74-27904	Line cutter Patent [NASA-CASE-XMS-04072]	c15 N70-42017
Coating superalloys [NASA-CASE-LEW-11696-3]	c17 N74-27963	Transpirationally cooled heat ablation system Patent [NASA-CASE-XMS-02677]	c31 N70-42075
Supersonic fan blading [NASA-CASE-LEW-11402-1]	c28 N74-28226	Voltage-current characteristic simulator Patent [NASA-CASE-XMS-01554]	c10 N71-10578
Rocket chamber and method of making [NASA-CASE-LEW-11118-2]	c28 N74-28232	Training vehicle for controlling attitude Patent [NASA-CASE-XMS-02977]	c11 N71-10746
Production of pure metals [NASA-CASE-LEW-10906-1]	c06 N74-30502	Gravity stabilized flying vehicle Patent [NASA-CASE-MSC-12111-1]	c02 N71-11039
Sputtering holes with ion beamlets [NASA-CASE-LEW-11646-1]	c28 N74-31269	Helmet assembly and latch means therefor Patent [NASA-CASE-XMS-04935]	c05 N71-11190
Deuterium pass through target [NASA-CASE-LEW-11866-1]	c11 N74-32719	Pressure suit tie-down mechanism Patent [NASA-CASE-XMS-00784]	c05 N71-12335
Method of electroforming a rocket chamber [NASA-CASE-LEW-11118-1]	c15 N74-32919	Hand-held self-maneuvering unit Patent [NASA-CASE-XMS-05304]	c05 N71-12336
Journal Bearings [NASA-CASE-LEW-11076-2]	c15 N74-32921	Pressure garment joint Patent [NASA-CASE-XMS-09636]	c05 N71-12344
Solar cell assembly [NASA-CASE-LEW-11549-1]	c03 N74-33484	Emergency escape system Patent [NASA-CASE-MSC-12086-1]	c05 N71-12345
Method of manufacturing composite superconductors [NASA-CASE-LEW-11582-1]	c09 N74-33739	Dynamic Doppler simulator Patent [NASA-CASE-XMS-05454-1]	c07 N71-12391
Process for fabricating SiC semiconductor devices [NASA-CASE-LEW-12094-1]	c09 N74-33740	Electrical load protection device Patent [NASA-CASE-MSC-12135-1]	c09 N71-12526
Hall effect magnetometer [NASA-CASE-LEW-11632-3]	c14 N74-33944	High voltage pulse generator Patent [NASA-CASE-MSC-12178-1]	c09 N71-13518
Spatial filter for Q-switched lasers [NASA-CASE-LEW-12164-1]	c16 N74-34010	Process for conditioning tanned sharkskin and articles made therefrom Patent [NASA-CASE-XMS-09691-1]	c18 N71-15545
Catalytic trimerization of aromatic nitriles and triaryl-s-triazine ring cross-linked high temperature resistant polymers and copolymers made thereby [NASA-CASE-LEW-12053-1]	c06 N74-34579	Ablation structures Patent [NASA-CASE-XMS-01816]	c33 N71-15623
<b>NATIONAL AERONAUTICS AND SPACE ADMINISTRATION.</b>			
<b>LINDON B. JOHNSON SPACE CENTER, HOUSTON, TEX.</b>			
Coupling device [NASA-CASE-XMS-07846-1]	c09 N69-21927	Fluid power transmission Patent [NASA-CASE-XMS-01445]	c12 N71-16031
Flow test device [NASA-CASE-XMS-04917]	c14 N69-24257	Spacecraft radiator cover Patent [NASA-CASE-MSC-12049]	c31 N71-16080
Visual target for retrofire attitude control [NASA-CASE-XMS-12158-1]	c31 N69-27499	Method of improving heat transfer characteristics in a nucleate boiling process Patent [NASA-CASE-XMS-04268]	c33 N71-16277
System for monitoring signal amplitude ranges [NASA-CASE-XMS-04061-1]	c09 N69-39885	Heated element fluid flow sensor Patent [NASA-CASE-MSC-12084-1]	c12 N71-17569
Amplifier drift tester [NASA-CASE-XMS-05562-1]	c09 N69-39966	Biological isolation garment Patent [NASA-CASE-MSC-12206-1]	c05 N71-17599
System for improving signal-to-noise ratio of a communication signal Patent Application [NASA-CASE-MSC-12259-1]	c07 N70-12616	Metal valve pintle with encapsulated elastomeric body Patent [NASA-CASE-MSC-12116-1]	c15 N71-17648
Two-step rocket engine bipropellant valve Patent [NASA-CASE-XMS-04890-1]	c15 N70-22192	Method for forming plastic materials Patent [NASA-CASE-XMS-05516]	c15 N71-17803
Heat shield Patent [NASA-CASE-XMS-00486]	c33 N70-33344	Flexible blade antenna Patent [NASA-CASE-MSC-12101]	c09 N71-18720
Life raft Patent [NASA-CASE-XMS-00863]	c05 N70-34857	Space suit heat exchanger Patent [NASA-CASE-XMS-09571]	c05 N71-19439
Shock absorbing support and restraint means Patent [NASA-CASE-XMS-01240]	c05 N70-35152	Light intensity modulator controller Patent [NASA-CASE-XMS-04300]	c09 N71-19479
Energy absorbing structure Patent Application [NASA-CASE-MSC-12279-1]	c15 N70-35679	Solar optical telescope dome control system Patent [NASA-CASE-MSC-10966]	c14 N71-19568
Bonded solid lubricant coating Patent [NASA-CASE-XMS-00259]	c18 N70-36400	High temperature compositions Patent [NASA-CASE-XMS-00370]	c17 N71-20941
Life preserver Patent [NASA-CASE-XMS-00864]	c05 N70-36493	Radiation detector readout system Patent [NASA-CASE-XMS-03478]	c14 N71-21040
Resuscitation apparatus Patent [NASA-CASE-XMS-01115]	c05 N70-39922	Subgravity simulator Patent [NASA-CASE-XMS-04798]	c11 N71-21474
Inflatable radar reflector unit Patent [NASA-CASE-XMS-00893]	c07 N70-40063	Shock absorber Patent [NASA-CASE-XMS-03722]	c15 N71-21530
Measuring device Patent [NASA-CASE-XMS-01546]	c14 N70-40233	Apparatus for machining geometric cones Patent [NASA-CASE-XMS-04292]	c15 N71-22722
Liquid-gas separator for zero gravity environment Patent [NASA-CASE-XMS-01492]	c05 N70-41297	Rescue litter flotation assembly Patent [NASA-CASE-XMS-04170]	c05 N71-22748
Instrument for use in performing a controlled Valsalva maneuver Patent [NASA-CASE-XMS-01615]	c05 N70-41329	Aligning and positioning device Patent [NASA-CASE-XMS-04178]	c15 N71-22796
Radial module space station Patent [NASA-CASE-XMS-01906]	c31 N70-41373	Tension measurement device Patent [NASA-CASE-XMS-04545]	c15 N71-22878
Hypersonic reentry vehicle Patent [NASA-CASE-XMS-04142]	c31 N70-41631	Amplitude modulated laser transmitter Patent [NASA-CASE-XMS-04269]	c16 N71-22895
Angular accelerometer Patent [NASA-CASE-XMS-05936]	c14 N70-41682	Digital cardiotachometer system Patent [NASA-CASE-XMS-02399]	c05 N71-22896
Indexed keyed connection Patent [NASA-CASE-XMS-02532]	c15 N70-41808	Phonocardiograph transducer Patent [NASA-CASE-XMS-05365]	c14 N71-22993
Discrete local altitude sensing device Patent [NASA-CASE-XMS-03792]	c14 N70-41812	Multiple environment materials test chamber having a multiple port X-ray tube for irradiating a plurality of samples Patent [NASA-CASE-XMS-02930]	c11 N71-23042
		Soft frame adjustable eyeglasses Patent [NASA-CASE-XMS-06064]	c05 N71-23096



Blood pressure measuring system for separating and separately recording dc signal and an ac signal Patent [NASA-CASE-XMS-06061]	c05	N71-23317	Reconstituted asbestos matrix [NASA-CASE-MSC-12568-1]	c18	N73-16577
Signal ratio system utilizing voltage controlled oscillators Patent [NASA-CASE-XMP-04367]	c09	N71-23545	Medical subject monitoring systems [NASA-CASE-MSC-14180-1]	c05	N73-22045
Winch having cable position and load indicators Patent [NASA-CASE-MSC-12052-1]	c15	N71-24599	Apparatus for statistical time-series analysis of electrical signals [NASA-CASE-MSC-12428-1]	c10	N73-25240
Radar antenna system for acquisition and tracking Patent [NASA-CASE-XMS-09610]	c07	N71-24625	Life raft stabilizer [NASA-CASE-MSC-12393-1]	c02	N73-26006
Extravehicular tunnel suit system Patent [NASA-CASE-MSC-12243-1]	c05	N71-24728	On-film optical recording of camera lens settings [NASA-CASE-MSC-12363-1]	c14	N73-26431
Broadband modified turnstile antenna [NASA-CASE-MSC-12209]	c09	N71-24842	Spacecraft docking and alignment system [NASA-CASE-MSC-12559-1]	c31	N73-26879
Quick release hook tape Patent [NASA-CASE-XMS-10660-1]	c15	N71-25975	Powerplexer [NASA-CASE-MSC-12396-1]	c03	N73-31988
Plated electrodes Patent [NASA-CASE-XMS-04213-1]	c09	N71-26002	Foot pedal operated fluid type exercising device [NASA-CASE-MSC-11561-1]	c05	N73-32014
Audio signal processor Patent [NASA-CASE-MSC-12223-1]	c07	N71-26181	Digital to analog conversion apparatus [NASA-CASE-MSC-12458-1]	c08	N73-32081
Fabric for micrometeoroid protection garment Patent [NASA-CASE-MSC-12109]	c18	N71-26285	Solid state controller three axes controller [NASA-CASE-MSC-12394-1]	c03	N74-10942
Antenna array phase quadrature tracking system Patent [NASA-CASE-MSC-12205-1]	c07	N71-27056	Method for obtaining oxygen from lunar or similar soil [NASA-CASE-MSC-12408-1]	c13	N74-13011
Radiometric temperature reference Patent [NASA-CASE-MSC-13276-1]	c14	N71-27058	Adaptive voting computer system [NASA-CASE-MSC-13932-1]	c08	N74-14920
Pneumatic amplifier Patent [NASA-CASE-MSC-12121-1]	c15	N71-27147	Position determination systems [NASA-CASE-MSC-12593-1]	c09	N74-14942
Orbital escape device Patent [NASA-CASE-XMS-06162]	c31	N71-28851	Phase protection system for ac power lines [NASA-CASE-MSC-17832-1]	c10	N74-14956
Inflatable tether Patent [NASA-CASE-XMS-10993]	c15	N71-28936	Optical instruments [NASA-CASE-MSC-14096-1]	c14	N74-15095
Ion-exchange membrane with platinum electrode assembly Patent [NASA-CASE-XMS-02063]	c03	N71-29044	Strain arrestor plate [NASA-CASE-MSC-14182-1]	c18	N74-15213
Oxygen production method and apparatus [NASA-CASE-MSC-12332-1]	c15	N72-15476	Multifunction audio digitizer [NASA-CASE-MSC-13855-1]	c07	N74-17885
Color television system [NASA-CASE-MSC-12146-1]	c07	N72-17109	Digital transmitter for data bus communications system [NASA-CASE-MSC-14558-1]	c07	N74-17888
Current dependent filter inductance [NASA-CASE-ERC-10139]	c09	N72-17154	Method and apparatus for stable silicon dioxide layers on silicon grown in silicon nitride ambient [NASA-CASE-ERC-10073-1]	c06	N74-19769
Low onset rate energy absorber [NASA-CASE-MSC-12279]	c15	N72-17450	Analysis of volatile organic compounds [NASA-CASE-MSC-14428-1]	c06	N74-19776
Stand-off type ablative heat shield [NASA-CASE-MSC-12143-1]	c33	N72-17947	Method of fluxless brazing and diffusion bonding of aluminum containing components [NASA-CASE-MSC-14435-1]	c15	N74-20071
Photographic film restoration system [NASA-CASE-MSC-12448-1]	c14	N72-20394	Pulse code modulated signal synchronizer [NASA-CASE-MSC-12462-1]	c07	N74-20809
Optical range finder having nonoverlapping complete images [NASA-CASE-MSC-12105-1]	c14	N72-21409	Pulse code modulated signal synchronizer [NASA-CASE-MSC-12494-1]	c07	N74-20810
Open type urine receptacle [NASA-CASE-MSC-12324-1]	c05	N72-22093	Apparatus and method for processing Korotkov sounds [NASA-CASE-MSC-13999-1]	c05	N74-26626
Family of frequency to amplitude converters [NASA-CASE-MSC-12395]	c09	N72-25257	Differential phase shift keyed communication system [NASA-CASE-MSC-14065-1]	c07	N74-26654
Foldable construction block [NASA-CASE-MSC-12233-1]	c15	N72-25454	Technique for recovery of voice data from heat damaged magnetic tape [NASA-CASE-MSC-14219-1]	c07	N74-27612
Method and apparatus for detecting surface ions on silicon diodes and transistors [NASA-CASE-ERC-10325]	c15	N72-25457	Differential phase shift keyed signal resolver [NASA-CASE-MSC-14066-1]	c10	N74-27705
Scientific experiment flexible mount [NASA-CASE-MSC-12372-1]	c31	N72-25842	Specific wavelength colorimeter [NASA-CASE-MSC-14081-1]	c14	N74-27860
Burn rate testing apparatus [NASA-CASE-XMS-09690]	c33	N72-25913	Latch mechanism [NASA-CASE-MSC-12549-1]	c15	N74-27903
System for improving signal-to-noise ratio of a communication signal [NASA-CASE-MSC-12259-2]	c07	N72-33146	Ceramic coating for silica insulation [NASA-CASE-MSC-14270-2]	c18	N74-30004
Altitude measuring system [NASA-CASE-ERC-10412-1]	c09	N73-12211	Ceramic coating for silica insulation [NASA-CASE-MSC-14270-1]	c18	N74-30005
A method of delivering a vehicle to earth orbit and returning the reusable portion thereof to earth [NASA-CASE-MSC-12391]	c30	N73-12884	Digital communication system [NASA-CASE-MSC-13912-1]	c07	N74-30524
Multispectral imaging system [NASA-CASE-MSC-12404-1]	c23	N73-13661	Auger attachment method for insulation [NASA-CASE-MSC-12615-1]	c15	N74-30916
Foldable construction block [NASA-CASE-MSC-12233-2]	c32	N73-13921	Flexible joint for pressurizable garment [NASA-CASE-MSC-11072]	c05	N74-32546
Space shuttle vehicle and system [NASA-CASE-MSC-12433]	c31	N73-14854	Multiparameter vision tester [NASA-CASE-MSC-13601-2]	c05	N74-32549
Binary concatenated coding system [NASA-CASE-MSC-14082-1]	c08	N73-16163	Method and apparatus for decoding compatible convolutional codes [NASA-CASE-MSC-14070-1]	c07	N74-32598
Binary concatenated coding system [NASA-CASE-MSC-14082-1]	c08	N73-16163	Field sequential stereo television [NASA-CASE-MSC-12616-1]	c07	N74-32601
Reconstituted asbestos matrix [NASA-CASE-MSC-12568-1]	c18	N73-16577	Pulse stretcher for narrow pulses [NASA-CASE-MSC-14130-1]	c10	N74-32711
			An optical process for producing classification maps from multispectral data [NASA-CASE-MSC-14472-1]	c13	N74-32780

## SOURCE INDEX

## NATIONAL AERONAUTICS AND SPACE ADMINISTRATION, CONTD

Method and device for detection of surface discontinuities or defects  
[NASA-CASE-MSC-14187-1] c14 N74-32879

Cosmic dust analyzer  
[NASA-CASE-MSC-13802-2] c14 N74-32883

Photographic film restoration system  
[NASA-CASE-MSC-12448-2] c14 N74-32884

Spaceflight meteoroid composition experiment  
[NASA-CASE-MSC-12423-1] c14 N74-32885

Refinement control in TIG arc welding  
[NASA-CASE-MSC-19095-1] c15 N74-32925

Space mirrors  
[NASA-CASE-MSC-12611-1] c23 N74-33142

Space vehicle system  
[NASA-CASE-MSC-12561-1] c31 N74-33303

**NATIONAL AERONAUTICS AND SPACE ADMINISTRATION.  
MANNED SPACECRAFT CENTER, CAPE CANAVERAL, FLA.**

Electrode for biological recording  
[NASA-CASE-XMS-02872] c05 N69-21925

**NATIONAL AERONAUTICS AND SPACE ADMINISTRATION.  
MANNED SPACECRAFT CENTER, LANGLEY STATION, VA.**

Plural recorder system  
[NASA-CASE-XMS-06949] c09 N69-21467

**NATIONAL AERONAUTICS AND SPACE ADMINISTRATION.  
MARSHALL SPACE FLIGHT CENTER, HUNTSVILLE, ALA.**

Electrical feed-through connection for printed circuit boards and printed cable  
[NASA-CASE-XMF-01483] c14 N69-27431

Method for detecting hydrogen gas  
[NASA-CASE-XMF-03873] c06 N69-39733

Electrical connector Patent Application  
[NASA-CASE-MFS-14741] c09 N70-20737

Angular measurement system Patent  
[NASA-CASE-XMF-00447] c14 N70-33179

Insulating structure Patent  
[NASA-CASE-XMF-00341] c15 N70-33323

Space vehicle electrical system Patent  
[NASA-CASE-XMF-00517] c03 N70-34157

Pivotal shock absorbing pad assembly Patent  
[NASA-CASE-XMF-03856] c31 N70-34159

Gimbaled, partially submerged rocket nozzle Patent  
[NASA-CASE-XMF-01544] c28 N70-34162

Recoverable rocket vehicle Patent  
[NASA-CASE-XMF-00389] c31 N70-34176

Electrical discharge apparatus for forming Patent  
[NASA-CASE-XMF-00375] c15 N70-34249

Optical inspection apparatus Patent  
[NASA-CASE-XMF-00462] c14 N70-34298

Relay binary circuit Patent  
[NASA-CASE-XMF-00421] c09 N70-34502

Attitude and propellant flow control system and method Patent  
[NASA-CASE-XMF-00185] c21 N70-34539

Electrical connector for flat cables Patent  
[NASA-CASE-XMF-00324] c09 N70-34596

Externally pressurized fluid bearing Patent  
[NASA-CASE-XMF-00515] c15 N70-34664

Force measuring instrument Patent  
[NASA-CASE-XMF-00456] c14 N70-34705

Seismic displacement transducer Patent  
[NASA-CASE-XMF-00479] c14 N70-34794

Electric arc welding Patent  
[NASA-CASE-XMF-00392] c15 N70-34814

Assembly for recovering a capsule Patent  
[NASA-CASE-XMF-00641] c31 N70-36410

Printed cable connector Patent  
[NASA-CASE-XMF-00369] c09 N70-36494

Landing pad assembly for aerospace vehicles Patent  
[NASA-CASE-XMF-02853] c31 N70-36654

Electric arc driven wind tunnel Patent  
[NASA-CASE-XMF-00411] c11 N70-36913

Gravity device Patent  
[NASA-CASE-XMF-00424] c11 N70-38196

Injector for bipropellant rocket engines Patent  
[NASA-CASE-XMF-00148] c28 N70-38710

Electronic motor control system Patent  
[NASA-CASE-XMF-01129] c09 N70-38712

Slosh suppressing device and method Patent  
[NASA-CASE-XMF-00658] c12 N70-38997

Air bearing Patent  
[NASA-CASE-XMF-00339] c15 N70-39896

Instrument support with precise lateral adjustment Patent  
[NASA-CASE-XMF-00480] c14 N70-39898

Segmented back-up bar Patent  
[NASA-CASE-XMF-00640] c15 N70-39924

Collapsible loop antenna for space vehicle Patent  
[NASA-CASE-XMF-00437] c07 N70-40202

Flexible back-up bar Patent  
[NASA-CASE-XMF-00722] c15 N70-40204

Electro-optical alignment control system Patent  
[NASA-CASE-XMF-00908] c14 N70-40238

Missile launch release system Patent  
[NASA-CASE-XMF-03198] c30 N70-40353

Double-acting shock absorber Patent  
[NASA-CASE-XMF-01045] c15 N70-40354

Portable alignment tool Patent  
[NASA-CASE-XMF-01452] c15 N70-41371

Device for suppressing sound and heat produced by high-velocity exhaust jets Patent  
[NASA-CASE-XMF-01813] c28 N70-41582

Unfired-ceramic flame-resistant insulation and method of making the same Patent  
[NASA-CASE-XMF-01030] c18 N70-41583

Pulse counting circuit which simultaneously indicates the occurrence of the nth pulse Patent  
[NASA-CASE-XMF-00906] c09 N70-41655

Support apparatus for dynamic testing Patent  
[NASA-CASE-XMF-01772] c11 N70-41677

Locking device with rolling detents Patent  
[NASA-CASE-XMF-01371] c15 N70-41829

Tank construction for space vehicles Patent  
[NASA-CASE-XMF-01899] c31 N70-41948

Accumulator Patent Application  
[NASA-CASE-MFS-10354] c12 N70-41976

Positive displacement flowmeter Patent  
[NASA-CASE-XMF-02822] c14 N70-41994

Hydraulic support for dynamic testing Patent  
[NASA-CASE-XMF-03248] c11 N71-10604

Fiber optic vibration transducer and analyzer Patent  
[NASA-CASE-XMF-02433] c14 N71-10616

Method and means for damping nutation in a satellite Patent  
[NASA-CASE-XMF-00442] c31 N71-10747

Heat pipe thermionic diode power system Patent  
[NASA-CASE-XMF-05843] c03 N71-11055

Synthesis of siloxane-containing epoxy polymers Patent  
[NASA-CASE-MFS-13994-1] c06 N71-11240

BI-carrier demodulator with modulation Patent  
[NASA-CASE-XMF-01160] c07 N71-11298

Harness assembly Patent  
[NASA-CASE-MFS-14671] c05 N71-12341

Magnetic matrix memory system Patent  
[NASA-CASE-XMF-05835] c08 N71-12504

Pulse amplitude and width detector Patent  
[NASA-CASE-XMF-06519] c09 N71-12519

Microwave power receiving antenna Patent  
[NASA-CASE-MFS-20333] c09 N71-13486

Hybrid holographic system using reflected and transmitted object beams simultaneously Patent  
[NASA-CASE-MFS-20074] c16 N71-15565

Reactance control system Patent  
[NASA-CASE-XMF-01598] c21 N71-15583

Apparatus for welding torch angle and seam tracking control Patent  
[NASA-CASE-XMF-03287] c15 N71-15607

Multivay vortex valve system Patent  
[NASA-CASE-XMF-04709] c15 N71-15609

Injector assembly for liquid fueled rocket engines Patent  
[NASA-CASE-XMF-00968] c28 N71-15660

Space capsule ejection assembly Patent  
[NASA-CASE-XMF-03169] c31 N71-15675

Air cushion lift pad Patent  
[NASA-CASE-MFS-14685] c31 N71-15689

Method of making a molded connector Patent  
[NASA-CASE-XMF-03498] c15 N71-15986

Regenerative braking system Patent  
[NASA-CASE-XMF-01096] c10 N71-16030

Condition and condition duration indicator Patent  
[NASA-CASE-XMF-01097] c10 N71-16058

Method and apparatus for securing to a spacecraft Patent  
[NASA-CASE-MFS-11133] c31 N71-16222

Method and apparatus of simulating zero gravity conditions Patent  
[NASA-CASE-MFS-12750] c27 N71-16223

Passive optical wind and turbulence detection system Patent  
[NASA-CASE-XMF-14032] c20 N71-16340

Serpentuator Patent  
[NASA-CASE-XMF-05344] c31 N71-16345

Gravimeter Patent  
[NASA-CASE-XMF-05844] c14 N71-17587

High pressure gas filter system Patent  
[NASA-CASE-MFS-12806] c14 N71-17588

Burst diaphragm flow initiator Patent  
[NASA-CASE-MFS-12915] c11 N71-17600

Vacuum deposition apparatus Patent  
[NASA-CASE-XMF-01667] c15 N71-17647

Quick disconnect latch and handle combination  
Patent  
[NASA-CASE-MFS-11132] c15 N71-17649

Method and apparatus for precision sizing and  
joining of large diameter tubes Patent  
[NASA-CASE-XMF-05114] c15 N71-17650

Low temperature flexure fatigue cryostat Patent  
[NASA-CASE-IMF-02964] c14 N71-17659

Precision stepping drive Patent  
[NASA-CASE-MFS-14772] c15 N71-17692

Multi-mission module Patent  
[NASA-CASE-XMF-01543] c31 N71-17730

Ratchet mechanism Patent  
[NASA-CASE-MFS-12805] c15 N71-17805

Method of making impurity-type semiconductor  
electrical contacts Patent  
[NASA-CASE-XMF-01016] c26 N71-17818

Apparatus for the determination of the existence  
or non-existence of a bonding between two  
members Patent  
[NASA-CASE-MFS-13686] c15 N71-18132

Static inverters which sum a plurality of waves  
Patent  
[NASA-CASE-XMF-00663] c08 N71-18752

Space environmental work simulator Patent  
[NASA-CASE-XMF-07488] c11 N71-18773

Space manufacturing machine Patent  
[NASA-CASE-MFS-20410] c15 N71-19214

Extensometer Patent  
[NASA-CASE-XMF-04680] c15 N71-19489

Mechanical simulator of low gravity conditions  
Patent  
[NASA-CASE-MFS-10555] c11 N71-19494

Weld control system using thermocouple wire Patent  
[NASA-CASE-MFS-06074] c15 N71-20393

Evaporant source for vapor deposition Patent  
[NASA-CASE-IMF-06065] c15 N71-20395

Satellite despun device Patent  
[NASA-CASE-XMF-08523] c31 N71-20396

Method of coating circuit paths on printed  
circuit boards with solder Patent  
[NASA-CASE-IMF-01599] c09 N71-20705

Elastomeric silazane polymers and process for  
preparing the same Patent  
[NASA-CASE-IMF-04133] c06 N71-20717

Method of producing alternating ether siloxane  
copolymers Patent  
[NASA-CASE-XMF-02584] c06 N71-20905

Honeycomb panel and method of making same Patent  
[NASA-CASE-IMF-01402] c18 N71-21651

Portable milling tool Patent  
[NASA-CASE-IMF-03511] c15 N71-22799

Energy absorbing device Patent  
[NASA-CASE-XMF-10040] c15 N71-22877

Continuous detonation reaction engine Patent  
[NASA-CASE-XMF-06926] c28 N71-22983

Adaptive tracking notch filter system Patent  
[NASA-CASE-XMF-01892] c10 N71-22986

Meteorological balloon Patent  
[NASA-CASE-XMF-04163] c02 N71-23007

Continuous turning slip ring assembly Patent  
[NASA-CASE-XMF-01049] c15 N71-23049

Automatic welding speed controller Patent  
[NASA-CASE-XMF-01730] c15 N71-23050

Positive dc to positive dc converter Patent  
[NASA-CASE-XMF-14301] c09 N71-23188

Zero gravity apparatus Patent  
[NASA-CASE-XMF-06515] c14 N71-23227

Positive dc to negative dc converter Patent  
[NASA-CASE-XMF-08217] c03 N71-23239

Evacuation port seal Patent  
[NASA-CASE-XMF-03290] c15 N71-23256

Azimuth laying system Patent  
[NASA-CASE-XMF-01669] c21 N71-23289

Electron beam instrument for measuring electric  
fields Patent  
[NASA-CASE-IMF-10289] c14 N71-23699

Anemometer with braking mechanism Patent  
[NASA-CASE-IMF-05224] c14 N71-23726

Apparatus for testing a pressure responsive  
instrument Patent  
[NASA-CASE-XMF-04134] c14 N71-23755

Electric welding torch Patent  
[NASA-CASE-XMF-02330] c15 N71-23798

Swivel support for gas bearings Patent  
[NASA-CASE-IMF-07808] c15 N71-23812

Welding skate with computerized control Patent  
[NASA-CASE-IMF-07069] c15 N71-23815

Docking structure for spacecraft Patent  
[NASA-CASE-XMF-05941] c31 N71-23912

High pressure helium purifier Patent  
[NASA-CASE-IMF-06888] c15 N71-24044

Horizontal cryostat for fatigue testing Patent  
[NASA-CASE-IMF-10968] c14 N71-24234

Method for leakage testing of tanks Patent  
[NASA-CASE-IMF-02392] c32 N71-24265

Internal flare angle gauge Patent  
[NASA-CASE-XMF-04415] c14 N71-24693

Pulse rise time and amplitude detector Patent  
[NASA-CASE-XMF-08804] c09 N71-24717

System for maintaining a motor at a  
predetermined speed utilizing digital feedback  
means Patent  
[NASA-CASE-IMF-06892] c09 N71-24805

Power system with heat pipe liquid coolant lines  
Patent  
[NASA-CASE-MFS-14114-2] c09 N71-24807

Magnetomotive metal working device Patent  
[NASA-CASE-IMF-03793] c15 N71-24833

Apparatus for determining the deflection of an  
electron beam impinging on a target Patent  
[NASA-CASE-XMF-06617] c09 N71-24843

Transistor servo system including a unique  
differential amplifier circuit Patent  
[NASA-CASE-IMF-05195] c10 N71-24861

RC rate generator for slow speed measurement  
Patent  
[NASA-CASE-IMF-02966] c10 N71-24863

Method and apparatus for precision sizing and  
joining of large diameter tubes Patent  
[NASA-CASE-XMF-05114-3] c15 N71-24865

Duct coupling for single-handed operation Patent  
[NASA-CASE-MFS-20395] c15 N71-24903

Brushless direct current tachometer Patent  
[NASA-CASE-MFS-20385] c09 N71-24904

Self-lubricating gears and other mechanical  
parts Patent  
[NASA-CASE-MFS-14971] c15 N71-24984

Pulse width inverter Patent  
[NASA-CASE-MFS-10068] c10 N71-25139

Isothermal cover with thermal reservoirs Patent  
[NASA-CASE-MFS-20355] c33 N71-25353

Storage container for electronic devices Patent  
[NASA-CASE-MFS-20075] c09 N71-26133

Method and apparatus for precision sizing and  
joining of large diameter tubes Patent  
[NASA-CASE-IMF-05114-2] c15 N71-26148

Filter system for control of outgas  
contamination in vacuum Patent  
[NASA-CASE-MFS-14711] c15 N71-26185

Image magnification adapter for cameras Patent  
[NASA-CASE-IMF-03844-1] c14 N71-26474

Thickness measuring and injection device Patent  
[NASA-CASE-MFS-20261] c14 N71-27005

Personal propulsion unit Patent  
[NASA-CASE-MFS-20130] c28 N71-27585

Power system with heat pipe liquid coolant lines  
Patent  
[NASA-CASE-MFS-14114] c33 N71-27862

Method of making shielded flat cable Patent  
[NASA-CASE-MFS-13687] c09 N71-28691

A dc motor speed control system Patent  
[NASA-CASE-MFS-14610] c09 N71-28886

Cryogenic thermal insulation Patent  
[NASA-CASE-XMF-05046] c33 N71-28892

Method of coating through-holes Patent  
[NASA-CASE-IMF-05999] c15 N71-29032

Response analyzers for sensors Patent  
[NASA-CASE-MFS-11204] c14 N71-29134

Current regulating voltage divider  
[NASA-CASE-MFS-20935] c09 N71-34212

Graphite-reinforced aluminum composite and  
method of preparing the same  
[NASA-CASE-MFS-21077] c18 N71-34502

Nuclear mass flowmeter  
[NASA-CASE-MFS-20485] c14 N71-11365

Fine adjustment mount  
[NASA-CASE-MFS-20249] c15 N71-11386

Method of making foamed materials in zero gravity  
[NASA-CASE-IMF-09902] c15 N71-11387

Air bearing assembly for curved surfaces  
[NASA-CASE-MFS-20423] c15 N72-11388

Stud-bonding gun  
[NASA-CASE-MFS-20299] c15 N72-11392

Apparatus for obtaining isotropic irradiation of a specimen  
[NASA-CASE-MFS-20095] c24 N72-11595

Wind tunnel test section  
[NASA-CASE-MFS-20509] c11 N72-17183

Multiple image storing system for high speed projectile holography  
[NASA-CASE-MFS-20596] c14 N72-17324

Method of manufacturing semiconductor devices using refractory dielectrics  
[NASA-CASE-IER-08476-1] c26 N72-17820

Underwater space suit pressure control regulator  
[NASA-CASE-MFS-20332] c05 N72-20097

Apparatus for making diamonds  
[NASA-CASE-MFS-20698] c15 N72-20446

An airlock  
[NASA-CASE-MFS-20922] c31 N72-20840

Photoetching of metal-oxide layers  
[NASA-CASE-ERC-10108] c06 N72-21094

Liquid aerosol dispenser  
[NASA-CASE-MFS-20829] c12 N72-21310

Optical probing of supersonic flows with statistical correlation  
[NASA-CASE-MFS-20642] c14 N72-21407

Mechanically actuated triggered band  
[NASA-CASE-MFS-20413] c15 N72-21463

Hermetically sealed elbow actuator  
[NASA-CASE-MFS-14710] c09 N72-22195

Shielded flat cable  
[NASA-CASE-MFS-13687-2] c09 N72-22198

Shock wave convergence apparatus  
[NASA-CASE-MFS-20890] c14 N72-22439

Bonding of reinforced Teflon to metals  
[NASA-CASE-MFS-20482] c15 N72-22492

Inorganic thermal control coatings  
[NASA-CASE-MFS-20011] c16 N72-22566

High temperature furnace for melting materials in space  
[NASA-CASE-MFS-20710] c11 N72-23215

Siloxane containing epoxide compounds  
[NASA-CASE-MFS-13994-2] c06 N72-25148

Silphenylenesiloxane polymers having in-chain perfluoroalkyl groups  
[NASA-CASE-MFS-20979] c06 N72-25151

Emergency lunar communications system  
[NASA-CASE-MFS-21042] c07 N72-25171

Lead attachment to high temperature devices  
[NASA-CASE-ERC-10224] c09 N72-25261

Device for measuring bearing preload  
[NASA-CASE-MFS-20434] c11 N72-25288

Accumulator  
[NASA-CASE-MFS-10354-2] c12 N72-25306

Multiple in-line docking capability for rotating space stations  
[NASA-CASE-MFS-20855-1] c31 N72-25853

Altitude simulation chamber for rocket engine testing  
[NASA-CASE-MFS-20620] c11 N72-27262

Fixture for supporting articles during vibration tests  
[NASA-CASE-MFS-20523] c14 N72-27412

Electrical connector  
[NASA-CASE-MFS-20757] c09 N72-28225

Remote control manipulator for zero gravity environment  
[NASA-CASE-MFS-14405] c15 N72-28495

Thermal compensating structural member  
[NASA-CASE-MFS-20433] c15 N72-28496

Semiconductor transducer device  
[NASA-CASE-ERC-10087-2] c14 N72-31446

Coaxial high density, hypervelocity plasma generator and accelerator with ionizable metal disc  
[NASA-CASE-MFS-20589] c25 N72-32688

Process for the preparation of brushite crystals  
[NASA-CASE-ERC-10338] c04 N72-33072

Adjustable force probe  
[NASA-CASE-MFS-20760] c14 N72-33377

Polyimide resin-fiberglass cloth laminates for printed circuit boards  
[NASA-CASE-MFS-20408] c18 N73-12604

Differential pressure control  
[NASA-CASE-MFS-14216] c14 N73-13418

Redundant hydraulic control system for actuators  
[NASA-CASE-MFS-20944] c15 N73-13466

Device and method for determining X ray reflection efficiency of optical surfaces  
[NASA-CASE-MFS-20243] c23 N73-13662

Strain gauge ambiguity sensor for segmented mirror active optical system  
[NASA-CASE-MFS-20506-1] c14 N73-17563

A leak detector  
[NASA-CASE-MFS-21761-1] c14 N73-18444

Process for making diamonds  
[NASA-CASE-MFS-20698-2] c15 N73-19457

Test stand system for vacuum chambers  
[NASA-CASE-MFS-21362] c11 N73-20267

Material fatigue testing system  
[NASA-CASE-MFS-20673] c14 N73-20476

Clear air turbulence detector  
[NASA-CASE-MFS-21244-1] c20 N73-21523

Electronic optical transfer function analyzer  
[NASA-CASE-MFS-21672-1] c23 N73-22630

System for depositing thin films  
[NASA-CASE-MFS-20775-1] c26 N73-23770

Ratemeter  
[NASA-CASE-MFS-20418] c14 N73-24473

Underwater space suit pressure control regulator  
[NASA-CASE-MFS-20332-2] c05 N73-25125

Barometers (peak wind speed anemometers)  
[NASA-CASE-MFS-20916] c14 N73-25460

Electrostatic measurement system  
[NASA-CASE-MFS-22129-1] c09 N73-26197

Self-energized plasma compressor  
[NASA-CASE-MFS-22145-1] c25 N73-26721

Monitoring deposition of films  
[NASA-CASE-MFS-20675] c26 N73-26751

Docking structure for spacecraft  
[NASA-CASE-MFS-20863] c31 N73-26876

Wide temperature range electronic device with lead attachment  
[NASA-CASE-ERC-10224-2] c09 N73-27150

Restraint system for ergometer  
[NASA-CASE-MFS-21046-1] c14 N73-27377

Multiplate focusing collimator  
[NASA-CASE-MFS-20932-1] c14 N73-27380

Apparatus and method for skin packaging articles  
[NASA-CASE-MFS-20855] c15 N73-27405

Ergometer  
[NASA-CASE-MFS-21109-1] c05 N73-27941

Tilting table for ergometer and for other biomedical devices  
[NASA-CASE-MFS-21010-1] c05 N73-30078

Ultrasonic bone densitometer  
[NASA-CASE-MFS-20994-1] c05 N73-30090

Measurement system  
[NASA-CASE-MFS-20658-1] c14 N73-30386

Collimator of multiple plates with axially aligned identical random arrays of apertures  
[NASA-CASE-MFS-20546-2] c14 N73-30389

Automatically operable self-leveling load table  
[NASA-CASE-MFS-22039-1] c14 N73-30428

Holographic thin film analyzer  
[NASA-CASE-MFS-20823-1] c16 N73-30476

Holographic system for nondestructive testing  
[NASA-CASE-MFS-21704-1] c16 N73-30478

Semiconductor surface protection material  
[NASA-CASE-ERC-10339-1] c18 N73-30532

Polymerizable disilanol having in-chain perfluoroalkyl groups  
[NASA-CASE-MFS-20979-2] c06 N73-32030

Redundant speed control for brushless Hall effect motor  
[NASA-CASE-MFS-20207-1] c09 N73-32107

Induction motor control system with voltage controlled oscillator circuit  
[NASA-CASE-MFS-21465-1] c10 N73-32145

Hole cutter  
[NASA-CASE-MFS-22649-1] c15 N73-32376

Synthesis of superconducting compounds by explosive compaction of powders  
[NASA-CASE-MFS-20861-1] c18 N73-32437

Remote manipulator system  
[NASA-CASE-MFS-22022-1] c05 N74-10099

Orthotic arm joint  
[NASA-CASE-MFS-21611-1] c05 N74-10100

Ultrasonic scanner for radial and flat panels  
[NASA-CASE-MFS-20335-1] c14 N74-10415

Ergometer calibrator  
[NASA-CASE-MFS-21045-1] c14 N74-11288

Digital computing cardiachometer  
[NASA-CASE-MFS-20284-1] c05 N74-12778

Integrated circuit package with lead structure and method of preparing the same

[NASA-CASE-MFS-21374-1] c10 N74-12951  
 Vee-notching device  
 [NASA-CASE-MFS-20730-1] c14 N74-13131  
 Pseudo-noise test set for communication system  
 evaluation  
 [NASA-CASE-MFS-22671-1] c14 N74-13146  
 A variable frequency inverter for ac induction  
 motors with torque, speed and braking control  
 [NASA-CASE-MFS-22088-1] c09 N74-13894  
 Solar energy power system  
 [NASA-CASE-MFS-21628-1] c29 N74-14496  
 Ultrasonic scanning system for in-place  
 inspection of brazed tube joints  
 [NASA-CASE-MFS-20767-1] c15 N74-15130  
 Method and apparatus for checking the stability  
 of a setup for making reflection type holograms  
 [NASA-CASE-MFS-21455-1] c16 N74-15146  
 Method and apparatus for nondestructive testing  
 [NASA-CASE-MFS-21233-1] c23 N74-15395  
 Real time moving scene holographic camera system  
 [NASA-CASE-MFS-21087-1] c14 N74-17153  
 Nonflammable coating compositions  
 [NASA-CASE-MFS-20486-2] c18 N74-17283  
 Metering gun for dispensing precisely measured  
 charges of fluid  
 [NASA-CASE-MFS-21163-1] c05 N74-17853  
 Electrostatic entrained material measurement  
 system  
 [NASA-CASE-MFS-22128-2] c14 N74-18098  
 Apparatus for calibrating an image dissector tube  
 [NASA-CASE-MFS-22208-1] c14 N74-18100  
 Omnidirectional wheel  
 [NASA-CASE-MFS-21309-1] c15 N74-18125  
 Reinforced polyquinoxaline gasket and method of  
 preparing the same  
 [NASA-CASE-MFS-21364-1] c15 N74-18126  
 Manual actuator  
 [NASA-CASE-MFS-21481-1] c15 N74-18127  
 Testing device using X-ray lasers  
 [NASA-CASE-MFS-22409-1] c16 N74-18153  
 Cryogenic gyroscope housing  
 [NASA-CASE-MFS-21136-1] c23 N74-18323  
 Thermoelectric power system  
 [NASA-CASE-MFS-22002-1] c03 N74-18726  
 Two stage light gas plasma projectile accelerator  
 [NASA-CASE-MFS-22287-1] c11 N74-18891  
 A panel for selectively absorbing solar thermal  
 energy and the method for manufacturing the  
 panel  
 [NASA-CASE-MFS-22562-1] c03 N74-19700  
 Automatic frequency control for FM transmitter  
 [NASA-CASE-MFS-21540-1] c07 N74-19790  
 Microwave power transmission system wherein  
 level of transmitted power is controlled by  
 reflections from receiver  
 [NASA-CASE-MFS-21470-1] c10 N74-19870  
 A space vehicle  
 [NASA-CASE-MFS-22734-1] c31 N74-20541  
 Reduced gravity fecal collector seat and urinal  
 [NASA-CASE-MFS-22102-1] c05 N74-20725  
 Metabolic analyzer  
 [NASA-CASE-MFS-21415-1] c05 N74-20728  
 Automatic quadrature control and measuring system  
 [NASA-CASE-MFS-21660-1] c14 N74-21017  
 Thiophenyl ether disiloxanes and trisiloxanes  
 useful as lubricant fluids  
 [NASA-CASE-MFS-22411-1] c15 N74-21058  
 Method of determining bond quality of power  
 transistors attached to bed substrates  
 [NASA-CASE-MFS-21931-1] c09 N74-21858  
 Isolated output system for a class D  
 switching-mode amplifier  
 [NASA-CASE-MFS-21616-1] c09 N74-21859  
 Airlock  
 [NASA-CASE-MFS-20922-1] c15 N74-22136  
 An internally supported flexible duct joint  
 [NASA-CASE-MFS-19193-1] c15 N74-22145  
 Anti-gravity device  
 [NASA-CASE-MFS-22758-1] c15 N74-22146  
 Low distortion automatic phase control circuit  
 [NASA-CASE-MFS-21671-1] c10 N74-22885  
 Two speed drive system  
 [NASA-CASE-MFS-20645-1] c15 N74-23070  
 Insert facing tool  
 [NASA-CASE-MFS-21485-1] c15 N74-25968  
 LC-oscillator with automatic stabilized  
 amplitude via bias current control  
 [NASA-CASE-MFS-21698-1] c09 N74-26732  
 Device for monitoring a change in mass in  
 varying gravimetric environments  
 [NASA-CASE-MFS-21556-1] c14 N74-26945  
 Holography utilizing surface plasmon  
 resonances  
 [NASA-CASE-MFS-22040-1] c14 N74-26946  
 Electrophoretic sample insertion  
 [NASA-CASE-MFS-21395-1] c14 N74-26948  
 Spray solenoid brake  
 [NASA-CASE-MFS-21846-1] c15 N74-26976  
 Device for configuring multiple leads  
 [NASA-CASE-MFS-22133-1] c15 N74-26977  
 Quick disconnect filter coupling  
 [NASA-CASE-MFS-22323-1] c15 N74-26988  
 Mixing insert for foam dispensing apparatus  
 [NASA-CASE-MFS-20607-1] c15 N74-26989  
 Thrust-isolating mounting  
 [NASA-CASE-MFS-21680-1] c32 N74-27397  
 Battery testing device  
 [NASA-CASE-MFS-20761-1] c03 N74-27519  
 Apparatus for establishing flow of a fluid mass  
 having a known velocity  
 [NASA-CASE-MFS-21424-1] c12 N74-27730  
 Apparatus for conducting flow electrophoresis in  
 the substantial absence of gravity  
 [NASA-CASE-MFS-21394-1] c12 N74-27744  
 Steady state thermal radiometers  
 [NASA-CASE-MFS-21108-1] c14 N74-27861  
 Conductive elastomeric extensometer  
 [NASA-CASE-MFS-21049-1] c14 N74-27864  
 Device for measuring tensile forces  
 [NASA-CASE-MFS-21728-1] c14 N74-27865  
 Three mirror glancing incidence system for X-ray  
 telescope  
 [NASA-CASE-MFS-21372-1] c14 N74-27866  
 Real time, large volume, moving scene  
 holographic camera system  
 [NASA-CASE-MFS-22537-1] c14 N74-28932  
 Flame detector operable in presence of proton  
 radiation  
 [NASA-CASE-MFS-21577-1] c03 N74-29410  
 Ether-linked aryl tetracarboxylic dianhydrides  
 [NASA-CASE-MFS-22356-1] c06 N74-29479  
 Polyimides of ether-linked aryl tetracarboxylic  
 dianhydrides  
 [NASA-CASE-MFS-22355] c06 N74-29480  
 An improved system for imposing directional  
 stability on a rocket-propelled vehicle  
 [NASA-CASE-MFS-21311-1] c31 N74-30311  
 A holographic motion picture camera  
 [NASA-CASE-MFS-22517-1] c14 N74-33943  
 Integrated P-channel MOS gyrator  
 [NASA-CASE-MFS-22343-1] c09 N74-34638  
 Aircraft mounted crash activated transmitter  
 device  
 [NASA-CASE-MFS-16609-3] c09 N74-34647  
 Method and apparatus for detecting flaws in  
 elongated bodies  
 [NASA-CASE-MFS-19218-1] c14 N74-34860  
 Rapid activation and checkout device for batteries  
 [NASA-CASE-MFS-22749-1] c14 N74-34861  
 An externally supported internally stabilized  
 flexible duct joint  
 [NASA-CASE-MFS-19194-1] c15 N74-34882  
 An attitude control system  
 [NASA-CASE-MFS-22787-1] c21 N74-35096  
 Self-energized plasma compressor  
 [NASA-CASE-MFS-22145-2] c25 N74-35145

**NATIONAL AERONAUTICS AND SPACE ADMINISTRATION.  
 PASADENA OFFICE, CALIF.**  
 Phase control circuits using frequency  
 multiplications for phased array antennas  
 [NASA-CASE-ERC-10285] c10 N73-16206  
 Method of forming difunctional polyisobutylene  
 [NASA-CASE-NPO-10893] c27 N73-22710  
 Radiation and particle detector and amplifier  
 [NASA-CASE-NPO-12128-1] c14 N73-32317  
 Expandable space frames  
 [NASA-CASE-ERC-10365-1] c31 N73-32749  
 Use of thin film light detector  
 [NASA-CASE-NPO-11432-2] c14 N74-15090  
 Temperature compensated digital inertial sensor  
 [NASA-CASE-NPO-13044-1] c14 N74-15094  
 Compact hydrogenator  
 [NASA-CASE-NPO-11682-1] c15 N74-15127  
 Short range laser obstacle detector  
 [NASA-CASE-NPO-11856-1] c16 N74-15145  
 Simultaneous acquisition of tracking data from  
 two stations  
 [NASA-CASE-NPO-13292-1] c07 N74-15838

## SOURCE INDEX

## NATIONAL OCEANIC AND ATMOSPHERIC ADMINISTRATION,

Inert gas metallic vapor laser  
[NASA-CASE-NPO-13449-1] c16 N74-16187

An improved heat sterilizable patient ventilator  
[NASA-CASE-NPO-13313-1] c05 N74-17858

Shared memory for a fault-tolerant computer  
[NASA-CASE-NPO-13139-1] c08 N74-17911

System for stabilizing cable phase delay utilizing a coaxial cable under pressure  
[NASA-CASE-NPO-13138-1] c09 N74-17927

Banded transformer cores  
[NASA-CASE-NPO-11966-1] c09 N74-17928

Motor run-up system  
[NASA-CASE-NPO-13374-1] c10 N74-17949

Inverter ratio failure detector  
[NASA-CASE-NPO-13160-1] c14 N74-18090

Wide angle sun sensor  
[NASA-CASE-NPO-13327-1] c14 N74-18093

Heat transfer device  
[NASA-CASE-NPO-11120-1] c33 N74-18552

Symmetrical odd-modulus frequency divider  
[NASA-CASE-NPO-13426-1] c09 N74-18869

Servo-controlled intravital microscope system  
[NASA-CASE-NPO-13214-1] c14 N74-19093

Method of forming a wick for a heat pipe  
[NASA-CASE-NPO-13391-1] c33 N74-19584

Storage battery comprising negative plates of a wedge shaped configuration  
[NASA-CASE-NPO-11806-1] c03 N74-19693

Heat operated cryogenic electrical generator  
[NASA-CASE-NPO-13303-1] c03 N74-19701

Electric power generation system directly from laser power  
[NASA-CASE-NPO-13308-1] c03 N74-19702

Gated compressor, distortionless signal limiter  
[NASA-CASE-NPO-11820-1] c07 N74-19788

Asynchronous, multiplexing, single line transmission and recovery data system  
[NASA-CASE-NPO-13321-1] c07 N74-19806

Apparatus for scanning the surface of a cylindrical body  
[NASA-CASE-NPO-11861-1] c14 N74-20009

A doped Josephson tunneling junction for use in a sensitive IR detector  
[NASA-CASE-NPO-13348-1] c14 N74-20022

Ultrasonically bonded valve assembly  
[NASA-CASE-NPO-13360-1] c15 N74-20073

Prevention of hydrogen embrittlement of high strength steel  
[NASA-CASE-NPO-12122-1] c27 N74-20397

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[NASA-CASE-NPO-13103-1] c07 N74-20811

Optically actuated two position mechanical mover  
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[NASA-CASE-NPO-10617-1] c14 N74-22095

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Rock sampling  
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[NASA-CASE-NPO-13281-1] c15 N74-23071

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[NASA-CASE-NPO-13231-1] c14 N74-25932

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[NASA-CASE-NPO-13345-1] c15 N74-25971

Miniature multichannel biotelemeter system  
[NASA-CASE-NPO-13065-1] c05 N74-26625

Dispensing targets for ion beam particle generators  
[NASA-CASE-NPO-13112-1] c11 N74-26767

Optically detonated explosive device  
[NASA-CASE-NPO-11743-1] c33 N74-27425

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[NASA-CASE-NPO-13437-1] c09 N74-27688

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[NASA-CASE-NPO-13504-1] c09 N74-27689

Dichroic plate  
[NASA-CASE-NPO-13506-1] c09 N74-27690

An improved helium refrigerator  
[NASA-CASE-NPO-13435-1] c23 N74-28134

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[NASA-CASE-NPO-13482-1] c03 N74-30448

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[NASA-CASE-NPO-11921-1] c07 N74-30523

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[NASA-CASE-NPO-11623-1] c23 N74-31148

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[NASA-CASE-NPO-13573-1] c05 N74-32552

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[NASA-CASE-NPO-13385-1] c08 N74-32646

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[NASA-CASE-NPO-13451-1] c08 N74-32648

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[NASA-CASE-NPO-13481-1] c09 N74-32675

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[NASA-CASE-NPO-11948-1] c10 N74-32712

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[NASA-CASE-NPO-13479-1] c14 N74-32890

Apparatus for forming drive belts  
[NASA-CASE-NPO-13205-1] c15 N74-32917

Tool for use in lifting pin supported objects  
[NASA-CASE-NPO-13157-1] c15 N74-32918

Schottky barrier laser energy converter  
[NASA-CASE-NPO-13390-1] c16 N74-32937

Preparing oxidizer coated metal fuel particles  
[NASA-CASE-NPO-11975-1] c27 N74-33209

Improved structure and method of producing composite of gapped and ungapped cores  
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[NASA-CASE-IGS-07752] c14 N73-30390
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**ROCKWELL INTERNATIONAL CORP., CANOGA PARK, CALIF.**

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Phase detector assembly Patent c09 N70-40272  
[NASA-CASE-XNP-00701]

**SMITHSONIAN ASTROPHYSICAL OBSERVATORY, CAMBRIDGE,  
MASS.**

Atomic hydrogen maser with bulb temperature  
control to remove wall shift in maser output  
frequency c16 N73-13489  
[NASA-CASE-HQN-10654-1]

Tunable cavity resonator with ramp shaped supports  
[NASA-CASE-HQN-10790-1] c16 N74-11313

**SOLID STATE RADIATIONS, INC., LOS ANGELES, CALIF.**

Biomedical radiation detecting probe Patent c05 N71-19440  
[NASA-CASE-XMS-01177]

**SPACE SCIENCES, INC., WALTHAM, MASS.**

Doppler shift system c24 N74-19310  
[NASA-CASE-HQN-10740-1]

**SPACE TECHNOLOGY LABS., INC., REDONDO BEACH, CALIF.**

Method and apparatus for measuring potentials in  
plasmas Patent c25 N71-15650  
[NASA-CASE-XLE-00821]

AC logic flip-flop circuits Patent c10 N71-15910  
[NASA-CASE-XGS-00823]

Apparatus for field strength measurement of a  
space vehicle Patent c14 N71-16014  
[NASA-CASE-XLE-00820]

Hermetically sealed explosive release mechanism  
Patent c15 N71-16078  
[NASA-CASE-XGS-00824]

Apparatus for measuring electric field strength  
on the surface of a model vehicle Patent c09 N71-16086  
[NASA-CASE-XLE-02038]

Solar cell mounting Patent c03 N71-20895  
[NASA-CASE-XNP-00826]

Prestressed refractory structure Patent c18 N71-21068  
[NASA-CASE-XNP-02988]

Linear accelerator frequency control system Patent c10 N71-22962  
[NASA-CASE-XGS-05441]

Fluid lubricant system Patent c15 N71-23048  
[NASA-CASE-XNP-03972]

Compensating bandwidth switching transients in  
an amplifier circuit Patent c10 N71-28859  
[NASA-CASE-XNP-01107]

**SPACELABS, INC., VAN NUYS, CALIF.**

Peak polarity selector Patent c10 N71-24862  
[NASA-CASE-PRC-10010]

Respiration monitor c14 N72-17329  
[NASA-CASE-PRC-10012]

**SPACO, INC., HUNTSVILLE, ALA.**

Sight switch using an infrared source and sensor  
Patent c09 N71-22985  
[NASA-CASE-XNP-03934]

Method and device for detecting voids in low  
density material Patent c14 N71-28993  
[NASA-CASE-NFS-20044]

**SPECTRA-PHYSICS, INC., MOUNTAIN VIEW, CALIF.**

Optically pumped resonance magnetometer for  
determining vectorial components in a spatial  
coordinate system Patent c14 N71-20428  
[NASA-CASE-XGS-04879]

**SPECTROLAB, INC., SYLMAR, CALIF.**

Ultraviolet filter c23 N69-24332  
[NASA-CASE-INP-02340]

Central spar and module joint Patent c15 N71-21531  
[NASA-CASE-INP-02341]

Apparatus for applying cover slides c03 N72-25019  
[NASA-CASE-NPO-10575]

**SPERRY GYROSCOPE CO., GREAT NECK, N.Y.**

Automatic gain control system c09 N69-24330  
[NASA-CASE-IMS-05307]

**SPERRY RAND CORP., BLUE BELL, PA.**

Flipflop interrogator and bi-polar current  
driver Patent c10 N71-19547  
[NASA-CASE-XGS-03058]

**SPERRY RAND CORP., HUNTSVILLE, ALA.**

Optical tracking mount Patent c14 N71-26627  
[NASA-CASE-NFS-14017]

Collapsible antenna boom and transmission line  
Patent c07 N71-27191  
[NASA-CASE-NFS-20068]

Device for handling printed circuit cards Patent c15 N71-29133  
[NASA-CASE-NFS-20453]

Frequency division multiplex technique c07 N73-20176  
[NASA-CASE-KSC-10521]

An improved system for enhancing tool exchange  
capabilities of a portable wrench c15 N73-30462  
[NASA-CASE-NFS-22283-1]

Device for configuring multiple leads c15 N74-26977  
[NASA-CASE-NFS-22133-1]

**SPERRY RAND CORP., PHOENIX, ARIZ.**

Isolation coupling arrangement for a torque  
measuring system c15 N72-22482  
[NASA-CASE-ILA-04897]

**STANFORD RESEARCH INST., MENLO PARK, CALIF.**

Automatic fault correction system for parallel  
signal channels Patent c09 N71-18803  
[NASA-CASE-XNP-03263]

Mercury capillary interrupter Patent c12 N71-20896  
[NASA-CASE-XNP-02251]

Magnetic power switch Patent c09 N71-24803  
[NASA-CASE-NPO-10242]

Procedure and apparatus for determination of  
water in nitrogen tetroxide c06 N72-17094  
[NASA-CASE-NPO-10234]

**STANFORD UNIV., CALIF.**

Active RC networks c10 N72-11256  
[NASA-CASE-ARC-10042-2]

Multiloop RC active filter apparatus having low  
parameter sensitivity with low amplifier gain c09 N72-21245  
[NASA-CASE-ARC-10192]

Spacecraft attitude control method and apparatus c21 N72-21624  
[NASA-CASE-HQN-10439]

Laser system with an antiresonant optical ring c16 N74-20118  
[NASA-CASE-HQN-10844-1]

**STANFORD UNIV., PALO ALTO, CALIF.**

RC networks and amplifiers employing the same c10 N72-17171  
[NASA-CASE-XAC-05462-2]

STATE UNIV. OF IOWA, IOWA CITY.  
Mixture separation cell Patent  
[NASA-CASE-INS-02952] c18 N71-20742

SILVANIA ELECTRONIC SYSTEMS-CENTRAL, WILLIAMSVILLE,  
N.Y.  
Acquisition and tracking system for optical radar  
[NASA-CASE-NFS-20125] c16 N72-13437  
Altitude sensing device  
[NASA-CASE-XMS-01994-1] c14 N72-17326

**T**

TAAG DESIGNS, INC., COLLEGE PARK, MD.  
Recovery of radiation damaged solar cells  
through thermal annealing  
[NASA-CASE-XGS-04047-2] c03 N72-11062  
Phototropic composition of matter  
[NASA-CASE-XGS-03736] c14 N72-22443

TECHNICOLOR, INC., PARANUS, N.J.  
Automatic lightning detection and photographic  
system  
[NASA-CASE-KSC-10728-1] c14 N73-32319

TECHNIDYNE, INC., WEST CHESTER, PA.  
Methods and apparatus employing vibratory energy  
for wrenching Patent  
[NASA-CASE-NFS-20586] c15 N71-17686

TECHNOLOGY, INC., HOUSTON, TEX.  
Apparatus and method for processing Korotkov  
sounds  
[NASA-CASE-HSC-13999-1] c05 N74-26626

TECHNOLOGY, INC., SAN ANTONIO, TEX.  
Contourograph system for monitoring  
electrocardiograms  
[NASA-CASE-HSC-13407-1] c10 N72-20225  
Korotkov sound processor  
[NASA-CASE-HSC-13999-1] c05 N72-25142  
Modification of the physical properties of  
freeze-dried rice  
[NASA-CASE-HSC-13540-1] c05 N72-33096

TELEDYNE BROWN ENGINEERING, HUNTSVILLE, ALA.  
Self-recording portable soil penetrometer  
[NASA-CASE-NFS-20774] c14 N73-19420

TEMPLE UNIV. RESEARCH INST., PHILADELPHIA, PA.  
Barium release system  
[NASA-CASE-LAR-10670-1] c05 N73-30097  
Rocket having barium release system to create  
ion clouds in the upper atmosphere  
[NASA-CASE-LAR-10670-2] c31 N74-27360

TEXAS INSTRUMENTS, INC., DALLAS.  
Integrated circuit including field effect  
transistor and cermet resistor  
[NASA-CASE-GSC-10835-1] c09 N72-33205

TEXAS TECHNOLOGICAL UNIV., LUBBOCK.  
Insulated electrocardiographic electrodes  
[NASA-CASE-HSC-14339-1] c05 N73-21151

TRANS-SONICS, INC., LEXINGTON, MASS.  
Capacitive tank gaging apparatus being  
independent of liquid distribution  
[NASA-CASE-NFS-21629] c14 N72-22442

TRIDENT ENGINEERING ASSOCIATES, INC., ANNAPOLIS, MD.  
Spectroscope equipment using a slender  
cylindrical reflector as a substitute for a  
slit Patent  
[NASA-CASE-IGS-08269] c23 N71-26206

TRW EQUIPMENT LABS., CLEVELAND, OHIO.  
Pulsed energy power system Patent  
[NASA-CASE-HSC-13112] c03 N71-11057

TRW SYSTEMS GROUP, REDONDO BEACH, CALIF.  
Ablative resin Patent  
[NASA-CASE-ILE-05913] c33 N71-14032  
Passive gaging mechanism Patent  
[NASA-CASE-GSC-10306-1] c15 N71-24694  
Multiple varactor frequency doubler  
Patent  
[NASA-CASE-IMP-04958-1] c10 N71-26414  
Booster tank system Patent  
[NASA-CASE-HSC-12390] c27 N71-29155  
Resonant infrasonic gaging apparatus  
[NASA-CASE-HSC-11847-1] c14 N72-11363  
Cosmic dust analyzer  
[NASA-CASE-HSC-13802-1] c30 N72-20805  
Wide range analog-to-digital converter with a  
variable gain amplifier  
[NASA-CASE-NPO-11018] c08 N72-21200  
System for preconditioning a combustible vapor  
[NASA-CASE-NPO-12072] c28 N72-22772  
Fail-safe multiple transformer circuit  
configuration  
[NASA-CASE-NPO-11078] c09 N72-25262

Digital control and information system  
[NASA-CASE-NPO-11016] c08 N72-31226  
Cosmic dust analyzer  
[NASA-CASE-HSC-13802-2] c14 N74-32883

TRW SYSTEMS, REDONDO BEACH, CALIF.  
Electromechanical actuator  
[NASA-CASE-IMP-05975] c15 N69-23185  
Control valve and co-axial variable injector  
Patent  
[NASA-CASE-IMP-09702] c15 N71-17654  
Multiple orifice throttle valve Patent  
[NASA-CASE-IMP-09698] c15 N71-18580  
Semitoroidal diaphragm cavitating valve Patent  
[NASA-CASE-IMP-09704] c12 N71-18615  
Electrohydrodynamic control valve Patent  
[NASA-CASE-NPO-10416] c12 N71-27332

TRW, INC., REDONDO BEACH, CALIF.  
Method of and device for determining the  
characteristics and flux distribution of  
micrometeorites  
[NASA-CASE-NPO-12127-1] c14 N74-13130  
Ultrasonically bonded valve assembly  
[NASA-CASE-NPO-13360-1] c15 N74-20073  
Reinforced structural plastics  
[NASA-CASE-LRW-10199-1] c18 N74-23125

TYCO LABS., INC., WALTHAM, MASS.  
Bonding thermoelectric elements to nonmagnetic  
refractory metal electrodes  
[NASA-CASE-IGS-04554] c15 N69-39786  
Segmenting lead telluride-silicon germanium  
thermoelements Patent  
[NASA-CASE-IGS-05718] c26 N71-16037

**U**

UNIFIED SCIENCE ASSOCIATES, INC., PASADENA, CALIF.  
Method of producing crystalline materials  
[NASA-CASE-NPO-10440] c15 N72-21466

UNION CARBIDE CORP., NEW YORK.  
Laser apparatus for removing material from  
rotating objects Patent  
[NASA-CASE-NFS-11279] c16 N71-20400

UNITED AIRCRAFT CORP., EAST HARTFORD, CONN.  
Supporting and protecting device Patent  
[NASA-CASE-IMP-00580] c11 N70-35383  
Spherical tank gauge Patent  
[NASA-CASE-XMS-06236] c14 N71-21007  
Omnidirectional joint Patent  
[NASA-CASE-INS-09635] c05 N71-24623  
Foreshortened convolute section for a  
pressurized suit Patent  
[NASA-CASE-XMS-09637-1] c05 N71-24730  
Tertiary flow injection thrust vectoring system  
Patent  
[NASA-CASE-NFS-20831] c28 N71-29153  
Restraint torso for a pressurized suit  
[NASA-CASE-HSC-12397-1] c05 N72-25119

UNITED AIRCRAFT CORP., STRATFORD, CONN.  
Bonded joint and method  
[NASA-CASE-LAR-10900-1] c15 N74-23064

UNITED AIRCRAFT CORP., WEST PALM BEACH, FLA.  
Inherent redundancy electric heater  
[NASA-CASE-NFS-21462-1] c09 N74-14935

UNITED AIRCRAFT CORP., WINDSOR LOCKS, CONN.  
Water separating system Patent  
[NASA-CASE-INS-13052] c14 N71-20427  
Method of forming a root cord restrained  
convolute section  
[NASA-CASE-HSC-12398] c05 N72-20098

UNITED TECHNOLOGY CENTER, SUNNYVALE, CALIF.  
Solid propellant liner Patent  
[NASA-CASE-IMP-09744] c27 N71-16392

**V**

VAPOR CORP., CHICAGO, ILL.  
Method and apparatus for controllably heating  
fluid Patent  
[NASA-CASE-IMP-04237] c33 N71-16278

VARIAN ASSOCIATES, PALO ALTO, CALIF.  
High power-high voltage waterload Patent  
[NASA-CASE-IMP-05381] c09 N71-20842

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Depositing semiconductor films utilizing a  
thermal gradient  
[NASA-CASE-XKS-04614] c15 N69-21460  
Active microwave irises and windows  
[NASA-CASE-LAR-10513-1] c07 N72-25170

Thin film microwave iris  
[NASA-CASE-LAB-10511-1] c09 N72-29172

**W**

**WEBER AIRCRAFT CORP., BURBANK, CALIF.**  
Articulated multiple couch assembly Patent  
[NASA-CASE-MS-11253] c05 N71-12343  
Device for separating occupant from an ejection  
seat Patent  
[NASA-CASE-XMS-04625] c05 N71-20718  
Collapsible Apollo couch  
[NASA-CASE-MS-13140] c05 N72-11085

**WESTINGHOUSE ELECTRIC CORP., BALTIMORE, MD.**  
Broadband choke for antenna structure  
[NASA-CASE-XMS-05303] c07 N69-27462  
Electronic background suppression method and  
apparatus for a field scanning sensor  
[NASA-CASE-XGS-05211] c07 N69-39980

**WESTINGHOUSE ELECTRIC CORP., HUNTSVILLE, ALA.**  
Solid state television camera system Patent  
[NASA-CASE-XMF-06092] c07 N71-24612  
Phototransistor  
[NASA-CASE-MFS-20407] c09 N73-19235

**WESTINGHOUSE ELECTRIC CORP., LIMA, OHIO.**  
Transistor drive regulator Patent  
[NASA-CASE-LEW-10233] c10 N71-27126

**WESTINGHOUSE ELECTRIC CORP., PITTSBURGH, PA.**  
Linear sawtooth voltage-wave generator employing  
transistor timing circuit having  
capacitor-zener diode combination feedback  
Patent  
[NASA-CASE-XMS-01315] c09 N70-41675  
Thermal conductive connection and method of  
making same Patent  
[NASA-CASE-XMS-02087] c09 N70-41717  
Gas cooled high temperature thermocouple Patent  
[NASA-CASE-XLE-09475-1] c33 N71-15568  
High resolution developing of photosensitive  
resists Patent  
[NASA-CASE-XGS-04993] c14 N71-17574  
Regulated power supply Patent  
[NASA-CASE-XMS-01991] c09 N71-21449  
Pulse modulator providing fast rise and fall  
times Patent  
[NASA-CASE-XMS-04919] c09 N71-23270  
Extended area semiconductor radiation detectors  
and a novel readout arrangement Patent  
[NASA-CASE-XGS-03230] c14 N71-23401  
Frequency shift keying apparatus Patent  
[NASA-CASE-XGS-01537] c07 N71-23405  
Phase locked phase modulator including a voltage  
controlled oscillator Patent  
[NASA-CASE-XNP-05382] c10 N71-23544  
Bearing and gimbal lock mechanism and spiral  
flex lead module Patent  
[NASA-CASE-GSC-10556-1] c31 N71-26537  
Multiple slope sweep generator Patent  
[NASA-CASE-XMS-03542] c09 N71-28926  
Self-adjusting multisegment, deployable, natural  
circulation radiator Patent  
[NASA-CASE-XHQ-03673] c33 N71-29046  
Thermally cascaded thermoelectric generator  
[NASA-CASE-NPO-10753] c03 N72-26031  
Phototransistor imaging system  
[NASA-CASE-MFS-20809] c23 N73-13660  
Demodulator for carrier transducers  
[NASA-CASE-NUC-10107-1] c09 N74-17930  
Heat transfer device  
[NASA-CASE-NPO-11120-1] c33 N74-18552  
Method of forming a wick for a heat pipe  
[NASA-CASE-NPO-13391-1] c33 N74-19584  
Amplitude steered array  
[NASA-CASE-GSC-11446-1] c09 N74-20860  
Glass-to-metal seals comprising relatively high  
expansion metals  
[NASA-CASE-LEW-10698-1] c15 N74-21063  
Millimeter wave pumped parametric amplifier  
[NASA-CASE-GSC-11617-1] c09 N74-32660

**WESTON INSTRUMENTS, INC., COLLEGE PARK, MD.**  
Electronically resettable fuse Patent  
[NASA-CASE-IGS-11177] c09 N71-27001

**WHIBLPOOL CORP., ST. JOSEPH, MICH.**  
Relief container  
[NASA-CASE-XMS-06761] c05 N69-23192  
Fluid sample collector Patent  
[NASA-CASE-XMS-06767-1] c14 N71-20435

**WHITTAKER CORP., LOS ANGELES, CALIF.**  
Polyurethanes of fluorine containing  
polycarbonates  
[NASA-CASE-MFS-10512] c06 N73-30099  
Polyurethanes from fluoroalkyl propyleneglycol  
polyethers  
[NASA-CASE-MFS-10506] c06 N73-30100  
Fluorohydroxy ethers  
[NASA-CASE-MFS-10507] c06 N73-30101  
Highly fluorinated polymers  
[NASA-CASE-MFS-11492] c06 N73-30102  
Fluorine containing polyurethane  
[NASA-CASE-MFS-10509] c06 N73-30103

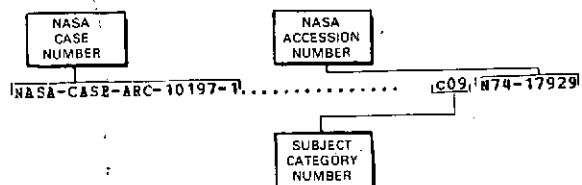
**WHITTAKER CORP., SAN DIEGO, CALIF.**  
Reinforced polyquinoxaline gasket and method of  
preparing the same  
[NASA-CASE-MFS-21364-1] c15 N74-18126

**WISCONSIN UNIV., MADISON.**  
Coaxial anode wire for gas radiation counters  
[NASA-CASE-GSC-11492-1] c14 N74-26949

NASA PATENT ABSTRACTS BIBLIOGRAPHY

Section 2

Typical Number Index Listing



Listings in this index are arranged alphanumerically by "patent" number. The subject category number indicates the category in Section 1 (Abstracts) in which the citation is located. The NASA accession number denotes the number by which the citation is identified within the subject category.

NASA-CASE-ARC-10003-1	c09 N71-25866	NASA-CASE-ARC-10348-1	c10 N72-10205
NASA-CASE-ARC-10009-1	c15 N71-17822	NASA-CASE-ARC-10362-1	c14 N73-32326
NASA-CASE-ARC-10017-1	c14 N72-29464	NASA-CASE-ARC-10364-2 (B)	c09 N74-14941
NASA-CASE-ARC-10020	c10 N72-17172	NASA-CASE-ARC-10364-3	c10 N74-26760
NASA-CASE-ARC-10030	c09 N71-12521	NASA-CASE-ARC-10370-1	c16 N72-10432
NASA-CASE-ARC-10042-2	c10 N72-11256	NASA-CASE-ARC-10441-1	c15 N74-15126
NASA-CASE-ARC-10043-1	c05 N71-11193	NASA-CASE-ARC-10442-1	c14 N74-15093
NASA-CASE-ARC-10050	c03 N71-33409	NASA-CASE-ARC-10443-1	c14 N73-20477
NASA-CASE-ARC-10097-2	c07 N73-25160	NASA-CASE-ARC-10444-1	c16 N73-33397
NASA-CASE-ARC-10098-1	c06 N71-24739	NASA-CASE-ARC-10445-1	c09 N74-29577
NASA-CASE-ARC-10099-1	c18 N71-15469	NASA-CASE-ARC-10447-1	c05 N74-22771
NASA-CASE-ARC-10100-1	c05 N71-24738	NASA-CASE-ARC-10448-1	c14 N72-21421
NASA-CASE-ARC-10101-1	c09 N71-33109	NASA-CASE-ARC-10448-2	c14 N74-12190
NASA-CASE-ARC-10105	c09 N72-17153	NASA-CASE-ARC-10448-3	c14 N74-12191
NASA-CASE-ARC-10106-1	c28 N72-22769	NASA-CASE-ARC-10456-1	c02 N73-30938
NASA-CASE-ARC-10109	c25 N71-29181	NASA-CASE-ARC-10461-1	c33 N74-33379
NASA-CASE-ARC-10131-1	c15 N71-27754	NASA-CASE-ARC-10462-1	c15 N74-27901
NASA-CASE-ARC-10132-1	c09 N71-24597	NASA-CASE-ARC-10463-1	c09 N73-32111
NASA-CASE-ARC-10134	c30 N72-17873	NASA-CASE-ARC-10464-1	c06 N74-12812
NASA-CASE-ARC-10136-1	c09 N72-22202	NASA-CASE-ARC-10466-1	c08 N73-21199
NASA-CASE-ARC-10137-1	c09 N71-28468	NASA-CASE-ARC-10467-1	c09 N73-14214
NASA-CASE-ARC-10138-1	c14 N72-24477	NASA-CASE-ARC-10468-1	c14 N73-33361
NASA-CASE-ARC-10140-1	c15 N71-17653	NASA-CASE-ARC-10469-1	c06 N72-31145
NASA-CASE-ARC-10153	c05 N71-28619	NASA-CASE-ARC-10470-1	c02 N73-26005
NASA-CASE-ARC-10154-1	c14 N72-22440	NASA-CASE-ARC-10470-3	c11 N74-30414
NASA-CASE-ARC-10160-1	c23 N72-27728	NASA-CASE-ARC-10516-1	c23 N74-21300
NASA-CASE-ARC-10176-1	c15 N72-21464	NASA-CASE-ARC-10519-1	c05 N72-31117
NASA-CASE-ARC-10178-1	c09 N72-17152	NASA-CASE-ARC-10519-2	c05 N74-18805
NASA-CASE-ARC-10179-1	c21 N72-22619	NASA-CASE-ARC-10583-1	c05 N73-14093
NASA-CASE-ARC-10180-1	c28 N72-20767	NASA-CASE-ARC-10592-1	c18 N74-21156
NASA-CASE-ARC-10180-1	c06 N74-12814	NASA-CASE-ARC-10592-2	c06 N74-11926
NASA-CASE-ARC-10192	c09 N72-21245	NASA-CASE-ARC-10593-1	c09 N74-27682
NASA-CASE-ARC-10194-1	c23 N73-20741	NASA-CASE-ARC-10596-1	c09 N72-27233
NASA-CASE-ARC-10196-1	c18 N73-13562	NASA-CASE-ARC-10596-1	c09 N74-21851
NASA-CASE-ARC-10197-1	c09 N74-17929	NASA-CASE-ARC-10597-1	c05 N74-20726
NASA-CASE-ARC-10263-1	c14 N72-22436	NASA-CASE-ARC-10598-1	c25 N74-30156
NASA-CASE-ARC-10264-1	c09 N73-20231	NASA-CASE-ARC-10599-1	c05 N73-26071
NASA-CASE-ARC-10265-1	c10 N72-28240	NASA-CASE-ARC-10631-1	c14 N74-34864
NASA-CASE-ARC-10268-1	c09 N70-12620	NASA-CASE-ARC-10633-1	c14 N74-26947
NASA-CASE-ARC-10268-2	c05 N74-11900	NASA-CASE-ARC-10637-1	c14 N73-21390
NASA-CASE-ARC-10268-3	c05 N74-11901	NASA-CASE-ARC-10642-1	c14 N74-18099
NASA-CASE-ARC-10269-1	c10 N72-16172	NASA-CASE-ARC-10643-1	c06 N73-29074
NASA-CASE-ARC-10275-1	c05 N72-22092	NASA-CASE-ARC-10710-1	c11 N73-27175
NASA-CASE-ARC-10278-1	c14 N73-25463	NASA-CASE-ARC-10711-1	c14 N74-29773
NASA-CASE-ARC-10280-1	c18 N70-34695	NASA-CASE-ARC-10712-1	c28 N74-33218
NASA-CASE-ARC-10302-1	c04 N74-15778	NASA-CASE-ARC-10714-1	c18 N74-11366
NASA-CASE-ARC-10304-1	c18 N73-26572	NASA-CASE-ARC-10716-1	c31 N73-32784
NASA-CASE-ARC-10304-2	c18 N74-27037	NASA-CASE-ARC-10721-1	c18 N74-14230
NASA-CASE-ARC-10308-1	c06 N72-31141	NASA-CASE-ARC-10722-1	c04 N74-13807
NASA-CASE-ARC-10322-1	c14 N74-27875	NASA-CASE-ARC-10749-1	c23 N73-32542
NASA-CASE-ARC-10325	c06 N72-25147	NASA-CASE-ARC-10753-1	c05 N74-13818
NASA-CASE-ARC-10329-1	c05 N73-26072	NASA-CASE-ARC-10754-1	c28 N73-32624
NASA-CASE-ARC-10329-2	c05 N74-19761	NASA-CASE-ARC-10755-1	c14 N74-14115
NASA-CASE-ARC-10330-1	c09 N73-32112	NASA-CASE-ARC-10756-1	c15 N74-16139
NASA-CASE-ARC-10344-1	c14 N72-21433	NASA-CASE-ARC-10801-1	c02 N74-32428
NASA-CASE-ARC-10344-2	c14 N74-20021	NASA-CASE-ARC-10802-1	c14 N74-28933
NASA-CASE-ARC-10345-1	c15 N73-12488	NASA-CASE-ARC-10806	c14 N74-27672
		NASA-CASE-ARC-10807-1	c02 N74-34475
		NASA-CASE-ARC-10808-1	c11 N74-32718
		NASA-CASE-ARC-10810-1	c14 N74-29772
		NASA-CASE-ARC-10813-1	c18 N74-16249
		NASA-CASE-ERC-10001	c23 N71-24868
		NASA-CASE-ERC-10011	c07 N71-29065
		NASA-CASE-ERC-10013	c09 N71-26678
		NASA-CASE-ERC-10014	c14 N71-28863
		NASA-CASE-ERC-10015-2	c10 N72-27246
		NASA-CASE-ERC-10017	c16 N71-15567
		NASA-CASE-ERC-10019	c16 N71-15551
		NASA-CASE-ERC-10020	c16 N71-26154
		NASA-CASE-ERC-10022	c15 N71-26635
		NASA-CASE-ERC-10031	c12 N71-18603
		NASA-CASE-ERC-10032	c10 N71-25900
		NASA-CASE-ERC-10033	c14 N71-26672
		NASA-CASE-ERC-10034	c15 N71-24896
		NASA-CASE-ERC-10041	c08 N71-29138
		NASA-CASE-ERC-10044-1	c14 N71-27090
		NASA-CASE-ERC-10045	c15 N71-24910
		NASA-CASE-ERC-10046	c10 N71-18722
		NASA-CASE-ERC-10048	c09 N72-25251

NUMBER

NUMBER INDEX

NASA-CASE-ERC-10065	c09 N71-27364	NASA-CASE-GSC-10087-2	c21 N71-13958
NASA-CASE-ERC-10072	c09 N70-11148	NASA-CASE-GSC-10087-3	c07 N72-12080
NASA-CASE-ERC-10073-1	c06 N74-19769	NASA-CASE-GSC-10087-4	c07 N73-20174
NASA-CASE-ERC-10075	c09 N71-24800	NASA-CASE-GSC-10097-1	c08 N71-27210
NASA-CASE-ERC-10075-2	c09 N72-22196	NASA-CASE-GSC-10114-1	c10 N71-27366
NASA-CASE-ERC-10081	c14 N72-28437	NASA-CASE-GSC-10118-1	c07 N71-24621
NASA-CASE-ERC-10087	c14 N71-27334	NASA-CASE-GSC-10131-1	c07 N71-24624
NASA-CASE-ERC-10087-2	c14 N72-31446	NASA-CASE-GSC-10185-1	c07 N72-12081
NASA-CASE-ERC-10088	c26 N71-25490	NASA-CASE-GSC-10186	c08 N71-33110
NASA-CASE-ERC-10089	c23 N72-17747	NASA-CASE-GSC-10188-1	c23 N71-24725
NASA-CASE-ERC-10090	c21 N71-24948	NASA-CASE-GSC-10216-1	c23 N71-26722
NASA-CASE-ERC-10097	c15 N71-28465	NASA-CASE-GSC-10218-1	c15 N72-21465
NASA-CASE-ERC-10098	c09 N71-28618	NASA-CASE-GSC-10220-1	c07 N71-27233
NASA-CASE-ERC-10100	c09 N71-33519	NASA-CASE-GSC-10221-1	c09 N72-23171
NASA-CASE-ERC-10108	c06 N72-21094	NASA-CASE-GSC-10225-1	c06 N73-27086
NASA-CASE-ERC-10112	c07 N72-21119	NASA-CASE-GSC-10299-1	c09 N71-24804
NASA-CASE-ERC-10113	c09 N71-27053	NASA-CASE-GSC-10303	c15 N72-22487
NASA-CASE-ERC-10119	c26 N72-21701	NASA-CASE-GSC-10306-1	c15 N71-24694
NASA-CASE-ERC-10120	c26 N69-33482	NASA-CASE-GSC-10344-1	c03 N72-27053
NASA-CASE-ERC-10125	c09 N71-24893	NASA-CASE-GSC-10361-1	c18 N72-23581
NASA-CASE-ERC-10138	c26 N71-14354	NASA-CASE-GSC-10366-1	c10 N71-18772
NASA-CASE-ERC-10139	c09 N72-17154	NASA-CASE-GSC-10373-1	c07 N71-19773
NASA-CASE-ERC-10150	c14 N71-28992	NASA-CASE-GSC-10376-1	c14 N71-27407
NASA-CASE-ERC-10151	c16 N71-29131	NASA-CASE-GSC-10390-1	c07 N72-11149
NASA-CASE-ERC-10174	c14 N72-25409	NASA-CASE-GSC-10413	c10 N71-26531
NASA-CASE-ERC-10178	c16 N71-24832	NASA-CASE-GSC-10441-1	c14 N71-27325
NASA-CASE-ERC-10179	c07 N72-20141	NASA-CASE-GSC-10452	c07 N71-12396
NASA-CASE-ERC-10180-1	c08 N74-20836	NASA-CASE-GSC-10487-1	c03 N71-24719
NASA-CASE-ERC-10187	c16 N69-31343	NASA-CASE-GSC-10503-1	c14 N72-20381
NASA-CASE-ERC-10208	c15 N70-10867	NASA-CASE-GSC-10514-1	c14 N72-20379
NASA-CASE-ERC-10214	c09 N72-31235	NASA-CASE-GSC-10518-1	c15 N72-22489
NASA-CASE-ERC-10222	c09 N72-22199	NASA-CASE-GSC-10553-1	c07 N71-19854
NASA-CASE-ERC-10224	c09 N72-25261	NASA-CASE-GSC-10554-1	c08 N71-29033
NASA-CASE-ERC-10224-2	c09 N73-27150	NASA-CASE-GSC-10555-1	c21 N71-27324
NASA-CASE-ERC-10226-1	c14 N73-16483	NASA-CASE-GSC-10556-1	c31 N71-26537
NASA-CASE-ERC-10248	c14 N72-17323	NASA-CASE-GSC-10557-1	c31 N71-26537
NASA-CASE-ERC-10267	c09 N72-23173	NASA-CASE-GSC-10564	c10 N71-29135
NASA-CASE-ERC-10268	c09 N72-25252	NASA-CASE-GSC-10565-1	c06 N72-25149
NASA-CASE-ERC-10275	c26 N72-25680	NASA-CASE-GSC-10566-1	c15 N72-18477
NASA-CASE-ERC-10276	c14 N73-26432	NASA-CASE-GSC-10590-1	c31 N73-14853
NASA-CASE-ERC-10283	c16 N72-25485	NASA-CASE-GSC-10607-1	c15 N72-20442
NASA-CASE-ERC-10285	c10 N73-16206	NASA-CASE-GSC-10614-1	c09 N72-11224
NASA-CASE-ERC-10292	c14 N72-25410	NASA-CASE-GSC-10640-1	c28 N72-18766
NASA-CASE-ERC-10307	c08 N72-21198	NASA-CASE-GSC-10656-1	c09 N72-25249
NASA-CASE-ERC-10323-1	c30 N70-22183	NASA-CASE-GSC-10667-1	c10 N71-33129
NASA-CASE-ERC-10324	c07 N72-25173	NASA-CASE-GSC-10668-1	c07 N71-28430
NASA-CASE-ERC-10325	c15 N72-25457	NASA-CASE-GSC-10669-1	c03 N72-20031
NASA-CASE-ERC-10338	c04 N72-33072	NASA-CASE-GSC-10695-1	c09 N72-25259
NASA-CASE-ERC-10339-1	c18 N73-30532	NASA-CASE-GSC-10700	c23 N71-30027
NASA-CASE-ERC-10350	c14 N73-20474	NASA-CASE-GSC-10709-1	c28 N71-25213
NASA-CASE-ERC-10363	c18 N72-25541	NASA-CASE-GSC-10710-1	c28 N71-27094
NASA-CASE-ERC-10364	c18 N72-25540	NASA-CASE-GSC-10735-1	c10 N71-26085
NASA-CASE-ERC-10365-1	c31 N73-32749	NASA-CASE-GSC-10780-1	c14 N72-16283
NASA-CASE-ERC-10392	c21 N73-14692	NASA-CASE-GSC-10786-1	c10 N72-28241
NASA-CASE-ERC-10403-1	c10 N73-26228	NASA-CASE-GSC-10791-1	c15 N73-14469
NASA-CASE-ERC-10412-1	c09 N73-12211	NASA-CASE-GSC-10814-1	c03 N73-20039
NASA-CASE-ERC-10419	c21 N72-21631	NASA-CASE-GSC-10835-1	c09 N72-33205
NASA-CASE-ERC-10439	c02 N73-19004	NASA-CASE-GSC-10878-1	c10 N72-22236
NASA-CASE-ERC-10552	c09 N71-12539	NASA-CASE-GSC-10879-1	c14 N72-25413
NASA-CASE-ERC-11020	c14 N71-26774	NASA-CASE-GSC-10880-1	c08 N72-11172
NASA-CASE-ERC-10005	c15 N71-26145	NASA-CASE-GSC-10890-1	c21 N73-30640
NASA-CASE-ERC-10010	c10 N71-24862	NASA-CASE-GSC-10891-1	c10 N71-26626
NASA-CASE-ERC-10012	c14 N72-17329	NASA-CASE-GSC-10903-1	c14 N73-12444
NASA-CASE-ERC-10019	c15 N73-12487	NASA-CASE-GSC-10913	c15 N72-22491
NASA-CASE-ERC-10022	c12 N71-26546	NASA-CASE-GSC-10945-1	c21 N72-31637
NASA-CASE-ERC-10029	c09 N71-24618	NASA-CASE-GSC-10949-1	c07 N71-28965
NASA-CASE-ERC-10029-2	c05 N72-25121	NASA-CASE-GSC-10975-1	c08 N73-13187
NASA-CASE-ERC-10031	c05 N70-20717	NASA-CASE-GSC-10984-1	c15 N71-34427
NASA-CASE-ERC-10036	c09 N72-22200	NASA-CASE-GSC-10990-1	c09 N73-26195
NASA-CASE-ERC-10038	c15 N72-20444	NASA-CASE-GSC-11013-1	c09 N73-19234
NASA-CASE-ERC-10049-1	c21 N74-13420	NASA-CASE-GSC-11018-1	c31 N73-30829
NASA-CASE-ERC-10051-1	c14 N74-13129	NASA-CASE-GSC-11046-1	c07 N73-28013
NASA-CASE-ERC-10060-1	c14 N73-27379	NASA-CASE-GSC-11063-1	c03 N70-35584
NASA-CASE-ERC-10063	c01 N71-12217	NASA-CASE-GSC-11074-1	c14 N73-28489
NASA-CASE-ERC-10071-1	c07 N74-20813	NASA-CASE-GSC-11077-1	c02 N73-13008
NASA-CASE-ERC-10072-1	c09 N74-14939	NASA-CASE-GSC-11079-1	c21 N71-28461
NASA-CASE-GSC-10007	c18 N71-16046	NASA-CASE-GSC-11092-2	c04 N73-27052
NASA-CASE-GSC-10021-1	c09 N71-24595	NASA-CASE-GSC-11095-1	c14 N72-10375
NASA-CASE-GSC-10022-1	c10 N71-25882	NASA-CASE-GSC-11126-1	c09 N72-25253
NASA-CASE-GSC-10041-1	c10 N71-19418	NASA-CASE-GSC-11127-1	c09 N74-10202
NASA-CASE-GSC-10062	c14 N71-15605	NASA-CASE-GSC-11133-1	c23 N72-11568
NASA-CASE-GSC-10064-1	c10 N72-22235	NASA-CASE-GSC-11139	c09 N71-27016
NASA-CASE-GSC-10065-1	c10 N71-27136	NASA-CASE-GSC-11149-1	c15 N73-30457
NASA-CASE-GSC-10072	c18 N71-14014	NASA-CASE-GSC-11163-1	c15 N73-32360
NASA-CASE-GSC-10082-1	c10 N72-20221	NASA-CASE-GSC-11169-2	c05 N73-32011
NASA-CASE-GSC-10083-1	c30 N71-16090	NASA-CASE-GSC-11182-1	c31 N73-32769
NASA-CASE-GSC-10087-1	c02 N71-19287	NASA-CASE-GSC-11188-1	c14 N73-32320
		NASA-CASE-GSC-11188-2	c21 N73-19630
		NASA-CASE-GSC-11188-3	c14 N74-20008

NUMBER INDEX

NASA-CASE-GSC-11205-1	.....	c15 N73-25513	NASA-CASE-HQN-10844-1	.....	c16 N74-20118
NASA-CASE-GSC-11211-1	.....	c03 N72-25020	NASA-CASE-KSC-10002	.....	c10 N71-25865
NASA-CASE-GSC-11214-1	.....	c06 N73-13128	NASA-CASE-KSC-10003	.....	c10 N73-13235
NASA-CASE-GSC-11215-1	.....	c09 N73-28083	NASA-CASE-KSC-10020	.....	c10 N71-27338
NASA-CASE-GSC-11222-1	.....	c16 N73-32391	NASA-CASE-KSC-10031	.....	c15 N72-22486
NASA-CASE-GSC-11239-1	.....	c10 N73-25241	NASA-CASE-KSC-10108	.....	c14 N73-25461
NASA-CASE-GSC-11262-1	.....	c16 N74-21091	NASA-CASE-KSC-10126	.....	c11 N71-24985
NASA-CASE-GSC-11291-1	.....	c25 N72-33696	NASA-CASE-KSC-10162	.....	c09 N72-11225
NASA-CASE-GSC-11296-1	.....	c23 N73-30666	NASA-CASE-KSC-10164	.....	c07 N71-33108
NASA-CASE-GSC-11302-1	.....	c14 N73-13416	NASA-CASE-KSC-10198	.....	c11 N71-28629
NASA-CASE-GSC-11304-1	.....	c06 N72-21105	NASA-CASE-KSC-10242	.....	c15 N72-23497
NASA-CASE-GSC-11307-3	.....	c09 N74-20863	NASA-CASE-KSC-10278	.....	c05 N72-16015
NASA-CASE-GSC-11340-1	.....	c10 N72-33230	NASA-CASE-KSC-10294	.....	c14 N72-18411
NASA-CASE-GSC-11353-1	.....	c23 N74-21304	NASA-CASE-KSC-10326	.....	c08 N72-21197
NASA-CASE-GSC-11358-1	.....	c06 N73-26100	NASA-CASE-KSC-10392	.....	c07 N73-26117
NASA-CASE-GSC-11367	.....	c10 N71-26374	NASA-CASE-KSC-10393	.....	c09 N72-21247
NASA-CASE-GSC-11367-1	.....	c03 N74-19692	NASA-CASE-KSC-10397	.....	c08 N72-25206
NASA-CASE-GSC-11368-1	.....	c09 N73-32108	NASA-CASE-KSC-10513	.....	c15 N72-25453
NASA-CASE-GSC-11388-1	.....	c07 N73-24187	NASA-CASE-KSC-10521	.....	c07 N73-20176
NASA-CASE-GSC-11394-1	.....	c09 N73-32109	NASA-CASE-KSC-10565	.....	c09 N72-25250
NASA-CASE-GSC-11425-1	.....	c24 N74-20329	NASA-CASE-KSC-10595	.....	c08 N73-12176
NASA-CASE-GSC-11425-2	.....	c09 N73-32114	NASA-CASE-KSC-10615	.....	c15 N73-12486
NASA-CASE-GSC-11428-1	.....	c09 N74-20864	NASA-CASE-KSC-10626	.....	c14 N73-27378
NASA-CASE-GSC-11434-1	.....	c14 N74-27859	NASA-CASE-KSC-10639	.....	c15 N73-26472
NASA-CASE-GSC-11444-1	.....	c14 N73-28490	NASA-CASE-KSC-10644	.....	c09 N72-27227
NASA-CASE-GSC-11445-1	.....	c15 N74-27902	NASA-CASE-KSC-10647-1	.....	c10 N72-31273
NASA-CASE-GSC-11446-1	.....	c09 N74-20860	NASA-CASE-KSC-10654-1	.....	c07 N73-30115
NASA-CASE-GSC-11479-1	.....	c21 N74-28097	NASA-CASE-KSC-10698	.....	c07 N73-20175
NASA-CASE-GSC-11487-1	.....	c14 N73-30393	NASA-CASE-KSC-10723-1	.....	c15 N73-23553
NASA-CASE-GSC-11492-1	.....	c14 N74-26949	NASA-CASE-KSC-10728-1	.....	c14 N73-32319
NASA-CASE-GSC-11513-1	.....	c09 N74-20862	NASA-CASE-KSC-10729-1	.....	c09 N73-32110
NASA-CASE-GSC-11514-1	.....	c03 N72-24037	NASA-CASE-KSC-10730-1	.....	c14 N73-32318
NASA-CASE-GSC-11531-1	.....	c05 N74-27566	NASA-CASE-KSC-10731-1	.....	c14 N74-27862
NASA-CASE-GSC-11533-1	.....	c14 N73-13435	NASA-CASE-KSC-10736-1	.....	c09 N73-23290
NASA-CASE-GSC-11551-1	.....	c15 N74-18132	NASA-CASE-KSC-10750-1	.....	c14 N73-23527
NASA-CASE-GSC-11553-1	.....	c07 N74-15831	NASA-CASE-KSC-10752-1	.....	c15 N73-27407
NASA-CASE-GSC-11560-1	.....	c09 N74-20861	NASA-CASE-KSC-10769-1	.....	c09 N74-29556
NASA-CASE-GSC-11569-1	.....	c14 N74-30886	NASA-CASE-KSC-10782-1	.....	c07 N73-32063
NASA-CASE-GSC-11577-1	.....	c15 N73-19467	NASA-CASE-KSC-10807-1	.....	c14 N74-22113
NASA-CASE-GSC-11577-2	.....	c15 N74-34002	NASA-CASE-LAR-02743	.....	c14 N73-32324
NASA-CASE-GSC-11582-1	.....	c09 N73-32120	NASA-CASE-LAR-10000	.....	c14 N73-30394
NASA-CASE-GSC-11600-1	.....	c14 N74-21019	NASA-CASE-LAR-10007-1	.....	c05 N71-11195
NASA-CASE-GSC-11602-1	.....	c09 N74-21850	NASA-CASE-LAR-10031	.....	c15 N72-22484
NASA-CASE-GSC-11617-1	.....	c09 N74-32660	NASA-CASE-LAR-10056	.....	c05 N71-12351
NASA-CASE-GSC-11619-1	.....	c33 N73-32828	NASA-CASE-LAR-10064-1	.....	c15 N72-31483
NASA-CASE-GSC-11620-1	.....	c14 N74-23039	NASA-CASE-LAR-10073-1	.....	c32 N74-23449
NASA-CASE-GSC-11623-1	.....	c10 N73-31202	NASA-CASE-LAR-10076-1	.....	c05 N73-20137
NASA-CASE-GSC-11627-1	.....	c09 N74-19852	NASA-CASE-LAR-10083-1	.....	c15 N71-27006
NASA-CASE-GSC-11690-1	.....	c14 N73-28499	NASA-CASE-LAR-10089-1	.....	c15 N74-23066
NASA-CASE-GSC-11743-1	.....	c07 N73-27107	NASA-CASE-LAR-10098	.....	c32 N71-26681
NASA-CASE-GSC-11744-1	.....	c09 N73-23291	NASA-CASE-LAR-10102-1	.....	c05 N72-23085
NASA-CASE-GSC-11746-1	.....	c16 N73-32398	NASA-CASE-LAR-10105-1	.....	c33 N74-15652
NASA-CASE-GSC-11752-1	.....	c33 N74-19583	NASA-CASE-LAR-10106-1	.....	c15 N71-27169
NASA-CASE-GSC-11760-1	.....	c09 N73-32116	NASA-CASE-LAR-10121-1	.....	c15 N71-26721
NASA-CASE-GSC-11782-1	.....	c07 N74-22827	NASA-CASE-LAR-10128-1	.....	c08 N73-20217
NASA-CASE-GSC-11783-1	.....	c09 N73-32116	NASA-CASE-LAR-10129-1	.....	c15 N73-25512
NASA-CASE-GSC-11786-1	.....	c18 N74-10542	NASA-CASE-LAR-10129-2	.....	c15 N74-20063
NASA-CASE-GSC-11829-1	.....	c14 N74-32886	NASA-CASE-LAR-10137-1	.....	c09 N72-22204
NASA-CASE-GSC-11844-1	.....	c09 N74-19853	NASA-CASE-LAR-10163-1	.....	c09 N72-25247
NASA-CASE-GSC-11849-1	.....	c09 N74-22873	NASA-CASE-LAR-10168-1	.....	c09 N74-22865
NASA-CASE-GSC-11862-1	.....	c09 N74-32674	NASA-CASE-LAR-10170-1	.....	c15 N74-11301
NASA-CASE-GSC-11877-1	.....	c07 N74-30532	NASA-CASE-LAR-10173-1	.....	c27 N71-14090
NASA-CASE-GSC-11889-1	.....	c14 N74-32887	NASA-CASE-LAR-10176-1	.....	c14 N72-20380
NASA-CASE-GSC-11892-1	.....	c14 N74-32888	NASA-CASE-LAR-10180-1	.....	c06 N71-13461
NASA-CASE-GSC-11895-1	.....	c15 N74-33997	NASA-CASE-LAR-10184	.....	c14 N72-22445
NASA-CASE-GSC-11895-1	.....	c04 N74-26619	NASA-CASE-LAR-10193-1	.....	c15 N71-27146
NASA-CASE-GSC-11917-1	.....	c09 N74-34649	NASA-CASE-LAR-10194-1	.....	c12 N74-30608
NASA-CASE-GSC-11968-1	.....	c31 N71-29050	NASA-CASE-LAR-10195-1	.....	c15 N73-19458
NASA-CASE-HQN-00936	.....	c07 N71-28979	NASA-CASE-LAR-10203-1	.....	c15 N72-16330
NASA-CASE-HQN-00937	.....	c33 N71-29053	NASA-CASE-LAR-10204	.....	c14 N71-27215
NASA-CASE-HQN-00938	.....	c14 N73-27376	NASA-CASE-LAR-10208-1	.....	c14 N74-30894
NASA-CASE-HQN-10037-1	.....	c06 N71-27363	NASA-CASE-LAR-10218-1	.....	c09 N70-34559
NASA-CASE-HQN-10364	.....	c21 N72-21624	NASA-CASE-LAR-10226-1	.....	c14 N73-19419
NASA-CASE-HQN-10439	.....	c07 N71-26291	NASA-CASE-LAR-10241-1	.....	c05 N74-14845
NASA-CASE-HQN-10541-1	.....	c15 N71-27135	NASA-CASE-LAR-10249-1	.....	c02 N71-26110
NASA-CASE-HQN-10541-2	.....	c23 N72-23695	NASA-CASE-LAR-10253-1	.....	c09 N72-25258
NASA-CASE-HQN-10541-3	.....	c16 N71-27183	NASA-CASE-LAR-10256-1	.....	c11 N72-20253
NASA-CASE-HQN-10541-4	.....	c23 N72-21663	NASA-CASE-LAR-10256-1	.....	c11 N74-34672
NASA-CASE-HQN-10542-1	.....	c15 N73-30460	NASA-CASE-LAR-10270-1	.....	c32 N72-25877
NASA-CASE-HQN-10638-1	.....	c16 N73-13489	NASA-CASE-LAR-10274-1	.....	c14 N71-17626
NASA-CASE-HQN-10654-1	.....	c21 N73-13643	NASA-CASE-LAR-10276-1	.....	c11 N70-26813
NASA-CASE-HQN-10703	.....	c24 N74-19310	NASA-CASE-LAR-10294-1	.....	c26 N72-28762
NASA-CASE-HQN-10740-1	.....	c14 N72-25428	NASA-CASE-LAR-10295-1	.....	c15 N74-21062
NASA-CASE-HQN-10756-1	.....	c14 N71-30265	NASA-CASE-LAR-10305	.....	c14 N71-26137
NASA-CASE-HQN-10780	.....	c23 N71-30292	NASA-CASE-LAR-10310-1	.....	c10 N73-20253
NASA-CASE-HQN-10781	.....	c16 N74-11313	NASA-CASE-LAR-10311-1	.....	c16 N73-16536
NASA-CASE-HQN-10790-1	.....	c09 N74-11049	NASA-CASE-LAR-10317-1	.....	c32 N71-16103
NASA-CASE-HQN-10792-1	.....	c14 N74-21014			
NASA-CASE-HQN-10832-1	.....				

NUMBER INDEX

NASA-CASE-LAR-10318-1	c14 N74-18089	NASA-CASE-LAR-10941-1	c15 N74-21057
NASA-CASE-LAR-10319-1	c14 N73-32322	NASA-CASE-LAR-10941-2	c15 N73-42371
NASA-CASE-LAR-10320-1	c09 N72-23172	NASA-CASE-LAR-10951-1	c28 N73-19819
NASA-CASE-LAR-10323-1	c12 N71-17573	NASA-CASE-LAR-10953-1	c17 N73-27446
NASA-CASE-LAR-10337-1	c15 N74-14141	NASA-CASE-LAR-10961-1	c15 N73-12496
NASA-CASE-LAR-10348-1	c11 N73-12264	NASA-CASE-LAR-10994-1	c18 N73-30536
NASA-CASE-LAR-10362-1	c15 N72-27486	NASA-CASE-LAR-11021-1	c14 N74-20019
NASA-CASE-LAR-10365-1	c05 N72-27102	NASA-CASE-LAR-11027-1	c14 N74-18088
NASA-CASE-LAR-10367-1	c03 N70-26817	NASA-CASE-LAR-11042-1	c03 N74-29416
NASA-CASE-LAR-10372	c09 N71-18599	NASA-CASE-LAR-11051-1	c21 N73-28646
NASA-CASE-LAR-10373-1	c18 N71-26155	NASA-CASE-LAR-11052-1	c32 N73-13929
NASA-CASE-LAR-10385-2	c23 N74-13436	NASA-CASE-LAR-11053-1	c33 N74-18551
NASA-CASE-LAR-10385-3	c23 N73-32538	NASA-CASE-LAR-11059-1	c30 N73-26838
NASA-CASE-LAR-10403	c21 N71-11766	NASA-CASE-LAR-11069-1	c04 N73-16061
NASA-CASE-LAR-10409-1	c15 N74-21059	NASA-CASE-LAR-11071-1	c15 N73-18474
NASA-CASE-LAR-10416-1	c15 N72-27527	NASA-CASE-LAR-11072-1	c15 N73-20535
NASA-CASE-LAR-10416-1	c18 N74-30001	NASA-CASE-LAR-11074-1	c05 N73-16096
NASA-CASE-LAR-10426-1	c32 N74-19528	NASA-CASE-LAR-11084-1	c09 N73-12216
NASA-CASE-LAR-10439-1	c33 N73-27796	NASA-CASE-LAR-11087-1	c02 N73-26008
NASA-CASE-LAR-10440-1	c14 N73-32323	NASA-CASE-LAR-11110-1	c12 N74-29652
NASA-CASE-LAR-10450-1	c15 N74-27905	NASA-CASE-LAR-11112-1	c09 N74-29575
NASA-CASE-LAR-10483-1	c14 N73-32327	NASA-CASE-LAR-11138	c12 N71-20436
NASA-CASE-LAR-10489-1	c15 N74-18124	NASA-CASE-LAR-11139-1	c14 N74-32878
NASA-CASE-LAR-10489-2	c15 N74-32920	NASA-CASE-LAR-11140-1	c02 N73-20008
NASA-CASE-LAR-10496-1	c14 N72-22437	NASA-CASE-LAR-11141-1	c02 N74-32418
NASA-CASE-LAR-10503-1	c09 N72-21248	NASA-CASE-LAR-11144-1	c26 N74-27261
NASA-CASE-LAR-10507-1	c11 N72-25284	NASA-CASE-LAR-11155-1	c14 N74-15091
NASA-CASE-LAR-10511-1	c09 N72-29172	NASA-CASE-LAR-11170-1	c07 N74-12843
NASA-CASE-LAR-10513-1	c07 N72-25170	NASA-CASE-LAR-11173-1	c14 N73-22387
NASA-CASE-LAR-10523-1	c14 N72-22444	NASA-CASE-LAR-11174-1	c03 N73-26047
NASA-CASE-LAR-10531-1	c02 N73-13023	NASA-CASE-LAR-11206-1	c23 N74-30118
NASA-CASE-LAR-10539-1	c17 N73-12547	NASA-CASE-LAR-11207-1	c14 N73-28496
NASA-CASE-LAR-10541-1	c15 N72-32487	NASA-CASE-LAR-11211-1	c15 N73-14480
NASA-CASE-LAR-10544-1	c15 N74-13178	NASA-CASE-LAR-11213-1	c14 N74-10420
NASA-CASE-LAR-10545-1	c09 N72-21244	NASA-CASE-LAR-11224-1	c15 N74-20072
NASA-CASE-LAR-10546-1	c11 N72-25287	NASA-CASE-LAR-11237-1	c14 N73-32344
NASA-CASE-LAR-10547-1	c15 N74-13177	NASA-CASE-LAR-11252-1	c02 N73-26007
NASA-CASE-LAR-10549-1	c31 N73-13898	NASA-CASE-LAR-11263-1	c14 N74-25931
NASA-CASE-LAR-10550-1	c11 N74-30597	NASA-CASE-LAR-11310-1	c28 N73-31699
NASA-CASE-LAR-10551-1	c06 N74-12813	NASA-CASE-LAR-11326-1	c04 N74-32518
NASA-CASE-LAR-10557	c02 N72-11018	NASA-CASE-LAR-11341-1	c16 N73-25564
NASA-CASE-LAR-10574-1	c11 N73-13257	NASA-CASE-LAR-11352-1	c09 N74-19854
NASA-CASE-LAR-10578-1	c12 N73-25262	NASA-CASE-LAR-11353-1	c14 N74-20020
NASA-CASE-LAR-10585-1	c01 N73-14981	NASA-CASE-LAR-11354-1	c14 N74-10422
NASA-CASE-LAR-10586-1	c14 N74-15089	NASA-CASE-LAR-11372-1	c06 N74-19772
NASA-CASE-LAR-10590-1	c15 N70-26819	NASA-CASE-LAR-11379-1	c07 N74-11005
NASA-CASE-LAR-10595-1	c15 N74-16135	NASA-CASE-LAR-11389-1	c09 N73-32121
NASA-CASE-LAR-10612-1	c12 N73-28144	NASA-CASE-LAR-11428-1	c14 N74-34857
NASA-CASE-LAR-10620-1	c09 N72-25255	NASA-CASE-LAR-11434-1	c14 N74-22112
NASA-CASE-LAR-10623-1	c14 N73-30395	NASA-CASE-LAR-11458-1	c14 N74-32882
NASA-CASE-LAR-10626-1	c14 N74-21015	NASA-CASE-LAR-11465-1	c15 N74-32926
NASA-CASE-LAR-10629-1	c14 N73-32348	NASA-CASE-LAR-11522-1	c15 N74-34881
NASA-CASE-LAR-10634-1	c15 N74-18123	NASA-CASE-LAR-11570-1	c28 N74-28233
NASA-CASE-LAR-10642-1	c28 N74-31270	NASA-CASE-LAR-11645-1	c02 N74-26456
NASA-CASE-LAR-10668-1	c06 N73-16106	NASA-CASE-LAR-11674-1	c28 N74-33220
NASA-CASE-LAR-10670-1	c06 N73-30097		
NASA-CASE-LAR-10670-2	c31 N74-27360	NASA-CASE-LEW-10106-1	c28 N71-26642
NASA-CASE-LAR-10682-1	c02 N73-26004	NASA-CASE-LEW-10155-1	c09 N71-29035
NASA-CASE-LAR-10686	c14 N71-28935	NASA-CASE-LEW-10199-1	c18 N74-23125
NASA-CASE-LAR-10688-1	c15 N74-21056	NASA-CASE-LEW-10210-1	c28 N71-26781
NASA-CASE-LAR-10717-1	c21 N73-30641	NASA-CASE-LEW-10219-1	c18 N71-28729
NASA-CASE-LAR-10726-1	c14 N73-20475	NASA-CASE-LEW-10233	c10 N71-27126
NASA-CASE-LAR-10728-1	c14 N73-12445	NASA-CASE-LEW-10250-1	c22 N71-28759
NASA-CASE-LAR-10730-1	c10 N74-10223	NASA-CASE-LEW-10278-1	c15 N71-28582
NASA-CASE-LAR-10739-1	c14 N73-16484	NASA-CASE-LEW-10281-1	c14 N72-17327
NASA-CASE-LAR-10753-1	c02 N74-30421	NASA-CASE-LEW-10286-1	c28 N71-28915
NASA-CASE-LAR-10756-1	c32 N73-26910	NASA-CASE-LEW-10326-3	c15 N74-10474
NASA-CASE-LAR-10765-1	c32 N73-20740	NASA-CASE-LEW-10327	c17 N71-33408
NASA-CASE-LAR-10766-1	c14 N72-21432	NASA-CASE-LEW-10330-1	c09 N72-27226
NASA-CASE-LAR-10774	c10 N71-13545	NASA-CASE-LEW-10345-1	c10 N71-25899
NASA-CASE-LAR-10776-1	c02 N74-10034	NASA-CASE-LEW-10359	c33 N72-25911
NASA-CASE-LAR-10782-1	c15 N74-14133	NASA-CASE-LEW-10359-2	c33 N73-25952
NASA-CASE-LAR-10782-2	c15 N73-31444	NASA-CASE-LEW-10364-1	c09 N71-13522
NASA-CASE-LAR-10788-1	c31 N73-20880	NASA-CASE-LEW-10374-1	c28 N73-13773
NASA-CASE-LAR-10799-1	c12 N73-12295	NASA-CASE-LEW-10387	c09 N72-22201
NASA-CASE-LAR-10800-1	c33 N72-27959	NASA-CASE-LEW-10393-1	c17 N71-15468
NASA-CASE-LAR-10805-1	c18 N74-16246	NASA-CASE-LEW-10424-2-2	c18 N72-25539
NASA-CASE-LAR-10806-1	c14 N74-32877	NASA-CASE-LEW-10433-1	c09 N72-22197
NASA-CASE-LAR-10812-1	c11 N74-17955	NASA-CASE-LEW-10436-1	c17 N73-32415
NASA-CASE-LAR-10815-1	c16 N72-22520	NASA-CASE-LEW-10450-1	c15 N72-25448
NASA-CASE-LAR-10836-1	c26 N72-27784	NASA-CASE-LEW-10489-1	c15 N72-25447
NASA-CASE-LAR-10841-1	c15 N74-27900	NASA-CASE-LEW-10518-1	c24 N72-33681
NASA-CASE-LAR-10855-1	c14 N73-13415	NASA-CASE-LEW-10518-2	c24 N72-28714
NASA-CASE-LAR-10862-1	c14 N74-15092	NASA-CASE-LEW-10518-3	c15 N74-10476
NASA-CASE-LAR-10868-1	c09 N74-11050	NASA-CASE-LEW-10533-1	c15 N73-28515
NASA-CASE-LAR-10894-1	c18 N73-14584	NASA-CASE-LEW-10533-2	c15 N74-11300
NASA-CASE-LAR-10900-1	c15 N74-23064	NASA-CASE-LEW-10689-1	c28 N71-26173
NASA-CASE-LAR-10910-1	c14 N74-13132	NASA-CASE-LEW-10698-1	c15 N74-21063
NASA-CASE-LAR-10913	c14 N72-16282	NASA-CASE-LEW-10770-1	c28 N72-22770

NUMBER INDEX

NASA-CASE-LEW-10794-1	c06 N72-17093	NASA-CASE-LEW-12094-1	c09 N74-33740
NASA-CASE-LEW-10805-1	c15 N73-13465	NASA-CASE-LEW-12164-1	c16 N74-34010
NASA-CASE-LEW-10805-2	c15 N74-13179		
NASA-CASE-LEW-10805-3	c17 N74-10521	NASA-CASE-MFS-06074	c15 N71-20393
NASA-CASE-LEW-10814-1	c28 N70-35422	NASA-CASE-MFS-07369	c15 N71-20443
NASA-CASE-LEW-10835-1	c28 N72-22771	NASA-CASE-MFS-10068	c10 N71-25139
NASA-CASE-LEW-10856-1	c15 N72-22490	NASA-CASE-MFS-10340	c15 N71-17628
NASA-CASE-LEW-10874-1	c17 N72-22535	NASA-CASE-MFS-10354	c12 N70-41976
NASA-CASE-LEW-10906-1	c06 N74-30502	NASA-CASE-MFS-10354-2	c12 N72-25306
NASA-CASE-LEW-10920-1	c17 N73-24569	NASA-CASE-MFS-10412	c12 N71-17578
NASA-CASE-LEW-10950-1	c09 N74-27683	NASA-CASE-MFS-10506	c06 N73-30100
NASA-CASE-LEW-10965-1	c15 N72-25452	NASA-CASE-MFS-10507	c06 N73-30101
NASA-CASE-LEW-10981-1	c14 N74-21018	NASA-CASE-MFS-10509	c06 N73-30103
NASA-CASE-LEW-11005-1	c09 N72-21243	NASA-CASE-MFS-10512	c06 N73-30099
NASA-CASE-LEW-11015	c26 N73-32571	NASA-CASE-MFS-10555	c11 N71-19494
NASA-CASE-LEW-11026-1	c15 N73-33383	NASA-CASE-MFS-11132	c15 N71-17649
NASA-CASE-LEW-11058-1	c28 N74-13502	NASA-CASE-MFS-11133	c31 N71-16222
NASA-CASE-LEW-11065-1	c03 N72-11064	NASA-CASE-MFS-11204	c14 N71-29134
NASA-CASE-LEW-11065-2	c03 N73-26048	NASA-CASE-MFS-11279	c16 N71-20400
NASA-CASE-LEW-11069-1	c03 N74-14784	NASA-CASE-MFS-11492	c06 N73-30102
NASA-CASE-LEW-11071-1	c27 N73-27695	NASA-CASE-MFS-11497	c28 N71-16224
NASA-CASE-LEW-11072-1	c14 N73-24472	NASA-CASE-MFS-11537	c14 N71-20442
NASA-CASE-LEW-11072-2	c14 N72-26443	NASA-CASE-MFS-12750	c27 N71-16223
NASA-CASE-LEW-11076-1	c15 N74-21061	NASA-CASE-MFS-12805	c15 N71-17805
NASA-CASE-LEW-11076-2	c15 N74-32921	NASA-CASE-MFS-12806	c14 N71-17588
NASA-CASE-LEW-11076-3	c15 N74-10475	NASA-CASE-MFS-12827	c14 N71-17656
NASA-CASE-LEW-11076-4	c15 N74-18134	NASA-CASE-MFS-12915	c11 N71-17600
NASA-CASE-LEW-11087-1	c15 N73-30458	NASA-CASE-MFS-13046	c07 N71-19433
NASA-CASE-LEW-11087-2	c15 N74-15128	NASA-CASE-MFS-13130	c10 N72-17173
NASA-CASE-LEW-11087-3	c15 N74-21064	NASA-CASE-MFS-13532	c18 N72-17532
NASA-CASE-LEW-11101-1	c31 N73-32750	NASA-CASE-MFS-13686	c15 N71-18132
NASA-CASE-LEW-11118-1	c15 N74-32919	NASA-CASE-MFS-13687	c09 N71-28691
NASA-CASE-LEW-11118-2	c28 N74-28232	NASA-CASE-MFS-13687-2	c09 N72-22198
NASA-CASE-LEW-11152-1	c15 N73-32359	NASA-CASE-MFS-13929	c15 N71-27091
NASA-CASE-LEW-11159-1	c14 N73-28488	NASA-CASE-MFS-13994-1	c06 N71-11240
NASA-CASE-LEW-11162-1	c09 N74-12913	NASA-CASE-MFS-13994-2	c06 N72-25148
NASA-CASE-LEW-11169-1	c15 N74-18131	NASA-CASE-MFS-14017	c14 N71-26627
NASA-CASE-LEW-11179-1	c17 N73-22474	NASA-CASE-MFS-14023	c33 N71-25351
NASA-CASE-LEW-11180-1	c25 N73-25760	NASA-CASE-MFS-14114	c33 N71-27862
NASA-CASE-LEW-11187-1	c28 N73-19793	NASA-CASE-MFS-14114-2	c09 N71-24807
NASA-CASE-LEW-11188-1	c02 N74-20646	NASA-CASE-MFS-14216	c14 N73-13418
NASA-CASE-LEW-11192-1	c09 N73-13208	NASA-CASE-MFS-14253	c33 N71-24858
NASA-CASE-LEW-11224-1	c02 N72-10033	NASA-CASE-MFS-14259	c15 N71-19213
NASA-CASE-LEW-11227-1	c33 N71-35153	NASA-CASE-MFS-14322	c08 N71-18692
NASA-CASE-LEW-11262-1	c18 N74-13270	NASA-CASE-MFS-14405	c15 N72-28495
NASA-CASE-LEW-11267-1	c17 N73-32414	NASA-CASE-MFS-14610	c09 N71-28886
NASA-CASE-LEW-11274-1	c15 N73-29457	NASA-CASE-MFS-14671	c05 N71-12341
NASA-CASE-LEW-11286-1	c02 N74-27490	NASA-CASE-MFS-14685	c31 N71-15689
NASA-CASE-LEW-11325-1	c06 N73-27980	NASA-CASE-MFS-14710	c09 N72-22195
NASA-CASE-LEW-11326-1	c23 N73-30665	NASA-CASE-MFS-14711	c15 N71-26185
NASA-CASE-LEW-11348-1	c17 N72-25517	NASA-CASE-MFS-14741	c09 N70-20737
NASA-CASE-LEW-11358	c03 N71-26084	NASA-CASE-MFS-14772	c15 N71-17692
NASA-CASE-LEW-11359	c03 N71-28579	NASA-CASE-MFS-14971	c15 N71-24984
NASA-CASE-LEW-11359-2	c03 N72-20034	NASA-CASE-MFS-15063	c14 N72-25412
NASA-CASE-LEW-11387-1	c15 N74-18128	NASA-CASE-MFS-15162	c14 N72-32452
NASA-CASE-LEW-11388-1	c15 N73-32358	NASA-CASE-MFS-15218-1	c15 N73-31438
NASA-CASE-LEW-11388-2	c15 N74-21055	NASA-CASE-MFS-16570-1	c05 N73-32013
NASA-CASE-LEW-11390-2	c24 N73-20763	NASA-CASE-MFS-16609-3	c09 N74-34647
NASA-CASE-LEW-11390-3	c11 N73-28128	NASA-CASE-MFS-18100	c15 N72-11390
NASA-CASE-LEW-11402-1	c28 N74-28226	NASA-CASE-MFS-18495	c15 N72-11385
NASA-CASE-LEW-11494-1	c15 N73-22415	NASA-CASE-MFS-19193-1	c15 N74-22145
NASA-CASE-LEW-11531	c15 N71-14932	NASA-CASE-MFS-19194-1	c15 N74-34862
NASA-CASE-LEW-11549-1	c03 N74-33484	NASA-CASE-MFS-19218-1	c14 N74-34860
NASA-CASE-LEW-11569-1	c28 N74-15453	NASA-CASE-MFS-20011	c18 N72-22566
NASA-CASE-LEW-11581-1	c05 N73-18139	NASA-CASE-MFS-20044	c14 N71-28993
NASA-CASE-LEW-11582-1	c09 N74-33739	NASA-CASE-MFS-20068	c07 N71-27191
NASA-CASE-LEW-11583-1	c15 N74-13199	NASA-CASE-MFS-20074	c16 N71-15565
NASA-CASE-LEW-11593-1	c28 N73-25816	NASA-CASE-MFS-20075	c09 N71-26133
NASA-CASE-LEW-11617-1	c09 N74-10195	NASA-CASE-MFS-20095	c24 N72-11595
NASA-CASE-LEW-11632-1	c14 N72-25440	NASA-CASE-MFS-20096	c14 N71-30026
NASA-CASE-LEW-11632-2	c14 N73-29437	NASA-CASE-MFS-20125	c16 N72-13437
NASA-CASE-LEW-11632-3	c14 N74-33944	NASA-CASE-MFS-20130	c28 N71-27585
NASA-CASE-LEW-11645-2	c22 N73-28660	NASA-CASE-MFS-20180	c16 N72-12440
NASA-CASE-LEW-11646-1	c28 N74-31269	NASA-CASE-MFS-20207-1	c09 N73-32107
NASA-CASE-LEW-11669-1	c05 N73-27062	NASA-CASE-MFS-20240	c14 N71-26788
NASA-CASE-LEW-11672-1	c15 N74-27904	NASA-CASE-MFS-20242	c14 N73-19421
NASA-CASE-LEW-11694-1	c28 N73-22721	NASA-CASE-MFS-20243	c23 N73-13662
NASA-CASE-LEW-11694-2	c15 N74-22147	NASA-CASE-MFS-20249	c15 N72-11386
NASA-CASE-LEW-11696-1	c15 N73-10502	NASA-CASE-MFS-20261	c14 N71-27005
NASA-CASE-LEW-11696-2	c18 N74-18197	NASA-CASE-MFS-20284-1	c05 N74-12778
NASA-CASE-LEW-11696-3	c17 N74-27963	NASA-CASE-MFS-20299	c15 N72-11392
NASA-CASE-LEW-11726-1	c26 N73-26752	NASA-CASE-MFS-20317	c15 N73-13463
NASA-CASE-LEW-11866-1	c11 N74-32719	NASA-CASE-MFS-20325	c28 N71-27095
NASA-CASE-LEW-11879-1	c18 N74-20152	NASA-CASE-MFS-20332	c05 N72-20097
NASA-CASE-LEW-11915-1	c12 N74-25805	NASA-CASE-MFS-20332-2	c05 N73-25125
NASA-CASE-LEW-11925-1	c15 N74-18133	NASA-CASE-MFS-20333	c09 N71-13486
NASA-CASE-LEW-12051-1	c04 N73-32000	NASA-CASE-MFS-20335-1	c14 N74-10415
NASA-CASE-LEW-12053-1	c06 N74-34579	NASA-CASE-MFS-20355	c33 N71-25353
NASA-CASE-LEW-12078-1	c14 N74-18101	NASA-CASE-MFS-20385	c09 N71-24904



NUMBER INDEX

NASA-CASE-MFS-20366	c21 N71-19212	NASA-CASE-MFS-21465-1	c10 W73-32145
NASA-CASE-MFS-20395	c15 N71-24903	NASA-CASE-MFS-21470-1	c10 W74-19870
NASA-CASE-MFS-20400	c31 N71-18611	NASA-CASE-MFS-21481-1	c15 W74-18127
NASA-CASE-MFS-20407	c09 N73-19235	NASA-CASE-MFS-21485-1	c15 W74-25968
NASA-CASE-MFS-20408	c18 N73-12604	NASA-CASE-MFS-21488-1	c14 W73-23526
NASA-CASE-MFS-20410	c15 W71-19214	NASA-CASE-MFS-21540-1	c07 W74-19790
NASA-CASE-MFS-20413	c15 N72-21463	NASA-CASE-MFS-21556-1	c14 W74-26945
NASA-CASE-MFS-20418	c14 N73-24473	NASA-CASE-MFS-21577-1	c03 W74-29410
NASA-CASE-MFS-20423	c15 N72-11388	NASA-CASE-MFS-21606-1	c15 W73-22417
NASA-CASE-MFS-20433	c15 N72-28496	NASA-CASE-MFS-21611-1	c05 W74-10100
NASA-CASE-MFS-20434	c11 N72-25288	NASA-CASE-MFS-21616-1	c09 W74-21859
NASA-CASE-MFS-20435	c15 N71-29133	NASA-CASE-MFS-21628-1	c29 W74-14496
NASA-CASE-MFS-20482	c15 N72-22492	NASA-CASE-MFS-21629	c14 W72-22442
NASA-CASE-MFS-20485	c14 N72-11365	NASA-CASE-MFS-21660-1	c14 W74-21017
NASA-CASE-MFS-20486-2	c18 N74-17283	NASA-CASE-MFS-21671-1	c10 W74-22885
NASA-CASE-MFS-20506-1	c14 N73-17563	NASA-CASE-MFS-21672-1	c23 W73-22630
NASA-CASE-MFS-20509	c11 N72-17183	NASA-CASE-MFS-21675-1	c33 W74-33378
NASA-CASE-MFS-20523	c14 W72-27412	NASA-CASE-MFS-21680-1	c32 W74-27397
NASA-CASE-MFS-20546-2	c14 N73-30389	NASA-CASE-MFS-21681-1	c32 W74-27397
NASA-CASE-MFS-20586	c15 W71-17686	NASA-CASE-MFS-21698-1	c09 W74-26732
NASA-CASE-MFS-20589	c25 N72-32688	NASA-CASE-MFS-21704-1	c16 W73-30478
NASA-CASE-MFS-20596	c14 W72-17324	NASA-CASE-MFS-21728-1	c14 W74-27865
NASA-CASE-MFS-20607-1	c15 W74-26989	NASA-CASE-MFS-21761-1	c14 W73-18444
NASA-CASE-MFS-20619	c28 W72-11708	NASA-CASE-MFS-21846-1	c15 W74-26976
NASA-CASE-MFS-20620	c11 W72-27262	NASA-CASE-MFS-21919-1	c10 W73-25243
NASA-CASE-MFS-20642	c14 W72-21407	NASA-CASE-MFS-21931-1	c09 W74-21858
NASA-CASE-MFS-20645-1	c15 W74-23070	NASA-CASE-MFS-22002-1	c03 W74-18726
NASA-CASE-MFS-20658-1	c14 N73-30386	NASA-CASE-MFS-22022-1	c05 W74-10099
NASA-CASE-MFS-20673	c14 W73-20476	NASA-CASE-MFS-22039-1	c14 W73-30428
NASA-CASE-MFS-20675	c26 W73-26751	NASA-CASE-MFS-22040-1	c14 W74-26946
NASA-CASE-MFS-20698	c15 W72-20446	NASA-CASE-MFS-22073-1	c09 W74-11058
NASA-CASE-MFS-20698-2	c15 W73-19457	NASA-CASE-MFS-22088-1	c09 W74-13894
NASA-CASE-MFS-20710	c11 W72-23215	NASA-CASE-MFS-22102-1	c05 W74-20725
NASA-CASE-MFS-20730-1	c14 W74-13131	NASA-CASE-MFS-22128-2	c14 W74-18098
NASA-CASE-MFS-20757	c09 W72-28225	NASA-CASE-MFS-22129-1	c09 W73-26197
NASA-CASE-MFS-20760	c14 W72-33377	NASA-CASE-MFS-22133-1	c15 W74-26977
NASA-CASE-MFS-20761-1	c03 W74-27519	NASA-CASE-MFS-22145-1	c25 W73-26721
NASA-CASE-MFS-20767-1	c15 W74-15130	NASA-CASE-MFS-22145-2	c25 W74-35145
NASA-CASE-MFS-20774	c14 W73-19420	NASA-CASE-MFS-22189-1	c15 W74-10421
NASA-CASE-MFS-20775-1	c26 W73-23770	NASA-CASE-MFS-22208-1	c14 W74-18100
NASA-CASE-MFS-20809	c23 W73-13660	NASA-CASE-MFS-22283-1	c15 W73-30462
NASA-CASE-MFS-20823-1	c16 W73-30476	NASA-CASE-MFS-22287-1	c11 W74-18891
NASA-CASE-MFS-20829	c12 W72-21310	NASA-CASE-MFS-22323-1	c15 W74-26988
NASA-CASE-MFS-20830	c15 W71-30028	NASA-CASE-MFS-22324-1	c18 W73-21471
NASA-CASE-MFS-20831	c28 W71-29153	NASA-CASE-MFS-22342-1	c09 W73-24236
NASA-CASE-MFS-20855	c15 W73-27405	NASA-CASE-MFS-22343-1	c09 W74-34638
NASA-CASE-MFS-20855-1	c31 W72-25853	NASA-CASE-MFS-22355	c06 W74-29480
NASA-CASE-MFS-20861-1	c18 W73-32437	NASA-CASE-MFS-22356-1	c06 W74-29479
NASA-CASE-MFS-20863	c31 W73-26876	NASA-CASE-MFS-22409-1	c16 W74-18153
NASA-CASE-MFS-20890	c14 W72-22439	NASA-CASE-MFS-22411-1	c15 W74-21058
NASA-CASE-MFS-20916	c14 W73-25460	NASA-CASE-MFS-22517-1	c14 W74-33943
NASA-CASE-MFS-20922	c31 W72-20840	NASA-CASE-MFS-22537-1	c14 W74-28932
NASA-CASE-MFS-20922-1	c15 W74-22136	NASA-CASE-MFS-22562-1	c03 W74-19700
NASA-CASE-MFS-20932-1	c14 W73-27380	NASA-CASE-MFS-22649-1	c15 W73-32376
NASA-CASE-MFS-20935	c09 W71-34212	NASA-CASE-MFS-22671-1	c14 W74-13146
NASA-CASE-MFS-20944	c15 W73-13466	NASA-CASE-MFS-22734-1	c31 W74-20541
NASA-CASE-MFS-20979	c06 W72-25151	NASA-CASE-MFS-22749-1	c14 W74-34861
NASA-CASE-MFS-20979-2	c06 W73-32030	NASA-CASE-MFS-22758-1	c15 W74-22196
NASA-CASE-MFS-20994-1	c05 W73-30090	NASA-CASE-MFS-22787-1	c21 W74-35096
NASA-CASE-MFS-21010-1	c05 W73-30078		
NASA-CASE-MFS-21040-1	c06 W73-30098	NASA-CASE-MSC-11072	c05 W74-32546
NASA-CASE-MFS-21042	c07 W72-25171	NASA-CASE-MSC-10959	c15 W71-26243
NASA-CASE-MFS-21045-1	c14 W74-11288	NASA-CASE-MSC-10960-1	c03 W71-24718
NASA-CASE-MFS-21046-1	c14 W73-27377	NASA-CASE-MSC-10966	c14 W71-19568
NASA-CASE-MFS-21049-1	c14 W74-27864	NASA-CASE-MSC-11010	c15 W71-19485
NASA-CASE-MFS-21077	c18 W71-34502	NASA-CASE-MSC-11253	c05 W71-12343
NASA-CASE-MFS-21087-1	c14 W74-17153	NASA-CASE-MSC-11277	c09 W71-29008
NASA-CASE-MFS-21108-1	c14 W74-27861	NASA-CASE-MSC-11561-1	c05 W73-32014
NASA-CASE-MFS-21109-1	c05 W73-27991	NASA-CASE-MSC-11817-1	c15 W71-26611
NASA-CASE-MFS-21115-1	c05 W74-12779	NASA-CASE-MSC-11847-1	c14 W72-11363
NASA-CASE-MFS-21136-1	c23 W74-18323	NASA-CASE-MSC-11849-1	c15 W72-22488
NASA-CASE-MFS-21163-1	c05 W74-17853	NASA-CASE-MSC-12033-1	c09 W71-13531
NASA-CASE-MFS-21214-1	c09 W73-30181	NASA-CASE-MSC-12049	c31 W71-16080
NASA-CASE-MFS-21233-1	c23 W74-15395	NASA-CASE-MSC-12052-1	c15 W71-24599
NASA-CASE-MFS-21244-1	c20 W73-21523	NASA-CASE-MSC-12084-1	c12 W71-17569
NASA-CASE-MFS-21309-1	c15 W74-18125	NASA-CASE-MSC-12086-1	c05 W71-12345
NASA-CASE-MFS-21311-1	c31 W74-30311	NASA-CASE-MSC-12101	c09 W71-18720
NASA-CASE-MFS-21362	c11 W73-20267	NASA-CASE-MSC-12105-1	c14 W72-21409
NASA-CASE-MFS-21364-1	c15 W74-18126	NASA-CASE-MSC-12109	c18 W71-26285
NASA-CASE-MFS-21372-1	c14 W74-27866	NASA-CASE-MSC-12111-1	c02 W71-11039
NASA-CASE-MFS-21374-1	c10 W74-12951	NASA-CASE-MSC-12116-1	c15 W71-17648
NASA-CASE-MFS-21394-1	c12 W74-27744	NASA-CASE-MSC-12121-1	c15 W71-27147
NASA-CASE-MFS-21395-1	c14 W74-26948	NASA-CASE-MSC-12135-1	c09 W71-12526
NASA-CASE-MFS-21415-1	c05 W74-20728	NASA-CASE-MSC-12139-1	c28 W71-14058
NASA-CASE-MFS-21424-1	c12 W74-27730	NASA-CASE-MSC-12143-1	c33 W72-17947
NASA-CASE-MFS-21433	c09 W73-20232	NASA-CASE-MSC-12146-1	c07 W72-17109
NASA-CASE-MFS-21441-1	c14 W73-30392	NASA-CASE-MSC-12165-1	c07 W71-33696
NASA-CASE-MFS-21455-1	c16 W74-15146	NASA-CASE-MSC-12168-1	c09 W71-18600
NASA-CASE-MFS-21462-1	c09 W74-14935	NASA-CASE-MSC-12178-1	c09 W71-13518

NUMBER INDEX

NASA-CASE-HSC-12205-1	c07	N71-27056	NASA-CASE-HSC-14070-1	c07	N74-32598
NASA-CASE-HSC-12206-1	c05	N71-17599	NASA-CASE-HSC-14081-1	c14	N74-27860
NASA-CASE-HSC-12209	c09	N71-24842	NASA-CASE-HSC-14082-1	c08	N73-16163
NASA-CASE-HSC-12223-1	c07	N71-26181	NASA-CASE-HSC-14096-1	c14	N74-15095
NASA-CASE-HSC-12233-1	c15	N72-25454	NASA-CASE-HSC-14129-1	c10	N73-26231
NASA-CASE-HSC-12233-2	c32	N73-13921	NASA-CASE-HSC-14130-1	c10	N74-32711
NASA-CASE-HSC-12243-1	c05	N71-24728	NASA-CASE-HSC-14131-1	c09	N73-26199
NASA-CASE-HSC-12259-1	c07	N70-12616	NASA-CASE-HSC-14143-1	c33	N73-32823
NASA-CASE-HSC-12259-2	c07	N72-33146	NASA-CASE-HSC-14180-1	c05	N73-22045
NASA-CASE-HSC-12279	c15	N72-17450	NASA-CASE-HSC-14182-1	c18	N74-15213
NASA-CASE-HSC-12279-1	c15	N70-35679	NASA-CASE-HSC-14187-1	c14	N74-32879
NASA-CASE-HSC-12280	c27	N71-16348	NASA-CASE-HSC-14219-1	c07	N74-27612
NASA-CASE-HSC-12293-1	c14	N72-27411	NASA-CASE-HSC-14240-1	c10	N73-21240
NASA-CASE-HSC-12297	c14	N72-23457	NASA-CASE-HSC-14245-1	c31	N73-30832
NASA-CASE-HSC-12324-1	c05	N72-22093	NASA-CASE-HSC-14270-1	c18	N74-30005
NASA-CASE-HSC-12332-1	c15	N72-15476	NASA-CASE-HSC-14270-2	c18	N74-30004
NASA-CASE-HSC-12357	c15	N73-12489	NASA-CASE-HSC-14273-1	c12	N73-28179
NASA-CASE-HSC-12363-1	c14	N73-26431	NASA-CASE-HSC-14331-1	c18	N73-27501
NASA-CASE-HSC-12372-1	c31	N72-25842	NASA-CASE-HSC-14339-1	c05	N73-21151
NASA-CASE-HSC-12389	c33	N71-29052	NASA-CASE-HSC-14428-1	c06	N74-19776
NASA-CASE-HSC-12390	c27	N71-29155	NASA-CASE-HSC-14435-1	c15	N74-20071
NASA-CASE-HSC-12391	c30	N73-12884	NASA-CASE-HSC-14472-1	c13	N74-32780
NASA-CASE-HSC-12393-1	c02	N73-26006	NASA-CASE-HSC-14558-1	c07	N74-17888
NASA-CASE-HSC-12394-1	c03	N74-10942	NASA-CASE-HSC-15158-1	c14	N72-17325
NASA-CASE-HSC-12395	c09	N72-25257	NASA-CASE-HSC-15474-1	c15	N71-26162
NASA-CASE-HSC-12396-1	c03	N73-31988	NASA-CASE-HSC-15567-1	c33	N73-16918
NASA-CASE-HSC-12397-1	c05	N72-25119	NASA-CASE-HSC-15626-1	c14	N72-25411
NASA-CASE-HSC-12398	c05	N72-20098	NASA-CASE-HSC-17832-1	c10	N74-14956
NASA-CASE-HSC-12404-1	c23	N73-13661	NASA-CASE-HSC-19095-1	c15	N74-32925
NASA-CASE-HSC-12408-1	c13	N74-13011	NASA-CASE-HSC-90153-2	c05	N72-25120
NASA-CASE-HSC-12411-1	c05	N72-20096	NASA-CASE-NPO-10003	c10	N71-26415
NASA-CASE-HSC-12423-1	c14	N74-32885	NASA-CASE-NPO-10034	c15	N71-17685
NASA-CASE-HSC-12428-1	c10	N73-25240	NASA-CASE-NPO-10037	c09	N71-19610
NASA-CASE-HSC-12433	c31	N73-14854	NASA-CASE-NPO-10046	c28	N72-17843
NASA-CASE-HSC-12448-1	c14	N72-20394	NASA-CASE-NPO-10051	c18	N71-24934
NASA-CASE-HSC-12448-2	c14	N74-32884	NASA-CASE-NPO-10064	c15	N71-17693
NASA-CASE-HSC-12458-1	c08	N73-32081	NASA-CASE-NPO-10066	c09	N71-18598
NASA-CASE-HSC-12462-1	c07	N74-20809	NASA-CASE-NPO-10068	c08	N71-19288
NASA-CASE-HSC-12494-1	c07	N74-20810	NASA-CASE-NPO-10070	c15	N71-27372
NASA-CASE-HSC-12531-1	c14	N73-22386	NASA-CASE-NPO-10096	c07	N71-24583
NASA-CASE-HSC-12549-1	c15	N74-27903	NASA-CASE-NPO-10109	c03	N71-11049
NASA-CASE-HSC-12559-1	c31	N73-26879	NASA-CASE-NPO-10112	c08	N71-12502
NASA-CASE-HSC-12561-1	c31	N74-33303	NASA-CASE-NPO-10117	c15	N71-15608
NASA-CASE-HSC-12568-1	c18	N73-16577	NASA-CASE-NPO-10118	c07	N71-24741
NASA-CASE-HSC-12593-1	c09	N74-14942	NASA-CASE-NPO-10122	c12	N71-17631
NASA-CASE-HSC-12609-1	c05	N73-32012	NASA-CASE-NPO-10123	c15	N71-24835
NASA-CASE-HSC-12611-1	c23	N74-33142	NASA-CASE-NPO-10138	c33	N71-16357
NASA-CASE-HSC-12615-1	c15	N74-30916	NASA-CASE-NPO-10140	c07	N71-24742
NASA-CASE-HSC-12616-1	c07	N74-32601	NASA-CASE-NPO-10141	c11	N71-24964
NASA-CASE-HSC-13047-1	c31	N71-25434	NASA-CASE-NPO-10143	c10	N71-26326
NASA-CASE-HSC-13110-1	c08	N72-22163	NASA-CASE-NPO-10144	c14	N71-17701
NASA-CASE-HSC-13112	c03	N71-11057	NASA-CASE-NPO-10150	c08	N71-24650
NASA-CASE-HSC-13140	c05	N72-11085	NASA-CASE-NPO-10158	c33	N71-16356
NASA-CASE-HSC-13201-1	c07	N71-28929	NASA-CASE-NPO-10166-1	c07	N73-22076
NASA-CASE-HSC-13276-1	c14	N71-27058	NASA-CASE-NPO-10169	c10	N71-24844
NASA-CASE-HSC-13281	c31	N72-18859	NASA-CASE-NPO-10173	c15	N71-24696
NASA-CASE-HSC-13282-1	c05	N71-29729	NASA-CASE-NPO-10174	c14	N71-18465
NASA-CASE-HSC-13332-1	c14	N72-21408	NASA-CASE-NPO-10175	c14	N71-18625
NASA-CASE-HSC-13335-1	c06	N72-31140	NASA-CASE-NPO-10185	c10	N71-26339
NASA-CASE-HSC-13397-1	c21	N72-25595	NASA-CASE-NPO-10188	c03	N71-20273
NASA-CASE-HSC-13407-1	c10	N72-20225	NASA-CASE-NPO-10194	c03	N71-20407
NASA-CASE-HSC-13436-1	c05	N73-32015	NASA-CASE-NPO-10198	c09	N71-24806
NASA-CASE-HSC-13492-1	c10	N71-28860	NASA-CASE-NPO-10199	c09	N72-17156
NASA-CASE-HSC-13512-1	c15	N72-22485	NASA-CASE-NPO-10201	c08	N71-18694
NASA-CASE-HSC-13530-2	c06	N73-11107	NASA-CASE-NPO-10214	c10	N71-26577
NASA-CASE-HSC-13540-1	c05	N72-33096	NASA-CASE-NPO-10230	c09	N71-12520
NASA-CASE-HSC-13587-1	c15	N73-30459	NASA-CASE-NPO-10231	c07	N71-26101
NASA-CASE-HSC-13601-1	c05	N72-11088	NASA-CASE-NPO-10234	c06	N72-17094
NASA-CASE-HSC-13601-2	c05	N74-32549	NASA-CASE-NPO-10242	c09	N71-24803
NASA-CASE-HSC-13604-1	c05	N73-13114	NASA-CASE-NPO-10244	c15	N72-26371
NASA-CASE-HSC-13609-1	c05	N72-25122	NASA-CASE-NPO-10250	c23	N71-16212
NASA-CASE-HSC-13648	c05	N72-27103	NASA-CASE-NPO-10251	c10	N71-27365
NASA-CASE-HSC-13746-1	c10	N73-32143	NASA-CASE-NPO-10271	c17	N71-16393
NASA-CASE-HSC-13789-1	c11	N73-32152	NASA-CASE-NPO-10298	c12	N71-17661
NASA-CASE-HSC-13802-1	c30	N72-20805	NASA-CASE-NPO-10300	c14	N71-17662
NASA-CASE-HSC-13802-2	c14	N74-32883	NASA-CASE-NPO-10301	c07	N72-11148
NASA-CASE-HSC-13855-1	c07	N74-17885	NASA-CASE-NPO-10302	c10	N71-26142
NASA-CASE-HSC-13907-1	c10	N73-26230	NASA-CASE-NPO-10303	c07	N72-22127
NASA-CASE-HSC-13912-1	c07	N74-30524	NASA-CASE-NPO-10309	c15	N69-23190
NASA-CASE-HSC-13917-1	c05	N72-15098	NASA-CASE-NPO-10311	c31	N71-15643
NASA-CASE-HSC-13932-1	c08	N74-14920	NASA-CASE-NPO-10320	c14	N71-17655
NASA-CASE-HSC-13972-1	c05	N74-10975	NASA-CASE-NPO-10331	c09	N71-26701
NASA-CASE-HSC-13999-1	c05	N72-25142	NASA-CASE-NPO-10337	c14	N71-15604
NASA-CASE-HSC-13999-1	c05	N74-26626	NASA-CASE-NPO-10342	c10	N71-33407
NASA-CASE-HSC-14053-1	c08	N74-12888	NASA-CASE-NPO-10343	c07	N71-27341
NASA-CASE-HSC-14065-1	c07	N73-10215	NASA-CASE-NPO-10344	c10	N71-26544
NASA-CASE-HSC-14065-1	c07	N74-26654	NASA-CASE-NPO-10348	c10	N71-12554
NASA-CASE-HSC-14066-1	c10	N74-27705	NASA-CASE-NPO-10351	c08	N71-12503
NASA-CASE-HSC-14070-1	c07	N72-27178			

NUMBER INDEX

NASA-CASE-NPO-10373	.....	c03 N71-18698	NASA-CASE-NPO-11013	.....	c11 N72-22247
NASA-CASE-NPO-10388	.....	c07 N71-24622	NASA-CASE-NPO-11016	.....	c08 N72-31226
NASA-CASE-NPC-10401	.....	c03 N72-20033	NASA-CASE-NPO-11018	.....	c08 N72-21200
NASA-CASE-NPO-10404	.....	c03 N71-12255	NASA-CASE-NPO-11021	.....	c03 N72-20032
NASA-CASE-NPO-10412	.....	c09 N71-28421	NASA-CASE-NPO-11023	.....	c09 N72-17155
NASA-CASE-NPO-10416	.....	c12 N71-27332	NASA-CASE-NPO-11031	.....	c07 N71-33606
NASA-CASE-NPO-10417	.....	c16 N71-33410	NASA-CASE-NPO-11036	.....	c15 N72-24522
NASA-CASE-NPO-10431	.....	c15 N71-29132	NASA-CASE-NPO-11059	.....	c15 N72-17454
NASA-CASE-NPO-10440	.....	c15 N72-21466	NASA-CASE-NPO-11064	.....	c07 N72-11150
NASA-CASE-NPO-10447	.....	c06 N70-11252	NASA-CASE-NPO-11078	.....	c09 N72-25262
NASA-CASE-NPO-10467	.....	c23 N71-26654	NASA-CASE-NPO-11082	.....	c08 N72-22167
NASA-CASE-NPO-10468	.....	c23 N71-33229	NASA-CASE-NPO-11087	.....	c23 N71-29125
NASA-CASE-NPO-10539	.....	c07 N71-11285	NASA-CASE-NPO-11088	.....	c08 N71-29034
NASA-CASE-NPO-10542	.....	c09 N72-27228	NASA-CASE-NPO-11091	.....	c18 N72-22567
NASA-CASE-NPO-10548	.....	c16 N71-24831	NASA-CASE-NPO-11095	.....	c15 N72-25455
NASA-CASE-NPO-10556	.....	c14 N71-27185	NASA-CASE-NPO-11104	.....	c08 N72-22165
NASA-CASE-NPO-10560	.....	c08 N72-22166	NASA-CASE-NPO-11106	.....	c14 N70-34697
NASA-CASE-NPO-10567	.....	c08 N71-24633	NASA-CASE-NPO-11106-2	.....	c23 N72-28696
NASA-CASE-NPO-10575	.....	c03 N72-25019	NASA-CASE-NPO-11118	.....	c03 N72-25021
NASA-CASE-NPC-10591	.....	c03 N72-22041	NASA-CASE-NPO-11120-1	.....	c33 N74-18552
NASA-CASE-NPO-10595	.....	c10 N71-25917	NASA-CASE-NPO-11129	.....	c09 N72-33204
NASA-CASE-NPO-10596	.....	c06 N71-25929	NASA-CASE-NPO-11130	.....	c08 N72-20176
NASA-CASE-NPO-10606	.....	c15 N72-25451	NASA-CASE-NPO-11133	.....	c10 N72-20223
NASA-CASE-NPO-10607	.....	c09 N71-27232	NASA-CASE-NPO-11134	.....	c09 N72-21246
NASA-CASE-NPO-10617-1	.....	c14 N71-22095	NASA-CASE-NPO-11138	.....	c03 N70-34646
NASA-CASE-NPO-10625	.....	c09 N71-26182	NASA-CASE-NPO-11140	.....	c15 N72-17455
NASA-CASE-NPO-10629	.....	c08 N72-18184	NASA-CASE-NPO-11147	.....	c14 N72-27408
NASA-CASE-NPC-10633	.....	c03 N72-28025	NASA-CASE-NPO-11156-2	.....	c03 N73-30974
NASA-CASE-NPO-10634	.....	c23 N72-25619	NASA-CASE-NPO-11161	.....	c08 N72-25207
NASA-CASE-NPO-10636	.....	c08 N72-25210	NASA-CASE-NPO-11177	.....	c15 N72-17453
NASA-CASE-NPO-10637	.....	c15 N72-12409	NASA-CASE-NPO-11190	.....	c03 N71-34044
NASA-CASE-NPO-10646	.....	c15 N71-28467	NASA-CASE-NPO-11194	.....	c08 N72-25209
NASA-CASE-NPO-10649	.....	c07 N71-24840	NASA-CASE-NPO-11201	.....	c14 N72-27409
NASA-CASE-NPO-10671	.....	c15 N72-20443	NASA-CASE-NPO-11202	.....	c15 N72-25450
NASA-CASE-NPO-10677	.....	c05 N72-11084	NASA-CASE-NPO-11203	.....	c10 N72-20224
NASA-CASE-NPO-10679	.....	c15 N72-21462	NASA-CASE-NPO-11210	.....	c11 N72-20244
NASA-CASE-NPO-10680	.....	c31 N73-14855	NASA-CASE-NPO-11213	.....	c15 N73-20514
NASA-CASE-NPO-10682	.....	c15 N70-34699	NASA-CASE-NPO-11222	.....	c15 N72-25456
NASA-CASE-NPO-10691	.....	c14 N71-26199	NASA-CASE-NPO-11239	.....	c14 N73-12446
NASA-CASE-NPO-10694	.....	c09 N72-20200	NASA-CASE-NPO-11243	.....	c07 N72-20154
NASA-CASE-NPO-10700	.....	c07 N71-33613	NASA-CASE-NPO-11253	.....	c09 N72-17157
NASA-CASE-NPC-10701	.....	c06 N71-28620	NASA-CASE-NPO-11264	.....	c07 N72-25174
NASA-CASE-NPO-10704	.....	c15 N72-20445	NASA-CASE-NPO-11282	.....	c10 N73-16205
NASA-CASE-NPO-10714	.....	c06 N69-31244	NASA-CASE-NPO-11283	.....	c09 N72-25260
NASA-CASE-NPC-10716	.....	c09 N71-24892	NASA-CASE-NPO-11291-1	.....	c14 N73-30388
NASA-CASE-NPO-10721	.....	c15 N72-27484	NASA-CASE-NPO-11302-1	.....	c07 N73-13149
NASA-CASE-NPO-10722	.....	c09 N72-20199	NASA-CASE-NPO-11302-2	.....	c07 N74-10132
NASA-CASE-NPO-10737	.....	c28 N72-11709	NASA-CASE-NPO-11304	.....	c14 N73-26430
NASA-CASE-NPO-10743	.....	c08 N72-21199	NASA-CASE-NPO-11307-1	.....	c10 N73-30205
NASA-CASE-NPO-10745	.....	c08 N72-22164	NASA-CASE-NPO-11311	.....	c14 N72-25414
NASA-CASE-NPO-10747	.....	c03 N72-22042	NASA-CASE-NPO-11317-2	.....	c16 N74-13205
NASA-CASE-NPO-10748	.....	c08 N72-20177	NASA-CASE-NPO-11322	.....	c06 N72-25146
NASA-CASE-NPO-10753	.....	c03 N72-26031	NASA-CASE-NPO-11330	.....	c33 N73-26958
NASA-CASE-NPO-10755	.....	c15 N71-27084	NASA-CASE-NPO-11333	.....	c08 N72-22162
NASA-CASE-NPO-10758	.....	c14 N73-14427	NASA-CASE-NPO-11338	.....	c08 N72-25208
NASA-CASE-NPO-10760	.....	c09 N72-25254	NASA-CASE-NPO-11340	.....	c15 N72-33477
NASA-CASE-NPO-10764-1	.....	c14 N73-14428	NASA-CASE-NPO-11342	.....	c09 N72-25248
NASA-CASE-NPO-10764-2	.....	c10 N73-20259	NASA-CASE-NPO-11358	.....	c07 N72-25172
NASA-CASE-NPO-10765	.....	c06 N72-20121	NASA-CASE-NPO-11361	.....	c07 N72-32169
NASA-CASE-NPO-10767-1	.....	c06 N73-33076	NASA-CASE-NPO-11366	.....	c11 N73-26238
NASA-CASE-NPO-10767-2	.....	c06 N72-27151	NASA-CASE-NPO-11369	.....	c15 N73-13467
NASA-CASE-NPC-10768	.....	c06 N71-27254	NASA-CASE-NPO-11371	.....	c08 N73-12177
NASA-CASE-NPO-10768-2	.....	c06 N72-27144	NASA-CASE-NPO-11373	.....	c13 N72-25323
NASA-CASE-NPO-10769	.....	c08 N72-11171	NASA-CASE-NPO-11377	.....	c15 N73-27406
NASA-CASE-NPC-10774	.....	c06 N72-17095	NASA-CASE-NPO-11387	.....	c14 N73-14429
NASA-CASE-NPO-10778	.....	c14 N72-11364	NASA-CASE-NPO-11388	.....	c03 N72-23048
NASA-CASE-NPO-10796	.....	c15 N71-27068	NASA-CASE-NPO-11406	.....	c08 N73-12175
NASA-CASE-NPC-10808	.....	c15 N71-27432	NASA-CASE-NPO-11417	.....	c15 N73-24513
NASA-CASE-NPO-10810	.....	c14 N71-27323	NASA-CASE-NPO-11418-1	.....	c14 N73-13420
NASA-CASE-NPO-10812	.....	c15 N73-13464	NASA-CASE-NPO-11426	.....	c07 N73-26119
NASA-CASE-NPO-10817-1	.....	c08 N73-30135	NASA-CASE-NPO-11432-2	.....	c14 N74-15090
NASA-CASE-NPO-10821	.....	c03 N71-19545	NASA-CASE-NPO-11433	.....	c18 N71-31140
NASA-CASE-NPO-10828	.....	c33 N72-17948	NASA-CASE-NPO-11437	.....	c16 N72-28521
NASA-CASE-NPO-10831	.....	c33 N72-20915	NASA-CASE-NPO-11456	.....	c08 N73-26176
NASA-CASE-NPO-10832	.....	c14 N72-21405	NASA-CASE-NPO-11458	.....	c28 N72-23810
NASA-CASE-NPC-10844	.....	c07 N72-20140	NASA-CASE-NPO-11479	.....	c15 N73-13462
NASA-CASE-NPO-10851	.....	c07 N71-24613	NASA-CASE-NPO-11481	.....	c21 N73-13644
NASA-CASE-NPO-10862	.....	c06 N72-22107	NASA-CASE-NPO-11493	.....	c14 N73-12447
NASA-CASE-NPC-10863	.....	c06 N70-11251	NASA-CASE-NPO-11497	.....	c08 N73-25206
NASA-CASE-NPO-10863-2	.....	c06 N72-25152	NASA-CASE-NPO-11548	.....	c07 N73-26118
NASA-CASE-NPO-10883	.....	c31 N72-22874	NASA-CASE-NPO-11556	.....	c12 N72-25292
NASA-CASE-NPO-10890	.....	c11 N73-12265	NASA-CASE-NPO-11559	.....	c28 N73-24784
NASA-CASE-NPO-10893	.....	c27 N73-22710	NASA-CASE-NPO-11569	.....	c10 N73-26229
NASA-CASE-NPO-10985	.....	c14 N73-20478	NASA-CASE-NPO-11572	.....	c07 N73-16121
NASA-CASE-NPC-10998-1	.....	c06 N73-32029	NASA-CASE-NPO-11593-1	.....	c07 N73-28012
NASA-CASE-NPO-10999-1	.....	c06 N73-32029	NASA-CASE-NPO-11609-1	.....	c06 N72-22114
NASA-CASE-NPO-11001	.....	c07 N72-21118	NASA-CASE-NPO-11623-1	.....	c23 N74-31148
NASA-CASE-NPO-11002	.....	c14 N72-22441	NASA-CASE-NPO-11628-1	.....	c07 N73-30113
NASA-CASE-NPO-11012	.....	c15 N72-11391	NASA-CASE-NPO-11630	.....	c08 N72-33172

NUMBER INDEX

NASA-CASE-NPO-11631	c10 N73-12244	NASA-CASE-NPO-13385-1	c08 N74-32646
NASA-CASE-NPO-11659-1	c14 N74-11283	NASA-CASE-NPO-13390-1	c16 N74-32937
NASA-CASE-NPO-11661	c07 N73-14130	NASA-CASE-NPO-13391-1	c33 N74-19584
NASA-CASE-NPO-11682-1	c15 N74-15127	NASA-CASE-NPO-13413-1	c09 N74-33738
NASA-CASE-NPO-11686	c14 N73-25462	NASA-CASE-NPO-13426-1	c09 N74-18869
NASA-CASE-NPO-11703-1	c10 N73-32144	NASA-CASE-NPO-13428-1	c08 N74-30549
NASA-CASE-NPO-11707	c07 N73-25161	NASA-CASE-NPO-13435-1	c23 N74-28134
NASA-CASE-NPO-11738-1	c09 N73-30185	NASA-CASE-NPO-13437-1	c09 N74-27688
NASA-CASE-NPO-11743-1	c33 N74-27425	NASA-CASE-NPO-13447-1	c08 N74-30549
NASA-CASE-NPO-11749	c14 N73-28486	NASA-CASE-NPO-13448-1	c16 N74-34012
NASA-CASE-NPO-11751	c07 N73-24176	NASA-CASE-NPO-13449-1	c16 N74-16187
NASA-CASE-NPO-11758-1	c15 N74-23065	NASA-CASE-NPO-13451-1	c08 N74-32648
NASA-CASE-NPO-11771	c03 N73-20040	NASA-CASE-NPO-13479-1	c14 N74-32890
NASA-CASE-NPO-11775	c26 N72-28761	NASA-CASE-NPO-13481-1	c09 N74-32675
NASA-CASE-NPO-11806-1	c03 N74-19693	NASA-CASE-NPO-13482-1	c03 N74-30448
NASA-CASE-NPO-11820-1	c07 N74-19788	NASA-CASE-NPO-13504-1	c09 N74-27689
NASA-CASE-NPO-11821-1	c08 N73-26175	NASA-CASE-NPO-13506-1	c09 N74-27690
NASA-CASE-NPO-11850-1	c09 N74-12912	NASA-CASE-NPO-13573-1	c05 N74-32552
NASA-CASE-NPO-11856-1	c16 N74-15145		
NASA-CASE-NPO-11861-1	c14 N74-20009	NASA-CASE-NUC-10107-1	c09 N74-17930
NASA-CASE-NPO-11868	c10 N73-20254		
NASA-CASE-NPO-11880	c28 N73-24783	NASA-CASE-NLP-10002	c15 N72-17451
NASA-CASE-NPO-11905-1	c08 N74-12887		
NASA-CASE-NPO-11919-1	c14 N74-11284	NASA-CASE-XAC-00001	c15 N71-28952
NASA-CASE-NPO-11921-1	c07 N74-30523	NASA-CASE-XAC-00030	c14 N70-34820
NASA-CASE-NPO-11932-1	c14 N74-23040	NASA-CASE-XAC-00042	c14 N70-34816
NASA-CASE-NPO-11941-1	c10 N73-27171	NASA-CASE-XAC-00048	c02 N71-29128
NASA-CASE-NPO-11942-1	c33 N73-32818	NASA-CASE-XAC-00060	c09 N70-39915
NASA-CASE-NPO-11948-1	c10 N74-32712	NASA-CASE-XAC-00073	c14 N70-34813
NASA-CASE-NPO-11951-1	c15 N74-21065	NASA-CASE-XAC-00074	c15 N70-34817
NASA-CASE-NPO-11962-1	c09 N74-10194	NASA-CASE-XAC-00086	c09 N70-33182
NASA-CASE-NPO-11966-1	c09 N74-17928	NASA-CASE-XAC-00139	c02 N70-34856
NASA-CASE-NPO-11975-1	c27 N74-33209	NASA-CASE-XAC-00319	c25 N70-41628
NASA-CASE-NPO-12000	c27 N72-25699	NASA-CASE-XAC-00399	c11 N70-34815
NASA-CASE-NPO-12015	c27 N73-16764	NASA-CASE-XAC-00404	c08 N70-40125
NASA-CASE-NPO-12061-1	c06 N72-21100	NASA-CASE-XAC-00405	c05 N70-41819
NASA-CASE-NPO-12070-1	c28 N73-32606	NASA-CASE-XAC-00435	c09 N70-35440
NASA-CASE-NPO-12072	c28 N72-22772	NASA-CASE-XAC-00472	c15 N70-40180
NASA-CASE-NPO-12106	c09 N73-15235	NASA-CASE-XAC-00648	c14 N70-40400
NASA-CASE-NPO-12107	c08 N71-27255	NASA-CASE-XAC-00731	c11 N71-15960
NASA-CASE-NPO-12109	c11 N72-22245	NASA-CASE-XAC-00812	c14 N71-15598
NASA-CASE-NPO-12115-1	c06 N73-17153	NASA-CASE-XAC-00942	c10 N71-16042
NASA-CASE-NPO-12122-1	c27 N74-20397	NASA-CASE-XAC-01101	c14 N70-41957
NASA-CASE-NPO-12127-1	c14 N74-13130	NASA-CASE-XAC-01158	c15 N71-23051
NASA-CASE-NPO-12128-1	c14 N73-32317	NASA-CASE-XAC-01404	c05 N70-41581
NASA-CASE-NPO-13044-1	c14 N74-15094	NASA-CASE-XAC-01591	c31 N71-17729
NASA-CASE-NPO-13050-1	c16 N73-18508	NASA-CASE-XAC-01662	c14 N71-23037
NASA-CASE-NPO-13065-1	c05 N74-26625	NASA-CASE-XAC-01677	c09 N71-20816
NASA-CASE-NPO-13081-1	c07 N74-22814	NASA-CASE-XAC-02058	c02 N71-16087
NASA-CASE-NPO-13086-1	c15 N73-12495	NASA-CASE-XAC-02405	c09 N71-16089
NASA-CASE-NPO-13091-1	c09 N73-12214	NASA-CASE-XAC-02407	c14 N69-27423
NASA-CASE-NPO-13103-1	c07 N74-20811	NASA-CASE-XAC-02807	c09 N71-23021
NASA-CASE-NPO-13105-1	c15 N74-21060	NASA-CASE-XAC-02877	c14 N70-41681
NASA-CASE-NPO-13112-1	c11 N74-26767	NASA-CASE-XAC-02970	c14 N69-39896
NASA-CASE-NPO-13114-1	c22 N73-13656	NASA-CASE-XAC-02981	c14 N71-21072
NASA-CASE-NPO-13120-1	c18 N73-23629	NASA-CASE-XAC-03107	c23 N71-16098
NASA-CASE-NPO-13121-1	c22 N73-12702	NASA-CASE-XAC-03392	c03 N70-41954
NASA-CASE-NPO-13125-1	c09 N73-18225	NASA-CASE-XAC-03740	c14 N71-26135
NASA-CASE-NPO-13127-1	c14 N74-23040	NASA-CASE-XAC-03777	c10 N71-15909
NASA-CASE-NPO-13131-1	c16 N73-31467	NASA-CASE-XAC-04030	c10 N71-19472
NASA-CASE-NPO-13138-1	c09 N74-17927	NASA-CASE-XAC-04031	c08 N71-18594
NASA-CASE-NPO-13139-1	c08 N74-17911	NASA-CASE-XAC-04458	c14 N71-24232
NASA-CASE-NPO-13140-1	c07 N73-27106	NASA-CASE-XAC-04885	c14 N71-23790
NASA-CASE-NPO-13157-1	c15 N74-32918	NASA-CASE-XAC-04886-1	c14 N71-20439
NASA-CASE-NPO-13159-1	c09 N74-17928	NASA-CASE-XAC-05353	c11 N71-22875
NASA-CASE-NPO-13160-1	c14 N74-18090	NASA-CASE-XAC-05422	c04 N71-23185
NASA-CASE-NPO-13170-1	c14 N73-28495	NASA-CASE-XAC-05462-2	c10 N72-17171
NASA-CASE-NPO-13171-1	c07 N74-11000	NASA-CASE-XAC-05506-1	c24 N71-16095
NASA-CASE-NPO-13175-1	c16 N73-27431	NASA-CASE-XAC-05632	c32 N71-23971
NASA-CASE-NPO-13201-1	c15 N73-26474	NASA-CASE-XAC-05695	c25 N71-16073
NASA-CASE-NPO-13205-1	c15 N74-32917	NASA-CASE-XAC-05706	c05 N71-12342
NASA-CASE-NPO-13214-1	c14 N74-19093	NASA-CASE-XAC-05902	c11 N71-18578
NASA-CASE-NPO-13215-1	c14 N74-19093	NASA-CASE-XAC-06029-1	c31 N71-24813
NASA-CASE-NPO-13217-1	c07 N73-26144	NASA-CASE-XAC-06302	c08 N71-19763
NASA-CASE-NPO-13224-1	c05 N73-31011	NASA-CASE-XAC-06956	c15 N71-21177
NASA-CASE-NPO-13231-1	c14 N74-25932	NASA-CASE-XAC-07043	c05 N71-23161
NASA-CASE-NPO-13253-1	c15 N73-31445	NASA-CASE-XAC-08494	c30 N71-15990
NASA-CASE-NPO-13263-1	c15 N73-31443	NASA-CASE-XAC-08972	c02 N71-20570
NASA-CASE-NPO-13281-1	c15 N74-23071	NASA-CASE-XAC-08981	c09 N69-39897
NASA-CASE-NPO-13292-1	c07 N74-15838	NASA-CASE-XAC-09489-1	c15 N71-26673
NASA-CASE-NPO-13303-1	c03 N74-19701	NASA-CASE-XAC-10019	c15 N71-23809
NASA-CASE-NPO-13308-1	c03 N74-19702	NASA-CASE-XAC-10607	c10 N71-23669
NASA-CASE-NPO-13313-1	c05 N74-17858	NASA-CASE-XAC-10608-1	c09 N71-12517
NASA-CASE-NPO-13321-1	c07 N74-19806	NASA-CASE-XAC-10768	c09 N71-18830
NASA-CASE-NPO-13327-1	c14 N74-18093	NASA-CASE-XAC-10770-1	c16 N71-24828
NASA-CASE-NPO-13345-1	c15 N74-25971	NASA-CASE-XAC-11225	c14 N69-27486
NASA-CASE-NPO-13348-1	c14 N74-20022		
NASA-CASE-NPO-13360-1	c15 N74-20073	NASA-CASE-XAR-01547	c05 N69-21473
NASA-CASE-NPO-13374-1	c10 N74-17949	NASA-CASE-XAR-03786	c09 N69-21313

NUMBER INDEX

NASA-CASE-XER-07894	c09 N71-18721	NASA-CASE-YGS-02171	c09 N69-24324
NASA-CASE-XER-07895	c26 N72-25679	NASA-CASE-YGS-02290	c07 N71-28809
NASA-CASE-XER-07896-2	c23 N72-22673	NASA-CASE-YGS-02317	c09 N71-23525
NASA-CASE-XER-08476-1	c26 N72-17820	NASA-CASE-YGS-02319	c14 N71-22965
NASA-CASE-XER-09213	c07 N71-12390	NASA-CASE-YGS-02401	c14 N69-27485
NASA-CASE-XER-09519	c14 N71-18483	NASA-CASE-YGS-02422	c15 N71-21529
NASA-CASE-XER-09519	c09 N72-12136	NASA-CASE-YGS-02435	c18 N71-22998
NASA-CASE-XER-11019	c09 N71-23598	NASA-CASE-YGS-02437	c15 N69-21472
NASA-CASE-XER-11046	c09 N72-22203	NASA-CASE-YGS-02439	c14 N71-19431
NASA-CASE-XER-11046-2	c09 N74-22864	NASA-CASE-YGS-02440	c08 N71-19432
NASA-CASE-XER-11203	c14 N71-28994	NASA-CASE-YGS-02441	c15 N70-41629
		NASA-CASE-YGS-02554	c31 N71-21064
		NASA-CASE-YGS-02607	c31 N71-23009
NASA-CASE-XFR-00181	c21 N70-33279	NASA-CASE-YGS-02608	c07 N70-41678
NASA-CASE-XFR-00756	c02 N71-13421	NASA-CASE-YGS-02610	c14 N71-23174
NASA-CASE-XFR-00811	c15 N70-36901	NASA-CASE-YGS-02612	c08 N71-19435
NASA-CASE-XFR-00929	c31 N70-34966	NASA-CASE-YGS-02629	c14 N71-21082
NASA-CASE-XFR-02007	c12 N71-24692	NASA-CASE-YGS-02630	c03 N71-22974
NASA-CASE-XFR-03107	c09 N71-19449	NASA-CASE-YGS-02631	c03 N71-23006
NASA-CASE-XFR-03802	c33 N71-23085	NASA-CASE-YGS-02749	c07 N69-39978
NASA-CASE-XFR-04104	c03 N70-42073	NASA-CASE-YGS-02751	c09 N71-23015
NASA-CASE-XFR-04147	c11 N71-10748	NASA-CASE-YGS-02812	c09 N71-19466
NASA-CASE-XFR-05302	c15 N71-23254	NASA-CASE-YGS-02816	c07 N69-24323
NASA-CASE-XFR-05421	c15 N71-22994	NASA-CASE-YGS-02884	c15 N71-22705
NASA-CASE-XFR-05637	c09 N71-19480	NASA-CASE-YGS-02889	c07 N71-11282
NASA-CASE-XFR-07172	c05 N71-27234	NASA-CASE-YGS-03058	c10 N71-19547
NASA-CASE-XFR-07658-1	c05 N71-26293	NASA-CASE-YGS-03095	c09 N69-27463
NASA-CASE-XFR-08403	c05 N71-11202	NASA-CASE-YGS-03120	c15 N71-24047
NASA-CASE-XFR-09479	c14 N69-27503	NASA-CASE-YGS-03230	c14 N71-23401
NASA-CASE-XFR-10856	c05 N71-11189	NASA-CASE-YGS-03303	c08 N71-18595
		NASA-CASE-YGS-03304	c09 N71-22988
		NASA-CASE-YGS-03351	c31 N71-16081
NASA-CASE-XGS-00131	c09 N70-38995	NASA-CASE-YGS-03390	c03 N71-23187
NASA-CASE-XGS-00174	c08 N70-34743	NASA-CASE-YGS-03427	c10 N71-23029
NASA-CASE-XGS-00260	c31 N70-37924	NASA-CASE-YGS-03429	c03 N69-21330
NASA-CASE-XGS-00359	c14 N70-34158	NASA-CASE-YGS-03431	c21 N71-15642
NASA-CASE-XGS-00373	c23 N71-15978	NASA-CASE-YGS-03501	c09 N71-20864
NASA-CASE-XGS-00381	c09 N70-34819	NASA-CASE-YGS-03502	c10 N71-20852
NASA-CASE-XGS-00458	c09 N70-38604	NASA-CASE-YGS-03505	c03 N71-10608
NASA-CASE-XGS-00466	c21 N70-34297	NASA-CASE-YGS-03532	c14 N71-17627
NASA-CASE-XGS-00473	c03 N70-38713	NASA-CASE-YGS-03556	c27 N70-35534
NASA-CASE-XGS-00587	c15 N70-35087	NASA-CASE-YGS-03632	c09 N71-23311
NASA-CASE-XGS-00619	c30 N70-40016	NASA-CASE-YGS-03644	c16 N71-18614
NASA-CASE-XGS-00689	c08 N70-34787	NASA-CASE-YGS-03736	c14 N72-22443
NASA-CASE-XGS-00740	c07 N71-23098	NASA-CASE-YGS-03864	c15 N69-24320
NASA-CASE-XGS-00769	c14 N70-41647	NASA-CASE-YGS-03865	c14 N69-21363
NASA-CASE-XGS-00783	c30 N71-17788	NASA-CASE-YGS-04047-2	c03 N72-11062
NASA-CASE-XGS-00809	c21 N70-35427	NASA-CASE-YGS-04119	c18 N69-39979
NASA-CASE-XGS-00823	c10 N71-15910	NASA-CASE-YGS-04173	c19 N71-26674
NASA-CASE-XGS-00824	c15 N71-16078	NASA-CASE-YGS-04175	c15 N71-18579
NASA-CASE-XGS-00886	c03 N71-11053	NASA-CASE-YGS-04224	c10 N71-26418
NASA-CASE-XGS-00938	c32 N70-41367	NASA-CASE-YGS-04227	c15 N71-21744
NASA-CASE-XGS-00963	c15 N69-39735	NASA-CASE-YGS-04393	c21 N71-14159
NASA-CASE-XGS-01013	c14 N71-23725	NASA-CASE-YGS-04478	c14 N71-24233
NASA-CASE-XGS-01021	c08 N71-21042	NASA-CASE-YGS-04480	c16 N69-27491
NASA-CASE-XGS-01022	c07 N71-16088	NASA-CASE-YGS-04531	c03 N69-24267
NASA-CASE-XGS-01023	c14 N71-22992	NASA-CASE-YGS-04548	c15 N71-24045
NASA-CASE-XGS-01036	c14 N70-40003	NASA-CASE-YGS-04554	c15 N69-39786
NASA-CASE-XGS-01052	c14 N71-15992	NASA-CASE-YGS-04765	c08 N71-18693
NASA-CASE-XGS-01110	c07 N69-24334	NASA-CASE-YGS-04766	c08 N71-18602
NASA-CASE-XGS-01118	c10 N71-23662	NASA-CASE-YGS-04767	c08 N71-12494
NASA-CASE-XGS-01143	c31 N71-15647	NASA-CASE-YGS-04768	c08 N71-19437
NASA-CASE-XGS-01155	c10 N71-21483	NASA-CASE-YGS-04799	c18 N71-24183
NASA-CASE-XGS-01159	c21 N71-10678	NASA-CASE-YGS-04808	c03 N69-25146
NASA-CASE-XGS-01222	c10 N71-20841	NASA-CASE-YGS-04879	c14 N71-20428
NASA-CASE-XGS-01223	c07 N71-10609	NASA-CASE-YGS-04987	c08 N71-20571
NASA-CASE-XGS-01230	c08 N71-19544	NASA-CASE-YGS-04993	c14 N71-17574
NASA-CASE-XGS-01231	c14 N70-41676	NASA-CASE-YGS-04994	c09 N69-21543
NASA-CASE-XGS-01331	c14 N71-22996	NASA-CASE-YGS-04999	c09 N69-24317
NASA-CASE-XGS-01395	c03 N69-21539	NASA-CASE-YGS-05003	c09 N69-24318
NASA-CASE-XGS-01418	c09 N71-23573	NASA-CASE-YGS-05180	c18 N71-25881
NASA-CASE-XGS-01419	c03 N70-41864	NASA-CASE-YGS-05211	c07 N69-39980
NASA-CASE-XGS-01451	c09 N71-10677	NASA-CASE-YGS-05289	c09 N71-19470
NASA-CASE-XGS-01473	c09 N71-10673	NASA-CASE-YGS-05290	c09 N71-25999
NASA-CASE-XGS-01475	c03 N71-11058	NASA-CASE-YGS-05291	c23 N71-16341
NASA-CASE-XGS-01504	c16 N70-41578	NASA-CASE-YGS-05432	c03 N71-19438
NASA-CASE-XGS-01513	c03 N71-23336	NASA-CASE-YGS-05434	c03 N71-20491
NASA-CASE-XGS-01537	c07 N71-23405	NASA-CASE-YGS-05441	c10 N71-22962
NASA-CASE-XGS-01587	c14 N71-15962	NASA-CASE-YGS-05532	c06 N71-17705
NASA-CASE-XGS-01590	c07 N71-12392	NASA-CASE-YGS-05533	c04 N69-27487
NASA-CASE-XGS-01593	c03 N70-35408	NASA-CASE-YGS-05534	c23 N71-16355
NASA-CASE-XGS-01654	c31 N71-24750	NASA-CASE-YGS-05579	c31 N71-15676
NASA-CASE-XGS-01674	c03 N71-29129	NASA-CASE-YGS-05582	c07 N69-27460
NASA-CASE-XGS-01725	c14 N69-39982	NASA-CASE-YGS-05680	c14 N71-17585
NASA-CASE-XGS-01784	c10 N71-20782	NASA-CASE-YGS-05715	c23 N71-16100
NASA-CASE-XGS-01812	c07 N71-23001	NASA-CASE-YGS-05718	c26 N71-16037
NASA-CASE-XGS-01881	c09 N70-40123	NASA-CASE-YGS-06226	c07 N69-39974
NASA-CASE-XGS-01971	c15 N71-15922	NASA-CASE-YGS-06306	c10 N71-25950
NASA-CASE-XGS-01983	c10 N70-41964		c17 N71-16044
NASA-CASE-XGS-02011	c15 N71-20739		

NUMBER INDEX

NASA-CASE-XGS-06628	c24	N71-16213	NASA-CASE-XLA-00349	c33	N70-37979
NASA-CASE-XGS-07514	c23	N71-16099	NASA-CASE-XLA-00350	c02	N70-38011
NASA-CASE-XGS-07752	c14	N73-30390	NASA-CASE-XLA-00377	c33	N71-17610
NASA-CASE-XGS-07801	c09	N71-12513	NASA-CASE-XLA-00378	c11	N71-15925
NASA-CASE-XGS-07805	c15	N72-33476	NASA-CASE-XLA-00414	c07	N70-38200
NASA-CASE-XGS-08259	c14	N71-23698	NASA-CASE-XLA-00415	c15	N71-16079
NASA-CASE-XGS-08266	c14	N69-27432	NASA-CASE-XLA-00471	c08	N70-34778
NASA-CASE-XGS-08269	c23	N71-26206	NASA-CASE-XLA-00481	c14	N70-36824
NASA-CASE-XGS-08679	c10	N71-21473	NASA-CASE-XLA-00482	c15	N70-36409
NASA-CASE-XGS-08718	c15	N71-24600	NASA-CASE-XLA-00487	c14	N70-40157
NASA-CASE-XGS-08729	c28	N71-14044	NASA-CASE-XLA-00492	c14	N70-34799
NASA-CASE-XGS-09190	c31	N71-16102	NASA-CASE-XLA-00493	c11	N70-34786
NASA-CASE-XGS-10010	c03	N72-15986	NASA-CASE-XLA-00495	c14	N70-41332
NASA-CASE-XGS-10518	c16	N71-28554	NASA-CASE-XLA-00670	c08	N71-12501
NASA-CASE-XGS-11177	c09	N71-27001	NASA-CASE-XLA-00675	c25	N70-33267
			NASA-CASE-XLA-00678	c31	N70-34296
			NASA-CASE-XLA-00679	c15	N70-38601
NASA-CASE-XHQ-01208	c28	N70-35381	NASA-CASE-XLA-00686	c31	N70-34135
NASA-CASE-XHQ-01897	c33	N71-29046	NASA-CASE-XLA-00711	c03	N71-12258
NASA-CASE-XHQ-03673	c15	N69-21922	NASA-CASE-XLA-00754	c15	N70-34850
NASA-CASE-XHQ-03903	c14	N70-40240	NASA-CASE-XLA-00755	c01	N71-13410
NASA-CASE-XHQ-04106			NASA-CASE-XLA-00781	c09	N71-22999
			NASA-CASE-XLA-00791	c03	N70-39930
NASA-CASE-XKS-00348	c09	N73-14215	NASA-CASE-XLA-00793	c21	N71-22980
NASA-CASE-XKS-01985	c15	N71-10782	NASA-CASE-XLA-00805	c31	N70-38910
NASA-CASE-XKS-02342	c05	N71-11199	NASA-CASE-XLA-00806	c02	N70-34858
NASA-CASE-XKS-02582	c15	N71-21234	NASA-CASE-XLA-00838	c03	N70-36778
NASA-CASE-XKS-03338	c15	N71-24043	NASA-CASE-XLA-00892	c33	N71-17897
NASA-CASE-XKS-03381	c09	N71-22796	NASA-CASE-XLA-00898	c02	N70-36804
NASA-CASE-XKS-03495	c14	N69-39785	NASA-CASE-XLA-00901	c07	N71-10775
NASA-CASE-XKS-03509	c14	N71-23175	NASA-CASE-XLA-00934	c14	N71-22765
NASA-CASE-XKS-04614	c15	N69-21460	NASA-CASE-XLA-00936	c14	N71-14996
NASA-CASE-XKS-04631	c10	N71-23663	NASA-CASE-XLA-00937	c31	N71-17691
NASA-CASE-XKS-05932	c09	N71-26787	NASA-CASE-XLA-00939	c11	N71-15926
NASA-CASE-XKS-06167	c08	N71-24890	NASA-CASE-XLA-00941	c14	N71-23240
NASA-CASE-XKS-06250	c14	N71-15600	NASA-CASE-XLA-01019	c15	N70-40156
NASA-CASE-XKS-07814	c15	N71-27067	NASA-CASE-XLA-01027	c31	N71-24035
NASA-CASE-XKS-07953	c15	N71-26134	NASA-CASE-XLA-01043	c28	N71-10780
NASA-CASE-XKS-08012-2	c31	N71-15566	NASA-CASE-XLA-01090	c07	N71-12389
NASA-CASE-XKS-08485	c07	N71-19493	NASA-CASE-XLA-01090	c16	N71-28963
NASA-CASE-XKS-09340	c07	N71-24614	NASA-CASE-XLA-01091	c15	N71-10672
NASA-CASE-XKS-09348	c09	N71-13521	NASA-CASE-XLA-01127	c07	N70-41372
NASA-CASE-XKS-10543	c07	N71-26292	NASA-CASE-XLA-01131	c14	N71-10774
NASA-CASE-XKS-10804	c05	N71-24606	NASA-CASE-XLA-01141	c15	N71-13789
			NASA-CASE-XLA-01163	c21	N71-15582
NASA-CASE-XLA-8914	c15	N73-12492	NASA-CASE-XLA-01219	c10	N71-23084
NASA-CASE-XLA-00013	c15	N71-29136	NASA-CASE-XLA-01220	c02	N70-41863
NASA-CASE-XLA-00062	c14	N70-33254	NASA-CASE-XLA-01243	c33	N71-22792
NASA-CASE-XLA-00087	c02	N70-33332	NASA-CASE-XLA-01262	c15	N71-21404
NASA-CASE-XLA-00100	c14	N70-36807	NASA-CASE-XLA-01288	c09	N69-21470
NASA-CASE-XLA-00105	c28	N70-33331	NASA-CASE-XLA-01290	c02	N70-42016
NASA-CASE-XLA-00112	c11	N70-33287	NASA-CASE-XLA-01291	c33	N70-36617
NASA-CASE-XLA-00113	c14	N70-33386	NASA-CASE-XLA-01326	c11	N71-21481
NASA-CASE-XLA-00115	c03	N70-33343	NASA-CASE-XLA-01332	c31	N71-15664
NASA-CASE-XLA-00117	c31	N71-17680	NASA-CASE-XLA-01339	c31	N71-15692
NASA-CASE-XLA-00118	c05	N70-33285	NASA-CASE-XLA-01353	c14	N70-41366
NASA-CASE-XLA-00119	c11	N70-33329	NASA-CASE-XLA-01354	c25	N70-36946
NASA-CASE-XLA-00120	c21	N70-33181	NASA-CASE-XLA-01396	c03	N71-12259
NASA-CASE-XLA-00128	c15	N70-37925	NASA-CASE-XLA-01400	c07	N70-41331
NASA-CASE-XLA-00135	c14	N70-33322	NASA-CASE-XLA-01401	c15	N71-21179
NASA-CASE-XLA-00137	c15	N70-33180	NASA-CASE-XLA-01441	c15	N70-41679
NASA-CASE-XLA-00138	c31	N70-37981	NASA-CASE-XLA-01446	c15	N71-21528
NASA-CASE-XLA-00141	c09	N70-33312	NASA-CASE-XLA-01486	c01	N71-23497
NASA-CASE-XLA-00142	c02	N70-33286	NASA-CASE-XLA-01494	c15	N71-24164
NASA-CASE-XLA-00147	c25	N70-34661	NASA-CASE-XLA-01530	c14	N71-23092
NASA-CASE-XLA-00149	c31	N70-37938	NASA-CASE-XLA-01551	c14	N71-22989
NASA-CASE-XLA-00154	c28	N70-33374	NASA-CASE-XLA-01552	c07	N71-11284
NASA-CASE-XLA-00158	c26	N70-36805	NASA-CASE-XLA-01583	c02	N70-36825
NASA-CASE-XLA-00165	c31	N70-33242	NASA-CASE-XLA-01584	c14	N71-23269
NASA-CASE-XLA-00166	c02	N70-34178	NASA-CASE-XLA-01731	c32	N71-21045
NASA-CASE-XLA-00183	c14	N70-40239	NASA-CASE-XLA-01745	c33	N71-28903
NASA-CASE-XLA-00188	c15	N71-22874	NASA-CASE-XLA-01781	c14	N69-39975
NASA-CASE-XLA-00189	c33	N70-36846	NASA-CASE-XLA-01782	c14	N71-26136
NASA-CASE-XLA-00195	c02	N70-38009	NASA-CASE-XLA-01787	c11	N71-16028
NASA-CASE-XLA-00203	c14	N70-34161	NASA-CASE-XLA-01791	c14	N71-22991
NASA-CASE-XLA-00204	c32	N70-36536	NASA-CASE-XLA-01794	c33	N71-21586
NASA-CASE-XLA-00210	c30	N70-40309	NASA-CASE-XLA-01804	c02	N70-34160
NASA-CASE-XLA-00221	c02	N70-33266	NASA-CASE-XLA-01807	c15	N71-10799
NASA-CASE-XLA-00229	c12	N70-33305	NASA-CASE-XLA-01808	c15	N71-20740
NASA-CASE-XLA-00230	c02	N70-33255	NASA-CASE-XLA-01832	c14	N71-21006
NASA-CASE-XLA-00241	c31	N70-37986	NASA-CASE-XLA-01907	c14	N71-23268
NASA-CASE-XLA-00256	c31	N71-15663	NASA-CASE-XLA-01926	c14	N71-15620
NASA-CASE-XLA-00258	c31	N70-38676	NASA-CASE-XLA-01952	c08	N71-12507
NASA-CASE-XLA-00281	c21	N70-36943	NASA-CASE-XLA-01967	c31	N70-42015
NASA-CASE-XLA-00284	c15	N71-16075	NASA-CASE-XLA-01987	c23	N71-23976
NASA-CASE-XLA-00302	c15	N71-16077	NASA-CASE-XLA-01989	c21	N70-34295
NASA-CASE-XLA-00304	c27	N70-34783	NASA-CASE-XLA-01995	c18	N71-23047
NASA-CASE-XLA-00326	c03	N70-34667	NASA-CASE-XLA-02050	c31	N71-22968
NASA-CASE-XLA-00327	c25	N71-29184	NASA-CASE-XLA-02057	c26	N70-40015
NASA-CASE-XLA-00330	c33	N70-34540			

NUMBER INDEX

NASA-CASE-XLA-02059	.....	c33 N71-24276	NASA-CASE-XLA-07732	.....	c08 N71-18751
NASA-CASE-XLA-02079	.....	c12 N71-16894	NASA-CASE-XLA-07788	.....	c09 N71-29139
NASA-CASE-XLA-02081	.....	c20 N71-16261	NASA-CASE-XLA-07813	.....	c14 N72-17328
NASA-CASE-XLA-02131	.....	c32 N70-42003	NASA-CASE-XLA-07828	.....	c08 N71-27057
NASA-CASE-XLA-02132	.....	c31 N71-10582	NASA-CASE-XLA-07829	.....	c15 N72-16329
NASA-CASE-XLA-02332	.....	c32 N71-17609	NASA-CASE-XLA-07911	.....	c15 N71-15571
NASA-CASE-XLA-02551	.....	c21 N71-21708	NASA-CASE-XLA-08254	.....	c14 N71-26161
NASA-CASE-XLA-02605	.....	c14 N71-10773	NASA-CASE-XLA-08491	.....	c05 N69-21380
NASA-CASE-XLA-02609	.....	c09 N72-25256	NASA-CASE-XLA-08493	.....	c10 N71-19421
NASA-CASE-XLA-02619	.....	c10 N71-26334	NASA-CASE-XLA-08507	.....	c09 N69-39984
NASA-CASE-XLA-02651	.....	c28 N70-41967	NASA-CASE-XLA-08530	.....	c32 N71-25360
NASA-CASE-XLA-02704	.....	c11 N69-21540	NASA-CASE-XLA-08645	.....	c15 N69-21465
NASA-CASE-XLA-02705	.....	c08 N71-15908	NASA-CASE-XLA-08646	.....	c14 N71-17586
NASA-CASE-XLA-02758	.....	c14 N71-18481	NASA-CASE-XLA-08799	.....	c10 N71-27272
NASA-CASE-XLA-02809	.....	c15 N71-22982	NASA-CASE-XLA-08801-1	.....	c02 N71-11043
NASA-CASE-XLA-02810	.....	c14 N71-25901	NASA-CASE-XLA-08802	.....	c06 N71-11238
NASA-CASE-XLA-02850	.....	c09 N71-20447	NASA-CASE-XLA-08911	.....	c15 N71-27214
NASA-CASE-XLA-02854	.....	c15 N69-27490	NASA-CASE-XLA-08913	.....	c14 N71-28933
NASA-CASE-XLA-02865	.....	c28 N71-15563	NASA-CASE-XLA-08916	.....	c15 N71-29018
NASA-CASE-XLA-02898	.....	c05 N71-20268	NASA-CASE-XLA-08966-1	.....	c17 N71-25903
NASA-CASE-XLA-03076	.....	c07 N71-11266	NASA-CASE-XLA-08967	.....	c02 N71-27088
NASA-CASE-XLA-03102	.....	c14 N71-21079	NASA-CASE-XLA-09122	.....	c15 N69-27505
NASA-CASE-XLA-03103	.....	c25 N71-21693	NASA-CASE-XLA-09346	.....	c15 N71-28740
NASA-CASE-XLA-03104	.....	c06 N71-11235	NASA-CASE-XLA-09371	.....	c10 N71-18724
NASA-CASE-XLA-03105	.....	c15 N69-27483	NASA-CASE-XLA-09480	.....	c11 N71-33612
NASA-CASE-XLA-03114	.....	c09 N71-22888	NASA-CASE-XLA-09843	.....	c15 N72-27485
NASA-CASE-XLA-03127	.....	c11 N71-10776	NASA-CASE-XLA-09881	.....	c31 N71-16085
NASA-CASE-XLA-03132	.....	c31 N71-22969	NASA-CASE-XLA-10322	.....	c15 N72-17452
NASA-CASE-XLA-03135	.....	c32 N71-16428	NASA-CASE-XLA-10402	.....	c14 N71-29041
NASA-CASE-XLA-03213	.....	c05 N71-11207	NASA-CASE-XLA-10450	.....	c28 N71-21493
NASA-CASE-XLA-03271	.....	c11 N69-24321	NASA-CASE-XLA-10470	.....	c15 N72-21489
NASA-CASE-XLA-03273	.....	c14 N71-18699	NASA-CASE-XLA-10772	.....	c07 N71-28980
NASA-CASE-XLA-03356	.....	c10 N71-23315	NASA-CASE-XLA-11028-1	.....	c18 N74-27035
NASA-CASE-XLA-03374	.....	c25 N71-15562	NASA-CASE-XLA-11154	.....	c07 N72-21117
NASA-CASE-XLA-03375	.....	c16 N71-24074	NASA-CASE-XLA-11189	.....	c10 N72-20222
NASA-CASE-XLA-03410	.....	c16 N71-25914			
NASA-CASE-XLA-03492	.....	c15 N71-22713	NASA-CASE-XLE-2529-3	.....	c09 N74-20859
NASA-CASE-XLA-03497	.....	c15 N71-23052	NASA-CASE-XLE-00005	.....	c28 N70-39899
NASA-CASE-XLA-03538	.....	c15 N71-24897	NASA-CASE-XLE-00010	.....	c15 N70-33382
NASA-CASE-XLA-03645	.....	c14 N71-20430	NASA-CASE-XLE-00011	.....	c14 N70-41946
NASA-CASE-XLA-03659	.....	c02 N71-11041	NASA-CASE-XLE-00020	.....	c15 N70-33226
NASA-CASE-XLA-03660	.....	c15 N71-21060	NASA-CASE-XLE-00023	.....	c15 N70-33330
NASA-CASE-XLA-03661	.....	c15 N71-33518	NASA-CASE-XLE-00027	.....	c33 N71-29152
NASA-CASE-XLA-03691	.....	c31 N71-15674	NASA-CASE-XLE-00035	.....	c33 N71-29151
NASA-CASE-XLA-03724	.....	c14 N69-27461	NASA-CASE-XLE-00037	.....	c28 N70-33372
NASA-CASE-XLA-03893	.....	c10 N71-27271	NASA-CASE-XLE-00046	.....	c15 N70-33311
NASA-CASE-XLA-04063	.....	c31 N71-33160	NASA-CASE-XLE-00057	.....	c28 N70-33871
NASA-CASE-XLA-04126	.....	c28 N71-26779	NASA-CASE-XLE-00078	.....	c28 N70-33284
NASA-CASE-XLA-04143	.....	c15 N71-17687	NASA-CASE-XLE-00085	.....	c28 N70-39895
NASA-CASE-XLA-04251	.....	c18 N71-26100	NASA-CASE-XLE-00092	.....	c15 N70-33264
NASA-CASE-XLA-04295	.....	c16 N71-24170	NASA-CASE-XLE-00101	.....	c15 N70-33376
NASA-CASE-XLA-04451	.....	c02 N71-12243	NASA-CASE-XLE-00103	.....	c28 N70-33241
NASA-CASE-XLA-04555-1	.....	c14 N71-25892	NASA-CASE-XLE-00106	.....	c15 N71-16076
NASA-CASE-XLA-04556	.....	c14 N69-27484	NASA-CASE-XLE-00111	.....	c28 N70-38199
NASA-CASE-XLA-04605	.....	c32 N71-16106	NASA-CASE-XLE-00143	.....	c14 N70-36618
NASA-CASE-XLA-04622	.....	c03 N70-41580	NASA-CASE-XLE-00144	.....	c28 N70-34860
NASA-CASE-XLA-04804	.....	c31 N71-23008	NASA-CASE-XLE-00145	.....	c28 N70-36806
NASA-CASE-XLA-04897	.....	c15 N72-22482	NASA-CASE-XLE-00150	.....	c28 N70-41818
NASA-CASE-XLA-04901	.....	c31 N71-24315	NASA-CASE-XLE-00151	.....	c17 N70-33283
NASA-CASE-XLA-04980	.....	c09 N69-27422	NASA-CASE-XLE-00155	.....	c28 N71-29154
NASA-CASE-XLA-04980-2	.....	c14 N72-28438	NASA-CASE-XLE-00164	.....	c15 N70-36411
NASA-CASE-XLA-05056	.....	c15 N72-11389	NASA-CASE-XLE-00168	.....	c11 N70-33278
NASA-CASE-XLA-05087	.....	c14 N73-30391	NASA-CASE-XLE-00170	.....	c15 N70-36412
NASA-CASE-XLA-05099	.....	c09 N73-13209	NASA-CASE-XLE-00177	.....	c28 N70-40367
NASA-CASE-XLA-05100	.....	c15 N71-17696	NASA-CASE-XLE-00207	.....	c28 N70-33375
NASA-CASE-XLA-05332	.....	c05 N71-11194	NASA-CASE-XLE-00208	.....	c28 N70-34294
NASA-CASE-XLA-05369	.....	c31 N71-15687	NASA-CASE-XLE-00209	.....	c22 N73-32528
NASA-CASE-XLA-05378	.....	c11 N71-21475	NASA-CASE-XLE-00212	.....	c03 N70-34134
NASA-CASE-XLA-05464	.....	c21 N71-14132	NASA-CASE-XLE-00222	.....	c02 N70-37939
NASA-CASE-XLA-05541	.....	c12 N71-26387	NASA-CASE-XLE-00228	.....	c17 N70-38490
NASA-CASE-XLA-05749	.....	c15 N71-19569	NASA-CASE-XLE-00231	.....	c17 N70-38198
NASA-CASE-XLA-05828	.....	c01 N71-13411	NASA-CASE-XLE-00243	.....	c14 N70-38602
NASA-CASE-XLA-05906	.....	c31 N71-16221	NASA-CASE-XLE-00252	.....	c11 N70-34844
NASA-CASE-XLA-05966	.....	c15 N72-12408	NASA-CASE-XLE-00266	.....	c14 N70-34156
NASA-CASE-XLA-06095	.....	c01 N69-39981	NASA-CASE-XLE-00267	.....	c28 N70-33356
NASA-CASE-XLA-06199	.....	c15 N71-24875	NASA-CASE-XLE-00283	.....	c17 N70-36616
NASA-CASE-XLA-06232	.....	c25 N71-20563	NASA-CASE-XLE-00288	.....	c15 N70-34247
NASA-CASE-XLA-06339	.....	c02 N71-13422	NASA-CASE-XLE-00298	.....	c22 N70-34501
NASA-CASE-XLA-06683	.....	c14 N72-28436	NASA-CASE-XLE-00301	.....	c14 N70-36808
NASA-CASE-XLA-06713	.....	c14 N71-28991	NASA-CASE-XLE-00303	.....	c15 N70-36535
NASA-CASE-XLA-06824-2	.....	c02 N71-11037	NASA-CASE-XLE-00321	.....	c22 N70-34572
NASA-CASE-XLA-06958	.....	c02 N71-11038	NASA-CASE-XLE-00323	.....	c28 N70-38505
NASA-CASE-XLA-07390	.....	c15 N71-18616	NASA-CASE-XLE-00335	.....	c14 N70-35368
NASA-CASE-XLA-07391	.....	c12 N71-17579	NASA-CASE-XLE-00342	.....	c28 N70-37980
NASA-CASE-XLA-07424	.....	c14 N71-18482	NASA-CASE-XLE-00345	.....	c15 N70-38020
NASA-CASE-XLA-07430	.....	c11 N72-22246	NASA-CASE-XLE-00353	.....	c18 N70-39897
NASA-CASE-XLA-07473	.....	c15 N71-24895	NASA-CASE-XLE-00376	.....	c28 N70-37245
NASA-CASE-XLA-07497	.....	c09 N71-12514	NASA-CASE-XLE-00387	.....	c33 N70-34812
NASA-CASE-XLA-07728	.....	c33 N71-22890	NASA-CASE-XLE-00388	.....	c28 N70-34788



NUMBER INDEX

NASA-CASE-XLE-00397	.....	c15	N70-36492	NASA-CASE-XLE-04250	.....	c09	N71-20446
NASA-CASE-XLE-00409	.....	c28	N71-15658	NASA-CASE-XLE-04501	.....	c09	N71-23190
NASA-CASE-XLE-00454	.....	c23	N71-17802	NASA-CASE-XLE-04503	.....	c14	N71-24864
NASA-CASE-XLE-00455	.....	c28	N70-38197	NASA-CASE-XLE-04526	.....	c03	N71-11052
NASA-CASE-XLE-00490	.....	c33	N70-34545	NASA-CASE-XLE-04535	.....	c03	N71-23354
NASA-CASE-XLE-00503	.....	c14	N70-34818	NASA-CASE-XLE-04599	.....	c22	N72-20597
NASA-CASE-XLE-00519	.....	c28	N70-41576	NASA-CASE-XLE-04603	.....	c33	N71-21507
NASA-CASE-XLE-00586	.....	c15	N71-15968	NASA-CASE-XLE-04677	.....	c15	N71-10577
NASA-CASE-XLE-00620	.....	c32	N70-41579	NASA-CASE-XLE-04787	.....	c03	N71-20492
NASA-CASE-XLE-00660	.....	c28	N70-39925	NASA-CASE-XLE-04788	.....	c09	N71-22987
NASA-CASE-XLE-00685	.....	c28	N70-41992	NASA-CASE-XLE-04791	.....	c14	N74-22096
NASA-CASE-XLE-00688	.....	c14	N70-41330	NASA-CASE-XLE-04857	.....	c28	N71-23968
NASA-CASE-XLE-00690	.....	c25	N69-39884	NASA-CASE-XLE-04946	.....	c17	N71-24911
NASA-CASE-XLE-00702	.....	c14	N70-40203	NASA-CASE-XLE-05033	.....	c15	N71-23810
NASA-CASE-XLE-00703	.....	c15	N71-15967	NASA-CASE-XLE-05079	.....	c15	N71-17652
NASA-CASE-XLE-00715	.....	c15	N70-34859	NASA-CASE-XLE-05130	.....	c15	N69-21362
NASA-CASE-XLE-00720	.....	c14	N70-40201	NASA-CASE-XLE-05130-2	.....	c15	N71-19570
NASA-CASE-XLE-00724	.....	c14	N70-34669	NASA-CASE-XLE-05230	.....	c14	N72-27410
NASA-CASE-XLE-00726	.....	c17	N71-15644	NASA-CASE-XLE-05230-2	.....	c14	N73-13417
NASA-CASE-XLE-00785	.....	c33	N71-16104	NASA-CASE-XLE-05260	.....	c14	N71-20429
NASA-CASE-XLE-00787	.....	c14	N71-21090	NASA-CASE-XLE-05641-1	.....	c15	N71-26346
NASA-CASE-XLE-00808	.....	c24	N71-10560	NASA-CASE-XLE-05689	.....	c28	N71-15659
NASA-CASE-XLE-00810	.....	c15	N70-34861	NASA-CASE-XLE-05799	.....	c22	N72-21644
NASA-CASE-XLE-00815	.....	c15	N70-35407	NASA-CASE-XLE-05913	.....	c22	N71-14032
NASA-CASE-XLE-00817	.....	c28	N70-33265	NASA-CASE-XLE-06461	.....	c17	N72-22530
NASA-CASE-XLE-00818	.....	c22	N70-34248	NASA-CASE-XLE-06461-2	.....	c17	N72-28535
NASA-CASE-XLE-00820	.....	c14	N71-16014	NASA-CASE-XLE-06773	.....	c15	N71-23817
NASA-CASE-XLE-00821	.....	c25	N71-15650	NASA-CASE-XLE-06774-2	.....	c06	N72-25150
NASA-CASE-XLE-00953	.....	c15	N71-15966	NASA-CASE-XLE-06969	.....	c17	N71-24142
NASA-CASE-XLE-01015	.....	c03	N69-39898	NASA-CASE-XLE-07087	.....	c06	N69-39889
NASA-CASE-XLE-01092	.....	c15	N71-22797	NASA-CASE-XLE-08511	.....	c18	N71-23710
NASA-CASE-XLE-01124	.....	c28	N71-14043	NASA-CASE-XLE-08511-2	.....	c18	N71-16105
NASA-CASE-XLE-01182	.....	c27	N71-15635	NASA-CASE-XLE-08569	.....	c03	N71-23449
NASA-CASE-XLE-01246	.....	c14	N71-10797	NASA-CASE-XLE-08569-2	.....	c03	N71-24681
NASA-CASE-XLE-01300	.....	c15	N70-41993	NASA-CASE-XLE-08917	.....	c15	N71-15597
NASA-CASE-XLE-01399	.....	c33	N71-15625	NASA-CASE-XLE-08917-2	.....	c15	N71-24836
NASA-CASE-XLE-01449	.....	c15	N70-41646	NASA-CASE-XLE-09341	.....	c12	N71-28741
NASA-CASE-XLE-01481	.....	c14	N71-10781	NASA-CASE-XLE-09475-1	.....	c33	N71-15568
NASA-CASE-XLE-01512	.....	c12	N70-40124	NASA-CASE-XLE-09527	.....	c15	N71-17688
NASA-CASE-XLE-01533	.....	c11	N71-10777	NASA-CASE-XLE-09527-2	.....	c15	N71-26189
NASA-CASE-XLE-01604-2	.....	c15	N71-15610	NASA-CASE-XLE-10326-2	.....	c15	N72-29488
NASA-CASE-XLE-01609	.....	c14	N71-10500	NASA-CASE-XLE-10326-4	.....	c15	N74-15125
NASA-CASE-XLE-01640	.....	c31	N71-15637	NASA-CASE-XLE-10337	.....	c15	N71-24046
NASA-CASE-XLE-01645	.....	c03	N71-20904	NASA-CASE-XLE-10453-2	.....	c28	N73-27699
NASA-CASE-XLE-01716	.....	c09	N70-40234	NASA-CASE-XLE-10466	.....	c17	N69-25147
NASA-CASE-XLE-01765	.....	c18	N71-10772	NASA-CASE-XLE-10529	.....	c14	N69-23191
NASA-CASE-XLE-01783	.....	c28	N70-34175	NASA-CASE-XLE-10715	.....	c26	N71-23292
NASA-CASE-XLE-01902	.....	c28	N71-10574	NASA-CASE-XLE-10910	.....	c18	N71-29040
NASA-CASE-XLE-01903	.....	c22	N71-23599	NASA-CASE-XLE-163477-1	.....	c28	N71-20330
NASA-CASE-XLE-01988	.....	c27	N71-15634				
NASA-CASE-XLE-01997	.....	c06	N71-23527	NASA-CASE-XMF-00146	.....	c28	N70-38710
NASA-CASE-XLE-02008	.....	c09	N71-21583	NASA-CASE-XMF-00185	.....	c21	N70-34539
NASA-CASE-XLE-02024	.....	c14	N71-22964	NASA-CASE-XMF-00324	.....	c09	N70-34596
NASA-CASE-XLE-02038	.....	c09	N71-16086	NASA-CASE-XMF-00339	.....	c15	N70-39896
NASA-CASE-XLE-02066	.....	c28	N71-15661	NASA-CASE-XMF-00341	.....	c15	N70-33323
NASA-CASE-XLE-02082	.....	c17	N71-16026	NASA-CASE-XMF-00369	.....	c09	N70-36494
NASA-CASE-XLE-02083	.....	c03	N69-39983	NASA-CASE-XMF-00375	.....	c15	N70-34249
NASA-CASE-XLE-02428	.....	c17	N70-33288	NASA-CASE-XMF-00389	.....	c31	N70-34176
NASA-CASE-XLE-02531	.....	c05	N71-23080	NASA-CASE-XMF-00392	.....	c15	N70-34814
NASA-CASE-XLE-02578	.....	c25	N71-20747	NASA-CASE-XMF-00411	.....	c11	N70-36913
NASA-CASE-XLE-02624	.....	c12	N69-39988	NASA-CASE-XMF-00421	.....	c09	N70-34502
NASA-CASE-XLE-02647	.....	c18	N71-23658	NASA-CASE-XMF-00424	.....	c11	N70-38196
NASA-CASE-XLE-02792	.....	c26	N71-10607	NASA-CASE-XMF-00437	.....	c07	N70-40202
NASA-CASE-XLE-02796	.....	c26	N71-23654	NASA-CASE-XMF-00442	.....	c31	N71-10747
NASA-CASE-XLE-02823	.....	c09	N71-23443	NASA-CASE-XMF-00447	.....	c14	N70-33179
NASA-CASE-XLE-02824	.....	c03	N69-39890	NASA-CASE-XMF-00456	.....	c14	N70-34705
NASA-CASE-XLE-02902	.....	c25	N71-21694	NASA-CASE-XMF-00462	.....	c14	N70-34298
NASA-CASE-XLE-02991	.....	c17	N71-16025	NASA-CASE-XMF-00479	.....	c14	N70-34794
NASA-CASE-XLE-02998	.....	c14	N70-42074	NASA-CASE-XMF-00480	.....	c14	N70-39898
NASA-CASE-XLE-02999	.....	c15	N71-16052	NASA-CASE-XMF-00515	.....	c15	N70-34664
NASA-CASE-XLE-03061-1	.....	c10	N71-24798	NASA-CASE-XMF-00517	.....	c03	N70-34157
NASA-CASE-XLE-03155-2	.....	c09	N72-20205	NASA-CASE-XMF-00580	.....	c11	N70-35383
NASA-CASE-XLE-03157	.....	c28	N71-24736	NASA-CASE-XMF-00640	.....	c15	N70-39924
NASA-CASE-XLE-03280	.....	c14	N71-23093	NASA-CASE-XMF-00641	.....	c31	N70-36410
NASA-CASE-XLE-03307	.....	c33	N71-14035	NASA-CASE-XMF-00658	.....	c12	N70-36997
NASA-CASE-XLE-03432	.....	c33	N71-24145	NASA-CASE-XMF-00663	.....	c08	N71-18752
NASA-CASE-XLE-03494	.....	c27	N71-21819	NASA-CASE-XMF-00684	.....	c21	N71-21688
NASA-CASE-XLE-03512	.....	c12	N69-21466	NASA-CASE-XMF-00701	.....	c09	N70-40272
NASA-CASE-XLE-03583	.....	c31	N71-17629	NASA-CASE-XMF-00722	.....	c15	N70-40204
NASA-CASE-XLE-03629	.....	c17	N71-23248	NASA-CASE-XMF-00906	.....	c09	N70-41655
NASA-CASE-XLE-03778	.....	c09	N69-21542	NASA-CASE-XMF-00908	.....	c14	N70-40238
NASA-CASE-XLE-03803	.....	c15	N71-23816	NASA-CASE-XMF-00923	.....	c28	N70-36802
NASA-CASE-XLE-03803-2	.....	c15	N71-17651	NASA-CASE-XMF-00968	.....	c28	N71-15660
NASA-CASE-XLE-03804	.....	c10	N71-19471	NASA-CASE-XMF-01016	.....	c26	N71-17818
NASA-CASE-XLE-03925	.....	c18	N71-22894	NASA-CASE-XMF-01030	.....	c18	N70-41583
NASA-CASE-XLE-03940	.....	c18	N71-26153	NASA-CASE-XMF-01045	.....	c15	N70-40354
NASA-CASE-XLE-03940-2	.....	c17	N72-28536	NASA-CASE-XMF-01049	.....	c15	N71-23049
NASA-CASE-XLE-04026	.....	c14	N71-23267	NASA-CASE-XMF-01083	.....	c15	N71-22723
NASA-CASE-XLE-04222	.....	c23	N71-22881	NASA-CASE-XMF-01096	.....	c10	N71-16030



NUMBER INDEX

NASA-CASE-XMF-01097	c10	W71-16058	NASA-CASE-XMF-06589	c05	W71-23159
NASA-CASE-XMF-01099	c14	W71-15969	NASA-CASE-XMF-06617	c09	W71-24843
NASA-CASE-XMF-01129	c09	W70-38712	NASA-CASE-XMF-06888	c15	W71-24044
NASA-CASE-XMF-01160	c07	W71-11298	NASA-CASE-XMF-06892	c09	W71-24805
NASA-CASE-XMF-01174	c02	W70-41589	NASA-CASE-XMF-06926	c28	W71-22983
NASA-CASE-XMF-01371	c15	W70-41829	NASA-CASE-XMF-07069	c18	W71-23815
NASA-CASE-XMF-01402	c18	W71-21651	NASA-CASE-XMF-07488	c11	W71-18773
NASA-CASE-XMF-01452	c15	W70-41371	NASA-CASE-XMF-07587	c15	W71-18701
NASA-CASE-XMF-01483	c14	W69-27431	NASA-CASE-XMF-07770-2	c18	W71-26772
NASA-CASE-XMF-01543	c31	W71-17730	NASA-CASE-XMF-07808	c15	W71-23812
NASA-CASE-XMF-01544	c28	W70-34162	NASA-CASE-XMF-08217	c03	W71-23239
NASA-CASE-XMF-01598	c21	W71-15583	NASA-CASE-XMF-08522	c15	W71-19486
NASA-CASE-XMF-01599	c09	W71-20705	NASA-CASE-XMF-08523	c31	W71-20396
NASA-CASE-XMF-01667	c15	W71-17647	NASA-CASE-XMF-08651	c06	W71-11236
NASA-CASE-XMF-01669	c21	W71-23289	NASA-CASE-XMF-08652	c06	W71-11243
NASA-CASE-XMF-01730	c15	W71-23050	NASA-CASE-XMF-08655	c06	W71-11239
NASA-CASE-XMF-01772	c11	W70-41677	NASA-CASE-XMF-08656	c06	W71-11242
NASA-CASE-XMF-01779	c12	W71-20815	NASA-CASE-XMF-08665	c10	W71-19467
NASA-CASE-XMF-01813	c28	W70-41582	NASA-CASE-XMF-08674	c06	W71-28807
NASA-CASE-XMF-01887	c15	W71-10617	NASA-CASE-XMF-08804	c09	W71-24717
NASA-CASE-XMF-01892	c10	W71-22986	NASA-CASE-XMF-09422	c07	W71-19436
NASA-CASE-XMF-01899	c31	W70-41948	NASA-CASE-XMF-09902	c15	W72-11387
NASA-CASE-XMF-01973	c31	W70-41588	NASA-CASE-XMF-10040	c15	W71-22877
NASA-CASE-XMF-01974	c18	W71-22752	NASA-CASE-XMF-10289	c14	W71-23699
NASA-CASE-XMF-02039	c15	W71-15871	NASA-CASE-XMF-10753	c06	W71-11237
NASA-CASE-XMF-02107	c15	W71-10809	NASA-CASE-XMF-10968	c14	W71-24234
NASA-CASE-XMF-02108	c31	W70-36845	NASA-CASE-XMF-14032	c20	W71-16340
NASA-CASE-XMF-02221	c18	W71-27170	NASA-CASE-XMF-14301	c09	W71-23188
NASA-CASE-XMF-02263	c02	W74-10907			
NASA-CASE-XMF-02303	c17	W71-23828	NASA-CASE-XMS-00259	c18	W70-36400
NASA-CASE-XMF-02307	c14	W71-10779	NASA-CASE-XMS-00370	c17	W71-20941
NASA-CASE-XMF-02330	c15	W71-23798	NASA-CASE-XMS-00486	c33	W70-33344
NASA-CASE-XMF-02392	c32	W71-24285	NASA-CASE-XMS-00583	c28	W70-38504
NASA-CASE-XMF-02433	c14	W71-10616	NASA-CASE-XMS-00784	c05	W71-12335
NASA-CASE-XMF-02584	c06	W71-20905	NASA-CASE-XMS-00863	c05	W70-34857
NASA-CASE-XMF-02786	c17	W71-20743	NASA-CASE-XMS-00864	c05	W70-36493
NASA-CASE-XMF-02822	c14	W70-41994	NASA-CASE-XMS-00893	c07	W70-40063
NASA-CASE-XMF-02853	c31	W70-36654	NASA-CASE-XMS-00907	c02	W70-41630
NASA-CASE-XMF-02964	c14	W71-17659	NASA-CASE-XMS-00913	c10	W71-23543
NASA-CASE-XMF-02966	c10	W71-24863	NASA-CASE-XMS-00945	c09	W71-10798
NASA-CASE-XMF-03074	c06	W71-24740	NASA-CASE-XMS-01108	c15	W69-24322
NASA-CASE-XMF-03169	c31	W71-15675	NASA-CASE-XMS-01115	c05	W70-39922
NASA-CASE-XMF-03198	c30	W70-40353	NASA-CASE-XMS-01177	c05	W71-19440
NASA-CASE-XMF-03212	c15	W71-22721	NASA-CASE-XMS-01240	c05	W70-35152
NASA-CASE-XMF-03248	c11	W71-10604	NASA-CASE-XMS-01315	c09	W70-41675
NASA-CASE-XMF-03287	c15	W71-15607	NASA-CASE-XMS-01445	c12	W71-16031
NASA-CASE-XMF-03290	c15	W71-23256	NASA-CASE-XMS-01492	c05	W70-41297
NASA-CASE-XMF-03498	c15	W71-15986	NASA-CASE-XMS-01546	c14	W70-40233
NASA-CASE-XMF-03511	c15	W71-22799	NASA-CASE-XMS-01554	c10	W71-10578
NASA-CASE-XMF-03793	c15	W71-24833	NASA-CASE-XMS-01615	c05	W70-41329
NASA-CASE-XMF-03844-1	c14	W71-26474	NASA-CASE-XMS-01618	c14	W71-20741
NASA-CASE-XMF-03856	c31	W70-34159	NASA-CASE-XMS-01620	c23	W71-15673
NASA-CASE-XMF-03873	c06	W69-39733	NASA-CASE-XMS-01624	c15	W70-40062
NASA-CASE-XMF-03934	c09	W71-22985	NASA-CASE-XMS-01625	c15	W71-23022
NASA-CASE-XMF-03968	c14	W71-27186	NASA-CASE-XMS-01816	c33	W71-15623
NASA-CASE-XMF-03988	c15	W71-21403	NASA-CASE-XMS-01905	c12	W71-21089
NASA-CASE-XMF-04042	c15	W71-23023	NASA-CASE-XMS-01906	c31	W70-41373
NASA-CASE-XMF-04132	c15	W69-27502	NASA-CASE-XMS-01991	c09	W71-21449
NASA-CASE-XMF-04133	c06	W71-20717	NASA-CASE-XMS-01994-1	c14	W72-17326
NASA-CASE-XMF-04134	c14	W71-23755	NASA-CASE-XMS-02009	c33	W71-20834
NASA-CASE-XMF-04163	c02	W71-23007	NASA-CASE-XMS-02063	c03	W71-29044
NASA-CASE-XMF-04208	c33	W71-29051	NASA-CASE-XMS-02087	c09	W71-41717
NASA-CASE-XMF-04237	c33	W71-16278	NASA-CASE-XMS-02159	c10	W71-22961
NASA-CASE-XMF-04238	c09	W69-39734	NASA-CASE-XMS-02182	c10	W71-28783
NASA-CASE-XMF-04367	c09	W71-23545	NASA-CASE-XMS-02184	c15	W71-20813
NASA-CASE-XMF-04415	c14	W71-24693	NASA-CASE-XMS-02383	c15	W71-15918
NASA-CASE-XMF-04460	c15	W71-19489	NASA-CASE-XMS-02399	c05	W71-22896
NASA-CASE-XMF-04709	c15	W71-15609	NASA-CASE-XMS-02532	c15	W70-41808
NASA-CASE-XMF-04958-1	c10	W71-26414	NASA-CASE-XMS-02677	c31	W70-42075
NASA-CASE-XMF-04966	c14	W71-17658	NASA-CASE-XMS-02872	c05	W69-21925
NASA-CASE-XMF-05046	c33	W71-28892	NASA-CASE-XMS-02930	c11	W71-23042
NASA-CASE-XMF-05114	c15	W71-17650	NASA-CASE-XMS-02952	c18	W71-20742
NASA-CASE-XMF-05114-2	c15	W71-26148	NASA-CASE-XMS-02977	c11	W71-10746
NASA-CASE-XMF-05114-3	c15	W71-24865	NASA-CASE-XMS-03252	c15	W71-10658
NASA-CASE-XMF-05195	c10	W71-24861	NASA-CASE-XMS-03371	c05	W70-42000
NASA-CASE-XMF-05224	c14	W71-23726	NASA-CASE-XMS-03454	c09	W71-20658
NASA-CASE-XMF-05279	c18	W71-16124	NASA-CASE-XMS-03478	c14	W71-21040
NASA-CASE-XMF-05344	c31	W71-16345	NASA-CASE-XMS-03537	c15	W69-21471
NASA-CASE-XMF-05835	c08	W71-12504	NASA-CASE-XMS-03542	c09	W71-28926
NASA-CASE-XMF-05843	c03	W71-11055	NASA-CASE-XMS-03613	c31	W71-16346
NASA-CASE-XMF-05844	c14	W71-17587	NASA-CASE-XMS-03700	c15	W69-24266
NASA-CASE-XMF-05941	c31	W71-23912	NASA-CASE-XMS-03722	c15	W71-21530
NASA-CASE-XMF-05999	c15	W71-29032	NASA-CASE-XMS-03745	c15	W71-21076
NASA-CASE-XMF-06065	c15	W71-20395	NASA-CASE-XMS-03792	c14	W70-41812
NASA-CASE-XMF-06092	c07	W71-24612	NASA-CASE-XMS-04061-1	c09	W69-39885
NASA-CASE-XMF-06409	c06	W71-23230	NASA-CASE-XMS-04072	c15	W70-42017
NASA-CASE-XMF-06515	c14	W71-23227	NASA-CASE-XMS-04142	c31	W70-41631
NASA-CASE-XMF-06519	c09	W71-12519	NASA-CASE-XMS-04170	c05	W71-22748
NASA-CASE-XMF-06531	c14	W71-17575	NASA-CASE-XMS-04178	c15	W71-22798

NUMBER INDEX

NASA-CASE-XMS-04201	c14	N71-22990	NASA-CASE-XNP-00597	c18	N71-23088
NASA-CASE-XMS-04212-1	c05	N71-12346	NASA-CASE-XNP-00610	c28	N70-36910
NASA-CASE-XMS-04213-1	c09	N71-26002	NASA-CASE-XNP-00611	c09	N70-35219
NASA-CASE-XMS-04215-1	c09	N69-39987	NASA-CASE-XNP-00612	c11	N70-38182
NASA-CASE-XMS-04268	c33	N71-16277	NASA-CASE-XNP-00614	c14	N70-36907
NASA-CASE-XMS-04269	c16	N71-22895	NASA-CASE-XNP-00637	c14	N70-40273
NASA-CASE-XMS-04292	c15	N71-22722	NASA-CASE-XNP-00644	c03	N70-36803
NASA-CASE-XMS-04300	c09	N71-19479	NASA-CASE-XNP-00646	c14	N70-35666
NASA-CASE-XMS-04312	c07	N71-22984	NASA-CASE-XNP-00650	c27	N71-28929
NASA-CASE-XMS-04318	c15	N69-27871	NASA-CASE-XNP-00676	c15	N70-38996
NASA-CASE-XMS-04390	c31	N70-41871	NASA-CASE-XNP-00683	c09	N70-35425
NASA-CASE-XMS-04533	c15	N71-23086	NASA-CASE-XNP-00708	c14	N70-35394
NASA-CASE-XMS-04545	c15	N71-22878	NASA-CASE-XNP-00710	c15	N71-10778
NASA-CASE-XMS-04625	c05	N71-20718	NASA-CASE-XNP-00732	c28	N70-41447
NASA-CASE-XMS-04798	c11	N71-21474	NASA-CASE-XNP-00733	c06	N70-34946
NASA-CASE-XMS-04826	c28	N71-28849	NASA-CASE-XNP-00738	c09	N70-38201
NASA-CASE-XMS-04843	c03	N69-21869	NASA-CASE-XNP-00745	c10	N71-28960
NASA-CASE-XMS-04890-1	c15	N70-22192	NASA-CASE-XNP-00746	c07	N71-21476
NASA-CASE-XMS-04917	c14	N69-24257	NASA-CASE-XNP-00748	c07	N70-36911
NASA-CASE-XMS-04919	c09	N71-23270	NASA-CASE-XNP-00777	c10	N71-19469
NASA-CASE-XMS-04935	c05	N71-11190	NASA-CASE-XNP-00816	c28	N71-28928
NASA-CASE-XMS-05303	c07	N69-27462	NASA-CASE-XNP-00826	c03	N71-20895
NASA-CASE-XMS-05304	c05	N71-12336	NASA-CASE-XNP-00840	c15	N70-38225
NASA-CASE-XMS-05307	c09	N69-24330	NASA-CASE-XNP-00876	c28	N70-41311
NASA-CASE-XMS-05365	c14	N71-22993	NASA-CASE-XNP-00911	c08	N70-41961
NASA-CASE-XMS-05454-1	c07	N71-12391	NASA-CASE-XNP-00920	c15	N71-15906
NASA-CASE-XMS-05516	c15	N71-17803	NASA-CASE-XNP-00952	c10	N71-23271
NASA-CASE-XMS-05562-1	c09	N69-39986	NASA-CASE-XNP-01012	c08	N71-28925
NASA-CASE-XMS-05605-1	c10	N71-19468	NASA-CASE-XNP-01020	c03	N71-12260
NASA-CASE-XMS-05890	c09	N71-23191	NASA-CASE-XNP-01056	c14	N71-23041
NASA-CASE-XMS-05894-1	c15	N69-21924	NASA-CASE-XNP-01057	c07	N71-15907
NASA-CASE-XMS-05909-1	c14	N69-27459	NASA-CASE-XNP-01058	c09	N71-12540
NASA-CASE-XMS-05936	c14	N70-41682	NASA-CASE-XNP-01059	c23	N71-21821
NASA-CASE-XMS-06056-1	c23	N71-24857	NASA-CASE-XNP-01068	c10	N71-28739
NASA-CASE-XMS-06061	c05	N71-23317	NASA-CASE-XNP-01104	c28	N70-39931
NASA-CASE-XMS-06064	c05	N71-23096	NASA-CASE-XNP-01107	c10	N71-28859
NASA-CASE-XMS-06162	c31	N71-28851	NASA-CASE-XNP-01152	c15	N70-41811
NASA-CASE-XMS-06236	c14	N71-21007	NASA-CASE-XNP-01153	c32	N71-17645
NASA-CASE-XMS-06329-1	c15	N71-20441	NASA-CASE-XNP-01185	c26	N73-28710
NASA-CASE-XMS-06497	c14	N71-26244	NASA-CASE-XNP-01187	c15	N73-28516
NASA-CASE-XMS-06740-1	c07	N71-26579	NASA-CASE-XNP-01188	c15	N73-32361
NASA-CASE-XMS-06761	c05	N69-23192	NASA-CASE-XNP-01193	c10	N71-16057
NASA-CASE-XMS-06767-1	c14	N71-20435	NASA-CASE-XNP-01263-2	c15	N71-26312
NASA-CASE-XMS-06782	c32	N71-15974	NASA-CASE-XNP-01306	c07	N71-20814
NASA-CASE-XMS-06876	c15	N71-21536	NASA-CASE-XNP-01306-2	c09	N71-24596
NASA-CASE-XMS-06949	c09	N69-21467	NASA-CASE-XNP-01307	c21	N70-41856
NASA-CASE-XMS-07168	c07	N71-11300	NASA-CASE-XNP-01310	c33	N71-28852
NASA-CASE-XMS-07487	c15	N71-23255	NASA-CASE-XNP-01318	c10	N71-23033
NASA-CASE-XMS-07846-1	c09	N69-21927	NASA-CASE-XNP-01328	c26	N71-18064
NASA-CASE-XMS-08589-1	c09	N71-20569	NASA-CASE-XNP-01383	c09	N71-10659
NASA-CASE-XMS-09310	c15	N71-22706	NASA-CASE-XNP-01390	c28	N70-41275
NASA-CASE-XMS-09352	c09	N71-23316	NASA-CASE-XNP-01412	c15	N70-42034
NASA-CASE-XMS-09571	c05	N71-19439	NASA-CASE-XNP-01464	c03	N71-10728
NASA-CASE-XMS-09610	c07	N71-24625	NASA-CASE-XNP-01466	c10	N71-26494
NASA-CASE-XMS-09632-1	c05	N71-11203	NASA-CASE-XNP-01472	c14	N70-41807
NASA-CASE-XMS-09635	c05	N71-24623	NASA-CASE-XNP-01501	c21	N70-41930
NASA-CASE-XMS-09636	c05	N71-12344	NASA-CASE-XNP-01567	c15	N70-41310
NASA-CASE-XMS-09637-1	c05	N71-24730	NASA-CASE-XNP-01641	c15	N71-22997
NASA-CASE-XMS-09652-1	c05	N71-26333	NASA-CASE-XNP-01659	c14	N71-23039
NASA-CASE-XMS-09690	c33	N72-25913	NASA-CASE-XNP-01660	c14	N71-23036
NASA-CASE-XMS-09691-1	c18	N71-15545	NASA-CASE-XNP-01735	c07	N71-22750
NASA-CASE-XMS-10269	c05	N71-24147	NASA-CASE-XNP-01747	c15	N71-23024
NASA-CASE-XMS-10660-1	c15	N71-25975	NASA-CASE-XNP-01749	c27	N70-41897
NASA-CASE-XMS-10984-1	c10	N71-19417	NASA-CASE-XNP-01753	c08	N71-22897
NASA-CASE-XMS-10993	c15	N71-28936	NASA-CASE-XNP-01848	c15	N71-28959
NASA-CASE-XMS-12158-1	c31	N69-27499	NASA-CASE-XNP-01855	c15	N71-28937
NASA-CASE-XMS-13052	c14	N71-20427	NASA-CASE-XNP-01951	c09	N70-41929
			NASA-CASE-XNP-01954	c28	N71-28850
NASA-CASE-XNP-00214	c15	N70-36908	NASA-CASE-XNP-01959	c26	N71-23043
NASA-CASE-XNP-00217	c28	N70-38181	NASA-CASE-XNP-01960	c09	N71-23027
NASA-CASE-XNP-00234	c28	N70-38645	NASA-CASE-XNP-01961	c26	N71-29156
NASA-CASE-XNP-00249	c28	N70-38249	NASA-CASE-XNP-01962	c32	N70-41370
NASA-CASE-XNP-00250	c11	N71-28779	NASA-CASE-XNP-02029	c14	N70-41955
NASA-CASE-XNP-00294	c21	N70-36938	NASA-CASE-XNP-02092	c15	N70-42033
NASA-CASE-XNP-00384	c09	N71-13530	NASA-CASE-XNP-02139	c18	N71-24184
NASA-CASE-XNP-00416	c15	N70-36947	NASA-CASE-XNP-02140	c09	N71-23097
NASA-CASE-XNP-00425	c11	N70-38202	NASA-CASE-XNP-02251	c12	N71-20896
NASA-CASE-XNP-00431	c09	N70-38998	NASA-CASE-XNP-02278	c15	N71-28951
NASA-CASE-XNP-00432	c08	N70-35423	NASA-CASE-XNP-02340	c23	N69-24332
NASA-CASE-XNP-00438	c21	N70-35089	NASA-CASE-XNP-02341	c15	N71-21531
NASA-CASE-XNP-00449	c14	N70-35220	NASA-CASE-XNP-02389	c07	N71-28900
NASA-CASE-XNP-00450	c15	N70-38603	NASA-CASE-XNP-02500	c18	N71-27397
NASA-CASE-XNP-00459	c11	N70-38675	NASA-CASE-XNP-02507	c31	N71-17679
NASA-CASE-XNP-00463	c33	N70-36847	NASA-CASE-XNP-02588	c15	N71-18613
NASA-CASE-XNP-00465	c21	N70-35395	NASA-CASE-XNP-02592	c24	N71-20518
NASA-CASE-XNP-00476	c15	N70-38620	NASA-CASE-XNP-02595	c31	N71-21881
NASA-CASE-XNP-00477	c08	N73-28045	NASA-CASE-XNP-02654	c10	N70-42032
NASA-CASE-XNP-00540	c09	N70-35382	NASA-CASE-XNP-02713	c10	N69-39888
NASA-CASE-XNP-00595	c15	N70-34967	NASA-CASE-XNP-02723	c07	N70-41680

NUMBER INDEX

NASA-CASE-XNP-02748	c08 N71-22749	NASA-CASE-XNP-06914	c15 N71-21489
NASA-CASE-XNP-02778	c08 N71-22710	NASA-CASE-XNP-06933	c14 N73-32321
NASA-CASE-XNP-02791	c07 N71-23026	NASA-CASE-XNP-06936	c15 N71-24695
NASA-CASE-XNP-02792	c14 N71-28958	NASA-CASE-XNP-06937	c09 N71-19516
NASA-CASE-XNP-02839	c28 N70-41922	NASA-CASE-XNP-06942	c28 N71-23293
NASA-CASE-XNP-02862-1	c15 N71-26294	NASA-CASE-XNP-06957	c14 N71-21088
NASA-CASE-XNP-02888	c18 N71-21068	NASA-CASE-XNP-07040	c08 N71-12500
NASA-CASE-XNP-02923	c28 N71-23081	NASA-CASE-XNP-07169	c15 N73-32362
NASA-CASE-XNP-02982	c31 N70-41855	NASA-CASE-XNP-07477	c09 N71-26092
NASA-CASE-XNP-02983	c14 N71-21091	NASA-CASE-XNP-07478	c14 N69-21923
NASA-CASE-XNP-03063	c17 N71-23365	NASA-CASE-XNP-07481	c25 N69-21929
NASA-CASE-XNP-03128	c10 N70-41991	NASA-CASE-XNP-07659	c06 N71-22975
NASA-CASE-XNP-03134	c07 N71-10676	NASA-CASE-XNP-08124	c15 N71-27184
NASA-CASE-XNP-03250	c06 N71-23500	NASA-CASE-XNP-08124-2	c06 N73-13129
NASA-CASE-XNP-03263	c09 N71-18843	NASA-CASE-XNP-08274	c10 N71-13537
NASA-CASE-XNP-03282	c28 N72-20758	NASA-CASE-XNP-08567	c09 N71-26000
NASA-CASE-XNP-03332	c09 N71-10618	NASA-CASE-XNP-08680	c14 N71-22995
NASA-CASE-XNP-03378	c03 N71-11051	NASA-CASE-XNP-08832	c08 N71-12506
NASA-CASE-XNP-03413	c03 N71-26726	NASA-CASE-XNP-08836	c09 N71-12515
NASA-CASE-XNP-03459	c15 N71-21078	NASA-CASE-XNP-08837	c18 N71-16210
NASA-CASE-XNP-03459-2	c18 N71-15688	NASA-CASE-XNP-08840	c23 N71-16365
NASA-CASE-XNP-03578	c11 N71-23030	NASA-CASE-XNP-08875	c10 N71-23099
NASA-CASE-XNP-03623	c09 N73-28084	NASA-CASE-XNP-08876	c17 N73-28573
NASA-CASE-XNP-03637	c15 N71-21311	NASA-CASE-XNP-08877	c15 N71-23025
NASA-CASE-XNP-03692	c28 N71-24321	NASA-CASE-XNP-08880	c09 N71-24808
NASA-CASE-XNP-03704	c15 N71-17695	NASA-CASE-XNP-08881	c17 N71-28747
NASA-CASE-XNP-03744	c10 N71-20448	NASA-CASE-XNP-08882	c15 N69-39935
NASA-CASE-XNP-03796	c23 N71-15467	NASA-CASE-XNP-08883	c23 N71-16101
NASA-CASE-XNP-03835	c06 N71-23499	NASA-CASE-XNP-08897	c15 N71-17694
NASA-CASE-XNP-03853	c23 N71-21882	NASA-CASE-XNP-08907	c23 N71-29123
NASA-CASE-XNP-03914	c21 N71-10771	NASA-CASE-XNP-08961	c14 N71-24809
NASA-CASE-XNP-03916	c09 N71-28810	NASA-CASE-XNP-09205	c14 N71-17657
NASA-CASE-XNP-03918	c14 N71-23087	NASA-CASE-XNP-09225	c09 N69-24333
NASA-CASE-XNP-03930	c14 N69-24331	NASA-CASE-XNP-09227	c15 N69-24319
NASA-CASE-XNP-03972	c15 N71-23048	NASA-CASE-XNP-09228	c09 N69-27500
NASA-CASE-XNP-04023	c06 N71-28808	NASA-CASE-XNP-09450	c10 N71-18723
NASA-CASE-XNP-04067	c08 N71-22707	NASA-CASE-XNP-09451	c06 N71-26754
NASA-CASE-XNP-04111	c14 N71-15622	NASA-CASE-XNP-09452	c15 N69-27504
NASA-CASE-XNP-04124	c28 N71-21822	NASA-CASE-XNP-09453	c08 N71-19420
NASA-CASE-XNP-04148	c17 N71-24830	NASA-CASE-XNP-09461	c28 N72-23809
NASA-CASE-XNP-04161	c14 N71-15599	NASA-CASE-XNP-09462	c14 N71-17584
NASA-CASE-XNP-04162-1	c08 N70-34675	NASA-CASE-XNP-09469	c24 N71-25555
NASA-CASE-XNP-04167-2	c25 N72-24753	NASA-CASE-XNP-09572	c14 N71-15621
NASA-CASE-XNP-04167-3	c25 N72-21693	NASA-CASE-XNP-09698	c15 N71-18580
NASA-CASE-XNP-04180	c07 N69-39736	NASA-CASE-XNP-09699	c06 N71-24607
NASA-CASE-XNP-04183	c09 N69-24329	NASA-CASE-XNP-09701	c14 N71-26475
NASA-CASE-XNP-04231	c14 N73-32325	NASA-CASE-XNP-09702	c15 N71-17654
NASA-CASE-XNP-04262-2	c17 N71-26773	NASA-CASE-XNP-09704	c12 N71-18615
NASA-CASE-XNP-04264	c03 N69-21337	NASA-CASE-XNP-09744	c27 N71-16392
NASA-CASE-XNP-04338	c17 N71-23046	NASA-CASE-XNP-09750	c14 N69-39937
NASA-CASE-XNP-04339	c17 N71-29137	NASA-CASE-XNP-09752	c14 N69-21541
NASA-CASE-XNP-04389	c28 N71-20942	NASA-CASE-XNP-09755	c15 N74-23069
NASA-CASE-XNP-04623	c10 N71-26103	NASA-CASE-XNP-09759	c08 N71-24891
NASA-CASE-XNP-04731	c15 N71-24042	NASA-CASE-XNP-09763	c14 N71-20461
NASA-CASE-XNP-04732	c09 N71-20851	NASA-CASE-XNP-09768	c09 N71-12516
NASA-CASE-XNP-04758	c03 N71-24605	NASA-CASE-XNP-09770	c15 N71-20440
NASA-CASE-XNP-04780	c08 N71-19687	NASA-CASE-XNP-09770-2	c15 N72-22483
NASA-CASE-XNP-04816	c06 N69-39936	NASA-CASE-XNP-09770-3	c11 N71-27036
NASA-CASE-XNP-04817	c14 N71-23225	NASA-CASE-XNP-09771	c09 N71-24841
NASA-CASE-XNP-04819	c08 N71-23295	NASA-CASE-XNP-09775	c09 N71-20445
NASA-CASE-XNP-04969	c11 N69-27466	NASA-CASE-XNP-09776	c09 N69-39929
NASA-CASE-XNP-05082	c15 N70-41960	NASA-CASE-XNP-09785	c08 N69-21928
NASA-CASE-XNP-05219	c16 N71-15550	NASA-CASE-XNP-09802	c33 N71-15641
NASA-CASE-XNP-05231	c14 N73-28491	NASA-CASE-XNP-09808	c09 N71-12518
NASA-CASE-XNP-05254	c07 N71-20791	NASA-CASE-XNP-09830	c07 N71-26102
NASA-CASE-XNP-05297	c15 N71-23811	NASA-CASE-XNP-09830	c14 N71-26266
NASA-CASE-XNP-05381	c09 N71-20842	NASA-CASE-XNP-09832	c30 N71-23723
NASA-CASE-XNP-05382	c10 N71-23544	NASA-CASE-XNP-10007-1	c15 N74-23068
NASA-CASE-XNP-05415	c08 N71-12505	NASA-CASE-XNP-10475	c15 N71-24679
NASA-CASE-XNP-05429	c26 N71-21824	NASA-CASE-XNP-10830	c07 N71-11281
NASA-CASE-XNP-05524	c33 N71-24876	NASA-CASE-XNP-10843	c07 N71-11267
NASA-CASE-XNP-05530	c14 N73-32321	NASA-CASE-XNP-10854	c10 N71-26331
NASA-CASE-XNP-05535	c14 N71-23040		
NASA-CASE-XNP-05612	c09 N69-21468	US-PATENT-APPL-SN-0914	c28 N70-38711
NASA-CASE-XNP-05634	c15 N71-24834	US-PATENT-APPL-SN-2792	c14 N70-33386
NASA-CASE-XNP-05821	c03 N71-11056	US-PATENT-APPL-SN-3151	c05 N72-27102
NASA-CASE-XNP-05975	c15 N69-23185	US-PATENT-APPL-SN-3417	c15 N72-22490
NASA-CASE-XNP-06028	c09 N71-23189	US-PATENT-APPL-SN-3418	c15 N72-20446
NASA-CASE-XNP-06031	c15 N71-15606	US-PATENT-APPL-SN-3418	c15 N73-19457
NASA-CASE-XNP-06032	c09 N69-21926	US-PATENT-APPL-SN-3696	c10 N72-20224
NASA-CASE-XNP-06234	c10 N71-27137	US-PATENT-APPL-SN-5114	c06 N72-25150
NASA-CASE-XNP-06503	c23 N71-29049	US-PATENT-APPL-SN-6610	c15 N72-22492
NASA-CASE-XNP-06505	c10 N71-24799	US-PATENT-APPL-SN-6615	c03 N72-25019
NASA-CASE-XNP-06506	c03 N71-11050	US-PATENT-APPL-SN-6616	c03 N72-22042
NASA-CASE-XNP-06507	c09 N71-23548	US-PATENT-APPL-SN-6617	c15 N72-22488
NASA-CASE-XNP-06508	c18 N69-39895	US-PATENT-APPL-SN-7668	c15 N71-26611
NASA-CASE-XNP-06509	c14 N71-23226	US-PATENT-APPL-SN-7669	c31 N72-18859
NASA-CASE-XNP-06510	c14 N71-23797	US-PATENT-APPL-SN-7867	c14 N72-17324
NASA-CASE-XNP-06611	c07 N71-26102	US-PATENT-APPL-SN-7868	c10 N72-17173

NUMBER INDEX

US-PATENT-APPL-SN-8203	c15 N70-33180	US-PATENT-APPL-SN-41404	c03 N73-20039
US-PATENT-APPL-SN-8204	c31 N70-37981	US-PATENT-APPL-SN-41430	c10 N72-20221
US-PATENT-APPL-SN-8497	c14 N72-11363	US-PATENT-APPL-SN-41431	c03 N70-35584
US-PATENT-APPL-SN-8498	c05 N71-24729	US-PATENT-APPL-SN-41455	c02 N70-33255
US-PATENT-APPL-SN-8636	c15 N72-25451	US-PATENT-APPL-SN-42022	c15 N70-35409
US-PATENT-APPL-SN-8650	c03 N72-25021	US-PATENT-APPL-SN-43327	c15 N72-26371
US-PATENT-APPL-SN-9251	c03 N70-34646	US-PATENT-APPL-SN-43883	c18 N73-30532
US-PATENT-APPL-SN-10161	c33 N72-20915	US-PATENT-APPL-SN-43884	c15 N72-25457
US-PATENT-APPL-SN-10162	c22 N72-21644	US-PATENT-APPL-SN-45519	c14 N72-25410
US-PATENT-APPL-SN-10329	c09 N72-25251	US-PATENT-APPL-SN-45549	c06 N72-21100
US-PATENT-APPL-SN-10812	c28 N70-40367	US-PATENT-APPL-SN-47061	c26 N72-25680
US-PATENT-APPL-SN-10827	c14 N72-28436	US-PATENT-APPL-SN-47062	c15 N72-17451
US-PATENT-APPL-SN-11220	c14 N73-30389	US-PATENT-APPL-SN-47063	c33 N72-25911
US-PATENT-APPL-SN-11853	c15 N71-28951	US-PATENT-APPL-SN-47063	c33 N72-25952
US-PATENT-APPL-SN-12661	c14 N72-22437	US-PATENT-APPL-SN-47120	c31 N70-33242
US-PATENT-APPL-SN-13266	c05 N72-23085	US-PATENT-APPL-SN-47121	c09 N70-39915
US-PATENT-APPL-SN-14488	c09 N70-38995	US-PATENT-APPL-SN-47122	c14 N70-34813
US-PATENT-APPL-SN-15019	c15 N72-17455	US-PATENT-APPL-SN-47123	c15 N70-34817
US-PATENT-APPL-SN-15020	c14 N70-34697	US-PATENT-APPL-SN-47464	c07 N73-20174
US-PATENT-APPL-SN-15022	c15 N72-21465	US-PATENT-APPL-SN-47441	c09 N70-34559
US-PATENT-APPL-SN-15023	c15 N70-34699	US-PATENT-APPL-SN-47443	c09 N72-17152
US-PATENT-APPL-SN-15024	c09 N72-21245	US-PATENT-APPL-SN-50206	c07 N72-17109
US-PATENT-APPL-SN-15025	c03 N72-20033	US-PATENT-APPL-SN-50207	c07 N72-20141
US-PATENT-APPL-SN-15222	c18 N72-25539	US-PATENT-APPL-SN-50208	c14 N73-13418
US-PATENT-APPL-SN-16808	c14 N72-22445	US-PATENT-APPL-SN-50339	c04 N72-33072
US-PATENT-APPL-SN-17101	c28 N72-18766	US-PATENT-APPL-SN-51317	c14 N73-30389
US-PATENT-APPL-SN-17102	c09 N72-20205	US-PATENT-APPL-SN-51473	c02 N70-33266
US-PATENT-APPL-SN-18427	c09 N72-23172	US-PATENT-APPL-SN-51477	c14 N72-25412
US-PATENT-APPL-SN-18776	c28 N70-33284	US-PATENT-APPL-SN-53156	c10 N71-28860
US-PATENT-APPL-SN-18780	c12 N70-33305	US-PATENT-APPL-SN-54270	c07 N72-25173
US-PATENT-APPL-SN-18982	c28 N72-11708	US-PATENT-APPL-SN-54271	c02 N73-19004
US-PATENT-APPL-SN-19585	c15 N72-25455	US-PATENT-APPL-SN-54540	c15 N72-29488
US-PATENT-APPL-SN-19971	c09 N70-33312	US-PATENT-APPL-SN-54540	c15 N74-15125
US-PATENT-APPL-SN-20960	c15 N72-17453	US-PATENT-APPL-SN-54552	c27 N70-34783
US-PATENT-APPL-SN-21263	c01 N71-12217	US-PATENT-APPL-SN-55333	c10 N73-16206
US-PATENT-APPL-SN-21508	c08 N72-20176	US-PATENT-APPL-SN-55534	c11 N72-25288
US-PATENT-APPL-SN-21644	c05 N72-22092	US-PATENT-APPL-SN-55535	c14 N73-20474
US-PATENT-APPL-SN-21732	c15 N70-26819	US-PATENT-APPL-SN-55536	c14 N72-29464
US-PATENT-APPL-SN-21906	c09 N72-17157	US-PATENT-APPL-SN-55537	c18 N72-25540
US-PATENT-APPL-SN-22265	c14 N72-21405	US-PATENT-APPL-SN-55806	c06 N72-31140
US-PATENT-APPL-SN-22320	c14 N72-11365	US-PATENT-APPL-SN-56791	c10 N72-16172
US-PATENT-APPL-SN-23132	c08 N72-22163	US-PATENT-APPL-SN-57252	c14 N72-25414
US-PATENT-APPL-SN-23532	c07 N72-21117	US-PATENT-APPL-SN-57253	c18 N72-25541
US-PATENT-APPL-SN-24154	c15 N70-35679	US-PATENT-APPL-SN-57399	c03 N72-20034
US-PATENT-APPL-SN-24154	c15 N72-17450	US-PATENT-APPL-SN-58147	c28 N70-33356
US-PATENT-APPL-SN-24155	c14 N73-26432	US-PATENT-APPL-SN-59892	c06 N73-30097
US-PATENT-APPL-SN-24224	c09 N72-20200	US-PATENT-APPL-SN-59892	c31 N74-27360
US-PATENT-APPL-SN-25175	c28 N70-39895	US-PATENT-APPL-SN-59893	c15 N72-25456
US-PATENT-APPL-SN-25487	c08 N72-21197	US-PATENT-APPL-SN-59894	c23 N73-13662
US-PATENT-APPL-SN-25488	c08 N72-25206	US-PATENT-APPL-SN-59895	c15 N72-20445
US-PATENT-APPL-SN-26375	c02 N70-33286	US-PATENT-APPL-SN-59956	c14 N72-27411
US-PATENT-APPL-SN-26375	c02 N70-34858	US-PATENT-APPL-SN-59966	c21 N72-25595
US-PATENT-APPL-SN-26573	c31 N72-22874	US-PATENT-APPL-SN-59968	c15 N72-27484
US-PATENT-APPL-SN-27340	c15 N72-20442	US-PATENT-APPL-SN-60276	c09 N72-25249
US-PATENT-APPL-SN-28175	c21 N70-33279	US-PATENT-APPL-SN-60531	c22 N73-32528
US-PATENT-APPL-SN-28235	c10 N72-17171	US-PATENT-APPL-SN-60536	c28 N70-37980
US-PATENT-APPL-SN-29917	c15 N73-13465	US-PATENT-APPL-SN-60876	c02 N70-38009
US-PATENT-APPL-SN-29917	c17 N74-10521	US-PATENT-APPL-SN-60881	c15 N72-27485
US-PATENT-APPL-SN-29917	c15 N74-13179	US-PATENT-APPL-SN-60882	c32 N72-25877
US-PATENT-APPL-SN-29979	c11 N70-26813	US-PATENT-APPL-SN-60883	c05 N73-32011
US-PATENT-APPL-SN-30498	c15 N74-21063	US-PATENT-APPL-SN-60950	c10 N73-13235
US-PATENT-APPL-SN-31242	c28 N70-33374	US-PATENT-APPL-SN-61329	c04 N73-27052
US-PATENT-APPL-SN-31702	c16 N73-16536	US-PATENT-APPL-SN-61535	c31 N70-37986
US-PATENT-APPL-SN-31703	c09 N72-21244	US-PATENT-APPL-SN-61894	c15 N72-25453
US-PATENT-APPL-SN-31885	c10 N72-17172	US-PATENT-APPL-SN-61895	c12 N72-21310
US-PATENT-APPL-SN-32496	c15 N70-37925	US-PATENT-APPL-SN-63144	c07 N72-33146
US-PATENT-APPL-SN-32664	c11 N72-25287	US-PATENT-APPL-SN-63195	c16 N72-28521
US-PATENT-APPL-SN-32665	c14 N72-22444	US-PATENT-APPL-SN-63383	c14 N72-27408
US-PATENT-APPL-SN-33159	c10 N72-11256	US-PATENT-APPL-SN-63384	c08 N72-20177
US-PATENT-APPL-SN-33535	c06 N72-17093	US-PATENT-APPL-SN-63532	c05 N72-22093
US-PATENT-APPL-SN-34553	c18 N70-34695	US-PATENT-APPL-SN-63610	c08 N72-25209
US-PATENT-APPL-SN-34989	c16 N74-13205	US-PATENT-APPL-SN-64224	c06 N72-25147
US-PATENT-APPL-SN-36531	c07 N72-25174	US-PATENT-APPL-SN-64226	c17 N70-38490
US-PATENT-APPL-SN-36534	c21 N73-14692	US-PATENT-APPL-SN-64391	c17 N70-38198
US-PATENT-APPL-SN-36819	c23 N72-22673	US-PATENT-APPL-SN-64392	c31 N72-25842
US-PATENT-APPL-SN-36926	c28 N72-23810	US-PATENT-APPL-SN-64709	c12 N70-41976
US-PATENT-APPL-SN-37050	c09 N74-26732	US-PATENT-APPL-SN-64723	c10 N72-28240
US-PATENT-APPL-SN-38262	c28 N70-35422	US-PATENT-APPL-SN-65548	c07 N72-25170
US-PATENT-APPL-SN-38814	c15 N72-11385	US-PATENT-APPL-SN-65840	c18 N70-39897
US-PATENT-APPL-SN-38816	c23 N74-13436	US-PATENT-APPL-SN-66004	c10 N72-20225
US-PATENT-APPL-SN-39185	c16 N72-25485	US-PATENT-APPL-SN-66206	c15 N72-25450
US-PATENT-APPL-SN-39342	c09 N72-25252	US-PATENT-APPL-SN-67730	c11 N73-13257
US-PATENT-APPL-SN-39344	c33 N74-18552	US-PATENT-APPL-SN-67815	c15 N73-13463
US-PATENT-APPL-SN-39344	c14 N72-25409	US-PATENT-APPL-SN-68023	c28 N72-22771
US-PATENT-APPL-SN-39755	c08 N72-21198	US-PATENT-APPL-SN-68024	c05 N72-33096
US-PATENT-APPL-SN-41345	c09 N72-29172	US-PATENT-APPL-SN-69209	c17 N72-22535
US-PATENT-APPL-SN-41346	c15 N72-24522	US-PATENT-APPL-SN-70032	c15 N72-21463
US-PATENT-APPL-SN-41347	c09 N72-25256	US-PATENT-APPL-SN-70967	c11 N73-12264
US-PATENT-APPL-SN-41348	c09 N72-23173		c07 N73-13149

NUMBER INDEX

US-PATENT-APPL-SN-70967	.....	c07 N74-10132	US-PATENT-APPL-SN-100637	.....	c21 N71-28861
US-PATENT-APPL-SN-71047	.....	c09 N72-21247	US-PATENT-APPL-SN-100639	.....	c14 N72-32452
US-PATENT-APPL-SN-71048	.....	c18 N73-12604	US-PATENT-APPL-SN-100774	.....	c06 N72-25151
US-PATENT-APPL-SN-71366	.....	c17 N71-20941	US-PATENT-APPL-SN-100774	.....	c06 N73-32030
US-PATENT-APPL-SN-72024	.....	c09 N73-12211	US-PATENT-APPL-SN-100996	.....	c08 N73-13187
US-PATENT-APPL-SN-73203	.....	c15 N72-28495	US-PATENT-APPL-SN-101029	.....	c31 N70-38676
US-PATENT-APPL-SN-73310	.....	c09 N72-25247	US-PATENT-APPL-SN-101214	.....	c14 N73-26430
US-PATENT-APPL-SN-73367	.....	c14 N71-15969	US-PATENT-APPL-SN-101354	.....	c10 N73-16205
US-PATENT-APPL-SN-73422	.....	c15 N72-25454	US-PATENT-APPL-SN-102412	.....	c25 N72-33696
US-PATENT-APPL-SN-73834	.....	c15 N72-23497	US-PATENT-APPL-SN-103077	.....	c25 N72-32688
US-PATENT-APPL-SN-73922	.....	c14 N73-25461	US-PATENT-APPL-SN-103078	.....	c15 N73-12486
US-PATENT-APPL-SN-73932	.....	c15 N72-22485	US-PATENT-APPL-SN-103091	.....	c15 N74-23070
US-PATENT-APPL-SN-74759	.....	c14 N73-20478	US-PATENT-APPL-SN-103229	.....	c14 N72-22439
US-PATENT-APPL-SN-74861	.....	c27 N72-25699	US-PATENT-APPL-SN-103551	.....	c31 N73-14854
US-PATENT-APPL-SN-74862	.....	c14 N73-16764	US-PATENT-APPL-SN-104047	.....	c15 N72-31483
US-PATENT-APPL-SN-75431	.....	c21 N72-31637	US-PATENT-APPL-SN-104048	.....	c31 N73-14855
US-PATENT-APPL-SN-76899	.....	c09 N72-22201	US-PATENT-APPL-SN-104187	.....	c14 N70-36618
US-PATENT-APPL-SN-77169	.....	c14 N72-21408	US-PATENT-APPL-SN-104188	.....	c09 N70-34819
US-PATENT-APPL-SN-77220	.....	c14 N72-27409	US-PATENT-APPL-SN-104346	.....	c14 N73-28488
US-PATENT-APPL-SN-77221	.....	c08 N72-25210	US-PATENT-APPL-SN-104884	.....	c15 N72-33476
US-PATENT-APPL-SN-77251	.....	c25 N70-41628	US-PATENT-APPL-SN-104885	.....	c14 N73-24472
US-PATENT-APPL-SN-77252	.....	c02 N70-37939	US-PATENT-APPL-SN-105518	.....	c23 N71-15978
US-PATENT-APPL-SN-77256	.....	c15 N70-33323	US-PATENT-APPL-SN-106106	.....	c14 N74-13130
US-PATENT-APPL-SN-77786	.....	c14 N72-27412	US-PATENT-APPL-SN-106135	.....	c28 N70-34294
US-PATENT-APPL-SN-78065	.....	c08 N72-22162	US-PATENT-APPL-SN-106424	.....	c17 N73-24569
US-PATENT-APPL-SN-78703	.....	c15 N73-20514	US-PATENT-APPL-SN-106465	.....	c30 N73-12884
US-PATENT-APPL-SN-78704	.....	c05 N72-25121	US-PATENT-APPL-SN-107298	.....	c32 N73-13921
US-PATENT-APPL-SN-78717	.....	c05 N73-13114	US-PATENT-APPL-SN-107376	.....	c15 N73-25513
US-PATENT-APPL-SN-78766	.....	c02 N74-10907	US-PATENT-APPL-SN-107379	.....	c10 N72-33230
US-PATENT-APPL-SN-80029	.....	c14 N73-32320	US-PATENT-APPL-SN-107380	.....	c28 N73-13773
US-PATENT-APPL-SN-80029	.....	c14 N74-20008	US-PATENT-APPL-SN-107659	.....	c23 N73-20741
US-PATENT-APPL-SN-80368	.....	c09 N73-20231	US-PATENT-APPL-SN-107866	.....	c17 N70-36616
US-PATENT-APPL-SN-80369	.....	c09 N72-22198	US-PATENT-APPL-SN-107870	.....	c15 N70-36411
US-PATENT-APPL-SN-81095	.....	c13 N72-25323	US-PATENT-APPL-SN-108824	.....	c31 N73-13898
US-PATENT-APPL-SN-81096	.....	c14 N73-14427	US-PATENT-APPL-SN-109789	.....	c09 N70-34596
US-PATENT-APPL-SN-82280	.....	c09 N72-25262	US-PATENT-APPL-SN-110402	.....	c09 N72-27226
US-PATENT-APPL-SN-82647	.....	c28 N72-22772	US-PATENT-APPL-SN-110591	.....	c15 N70-39896
US-PATENT-APPL-SN-82648	.....	c12 N72-25292	US-PATENT-APPL-SN-111123	.....	c18 N71-31140
US-PATENT-APPL-SN-82649	.....	c08 N73-30135	US-PATENT-APPL-SN-111998	.....	c21 N73-30640
US-PATENT-APPL-SN-82658	.....	c30 N70-40309	US-PATENT-APPL-SN-112988	.....	c07 N72-32169
US-PATENT-APPL-SN-83816	.....	c03 N74-14784	US-PATENT-APPL-SN-112998	.....	c14 N73-12445
US-PATENT-APPL-SN-84002	.....	c08 N73-20217	US-PATENT-APPL-SN-112999	.....	c23 N72-25619
US-PATENT-APPL-SN-84212	.....	c18 N74-17283	US-PATENT-APPL-SN-114846	.....	c14 N73-12444
US-PATENT-APPL-SN-84289	.....	c15 N73-14469	US-PATENT-APPL-SN-114847	.....	c15 N72-28496
US-PATENT-APPL-SN-84290	.....	c05 N73-20137	US-PATENT-APPL-SN-114848	.....	c11 N72-23215
US-PATENT-APPL-SN-84961	.....	c02 N70-34178	US-PATENT-APPL-SN-114849	.....	c09 N72-27227
US-PATENT-APPL-SN-84962	.....	c21 N70-36943	US-PATENT-APPL-SN-114873	.....	c09 N73-28083
US-PATENT-APPL-SN-85585	.....	c21 N70-35427	US-PATENT-APPL-SN-115082	.....	c18 N73-13562
US-PATENT-APPL-SN-86018	.....	c23 N71-30292	US-PATENT-APPL-SN-115083	.....	c07 N73-25160
US-PATENT-APPL-SN-86417	.....	c07 N72-25171	US-PATENT-APPL-SN-115134	.....	c06 N73-13128
US-PATENT-APPL-SN-86548	.....	c09 N72-21243	US-PATENT-APPL-SN-115944	.....	c03 N71-34044
US-PATENT-APPL-SN-87222	.....	c05 N72-27103	US-PATENT-APPL-SN-116777	.....	c09 N73-19235
US-PATENT-APPL-SN-87223	.....	c15 N72-15476	US-PATENT-APPL-SN-116778	.....	c09 N72-33205
US-PATENT-APPL-SN-87550	.....	c06 N72-25146	US-PATENT-APPL-SN-116786	.....	c07 N72-25172
US-PATENT-APPL-SN-87551	.....	c33 N73-16918	US-PATENT-APPL-SN-116790	.....	c14 N73-30388
US-PATENT-APPL-SN-87597	.....	c09 N74-22864	US-PATENT-APPL-SN-117575	.....	c08 N73-12177
US-PATENT-APPL-SN-88435	.....	c14 N74-15090	US-PATENT-APPL-SN-118169	.....	c14 N70-35220
US-PATENT-APPL-SN-89209	.....	c09 N72-25248	US-PATENT-APPL-SN-118200	.....	c15 N72-38247
US-PATENT-APPL-SN-89210	.....	c07 N73-26119	US-PATENT-APPL-SN-118202	.....	c28 N70-38710
US-PATENT-APPL-SN-89211	.....	c14 N73-12446	US-PATENT-APPL-SN-118203	.....	c14 N70-36602
US-PATENT-APPL-SN-89212	.....	c08 N72-25208	US-PATENT-APPL-SN-118269	.....	c33 N73-26958
US-PATENT-APPL-SN-90595	.....	c03 N72-20031	US-PATENT-APPL-SN-118270	.....	c09 N72-25260
US-PATENT-APPL-SN-91180	.....	c14 N70-40240	US-PATENT-APPL-SN-119282	.....	c03 N72-23048
US-PATENT-APPL-SN-91642	.....	c14 N72-31446	US-PATENT-APPL-SN-120241	.....	c15 N73-24513
US-PATENT-APPL-SN-93329	.....	c09 N73-26195	US-PATENT-APPL-SN-120795	.....	c07 N70-40202
US-PATENT-APPL-SN-94049	.....	c14 N73-20476	US-PATENT-APPL-SN-120797	.....	c14 N70-36824
US-PATENT-APPL-SN-94259	.....	c27 N70-35534	US-PATENT-APPL-SN-120803	.....	c08 N70-34743
US-PATENT-APPL-SN-94347	.....	c05 N72-25122	US-PATENT-APPL-SN-121328	.....	c23 N72-11568
US-PATENT-APPL-SN-94369	.....	c07 N71-28965	US-PATENT-APPL-SN-123253	.....	c10 N73-12244
US-PATENT-APPL-SN-94374	.....	c14 N72-25411	US-PATENT-APPL-SN-123597	.....	c21 N70-34297
US-PATENT-APPL-SN-94952	.....	c14 N70-34158	US-PATENT-APPL-SN-124909	.....	c14 N73-16483
US-PATENT-APPL-SN-95183	.....	c08 N73-12175	US-PATENT-APPL-SN-125234	.....	c07 N73-16121
US-PATENT-APPL-SN-97112	.....	c21 N70-34539	US-PATENT-APPL-SN-125236	.....	c14 N73-26431
US-PATENT-APPL-SN-97343	.....	c10 N72-27246	US-PATENT-APPL-SN-125979	.....	c09 N72-25255
US-PATENT-APPL-SN-97829	.....	c06 N73-13129	US-PATENT-APPL-SN-127234	.....	c08 N70-35423
US-PATENT-APPL-SN-98517	.....	c09 N72-25250	US-PATENT-APPL-SN-127480	.....	c15 N71-34427
US-PATENT-APPL-SN-98640	.....	c09 N72-25253	US-PATENT-APPL-SN-127481	.....	c18 N71-34502
US-PATENT-APPL-SN-98772	.....	c08 N73-12176	US-PATENT-APPL-SN-127618	.....	c02 N73-13008
US-PATENT-APPL-SN-98773	.....	c15 N72-22486	US-PATENT-APPL-SN-127647	.....	c15 N73-27405
US-PATENT-APPL-SN-98774	.....	c14 N73-19419	US-PATENT-APPL-SN-127915	.....	c02 N73-26004
US-PATENT-APPL-SN-98798	.....	c09 N73-13209	US-PATENT-APPL-SN-128419	.....	c14 N73-20477
US-PATENT-APPL-SN-99174	.....	c14 N72-33377	US-PATENT-APPL-SN-129071	.....	c09 N72-25254
US-PATENT-APPL-SN-99175	.....	c09 N72-25258	US-PATENT-APPL-SN-129072	.....	c15 N73-13467
US-PATENT-APPL-SN-99198	.....	c31 N73-32749	US-PATENT-APPL-SN-129073	.....	c15 N73-13464
US-PATENT-APPL-SN-99201	.....	c15 N73-25512	US-PATENT-APPL-SN-129579	.....	c28 N70-35381
US-PATENT-APPL-SN-99201	.....	c15 N74-20063	US-PATENT-APPL-SN-130353	.....	c31 N73-14853
US-PATENT-APPL-SN-99524	.....	c06 N72-27144	US-PATENT-APPL-SN-134478	.....	c22 N70-34572
US-PATENT-APPL-SN-99901	.....	c15 N74-10474	US-PATENT-APPL-SN-134479	.....	c14 N70-33179
US-PATENT-APPL-SN-99903	.....	c11 N73-12265	US-PATENT-APPL-SN-134481	.....	c11 N70-34815

NUMBER INDEX

US-PATENT-APPL-SN-134567	c14	N73-16484	US-PATENT-APPL-SN-162230	c26	N72-28761
US-PATENT-APPL-SN-134568	c06	N72-31141	US-PATENT-APPL-SN-162380	c16	N74-21091
US-PATENT-APPL-SN-134571	c21	N73-13644	US-PATENT-APPL-SN-163151	c23	N72-21663
US-PATENT-APPL-SN-134573	c09	N72-25257	US-PATENT-APPL-SN-163152	c17	N73-27446
US-PATENT-APPL-SN-134658	c15	N73-28515	US-PATENT-APPL-SN-164428	c09	N70-35440
US-PATENT-APPL-SN-134782	c09	N70-36494	US-PATENT-APPL-SN-166487	c11	N73-32152
US-PATENT-APPL-SN-136006	c09	N72-28225	US-PATENT-APPL-SN-166541	c14	N73-13415
US-PATENT-APPL-SN-136007	c09	N71-34212	US-PATENT-APPL-SN-166969	c15	N70-34249
US-PATENT-APPL-SN-136008	c18	N74-13270	US-PATENT-APPL-SN-166970	c15	N70-36409
US-PATENT-APPL-SN-136085	c17	N73-12547	US-PATENT-APPL-SN-167719	c16	N73-33397
US-PATENT-APPL-SN-136086	c15	N73-19457	US-PATENT-APPL-SN-168560	c02	N70-34856
US-PATENT-APPL-SN-136253	c28	N72-20767	US-PATENT-APPL-SN-168650	c14	N73-13416
US-PATENT-APPL-SN-136253	c06	N74-12814	US-PATENT-APPL-SN-168671	c10	N73-30205
US-PATENT-APPL-SN-137391	c16	N72-10432	US-PATENT-APPL-SN-169962	c12	N74-30608
US-PATENT-APPL-SN-137912	c06	N72-21105	US-PATENT-APPL-SN-169977	c14	N70-34794
US-PATENT-APPL-SN-138227	c26	N72-27784	US-PATENT-APPL-SN-170440	c15	N73-13462
US-PATENT-APPL-SN-138229	c15	N72-32487	US-PATENT-APPL-SN-170544	c25	N72-21693
US-PATENT-APPL-SN-138230	c32	N73-20740	US-PATENT-APPL-SN-170680	c33	N74-15652
US-PATENT-APPL-SN-138540	c14	N70-36808	US-PATENT-APPL-SN-170681	c10	N73-25240
US-PATENT-APPL-SN-139006	c09	N70-38604	US-PATENT-APPL-SN-172459	c06	N73-16106
US-PATENT-APPL-SN-139007	c28	N70-37245	US-PATENT-APPL-SN-172807	c07	N73-28012
US-PATENT-APPL-SN-139012	c03	N70-38713	US-PATENT-APPL-SN-173081	c28	N70-36806
US-PATENT-APPL-SN-139094	c05	N73-32011	US-PATENT-APPL-SN-173185	c23	N73-13660
US-PATENT-APPL-SN-139250	c04	N73-27052	US-PATENT-APPL-SN-173190	c05	N73-32015
US-PATENT-APPL-SN-139528	c03	N72-25020	US-PATENT-APPL-SN-173981	c14	N70-35666
US-PATENT-APPL-SN-140439	c10	N72-10205	US-PATENT-APPL-SN-174684	c03	N73-30974
US-PATENT-APPL-SN-140443	c09	N70-35219	US-PATENT-APPL-SN-175267	c14	N73-28486
US-PATENT-APPL-SN-140509	c09	N70-35382	US-PATENT-APPL-SN-175497	c08	N73-28045
US-PATENT-APPL-SN-140946	c18	N73-26572	US-PATENT-APPL-SN-175852	c25	N73-25760
US-PATENT-APPL-SN-140946	c18	N74-27037	US-PATENT-APPL-SN-175881	c09	N73-15235
US-PATENT-APPL-SN-141220	c33	N70-37979	US-PATENT-APPL-SN-175981	c16	N73-30476
US-PATENT-APPL-SN-142662	c23	N73-13661	US-PATENT-APPL-SN-175983	c31	N73-32750
US-PATENT-APPL-SN-142719	c14	N73-14429	US-PATENT-APPL-SN-177684	c28	N70-34860
US-PATENT-APPL-SN-143078	c08	N72-33172	US-PATENT-APPL-SN-177753	c07	N72-20154
US-PATENT-APPL-SN-143508	c09	N74-12913	US-PATENT-APPL-SN-177985	c07	N74-15831
US-PATENT-APPL-SN-144139	c11	N73-26238	US-PATENT-APPL-SN-178213	c25	N70-33267
US-PATENT-APPL-SN-144803	c11	N70-34844	US-PATENT-APPL-SN-178215	c25	N70-34661
US-PATENT-APPL-SN-144804	c14	N70-39898	US-PATENT-APPL-SN-178721	c03	N70-35408
US-PATENT-APPL-SN-145007	c18	N70-36400	US-PATENT-APPL-SN-178771	c06	N73-11107
US-PATENT-APPL-SN-145026	c06	N72-25152	US-PATENT-APPL-SN-180370	c28	N70-33375
US-PATENT-APPL-SN-145027	c06	N73-32029	US-PATENT-APPL-SN-180374	c28	N70-38181
US-PATENT-APPL-SN-146935	c14	N73-20475	US-PATENT-APPL-SN-180377	c15	N70-36908
US-PATENT-APPL-SN-146939	c33	N71-35153	US-PATENT-APPL-SN-180379	c21	N70-35395
US-PATENT-APPL-SN-146940	c05	N73-32014	US-PATENT-APPL-SN-180380	c09	N70-38998
US-PATENT-APPL-SN-147099	c14	N73-13417	US-PATENT-APPL-SN-180381	c21	N70-35089
US-PATENT-APPL-SN-147103	c10	N73-20253	US-PATENT-APPL-SN-180382	c28	N70-38645
US-PATENT-APPL-SN-147922	c28	N73-19793	US-PATENT-APPL-SN-180384	c11	N70-38675
US-PATENT-APPL-SN-147940	c14	N72-10375	US-PATENT-APPL-SN-180391	c28	N70-38249
US-PATENT-APPL-SN-147996	c28	N73-24784	US-PATENT-APPL-SN-180392	c09	N74-13530
US-PATENT-APPL-SN-147997	c15	N72-33477	US-PATENT-APPL-SN-180394	c15	N70-38603
US-PATENT-APPL-SN-148001	c14	N70-34298	US-PATENT-APPL-SN-180395	c15	N70-36947
US-PATENT-APPL-SN-148756	c15	N73-13466	US-PATENT-APPL-SN-180396	c11	N70-38202
US-PATENT-APPL-SN-149283	c14	N74-17153	US-PATENT-APPL-SN-180473	c28	N73-27699
US-PATENT-APPL-SN-150215	c33	N73-25952	US-PATENT-APPL-SN-180683	c10	N73-25241
US-PATENT-APPL-SN-151112	c15	N70-34814	US-PATENT-APPL-SN-180962	c14	N72-21433
US-PATENT-APPL-SN-151114	c31	N70-34176	US-PATENT-APPL-SN-180963	c14	N73-27378
US-PATENT-APPL-SN-151411	c07	N73-26118	US-PATENT-APPL-SN-181023	c15	N73-26472
US-PATENT-APPL-SN-151412	c09	N73-32112	US-PATENT-APPL-SN-181024	c07	N73-26117
US-PATENT-APPL-SN-151413	c14	N73-12447	US-PATENT-APPL-SN-181828	c02	N70-34858
US-PATENT-APPL-SN-151598	c03	N70-34134	US-PATENT-APPL-SN-181829	c31	N70-38010
US-PATENT-APPL-SN-152328	c02	N74-20646	US-PATENT-APPL-SN-182033	c33	N73-27796
US-PATENT-APPL-SN-152849	c15	N73-30457	US-PATENT-APPL-SN-182399	c07	N73-28013
US-PATENT-APPL-SN-153266	c02	N70-38011	US-PATENT-APPL-SN-182692	c15	N70-36535
US-PATENT-APPL-SN-153542	c28	N73-32606	US-PATENT-APPL-SN-182696	c21	N70-36938
US-PATENT-APPL-SN-153543	c08	N73-26176	US-PATENT-APPL-SN-182698	c15	N70-38620
US-PATENT-APPL-SN-154094	c33	N72-27959	US-PATENT-APPL-SN-182699	c28	N70-38504
US-PATENT-APPL-SN-154930	c03	N72-11064	US-PATENT-APPL-SN-182977	c14	N74-13131
US-PATENT-APPL-SN-154933	c14	N73-25463	US-PATENT-APPL-SN-182978	c16	N73-13489
US-PATENT-APPL-SN-154934	c02	N72-10033	US-PATENT-APPL-SN-183240	c06	N73-30098
US-PATENT-APPL-SN-154935	c11	N72-27262	US-PATENT-APPL-SN-183977	c28	N70-38505
US-PATENT-APPL-SN-155565	c08	N73-25206	US-PATENT-APPL-SN-183978	c15	N70-38020
US-PATENT-APPL-SN-155584	c09	N70-40123	US-PATENT-APPL-SN-184090	c14	N73-32327
US-PATENT-APPL-SN-155595	c26	N73-28710	US-PATENT-APPL-SN-184649	c07	N70-36911
US-PATENT-APPL-SN-155596	c15	N73-32361	US-PATENT-APPL-SN-184960	c06	N73-27980
US-PATENT-APPL-SN-155598	c15	N73-28516	US-PATENT-APPL-SN-186700	c09	N74-12912
US-PATENT-APPL-SN-156724	c21	N73-13643	US-PATENT-APPL-SN-187143	c16	N74-13205
US-PATENT-APPL-SN-156725	c14	N73-27377	US-PATENT-APPL-SN-187262	c15	N73-27406
US-PATENT-APPL-SN-156778	c17	N72-28535	US-PATENT-APPL-SN-187365	c15	N74-15127
US-PATENT-APPL-SN-158914	c11	N70-36913	US-PATENT-APPL-SN-187446	c31	N70-37924
US-PATENT-APPL-SN-158916	c05	N70-41819	US-PATENT-APPL-SN-188594	c15	N70-34967
US-PATENT-APPL-SN-159804	c11	N70-38196	US-PATENT-APPL-SN-188636	c14	N72-21432
US-PATENT-APPL-SN-159857	c05	N73-26072	US-PATENT-APPL-SN-188836	c14	N74-34857
US-PATENT-APPL-SN-159966	c31	N73-26876	US-PATENT-APPL-SN-188927	c08	N73-32081
US-PATENT-APPL-SN-160371	c05	N72-11088	US-PATENT-APPL-SN-188928	c15	N74-13178
US-PATENT-APPL-SN-160859	c32	N73-26910	US-PATENT-APPL-SN-189290	c14	N73-27379
US-PATENT-APPL-SN-160860	c18	N73-32437	US-PATENT-APPL-SN-189375	c18	N73-14584
US-PATENT-APPL-SN-161028	c14	N73-19420	US-PATENT-APPL-SN-189438	c30	N72-20805
US-PATENT-APPL-SN-162100	c09	N74-14939	US-PATENT-APPL-SN-189648	c32	N70-36536
US-PATENT-APPL-SN-162101	c14	N73-24473	US-PATENT-APPL-SN-190316	c17	N73-32414

NUMBER INDEX

US-PATENT-APPL-SN-191301	c06 N74-12813	US-PATENT-APPL-SN-214089	c14 N74-21018
US-PATENT-APPL-SN-192016	c03 N70-36778	US-PATENT-APPL-SN-216710	c12 N70-38997
US-PATENT-APPL-SN-192101	c10 N73-20254	US-PATENT-APPL-SN-216711	c03 N70-34157
US-PATENT-APPL-SN-192141	c07 N73-24176	US-PATENT-APPL-SN-216939	c14 N70-40400
US-PATENT-APPL-SN-192803	c07 N73-22076	US-PATENT-APPL-SN-217213	c15 N74-11301
US-PATENT-APPL-SN-192970	c23 N73-30665	US-PATENT-APPL-SN-218965	c10 N73-32145
US-PATENT-APPL-SN-193456	c10 N73-25243	US-PATENT-APPL-SN-219435	c18 N74-27035
US-PATENT-APPL-SN-193671	c15 N73-12488	US-PATENT-APPL-SN-219436	c15 N72-21489
US-PATENT-APPL-SN-193672	c05 N74-14845	US-PATENT-APPL-SN-219590	c06 N73-32030
US-PATENT-APPL-SN-193814	c14 N73-30393	US-PATENT-APPL-SN-219722	c21 N72-21631
US-PATENT-APPL-SN-193947	c14 N73-13420	US-PATENT-APPL-SN-219806	c28 N74-28226
US-PATENT-APPL-SN-193980	c15 N74-13177	US-PATENT-APPL-SN-220251	c15 N74-15125
US-PATENT-APPL-SN-195061	c05 N73-25125	US-PATENT-APPL-SN-220274	c31 N72-20840
US-PATENT-APPL-SN-195346	c15 N70-36492	US-PATENT-APPL-SN-220274	c15 N74-22136
US-PATENT-APPL-SN-195347	c31 N70-34135	US-PATENT-APPL-SN-220785	c11 N72-20253
US-PATENT-APPL-SN-196399	c07 N73-25161	US-PATENT-APPL-SN-220785	c11 N74-34672
US-PATENT-APPL-SN-196898	c15 N74-15130	US-PATENT-APPL-SN-221093	c17 N73-32415
US-PATENT-APPL-SN-196931	c07 N74-17885	US-PATENT-APPL-SN-221276	c14 N70-41955
US-PATENT-APPL-SN-196970	c15 N73-33383	US-PATENT-APPL-SN-221634	c05 N70-34857
US-PATENT-APPL-SN-197183	c01 N73-14981	US-PATENT-APPL-SN-221637	c26 N70-36805
US-PATENT-APPL-SN-197548	c09 N70-34502	US-PATENT-APPL-SN-221670	c14 N72-21421
US-PATENT-APPL-SN-197551	c31 N70-34296	US-PATENT-APPL-SN-221685	c15 N74-21062
US-PATENT-APPL-SN-197553	c08 N70-34778	US-PATENT-APPL-SN-221714	c09 N73-32110
US-PATENT-APPL-SN-197554	c14 N70-35368	US-PATENT-APPL-SN-221833	c09 N73-27150
US-PATENT-APPL-SN-197689	c15 N74-14133	US-PATENT-APPL-SN-221945	c31 N70-36410
US-PATENT-APPL-SN-197870	c14 N73-32322	US-PATENT-APPL-SN-223003	c33 N70-36846
US-PATENT-APPL-SN-198285	c09 N73-13208	US-PATENT-APPL-SN-223560	c10 N73-32144
US-PATENT-APPL-SN-198289	c14 N73-32326	US-PATENT-APPL-SN-224489	c14 N74-18089
US-PATENT-APPL-SN-198355	c05 N72-15098	US-PATENT-APPL-SN-226476	c10 N73-32143
US-PATENT-APPL-SN-198362	c14 N73-28489	US-PATENT-APPL-SN-226477	c14 N74-27866
US-PATENT-APPL-SN-198379	c15 N73-32359	US-PATENT-APPL-SN-226551	c06 N73-26100
US-PATENT-APPL-SN-198472	c06 N74-12812	US-PATENT-APPL-SN-227682	c14 N70-34161
US-PATENT-APPL-SN-198763	c15 N74-18124	US-PATENT-APPL-SN-227683	c02 N70-36804
US-PATENT-APPL-SN-198763	c15 N74-32920	US-PATENT-APPL-SN-227692	c14 N70-40003
US-PATENT-APPL-SN-198885	c05 N73-27062	US-PATENT-APPL-SN-228150	c05 N73-32013
US-PATENT-APPL-SN-199199	c25 N71-29184	US-PATENT-APPL-SN-228163	c03 N74-19693
US-PATENT-APPL-SN-199202	c14 N70-40239	US-PATENT-APPL-SN-228189	c14 N74-11283
US-PATENT-APPL-SN-199957	c10 N73-26229	US-PATENT-APPL-SN-228190	c23 N73-30666
US-PATENT-APPL-SN-200040	c05 N74-10975	US-PATENT-APPL-SN-228229	c06 N72-22114
US-PATENT-APPL-SN-200085	c26 N73-26751	US-PATENT-APPL-SN-228507	c11 N70-38182
US-PATENT-APPL-SN-200682	c07 N73-14130	US-PATENT-APPL-SN-228569	c14 N71-16014
US-PATENT-APPL-SN-200717	c09 N73-19234	US-PATENT-APPL-SN-228707	c25 N71-15650
US-PATENT-APPL-SN-200762	c03 N73-20040	US-PATENT-APPL-SN-229128	c14 N73-28490
US-PATENT-APPL-SN-201700	c09 N74-17930	US-PATENT-APPL-SN-229143	c09 N72-21248
US-PATENT-APPL-SN-201782	c15 N73-19458	US-PATENT-APPL-SN-229286	c33 N71-29052
US-PATENT-APPL-SN-201904	c15 N73-30458	US-PATENT-APPL-SN-229354	c08 N74-14920
US-PATENT-APPL-SN-201904	c15 N74-15128	US-PATENT-APPL-SN-229413	c14 N73-32323
US-PATENT-APPL-SN-201904	c15 N74-21064	US-PATENT-APPL-SN-229916	c13 N74-13011
US-PATENT-APPL-SN-202024	c14 N70-34156	US-PATENT-APPL-SN-231520	c27 N71-29155
US-PATENT-APPL-SN-202029	c11 N70-34786	US-PATENT-APPL-SN-231604	c28 N70-39925
US-PATENT-APPL-SN-202030	c31 N71-10747	US-PATENT-APPL-SN-231662	c14 N73-30392
US-PATENT-APPL-SN-202750	c14 N74-21015	US-PATENT-APPL-SN-232021	c21 N74-13420
US-PATENT-APPL-SN-202769	c05 N73-27941	US-PATENT-APPL-SN-232318	c11 N71-15960
US-PATENT-APPL-SN-203271	c04 N74-15778	US-PATENT-APPL-SN-232914	c15 N70-36412
US-PATENT-APPL-SN-203405	c02 N73-26006	US-PATENT-APPL-SN-233098	c12 N73-25262
US-PATENT-APPL-SN-203409	c28 N70-38197	US-PATENT-APPL-SN-233173	c12 N73-28144
US-PATENT-APPL-SN-203411	c33 N70-34812	US-PATENT-APPL-SN-233519	c28 N74-13502
US-PATENT-APPL-SN-204015	c09 N70-38201	US-PATENT-APPL-SN-233587	c16 N72-22520
US-PATENT-APPL-SN-205047	c15 N73-32360	US-PATENT-APPL-SN-233743	c15 N74-13179
US-PATENT-APPL-SN-205470	c08 N71-18752	US-PATENT-APPL-SN-234568	c28 N70-34788
US-PATENT-APPL-SN-205675	c14 N73-30386	US-PATENT-APPL-SN-235162	c08 N71-12501
US-PATENT-APPL-SN-206266	c24 N74-20329	US-PATENT-APPL-SN-235225	c23 N72-28696
US-PATENT-APPL-SN-206279	c02 N73-26005	US-PATENT-APPL-SN-235266	c26 N73-32571
US-PATENT-APPL-SN-206698	c15 N73-30459	US-PATENT-APPL-SN-235268	c16 N74-15145
US-PATENT-APPL-SN-207211	c07 N73-30113	US-PATENT-APPL-SN-235269	c09 N73-30181
US-PATENT-APPL-SN-209478	c07 N70-38200	US-PATENT-APPL-SN-235295	c09 N73-30185
US-PATENT-APPL-SN-209479	c15 N70-34850	US-PATENT-APPL-SN-235338	c23 N74-31148
US-PATENT-APPL-SN-209535	c28 N73-24783	US-PATENT-APPL-SN-235588	c28 N71-28928
US-PATENT-APPL-SN-209801	c08 N70-40125	US-PATENT-APPL-SN-235957	c14 N73-27376
US-PATENT-APPL-SN-209802	c09 N73-14215	US-PATENT-APPL-SN-235962	c16 N74-11313
US-PATENT-APPL-SN-211332	c02 N74-10034	US-PATENT-APPL-SN-236052	c14 N72-25428
US-PATENT-APPL-SN-211411	c11 N73-20267	US-PATENT-APPL-SN-236281	c09 N73-20232
US-PATENT-APPL-SN-211464	c28 N70-36910	US-PATENT-APPL-SN-236285	c08 N73-26175
US-PATENT-APPL-SN-212010	c14 N72-20394	US-PATENT-APPL-SN-236748	c14 N70-40157
US-PATENT-APPL-SN-212028	c09 N73-14214	US-PATENT-APPL-SN-236749	c15 N70-40180
US-PATENT-APPL-SN-212165	c14 N73-25460	US-PATENT-APPL-SN-236985	c03 N74-19692
US-PATENT-APPL-SN-212173	c02 N71-13421	US-PATENT-APPL-SN-237029	c09 N73-32108
US-PATENT-APPL-SN-212174	c15 N70-34859	US-PATENT-APPL-SN-237491	c02 N73-30938
US-PATENT-APPL-SN-212496	c03 N70-36803	US-PATENT-APPL-SN-237694	c14 N74-11284
US-PATENT-APPL-SN-212497	c11 N71-28779	US-PATENT-APPL-SN-237694	c10 N74-12951
US-PATENT-APPL-SN-212900	c14 N73-25462	US-PATENT-APPL-SN-238263	c14 N74-10415
US-PATENT-APPL-SN-212921	c07 N73-20176	US-PATENT-APPL-SN-238264	c15 N72-21061
US-PATENT-APPL-SN-212977	c15 N73-30460	US-PATENT-APPL-SN-238264	c15 N74-32921
US-PATENT-APPL-SN-213004	c14 N73-19421	US-PATENT-APPL-SN-238421	c28 N71-29153
US-PATENT-APPL-SN-213836	c15 N70-38601	US-PATENT-APPL-SN-239573	c10 N74-10223
US-PATENT-APPL-SN-213949	c07 N73-20175	US-PATENT-APPL-SN-239574	c09 N73-32107
US-PATENT-APPL-SN-214006	c15 N74-18126	US-PATENT-APPL-SN-239575	c32 N74-19528
US-PATENT-APPL-SN-214084	c15 N74-18123	US-PATENT-APPL-SN-239576	c09 N74-14935
US-PATENT-APPL-SN-214086	c14 N73-30395	US-PATENT-APPL-SN-239577	c14 N74-13132



NUMBER INDEX

US-PATENT-APPL-SN-239803	.....	c23	N74-13436	US-PATENT-APPL-SN-266822	.....	c07	N74-10132
US-PATENT-APPL-SN-240760	.....	c15	N71-16075	US-PATENT-APPL-SN-266832	.....	c09	N74-10195
US-PATENT-APPL-SN-241061	.....	c06	N72-27151	US-PATENT-APPL-SN-266866	.....	c33	N73-32818
US-PATENT-APPL-SN-241061	.....	c06	N73-33076	US-PATENT-APPL-SN-266899	.....	c08	N74-12888
US-PATENT-APPL-SN-241085	.....	c14	N70-40238	US-PATENT-APPL-SN-266911	.....	c14	N74-20009
US-PATENT-APPL-SN-241614	.....	c10	N73-27171	US-PATENT-APPL-SN-266912	.....	c07	N74-19788
US-PATENT-APPL-SN-241615	.....	c09	N73-32111	US-PATENT-APPL-SN-266913	.....	c15	N74-23065
US-PATENT-APPL-SN-242027	.....	c05	N74-12778	US-PATENT-APPL-SN-266925	.....	c05	N74-17853
US-PATENT-APPL-SN-242028	.....	c21	N73-30641	US-PATENT-APPL-SN-266927	.....	c24	N72-28714
US-PATENT-APPL-SN-242662	.....	c14	N74-15095	US-PATENT-APPL-SN-266928	.....	c17	N74-10521
US-PATENT-APPL-SN-243374	.....	c31	N72-25853	US-PATENT-APPL-SN-266930	.....	c05	N74-12779
US-PATENT-APPL-SN-244158	.....	c09	N74-20863	US-PATENT-APPL-SN-266940	.....	c07	N72-27178
US-PATENT-APPL-SN-244440	.....	c21	N73-19630	US-PATENT-APPL-SN-266940	.....	c07	N74-32598
US-PATENT-APPL-SN-244440	.....	c14	N73-32320	US-PATENT-APPL-SN-266943	.....	c24	N74-19310
US-PATENT-APPL-SN-244519	.....	c15	N74-18125	US-PATENT-APPL-SN-267572	.....	c11	N74-26767
US-PATENT-APPL-SN-244523	.....	c31	N73-30829	US-PATENT-APPL-SN-267768	.....	c23	N74-21300
US-PATENT-APPL-SN-244566	.....	c14	N74-20008	US-PATENT-APPL-SN-267862	.....	c09	N72-27233
US-PATENT-APPL-SN-245063	.....	c09	N74-11049	US-PATENT-APPL-SN-267862	.....	c09	N74-21851
US-PATENT-APPL-SN-245279	.....	c06	N74-30502	US-PATENT-APPL-SN-269073	.....	c05	N74-26625
US-PATENT-APPL-SN-245941	.....	c33	N71-17897	US-PATENT-APPL-SN-269212	.....	c07	N71-10775
US-PATENT-APPL-SN-246056	.....	c23	N74-15395	US-PATENT-APPL-SN-269215	.....	c14	N70-41332
US-PATENT-APPL-SN-247055	.....	c15	N74-11300	US-PATENT-APPL-SN-269222	.....	c15	N70-38225
US-PATENT-APPL-SN-247090	.....	c15	N74-18128	US-PATENT-APPL-SN-270118	.....	c33	N71-17610
US-PATENT-APPL-SN-247136	.....	c14	N71-30265	US-PATENT-APPL-SN-271821	.....	c15	N71-10778
US-PATENT-APPL-SN-247419	.....	c14	N70-36907	US-PATENT-APPL-SN-271822	.....	c15	N71-15967
US-PATENT-APPL-SN-247423	.....	c01	N71-13410	US-PATENT-APPL-SN-271823	.....	c27	N71-28929
US-PATENT-APPL-SN-247481	.....	c05	N73-26071	US-PATENT-APPL-SN-271824	.....	c07	N71-21476
US-PATENT-APPL-SN-247482	.....	c17	N72-25517	US-PATENT-APPL-SN-271951	.....	c14	N74-15092
US-PATENT-APPL-SN-248469	.....	c14	N73-32318	US-PATENT-APPL-SN-273222	.....	c09	N74-27683
US-PATENT-APPL-SN-248471	.....	c15	N74-27902	US-PATENT-APPL-SN-273240	.....	c15	N74-16135
US-PATENT-APPL-SN-248761	.....	c31	N74-27360	US-PATENT-APPL-SN-273534	.....	c09	N70-38712
US-PATENT-APPL-SN-248985	.....	c03	N71-29129	US-PATENT-APPL-SN-274065	.....	c16	N71-28963
US-PATENT-APPL-SN-249537	.....	c14	N71-10797	US-PATENT-APPL-SN-274360	.....	c07	N74-20809
US-PATENT-APPL-SN-249539	.....	c28	N71-15658	US-PATENT-APPL-SN-275118	.....	c14	N74-18088
US-PATENT-APPL-SN-249540	.....	c15	N70-34861	US-PATENT-APPL-SN-277402	.....	c22	N70-34501
US-PATENT-APPL-SN-249542	.....	c28	N70-41576	US-PATENT-APPL-SN-277404	.....	c05	N70-39922
US-PATENT-APPL-SN-250335	.....	c12	N72-25306	US-PATENT-APPL-SN-277436	.....	c15	N74-25968
US-PATENT-APPL-SN-250451	.....	c08	N70-34787	US-PATENT-APPL-SN-277833	.....	c03	N70-41580
US-PATENT-APPL-SN-250567	.....	c33	N71-24876	US-PATENT-APPL-SN-277904	.....	c33	N74-27425
US-PATENT-APPL-SN-250766	.....	c07	N73-30115	US-PATENT-APPL-SN-277961	.....	c33	N70-36617
US-PATENT-APPL-SN-250974	.....	c31	N71-15664	US-PATENT-APPL-SN-278790	.....	c15	N70-34664
US-PATENT-APPL-SN-251449	.....	c07	N70-40063	US-PATENT-APPL-SN-279646	.....	c08	N71-21042
US-PATENT-APPL-SN-251451	.....	c09	N70-35425	US-PATENT-APPL-SN-280029	.....	c15	N74-15126
US-PATENT-APPL-SN-251609	.....	c05	N73-30078	US-PATENT-APPL-SN-280030	.....	c15	N73-20535
US-PATENT-APPL-SN-251621	.....	c16	N73-32391	US-PATENT-APPL-SN-280031	.....	c26	N73-26752
US-PATENT-APPL-SN-251752	.....	c15	N72-27527	US-PATENT-APPL-SN-280032	.....	c14	N74-15093
US-PATENT-APPL-SN-251752	.....	c18	N74-30001	US-PATENT-APPL-SN-280305	.....	c14	N74-23039
US-PATENT-APPL-SN-252259	.....	c33	N70-34595	US-PATENT-APPL-SN-280362	.....	c14	N71-28935
US-PATENT-APPL-SN-253006	.....	c22	N70-34248	US-PATENT-APPL-SN-280390	.....	c15	N74-15128
US-PATENT-APPL-SN-253249	.....	c09	N74-11050	US-PATENT-APPL-SN-280580	.....	c12	N71-21089
US-PATENT-APPL-SN-253405	.....	c10	N73-26228	US-PATENT-APPL-SN-280776	.....	c14	N70-40273
US-PATENT-APPL-SN-253725	.....	c14	N74-13129	US-PATENT-APPL-SN-280777	.....	c08	N70-41961
US-PATENT-APPL-SN-253774	.....	c25	N70-36946	US-PATENT-APPL-SN-281069	.....	c14	N70-35394
US-PATENT-APPL-SN-254173	.....	c14	N72-25440	US-PATENT-APPL-SN-281875	.....	c33	N74-18551
US-PATENT-APPL-SN-254177	.....	c10	N73-26230	US-PATENT-APPL-SN-281876	.....	c05	N74-20726
US-PATENT-APPL-SN-254323	.....	c14	N72-28443	US-PATENT-APPL-SN-281877	.....	c16	N74-15146
US-PATENT-APPL-SN-254847	.....	c15	N71-22874	US-PATENT-APPL-SN-281908	.....	c06	N72-31145
US-PATENT-APPL-SN-255132	.....	c14	N71-15598	US-PATENT-APPL-SN-282738	.....	c05	N72-31117
US-PATENT-APPL-SN-256317	.....	c05	N72-25142	US-PATENT-APPL-SN-282817	.....	c15	N70-40156
US-PATENT-APPL-SN-256317	.....	c05	N74-26626	US-PATENT-APPL-SN-282818	.....	c14	N71-14996
US-PATENT-APPL-SN-256484	.....	c06	N70-34946	US-PATENT-APPL-SN-283502	.....	c15	N74-21060
US-PATENT-APPL-SN-257346	.....	c15	N70-36901	US-PATENT-APPL-SN-284245	.....	c09	N74-17928
US-PATENT-APPL-SN-258152	.....	c14	N74-15090	US-PATENT-APPL-SN-284265	.....	c14	N70-34799
US-PATENT-APPL-SN-258171	.....	c12	N74-27744	US-PATENT-APPL-SN-284266	.....	c15	N71-16077
US-PATENT-APPL-SN-258331	.....	c03	N73-31988	US-PATENT-APPL-SN-284757	.....	c14	N70-34669
US-PATENT-APPL-SN-258931	.....	c14	N70-40203	US-PATENT-APPL-SN-285705	.....	c15	N74-21056
US-PATENT-APPL-SN-258932	.....	c05	N70-36493	US-PATENT-APPL-SN-286620	.....	c15	N71-30028
US-PATENT-APPL-SN-259487	.....	c33	N70-36847	US-PATENT-APPL-SN-287149	.....	c14	N74-32878
US-PATENT-APPL-SN-260087	.....	c21	N71-21688	US-PATENT-APPL-SN-287150	.....	c15	N74-21065
US-PATENT-APPL-SN-260093	.....	c14	N74-26948	US-PATENT-APPL-SN-288847	.....	c14	N74-27862
US-PATENT-APPL-SN-260241	.....	c23	N74-21304	US-PATENT-APPL-SN-288856	.....	c09	N74-20859
US-PATENT-APPL-SN-261183	.....	c11	N74-30597	US-PATENT-APPL-SN-288857	.....	c14	N73-33361
US-PATENT-APPL-SN-261912	.....	c14	N70-34818	US-PATENT-APPL-SN-289017	.....	c15	N74-27905
US-PATENT-APPL-SN-261917	.....	c09	N70-40272	US-PATENT-APPL-SN-289018	.....	c02	N74-30421
US-PATENT-APPL-SN-261918	.....	c28	N70-41447	US-PATENT-APPL-SN-289033	.....	c15	N73-32358
US-PATENT-APPL-SN-262430	.....	c23	N74-18323	US-PATENT-APPL-SN-289033	.....	c15	N74-21055
US-PATENT-APPL-SN-262596	.....	c14	N71-28958	US-PATENT-APPL-SN-289048	.....	c15	N74-21057
US-PATENT-APPL-SN-263230	.....	c09	N74-20860	US-PATENT-APPL-SN-289049	.....	c14	N74-15089
US-PATENT-APPL-SN-263498	.....	c14	N74-27859	US-PATENT-APPL-SN-289050	.....	c15	N74-32919
US-PATENT-APPL-SN-263815	.....	c11	N74-17955	US-PATENT-APPL-SN-290021	.....	c15	N74-23064
US-PATENT-APPL-SN-264728	.....	c30	N70-40016	US-PATENT-APPL-SN-290022	.....	c09	N73-12214
US-PATENT-APPL-SN-264729	.....	c33	N70-34540	US-PATENT-APPL-SN-290030	.....	c08	N74-12887
US-PATENT-APPL-SN-264731	.....	c09	N70-41655	US-PATENT-APPL-SN-290867	.....	c28	N70-39931
US-PATENT-APPL-SN-264735	.....	c28	N70-33265	US-PATENT-APPL-SN-290868	.....	c31	N70-34966
US-PATENT-APPL-SN-264736	.....	c28	N70-36802	US-PATENT-APPL-SN-290870	.....	c15	N70-38996
US-PATENT-APPL-SN-266107	.....	c11	N71-15925	US-PATENT-APPL-SN-290873	.....	c10	N71-16058
US-PATENT-APPL-SN-266771	.....	c15	N74-18127	US-PATENT-APPL-SN-290915	.....	c07	N74-11000
US-PATENT-APPL-SN-266772	.....	c15	N72-27486	US-PATENT-APPL-SN-291845	.....	c05	N74-27566
US-PATENT-APPL-SN-266820	.....	c28	N74-31270	US-PATENT-APPL-SN-292382	.....	c18	N74-17283



NUMBER INDEX

US-PATENT-APPL-SN-292477	c15	873-12495	US-PATENT-APPL-SN-318358	c18	874-27037
US-PATENT-APPL-SN-292596	c10	871-29135	US-PATENT-APPL-SN-318443	c03	870-34667
US-PATENT-APPL-SN-292681	c09	874-10194	US-PATENT-APPL-SN-319150	c09	873-18225
US-PATENT-APPL-SN-292682	c14	873-32319	US-PATENT-APPL-SN-319410	c15	874-20063
US-PATENT-APPL-SN-292685	c09	874-20864	US-PATENT-APPL-SN-319892	c07	871-10609
US-PATENT-APPL-SN-292686	c28	874-31269	US-PATENT-APPL-SN-319893	c14	870-41647
US-PATENT-APPL-SN-292698	c09	873-32109	US-PATENT-APPL-SN-319894	c03	871-11053
US-PATENT-APPL-SN-293725	c14	874-30886	US-PATENT-APPL-SN-319905	c14	871-10781
US-PATENT-APPL-SN-293726	c15	874-21055	US-PATENT-APPL-SN-320233	c33	871-15625
US-PATENT-APPL-SN-293727	c10	874-14956	US-PATENT-APPL-SN-320595	c26	870-40015
US-PATENT-APPL-SN-293739	c21	874-28097	US-PATENT-APPL-SN-321179	c18	874-21156
US-PATENT-APPL-SN-294727	c22	873-12702	US-PATENT-APPL-SN-321656	c14	870-41807
US-PATENT-APPL-SN-294738	c22	873-13656	US-PATENT-APPL-SN-322545	c14	871-10774
US-PATENT-APPL-SN-295855	c23	871-17802	US-PATENT-APPL-SN-322997	c15	873-19467
US-PATENT-APPL-SN-296879	c26	871-18064	US-PATENT-APPL-SN-322998	c14	874-32877
US-PATENT-APPL-SN-297127	c10	874-27705	US-PATENT-APPL-SN-323182	c03	870-41864
US-PATENT-APPL-SN-297128	c07	873-10215	US-PATENT-APPL-SN-324029	c07	874-27612
US-PATENT-APPL-SN-297128	c07	874-26654	US-PATENT-APPL-SN-325784	c18	873-16577
US-PATENT-APPL-SN-298156	c15	873-10502	US-PATENT-APPL-SN-326198	c04	873-16061
US-PATENT-APPL-SN-298157	c09	874-21850	US-PATENT-APPL-SN-326298	c14	871-22765
US-PATENT-APPL-SN-298799	c14	871-15962	US-PATENT-APPL-SN-326299	c26	871-17818
US-PATENT-APPL-SN-298800	c14	870-34705	US-PATENT-APPL-SN-326326	c14	874-32879
US-PATENT-APPL-SN-299042	c15	871-15918	US-PATENT-APPL-SN-326327	c03	874-27519
US-PATENT-APPL-SN-300113	c33	870-33344	US-PATENT-APPL-SN-326364	c05	873-16096
US-PATENT-APPL-SN-300712	c15	870-35407	US-PATENT-APPL-SN-327163	c03	871-20895
US-PATENT-APPL-SN-300957	c33	871-29053	US-PATENT-APPL-SN-327565	c02	870-36825
US-PATENT-APPL-SN-301039	c15	874-27903	US-PATENT-APPL-SN-327921	c05	873-18139
US-PATENT-APPL-SN-301417	c14	874-21014	US-PATENT-APPL-SN-327969	c14	873-29437
US-PATENT-APPL-SN-301418	c05	873-14093	US-PATENT-APPL-SN-327982	c06	873-17153
US-PATENT-APPL-SN-301419	c12	873-12295	US-PATENT-APPL-SN-328140	c18	871-21651
US-PATENT-APPL-SN-301683	c07	871-15907	US-PATENT-APPL-SN-328792	c14	873-17563
US-PATENT-APPL-SN-302681	c15	873-14480	US-PATENT-APPL-SN-329237	c09	874-34638
US-PATENT-APPL-SN-302720	c02	873-13023	US-PATENT-APPL-SN-329243	c27	874-33209
US-PATENT-APPL-SN-302749	c14	870-40201	US-PATENT-APPL-SN-329331	c15	871-15906
US-PATENT-APPL-SN-304430	c14	874-27864	US-PATENT-APPL-SN-329595	c05	870-41329
US-PATENT-APPL-SN-304698	c32	870-41579	US-PATENT-APPL-SN-329958	c10	874-22885
US-PATENT-APPL-SN-304705	c07	874-20810	US-PATENT-APPL-SN-330209	c15	870-41646
US-PATENT-APPL-SN-304749	c11	871-16028	US-PATENT-APPL-SN-330210	c14	871-21090
US-PATENT-APPL-SN-305012	c14	874-15094	US-PATENT-APPL-SN-331323	c07	871-16088
US-PATENT-APPL-SN-305013	c10	873-13435	US-PATENT-APPL-SN-331324	c05	870-35152
US-PATENT-APPL-SN-305020	c21	870-34295	US-PATENT-APPL-SN-331759	c28	873-19819
US-PATENT-APPL-SN-305638	c15	874-23066	US-PATENT-APPL-SN-331760	c14	874-27860
US-PATENT-APPL-SN-305639	c15	874-27904	US-PATENT-APPL-SN-332313	c21	871-10678
US-PATENT-APPL-SN-306652	c10	874-32712	US-PATENT-APPL-SN-332339	c07	871-11284
US-PATENT-APPL-SN-306980	c07	873-24187	US-PATENT-APPL-SN-333766	c31	871-15663
US-PATENT-APPL-SN-307269	c24	871-10560	US-PATENT-APPL-SN-333770	c21	871-15583
US-PATENT-APPL-SN-307270	c10	871-16030	US-PATENT-APPL-SN-333912	c07	874-19790
US-PATENT-APPL-SN-307271	c09	871-22999	US-PATENT-APPL-SN-334349	c15	873-18474
US-PATENT-APPL-SN-307727	c07	874-20813	US-PATENT-APPL-SN-334672	c14	870-41330
US-PATENT-APPL-SN-307728	c14	874-27861	US-PATENT-APPL-SN-334678	c11	871-10777
US-PATENT-APPL-SN-307729	c15	874-27900	US-PATENT-APPL-SN-335201	c09	874-17927
US-PATENT-APPL-SN-308362	c09	873-12216	US-PATENT-APPL-SN-335441	c14	871-23268
US-PATENT-APPL-SN-308363	c15	873-12496	US-PATENT-APPL-SN-336103	c16	871-15550
US-PATENT-APPL-SN-308918	c27	871-15634	US-PATENT-APPL-SN-336319	c33	874-33379
US-PATENT-APPL-SN-309354	c11	871-15926	US-PATENT-APPL-SN-336320	c15	871-15966
US-PATENT-APPL-SN-310034	c07	874-30524	US-PATENT-APPL-SN-336607	c10	871-15910
US-PATENT-APPL-SN-310193	c09	874-27682	US-PATENT-APPL-SN-336608	c32	871-17645
US-PATENT-APPL-SN-310506	c10	871-16042	US-PATENT-APPL-SN-337487	c15	874-26977
US-PATENT-APPL-SN-310507	c07	871-11298	US-PATENT-APPL-SN-337816	c14	873-18444
US-PATENT-APPL-SN-310611	c32	873-13529	US-PATENT-APPL-SN-338404	c07	874-20811
US-PATENT-APPL-SN-310615	c15	874-27901	US-PATENT-APPL-SN-339040	c31	870-41373
US-PATENT-APPL-SN-310616	c14	874-21017	US-PATENT-APPL-SN-339806	c02	874-27490
US-PATENT-APPL-SN-310624	c09	874-17929	US-PATENT-APPL-SN-339821	c17	870-33288
US-PATENT-APPL-SN-311175	c05	874-22771	US-PATENT-APPL-SN-339825	c28	871-15660
US-PATENT-APPL-SN-311234	c14	874-23040	US-PATENT-APPL-SN-340113	c16	870-41578
US-PATENT-APPL-SN-311387	c23	871-30027	US-PATENT-APPL-SN-340791	c14	874-26945
US-PATENT-APPL-SN-312269	c28	871-14043	US-PATENT-APPL-SN-340862	c09	873-32121
US-PATENT-APPL-SN-312443	c10	871-21473	US-PATENT-APPL-SN-340863	c24	873-20763
US-PATENT-APPL-SN-313132	c28	870-34175	US-PATENT-APPL-SN-340864	c15	874-21059
US-PATENT-APPL-SN-313135	c15	870-35087	US-PATENT-APPL-SN-340865	c31	873-20880
US-PATENT-APPL-SN-313136	c09	871-12540	US-PATENT-APPL-SN-340871	c10	874-19870
US-PATENT-APPL-SN-313381	c14	874-15091	US-PATENT-APPL-SN-341467	c15	870-39924
US-PATENT-APPL-SN-313389	c06	873-29074	US-PATENT-APPL-SN-341621	c05	874-20725
US-PATENT-APPL-SN-314074	c15	871-16079	US-PATENT-APPL-SN-341662	c03	874-10942
US-PATENT-APPL-SN-314570	c10	871-28960	US-PATENT-APPL-SN-342572	c02	871-16087
US-PATENT-APPL-SN-314572	c14	871-15992	US-PATENT-APPL-SN-342574	c03	871-20904
US-PATENT-APPL-SN-315048	c12	874-27730	US-PATENT-APPL-SN-343308	c03	874-29410
US-PATENT-APPL-SN-315068	c02	873-20008	US-PATENT-APPL-SN-343425	c11	870-35383
US-PATENT-APPL-SN-315069	c09	874-20862	US-PATENT-APPL-SN-343426	c07	871-20814
US-PATENT-APPL-SN-315070	c08	873-16163	US-PATENT-APPL-SN-343607	c32	874-27397
US-PATENT-APPL-SN-315096	c12	870-40124	US-PATENT-APPL-SN-343760	c07	871-28979
US-PATENT-APPL-SN-316477	c18	871-10772	US-PATENT-APPL-SN-344410	c28	874-33218
US-PATENT-APPL-SN-316618	c28	874-15453	US-PATENT-APPL-SN-344793	c03	871-11058
US-PATENT-APPL-SN-317389	c18	870-41583	US-PATENT-APPL-SN-345372	c07	874-22814
US-PATENT-APPL-SN-317391	c15	871-15968	US-PATENT-APPL-SN-346356	c14	870-41676
US-PATENT-APPL-SN-317567	c16	873-18508	US-PATENT-APPL-SN-346361	c15	874-21064
US-PATENT-APPL-SN-318151	c25	874-39156	US-PATENT-APPL-SN-346372	c14	873-23527
US-PATENT-APPL-SN-318152	c05	874-20728	US-PATENT-APPL-SN-346483	c15	874-32921
US-PATENT-APPL-SN-318357	c14	874-21019	US-PATENT-APPL-SN-347101	c09	870-41675

NUMBER INDEX

US-PATENT-APPL-SN-347626	c15 N70-40204	US-PATENT-APPL-SN-371322	c03 N73-26048
US-PATENT-APPL-SN-347952	c15 N73-23553	US-PATENT-APPL-SN-371856	c15 N70-42033
US-PATENT-APPL-SN-347953	c05 N73-21151	US-PATENT-APPL-SN-371857	c07 N70-41680
US-PATENT-APPL-SN-347960	c03 N70-39930	US-PATENT-APPL-SN-372142	c03 N73-26047
US-PATENT-APPL-SN-348422	c18 N73-23629	US-PATENT-APPL-SN-372143	c15 N73-27407
US-PATENT-APPL-SN-348600	c28 N71-29154	US-PATENT-APPL-SN-372148	c14 N74-26949
US-PATENT-APPL-SN-348787	c09 N73-23290	US-PATENT-APPL-SN-372149	c15 N73-26474
US-PATENT-APPL-SN-349778	c09 N70-40234	US-PATENT-APPL-SN-372438	c30 N71-17788
US-PATENT-APPL-SN-349781	c31 N71-15647	US-PATENT-APPL-SN-372648	c27 N71-16348
US-PATENT-APPL-SN-349782	c09 N71-16086	US-PATENT-APPL-SN-372727	c31 N70-36845
US-PATENT-APPL-SN-350249	c20 N73-21523	US-PATENT-APPL-SN-372730	c28 N71-28850
US-PATENT-APPL-SN-350250	c18 N73-21471	US-PATENT-APPL-SN-373587	c10 N74-32711
US-PATENT-APPL-SN-350300	c15 N74-32920	US-PATENT-APPL-SN-373588	c09 N73-26199
US-PATENT-APPL-SN-351259	c15 N71-10672	US-PATENT-APPL-SN-373591	c31 N71-15692
US-PATENT-APPL-SN-351929	c10 N73-21240	US-PATENT-APPL-SN-374421	c18 N73-27501
US-PATENT-APPL-SN-352381	c28 N73-22721	US-PATENT-APPL-SN-374422	c07 N73-27106
US-PATENT-APPL-SN-352382	c08 N73-21199	US-PATENT-APPL-SN-374423	c16 N73-27431
US-PATENT-APPL-SN-352383	c14 N73-21390	US-PATENT-APPL-SN-374424	c14 N74-12190
US-PATENT-APPL-SN-352400	c26 N71-10607	US-PATENT-APPL-SN-374441	c14 N73-27380
US-PATENT-APPL-SN-353162	c09 N73-23291	US-PATENT-APPL-SN-374583	c09 N74-29556
US-PATENT-APPL-SN-353632	c15 N71-13789	US-PATENT-APPL-SN-375401	c17 N71-16025
US-PATENT-APPL-SN-353634	c15 N70-41829	US-PATENT-APPL-SN-375405	c31 N71-15675
US-PATENT-APPL-SN-353637	c02 N70-34160	US-PATENT-APPL-SN-375674	c28 N70-41582
US-PATENT-APPL-SN-353644	c07 N71-23098	US-PATENT-APPL-SN-375680	c10 N71-28739
US-PATENT-APPL-SN-353645	c15 N71-15922	US-PATENT-APPL-SN-375682	c31 N70-41588
US-PATENT-APPL-SN-354060	c23 N73-22630	US-PATENT-APPL-SN-376258	c22 N73-28660
US-PATENT-APPL-SN-354182	c10 N71-20841	US-PATENT-APPL-SN-377146	c14 N71-23041
US-PATENT-APPL-SN-354406	c05 N73-22045	US-PATENT-APPL-SN-377777	c32 N70-42003
US-PATENT-APPL-SN-354407	c09 N74-22865	US-PATENT-APPL-SN-377780	c11 N71-10604
US-PATENT-APPL-SN-354408	c14 N73-22387	US-PATENT-APPL-SN-377784	c28 N70-41311
US-PATENT-APPL-SN-354611	c14 N74-26947	US-PATENT-APPL-SN-378080	c12 N71-24692
US-PATENT-APPL-SN-354612	c14 N73-22386	US-PATENT-APPL-SN-379018	c05 N74-11901
US-PATENT-APPL-SN-355126	c17 N71-15644	US-PATENT-APPL-SN-379019	c11 N73-27175
US-PATENT-APPL-SN-355129	c14 N70-41957	US-PATENT-APPL-SN-379048	c05 N74-11900
US-PATENT-APPL-SN-355130	c15 N70-40354	US-PATENT-APPL-SN-379049	c15 N73-31444
US-PATENT-APPL-SN-356488	c08 N71-19544	US-PATENT-APPL-SN-379072	c15 N71-16078
US-PATENT-APPL-SN-356554	c15 N73-22415	US-PATENT-APPL-SN-379290	c14 N73-28499
US-PATENT-APPL-SN-356555	c15 N73-22417	US-PATENT-APPL-SN-379417	c02 N70-41863
US-PATENT-APPL-SN-356664	c26 N73-23770	US-PATENT-APPL-SN-379768	c28 N71-10780
US-PATENT-APPL-SN-356692	c15 N70-41371	US-PATENT-APPL-SN-379771	c33 N71-28852
US-PATENT-APPL-SN-357126	c14 N74-34857	US-PATENT-APPL-SN-380046	c11 N73-28128
US-PATENT-APPL-SN-357312	c17 N73-22474	US-PATENT-APPL-SN-380630	c15 N73-29457
US-PATENT-APPL-SN-357334	c03 N71-12258	US-PATENT-APPL-SN-380960	c15 N70-41993
US-PATENT-APPL-SN-357336	c03 N71-12259	US-PATENT-APPL-SN-380965	c10 N71-23033
US-PATENT-APPL-SN-357337	c15 N71-10782	US-PATENT-APPL-SN-381848	c14 N74-12191
US-PATENT-APPL-SN-357340	c23 N71-15673	US-PATENT-APPL-SN-381940	c09 N71-20705
US-PATENT-APPL-SN-358127	c05 N71-12335	US-PATENT-APPL-SN-382261	c14 N73-28495
US-PATENT-APPL-SN-359039	c07 N74-30523	US-PATENT-APPL-SN-382262	c15 N74-21058
US-PATENT-APPL-SN-359156	c14 N73-23526	US-PATENT-APPL-SN-382976	c15 N71-21179
US-PATENT-APPL-SN-359157	c14 N74-18090	US-PATENT-APPL-SN-384010	c10 N71-28859
US-PATENT-APPL-SN-359532	c15 N71-28959	US-PATENT-APPL-SN-384773	c21 N73-28646
US-PATENT-APPL-SN-359957	c02 N74-32418	US-PATENT-APPL-SN-384811	c15 N71-10809
US-PATENT-APPL-SN-359958	c15 N74-26976	US-PATENT-APPL-SN-385013	c14 N73-28496
US-PATENT-APPL-SN-360180	c17 N71-16026	US-PATENT-APPL-SN-385520	c14 N71-23037
US-PATENT-APPL-SN-360182	c31 N70-36654	US-PATENT-APPL-SN-385522	c12 N73-28179
US-PATENT-APPL-SN-360878	c03 N71-11051	US-PATENT-APPL-SN-385526	c12 N71-16031
US-PATENT-APPL-SN-361666	c09 N73-24236	US-PATENT-APPL-SN-385527	c31 N71-17729
US-PATENT-APPL-SN-361906	c09 N74-20861	US-PATENT-APPL-SN-385530	c09 N71-10798
US-PATENT-APPL-SN-361907	c14 N74-27865	US-PATENT-APPL-SN-386467	c14 N70-40233
US-PATENT-APPL-SN-362145	c07 N73-26144	US-PATENT-APPL-SN-386789	c05 N73-30090
US-PATENT-APPL-SN-362146	c10 N73-26231	US-PATENT-APPL-SN-386790	c14 N73-30428
US-PATENT-APPL-SN-362261	c14 N73-32325	US-PATENT-APPL-SN-386793	c16 N73-30478
US-PATENT-APPL-SN-363348	c05 N70-41581	US-PATENT-APPL-SN-386800	c15 N71-21404
US-PATENT-APPL-SN-363653	c07 N70-41331	US-PATENT-APPL-SN-387094	c15 N73-31438
US-PATENT-APPL-SN-363654	c07 N70-41372	US-PATENT-APPL-SN-387095	c15 N73-30462
US-PATENT-APPL-SN-363691	c28 N73-25816	US-PATENT-APPL-SN-387266	c14 N74-28932
US-PATENT-APPL-SN-364867	c09 N71-10673	US-PATENT-APPL-SN-387332	c15 N70-33226
US-PATENT-APPL-SN-365644	c14 N74-26946	US-PATENT-APPL-SN-388023	c10 N70-41964
US-PATENT-APPL-SN-366226	c10 N71-166057	US-PATENT-APPL-SN-388024	c32 N71-17609
US-PATENT-APPL-SN-367267	c02 N73-26008	US-PATENT-APPL-SN-388956	c31 N70-41855
US-PATENT-APPL-SN-367268	c02 N73-26007	US-PATENT-APPL-SN-388967	c10 N71-23271
US-PATENT-APPL-SN-367293	c16 N73-25564	US-PATENT-APPL-SN-389916	c31 N73-30832
US-PATENT-APPL-SN-367294	c30 N73-26838	US-PATENT-APPL-SN-389929	c10 N73-31202
US-PATENT-APPL-SN-367606	c25 N73-26721	US-PATENT-APPL-SN-390250	c21 N70-41856
US-PATENT-APPL-SN-368123	c09 N71-10618	US-PATENT-APPL-SN-390251	c07 N71-23026
US-PATENT-APPL-SN-369334	c21 N71-22880	US-PATENT-APPL-SN-390466	c18 N73-30536
US-PATENT-APPL-SN-369336	c09 N71-10659	US-PATENT-APPL-SN-390467	c05 N73-31011
US-PATENT-APPL-SN-369337	c15 N70-41811	US-PATENT-APPL-SN-390468	c16 N73-31467
US-PATENT-APPL-SN-369338	c08 N71-28925	US-PATENT-APPL-SN-391343	c05 N69-21473
US-PATENT-APPL-SN-369640	c32 N70-41370	US-PATENT-APPL-SN-392823	c33 N74-33378
US-PATENT-APPL-SN-370134	c30 N70-40353	US-PATENT-APPL-SN-392965	c18 N71-22998
US-PATENT-APPL-SN-370135	c11 N70-41677	US-PATENT-APPL-SN-392969	c09 N71-23573
US-PATENT-APPL-SN-370255	c09 N73-26197	US-PATENT-APPL-SN-392970	c32 N70-41367
US-PATENT-APPL-SN-370271	c07 N73-27107	US-PATENT-APPL-SN-392973	c07 N71-23001
US-PATENT-APPL-SN-370581	c27 N73-27695	US-PATENT-APPL-SN-392992	c15 N71-23052
US-PATENT-APPL-SN-370582	c31 N73-26879	US-PATENT-APPL-SN-393451	c02 N70-42016
US-PATENT-APPL-SN-370872	c15 N74-32918	US-PATENT-APPL-SN-393461	c31 N71-17691
US-PATENT-APPL-SN-370989	c23 N71-29049	US-PATENT-APPL-SN-393464	c23 N71-21821
US-PATENT-APPL-SN-370999	c23 N73-32538	US-PATENT-APPL-SN-393523	c15 N73-31443

NUMBER INDEX

US-PATENT-APPL-SN-393524	c08	N74-17911	US-PATENT-APPL-SN-418362	c14	N71-20741
US-PATENT-APPL-SN-393525	c15	N74-32917	US-PATENT-APPL-SN-418931	c05	N70-42000
US-PATENT-APPL-SN-393526	c33	N73-32823	US-PATENT-APPL-SN-418933	c15	N71-23022
US-PATENT-APPL-SN-393527	c31	N73-32769	US-PATENT-APPL-SN-419747	c09	N74-14942
US-PATENT-APPL-SN-393528	c16	N73-32398	US-PATENT-APPL-SN-419748	c18	N74-15213
US-PATENT-APPL-SN-394109	c14	N74-19093	US-PATENT-APPL-SN-419831	c14	N74-13146
US-PATENT-APPL-SN-394206	c09	N73-32114	US-PATENT-APPL-SN-420245	c08	N71-22749
US-PATENT-APPL-SN-394207	c15	N74-10476	US-PATENT-APPL-SN-420250	c15	N71-23051
US-PATENT-APPL-SN-394638	c28	N70-34162	US-PATENT-APPL-SN-420424	c12	N74-29652
US-PATENT-APPL-SN-394898	c28	N73-31699	US-PATENT-APPL-SN-420466	c14	N71-23092
US-PATENT-APPL-SN-395348	c15	N71-22713	US-PATENT-APPL-SN-420813	c16	N74-16187
US-PATENT-APPL-SN-395493	c15	N73-32371	US-PATENT-APPL-SN-421702	c29	N74-14496
US-PATENT-APPL-SN-395495	c05	N74-32549	US-PATENT-APPL-SN-422092	c14	N71-22989
US-PATENT-APPL-SN-395687	c15	N73-31445	US-PATENT-APPL-SN-422095	c07	N71-10676
US-PATENT-APPL-SN-395868	c09	N73-32116	US-PATENT-APPL-SN-422096	c03	N71-29044
US-PATENT-APPL-SN-396443	c15	N71-15986	US-PATENT-APPL-SN-422097	c11	N71-21481
US-PATENT-APPL-SN-396444	c10	N71-20782	US-PATENT-APPL-SN-422098	c15	N71-22797
US-PATENT-APPL-SN-397476	c33	N73-32828	US-PATENT-APPL-SN-422099	c14	N71-22964
US-PATENT-APPL-SN-397477	c09	N73-32120	US-PATENT-APPL-SN-422100	c14	N71-21040
US-PATENT-APPL-SN-397478	c04	N73-32000	US-PATENT-APPL-SN-422864	c05	N69-21925
US-PATENT-APPL-SN-397665	c10	N70-41991	US-PATENT-APPL-SN-422865	c31	N70-41631
US-PATENT-APPL-SN-398131	c05	N70-41297	US-PATENT-APPL-SN-422867	c15	N70-40062
US-PATENT-APPL-SN-398132	c15	N70-41808	US-PATENT-APPL-SN-422868	c15	N71-10617
US-PATENT-APPL-SN-398885	c18	N74-11366	US-PATENT-APPL-SN-422869	c14	N71-10779
US-PATENT-APPL-SN-398886	c28	N73-32624	US-PATENT-APPL-SN-423412	c08	N71-22897
US-PATENT-APPL-SN-398901	c15	N73-32376	US-PATENT-APPL-SN-424013	c14	N74-14115
US-PATENT-APPL-SN-399419	c21	N71-23289	US-PATENT-APPL-SN-424038	c15	N74-14141
US-PATENT-APPL-SN-400467	c07	N73-32063	US-PATENT-APPL-SN-424153	c15	N71-21234
US-PATENT-APPL-SN-400613	c15	N71-21528	US-PATENT-APPL-SN-424156	c02	N71-23007
US-PATENT-APPL-SN-400617	c31	N71-17629	US-PATENT-APPL-SN-424157	c28	N70-41275
US-PATENT-APPL-SN-401466	c09	N74-10202	US-PATENT-APPL-SN-424590	c14	N74-33944
US-PATENT-APPL-SN-401919	c18	N74-10542	US-PATENT-APPL-SN-425096	c05	N71-23080
US-PATENT-APPL-SN-401920	c15	N74-20073	US-PATENT-APPL-SN-425362	c15	N71-10658
US-PATENT-APPL-SN-401921	c27	N74-20397	US-PATENT-APPL-SN-425363	c18	N74-20152
US-PATENT-APPL-SN-402365	c31	N71-17730	US-PATENT-APPL-SN-425363	c09	N71-20658
US-PATENT-APPL-SN-402865	c09	N74-32660	US-PATENT-APPL-SN-425364	c33	N71-15623
US-PATENT-APPL-SN-402866	c23	N73-32542	US-PATENT-APPL-SN-425365	c32	N71-21045
US-PATENT-APPL-SN-402867	c14	N73-32348	US-PATENT-APPL-SN-425972	c03	N71-23006
US-PATENT-APPL-SN-402868	c14	N73-32344	US-PATENT-APPL-SN-426155	c09	N74-13894
US-PATENT-APPL-SN-402978	c10	N71-23084	US-PATENT-APPL-SN-426405	c26	N74-27261
US-PATENT-APPL-SN-403694	c05	N74-10100	US-PATENT-APPL-SN-426455	c28	N71-15661
US-PATENT-APPL-SN-403695	c31	N73-32784	US-PATENT-APPL-SN-426702	c15	N70-42034
US-PATENT-APPL-SN-403959	c14	N70-41994	US-PATENT-APPL-SN-427395	c05	N74-13818
US-PATENT-APPL-SN-403960	c14	N70-41366	US-PATENT-APPL-SN-427775	c18	N74-14230
US-PATENT-APPL-SN-404212	c14	N73-32324	US-PATENT-APPL-SN-427990	c06	N71-23527
US-PATENT-APPL-SN-405341	c05	N74-10099	US-PATENT-APPL-SN-428882	c31	N70-41948
US-PATENT-APPL-SN-405342	c14	N74-10421	US-PATENT-APPL-SN-428887	c33	N71-29051
US-PATENT-APPL-SN-405346	c15	N74-10475	US-PATENT-APPL-SN-428890	c02	N70-41630
US-PATENT-APPL-SN-405629	c09	N71-10677	US-PATENT-APPL-SN-428992	c18	N74-16246
US-PATENT-APPL-SN-405630	c14	N71-10616	US-PATENT-APPL-SN-428993	c14	N74-25932
US-PATENT-APPL-SN-405632	c21	N71-15582	US-PATENT-APPL-SN-428994	c07	N74-17888
US-PATENT-APPL-SN-406097	c14	N71-21088	US-PATENT-APPL-SN-428995	c04	N74-13807
US-PATENT-APPL-SN-406715	c14	N74-10420	US-PATENT-APPL-SN-429437	c14	N74-18093
US-PATENT-APPL-SN-407595	c28	N70-41992	US-PATENT-APPL-SN-429932	c05	N71-20268
US-PATENT-APPL-SN-407599	c14	N71-21091	US-PATENT-APPL-SN-430192	c18	N71-27170
US-PATENT-APPL-SN-407603	c05	N71-11199	US-PATENT-APPL-SN-430226	c18	N71-23658
US-PATENT-APPL-SN-408435	c15	N71-28937	US-PATENT-APPL-SN-430776	c03	N70-41954
US-PATENT-APPL-SN-408438	c07	N71-22750	US-PATENT-APPL-SN-430777	c18	N71-24184
US-PATENT-APPL-SN-408442	c10	N71-23662	US-PATENT-APPL-SN-430778	c03	N71-10728
US-PATENT-APPL-SN-409126	c18	N71-21068	US-PATENT-APPL-SN-430780	c03	N71-12260
US-PATENT-APPL-SN-409990	c14	N74-10422	US-PATENT-APPL-SN-431235	c15	N71-16052
US-PATENT-APPL-SN-409991	c09	N74-11058	US-PATENT-APPL-SN-432025	c15	N71-21531
US-PATENT-APPL-SN-410325	c18	N71-23088	US-PATENT-APPL-SN-432026	c07	N71-23405
US-PATENT-APPL-SN-410326	c09	N71-21449	US-PATENT-APPL-SN-432027	c21	N70-41930
US-PATENT-APPL-SN-410330	c26	N71-23043	US-PATENT-APPL-SN-432028	c15	N71-22723
US-PATENT-APPL-SN-410331	c02	N70-41589	US-PATENT-APPL-SN-432030	c12	N71-20896
US-PATENT-APPL-SN-410332	c14	N71-23039	US-PATENT-APPL-SN-432032	c15	N69-24322
US-PATENT-APPL-SN-411572	c14	N74-11288	US-PATENT-APPL-SN-432433	c15	N71-22705
US-PATENT-APPL-SN-411944	c15	N70-41629	US-PATENT-APPL-SN-433821	c09	N71-16089
US-PATENT-APPL-SN-411945	c18	N71-23047	US-PATENT-APPL-SN-433968	c09	N74-14941
US-PATENT-APPL-SN-411949	c27	N71-15635	US-PATENT-APPL-SN-434143	c15	N71-15871
US-PATENT-APPL-SN-412079	c15	N74-23071	US-PATENT-APPL-SN-434148	c31	N71-24750
US-PATENT-APPL-SN-412080	c16	N74-20118	US-PATENT-APPL-SN-435387	c10	N70-42032
US-PATENT-APPL-SN-412379	c07	N74-11005	US-PATENT-APPL-SN-435433	c14	N71-30026
US-PATENT-APPL-SN-413661	c15	N71-23024	US-PATENT-APPL-SN-435756	c12	N71-16894
US-PATENT-APPL-SN-413662	c09	N70-41929	US-PATENT-APPL-SN-436313	c15	N74-16139
US-PATENT-APPL-SN-414042	c15	N74-13199	US-PATENT-APPL-SN-436315	c18	N74-18197
US-PATENT-APPL-SN-414043	c06	N74-11926	US-PATENT-APPL-SN-436316	c28	N74-28232
US-PATENT-APPL-SN-414482	c10	N71-10578	US-PATENT-APPL-SN-436317	c32	N74-23449
US-PATENT-APPL-SN-415486	c15	N74-32925	US-PATENT-APPL-SN-437556	c18	N74-16249
US-PATENT-APPL-SN-416135	c07	N74-15838	US-PATENT-APPL-SN-437611	c09	N71-22796
US-PATENT-APPL-SN-416938	c11	N71-10746	US-PATENT-APPL-SN-438135	c09	N71-23027
US-PATENT-APPL-SN-416940	c21	N71-21708	US-PATENT-APPL-SN-438147	c11	N74-18891
US-PATENT-APPL-SN-416941	c31	N70-34159	US-PATENT-APPL-SN-438797	c14	N71-10500
US-PATENT-APPL-SN-416943	c14	N71-23269	US-PATENT-APPL-SN-439489	c09	N70-41717
US-PATENT-APPL-SN-416945	c10	N71-23543	US-PATENT-APPL-SN-439490	c23	N69-24332
US-PATENT-APPL-SN-416946	c28	N71-15563	US-PATENT-APPL-SN-440033	c27	N70-41897
US-PATENT-APPL-SN-417253	c11	N71-23042	US-PATENT-APPL-SN-440036	c09	N71-23097
US-PATENT-APPL-SN-418010	c07	N74-12843	US-PATENT-APPL-SN-440039	c09	N71-22888

NUMBER INDEX

US-PATENT-APPL-SN-440916	.....	c03	N74-29416	US-PATENT-APPL-SN-464880	.....	c33	N71-21586
US-PATENT-APPL-SN-440917	.....	c15	N74-18132	US-PATENT-APPL-SN-464885	.....	c15	N71-22997
US-PATENT-APPL-SN-440918	.....	c14	N74-32884	US-PATENT-APPL-SN-466390	.....	c28	N71-20330
US-PATENT-APPL-SN-441936	.....	c14	N69-39975	US-PATENT-APPL-SN-466868	.....	c22	N71-23599
US-PATENT-APPL-SN-442558	.....	c15	N71-10799	US-PATENT-APPL-SN-466873	.....	c17	N71-20743
US-PATENT-APPL-SN-442835	.....	c26	N71-29156	US-PATENT-APPL-SN-466875	.....	c08	N71-22707
US-PATENT-APPL-SN-444087	.....	c02	N71-11041	US-PATENT-APPL-SN-467820	.....	c28	N71-26779
US-PATENT-APPL-SN-445178	.....	c15	N74-18134	US-PATENT-APPL-SN-468647	.....	c21	N71-10771
US-PATENT-APPL-SN-445292	.....	c11	N71-23030	US-PATENT-APPL-SN-468655	.....	c15	N69-21471
US-PATENT-APPL-SN-445398	.....	c16	N74-18153	US-PATENT-APPL-SN-469011	.....	c11	N69-21540
US-PATENT-APPL-SN-445807	.....	c14	N71-22996	US-PATENT-APPL-SN-469012	.....	c25	N71-20747
US-PATENT-APPL-SN-446131	.....	c14	N71-22992	US-PATENT-APPL-SN-469013	.....	c14	N69-27423
US-PATENT-APPL-SN-446560	.....	c23	N74-33142	US-PATENT-APPL-SN-470428	.....	c09	N74-22873
US-PATENT-APPL-SN-446561	.....	c14	N74-20020	US-PATENT-APPL-SN-470902	.....	c06	N71-28808
US-PATENT-APPL-SN-446562	.....	c14	N74-18099	US-PATENT-APPL-SN-471154	.....	c09	N73-28084
US-PATENT-APPL-SN-446564	.....	c14	N74-20021	US-PATENT-APPL-SN-472066	.....	c31	N70-42075
US-PATENT-APPL-SN-446567	.....	c33	N74-19584	US-PATENT-APPL-SN-472372	.....	c07	N71-20791
US-PATENT-APPL-SN-446568	.....	c15	N74-18131	US-PATENT-APPL-SN-472747	.....	c31	N71-16081
US-PATENT-APPL-SN-446569	.....	c33	N74-19583	US-PATENT-APPL-SN-472775	.....	c14	N74-25931
US-PATENT-APPL-SN-447124	.....	c14	N74-18101	US-PATENT-APPL-SN-473535	.....	c31	N71-15637
US-PATENT-APPL-SN-447927	.....	c11	N71-10776	US-PATENT-APPL-SN-473537	.....	c08	N71-15908
US-PATENT-APPL-SN-447928	.....	c15	N71-10577	US-PATENT-APPL-SN-473973	.....	c02	N74-26456
US-PATENT-APPL-SN-447930	.....	c14	N69-39896	US-PATENT-APPL-SN-474531	.....	c31	N71-23009
US-PATENT-APPL-SN-447933	.....	c03	N69-21337	US-PATENT-APPL-SN-474744	.....	c12	N74-25805
US-PATENT-APPL-SN-448320	.....	c14	N74-32885	US-PATENT-APPL-SN-474745	.....	c15	N74-26988
US-PATENT-APPL-SN-448321	.....	c06	N74-19772	US-PATENT-APPL-SN-475299	.....	c31	N71-17679
US-PATENT-APPL-SN-448323	.....	c31	N74-33303	US-PATENT-APPL-SN-475337	.....	c04	N74-26619
US-PATENT-APPL-SN-448325	.....	c14	N74-18100	US-PATENT-APPL-SN-475338	.....	c14	N74-32883
US-PATENT-APPL-SN-448365	.....	c10	N71-26414	US-PATENT-APPL-SN-476759	.....	c03	N70-42073
US-PATENT-APPL-SN-448898	.....	c15	N70-41310	US-PATENT-APPL-SN-476761	.....	c11	N71-10748
US-PATENT-APPL-SN-449118	.....	c10	N74-17949	US-PATENT-APPL-SN-476763	.....	c09	N69-21313
US-PATENT-APPL-SN-449153	.....	c05	N74-17858	US-PATENT-APPL-SN-477333	.....	c28	N70-41922
US-PATENT-APPL-SN-449901	.....	c28	N70-41967	US-PATENT-APPL-SN-478491	.....	c14	N69-21363
US-PATENT-APPL-SN-449902	.....	c14	N70-41681	US-PATENT-APPL-SN-478800	.....	c15	N74-26989
US-PATENT-APPL-SN-450500	.....	c06	N74-19776	US-PATENT-APPL-SN-478801	.....	c09	N74-27688
US-PATENT-APPL-SN-450501	.....	c09	N74-19852	US-PATENT-APPL-SN-478802	.....	c14	N74-27872
US-PATENT-APPL-SN-450502	.....	c15	N74-20072	US-PATENT-APPL-SN-478803	.....	c23	N74-28134
US-PATENT-APPL-SN-450503	.....	c09	N74-18869	US-PATENT-APPL-SN-479353	.....	c15	N71-23256
US-PATENT-APPL-SN-450504	.....	c15	N74-20071	US-PATENT-APPL-SN-480210	.....	c11	N71-21474
US-PATENT-APPL-SN-450505	.....	c15	N74-18133	US-PATENT-APPL-SN-480211	.....	c14	N71-26135
US-PATENT-APPL-SN-450536	.....	c14	N74-18098	US-PATENT-APPL-SN-482104	.....	c18	N74-30005
US-PATENT-APPL-SN-451596	.....	c17	N71-29137	US-PATENT-APPL-SN-482105	.....	c18	N74-30004
US-PATENT-APPL-SN-452761	.....	c09	N74-19853	US-PATENT-APPL-SN-482307	.....	c15	N71-21060
US-PATENT-APPL-SN-452767	.....	c05	N74-18805	US-PATENT-APPL-SN-482311	.....	c05	N71-22748
US-PATENT-APPL-SN-452768	.....	c05	N74-19761	US-PATENT-APPL-SN-482313	.....	c11	N69-24321
US-PATENT-APPL-SN-452769	.....	c03	N74-18726	US-PATENT-APPL-SN-482670	.....	c14	N71-21007
US-PATENT-APPL-SN-452770	.....	c14	N74-20022	US-PATENT-APPL-SN-482952	.....	c09	N71-28926
US-PATENT-APPL-SN-452944	.....	c18	N71-24183	US-PATENT-APPL-SN-482953	.....	c07	N74-30532
US-PATENT-APPL-SN-452945	.....	c18	N69-39979	US-PATENT-APPL-SN-482967	.....	c28	N74-28233
US-PATENT-APPL-SN-453115	.....	c14	N74-20019	US-PATENT-APPL-SN-483850	.....	c15	N74-34882
US-PATENT-APPL-SN-453225	.....	c15	N71-24833	US-PATENT-APPL-SN-483851	.....	c09	N74-27690
US-PATENT-APPL-SN-453227	.....	c31	N71-10582	US-PATENT-APPL-SN-483852	.....	c09	N74-27689
US-PATENT-APPL-SN-453229	.....	c17	N71-23828	US-PATENT-APPL-SN-483853	.....	c17	N74-27963
US-PATENT-APPL-SN-453231	.....	c23	N71-15467	US-PATENT-APPL-SN-483857	.....	c14	N74-34861
US-PATENT-APPL-SN-453232	.....	c15	N71-21311	US-PATENT-APPL-SN-483858	.....	c14	N74-30894
US-PATENT-APPL-SN-453232	.....	c31	N74-20541	US-PATENT-APPL-SN-483885	.....	c04	N71-23185
US-PATENT-APPL-SN-455163	.....	c07	N74-19806	US-PATENT-APPL-SN-483886	.....	c09	N71-22988
US-PATENT-APPL-SN-455164	.....	c03	N74-19702	US-PATENT-APPL-SN-483891	.....	c14	N69-39982
US-PATENT-APPL-SN-455352	.....	c33	N71-20834	US-PATENT-APPL-SN-484156	.....	c11	N71-21475
US-PATENT-APPL-SN-455477	.....	c08	N71-19687	US-PATENT-APPL-SN-484208	.....	c14	N74-28933
US-PATENT-APPL-SN-456578	.....	c07	N70-41678	US-PATENT-APPL-SN-484209	.....	c14	N74-27875
US-PATENT-APPL-SN-456581	.....	c09	N71-23021	US-PATENT-APPL-SN-484485	.....	c01	N71-23497
US-PATENT-APPL-SN-456874	.....	c06	N71-23499	US-PATENT-APPL-SN-484489	.....	c10	N71-15909
US-PATENT-APPL-SN-457295	.....	c03	N74-19701	US-PATENT-APPL-SN-484490	.....	c24	N71-20518
US-PATENT-APPL-SN-457874	.....	c09	N71-23545	US-PATENT-APPL-SN-484855	.....	c09	N71-19480
US-PATENT-APPL-SN-457875	.....	c31	N70-42015	US-PATENT-APPL-SN-485058	.....	c06	N71-23500
US-PATENT-APPL-SN-457876	.....	c02	N71-12243	US-PATENT-APPL-SN-485656	.....	c28	N71-10574
US-PATENT-APPL-SN-457879	.....	c15	N71-21078	US-PATENT-APPL-SN-485957	.....	c25	N71-21694
US-PATENT-APPL-SN-458484	.....	c03	N74-19700	US-PATENT-APPL-SN-485958	.....	c15	N71-24047
US-PATENT-APPL-SN-459138	.....	c14	N71-10773	US-PATENT-APPL-SN-485960	.....	c15	N70-42017
US-PATENT-APPL-SN-459407	.....	c14	N73-30391	US-PATENT-APPL-SN-486573	.....	c10	N71-19469
US-PATENT-APPL-SN-459736	.....	c09	N74-19854	US-PATENT-APPL-SN-486684	.....	c15	N73-32362
US-PATENT-APPL-SN-460876	.....	c09	N69-21470	US-PATENT-APPL-SN-487341	.....	c14	N71-19431
US-PATENT-APPL-SN-460877	.....	c33	N71-23085	US-PATENT-APPL-SN-487342	.....	c09	N71-21583
US-PATENT-APPL-SN-461073	.....	c14	N74-22113	US-PATENT-APPL-SN-487343	.....	c03	N69-39890
US-PATENT-APPL-SN-461477	.....	c15	N74-22145	US-PATENT-APPL-SN-487344	.....	c15	N69-21472
US-PATENT-APPL-SN-461765	.....	c17	N71-23046	US-PATENT-APPL-SN-487352	.....	c14	N71-18699
US-PATENT-APPL-SN-462705	.....	c15	N74-25971	US-PATENT-APPL-SN-487852	.....	c06	N74-29480
US-PATENT-APPL-SN-462706	.....	c15	N74-22146	US-PATENT-APPL-SN-487929	.....	c09	N74-20859
US-PATENT-APPL-SN-462762	.....	c12	N69-21466	US-PATENT-APPL-SN-487934	.....	c15	N71-21530
US-PATENT-APPL-SN-462763	.....	c14	N71-22991	US-PATENT-APPL-SN-487939	.....	c14	N71-23040
US-PATENT-APPL-SN-462844	.....	c10	N74-26760	US-PATENT-APPL-SN-487940	.....	c10	N71-26434
US-PATENT-APPL-SN-462903	.....	c15	N74-22147	US-PATENT-APPL-SN-488381	.....	c14	N73-32321
US-PATENT-APPL-SN-463925	.....	c07	N74-22827	US-PATENT-APPL-SN-488616	.....	c28	N74-33220
US-PATENT-APPL-SN-464721	.....	c09	N74-21858	US-PATENT-APPL-SN-489008	.....	c06	N74-29479
US-PATENT-APPL-SN-464722	.....	c14	N74-22112	US-PATENT-APPL-SN-489009	.....	c14	N74-29772
US-PATENT-APPL-SN-464723	.....	c09	N74-21859	US-PATENT-APPL-SN-489442	.....	c25	N69-39884
US-PATENT-APPL-SN-464878	.....	c10	N71-22986	US-PATENT-APPL-SN-491054	.....	c14	N71-23174
US-PATENT-APPL-SN-464879	.....	c14	N71-21072	US-PATENT-APPL-SN-491058	.....	c09	N71-23443

NUMBER INDEX

US-PATENT-APPL-SN-491059	.....	c09	N71-23015	US-PATENT-APPL-SN-512352	.....	c15	N70-33330
US-PATENT-APPL-SN-491413	.....	c23	N74-30118	US-PATENT-APPL-SN-512559	.....	c23	N71-22881
US-PATENT-APPL-SN-491416	.....	c04	N74-32518	US-PATENT-APPL-SN-512561	.....	c16	N71-25914
US-PATENT-APPL-SN-491417	.....	c15	N74-30916	US-PATENT-APPL-SN-512562	.....	c16	N71-24074
US-PATENT-APPL-SN-491418	.....	c09	N74-29577	US-PATENT-APPL-SN-512825	.....	c09	N74-34649
US-PATENT-APPL-SN-491419	.....	c09	N74-29575	US-PATENT-APPL-SN-513612	.....	c02	N74-34475
US-PATENT-APPL-SN-491845	.....	c26	N71-15659	US-PATENT-APPL-SN-513613	.....	c06	N74-34579
US-PATENT-APPL-SN-492344	.....	c05	N71-22896	US-PATENT-APPL-SN-513689	.....	c15	N74-34881
US-PATENT-APPL-SN-493359	.....	c31	N74-30311	US-PATENT-APPL-SN-514407	.....	c18	N71-22894
US-PATENT-APPL-SN-493360	.....	c07	N74-32601	US-PATENT-APPL-SN-514546	.....	c14	N74-34864
US-PATENT-APPL-SN-493363	.....	c14	N74-29773	US-PATENT-APPL-SN-515484	.....	c14	N71-22993
US-PATENT-APPL-SN-493942	.....	c14	N71-17659	US-PATENT-APPL-SN-516150	.....	c05	N71-19440
US-PATENT-APPL-SN-493943	.....	c15	N71-21529	US-PATENT-APPL-SN-516151	.....	c15	N70-41679
US-PATENT-APPL-SN-494280	.....	c28	N71-23081	US-PATENT-APPL-SN-516152	.....	c14	N71-23225
US-PATENT-APPL-SN-494282	.....	c15	N69-39735	US-PATENT-APPL-SN-516153	.....	c10	N71-28783
US-PATENT-APPL-SN-494283	.....	c31	N71-24035	US-PATENT-APPL-SN-516154	.....	c09	N69-24330
US-PATENT-APPL-SN-494287	.....	c03	N71-22974	US-PATENT-APPL-SN-516155	.....	c09	N71-23270
US-PATENT-APPL-SN-494739	.....	c07	N71-26291	US-PATENT-APPL-SN-516158	.....	c09	N71-19479
US-PATENT-APPL-SN-495021	.....	c03	N74-30448	US-PATENT-APPL-SN-516159	.....	c14	N70-41812
US-PATENT-APPL-SN-495022	.....	c08	N74-30549	US-PATENT-APPL-SN-516160	.....	c33	N71-16277
US-PATENT-APPL-SN-496205	.....	c14	N71-22965	US-PATENT-APPL-SN-516162	.....	c07	N71-28900
US-PATENT-APPL-SN-496779	.....	c01	N74-30414	US-PATENT-APPL-SN-516793	.....	c16	N71-22895
US-PATENT-APPL-SN-498167	.....	c03	N71-10608	US-PATENT-APPL-SN-516794	.....	c14	N70-42074
US-PATENT-APPL-SN-498168	.....	c28	N71-21822	US-PATENT-APPL-SN-517100	.....	c28	N70-33241
US-PATENT-APPL-SN-499122	.....	c15	N71-24164	US-PATENT-APPL-SN-517156	.....	c14	N71-23093
US-PATENT-APPL-SN-500435	.....	c14	N71-21082	US-PATENT-APPL-SN-517157	.....	c15	N71-22722
US-PATENT-APPL-SN-500446	.....	c10	N71-23029	US-PATENT-APPL-SN-517158	.....	c14	N71-23401
US-PATENT-APPL-SN-500979	.....	c09	N74-32674	US-PATENT-APPL-SN-517159	.....	c15	N71-20740
US-PATENT-APPL-SN-500980	.....	c11	N74-32719	US-PATENT-APPL-SN-517858	.....	c14	N71-21006
US-PATENT-APPL-SN-500981	.....	c14	N74-32890	US-PATENT-APPL-SN-517869	.....	c15	N71-23050
US-PATENT-APPL-SN-500982	.....	c25	N74-35145	US-PATENT-APPL-SN-518487	.....	c05	N71-11190
US-PATENT-APPL-SN-501011	.....	c08	N74-32646	US-PATENT-APPL-SN-519160	.....	c18	N71-20742
US-PATENT-APPL-SN-501012	.....	c08	N74-32648	US-PATENT-APPL-SN-519161	.....	c05	N71-20718
US-PATENT-APPL-SN-501013	.....	c16	N74-32937	US-PATENT-APPL-SN-519395	.....	c09	N69-24317
US-PATENT-APPL-SN-501014	.....	c05	N74-32552	US-PATENT-APPL-SN-520838	.....	c08	N71-18595
US-PATENT-APPL-SN-502124	.....	c14	N74-32887	US-PATENT-APPL-SN-520839	.....	c10	N71-19472
US-PATENT-APPL-SN-502135	.....	c14	N74-32888	US-PATENT-APPL-SN-521753	.....	c15	N70-41960
US-PATENT-APPL-SN-502136	.....	c14	N74-32886	US-PATENT-APPL-SN-521754	.....	c07	N71-22984
US-PATENT-APPL-SN-502137	.....	c15	N74-32926	US-PATENT-APPL-SN-521755	.....	c28	N71-28849
US-PATENT-APPL-SN-502138	.....	c13	N74-32780	US-PATENT-APPL-SN-521994	.....	c17	N71-23365
US-PATENT-APPL-SN-502139	.....	c09	N74-32675	US-PATENT-APPL-SN-521996	.....	c15	N69-27871
US-PATENT-APPL-SN-502693	.....	c15	N71-20739	US-PATENT-APPL-SN-521998	.....	c07	N69-24323
US-PATENT-APPL-SN-502701	.....	c08	N71-23295	US-PATENT-APPL-SN-521999	.....	c12	N71-20815
US-PATENT-APPL-SN-502709	.....	c31	N71-21881	US-PATENT-APPL-SN-522794	.....	c09	N71-23190
US-PATENT-APPL-SN-502710	.....	c15	N71-23048	US-PATENT-APPL-SN-522795	.....	c20	N71-16281
US-PATENT-APPL-SN-502729	.....	c31	N70-41871	US-PATENT-APPL-SN-523511	.....	c28	N71-20942
US-PATENT-APPL-SN-502739	.....	c09	N71-23311	US-PATENT-APPL-SN-524746	.....	c14	N73-28491
US-PATENT-APPL-SN-502740	.....	c14	N69-27485	US-PATENT-APPL-SN-526631	.....	c10	N71-19471
US-PATENT-APPL-SN-502743	.....	c08	N71-19435	US-PATENT-APPL-SN-526664	.....	c07	N69-24334
US-PATENT-APPL-SN-502746	.....	c03	N69-39898	US-PATENT-APPL-SN-526665	.....	c14	N69-24331
US-PATENT-APPL-SN-502750	.....	c09	N71-19466	US-PATENT-APPL-SN-527331	.....	c17	N73-28573
US-PATENT-APPL-SN-502753	.....	c07	N69-39978	US-PATENT-APPL-SN-528031	.....	c10	N69-39888
US-PATENT-APPL-SN-502756	.....	c03	N71-23336	US-PATENT-APPL-SN-529593	.....	c27	N71-21819
US-PATENT-APPL-SN-504225	.....	c14	N74-32882	US-PATENT-APPL-SN-529594	.....	c15	N69-27483
US-PATENT-APPL-SN-504266	.....	c31	N71-21064	US-PATENT-APPL-SN-529594	.....	c33	N71-29152
US-PATENT-APPL-SN-505320	.....	c16	N71-18614	US-PATENT-APPL-SN-529609	.....	c09	N69-39986
US-PATENT-APPL-SN-505321	.....	c10	N71-22962	US-PATENT-APPL-SN-530958	.....	c09	N71-22985
US-PATENT-APPL-SN-505765	.....	c15	N71-23816	US-PATENT-APPL-SN-531642	.....	c25	N71-21693
US-PATENT-APPL-SN-505880	.....	c09	N74-33738	US-PATENT-APPL-SN-532006	.....	c23	N71-24857
US-PATENT-APPL-SN-505881	.....	c11	N74-32718	US-PATENT-APPL-SN-533659	.....	c14	N73-30390
US-PATENT-APPL-SN-506135	.....	c06	N71-20905	US-PATENT-APPL-SN-534295	.....	c15	N71-21076
US-PATENT-APPL-SN-506137	.....	c15	N71-23049	US-PATENT-APPL-SN-534564	.....	c10	N71-22961
US-PATENT-APPL-SN-506802	.....	c02	N74-32428	US-PATENT-APPL-SN-534901	.....	c14	N70-36807
US-PATENT-APPL-SN-506803	.....	c15	N74-34002	US-PATENT-APPL-SN-534966	.....	c15	N71-24042
US-PATENT-APPL-SN-506804	.....	c14	N74-33943	US-PATENT-APPL-SN-534975	.....	c14	N71-24232
US-PATENT-APPL-SN-506908	.....	c09	N71-18843	US-PATENT-APPL-SN-535304	.....	c09	N71-28810
US-PATENT-APPL-SN-507254	.....	c14	N71-22990	US-PATENT-APPL-SN-536210	.....	c17	N71-24830
US-PATENT-APPL-SN-507257	.....	c09	N71-19449	US-PATENT-APPL-SN-536216	.....	c10	N71-23315
US-PATENT-APPL-SN-508169	.....	c18	N71-27397	US-PATENT-APPL-SN-536217	.....	c10	N71-23544
US-PATENT-APPL-SN-508170	.....	c08	N71-22710	US-PATENT-APPL-SN-537615	.....	c28	N71-22983
US-PATENT-APPL-SN-508601	.....	c15	N71-22878	US-PATENT-APPL-SN-537617	.....	c09	N71-22987
US-PATENT-APPL-SN-508784	.....	c09	N74-33740	US-PATENT-APPL-SN-538166	.....	c15	N71-21177
US-PATENT-APPL-SN-508803	.....	c14	N74-34860	US-PATENT-APPL-SN-538168	.....	c23	N71-16098
US-PATENT-APPL-SN-508873	.....	c14	N71-23240	US-PATENT-APPL-SN-538905	.....	c08	N71-18594
US-PATENT-APPL-SN-509460	.....	c01	N71-13411	US-PATENT-APPL-SN-538907	.....	c33	N71-28903
US-PATENT-APPL-SN-510150	.....	c10	N71-26103	US-PATENT-APPL-SN-538908	.....	c33	N71-22890
US-PATENT-APPL-SN-510155	.....	c06	N71-11235	US-PATENT-APPL-SN-538911	.....	c33	N71-22792
US-PATENT-APPL-SN-510474	.....	c15	N71-23810	US-PATENT-APPL-SN-538913	.....	c14	N71-17627
US-PATENT-APPL-SN-510475	.....	c14	N71-23087	US-PATENT-APPL-SN-539237	.....	c33	N71-16278
US-PATENT-APPL-SN-510677	.....	c03	N74-33484	US-PATENT-APPL-SN-539255	.....	c18	N71-26153
US-PATENT-APPL-SN-510678	.....	c09	N74-33739	US-PATENT-APPL-SN-539255	.....	c17	N72-28536
US-PATENT-APPL-SN-511299	.....	c15	N71-22798	US-PATENT-APPL-SN-540014	.....	c15	N71-22799
US-PATENT-APPL-SN-511334	.....	c16	N74-34010	US-PATENT-APPL-SN-541399	.....	c14	N71-20428
US-PATENT-APPL-SN-511346	.....	c21	N74-35096	US-PATENT-APPL-SN-542713	.....	c23	N71-23976
US-PATENT-APPL-SN-511564	.....	c09	N69-39885	US-PATENT-APPL-SN-543206	.....	c05	N71-23159
US-PATENT-APPL-SN-511567	.....	c05	N71-12336	US-PATENT-APPL-SN-543774	.....	c06	N69-39733
US-PATENT-APPL-SN-511887	.....	c15	N74-33997	US-PATENT-APPL-SN-544895	.....	c07	N71-28809
US-PATENT-APPL-SN-511888	.....	c16	N74-34012	US-PATENT-APPL-SN-544899	.....	c09	N71-20569
US-PATENT-APPL-SN-511894	.....	c09	N74-34647	US-PATENT-APPL-SN-545223	.....	c03	N71-11056

NUMBER INDEX

US-PATENT-APPL-SN-545224	.....	c15	N69-21362	US-PATENT-APPL-SN-576797	.....	c09	N69-24318
US-PATENT-APPL-SN-545228	.....	c07	N69-39736	US-PATENT-APPL-SN-577114	.....	c15	N69-24320
US-PATENT-APPL-SN-545229	.....	c03	N69-21469	US-PATENT-APPL-SN-577115	.....	c15	N71-17647
US-PATENT-APPL-SN-545535	.....	c03	N69-21539	US-PATENT-APPL-SN-577545	.....	c08	N71-18693
US-PATENT-APPL-SN-545805	.....	c15	N71-21744	US-PATENT-APPL-SN-577546	.....	c31	N71-23008
US-PATENT-APPL-SN-546142	.....	c09	N69-24329	US-PATENT-APPL-SN-577548	.....	c09	N69-27422
US-PATENT-APPL-SN-546148	.....	c11	N71-22875	US-PATENT-APPL-SN-577548	.....	c14	N72-28438
US-PATENT-APPL-SN-546149	.....	c16	N71-24170	US-PATENT-APPL-SN-577549	.....	c15	N71-22721
US-PATENT-APPL-SN-547072	.....	c15	N71-24043	US-PATENT-APPL-SN-577775	.....	c14	N71-17574
US-PATENT-APPL-SN-547677	.....	c10	N71-20448	US-PATENT-APPL-SN-577778	.....	c03	N71-11050
US-PATENT-APPL-SN-548808	.....	c14	N71-23227	US-PATENT-APPL-SN-578916	.....	c14	N71-23036
US-PATENT-APPL-SN-549860	.....	c03	N71-19438	US-PATENT-APPL-SN-578923	.....	c15	N71-21403
US-PATENT-APPL-SN-550088	.....	c07	N71-24612	US-PATENT-APPL-SN-578925	.....	c23	N71-16355
US-PATENT-APPL-SN-551182	.....	c03	N71-23187	US-PATENT-APPL-SN-578926	.....	c06	N69-39936
US-PATENT-APPL-SN-551694	.....	c31	N71-18611	US-PATENT-APPL-SN-578928	.....	c26	N71-21824
US-PATENT-APPL-SN-551815	.....	c02	N71-11038	US-PATENT-APPL-SN-578931	.....	c23	N71-21882
US-PATENT-APPL-SN-551846	.....	c03	N71-20492	US-PATENT-APPL-SN-578932	.....	c08	N71-12505
US-PATENT-APPL-SN-551933	.....	c33	N71-14032	US-PATENT-APPL-SN-579121	.....	c15	N71-29136
US-PATENT-APPL-SN-551961	.....	c15	N70-33376	US-PATENT-APPL-SN-580365	.....	c15	N71-23255
US-PATENT-APPL-SN-552344	.....	c09	N69-27463	US-PATENT-APPL-SN-582171	.....	c32	N71-16428
US-PATENT-APPL-SN-553891	.....	c23	N71-16341	US-PATENT-APPL-SN-582213	.....	c14	N74-22096
US-PATENT-APPL-SN-554277	.....	c07	N71-26579	US-PATENT-APPL-SN-582609	.....	c10	N71-19467
US-PATENT-APPL-SN-554897	.....	c15	N71-22982	US-PATENT-APPL-SN-584015	.....	c14	N71-26475
US-PATENT-APPL-SN-554899	.....	c15	N70-33382	US-PATENT-APPL-SN-584066	.....	c10	N71-20852
US-PATENT-APPL-SN-554949	.....	c06	N71-20717	US-PATENT-APPL-SN-584067	.....	c07	N71-12392
US-PATENT-APPL-SN-554950	.....	c17	N71-23248	US-PATENT-APPL-SN-584070	.....	c09	N69-27500
US-PATENT-APPL-SN-555189	.....	c08	N71-27255	US-PATENT-APPL-SN-584071	.....	c26	N71-16037
US-PATENT-APPL-SN-556784	.....	c09	N71-20447	US-PATENT-APPL-SN-584072	.....	c15	N69-39786
US-PATENT-APPL-SN-556830	.....	c15	N71-26294	US-PATENT-APPL-SN-586324	.....	c05	N71-26293
US-PATENT-APPL-SN-557016	.....	c15	N71-23086	US-PATENT-APPL-SN-586325	.....	c31	N71-24315
US-PATENT-APPL-SN-557584	.....	c09	N71-20851	US-PATENT-APPL-SN-586329	.....	c05	N71-24623
US-PATENT-APPL-SN-557861	.....	c03	N71-24605	US-PATENT-APPL-SN-586330	.....	c05	N71-12344
US-PATENT-APPL-SN-557868	.....	c14	N70-41682	US-PATENT-APPL-SN-586335	.....	c21	N71-15642
US-PATENT-APPL-SN-557871	.....	c10	N71-21483	US-PATENT-APPL-SN-586611	.....	c31	N71-24813
US-PATENT-APPL-SN-559055	.....	c33	N71-29046	US-PATENT-APPL-SN-588671	.....	c03	N71-23354
US-PATENT-APPL-SN-559349	.....	c33	N71-24145	US-PATENT-APPL-SN-590141	.....	c03	N69-24266
US-PATENT-APPL-SN-559350	.....	c33	N71-28892	US-PATENT-APPL-SN-590144	.....	c15	N71-15607
US-PATENT-APPL-SN-559351	.....	c14	N69-39785	US-PATENT-APPL-SN-590145	.....	c07	N69-39980
US-PATENT-APPL-SN-560967	.....	c15	N69-21922	US-PATENT-APPL-SN-590146	.....	c09	N69-21926
US-PATENT-APPL-SN-560968	.....	c10	N71-24863	US-PATENT-APPL-SN-590147	.....	c15	N71-21489
US-PATENT-APPL-SN-560969	.....	c14	N71-15622	US-PATENT-APPL-SN-590158	.....	c05	N71-24147
US-PATENT-APPL-SN-561223	.....	c14	N71-20427	US-PATENT-APPL-SN-590159	.....	c09	N69-24324
US-PATENT-APPL-SN-562443	.....	c09	N69-39734	US-PATENT-APPL-SN-590160	.....	c15	N71-24044
US-PATENT-APPL-SN-562444	.....	c14	N71-22995	US-PATENT-APPL-SN-591004	.....	c07	N71-11266
US-PATENT-APPL-SN-562445	.....	c14	N71-23797	US-PATENT-APPL-SN-591007	.....	c16	N69-27491
US-PATENT-APPL-SN-562933	.....	c10	N71-24799	US-PATENT-APPL-SN-591014	.....	c28	N71-24736
US-PATENT-APPL-SN-562934	.....	c09	N69-21468	US-PATENT-APPL-SN-591930	.....	c03	N69-21330
US-PATENT-APPL-SN-563644	.....	c15	N71-18613	US-PATENT-APPL-SN-592680	.....	c15	N71-22877
US-PATENT-APPL-SN-563646	.....	c05	N71-23096	US-PATENT-APPL-SN-592694	.....	c05	N71-12342
US-PATENT-APPL-SN-563648	.....	c15	N71-17803	US-PATENT-APPL-SN-593593	.....	c06	N71-11239
US-PATENT-APPL-SN-563650	.....	c25	N69-21929	US-PATENT-APPL-SN-593594	.....	c06	N71-11236
US-PATENT-APPL-SN-563651	.....	c28	N71-23293	US-PATENT-APPL-SN-593595	.....	c06	N71-24740
US-PATENT-APPL-SN-563655	.....	c09	N71-23316	US-PATENT-APPL-SN-593605	.....	c11	N69-27466
US-PATENT-APPL-SN-564919	.....	c14	N71-23175	US-PATENT-APPL-SN-593606	.....	c06	N71-11242
US-PATENT-APPL-SN-566392	.....	c05	N71-23161	US-PATENT-APPL-SN-593607	.....	c06	N71-11243
US-PATENT-APPL-SN-566397	.....	c14	N71-24233	US-PATENT-APPL-SN-594584	.....	c07	N71-26102
US-PATENT-APPL-SN-566717	.....	c15	N71-22994	US-PATENT-APPL-SN-594587	.....	c14	N71-25892
US-PATENT-APPL-SN-567686	.....	c06	N71-22975	US-PATENT-APPL-SN-594633	.....	c28	N71-21493
US-PATENT-APPL-SN-567806	.....	c31	N71-22968	US-PATENT-APPL-SN-594638	.....	c15	N71-24046
US-PATENT-APPL-SN-568067	.....	c14	N69-27461	US-PATENT-APPL-SN-596338	.....	c09	N71-20816
US-PATENT-APPL-SN-568071	.....	c10	N71-18724	US-PATENT-APPL-SN-596733	.....	c15	N72-11389
US-PATENT-APPL-SN-568160	.....	c04	N69-27487	US-PATENT-APPL-SN-596735	.....	c32	N71-24285
US-PATENT-APPL-SN-568346	.....	c09	N71-20842	US-PATENT-APPL-SN-598118	.....	c15	N69-27490
US-PATENT-APPL-SN-568352	.....	c14	N71-22752	US-PATENT-APPL-SN-598119	.....	c08	N71-19437
US-PATENT-APPL-SN-568354	.....	c32	N71-23971	US-PATENT-APPL-SN-598120	.....	c08	N71-18602
US-PATENT-APPL-SN-568356	.....	c14	N71-15599	US-PATENT-APPL-SN-599975	.....	c08	N69-21928
US-PATENT-APPL-SN-568362	.....	c03	N69-39983	US-PATENT-APPL-SN-600266	.....	c14	N71-20430
US-PATENT-APPL-SN-568364	.....	c10	N71-26418	US-PATENT-APPL-SN-600682	.....	c14	N71-20461
US-PATENT-APPL-SN-568620	.....	c10	N71-26626	US-PATENT-APPL-SN-601228	.....	c15	N71-17652
US-PATENT-APPL-SN-568887	.....	c10	N71-19547	US-PATENT-APPL-SN-601229	.....	c14	N71-26474
US-PATENT-APPL-SN-570093	.....	c06	N71-17705	US-PATENT-APPL-SN-602828	.....	c09	N71-13531
US-PATENT-APPL-SN-570095	.....	c14	N71-23226	US-PATENT-APPL-SN-603396	.....	c14	N69-23191
US-PATENT-APPL-SN-570097	.....	c15	N69-23185	US-PATENT-APPL-SN-603397	.....	c26	N71-23292
US-PATENT-APPL-SN-570678	.....	c17	N71-25903	US-PATENT-APPL-SN-605088	.....	c15	N71-17695
US-PATENT-APPL-SN-573432	.....	c14	N71-23790	US-PATENT-APPL-SN-605090	.....	c15	N71-19485
US-PATENT-APPL-SN-574280	.....	c15	N69-21460	US-PATENT-APPL-SN-605091	.....	c15	N71-26346
US-PATENT-APPL-SN-574282	.....	c15	N69-23190	US-PATENT-APPL-SN-605092	.....	c05	N71-23317
US-PATENT-APPL-SN-574282	.....	c15	N71-23025	US-PATENT-APPL-SN-605093	.....	c17	N71-24911
US-PATENT-APPL-SN-574283	.....	c14	N69-24257	US-PATENT-APPL-SN-605094	.....	c09	N71-24808
US-PATENT-APPL-SN-574284	.....	c08	N71-19763	US-PATENT-APPL-SN-605095	.....	c10	N71-19417
US-PATENT-APPL-SN-574289	.....	c14	N71-20439	US-PATENT-APPL-SN-605096	.....	c15	N71-24834
US-PATENT-APPL-SN-575291	.....	c33	N71-29151	US-PATENT-APPL-SN-605097	.....	c14	N69-21923
US-PATENT-APPL-SN-575475	.....	c05	N69-23192	US-PATENT-APPL-SN-605098	.....	c09	N71-26092
US-PATENT-APPL-SN-575930	.....	c06	N71-23230	US-PATENT-APPL-SN-605099	.....	c09	N71-23548
US-PATENT-APPL-SN-576182	.....	c33	N71-24276	US-PATENT-APPL-SN-605100	.....	c15	N71-21536
US-PATENT-APPL-SN-576183	.....	c09	N71-23525	US-PATENT-APPL-SN-605102	.....	c09	N69-39987
US-PATENT-APPL-SN-576195	.....	c14	N71-21079	US-PATENT-APPL-SN-605518	.....	c15	N71-23023
US-PATENT-APPL-SN-576521	.....	c09	N71-20864	US-PATENT-APPL-SN-605964	.....	c06	N73-30103
US-PATENT-APPL-SN-576792	.....	c14	N71-26136	US-PATENT-APPL-SN-605994	.....	c06	N73-30101

NUMBER INDEX

US-PATENT-APPL-SN-606027	.....	c06 N73-30099	US-PATENT-APPL-SN-640785	.....	c09 N69-24333
US-PATENT-APPL-SN-606036	.....	c06 N73-30100	US-PATENT-APPL-SN-640786	.....	c15 N71-24695
US-PATENT-APPL-SN-606462	.....	c08 N71-24891	US-PATENT-APPL-SN-640787	.....	c28 N71-24321
US-PATENT-APPL-SN-606463	.....	c14 N71-24864	US-PATENT-APPL-SN-640788	.....	c15 N69-27502
US-PATENT-APPL-SN-606464	.....	c15 N71-18579	US-PATENT-APPL-SN-640789	.....	c15 N69-27504
US-PATENT-APPL-SN-607461	.....	c05 N71-12346	US-PATENT-APPL-SN-641420	.....	c03 N71-23449
US-PATENT-APPL-SN-607484	.....	c09 N71-26002	US-PATENT-APPL-SN-641431	.....	c30 N71-16090
US-PATENT-APPL-SN-607608	.....	c14 N69-27484	US-PATENT-APPL-SN-641441	.....	c08 N71-18751
US-PATENT-APPL-SN-608247	.....	c15 N71-20813	US-PATENT-APPL-SN-643332	.....	c15 N71-14932
US-PATENT-APPL-SN-608944	.....	c15 N71-23798	US-PATENT-APPL-SN-644444	.....	c09 N71-18721
US-PATENT-APPL-SN-610723	.....	c14 N71-23755	US-PATENT-APPL-SN-644446	.....	c14 N71-24693
US-PATENT-APPL-SN-610724	.....	c31 N71-28851	US-PATENT-APPL-SN-644447	.....	c14 N71-24234
US-PATENT-APPL-SN-610728	.....	c31 N71-22969	US-PATENT-APPL-SN-644448	.....	c17 N69-25147
US-PATENT-APPL-SN-611414	.....	c15 N74-23068	US-PATENT-APPL-SN-644799	.....	c17 N71-15468
US-PATENT-APPL-SN-611414	.....	c15 N74-23069	US-PATENT-APPL-SN-645563	.....	c31 N71-20396
US-PATENT-APPL-SN-612265	.....	c14 N72-22442	US-PATENT-APPL-SN-645573	.....	c24 N71-25555
US-PATENT-APPL-SN-612568	.....	c15 N71-28952	US-PATENT-APPL-SN-645584	.....	c08 N71-12494
US-PATENT-APPL-SN-612740	.....	c25 N71-20563	US-PATENT-APPL-SN-646124	.....	c15 N71-23817
US-PATENT-APPL-SN-613235	.....	c14 N73-30394	US-PATENT-APPL-SN-646424	.....	c07 N69-27460
US-PATENT-APPL-SN-613979	.....	c33 N71-14035	US-PATENT-APPL-SN-646934	.....	c08 N71-18692
US-PATENT-APPL-SN-617021	.....	c23 N71-16101	US-PATENT-APPL-SN-647298	.....	c31 N71-16102
US-PATENT-APPL-SN-617022	.....	c07 N69-27462	US-PATENT-APPL-SN-649075	.....	c14 N71-15600
US-PATENT-APPL-SN-617770	.....	c14 N71-23267	US-PATENT-APPL-SN-649076	.....	c08 N71-24890
US-PATENT-APPL-SN-617774	.....	c18 N71-16124	US-PATENT-APPL-SN-649078	.....	c07 N71-19493
US-PATENT-APPL-SN-617775	.....	c06 N71-28807	US-PATENT-APPL-SN-649356	.....	c09 N71-23189
US-PATENT-APPL-SN-617776	.....	c18 N69-39895	US-PATENT-APPL-SN-649357	.....	c08 N71-12500
US-PATENT-APPL-SN-617778	.....	c14 N71-26244	US-PATENT-APPL-SN-649358	.....	c07 N71-11267
US-PATENT-APPL-SN-617779	.....	c09 N69-39929	US-PATENT-APPL-SN-649359	.....	c15 N71-18701
US-PATENT-APPL-SN-617783	.....	c15 N69-24266	US-PATENT-APPL-SN-649360	.....	c23 N71-16365
US-PATENT-APPL-SN-618969	.....	c05 N71-26333	US-PATENT-APPL-SN-650166	.....	c09 N71-23191
US-PATENT-APPL-SN-619519	.....	c32 N71-16106	US-PATENT-APPL-SN-651627	.....	c26 N72-25679
US-PATENT-APPL-SN-619520	.....	c05 N69-21380	US-PATENT-APPL-SN-651972	.....	c18 N74-23125
US-PATENT-APPL-SN-619521	.....	c06 N69-39889	US-PATENT-APPL-SN-653277	.....	c31 N71-23912
US-PATENT-APPL-SN-619903	.....	c15 N69-27505	US-PATENT-APPL-SN-653278	.....	c14 N69-27503
US-PATENT-APPL-SN-619907	.....	c09 N69-21543	US-PATENT-APPL-SN-655675	.....	c17 N71-24742
US-PATENT-APPL-SN-619908	.....	c08 N71-20571	US-PATENT-APPL-SN-655677	.....	c08 N71-19432
US-PATENT-APPL-SN-621098	.....	c09 N71-20446	US-PATENT-APPL-SN-655724	.....	c15 N71-22706
US-PATENT-APPL-SN-621714	.....	c15 N71-19569	US-PATENT-APPL-SN-656952	.....	c09 N71-12519
US-PATENT-APPL-SN-621715	.....	c05 N71-11207	US-PATENT-APPL-SN-656953	.....	c14 N71-17585
US-PATENT-APPL-SN-621742	.....	c28 N71-23968	US-PATENT-APPL-SN-656993	.....	c09 N71-24843
US-PATENT-APPL-SN-626376	.....	c05 N71-11189	US-PATENT-APPL-SN-656995	.....	c21 N71-14132
US-PATENT-APPL-SN-627257	.....	c08 N71-12504	US-PATENT-APPL-SN-657742	.....	c18 N71-26100
US-PATENT-APPL-SN-627599	.....	c18 N71-16046	US-PATENT-APPL-SN-658955	.....	c14 N71-15605
US-PATENT-APPL-SN-628094	.....	c16 N71-20400	US-PATENT-APPL-SN-658956	.....	c15 N71-15607
US-PATENT-APPL-SN-628246	.....	c15 N71-17687	US-PATENT-APPL-SN-658957	.....	c14 N71-17584
US-PATENT-APPL-SN-628247	.....	c09 N69-21542	US-PATENT-APPL-SN-658964	.....	c19 N71-26674
US-PATENT-APPL-SN-628248	.....	c14 N69-27432	US-PATENT-APPL-SN-660571	.....	c26 N71-23654
US-PATENT-APPL-SN-629759	.....	c15 N71-16076	US-PATENT-APPL-SN-660572	.....	c15 N71-15571
US-PATENT-APPL-SN-631848	.....	c09 N71-12514	US-PATENT-APPL-SN-660573	.....	c15 N71-28936
US-PATENT-APPL-SN-632104	.....	c09 N71-19470	US-PATENT-APPL-SN-660841	.....	c14 N71-15621
US-PATENT-APPL-SN-632152	.....	c10 N71-24798	US-PATENT-APPL-SN-660842	.....	c14 N71-23726
US-PATENT-APPL-SN-632154	.....	c09 N69-39984	US-PATENT-APPL-SN-660843	.....	c08 N71-24650
US-PATENT-APPL-SN-632162	.....	c14 N69-39937	US-PATENT-APPL-SN-661170	.....	c14 N71-24809
US-PATENT-APPL-SN-632163	.....	c30 N71-23723	US-PATENT-APPL-SN-662763	.....	c15 N73-12489
US-PATENT-APPL-SN-632164	.....	c15 N69-24319	US-PATENT-APPL-SN-662828	.....	c11 N71-18578
US-PATENT-APPL-SN-632165	.....	c14 N71-26266	US-PATENT-APPL-SN-662829	.....	c15 N71-15597
US-PATENT-APPL-SN-634038	.....	c25 N71-16073	US-PATENT-APPL-SN-663180	.....	c10 N71-23663
US-PATENT-APPL-SN-634040	.....	c15 N71-19489	US-PATENT-APPL-SN-665209	.....	c14 N71-23725
US-PATENT-APPL-SN-634060	.....	c09 N69-39897	US-PATENT-APPL-SN-665676	.....	c14 N71-19568
US-PATENT-APPL-SN-635325	.....	c14 N69-27431	US-PATENT-APPL-SN-665679	.....	c15 N71-20395
US-PATENT-APPL-SN-635326	.....	c14 N71-18482	US-PATENT-APPL-SN-665680	.....	c24 N71-16213
US-PATENT-APPL-SN-635327	.....	c12 N69-39988	US-PATENT-APPL-SN-665681	.....	c15 N71-18616
US-PATENT-APPL-SN-635328	.....	c09 N69-21467	US-PATENT-APPL-SN-666551	.....	c14 N71-23698
US-PATENT-APPL-SN-635970	.....	c15 N69-21465	US-PATENT-APPL-SN-666553	.....	c03 N71-11055
US-PATENT-APPL-SN-635972	.....	c18 N71-23710	US-PATENT-APPL-SN-666554	.....	c33 N71-16104
US-PATENT-APPL-SN-636878	.....	c14 N71-20442	US-PATENT-APPL-SN-666555	.....	c07 N71-24614
US-PATENT-APPL-SN-637882	.....	c15 N71-17650	US-PATENT-APPL-SN-667625	.....	c31 N71-15674
US-PATENT-APPL-SN-638192	.....	c10 N71-26415	US-PATENT-APPL-SN-667636	.....	c03 N71-20491
US-PATENT-APPL-SN-638194	.....	c33 N71-21507	US-PATENT-APPL-SN-667637	.....	c28 N71-14044
US-PATENT-APPL-SN-638707	.....	c14 N69-27486	US-PATENT-APPL-SN-668238	.....	c15 N71-15608
US-PATENT-APPL-SN-639589	.....	c28 N70-33372	US-PATENT-APPL-SN-668241	.....	c15 N71-17685
US-PATENT-APPL-SN-640154	.....	c09 N71-18600	US-PATENT-APPL-SN-668242	.....	c10 N71-27272
US-PATENT-APPL-SN-640447	.....	c15 N71-19486	US-PATENT-APPL-SN-668247	.....	c09 N71-20445
US-PATENT-APPL-SN-640448	.....	c08 N71-19420	US-PATENT-APPL-SN-668248	.....	c10 N71-26331
US-PATENT-APPL-SN-640449	.....	c09 N71-19516	US-PATENT-APPL-SN-668249	.....	c03 N71-20407
US-PATENT-APPL-SN-640450	.....	c15 N71-17694	US-PATENT-APPL-SN-668257	.....	c23 N71-16100
US-PATENT-APPL-SN-640452	.....	c09 N71-12513	US-PATENT-APPL-SN-668302	.....	c07 N71-12390
US-PATENT-APPL-SN-640453	.....	c23 N71-16099	US-PATENT-APPL-SN-668302	.....	c06 N71-11237
US-PATENT-APPL-SN-640454	.....	c06 N71-11238	US-PATENT-APPL-SN-668755	.....	c15 N71-17693
US-PATENT-APPL-SN-640455	.....	c10 N71-23099	US-PATENT-APPL-SN-668968	.....	c09 N71-12515
US-PATENT-APPL-SN-640456	.....	c03 N71-26726	US-PATENT-APPL-SN-668969	.....	c08 N71-19288
US-PATENT-APPL-SN-640457	.....	c03 N71-11052	US-PATENT-APPL-SN-669336	.....	c15 N71-17651
US-PATENT-APPL-SN-640458	.....	c15 N71-23811	US-PATENT-APPL-SN-670814	.....	c03 N71-19545
US-PATENT-APPL-SN-640459	.....	c10 N71-18723	US-PATENT-APPL-SN-670829	.....	c28 N72-23809
US-PATENT-APPL-SN-640460	.....	c14 N69-21541	US-PATENT-APPL-SN-672382	.....	c15 N71-23815
US-PATENT-APPL-SN-640462	.....	c15 N71-20443	US-PATENT-APPL-SN-672383	.....	c15 N71-24045
US-PATENT-APPL-SN-640781	.....	c03 N69-25146	US-PATENT-APPL-SN-672384	.....	c15 N71-27067
US-PATENT-APPL-SN-640783	.....	c09 N71-26000	US-PATENT-APPL-SN-672388	.....	c26 N72-17820
US-PATENT-APPL-SN-640784	.....	c15 N69-39935	US-PATENT-APPL-SN-673226	.....	c08 N71-12502



NUMBER INDEX

US-PATENT-APPL-SN-673227	.....	c11	N71-24964	US-PATENT-APPL-SN-701244	.....	c05	N72-20096
US-PATENT-APPL-SN-673228	.....	c07	N71-19433	US-PATENT-APPL-SN-701635	.....	c12	N71-17578
US-PATENT-APPL-SN-673229	.....	c33	N71-15641	US-PATENT-APPL-SN-701654	.....	c03	N71-11049
US-PATENT-APPL-SN-674355	.....	c14	N71-20429	US-PATENT-APPL-SN-701679	.....	c02	N71-19287
US-PATENT-APPL-SN-674356	.....	c14	N71-23699	US-PATENT-APPL-SN-701679	.....	c07	N73-20174
US-PATENT-APPL-SN-674357	.....	c05	N71-12351	US-PATENT-APPL-SN-701732	.....	c24	N71-16095
US-PATENT-APPL-SN-675238	.....	c10	N71-26374	US-PATENT-APPL-SN-701733	.....	c10	N71-24844
US-PATENT-APPL-SN-676012	.....	c05	N71-11193	US-PATENT-APPL-SN-701744	.....	c21	N71-13958
US-PATENT-APPL-SN-676375	.....	c14	N71-18483	US-PATENT-APPL-SN-701767	.....	c07	N71-26101
US-PATENT-APPL-SN-676386	.....	c08	N71-12507	US-PATENT-APPL-SN-702396	.....	c31	N71-16345
US-PATENT-APPL-SN-676387	.....	c10	N71-25950	US-PATENT-APPL-SN-702911	.....	c15	N71-24875
US-PATENT-APPL-SN-676391	.....	c21	N71-11766	US-PATENT-APPL-SN-702967	.....	c06	N71-24739
US-PATENT-APPL-SN-677475	.....	c32	N71-26681	US-PATENT-APPL-SN-704224	.....	c18	N71-15469
US-PATENT-APPL-SN-677476	.....	c14	N71-17586	US-PATENT-APPL-SN-704299	.....	c10	N71-26577
US-PATENT-APPL-SN-677505	.....	c09	N71-13521	US-PATENT-APPL-SN-704420	.....	c05	N71-11202
US-PATENT-APPL-SN-677506	.....	c16	N71-15567	US-PATENT-APPL-SN-704446	.....	c10	N71-33407
US-PATENT-APPL-SN-677508	.....	c16	N71-15551	US-PATENT-APPL-SN-704465	.....	c07	N71-24741
US-PATENT-APPL-SN-678700	.....	c05	N71-19439	US-PATENT-APPL-SN-704668	.....	c10	N71-12554
US-PATENT-APPL-SN-679055	.....	c08	N71-24633	US-PATENT-APPL-SN-706013	.....	c33	N71-27862
US-PATENT-APPL-SN-679862	.....	c20	N71-16340	US-PATENT-APPL-SN-706564	.....	c14	N71-17587
US-PATENT-APPL-SN-679865	.....	c09	N71-12521	US-PATENT-APPL-SN-707440	.....	c06	N73-30102
US-PATENT-APPL-SN-681687	.....	c03	N71-20273	US-PATENT-APPL-SN-707495	.....	c11	N71-18773
US-PATENT-APPL-SN-681692	.....	c08	N71-12506	US-PATENT-APPL-SN-709398	.....	c06	N71-13461
US-PATENT-APPL-SN-681693	.....	c09	N71-18598	US-PATENT-APPL-SN-709399	.....	c16	N71-26154
US-PATENT-APPL-SN-681942	.....	c18	N71-15688	US-PATENT-APPL-SN-709622	.....	c33	N71-24858
US-PATENT-APPL-SN-683507	.....	c15	N71-15609	US-PATENT-APPL-SN-710533	.....	c02	N71-11043
US-PATENT-APPL-SN-683606	.....	c09	N71-24717	US-PATENT-APPL-SN-710561	.....	c09	N71-12517
US-PATENT-APPL-SN-683612	.....	c01	N69-39981	US-PATENT-APPL-SN-710562	.....	c31	N71-16085
US-PATENT-APPL-SN-683613	.....	c15	N71-15610	US-PATENT-APPL-SN-710621	.....	c06	N73-27086
US-PATENT-APPL-SN-683613	.....	c09	N71-24596	US-PATENT-APPL-SN-710945	.....	c33	N71-15568
US-PATENT-APPL-SN-684083	.....	c15	N71-23812	US-PATENT-APPL-SN-710949	.....	c12	N71-17631
US-PATENT-APPL-SN-684178	.....	c10	N71-19418	US-PATENT-APPL-SN-711898	.....	c18	N71-24934
US-PATENT-APPL-SN-684209	.....	c17	N71-26773	US-PATENT-APPL-SN-711903	.....	c18	N71-26772
US-PATENT-APPL-SN-684894	.....	c15	N71-23254	US-PATENT-APPL-SN-711921	.....	c09	N71-16105
US-PATENT-APPL-SN-685463	.....	c17	N71-16044	US-PATENT-APPL-SN-711970	.....	c18	N71-18830
US-PATENT-APPL-SN-685473	.....	c07	N69-39974	US-PATENT-APPL-SN-711971	.....	c09	N71-23598
US-PATENT-APPL-SN-685497	.....	c07	N71-11282	US-PATENT-APPL-SN-711972	.....	c06	N71-24607
US-PATENT-APPL-SN-685748	.....	c27	N71-16392	US-PATENT-APPL-SN-711972	.....	c08	N71-12503
US-PATENT-APPL-SN-685756	.....	c14	N69-27459	US-PATENT-APPL-SN-712065	.....	c23	N71-24868
US-PATENT-APPL-SN-685766	.....	c15	N69-21924	US-PATENT-APPL-SN-712099	.....	c07	N71-19773
US-PATENT-APPL-SN-685787	.....	c14	N71-18625	US-PATENT-APPL-SN-712658	.....	c06	N71-26754
US-PATENT-APPL-SN-686209	.....	c15	N71-23809	US-PATENT-APPL-SN-713162	.....	c08	N71-33110
US-PATENT-APPL-SN-686248	.....	c14	N71-26774	US-PATENT-APPL-SN-713188	.....	c16	N71-27363
US-PATENT-APPL-SN-686296	.....	c18	N71-14014	US-PATENT-APPL-SN-713616	.....	c14	N71-15604
US-PATENT-APPL-SN-686344	.....	c15	N71-17688	US-PATENT-APPL-SN-714296	.....	c15	N71-17822
US-PATENT-APPL-SN-686346	.....	c15	N70-33311	US-PATENT-APPL-SN-714595	.....	c06	N71-11240
US-PATENT-APPL-SN-686796	.....	c14	N71-17588	US-PATENT-APPL-SN-715975	.....	c15	N71-18132
US-PATENT-APPL-SN-686933	.....	c15	N71-20441	US-PATENT-APPL-SN-716183	.....	c15	N71-17628
US-PATENT-APPL-SN-6868742	.....	c15	N71-20393	US-PATENT-APPL-SN-716734	.....	c14	N71-20435
US-PATENT-APPL-SN-688743	.....	c14	N71-17701	US-PATENT-APPL-SN-716795	.....	c14	N71-17626
US-PATENT-APPL-SN-688805	.....	c03	N71-23239	US-PATENT-APPL-SN-717052	.....	c09	N71-25866
US-PATENT-APPL-SN-688868	.....	c15	N71-17686	US-PATENT-APPL-SN-717822	.....	c28	N70-39899
US-PATENT-APPL-SN-689455	.....	c05	N74-32546	US-PATENT-APPL-SN-718095	.....	c15	N71-26312
US-PATENT-APPL-SN-690163	.....	c14	N71-18465	US-PATENT-APPL-SN-718279	.....	c14	N71-17655
US-PATENT-APPL-SN-690172	.....	c11	N72-22245	US-PATENT-APPL-SN-718689	.....	c03	N71-18698
US-PATENT-APPL-SN-690997	.....	c16	N71-24828	US-PATENT-APPL-SN-718752	.....	c14	N71-17662
US-PATENT-APPL-SN-690998	.....	c30	N71-15990	US-PATENT-APPL-SN-718769	.....	c14	N71-27186
US-PATENT-APPL-SN-691735	.....	c09	N71-12520	US-PATENT-APPL-SN-719029	.....	c28	N70-33331
US-PATENT-APPL-SN-691736	.....	c18	N71-16210	US-PATENT-APPL-SN-719173	.....	c31	N71-15676
US-PATENT-APPL-SN-691737	.....	c07	N71-24742	US-PATENT-APPL-SN-719869	.....	c07	N71-26292
US-PATENT-APPL-SN-691738	.....	c08	N71-18694	US-PATENT-APPL-SN-719870	.....	c05	N71-27234
US-PATENT-APPL-SN-691739	.....	c32	N71-15974	US-PATENT-APPL-SN-720041	.....	c09	N71-12539
US-PATENT-APPL-SN-691909	.....	c05	N71-24606	US-PATENT-APPL-SN-720125	.....	c18	N72-17532
US-PATENT-APPL-SN-692331	.....	c10	N71-26326	US-PATENT-APPL-SN-720546	.....	c18	N71-25881
US-PATENT-APPL-SN-692332	.....	c07	N71-11281	US-PATENT-APPL-SN-721607	.....	c15	N72-29488
US-PATENT-APPL-SN-692471	.....	c09	N71-12518	US-PATENT-APPL-SN-723465	.....	c15	N74-15125
US-PATENT-APPL-SN-693471	.....	c31	N71-16222	US-PATENT-APPL-SN-723465	.....	c05	N71-12341
US-PATENT-APPL-SN-693420	.....	c31	N71-16080	US-PATENT-APPL-SN-723476	.....	c09	N71-28691
US-PATENT-APPL-SN-694246	.....	c15	N71-26673	US-PATENT-APPL-SN-723488	.....	c09	N71-24806
US-PATENT-APPL-SN-694247	.....	c09	N69-21927	US-PATENT-APPL-SN-723804	.....	c10	N71-26339
US-PATENT-APPL-SN-694317	.....	c12	N71-20436	US-PATENT-APPL-SN-723805	.....	c10	N71-27137
US-PATENT-APPL-SN-694340	.....	c11	N71-17600	US-PATENT-APPL-SN-723827	.....	c15	N71-17696
US-PATENT-APPL-SN-694345	.....	c10	N71-23669	US-PATENT-APPL-SN-724551	.....	c15	N71-26134
US-PATENT-APPL-SN-695973	.....	c05	N71-12343	US-PATENT-APPL-SN-725405	.....	c07	N71-24622
US-PATENT-APPL-SN-697075	.....	c15	N71-27184	US-PATENT-APPL-SN-725432	.....	c31	N71-15643
US-PATENT-APPL-SN-697341	.....	c09	N71-23188	US-PATENT-APPL-SN-725475	.....	c15	N71-26243
US-PATENT-APPL-SN-698592	.....	c15	N71-18580	US-PATENT-APPL-SN-725719	.....	c12	N71-17579
US-PATENT-APPL-SN-698629	.....	c09	N71-12516	US-PATENT-APPL-SN-726898	.....	c30	N70-22183
US-PATENT-APPL-SN-698630	.....	c09	N71-24841	US-PATENT-APPL-SN-727207	.....	c14	N71-17658
US-PATENT-APPL-SN-700040	.....	c18	N72-23581	US-PATENT-APPL-SN-727480	.....	c03	N71-12255
US-PATENT-APPL-SN-700120	.....	c15	N71-20440	US-PATENT-APPL-SN-728234	.....	c03	N72-15986
US-PATENT-APPL-SN-700142	.....	c21	N71-14159	US-PATENT-APPL-SN-729299	.....	c09	N71-18599
US-PATENT-APPL-SN-700174	.....	c02	N71-20570	US-PATENT-APPL-SN-730162	.....	c07	N71-24583
US-PATENT-APPL-SN-700541	.....	c10	N71-25139	US-PATENT-APPL-SN-730701	.....	c12	N71-18615
US-PATENT-APPL-SN-700586	.....	c15	N71-19570	US-PATENT-APPL-SN-730702	.....	c33	N71-16356
US-PATENT-APPL-SN-700984	.....	c11	N71-19494	US-PATENT-APPL-SN-730703	.....	c10	N71-13537
US-PATENT-APPL-SN-700985	.....	c15	N69-23190	US-PATENT-APPL-SN-730733	.....	c28	N71-16224
US-PATENT-APPL-SN-700986	.....	c12	N71-26387	US-PATENT-APPL-SN-730734	.....	c15	N71-17654
US-PATENT-APPL-SN-700987	.....	c09	N71-19610	US-PATENT-APPL-SN-731388	.....	c15	N71-24835



NUMBER INDEX

US-PATENT-APPL-SN-732455	c22	N71-28759	US-PATENT-APPL-SN-766244	c15	N71-26721
US-PATENT-APPL-SN-732917	c14	N71-17575	US-PATENT-APPL-SN-766245	c14	N71-27215
US-PATENT-APPL-SN-732921	c10	N71-26544	US-PATENT-APPL-SN-766697	c09	N71-33519
US-PATENT-APPL-SN-732922	c17	N71-28747	US-PATENT-APPL-SN-767741	c09	N72-27228
US-PATENT-APPL-SN-733039	c07	N72-12081	US-PATENT-APPL-SN-768336	c15	N71-17648
US-PATENT-APPL-SN-734805	c14	N70-34816	US-PATENT-APPL-SN-768470	c09	N71-28421
US-PATENT-APPL-SN-735911	c14	N70-41946	US-PATENT-APPL-SN-768473	c14	N71-17657
US-PATENT-APPL-SN-736848	c23	N71-16212	US-PATENT-APPL-SN-768662	c07	N73-25160
US-PATENT-APPL-SN-738119	c18	N71-15545	US-PATENT-APPL-SN-768942	c15	N74-23068
US-PATENT-APPL-SN-738314	c12	N71-17573	US-PATENT-APPL-SN-769592	c15	N72-16330
US-PATENT-APPL-SN-738315	c14	N71-27334	US-PATENT-APPL-SN-769665	c15	N72-11387
US-PATENT-APPL-SN-738315	c14	N72-31446	US-PATENT-APPL-SN-769788	c07	N71-11300
US-PATENT-APPL-SN-739391	c09	N72-17156	US-PATENT-APPL-SN-769998	c25	N71-29181
US-PATENT-APPL-SN-739927	c32	N71-16103	US-PATENT-APPL-SN-770203	c05	N71-11195
US-PATENT-APPL-SN-741461	c12	N71-18603	US-PATENT-APPL-SN-770209	c08	N71-27057
US-PATENT-APPL-SN-741824	c07	N71-12389	US-PATENT-APPL-SN-770371	c15	N71-24599
US-PATENT-APPL-SN-742816	c14	N71-17656	US-PATENT-APPL-SN-770398	c06	N71-27254
US-PATENT-APPL-SN-743429	c07	N71-11285	US-PATENT-APPL-SN-770398	c06	N72-27144
US-PATENT-APPL-SN-743525	c07	N71-28430	US-PATENT-APPL-SN-770417	c06	N73-33076
US-PATENT-APPL-SN-744910	c15	N71-17649	US-PATENT-APPL-SN-770425	c06	N72-20121
US-PATENT-APPL-SN-745337	c28	N72-20758	US-PATENT-APPL-SN-771216	c14	N72-17329
US-PATENT-APPL-SN-745852	c12	N71-17661	US-PATENT-APPL-SN-771523	c10	N71-18772
US-PATENT-APPL-SN-749121	c07	N72-11149	US-PATENT-APPL-SN-771530	c09	N72-12136
US-PATENT-APPL-SN-749148	c10	N71-19421	US-PATENT-APPL-SN-771759	c09	N71-29008
US-PATENT-APPL-SN-749149	c15	N71-24897	US-PATENT-APPL-SN-771760	c10	N71-25917
US-PATENT-APPL-SN-749181	c09	N71-24803	US-PATENT-APPL-SN-771803	c07	N71-12391
US-PATENT-APPL-SN-749320	c14	N72-22443	US-PATENT-APPL-SN-771937	c10	N71-24962
US-PATENT-APPL-SN-749548	c10	N71-33129	US-PATENT-APPL-SN-772006	c17	N71-33408
US-PATENT-APPL-SN-750031	c05	N73-32012	US-PATENT-APPL-SN-773029	c09	N71-24993
US-PATENT-APPL-SN-750786	c07	N71-27381	US-PATENT-APPL-SN-773072	c10	N72-28241
US-PATENT-APPL-SN-750787	c10	N71-27126	US-PATENT-APPL-SN-774151	c15	N71-17692
US-PATENT-APPL-SN-751061	c18	N71-29040	US-PATENT-APPL-SN-774265	c10	N71-27365
US-PATENT-APPL-SN-751198	c03	N71-24718	US-PATENT-APPL-SN-774266	c15	N71-26185
US-PATENT-APPL-SN-751215	c22	N72-20597	US-PATENT-APPL-SN-774691	c10	N72-31273
US-PATENT-APPL-SN-751266	c15	N71-33518	US-PATENT-APPL-SN-774733	c14	N72-24477
US-PATENT-APPL-SN-752729	c09	N71-26787	US-PATENT-APPL-SN-775072	c16	N71-24831
US-PATENT-APPL-SN-752946	c15	N71-29032	US-PATENT-APPL-SN-775870	c09	N71-24800
US-PATENT-APPL-SN-752947	c31	N71-15689	US-PATENT-APPL-SN-775870	c09	N72-22196
US-PATENT-APPL-SN-753974	c16	N71-33410	US-PATENT-APPL-SN-775877	c02	N71-11039
US-PATENT-APPL-SN-754019	c09	N71-25999	US-PATENT-APPL-SN-775966	c02	N71-11037
US-PATENT-APPL-SN-754020	c12	N71-27332	US-PATENT-APPL-SN-776185	c03	N72-22041
US-PATENT-APPL-SN-754055	c07	N71-24624	US-PATENT-APPL-SN-777764	c15	N71-27214
US-PATENT-APPL-SN-756260	c23	N71-26722	US-PATENT-APPL-SN-777765	c11	N71-29018
US-PATENT-APPL-SN-756266	c15	N71-26145	US-PATENT-APPL-SN-777766	c31	N71-16221
US-PATENT-APPL-SN-756381	c06	N71-25929	US-PATENT-APPL-SN-777818	c09	N71-27364
US-PATENT-APPL-SN-756511	c09	N71-27016	US-PATENT-APPL-SN-779024	c10	N71-27271
US-PATENT-APPL-SN-756834	c15	N72-21466	US-PATENT-APPL-SN-779025	c05	N72-23171
US-PATENT-APPL-SN-757625	c09	N71-26701	US-PATENT-APPL-SN-779160	c14	N72-16282
US-PATENT-APPL-SN-757857	c10	N71-25900	US-PATENT-APPL-SN-779169	c09	N71-28618
US-PATENT-APPL-SN-757861	c05	N71-11194	US-PATENT-APPL-SN-779847	c15	N71-27091
US-PATENT-APPL-SN-757875	c09	N71-24805	US-PATENT-APPL-SN-780064	c15	N71-27372
US-PATENT-APPL-SN-758082	c15	N71-17805	US-PATENT-APPL-SN-780065	c12	N71-28741
US-PATENT-APPL-SN-758390	c28	N71-26642	US-PATENT-APPL-SN-782544	c14	N71-27325
US-PATENT-APPL-SN-758540	c28	N73-27699	US-PATENT-APPL-SN-782955	c07	N71-33108
US-PATENT-APPL-SN-758942	c27	N71-14090	US-PATENT-APPL-SN-782956	c10	N71-25865
US-PATENT-APPL-SN-759256	c07	N71-27233	US-PATENT-APPL-SN-783374	c15	N71-27147
US-PATENT-APPL-SN-759457	c33	N71-16357	US-PATENT-APPL-SN-783375	c07	N71-24621
US-PATENT-APPL-SN-759460	c09	N71-24597	US-PATENT-APPL-SN-783377	c05	N71-28619
US-PATENT-APPL-SN-759665	c14	N71-18481	US-PATENT-APPL-SN-783378	c07	N71-19436
US-PATENT-APPL-SN-760114	c28	N72-11709	US-PATENT-APPL-SN-783379	c15	N71-17653
US-PATENT-APPL-SN-760389	c09	N71-24618	US-PATENT-APPL-SN-784055	c15	N72-11390
US-PATENT-APPL-SN-760819	c14	N70-34820	US-PATENT-APPL-SN-784521	c14	N71-15620
US-PATENT-APPL-SN-760927	c26	N71-25490	US-PATENT-APPL-SN-784544	c15	N72-12408
US-PATENT-APPL-SN-760928	c15	N71-28582	US-PATENT-APPL-SN-785078	c03	N72-27053
US-PATENT-APPL-SN-761007	c18	N71-26155	US-PATENT-APPL-SN-785546	c10	N71-25882
US-PATENT-APPL-SN-761404	c09	N71-12526	US-PATENT-APPL-SN-785595	c10	N71-24861
US-PATENT-APPL-SN-762438	c12	N71-17569	US-PATENT-APPL-SN-785611	c15	N71-24600
US-PATENT-APPL-SN-762935	c14	N71-29041	US-PATENT-APPL-SN-785613	c05	N72-25119
US-PATENT-APPL-SN-762936	c31	N69-27499	US-PATENT-APPL-SN-785615	c05	N72-20098
US-PATENT-APPL-SN-762956	c14	N71-26627	US-PATENT-APPL-SN-785620	c21	N71-27324
US-PATENT-APPL-SN-762957	c08	N71-27210	US-PATENT-APPL-SN-785710	c05	N71-24730
US-PATENT-APPL-SN-763040	c14	N72-28438	US-PATENT-APPL-SN-785780	c18	N71-28729
US-PATENT-APPL-SN-763355	c06	N71-28620	US-PATENT-APPL-SN-787393	c23	N71-26206
US-PATENT-APPL-SN-763684	c15	N72-16329	US-PATENT-APPL-SN-787410	c15	N71-19213
US-PATENT-APPL-SN-763685	c15	N71-24910	US-PATENT-APPL-SN-787846	c23	N71-33229
US-PATENT-APPL-SN-763705	c09	N71-18720	US-PATENT-APPL-SN-787906	c03	N71-26084
US-PATENT-APPL-SN-763706	c15	N71-24896	US-PATENT-APPL-SN-787911	c03	N71-28579
US-PATENT-APPL-SN-763729	c12	N71-26546	US-PATENT-APPL-SN-789004	c10	N71-26531
US-PATENT-APPL-SN-763743	c14	N72-21409	US-PATENT-APPL-SN-789043	c14	N72-20381
US-PATENT-APPL-SN-763744	c10	N72-27246	US-PATENT-APPL-SN-789045	c15	N72-22489
US-PATENT-APPL-SN-763868	c15	N71-24679	US-PATENT-APPL-SN-789278	c15	N71-24694
US-PATENT-APPL-SN-763869	c17	N71-16393	US-PATENT-APPL-SN-789303	c07	N71-28429
US-PATENT-APPL-SN-764252	c14	N71-25901	US-PATENT-APPL-SN-790420	c09	N71-24595
US-PATENT-APPL-SN-764470	c16	N71-28554	US-PATENT-APPL-SN-791267	c23	N72-17747
US-PATENT-APPL-SN-764812	c10	N71-19468	US-PATENT-APPL-SN-791268	c23	N72-17947
US-PATENT-APPL-SN-765123	c31	N71-15687	US-PATENT-APPL-SN-791288	c23	N71-25213
US-PATENT-APPL-SN-765264	c02	N71-29128	US-PATENT-APPL-SN-791364	c14	N72-17328
US-PATENT-APPL-SN-765738	c03	N71-11057	US-PATENT-APPL-SN-791693	c05	N71-11203
US-PATENT-APPL-SN-766170	c07	N71-24625	US-PATENT-APPL-SN-791888	c23	N71-24725

NUMBER INDEX

US-PATENT-APPL-SN-792623	.....	c14	N72-23457	US-PATENT-APPL-SN-822518	.....	c09	N71-13522
US-PATENT-APPL-SN-793657	.....	c17	N72-28536	US-PATENT-APPL-SN-822519	.....	c14	N71-28992
US-PATENT-APPL-SN-793770	.....	c25	N71-15562	US-PATENT-APPL-SN-822534	.....	c09	N72-11224
US-PATENT-APPL-SN-793771	.....	c14	N72-22440	US-PATENT-APPL-SN-824042	.....	c23	N71-29123
US-PATENT-APPL-SN-793772	.....	c10	N71-18722	US-PATENT-APPL-SN-824755	.....	c09	N70-33182
US-PATENT-APPL-SN-793823	.....	c09	N71-33109	US-PATENT-APPL-SN-825253	.....	c16	N69-31343
US-PATENT-APPL-SN-794530	.....	c15	N72-11386	US-PATENT-APPL-SN-825258	.....	c26	N72-21701
US-PATENT-APPL-SN-794968	.....	c15	N71-27146	US-PATENT-APPL-SN-825259	.....	c14	N71-26788
US-PATENT-APPL-SN-795182	.....	c07	N71-24840	US-PATENT-APPL-SN-827579	.....	c15	N71-24984
US-PATENT-APPL-SN-795187	.....	c33	N71-25351	US-PATENT-APPL-SN-827597	.....	c26	N69-33482
US-PATENT-APPL-SN-796350	.....	c05	N72-11085	US-PATENT-APPL-SN-828909	.....	c28	N71-27094
US-PATENT-APPL-SN-796368	.....	c15	N71-24696	US-PATENT-APPL-SN-828920	.....	c14	N74-22095
US-PATENT-APPL-SN-796370	.....	c10	N71-27366	US-PATENT-APPL-SN-828921	.....	c09	N71-27001
US-PATENT-APPL-SN-796405	.....	c14	N71-27185	US-PATENT-APPL-SN-828983	.....	c03	N71-24719
US-PATENT-APPL-SN-796685	.....	c26	N72-28762	US-PATENT-APPL-SN-828984	.....	c08	N71-29033
US-PATENT-APPL-SN-796690	.....	c07	N72-21119	US-PATENT-APPL-SN-829825	.....	c03	N71-246681
US-PATENT-APPL-SN-796691	.....	c10	N71-26334	US-PATENT-APPL-SN-830366	.....	c16	N72-13437
US-PATENT-APPL-SN-797056	.....	c15	N71-25975	US-PATENT-APPL-SN-830715	.....	c15	N71-24903
US-PATENT-APPL-SN-797057	.....	c15	N70-22192	US-PATENT-APPL-SN-830978	.....	c28	N71-26173
US-PATENT-APPL-SN-797058	.....	c05	N71-24738	US-PATENT-APPL-SN-831118	.....	c08	N72-11172
US-PATENT-APPL-SN-797059	.....	c15	N71-28465	US-PATENT-APPL-SN-832603	.....	c09	N72-22199
US-PATENT-APPL-SN-797219	.....	c03	N71-33409	US-PATENT-APPL-SN-833049	.....	c06	N72-21094
US-PATENT-APPL-SN-797794	.....	c07	N71-12396	US-PATENT-APPL-SN-835058	.....	c21	N72-22619
US-PATENT-APPL-SN-797795	.....	c07	N71-27191	US-PATENT-APPL-SN-835059	.....	c09	N71-26133
US-PATENT-APPL-SN-797796	.....	c28	N71-14058	US-PATENT-APPL-SN-835060	.....	c02	N71-26110
US-PATENT-APPL-SN-798277	.....	c23	N71-26654	US-PATENT-APPL-SN-835146	.....	c15	N70-33264
US-PATENT-APPL-SN-799013	.....	c09	N71-28468	US-PATENT-APPL-SN-835152	.....	c28	N70-38199
US-PATENT-APPL-SN-799353	.....	c09	N71-27232	US-PATENT-APPL-SN-835153	.....	c31	N71-17680
US-PATENT-APPL-SN-800204	.....	c06	N72-17094	US-PATENT-APPL-SN-836280	.....	c14	N73-14428
US-PATENT-APPL-SN-800973	.....	c16	N71-24832	US-PATENT-APPL-SN-836280	.....	c10	N73-20259
US-PATENT-APPL-SN-801312	.....	c16	N71-15565	US-PATENT-APPL-SN-836367	.....	c09	N71-24804
US-PATENT-APPL-SN-801336	.....	c02	N71-13422	US-PATENT-APPL-SN-837377	.....	c15	N71-26148
US-PATENT-APPL-SN-801660	.....	c14	N71-26672	US-PATENT-APPL-SN-837378	.....	c15	N71-24865
US-PATENT-APPL-SN-802812	.....	c10	N72-22235	US-PATENT-APPL-SN-837825	.....	c15	N71-27006
US-PATENT-APPL-SN-802813	.....	c15	N72-22487	US-PATENT-APPL-SN-837830	.....	c02	N71-27088
US-PATENT-APPL-SN-802816	.....	c31	N71-16346	US-PATENT-APPL-SN-838278	.....	c08	N74-20836
US-PATENT-APPL-SN-802818	.....	c07	N71-29065	US-PATENT-APPL-SN-838630	.....	c14	N71-28993
US-PATENT-APPL-SN-802820	.....	c10	N71-13545	US-PATENT-APPL-SN-839934	.....	c07	N72-20140
US-PATENT-APPL-SN-802948	.....	c31	N71-33160	US-PATENT-APPL-SN-839935	.....	c15	N71-24895
US-PATENT-APPL-SN-802972	.....	c09	N71-26678	US-PATENT-APPL-SN-839941	.....	c07	N71-26181
US-PATENT-APPL-SN-804172	.....	c28	N71-26781	US-PATENT-APPL-SN-839994	.....	c28	N71-28915
US-PATENT-APPL-SN-805298	.....	c10	N71-25899	US-PATENT-APPL-SN-840176	.....	c28	N71-27095
US-PATENT-APPL-SN-805405	.....	c14	N71-27323	US-PATENT-APPL-SN-840308	.....	c07	N71-33613
US-PATENT-APPL-SN-805406	.....	c07	N71-24613	US-PATENT-APPL-SN-840359	.....	c23	N71-29125
US-PATENT-APPL-SN-806149	.....	c27	N71-16223	US-PATENT-APPL-SN-840870	.....	c15	N71-26189
US-PATENT-APPL-SN-806226	.....	c14	N71-27407	US-PATENT-APPL-SN-840983	.....	c05	N70-33285
US-PATENT-APPL-SN-808192	.....	c15	N71-27432	US-PATENT-APPL-SN-841845	.....	c14	N73-32317
US-PATENT-APPL-SN-808193	.....	c31	N71-26537	US-PATENT-APPL-SN-842170	.....	c11	N70-33278
US-PATENT-APPL-SN-808462	.....	c10	N71-27136	US-PATENT-APPL-SN-842171	.....	c11	N70-33329
US-PATENT-APPL-SN-808576	.....	c15	N71-27754	US-PATENT-APPL-SN-843022	.....	c11	N70-33287
US-PATENT-APPL-SN-808577	.....	c32	N71-25360	US-PATENT-APPL-SN-843032	.....	c28	N70-41818
US-PATENT-APPL-SN-808822	.....	c14	N73-16483	US-PATENT-APPL-SN-843251	.....	c03	N72-11162
US-PATENT-APPL-SN-809822	.....	c28	N71-27585	US-PATENT-APPL-SN-844225	.....	c05	N72-25026
US-PATENT-APPL-SN-810575	.....	c15	N71-27169	US-PATENT-APPL-SN-844355	.....	c03	N72-26031
US-PATENT-APPL-SN-810576	.....	c15	N73-12492	US-PATENT-APPL-SN-845365	.....	c09	N71-13518
US-PATENT-APPL-SN-810579	.....	c09	N72-22203	US-PATENT-APPL-SN-845584	.....	c27	N73-22710
US-PATENT-APPL-SN-810579	.....	c09	N74-22864	US-PATENT-APPL-SN-845807	.....	c15	N72-11391
US-PATENT-APPL-SN-810815	.....	c06	N72-22107	US-PATENT-APPL-SN-845971	.....	c11	N71-28629
US-PATENT-APPL-SN-811037	.....	c14	N71-26137	US-PATENT-APPL-SN-845972	.....	c09	N70-11148
US-PATENT-APPL-SN-811038	.....	c14	N72-20380	US-PATENT-APPL-SN-845973	.....	c11	N71-24985
US-PATENT-APPL-SN-811509	.....	c02	N70-33332	US-PATENT-APPL-SN-845974	.....	c33	N71-25353
US-PATENT-APPL-SN-811542	.....	c21	N71-24948	US-PATENT-APPL-SN-845990	.....	c14	N71-27005
US-PATENT-APPL-SN-811892	.....	c14	N71-27090	US-PATENT-APPL-SN-845991	.....	c14	N71-29138
US-PATENT-APPL-SN-812998	.....	c28	N72-22769	US-PATENT-APPL-SN-847023	.....	c31	N70-37938
US-PATENT-APPL-SN-812999	.....	c05	N71-12345	US-PATENT-APPL-SN-847027	.....	c03	N70-33343
US-PATENT-APPL-SN-813338	.....	c18	N72-22566	US-PATENT-APPL-SN-847596	.....	c15	N70-10867
US-PATENT-APPL-SN-813488	.....	c15	N71-28467	US-PATENT-APPL-SN-848282	.....	c15	N72-21462
US-PATENT-APPL-SN-813494	.....	c08	N72-11171	US-PATENT-APPL-SN-848325	.....	c06	N70-11251
US-PATENT-APPL-SN-814212	.....	c14	N72-17326	US-PATENT-APPL-SN-848351	.....	c06	N70-11252
US-PATENT-APPL-SN-815366	.....	c14	N71-28994	US-PATENT-APPL-SN-848403	.....	c09	N74-20859
US-PATENT-APPL-SN-815367	.....	c14	N71-28863	US-PATENT-APPL-SN-848481	.....	c17	N70-33283
US-PATENT-APPL-SN-815760	.....	c15	N71-27068	US-PATENT-APPL-SN-848776	.....	c07	N72-22127
US-PATENT-APPL-SN-816733	.....	c15	N71-27084	US-PATENT-APPL-SN-848805	.....	c06	N72-17095
US-PATENT-APPL-SN-816988	.....	c14	N71-26199	US-PATENT-APPL-SN-848810	.....	c07	N72-11148
US-PATENT-APPL-SN-817481	.....	c09	N72-11225	US-PATENT-APPL-SN-848811	.....	c10	N71-26142
US-PATENT-APPL-SN-817482	.....	c10	N71-27338	US-PATENT-APPL-SN-849106	.....	c09	N72-22197
US-PATENT-APPL-SN-817569	.....	c06	N69-31244	US-PATENT-APPL-SN-850586	.....	c31	N71-25434
US-PATENT-APPL-SN-818349	.....	c21	N71-19212	US-PATENT-APPL-SN-850587	.....	c08	N72-21199
US-PATENT-APPL-SN-819599	.....	c15	N71-19214	US-PATENT-APPL-SN-851298	.....	c15	N72-12409
US-PATENT-APPL-SN-819898	.....	c30	N72-17873	US-PATENT-APPL-SN-851394	.....	c09	N71-24892
US-PATENT-APPL-SN-820453	.....	c03	N72-24037	US-PATENT-APPL-SN-852131	.....	c15	N71-24836
US-PATENT-APPL-SN-820963	.....	c07	N71-19854	US-PATENT-APPL-SN-852843	.....	c09	N72-22195
US-PATENT-APPL-SN-820964	.....	c15	N71-28740	US-PATENT-APPL-SN-853641	.....	c33	N72-25913
US-PATENT-APPL-SN-820965	.....	c09	N71-13486	US-PATENT-APPL-SN-853716	.....	c09	N71-24904
US-PATENT-APPL-SN-821586	.....	c26	N71-14354	US-PATENT-APPL-SN-853746	.....	c02	N72-11018
US-PATENT-APPL-SN-822039	.....	c06	N72-25149	US-PATENT-APPL-SN-853763	.....	c07	N70-12616
US-PATENT-APPL-SN-822088	.....	c15	N71-27135	US-PATENT-APPL-SN-853763	.....	c07	N72-33146
US-PATENT-APPL-SN-822089	.....	c23	N72-23695	US-PATENT-APPL-SN-853855	.....	c17	N72-22530
US-PATENT-APPL-SN-822090	.....	c16	N71-27183	US-PATENT-APPL-SN-853855	.....	c17	N72-28535

NUMBER INDEX

US-PATENT-APPL-SN-853856	.....	c16	N71-29131	US-PATENT-APPL-SN-882577	.....	c07	N71-27056
US-PATENT-APPL-SN-853983	.....	c14	N70-33254	US-PATENT-APPL-SN-883523	.....	c09	N72-33204
US-PATENT-APPL-SN-853984	.....	c21	N70-33181	US-PATENT-APPL-SN-883524	.....	c09	N72-21246
US-PATENT-APPL-SN-854815	.....	c09	N71-24807	US-PATENT-APPL-SN-885521	.....	c03	N72-28025
US-PATENT-APPL-SN-855004	.....	c24	N72-11595	US-PATENT-APPL-SN-885571	.....	c09	N71-28886
US-PATENT-APPL-SN-856253	.....	c06	N74-19769	US-PATENT-APPL-SN-885594	.....	c15	N71-29133
US-PATENT-APPL-SN-856257	.....	c09	N70-12620	US-PATENT-APPL-SN-887685	.....	c10	N72-20223
US-PATENT-APPL-SN-856258	.....	c05	N71-17599	US-PATENT-APPL-SN-887698	.....	c09	N72-17153
US-PATENT-APPL-SN-856279	.....	c07	N72-21118	US-PATENT-APPL-SN-887699	.....	c15	N72-17452
US-PATENT-APPL-SN-856282	.....	c08	N72-22166	US-PATENT-APPL-SN-887700	.....	c07	N71-28980
US-PATENT-APPL-SN-856327	.....	c05	N72-16015	US-PATENT-APPL-SN-887701	.....	c08	N71-29034
US-PATENT-APPL-SN-856328	.....	c14	N72-22441	US-PATENT-APPL-SN-889374	.....	c08	N72-25207
US-PATENT-APPL-SN-856415	.....	c09	N71-26182	US-PATENT-APPL-SN-889375	.....	c10	N72-20222
US-PATENT-APPL-SN-856511	.....	c05	N70-20717	US-PATENT-APPL-SN-889376	.....	c16	N71-26285
US-PATENT-APPL-SN-857241	.....	c15	N74-23069	US-PATENT-APPL-SN-889387	.....	c09	N71-29035
US-PATENT-APPL-SN-857445	.....	c05	N71-24728	US-PATENT-APPL-SN-889420	.....	c14	N72-25413
US-PATENT-APPL-SN-857967	.....	c15	N72-20443	US-PATENT-APPL-SN-889422	.....	c09	N72-25259
US-PATENT-APPL-SN-858695	.....	c11	N72-22247	US-PATENT-APPL-SN-889423	.....	c10	N72-22236
US-PATENT-APPL-SN-860892	.....	c09	N72-20199	US-PATENT-APPL-SN-889437	.....	c15	N72-11392
US-PATENT-APPL-SN-860493	.....	c14	N72-16283	US-PATENT-APPL-SN-889438	.....	c15	N72-18477
US-PATENT-APPL-SN-860635	.....	c28	N72-17843	US-PATENT-APPL-SN-889476	.....	c08	N71-29138
US-PATENT-APPL-SN-860750	.....	c08	N72-22165	US-PATENT-APPL-SN-889479	.....	c14	N72-17325
US-PATENT-APPL-SN-860751	.....	c08	N72-18184	US-PATENT-APPL-SN-889551	.....	c21	N72-21624
US-PATENT-APPL-SN-860781	.....	c18	N72-22567	US-PATENT-APPL-SN-889554	.....	c15	N72-20444
US-PATENT-APPL-SN-861152	.....	c14	N70-33322	US-PATENT-APPL-SN-889555	.....	c09	N72-17154
US-PATENT-APPL-SN-861649	.....	c14	N72-17327	US-PATENT-APPL-SN-889556	.....	c14	N72-18411
US-PATENT-APPL-SN-862921	.....	c31	N71-29050	US-PATENT-APPL-SN-889557	.....	c11	N72-17183
US-PATENT-APPL-SN-863276	.....	c16	N72-12440	US-PATENT-APPL-SN-889558	.....	c15	N72-22491
US-PATENT-APPL-SN-863280	.....	c24	N72-33681	US-PATENT-APPL-SN-889583	.....	c15	N72-21464
US-PATENT-APPL-SN-863913	.....	c14	N71-28991	US-PATENT-APPL-SN-889584	.....	c08	N72-31226
US-PATENT-APPL-SN-863914	.....	c09	N72-31235	US-PATENT-APPL-SN-889682	.....	c15	N72-25447
US-PATENT-APPL-SN-863963	.....	c10	N71-26085				
US-PATENT-APPL-SN-863967	.....	c11	N71-27036	US-PATENT-CLASS-D71-1	.....	c02	N74-10907
US-PATENT-APPL-SN-864020	.....	c15	N72-17454				
US-PATENT-APPL-SN-864039	.....	c15	N72-22483	US-PATENT-CLASS-1	.....	c14	N71-27005
US-PATENT-APPL-SN-864097	.....	c07	N71-33606	US-PATENT-CLASS-2-2.1	.....	c05	N71-11194
US-PATENT-APPL-SN-864710	.....	c03	N70-26817	US-PATENT-CLASS-2-2.1	.....	c05	N71-11195
US-PATENT-APPL-SN-865106	.....	c09	N72-22202	US-PATENT-CLASS-2-2.1	.....	c05	N71-12335
US-PATENT-APPL-SN-865109	.....	c14	N71-28933	US-PATENT-CLASS-2-2.1	.....	c05	N71-12344
US-PATENT-APPL-SN-865274	.....	c09	N72-17155	US-PATENT-CLASS-2-2.1	.....	c05	N71-123161
US-PATENT-APPL-SN-865298	.....	c15	N72-11388	US-PATENT-CLASS-2-2.1	.....	c05	N71-24623
US-PATENT-APPL-SN-865329	.....	c15	N71-29132	US-PATENT-CLASS-2-2.1	.....	c05	N71-24730
US-PATENT-APPL-SN-865811	.....	c09	N71-27053	US-PATENT-CLASS-2-2.1	.....	c05	N72-20096
US-PATENT-APPL-SN-865909	.....	c14	N72-11364	US-PATENT-CLASS-2-2.1	.....	c05	N72-20098
US-PATENT-APPL-SN-866442	.....	c25	N72-24753	US-PATENT-CLASS-2-2.1	.....	c05	N72-25114
US-PATENT-APPL-SN-867841	.....	c11	N72-22246	US-PATENT-CLASS-2-2.1	.....	c05	N73-26371
US-PATENT-APPL-SN-867842	.....	c23	N72-27728	US-PATENT-CLASS-2-2.1A	.....	c05	N72-22092
US-PATENT-APPL-SN-867843	.....	c14	N71-26161	US-PATENT-CLASS-2-2.1A	.....	c05	N73-25125
US-PATENT-APPL-SN-867851	.....	c15	N72-22484	US-PATENT-CLASS-2-2.1A	.....	c05	N73-32012
US-PATENT-APPL-SN-868445	.....	c14	N72-17323	US-PATENT-CLASS-2-2.1A	.....	c05	N74-32546
US-PATENT-APPL-SN-868529	.....	c08	N72-22167	US-PATENT-CLASS-2-6	.....	c05	N71-26333
US-PATENT-APPL-SN-868530	.....	c05	N72-11084	US-PATENT-CLASS-2-14	.....	c05	N71-23096
US-PATENT-APPL-SN-868775	.....	c09	N72-25261	US-PATENT-CLASS-2-81	.....	c18	N71-26285
US-PATENT-APPL-SN-868775	.....	c09	N73-27150	US-PATENT-CLASS-2-81	.....	c05	N73-32012
US-PATENT-APPL-SN-869260	.....	c05	N72-20097	US-PATENT-CLASS-2-82	.....	c05	N74-32546
US-PATENT-APPL-SN-869260	.....	c05	N73-25125	US-PATENT-CLASS-2-115	.....	c05	N72-25119
US-PATENT-APPL-SN-870689	.....	c06	N72-25148	US-PATENT-CLASS-2-275	.....	c18	N71-26285
US-PATENT-APPL-SN-872602	.....	c09	N72-22200	US-PATENT-CLASS-3-1.1	.....	c05	N73-32013
US-PATENT-APPL-SN-872664	.....	c08	N70-34675	US-PATENT-CLASS-3-2	.....	c05	N73-32013
US-PATENT-APPL-SN-873045	.....	c14	N72-20379	US-PATENT-CLASS-3-6	.....	c05	N73-32013
US-PATENT-APPL-SN-873259	.....	c08	N72-21200	US-PATENT-CLASS-3-12	.....	c05	N73-32013
US-PATENT-APPL-SN-873260	.....	c33	N72-17948	US-PATENT-CLASS-4-10	.....	c05	N74-20725
US-PATENT-APPL-SN-873793	.....	c14	N72-21407	US-PATENT-CLASS-4-99	.....	c05	N72-22093
US-PATENT-APPL-SN-874177	.....	c11	N72-25284	US-PATENT-CLASS-4-110	.....	c05	N72-22093
US-PATENT-APPL-SN-874435	.....	c11	N71-33612	US-PATENT-CLASS-4-120	.....	c05	N74-20725
US-PATENT-APPL-SN-874732	.....	c09	N71-29139	US-PATENT-CLASS-5-69	.....	c05	N72-11085
US-PATENT-APPL-SN-874733	.....	c15	N71-26635	US-PATENT-CLASS-5-82	.....	c05	N71-23159
US-PATENT-APPL-SN-874958	.....	c31	N71-15566	US-PATENT-CLASS-5-345	.....	c05	N70-33285
US-PATENT-APPL-SN-875849	.....	c07	N71-33696	US-PATENT-CLASS-6-94.12	.....	c18	N71-15545
US-PATENT-APPL-SN-876588	.....	c15	N72-25452	US-PATENT-CLASS-9-2A	.....	c02	N73-26006
US-PATENT-APPL-SN-876588	.....	c06	N74-30502	US-PATENT-CLASS-9-3	.....	c02	N73-26006
US-PATENT-APPL-SN-877717	.....	c14	N72-27410	US-PATENT-CLASS-9-8	.....	c03	N70-36778
US-PATENT-APPL-SN-877717	.....	c14	N73-13417	US-PATENT-CLASS-9-9	.....	c15	N71-24600
US-PATENT-APPL-SN-877990	.....	c14	N72-28437	US-PATENT-CLASS-9-11	.....	c05	N70-34857
US-PATENT-APPL-SN-878730	.....	c08	N72-22164	US-PATENT-CLASS-9-11A	.....	c02	N73-26006
US-PATENT-APPL-SN-878731	.....	c15	N71-26162	US-PATENT-CLASS-9-11A	.....	c05	N74-14845
US-PATENT-APPL-SN-880246	.....	c28	N72-22770	US-PATENT-CLASS-9-312	.....	c05	N71-22748
US-PATENT-APPL-SN-880247	.....	c09	N70-20737	US-PATENT-CLASS-9-316	.....	c05	N70-36493
US-PATENT-APPL-SN-880248	.....	c07	N72-11150	US-PATENT-CLASS-13-20	.....	c11	N72-23215
US-PATENT-APPL-SN-880249	.....	c15	N72-22482	US-PATENT-CLASS-13-26	.....	c33	N71-15625
US-PATENT-APPL-SN-880250	.....	c03	N72-20032	US-PATENT-CLASS-13-26	.....	c14	N71-23267
US-PATENT-APPL-SN-880271	.....	c15	N72-25448	US-PATENT-CLASS-13-31	.....	c11	N72-23215
US-PATENT-APPL-SN-880272	.....	c14	N71-27058	US-PATENT-CLASS-13-31	.....	c15	N74-27900
US-PATENT-APPL-SN-880398	.....	c15	N73-12487	US-PATENT-CLASS-13-35	.....	c33	N71-24145
US-PATENT-APPL-SN-880831	.....	c11	N72-20244	US-PATENT-CLASS-15-143	.....	c15	N72-11390
US-PATENT-APPL-SN-880885	.....	c07	N72-12080	US-PATENT-CLASS-15-210	.....	c15	N72-11390
US-PATENT-APPL-SN-881039	.....	c09	N71-24842	US-PATENT-CLASS-15-415	.....	c14	N73-30395
US-PATENT-APPL-SN-881041	.....	c09	N72-22204	US-PATENT-CLASS-18-6	.....	c15	N71-26721
US-PATENT-APPL-SN-882122	.....	c14	N72-22438	US-PATENT-CLASS-18-26	.....	c06	N71-29275

NUMBER INDEX

US-PATENT-CLASS-18-39	c27	N70-34783	US-PATENT-CLASS-29-428	c15	N71-17686
US-PATENT-CLASS-21-207	c17	N71-16393	US-PATENT-CLASS-29-452	c15	N73-30457
US-PATENT-CLASS-22-200	c15	N71-15966	US-PATENT-CLASS-29-460	c15	N74-11301
US-PATENT-CLASS-22-203	c17	N70-38198	US-PATENT-CLASS-29-470.1	c15	N74-21057
US-PATENT-CLASS-23-55	c06	N72-17093	US-PATENT-CLASS-29-472.9	c15	N69-39786
US-PATENT-CLASS-23-88	c06	N72-17093	US-PATENT-CLASS-29-472.9	c26	N71-16037
US-PATENT-CLASS-23-97	c06	N72-17093	US-PATENT-CLASS-29-472.9	c15	N72-22492
US-PATENT-CLASS-23-109	c04	N72-33072	US-PATENT-CLASS-29-473.1	c15	N72-22487
US-PATENT-CLASS-23-201	c06	N72-17095	US-PATENT-CLASS-29-473.1	c15	N72-22492
US-PATENT-CLASS-23-208	c15	N69-21922	US-PATENT-CLASS-29-482	c05	N72-25121
US-PATENT-CLASS-23-208	c26	N70-36805	US-PATENT-CLASS-29-482	c15	N74-18128
US-PATENT-CLASS-23-209.1	c15	N72-20446	US-PATENT-CLASS-29-487	c15	N73-33383
US-PATENT-CLASS-23-240	c06	N71-23527	US-PATENT-CLASS-29-487	c15	N74-21055
US-PATENT-CLASS-23-230	c06	N72-17095	US-PATENT-CLASS-29-488	c15	N70-33311
US-PATENT-CLASS-23-230L	c14	N74-32879	US-PATENT-CLASS-29-488	c15	N74-18128
US-PATENT-CLASS-23-230R	c06	N72-17094	US-PATENT-CLASS-29-492	c15	N71-20443
US-PATENT-CLASS-23-230R	c17	N73-12547	US-PATENT-CLASS-29-492	c09	N72-25261
US-PATENT-CLASS-23-230R	c17	N73-27446	US-PATENT-CLASS-29-494	c15	N73-33383
US-PATENT-CLASS-23-232C	c06	N72-17094	US-PATENT-CLASS-29-494	c15	N74-21055
US-PATENT-CLASS-23-232E	c06	N73-16106	US-PATENT-CLASS-29-495	c15	N71-21078
US-PATENT-CLASS-23-232K	c06	N73-16106	US-PATENT-CLASS-29-497	c09	N72-25261
US-PATENT-CLASS-23-252R	c06	N74-12813	US-PATENT-CLASS-29-497	c15	N73-32358
US-PATENT-CLASS-23-253	c23	N71-16355	US-PATENT-CLASS-29-497	c15	N74-18128
US-PATENT-CLASS-23-253	c06	N71-26754	US-PATENT-CLASS-29-497.5	c15	N73-28515
US-PATENT-CLASS-23-253	c06	N72-17095	US-PATENT-CLASS-29-497.5	c15	N73-33383
US-PATENT-CLASS-23-253PC	c06	N72-17094	US-PATENT-CLASS-29-497.5	c15	N74-11300
US-PATENT-CLASS-23-253PC	c15	N74-18123	US-PATENT-CLASS-29-498	c09	N72-25261
US-PATENT-CLASS-23-253F	c15	N72-21465	US-PATENT-CLASS-29-498	c15	N73-33383
US-PATENT-CLASS-23-254	c14	N71-20442	US-PATENT-CLASS-29-498	c15	N74-11301
US-PATENT-CLASS-23-254E	c06	N73-16106	US-PATENT-CLASS-29-498	c15	N74-18128
US-PATENT-CLASS-23-254R	c06	N73-16106	US-PATENT-CLASS-29-498	c15	N74-21055
US-PATENT-CLASS-23-259	c15	N71-27372	US-PATENT-CLASS-29-502	c09	N72-25261
US-PATENT-CLASS-23-259	c15	N72-21465	US-PATENT-CLASS-29-503	c15	N74-11301
US-PATENT-CLASS-23-259	c15	N74-18123	US-PATENT-CLASS-29-504	c15	N74-21055
US-PATENT-CLASS-23-277	c26	N70-40015	US-PATENT-CLASS-29-517	c15	N71-17650
US-PATENT-CLASS-23-277C	c33	N74-33378	US-PATENT-CLASS-29-527.2	c15	N72-20444
US-PATENT-CLASS-23-281	c28	N72-18766	US-PATENT-CLASS-29-527.2	c15	N73-32360
US-PATENT-CLASS-23-281	c06	N74-12813	US-PATENT-CLASS-29-527.2	c15	N74-11301
US-PATENT-CLASS-23-284	c15	N74-15127	US-PATENT-CLASS-29-570	c26	N72-28761
US-PATENT-CLASS-23-288	c28	N72-18766	US-PATENT-CLASS-29-572	c09	N71-23027
US-PATENT-CLASS-23-288F	c06	N74-12813	US-PATENT-CLASS-29-572	c03	N71-24681
US-PATENT-CLASS-23-288J	c06	N74-12813	US-PATENT-CLASS-29-572	c03	N72-22041
US-PATENT-CLASS-24-126	c15	N71-22994	US-PATENT-CLASS-29-572	c03	N74-14784
US-PATENT-CLASS-24-134R	c15	N73-25512	US-PATENT-CLASS-29-573	c14	N73-13417
US-PATENT-CLASS-24-205.17	c15	N71-25975	US-PATENT-CLASS-29-578	c26	N72-17820
US-PATENT-CLASS-24-211	c15	N71-17653	US-PATENT-CLASS-29-580	c09	N73-27150
US-PATENT-CLASS-24-211N	c15	N72-11385	US-PATENT-CLASS-29-588	c14	N71-27334
US-PATENT-CLASS-24-263	c15	N71-21076	US-PATENT-CLASS-29-588	c14	N72-31446
US-PATENT-CLASS-24-263	c15	N71-26162	US-PATENT-CLASS-29-588	c03	N74-14784
US-PATENT-CLASS-25-156	c15	N71-16076	US-PATENT-CLASS-29-589	c26	N72-17820
US-PATENT-CLASS-27-498	c15	N73-28515	US-PATENT-CLASS-29-589	c09	N72-25261
US-PATENT-CLASS-29-25.14	c05	N72-25121	US-PATENT-CLASS-29-589	c15	N73-14469
US-PATENT-CLASS-29-25.18	c09	N71-26678	US-PATENT-CLASS-29-590	c09	N72-22199
US-PATENT-CLASS-29-25.16	c05	N72-25121	US-PATENT-CLASS-29-591	c15	N73-14469
US-PATENT-CLASS-29-25.42	c26	N72-28762	US-PATENT-CLASS-29-599	c15	N72-25447
US-PATENT-CLASS-29-148.4	c15	N71-16052	US-PATENT-CLASS-29-599	c26	N73-26752
US-PATENT-CLASS-29-148.4	c15	N71-17688	US-PATENT-CLASS-29-599	c26	N73-32571
US-PATENT-CLASS-29-148.4A	c15	N74-15128	US-PATENT-CLASS-29-603	c08	N71-27210
US-PATENT-CLASS-29-148.4B	c15	N74-15128	US-PATENT-CLASS-29-624	c15	N72-20444
US-PATENT-CLASS-29-155.35	c15	N71-15986	US-PATENT-CLASS-29-624	c14	N73-13417
US-PATENT-CLASS-29-157	c28	N71-15658	US-PATENT-CLASS-29-628	c15	N72-22491
US-PATENT-CLASS-29-157.3	c28	N70-41818	US-PATENT-CLASS-29-628	c09	N72-25261
US-PATENT-CLASS-29-157.3R	c33	N74-18552	US-PATENT-CLASS-29-628	c09	N73-28083
US-PATENT-CLASS-29-182	c15	N74-13179	US-PATENT-CLASS-29-629	c09	N73-28083
US-PATENT-CLASS-29-182.1	c18	N71-23710	US-PATENT-CLASS-29-630	c05	N72-25121
US-PATENT-CLASS-29-182.2	c17	N71-23046	US-PATENT-CLASS-29-630A	c09	N73-28083
US-PATENT-CLASS-29-182.5	c17	N72-28536	US-PATENT-CLASS-30-228	c15	N70-42017
US-PATENT-CLASS-29-183.5	c17	N70-38490	US-PATENT-CLASS-32-28	c05	N73-27062
US-PATENT-CLASS-29-195Y	c14	N73-32320	US-PATENT-CLASS-32-58	c05	N73-27062
US-PATENT-CLASS-29-196.2	c17	N73-32414	US-PATENT-CLASS-33-1	c14	N70-36907
US-PATENT-CLASS-29-196.6	c17	N73-32414	US-PATENT-CLASS-33-1N	c14	N74-32877
US-PATENT-CLASS-29-197	c17	N73-32414	US-PATENT-CLASS-33-15A	c14	N72-28436
US-PATENT-CLASS-29-198	c17	N70-33288	US-PATENT-CLASS-33-15A	c14	N74-21015
US-PATENT-CLASS-29-198	c09	N72-25259	US-PATENT-CLASS-33-15A	c08	N72-11172
US-PATENT-CLASS-29-203H	c15	N74-32918	US-PATENT-CLASS-33-23R	c14	N74-32877
US-PATENT-CLASS-29-203HM	c15	N70-36901	US-PATENT-CLASS-33-31	c14	N71-21079
US-PATENT-CLASS-29-234	c15	N74-32918	US-PATENT-CLASS-33-46R	c14	N74-21015
US-PATENT-CLASS-29-268	c15	N70-41371	US-PATENT-CLASS-33-72	c15	N72-11386
US-PATENT-CLASS-29-271	c15	N71-29133	US-PATENT-CLASS-33-75R	c14	N72-28436
US-PATENT-CLASS-29-278E	c05	N71-12345	US-PATENT-CLASS-33-125	c14	N72-11364
US-PATENT-CLASS-29-409	c15	N72-20444	US-PATENT-CLASS-33-147	c15	N71-19489
US-PATENT-CLASS-29-412	c17	N74-10521	US-PATENT-CLASS-33-149	c14	N71-17657
US-PATENT-CLASS-29-420.5	c15	N74-13179	US-PATENT-CLASS-33-174	c14	N69-21363
US-PATENT-CLASS-29-420.5	c15	N71-29018	US-PATENT-CLASS-33-174	c14	N71-17658
US-PATENT-CLASS-29-421	c14	N72-22439	US-PATENT-CLASS-33-174	c14	N71-24693
US-PATENT-CLASS-29-421	c15	N70-36409	US-PATENT-CLASS-33-174S	c14	N72-22445
US-PATENT-CLASS-29-423	c15	N74-21059	US-PATENT-CLASS-33-189	c15	N71-26145
US-PATENT-CLASS-29-423	c15	N72-20444	US-PATENT-CLASS-33-204C	c08	N72-11172

NUMBER INDEX

US-PATENT-CLASS-33-207	c15 N71-15571	US-PATENT-CLASS-55-464	c15 N72-22489
US-PATENT-CLASS-33-268	c14 N74-30886	US-PATENT-CLASS-55-493	c14 N72-23457
US-PATENT-CLASS-33-285	c16 N74-21091	US-PATENT-CLASS-55-498	c14 N72-23457
US-PATENT-CLASS-34-155	c14 N73-28489	US-PATENT-CLASS-55-502	c14 N72-23457
US-PATENT-CLASS-34-160	c14 N73-28489	US-PATENT-CLASS-55-510	c06 N74-12813
US-PATENT-CLASS-34-162	c14 N73-28489	US-PATENT-CLASS-55-518	c06 N74-12813
US-PATENT-CLASS-34-162	c07 N74-15831	US-PATENT-CLASS-55-521	c14 N72-23457
US-PATENT-CLASS-35-8	c05 N72-16015	US-PATENT-CLASS-58-24	c10 N71-26326
US-PATENT-CLASS-35-10	c14 N71-15621	US-PATENT-CLASS-60-1	c15 N71-23377
US-PATENT-CLASS-35-12	c11 N70-34815	US-PATENT-CLASS-60-1	c15 N73-13467
US-PATENT-CLASS-35-12	c31 N70-34966	US-PATENT-CLASS-60-23	c09 N71-26182
US-PATENT-CLASS-35-12	c11 N71-10746	US-PATENT-CLASS-60-23	c15 N72-12409
US-PATENT-CLASS-35-12	c11 N71-10748	US-PATENT-CLASS-60-23	c21 N72-31637
US-PATENT-CLASS-35-12	c11 N71-10776	US-PATENT-CLASS-60-23	c15 N73-13467
US-PATENT-CLASS-35-12	c11 N71-18773	US-PATENT-CLASS-60-25	c15 N73-24513
US-PATENT-CLASS-35-12	c11 N71-19494	US-PATENT-CLASS-60-25	c15 N74-21060
US-PATENT-CLASS-35-12	c11 N71-21474	US-PATENT-CLASS-60-26	c21 N72-31637
US-PATENT-CLASS-35-12C	c14 N73-27377	US-PATENT-CLASS-60-26	c03 N73-20040
US-PATENT-CLASS-35-12E	c11 N74-30597	US-PATENT-CLASS-60-35.3	c28 N70-33265
US-PATENT-CLASS-35-17	c05 N71-24606	US-PATENT-CLASS-60-35.3	c28 N70-40367
US-PATENT-CLASS-35-19	c10 N71-27365	US-PATENT-CLASS-60-35.5	c28 N70-33356
US-PATENT-CLASS-35-22R	c05 N73-43114	US-PATENT-CLASS-60-35.5	c28 N70-34175
US-PATENT-CLASS-35-29	c11 N71-16028	US-PATENT-CLASS-60-35.5	c22 N70-34248
US-PATENT-CLASS-35-29	c05 N71-28619	US-PATENT-CLASS-60-35.5	c28 N70-36802
US-PATENT-CLASS-35-35A	c14 N74-21014	US-PATENT-CLASS-60-35.5	c21 N70-36938
US-PATENT-CLASS-35-45	c14 N70-35394	US-PATENT-CLASS-60-35.5	c25 N70-36946
US-PATENT-CLASS-35-49	c12 N69-39988	US-PATENT-CLASS-60-35.5	c28 N70-37245
US-PATENT-CLASS-40-28	c12 N71-18603	US-PATENT-CLASS-60-35.5	c28 N70-37980
US-PATENT-CLASS-40-130	c09 N73-14215	US-PATENT-CLASS-60-35.5	c28 N71-14043
US-PATENT-CLASS-42-1F	c11 N72-22247	US-PATENT-CLASS-60-35.5	c28 N71-15661
US-PATENT-CLASS-44-77	c06 N71-23499	US-PATENT-CLASS-60-35.6	c28 N70-33284
US-PATENT-CLASS-47-1.4	c31 N73-32750	US-PATENT-CLASS-60-35.6	c28 N70-33331
US-PATENT-CLASS-47-17	c31 N73-32750	US-PATENT-CLASS-60-35.6	c28 N70-33374
US-PATENT-CLASS-49-68	c15 N74-22136	US-PATENT-CLASS-60-35.6	c28 N70-33375
US-PATENT-CLASS-51-57	c15 N71-22705	US-PATENT-CLASS-60-35.6	c28 N70-34860
US-PATENT-CLASS-51-97R	c15 N74-27905	US-PATENT-CLASS-60-35.6	c28 N70-35381
US-PATENT-CLASS-51-170	c15 N71-26134	US-PATENT-CLASS-60-35.6	c27 N70-35334
US-PATENT-CLASS-51-216	c15 N72-20444	US-PATENT-CLASS-60-35.6	c15 N70-36535
US-PATENT-CLASS-51-225	c15 N74-27905	US-PATENT-CLASS-60-35.6	c28 N70-36806
US-PATENT-CLASS-51-234	c15 N74-27905	US-PATENT-CLASS-60-35.6	c28 N70-36910
US-PATENT-CLASS-51-283	c15 N74-23069	US-PATENT-CLASS-60-35.6	c28 N70-38249
US-PATENT-CLASS-51-320	c15 N72-20444	US-PATENT-CLASS-60-35.6	c28 N70-38504
US-PATENT-CLASS-51-323	c15 N72-20444	US-PATENT-CLASS-60-35.6	c28 N70-38505
US-PATENT-CLASS-52-DIG.10	c18 N72-25540	US-PATENT-CLASS-60-35.6	c28 N70-38710
US-PATENT-CLASS-52-DIG.10	c18 N72-25541	US-PATENT-CLASS-60-35.6	c28 N70-38999
US-PATENT-CLASS-52-1	c15 N72-28496	US-PATENT-CLASS-60-35.6	c33 N71-15623
US-PATENT-CLASS-52-2	c32 N71-21045	US-PATENT-CLASS-60-35.6	c27 N71-15634
US-PATENT-CLASS-52-3	c31 N71-16080	US-PATENT-CLASS-60-35.6	c31 N71-15637
US-PATENT-CLASS-52-64	c31 N73-32749	US-PATENT-CLASS-60-35.6	c31 N71-15647
US-PATENT-CLASS-52-80	c18 N72-25540	US-PATENT-CLASS-60-35.6	c28 N71-15660
US-PATENT-CLASS-52-80	c18 N72-25541	US-PATENT-CLASS-60-35.6	c14 N71-27186
US-PATENT-CLASS-52-80	c31 N73-32749	US-PATENT-CLASS-60-35.54	c28 N70-34294
US-PATENT-CLASS-52-108	c15 N72-18477	US-PATENT-CLASS-60-35.54	c28 N70-38645
US-PATENT-CLASS-52-109	c31 N73-32749	US-PATENT-CLASS-60-35.54	c28 N71-29153
US-PATENT-CLASS-52-127	c15 N71-21531	US-PATENT-CLASS-60-35.55	c28 N70-34162
US-PATENT-CLASS-52-169	c15 N72-25454	US-PATENT-CLASS-60-35.55	c28 N70-38711
US-PATENT-CLASS-52-171	c11 N73-12265	US-PATENT-CLASS-60-35.55	c21 N71-15582
US-PATENT-CLASS-52-173	c15 N72-25454	US-PATENT-CLASS-60-35.55	c15 N71-28951
US-PATENT-CLASS-52-249	c33 N71-25351	US-PATENT-CLASS-60-35.60	c28 N71-15659
US-PATENT-CLASS-52-272	c31 N71-24035	US-PATENT-CLASS-60-36	c15 N72-33477
US-PATENT-CLASS-52-284	c32 N73-13921	US-PATENT-CLASS-60-37	c15 N73-13467
US-PATENT-CLASS-52-404	c33 N71-25351	US-PATENT-CLASS-60-39	c28 N73-19793
US-PATENT-CLASS-52-573	c15 N72-28496	US-PATENT-CLASS-60-39.28R	c28 N71-20330
US-PATENT-CLASS-52-594	c15 N72-25454	US-PATENT-CLASS-60-39.36	c28 N71-28915
US-PATENT-CLASS-52-594	c32 N73-13921	US-PATENT-CLASS-60-39.46	c27 N71-15635
US-PATENT-CLASS-52-646	c31 N73-32749	US-PATENT-CLASS-60-39.46	c31 N74-27360
US-PATENT-CLASS-52-648	c11 N72-25287	US-PATENT-CLASS-60-39.47	c27 N71-16392
US-PATENT-CLASS-52-655	c11 N72-25287	US-PATENT-CLASS-60-39.48	c28 N70-38199
US-PATENT-CLASS-53-22	c15 N71-23256	US-PATENT-CLASS-60-39.48	c28 N70-39931
US-PATENT-CLASS-53-22A	c15 N73-27405	US-PATENT-CLASS-60-39.48	c27 N71-28929
US-PATENT-CLASS-53-102	c15 N71-21528	US-PATENT-CLASS-60-39.65	c28 N71-28915
US-PATENT-CLASS-53-112A	c15 N73-27405	US-PATENT-CLASS-60-39.65	c23 N73-30665
US-PATENT-CLASS-55-16	c06 N72-31140	US-PATENT-CLASS-60-39.66	c15 N70-36411
US-PATENT-CLASS-55-35	c05 N70-41297	US-PATENT-CLASS-60-39.66	c23 N73-30665
US-PATENT-CLASS-55-43	c12 N74-30608	US-PATENT-CLASS-60-39.72	c23 N73-30665
US-PATENT-CLASS-55-55	c06 N72-31140	US-PATENT-CLASS-60-39.74	c28 N70-33241
US-PATENT-CLASS-55-75	c15 N71-26185	US-PATENT-CLASS-60-39.74	c28 N72-17843
US-PATENT-CLASS-55-158	c18 N71-20742	US-PATENT-CLASS-60-39.74A	c15 N72-25455
US-PATENT-CLASS-55-159	c12 N74-30608	US-PATENT-CLASS-60-39.74R	c23 N73-30665
US-PATENT-CLASS-55-160	c15 N71-15968	US-PATENT-CLASS-60-39-48	c28 N72-11709
US-PATENT-CLASS-55-179	c14 N71-17588	US-PATENT-CLASS-60-51	c15 N71-27754
US-PATENT-CLASS-55-199	c12 N74-30608	US-PATENT-CLASS-60-54.5	c15 N71-10658
US-PATENT-CLASS-55-204	c15 N71-23023	US-PATENT-CLASS-60-97	c03 N71-12260
US-PATENT-CLASS-55-208	c14 N71-18483	US-PATENT-CLASS-60-108	c33 N71-16104
US-PATENT-CLASS-55-306	c28 N70-34788	US-PATENT-CLASS-60-200	c28 N71-14044
US-PATENT-CLASS-55-400	c11 N71-10777	US-PATENT-CLASS-60-200A	c33 N72-25911
US-PATENT-CLASS-55-408	c15 N70-40062	US-PATENT-CLASS-60-200A	c33 N73-25952
US-PATENT-CLASS-55-418	c15 N71-22721	US-PATENT-CLASS-60-202	c28 N70-41922
US-PATENT-CLASS-55-446	c15 N72-22489	US-PATENT-CLASS-60-202	c28 N71-10574

NUMBER INDEX

US-PATENT-CLASS-60-202	c25	N71-21694	US-PATENT-CLASS-62-467	c33	N71-17897
US-PATENT-CLASS-60-202	c28	N71-21822	US-PATENT-CLASS-62-467	c05	N72-11084
US-PATENT-CLASS-60-202	c28	N71-23081	US-PATENT-CLASS-62-467	c33	N72-25911
US-PATENT-CLASS-60-202	c28	N71-23293	US-PATENT-CLASS-62-467	c33	N73-25952
US-PATENT-CLASS-60-202	c28	N71-25213	US-PATENT-CLASS-62-475	c23	N72-25619
US-PATENT-CLASS-60-202	c28	N71-26173	US-PATENT-CLASS-62-514	c23	N71-26654
US-PATENT-CLASS-60-202	c28	N71-26642	US-PATENT-CLASS-64-18	c15	N71-28467
US-PATENT-CLASS-60-202	c28	N71-26781	US-PATENT-CLASS-64-27	c15	N71-28959
US-PATENT-CLASS-60-202	c28	N72-11709	US-PATENT-CLASS-64-28	c15	N69-27505
US-PATENT-CLASS-60-202	c28	N72-22770	US-PATENT-CLASS-65-DIG.11	c15	N74-21063
US-PATENT-CLASS-60-202	c28	N72-22771	US-PATENT-CLASS-65-7	c18	N71-23088
US-PATENT-CLASS-60-202	c28	N73-24763	US-PATENT-CLASS-72-34	c15	N71-21536
US-PATENT-CLASS-60-202	c25	N73-25760	US-PATENT-CLASS-72-53	c15	N71-18616
US-PATENT-CLASS-60-202	c28	N73-27699	US-PATENT-CLASS-72-53	c15	N73-32360
US-PATENT-CLASS-60-211	c28	N73-13773	US-PATENT-CLASS-72-56	c15	N70-34249
US-PATENT-CLASS-60-214	c31	N74-27360	US-PATENT-CLASS-72-56	c15	N71-24833
US-PATENT-CLASS-60-215	c06	N73-30097	US-PATENT-CLASS-72-56	c15	N71-24865
US-PATENT-CLASS-60-215	c31	N74-27360	US-PATENT-CLASS-72-56	c15	N71-26148
US-PATENT-CLASS-60-217	c12	N71-17631	US-PATENT-CLASS-72-60	c15	N71-24836
US-PATENT-CLASS-60-225	c28	N71-10780	US-PATENT-CLASS-72-61	c15	N71-26346
US-PATENT-CLASS-60-240	c28	N71-24736	US-PATENT-CLASS-72-83	c15	N71-22723
US-PATENT-CLASS-60-240	c28	N73-13773	US-PATENT-CLASS-72-253	c15	N71-22797
US-PATENT-CLASS-60-243	c33	N71-21507	US-PATENT-CLASS-72-258	c15	N73-13464
US-PATENT-CLASS-60-243	c15	N71-27432	US-PATENT-CLASS-72-307	c15	N72-12408
US-PATENT-CLASS-60-243	c28	N73-13773	US-PATENT-CLASS-72-354	c15	N71-23811
US-PATENT-CLASS-60-251	c26	N70-41311	US-PATENT-CLASS-72-364	c15	N71-18579
US-PATENT-CLASS-60-251	c27	N71-21819	US-PATENT-CLASS-72-369	c15	N71-24679
US-PATENT-CLASS-60-254	c28	N72-20758	US-PATENT-CLASS-72-447	c15	N73-13463
US-PATENT-CLASS-60-254	c28	N73-24784	US-PATENT-CLASS-72-467	c15	N71-23817
US-PATENT-CLASS-60-256	c28	N73-24784	US-PATENT-CLASS-72-476	c15	N73-13463
US-PATENT-CLASS-60-257	c31	N70-41948	US-PATENT-CLASS-73-1	c10	N71-13545
US-PATENT-CLASS-60-258	c15	N70-22192	US-PATENT-CLASS-73-1	c09	N71-22988
US-PATENT-CLASS-60-258	c28	N71-22983	US-PATENT-CLASS-73-1DV	c14	N73-27379
US-PATENT-CLASS-60-258	c28	N71-28849	US-PATENT-CLASS-73-1P	c14	N74-21019
US-PATENT-CLASS-60-258	c28	N72-17843	US-PATENT-CLASS-73-1R	c14	N71-29134
US-PATENT-CLASS-60-258	c15	N72-25455	US-PATENT-CLASS-73-3	c12	N74-27730
US-PATENT-CLASS-60-258	c28	N74-13502	US-PATENT-CLASS-73-4	c14	N71-18481
US-PATENT-CLASS-60-259	c28	N70-41275	US-PATENT-CLASS-73-4	c14	N71-23036
US-PATENT-CLASS-60-259	c28	N74-13502	US-PATENT-CLASS-73-4	c14	N71-23755
US-PATENT-CLASS-60-260	c28	N70-41992	US-PATENT-CLASS-73-4	c14	N73-30390
US-PATENT-CLASS-60-260	c28	N72-18766	US-PATENT-CLASS-73-4R	c14	N74-13132
US-PATENT-CLASS-60-263	c28	N71-24321	US-PATENT-CLASS-73-4V	c14	N74-15092
US-PATENT-CLASS-60-265	c28	N71-20942	US-PATENT-CLASS-73-9	c14	N71-22995
US-PATENT-CLASS-60-265	c33	N72-25911	US-PATENT-CLASS-73-12	c14	N71-23225
US-PATENT-CLASS-60-265	c33	N73-25952	US-PATENT-CLASS-73-12	c14	N71-26161
US-PATENT-CLASS-60-266	c33	N71-28852	US-PATENT-CLASS-73-12	c14	N72-16282
US-PATENT-CLASS-60-266	c28	N72-23810	US-PATENT-CLASS-73-12	c14	N73-25411
US-PATENT-CLASS-60-267	c33	N71-29053	US-PATENT-CLASS-73-12	c14	N73-32327
US-PATENT-CLASS-60-267	c33	N72-25911	US-PATENT-CLASS-73-12	c15	N74-21062
US-PATENT-CLASS-60-267	c33	N73-25952	US-PATENT-CLASS-73-15	c14	N70-34156
US-PATENT-CLASS-60-267	c28	N73-32606	US-PATENT-CLASS-73-15	c14	N71-15992
US-PATENT-CLASS-60-271	c28	N72-11708	US-PATENT-CLASS-73-15	c14	N71-22964
US-PATENT-CLASS-60-271	c28	N72-23810	US-PATENT-CLASS-73-15	c11	N71-24985
US-PATENT-CLASS-60-291	c31	N73-13898	US-PATENT-CLASS-73-15	c11	N71-28629
US-PATENT-CLASS-60-527	c33	N74-33379	US-PATENT-CLASS-73-15.4	c14	N71-17659
US-PATENT-CLASS-61-83	c15	N74-22136	US-PATENT-CLASS-73-15.4	c14	N74-32879
US-PATENT-CLASS-62-2	c15	N71-15906	US-PATENT-CLASS-73-15.6	c14	N70-35368
US-PATENT-CLASS-62-6	c15	N69-23190	US-PATENT-CLASS-73-15.6	c14	N71-24234
US-PATENT-CLASS-62-6	c23	N71-15467	US-PATENT-CLASS-73-15.6	c14	N71-26136
US-PATENT-CLASS-62-6	c15	N71-23025	US-PATENT-CLASS-73-15.6	c32	N72-25877
US-PATENT-CLASS-62-6	c23	N72-25619	US-PATENT-CLASS-73-15R	c32	N74-19528
US-PATENT-CLASS-62-6	c15	N73-12486	US-PATENT-CLASS-73-15R	c33	N72-25913
US-PATENT-CLASS-62-7	c06	N70-34946	US-PATENT-CLASS-73-15R	c14	N73-28486
US-PATENT-CLASS-62-15	c15	N71-24044	US-PATENT-CLASS-73-15R	c33	N74-18551
US-PATENT-CLASS-62-40	c15	N70-33323	US-PATENT-CLASS-73-15R	c15	N74-27900
US-PATENT-CLASS-62-45	c31	N70-41871	US-PATENT-CLASS-73-17	c06	N71-24607
US-PATENT-CLASS-62-45	c33	N71-25351	US-PATENT-CLASS-73-23	c14	N71-10774
US-PATENT-CLASS-62-45	c33	N71-28892	US-PATENT-CLASS-73-23	c05	N71-11202
US-PATENT-CLASS-62-45	c15	N73-12486	US-PATENT-CLASS-73-23	c05	N74-20728
US-PATENT-CLASS-62-45	c14	N74-15093	US-PATENT-CLASS-73-23.1	c06	N69-39936
US-PATENT-CLASS-62-50	c15	N70-34247	US-PATENT-CLASS-73-23.1	c06	N72-17094
US-PATENT-CLASS-62-51	c15	N72-17453	US-PATENT-CLASS-73-23.1	c06	N72-25146
US-PATENT-CLASS-62-55	c15	N70-38020	US-PATENT-CLASS-73-24	c06	N69-39733
US-PATENT-CLASS-62-55.5	c11	N71-24964	US-PATENT-CLASS-73-28	c14	N73-27376
US-PATENT-CLASS-62-55.5	c15	N72-22484	US-PATENT-CLASS-73-28	c14	N73-30395
US-PATENT-CLASS-62-56	c05	N72-11084	US-PATENT-CLASS-73-29	c14	N71-17701
US-PATENT-CLASS-62-80	c23	N72-25619	US-PATENT-CLASS-73-29	c14	N71-20741
US-PATENT-CLASS-62-85	c23	N72-25619	US-PATENT-CLASS-73-30	c14	N70-41681
US-PATENT-CLASS-62-89	c05	N73-26071	US-PATENT-CLASS-73-32	c14	N70-41330
US-PATENT-CLASS-62-93	c15	N69-21465	US-PATENT-CLASS-73-35	c33	N72-27959
US-PATENT-CLASS-62-93	c03	N72-28025	US-PATENT-CLASS-73-38	c18	N71-24934
US-PATENT-CLASS-62-176	c05	N73-26071	US-PATENT-CLASS-73-40.5	c14	N71-10779
US-PATENT-CLASS-62-207	c05	N73-26071	US-PATENT-CLASS-73-40.7	c15	N71-24910
US-PATENT-CLASS-62-209	c05	N73-26071	US-PATENT-CLASS-73-40.7	c14	N71-28992
US-PATENT-CLASS-62-259	c05	N73-20137	US-PATENT-CLASS-73-40.7	c14	N74-32879
US-PATENT-CLASS-62-259	c05	N73-26071	US-PATENT-CLASS-73-45.5	c12	N71-17573
US-PATENT-CLASS-62-268	c14	N71-20427	US-PATENT-CLASS-73-49.2	c32	N71-24285
US-PATENT-CLASS-62-384	c23	N71-24725	US-PATENT-CLASS-73-49.3	c14	N71-26672
US-PATENT-CLASS-62-467	c33	N70-37979	US-PATENT-CLASS-73-49.8	c14	N69-27503

NUMBER INDEX

US-PATENT-CLASS-73-49.8	c15 N71-29132	US-PATENT-CLASS-73-141A	c14 N72-22437
US-PATENT-CLASS-73-57	c14 N71-17584	US-PATENT-CLASS-73-141A	c14 N74-26945
US-PATENT-CLASS-73-57	c14 N73-14429	US-PATENT-CLASS-73-141A	c14 N74-27865
US-PATENT-CLASS-73-60	c19 N73-14429	US-PATENT-CLASS-73-141AB	c14 N72-33377
US-PATENT-CLASS-73-61	c14 N71-26199	US-PATENT-CLASS-73-142	c15 N70-40180
US-PATENT-CLASS-73-65	c14 N71-22992	US-PATENT-CLASS-73-142	c14 N71-20439
US-PATENT-CLASS-73-67.2	c11 N69-21540	US-PATENT-CLASS-73-144	c15 N71-22878
US-PATENT-CLASS-73-67.2	c15 N71-18132	US-PATENT-CLASS-73-147	c11 N70-33287
US-PATENT-CLASS-73-67.2	c14 N72-22440	US-PATENT-CLASS-73-147	c14 N70-33386
US-PATENT-CLASS-73-67.3	c32 N73-26910	US-PATENT-CLASS-73-147	c14 N70-34813
US-PATENT-CLASS-73-67.5B	c23 N74-15395	US-PATENT-CLASS-73-147	c11 N70-36913
US-PATENT-CLASS-73-67.8S	c14 N74-10415	US-PATENT-CLASS-73-147	c14 N70-40000
US-PATENT-CLASS-73-67.8S	c15 N74-15130	US-PATENT-CLASS-73-147	c14 N70-41366
US-PATENT-CLASS-73-67.9	c05 N74-20726	US-PATENT-CLASS-73-147	c11 N71-15926
US-PATENT-CLASS-73-69	c23 N74-31148	US-PATENT-CLASS-73-147	c09 N71-16086
US-PATENT-CLASS-73-70.2	c14 N71-10616	US-PATENT-CLASS-73-147	c12 N71-20436
US-PATENT-CLASS-73-71.2	c14 N70-34794	US-PATENT-CLASS-73-147	c09 N71-20816
US-PATENT-CLASS-73-71.3	c16 N74-15146	US-PATENT-CLASS-73-147	c11 N71-21481
US-PATENT-CLASS-73-71.4	c32 N71-16428	US-PATENT-CLASS-73-147	c11 N71-23030
US-PATENT-CLASS-73-71.4	c32 N71-26681	US-PATENT-CLASS-73-147	c15 N71-27006
US-PATENT-CLASS-73-71.5R	c23 N74-31148	US-PATENT-CLASS-73-147	c15 N71-28704
US-PATENT-CLASS-73-71.5U	c23 N74-15395	US-PATENT-CLASS-73-147	c11 N71-33612
US-PATENT-CLASS-73-71.6	c14 N71-27185	US-PATENT-CLASS-73-147	c11 N72-17183
US-PATENT-CLASS-73-71.6	c14 N72-27412	US-PATENT-CLASS-73-147	c14 N72-21407
US-PATENT-CLASS-73-71.6	c14 N73-13416	US-PATENT-CLASS-73-147	c11 N72-22246
US-PATENT-CLASS-73-71.6	c14 N73-19421	US-PATENT-CLASS-73-147	c11 N73-12264
US-PATENT-CLASS-73-76	c06 N72-17095	US-PATENT-CLASS-73-147	c14 N73-13415
US-PATENT-CLASS-73-79	c14 N71-26161	US-PATENT-CLASS-73-147	c12 N73-25262
US-PATENT-CLASS-73-81	c14 N73-32321	US-PATENT-CLASS-73-147	c12 N74-28144
US-PATENT-CLASS-73-84	c14 N71-22765	US-PATENT-CLASS-73-147	c11 N74-17955
US-PATENT-CLASS-73-84	c14 N73-19420	US-PATENT-CLASS-73-147	c12 N74-27730
US-PATENT-CLASS-73-85	c14 N72-33377	US-PATENT-CLASS-73-149	c14 N72-11363
US-PATENT-CLASS-73-86	c14 N69-39975	US-PATENT-CLASS-73-149	c05 N74-10975
US-PATENT-CLASS-73-86	c33 N71-21586	US-PATENT-CLASS-73-161	c11 N72-25288
US-PATENT-CLASS-73-86	c33 N73-27796	US-PATENT-CLASS-73-170	c14 N71-14996
US-PATENT-CLASS-73-86	c33 N74-15652	US-PATENT-CLASS-73-170	c17 N73-32415
US-PATENT-CLASS-73-88	c32 N71-17645	US-PATENT-CLASS-73-170R	c07 N73-20175
US-PATENT-CLASS-73-88.5	c14 N70-34705	US-PATENT-CLASS-73-170R	c14 N73-32327
US-PATENT-CLASS-73-88.5	c14 N70-34799	US-PATENT-CLASS-73-170R	c14 N74-27862
US-PATENT-CLASS-73-88.5	c14 N71-17656	US-PATENT-CLASS-73-178	c14 N70-36807
US-PATENT-CLASS-73-88.5	c14 N71-21091	US-PATENT-CLASS-73-178	c14 N70-40157
US-PATENT-CLASS-73-88.5	c14 N71-23087	US-PATENT-CLASS-73-182	c14 N73-13415
US-PATENT-CLASS-73-88.5	c14 N71-24233	US-PATENT-CLASS-73-182	c14 N74-32678
US-PATENT-CLASS-73-88.5	c09 N72-22200	US-PATENT-CLASS-73-189	c20 N71-16281
US-PATENT-CLASS-73-88.5R	c15 N72-17452	US-PATENT-CLASS-73-189	c02 N71-23007
US-PATENT-CLASS-73-88.5R	c32 N73-26910	US-PATENT-CLASS-73-189	c14 N71-23726
US-PATENT-CLASS-73-88.5R	c14 N74-27864	US-PATENT-CLASS-73-189	c14 N73-13415
US-PATENT-CLASS-73-88A	c32 N73-20740	US-PATENT-CLASS-73-189	c14 N73-25460
US-PATENT-CLASS-73-88R	c14 N74-13125	US-PATENT-CLASS-73-190	c33 N71-15641
US-PATENT-CLASS-73-90	c32 N70-42003	US-PATENT-CLASS-73-190	c14 N71-22489
US-PATENT-CLASS-73-90	c32 N71-25360	US-PATENT-CLASS-73-190	c33 N71-23085
US-PATENT-CLASS-73-90	c14 N73-20476	US-PATENT-CLASS-73-190	c33 N71-29051
US-PATENT-CLASS-73-91	c14 N73-20476	US-PATENT-CLASS-73-190H	c14 N74-22095
US-PATENT-CLASS-73-91	c32 N73-26910	US-PATENT-CLASS-73-190R	c14 N74-27859
US-PATENT-CLASS-73-91	c32 N74-19528	US-PATENT-CLASS-73-194	c14 N70-41994
US-PATENT-CLASS-73-94	c14 N73-32323	US-PATENT-CLASS-73-194	c14 N71-23226
US-PATENT-CLASS-73-95	c15 N71-24834	US-PATENT-CLASS-73-194	c12 N71-26546
US-PATENT-CLASS-73-95	c14 N72-11364	US-PATENT-CLASS-73-194A	c14 N72-17329
US-PATENT-CLASS-73-97	c14 N71-15600	US-PATENT-CLASS-73-194E	c14 N73-20478
US-PATENT-CLASS-73-99	c14 N71-10781	US-PATENT-CLASS-73-194E	c05 N73-32015
US-PATENT-CLASS-73-100	c15 N70-41993	US-PATENT-CLASS-73-194EH	c14 N73-32326
US-PATENT-CLASS-73-100	c32 N72-25877	US-PATENT-CLASS-73-194EH	c14 N74-21018
US-PATENT-CLASS-73-103	c15 N71-17696	US-PATENT-CLASS-73-194F	c14 N72-11365
US-PATENT-CLASS-73-103	c14 N72-27412	US-PATENT-CLASS-73-194M	c05 N74-32015
US-PATENT-CLASS-73-103	c14 N73-32323	US-PATENT-CLASS-73-198	c14 N69-24257
US-PATENT-CLASS-73-104	c14 N74-32879	US-PATENT-CLASS-73-198	c14 N72-17327
US-PATENT-CLASS-73-105	c14 N70-34161	US-PATENT-CLASS-73-204	c12 N71-17569
US-PATENT-CLASS-73-105	c14 N71-17586	US-PATENT-CLASS-73-212	c14 N70-36824
US-PATENT-CLASS-73-116	c11 N70-33278	US-PATENT-CLASS-73-212	c14 N73-13415
US-PATENT-CLASS-73-116	c11 N70-34844	US-PATENT-CLASS-73-290	c14 N71-10500
US-PATENT-CLASS-73-116	c14 N70-40203	US-PATENT-CLASS-73-290	c14 N71-21007
US-PATENT-CLASS-73-116	c11 N70-41677	US-PATENT-CLASS-73-290B	c14 N72-11363
US-PATENT-CLASS-73-116	c11 N71-10604	US-PATENT-CLASS-73-295	c23 N71-17802
US-PATENT-CLASS-73-116	c31 N71-15643	US-PATENT-CLASS-73-301	c12 N71-26487
US-PATENT-CLASS-73-117	c14 N71-22965	US-PATENT-CLASS-73-304	c14 N72-22442
US-PATENT-CLASS-73-117.1	c11 N72-27262	US-PATENT-CLASS-73-304C	c14 N71-29134
US-PATENT-CLASS-73-117.4	c14 N71-20429	US-PATENT-CLASS-73-339	c33 N73-27796
US-PATENT-CLASS-73-117.4	c28 N71-27094	US-PATENT-CLASS-73-341	c14 N71-15596
US-PATENT-CLASS-73-133	c14 N71-23725	US-PATENT-CLASS-73-343	c33 N71-16356
US-PATENT-CLASS-73-133	c15 N72-22482	US-PATENT-CLASS-73-343	c11 N71-21475
US-PATENT-CLASS-73-134	c14 N70-40201	US-PATENT-CLASS-73-355	c14 N71-27323
US-PATENT-CLASS-73-136	c14 N70-34818	US-PATENT-CLASS-73-355	c14 N72-28437
US-PATENT-CLASS-73-136R	c15 N72-26371	US-PATENT-CLASS-73-355R	c14 N72-24477
US-PATENT-CLASS-73-140	c11 N72-25288	US-PATENT-CLASS-73-379	c05 N73-27941
US-PATENT-CLASS-73-141	c14 N70-41957	US-PATENT-CLASS-73-379	c05 N73-30078
US-PATENT-CLASS-73-141	c15 N71-20441	US-PATENT-CLASS-73-382	c10 N71-13537
US-PATENT-CLASS-73-141	c14 N71-23790	US-PATENT-CLASS-73-382	c14 N71-17587
US-PATENT-CLASS-73-141	c26 N71-25490	US-PATENT-CLASS-73-384	c15 N70-37925
US-PATENT-CLASS-73-141A	c14 N72-21405	US-PATENT-CLASS-73-388	c14 N74-32878



NUMBER INDEX

US-PATENT-CLASS-73-389	c12	N71-24692	US-PATENT-CLASS-75-170	c17	N72-22535
US-PATENT-CLASS-73-398	c14	N70-34816	US-PATENT-CLASS-75-171	c17	N70-33283
US-PATENT-CLASS-73-399	c14	N71-21072	US-PATENT-CLASS-75-171	c17	N70-36616
US-PATENT-CLASS-73-398	c09	N71-24597	US-PATENT-CLASS-75-171	c17	N71-16026
US-PATENT-CLASS-73-398	c14	N73-30394	US-PATENT-CLASS-75-171	c17	N73-32415
US-PATENT-CLASS-73-398A	c05	N74-27566	US-PATENT-CLASS-75-172	c17	N71-23365
US-PATENT-CLASS-73-398C	c14	N72-22438	US-PATENT-CLASS-75-200	c17	N74-10521
US-PATENT-CLASS-73-400	c14	N71-23093	US-PATENT-CLASS-75-200	c15	N74-13179
US-PATENT-CLASS-73-400	c14	N71-24232	US-PATENT-CLASS-75-202	c17	N71-15468
US-PATENT-CLASS-73-401	c14	N70-34820	US-PATENT-CLASS-75-204	c18	N71-22894
US-PATENT-CLASS-73-419	c14	N71-22752	US-PATENT-CLASS-75-206	c15	N72-25448
US-PATENT-CLASS-73-420	c14	N74-13132	US-PATENT-CLASS-75-208	c18	N72-25539
US-PATENT-CLASS-73-421.5	c14	N73-12444	US-PATENT-CLASS-75-211	c18	N72-25539
US-PATENT-CLASS-73-421.5R	c13	N72-25323	US-PATENT-CLASS-75-213	c15	N72-25448
JS-PATENT-CLASS-73-421.5R	c14	N73-30395	US-PATENT-CLASS-75-213	c15	N74-13179
US-PATENT-CLASS-73-421.5R	c05	N74-20728	US-PATENT-CLASS-75-214	c15	N74-13179
US-PATENT-CLASS-73-422	c14	N71-20435	US-PATENT-CLASS-75-222	c28	N70-38197
US-PATENT-CLASS-73-422CC	c13	N72-25323	US-PATENT-CLASS-75-226	c18	N72-25539
US-PATENT-CLASS-73-422TC	c13	N72-25323	US-PATENT-CLASS-75-226	c17	N74-10521
US-PATENT-CLASS-73-425.6	c15	N72-21465	US-PATENT-CLASS-75-226	c15	N74-13179
US-PATENT-CLASS-73-432	c11	N70-34786	US-PATENT-CLASS-78-1	c15	N70-33330
US-PATENT-CLASS-73-432	c11	N70-38675	US-PATENT-CLASS-81-3R	c15	N71-29133
US-PATENT-CLASS-73-432	c05	N70-42000	US-PATENT-CLASS-81-57.38	c15	N73-30457
US-PATENT-CLASS-73-432	c31	N71-16221	US-PATENT-CLASS-81-63.1	c15	N71-17805
JS-PATENT-CLASS-73-432	c27	N71-16223	US-PATENT-CLASS-82-14	c15	N71-22722
US-PATENT-CLASS-73-432	c30	N71-17788	US-PATENT-CLASS-82-24R	c14	N72-16283
US-PATENT-CLASS-73-432	c14	N71-23227	US-PATENT-CLASS-83-8	c15	N72-27485
US-PATENT-CLASS-73-432	c10	N71-26339	US-PATENT-CLASS-83-452	c14	N74-13131
US-PATENT-CLASS-73-432	c11	N71-28629	US-PATENT-CLASS-83-467	c15	N71-22798
US-PATENT-CLASS-73-432	c14	N71-30026	US-PATENT-CLASS-83-522	c15	N72-27485
US-PATENT-CLASS-73-432	c15	N74-21062	US-PATENT-CLASS-83-562	c15	N72-27485
US-PATENT-CLASS-73-432B	c33	N73-27796	US-PATENT-CLASS-83-563	c15	N72-27485
US-PATENT-CLASS-73-432SD	c11	N72-27262	US-PATENT-CLASS-83-588	c15	N72-27485
US-PATENT-CLASS-73-432SD	c41	N73-20267	US-PATENT-CLASS-83-602	c14	N74-13131
US-PATENT-CLASS-73-492	c14	N72-25411	US-PATENT-CLASS-83-917	c14	N74-13131
US-PATENT-CLASS-73-497	c14	N71-30265	US-PATENT-CLASS-85-1	c15	N72-22488
US-PATENT-CLASS-73-497	c14	N74-15094	US-PATENT-CLASS-85-3	c15	N71-17653
US-PATENT-CLASS-73-505	c23	N71-16098	US-PATENT-CLASS-85-5B	c15	N72-11385
US-PATENT-CLASS-73-515	c14	N72-25410	US-PATENT-CLASS-85-7	c15	N71-23254
US-PATENT-CLASS-73-517	c11	N70-38196	US-PATENT-CLASS-85-33	c15	N71-15922
US-PATENT-CLASS-73-517	c14	N70-41682	US-PATENT-CLASS-85-33	c15	N71-21489
US-PATENT-CLASS-73-517	c14	N71-15969	US-PATENT-CLASS-86-1	c28	N71-26779
US-PATENT-CLASS-73-517B	c14	N74-15094	US-PATENT-CLASS-86-20.2	c28	N71-26779
US-PATENT-CLASS-73-521	c14	N72-25410	US-PATENT-CLASS-88-1	c21	N70-35427
US-PATENT-CLASS-74-2	c15	N71-24600	US-PATENT-CLASS-88-1	c21	N71-22880
US-PATENT-CLASS-74-2	c31	N73-14855	US-PATENT-CLASS-88-14	c14	N70-34298
US-PATENT-CLASS-74-5.5	c21	N74-28097	US-PATENT-CLASS-88-14	c14	N70-40003
US-PATENT-CLASS-74-5.6	c14	N74-15094	US-PATENT-CLASS-88-14	c14	N70-41946
US-PATENT-CLASS-74-5.7	c23	N74-18323	US-PATENT-CLASS-88-14	c14	N70-41955
US-PATENT-CLASS-74-5.12	c31	N71-26537	US-PATENT-CLASS-88-14	c09	N71-22999
US-PATENT-CLASS-74-5.22	c21	N73-13644	US-PATENT-CLASS-88-16	c14	N70-33254
US-PATENT-CLASS-74-5.47	c21	N71-23289	US-PATENT-CLASS-88-24	c23	N71-21882
US-PATENT-CLASS-74-5F	c15	N73-12488	US-PATENT-CLASS-89-1	c03	N70-34667
US-PATENT-CLASS-74-18.2	c11	N71-27036	US-PATENT-CLASS-89-1	c15	N71-16078
US-PATENT-CLASS-74-63	c15	N71-17692	US-PATENT-CLASS-89-1.5	c31	N71-15675
US-PATENT-CLASS-74-89.15	c15	N71-26635	US-PATENT-CLASS-89-1.5	c15	N71-24600
US-PATENT-CLASS-74-89.15	c15	N72-21462	US-PATENT-CLASS-89-1.7	c11	N70-38202
US-PATENT-CLASS-74-89.18	c15	N71-23809	US-PATENT-CLASS-89-1.7	c30	N70-40353
US-PATENT-CLASS-74-100	c15	N71-24045	US-PATENT-CLASS-89-1.7	c03	N71-12258
US-PATENT-CLASS-74-105	c09	N72-22195	US-PATENT-CLASS-89-1.7	c03	N71-12259
US-PATENT-CLASS-74-126	c15	N71-21529	US-PATENT-CLASS-89-1.806	c15	N71-24043
US-PATENT-CLASS-74-217R	c15	N74-23070	US-PATENT-CLASS-89-1.811	c15	N72-17455
US-PATENT-CLASS-74-409	c15	N71-21744	US-PATENT-CLASS-89-8	c11	N71-18578
US-PATENT-CLASS-74-424.8	c15	N71-26635	US-PATENT-CLASS-89-8	c11	N73-32152
US-PATENT-CLASS-74-468	c15	N71-24984	US-PATENT-CLASS-90-11	c15	N71-33518
US-PATENT-CLASS-74-469	c15	N72-21463	US-PATENT-CLASS-90-12	c15	N71-22799
US-PATENT-CLASS-74-469	c15	N72-28495	US-PATENT-CLASS-90-12.5	c15	N74-25968
US-PATENT-CLASS-74-471	c05	N70-41561	US-PATENT-CLASS-91-186	c05	N73-32014
US-PATENT-CLASS-74-471	c03	N70-42073	US-PATENT-CLASS-91-361	c15	N71-27754
US-PATENT-CLASS-74-471	c15	N71-20740	US-PATENT-CLASS-91-363A	c15	N73-13466
US-PATENT-CLASS-74-501B	c15	N72-22485	US-PATENT-CLASS-91-390	c15	N71-27147
US-PATENT-CLASS-74-519	c03	N70-41954	US-PATENT-CLASS-91-390	c15	N71-27754
US-PATENT-CLASS-74-594.6	c15	N74-18127	US-PATENT-CLASS-91-448	c15	N71-27754
US-PATENT-CLASS-74-594.7	c15	N74-18127	US-PATENT-CLASS-91-448	c15	N73-13466
US-PATENT-CLASS-74-675	c15	N74-27901	US-PATENT-CLASS-91-461	c15	N71-27147
US-PATENT-CLASS-74-710	c15	N74-27901	US-PATENT-CLASS-92-49	c14	N73-13418
US-PATENT-CLASS-75-.5B	c17	N72-22530	US-PATENT-CLASS-92-94	c32	N70-41370
US-PATENT-CLASS-75-DIG.1	c18	N72-25539	US-PATENT-CLASS-93-1	c15	N70-33180
US-PATENT-CLASS-75-0.5BB	c15	N72-25448	US-PATENT-CLASS-95-1.1	c14	N72-18411
US-PATENT-CLASS-75-20P	c15	N72-11367	US-PATENT-CLASS-95-1.1	c14	N73-26431
US-PATENT-CLASS-75-63	c15	N71-27184	US-PATENT-CLASS-95-11	c14	N71-18465
US-PATENT-CLASS-75-66	c17	N71-26773	US-PATENT-CLASS-95-11	c16	N71-33410
US-PATENT-CLASS-75-66	c06	N73-13129	US-PATENT-CLASS-95-11	c14	N73-32319
US-PATENT-CLASS-75-66	c17	N73-28573	US-PATENT-CLASS-95-11.5	c14	N73-32319
US-PATENT-CLASS-75-135	c18	N73-32437	US-PATENT-CLASS-95-11.5R	c14	N73-19419
US-PATENT-CLASS-75-142	c17	N71-20743	US-PATENT-CLASS-95-11R	c14	N73-19419
US-PATENT-CLASS-75-170	c17	N71-15644	US-PATENT-CLASS-95-12	c14	N73-33361
US-PATENT-CLASS-75-170	c17	N71-16025	US-PATENT-CLASS-95-12.5	c31	N72-25842
US-PATENT-CLASS-75-170	c17	N71-23248	US-PATENT-CLASS-95-12.5	c14	N73-14427



NUMBER INDEX

US-PATENT-CLASS-95-18	c14 N72-20380	US-PATENT-CLASS-117-33.3	c23 N74-13436
US-PATENT-CLASS-95-42	c14 N73-32322	US-PATENT-CLASS-117-35R	c06 N73-13128
US-PATENT-CLASS-95-44	c14 N71-26474	US-PATENT-CLASS-117-37	c15 N72-25452
US-PATENT-CLASS-95-53	c15 N71-21060	US-PATENT-CLASS-117-45	c14 N74-20008
US-PATENT-CLASS-95-53RA	c09 N70-20861	US-PATENT-CLASS-117-46	c15 N71-16077
US-PATENT-CLASS-95-58	c14 N70-40273	US-PATENT-CLASS-117-47R	c15 N72-25452
US-PATENT-CLASS-95-59	c14 N73-14427	US-PATENT-CLASS-117-50	c15 N71-15610
US-PATENT-CLASS-95-89R	c07 N74-15831	US-PATENT-CLASS-117-62	c15 N72-25447
US-PATENT-CLASS-96-36.2	c06 N72-21094	US-PATENT-CLASS-117-62	c15 N72-25452
US-PATENT-CLASS-96-36.2	c15 N72-25452	US-PATENT-CLASS-117-65.2	c18 N71-10772
US-PATENT-CLASS-96-36.2	c14 N74-26946	US-PATENT-CLASS-117-66	c15 N73-32360
US-PATENT-CLASS-96-38.3	c14 N71-17574	US-PATENT-CLASS-117-69	c18 N70-36400
US-PATENT-CLASS-96-49	c14 N74-26946	US-PATENT-CLASS-117-69	c15 N71-16075
US-PATENT-CLASS-96-79	c14 N72-22443	US-PATENT-CLASS-117-93.3	c15 N72-25452
US-PATENT-CLASS-96-90PC	c15 N74-27902	US-PATENT-CLASS-117-93.16D	c15 N72-25447
US-PATENT-CLASS-98-39	c05 N72-33096	US-PATENT-CLASS-117-95	c06 N74-19769
US-PATENT-CLASS-99-80FS	c09 N74-17928	US-PATENT-CLASS-117-104	c18 N71-26100
US-PATENT-CLASS-100-8	c15 N72-20446	US-PATENT-CLASS-117-105	c15 N73-32360
US-PATENT-CLASS-100-299	c33 N74-27425	US-PATENT-CLASS-117-105.2	c15 N74-11301
US-PATENT-CLASS-102-28EB	c07 N72-25171	US-PATENT-CLASS-117-105.5	c15 N73-32360
US-PATENT-CLASS-102-34.4	c33 N70-36846	US-PATENT-CLASS-117-106	c33 N71-14032
US-PATENT-CLASS-102-49	c28 N70-38181	US-PATENT-CLASS-117-106A	c23 N74-13436
US-PATENT-CLASS-102-49	c03 N70-39930	US-PATENT-CLASS-117-107	c15 N72-25447
US-PATENT-CLASS-102-49	c15 N70-41679	US-PATENT-CLASS-117-107.2	c15 N71-17695
US-PATENT-CLASS-102-49	c28 N70-41967	US-PATENT-CLASS-117-119	c18 N71-16105
US-PATENT-CLASS-102-49	c31 N71-10582	US-PATENT-CLASS-117-124C	c15 N72-25452
US-PATENT-CLASS-102-49	c15 N71-13789	US-PATENT-CLASS-117-126GR	c18 N74-23125
US-PATENT-CLASS-102-49	c31 N71-15692	US-PATENT-CLASS-117-129	c15 N74-21063
US-PATENT-CLASS-102-49	c31 N71-17730	US-PATENT-CLASS-117-130R	c15 N73-32360
US-PATENT-CLASS-102-49.5	c31 N71-15687	US-PATENT-CLASS-117-132	c06 N72-25150
US-PATENT-CLASS-102-49.5	c15 N71-22874	US-PATENT-CLASS-117-132B	c18 N74-23125
US-PATENT-CLASS-102-49.5	c31 N71-23008	US-PATENT-CLASS-117-138.8R	c15 N73-32360
US-PATENT-CLASS-102-49.5	c31 N73-14853	US-PATENT-CLASS-117-151	c15 N73-32360
US-PATENT-CLASS-102-49.7	c28 N73-24784	US-PATENT-CLASS-117-152	c15 N72-25452
US-PATENT-CLASS-102-49.8	c28 N73-24784	US-PATENT-CLASS-117-160R	c15 N73-32360
US-PATENT-CLASS-102-50	c31 N71-24750	US-PATENT-CLASS-117-161	c06 N72-25150
US-PATENT-CLASS-102-70.2	c09 N71-18599	US-PATENT-CLASS-117-161P	c06 N73-27980
US-PATENT-CLASS-102-70.2A	c33 N74-27425	US-PATENT-CLASS-117-161B	c06 N73-27980
US-PATENT-CLASS-102-70.2R	c14 N74-15089	US-PATENT-CLASS-117-161UN	c18 N74-23125
US-PATENT-CLASS-102-70-2R	c33 N74-27425	US-PATENT-CLASS-117-200	c09 N72-25259
US-PATENT-CLASS-102-90	c31 N74-27360	US-PATENT-CLASS-117-201	c15 N69-21460
US-PATENT-CLASS-102-95	c11 N73-32152	US-PATENT-CLASS-117-201	c18 N71-16046
US-PATENT-CLASS-102-101	c28 N71-26779	US-PATENT-CLASS-117-201	c03 N72-24037
US-PATENT-CLASS-102-105	c33 N72-17947	US-PATENT-CLASS-117-211	c15 N72-25447
US-PATENT-CLASS-102-105	c33 N72-25911	US-PATENT-CLASS-117-212	c09 N71-20705
US-PATENT-CLASS-102-105	c33 N73-25952	US-PATENT-CLASS-117-212	c15 N71-29032
US-PATENT-CLASS-102-105	c18 N74-27037	US-PATENT-CLASS-117-212	c26 N72-28762
US-PATENT-CLASS-103.5R	c04 N73-27052	US-PATENT-CLASS-117-217	c15 N72-25447
US-PATENT-CLASS-103-1	c26 N71-21824	US-PATENT-CLASS-117-217	c26 N72-28762
US-PATENT-CLASS-103-37	c28 N71-14058	US-PATENT-CLASS-117-224	c15 N71-28582
US-PATENT-CLASS-103-48	c15 N71-24042	US-PATENT-CLASS-117-228	c06 N73-27980
US-PATENT-CLASS-104-1	c05 N71-28619	US-PATENT-CLASS-118-11	c15 N71-17647
US-PATENT-CLASS-104-23FS	c11 N74-34672	US-PATENT-CLASS-118-49.1	c15 N72-32487
US-PATENT-CLASS-104-138B	c11 N74-34672	US-PATENT-CLASS-118-49.5	c09 N71-26701
US-PATENT-CLASS-104-139	c05 N71-28619	US-PATENT-CLASS-118-30B	c17 N71-24911
US-PATENT-CLASS-106-15	c18 N71-14014	US-PATENT-CLASS-119-15	c11 N71-22875
US-PATENT-CLASS-106-15	c18 N71-15469	US-PATENT-CLASS-119-51.5	c04 N74-15778
US-PATENT-CLASS-106-15FP	c18 N74-27037	US-PATENT-CLASS-119-51.13	c04 N74-15778
US-PATENT-CLASS-106-39	c26 N72-28762	US-PATENT-CLASS-119-51R	c04 N74-15778
US-PATENT-CLASS-106-39R	c18 N73-14584	US-PATENT-CLASS-119-52AP	c04 N74-15778
US-PATENT-CLASS-106-40	c18 N71-22998	US-PATENT-CLASS-119-54	c04 N74-15778
US-PATENT-CLASS-106-46	c26 N72-28762	US-PATENT-CLASS-119-96	c05 N71-24619
US-PATENT-CLASS-106-52	c15 N74-21063	US-PATENT-CLASS-121-38	c15 N70-35409
US-PATENT-CLASS-106-55	c17 N71-20941	US-PATENT-CLASS-121-38	c02 N71-29128
US-PATENT-CLASS-106-55	c18 N73-14584	US-PATENT-CLASS-122-32	c33 N72-20915
US-PATENT-CLASS-106-58	c18 N73-14584	US-PATENT-CLASS-123-102	c11 N72-20244
US-PATENT-CLASS-106-63	c18 N73-14584	US-PATENT-CLASS-123-122AB	c28 N72-22772
US-PATENT-CLASS-106-74	c18 N69-39979	US-PATENT-CLASS-125-1	c15 N74-23069
US-PATENT-CLASS-106-84	c18 N71-24183	US-PATENT-CLASS-125-3	c15 N74-23069
US-PATENT-CLASS-106-84	c18 N71-24184	US-PATENT-CLASS-126-270	c09 N70-40234
US-PATENT-CLASS-106-84	c18 N72-22566	US-PATENT-CLASS-126-270	c03 N70-41580
US-PATENT-CLASS-106-84	c18 N72-23581	US-PATENT-CLASS-126-270	c14 N74-23039
US-PATENT-CLASS-106-88	c18 N71-16124	US-PATENT-CLASS-128-DIG.4	c05 N72-27103
US-PATENT-CLASS-106-209	c05 N72-25120	US-PATENT-CLASS-128-1	c05 N70-41819
US-PATENT-CLASS-106-286	c18 N72-22566	US-PATENT-CLASS-128-1	c05 N71-20268
US-PATENT-CLASS-106-288B	c18 N72-22566	US-PATENT-CLASS-128-1A	c05 N73-32012
US-PATENT-CLASS-106-292	c18 N72-17532	US-PATENT-CLASS-128-2	c05 N73-27062
US-PATENT-CLASS-106-296	c18 N71-26772	US-PATENT-CLASS-128-2.1	c05 N71-11193
US-PATENT-CLASS-106-299	c18 N72-17532	US-PATENT-CLASS-128-2.1	c05 N71-12346
US-PATENT-CLASS-112-402	c18 N71-26285	US-PATENT-CLASS-128-2.1	c05 N71-24729
US-PATENT-CLASS-113-116	c15 N71-15597	US-PATENT-CLASS-128-2.1	c09 N71-26002
US-PATENT-CLASS-114-66.5	c12 N70-33305	US-PATENT-CLASS-128-2.1	c05 N72-25120
US-PATENT-CLASS-114-122	c02 N73-26006	US-PATENT-CLASS-128-2.1A	c09 N72-17153
US-PATENT-CLASS-116-114AH	c14 N72-25411	US-PATENT-CLASS-128-2.1A	c09 N72-22202
US-PATENT-CLASS-116-117	c14 N70-42074	US-PATENT-CLASS-128-2.1A	c05 N74-26625
US-PATENT-CLASS-117-2R	c07 N74-27612	US-PATENT-CLASS-128-2.1E	c05 N72-27103
US-PATENT-CLASS-117-6	c14 N71-20461	US-PATENT-CLASS-128-2.1R	c05 N73-26072
US-PATENT-CLASS-117-16R	c15 N72-25452	US-PATENT-CLASS-128-2.05	c05 N70-41329
US-PATENT-CLASS-117-21	c18 N69-39895	US-PATENT-CLASS-128-2.05	c04 N71-23185

NUMBER INDEX

US-PATENT-CLASS-128-2.05	c05	871-27234	US-PATENT-CLASS-136-146	c03	869-21337
US-PATENT-CLASS-128-2.05A	c05	874-26626	US-PATENT-CLASS-136-166	c03	871-23336
US-PATENT-CLASS-128-2.05E	c05	874-27566	US-PATENT-CLASS-136-166	c03	872-20032
US-PATENT-CLASS-128-2.05F	c14	873-32326	US-PATENT-CLASS-136-170	c03	871-11051
US-PATENT-CLASS-128-2.05R	c05	873-27941	US-PATENT-CLASS-136-175	c03	872-20034
US-PATENT-CLASS-128-2.05S	c05	874-26626	US-PATENT-CLASS-136-179	c03	870-81864
US-PATENT-CLASS-128-2.05T	c05	874-12778	US-PATENT-CLASS-136-182	c03	871-10728
US-PATENT-CLASS-128-2.06	c05	869-21925	US-PATENT-CLASS-136-182	c03	871-20407
US-PATENT-CLASS-128-2.06	c05	871-22896	US-PATENT-CLASS-136-182	c03	871-20491
US-PATENT-CLASS-128-2.06	c09	871-24618	US-PATENT-CLASS-136-182	c03	874-27519
US-PATENT-CLASS-128-2.06	c05	871-26293	US-PATENT-CLASS-136-202	c09	872-12136
US-PATENT-CLASS-128-2.06P	c05	874-12778	US-PATENT-CLASS-136-202	c03	872-26031
US-PATENT-CLASS-128-2.06R	c05	873-27941	US-PATENT-CLASS-136-206	c03	872-11062
US-PATENT-CLASS-128-2.07	c05	873-32015	US-PATENT-CLASS-136-206	c09	872-12136
US-PATENT-CLASS-128-2.07	c05	874-20728	US-PATENT-CLASS-136-213	c14	869-27459
US-PATENT-CLASS-128-2.08	c05	869-21473	US-PATENT-CLASS-136-213	c14	874-27861
US-PATENT-CLASS-128-2.08	c05	873-32015	US-PATENT-CLASS-136-224	c14	873-12447
US-PATENT-CLASS-128-2.08	c05	874-20728	US-PATENT-CLASS-136-225	c14	873-24472
US-PATENT-CLASS-128-2N	c05	872-25122	US-PATENT-CLASS-136-227	c09	872-12136
US-PATENT-CLASS-128-2N	c05	873-13114	US-PATENT-CLASS-136-228	c33	871-15568
US-PATENT-CLASS-128-2R	c09	872-22202	US-PATENT-CLASS-136-230	c14	871-23039
US-PATENT-CLASS-128-2S	c05	874-10975	US-PATENT-CLASS-136-230	c14	874-27861
US-PATENT-CLASS-128-2S	c14	874-27864	US-PATENT-CLASS-136-233	c14	872-27410
US-PATENT-CLASS-128-2V	c05	874-20726	US-PATENT-CLASS-136-233	c14	873-13417
US-PATENT-CLASS-128-24	c05	871-24738	US-PATENT-CLASS-136-233	c14	874-27861
US-PATENT-CLASS-128-24A	c05	873-27062	US-PATENT-CLASS-137-1	c12	870-38997
US-PATENT-CLASS-128-25	c05	871-24738	US-PATENT-CLASS-137-1	c15	873-27406
US-PATENT-CLASS-128-25B	c15	874-18127	US-PATENT-CLASS-137-13	c15	871-15967
US-PATENT-CLASS-128-29	c05	870-39922	US-PATENT-CLASS-137-13	c15	872-33477
US-PATENT-CLASS-128-142.5	c05	871-11190	US-PATENT-CLASS-137-15.1	c02	874-20646
US-PATENT-CLASS-128-142.5	c05	871-11203	US-PATENT-CLASS-137-15.1	c28	874-31270
US-PATENT-CLASS-128-142.5	c05	871-17599	US-PATENT-CLASS-137-15.2	c02	874-20646
US-PATENT-CLASS-128-142.5	c05	872-20096	US-PATENT-CLASS-137-81	c05	872-20097
US-PATENT-CLASS-128-142.5	c05	873-25125	US-PATENT-CLASS-137-81	c14	873-13418
US-PATENT-CLASS-128-191A	c06	874-12813	US-PATENT-CLASS-137-81.5	c12	869-21466
US-PATENT-CLASS-128-206P	c14	873-24473	US-PATENT-CLASS-137-81.5	c15	871-15609
US-PATENT-CLASS-128-214E	c05	874-22771	US-PATENT-CLASS-137-81.5	c12	871-17578
US-PATENT-CLASS-128-272	c15	871-24835	US-PATENT-CLASS-137-81.5	c12	871-17579
US-PATENT-CLASS-128-275	c15	871-24835	US-PATENT-CLASS-137-81.5	c10	871-25899
US-PATENT-CLASS-128-283	c05	869-23192	US-PATENT-CLASS-137-81.5	c12	871-27332
US-PATENT-CLASS-128-295	c05	872-22093	US-PATENT-CLASS-137-81.5	c12	871-28741
US-PATENT-CLASS-128-305	c05	873-27062	US-PATENT-CLASS-137-81.5	c28	872-22772
US-PATENT-CLASS-128-402	c05	872-20096	US-PATENT-CLASS-137-81.5	c15	872-33477
US-PATENT-CLASS-128-417	c05	872-25120	US-PATENT-CLASS-137-81.5	c15	873-13462
US-PATENT-CLASS-128-417	c05	872-27103	US-PATENT-CLASS-137-81.5	c28	873-13773
US-PATENT-CLASS-129-16.7	c08	871-15908	US-PATENT-CLASS-137-154	c15	873-27406
US-PATENT-CLASS-135-1	c32	870-36536	US-PATENT-CLASS-137-197	c15	870-41646
US-PATENT-CLASS-136-6	c03	871-26084	US-PATENT-CLASS-137-340	c15	870-34817
US-PATENT-CLASS-136-6	c03	872-15986	US-PATENT-CLASS-137-340	c15	870-35087
US-PATENT-CLASS-136-20	c03	874-19693	US-PATENT-CLASS-137-341	c12	871-17661
US-PATENT-CLASS-136-24	c09	873-32108	US-PATENT-CLASS-137-397	c15	873-26472
US-PATENT-CLASS-136-28	c03	871-10608	US-PATENT-CLASS-137-469	c05	872-20097
US-PATENT-CLASS-136-30	c03	874-19693	US-PATENT-CLASS-137-487.5	c14	873-13418
US-PATENT-CLASS-136-36	c03	874-19692	US-PATENT-CLASS-137-491	c15	869-21924
US-PATENT-CLASS-136-79	c03	872-20032	US-PATENT-CLASS-137-495	c15	870-38603
US-PATENT-CLASS-136-81	c03	872-20032	US-PATENT-CLASS-137-496	c15	871-22706
US-PATENT-CLASS-136-83	c03	871-28579	US-PATENT-CLASS-137-505.12	c14	871-18625
US-PATENT-CLASS-136-83R	c03	872-20034	US-PATENT-CLASS-137-516.27	c15	873-30459
US-PATENT-CLASS-136-86	c03	871-11052	US-PATENT-CLASS-137-535	c15	873-30459
US-PATENT-CLASS-136-86	c03	871-20904	US-PATENT-CLASS-137-535	c05	873-32014
US-PATENT-CLASS-136-86	c15	871-23022	US-PATENT-CLASS-137-538	c05	873-25125
US-PATENT-CLASS-136-86	c03	871-29044	US-PATENT-CLASS-137-539	c15	870-41811
US-PATENT-CLASS-136-89	c03	869-24267	US-PATENT-CLASS-137-554	c09	871-23191
US-PATENT-CLASS-136-89	c03	871-11049	US-PATENT-CLASS-137-559	c11	873-12265
US-PATENT-CLASS-136-89	c03	871-11050	US-PATENT-CLASS-137-582	c32	871-16103
US-PATENT-CLASS-136-89	c03	871-11056	US-PATENT-CLASS-137-582	c32	871-16106
US-PATENT-CLASS-136-89	c03	871-18698	US-PATENT-CLASS-137-582	c15	871-19569
US-PATENT-CLASS-136-89	c03	871-19545	US-PATENT-CLASS-137-582	c15	873-26472
US-PATENT-CLASS-136-89	c03	871-20492	US-PATENT-CLASS-137-594	c12	871-18615
US-PATENT-CLASS-136-89	c03	871-20495	US-PATENT-CLASS-137-604	c15	873-27406
US-PATENT-CLASS-136-89	c26	871-23043	US-PATENT-CLASS-137-608	c15	873-13462
US-PATENT-CLASS-136-89	c03	871-23187	US-PATENT-CLASS-137-614	c15	870-36492
US-PATENT-CLASS-136-89	c03	871-23449	US-PATENT-CLASS-137-615	c12	871-16031
US-PATENT-CLASS-136-89	c03	871-33409	US-PATENT-CLASS-137-624.14	c03	869-21469
US-PATENT-CLASS-136-89	c03	872-20031	US-PATENT-CLASS-137-625.5	c15	871-23051
US-PATENT-CLASS-136-89	c03	872-22042	US-PATENT-CLASS-137-625.69	c15	870-36908
US-PATENT-CLASS-136-89	c31	872-22874	US-PATENT-CLASS-137-628	c15	874-21065
US-PATENT-CLASS-136-89	c03	872-24037	US-PATENT-CLASS-137-819	c09	874-11050
US-PATENT-CLASS-136-89	c09	872-25259	US-PATENT-CLASS-137-833	c09	874-11050
US-PATENT-CLASS-136-89	c03	872-27053	US-PATENT-CLASS-137-840	c09	874-11050
US-PATENT-CLASS-136-89	c09	873-32109	US-PATENT-CLASS-138-4	c15	871-18580
US-PATENT-CLASS-136-89	c03	874-14784	US-PATENT-CLASS-138-42	c15	871-15608
US-PATENT-CLASS-136-89	c03	872-20034	US-PATENT-CLASS-138-43	c15	871-19213
US-PATENT-CLASS-136-100B	c03	871-11053	US-PATENT-CLASS-138-45	c15	871-18580
US-PATENT-CLASS-136-132	c03	871-22974	US-PATENT-CLASS-138-45	c15	873-13462
US-PATENT-CLASS-136-142	c15	869-24320	US-PATENT-CLASS-138-46	c12	871-18615
US-PATENT-CLASS-136-133	c03	871-23006	US-PATENT-CLASS-138-119	c32	870-41579
US-PATENT-CLASS-136-133	c03	872-15986	US-PATENT-CLASS-138-178	c15	872-20445
US-PATENT-CLASS-136-135	c03	872-15986	US-PATENT-CLASS-139-425R	c28	872-11708

NUMBER INDEX

US-PATENT-CLASS-140-105	c15 N72-12408	US-PATENT-CLASS-161-116	c15 N74-23064
US-PATENT-CLASS-140-123	c15 N71-15918	US-PATENT-CLASS-161-127	c18 N72-25540
US-PATENT-CLASS-140-124	c15 N71-10809	US-PATENT-CLASS-161-127	c18 N72-25541
US-PATENT-CLASS-141-5	c33 N71-20834	US-PATENT-CLASS-161-161	c33 N71-25351
US-PATENT-CLASS-141-23	c15 N72-21465	US-PATENT-CLASS-161-182	c15 N69-39735
US-PATENT-CLASS-141-91	c12 N71-21089	US-PATENT-CLASS-161-182	c15 N74-18126
US-PATENT-CLASS-141-258	c14 N71-27005	US-PATENT-CLASS-161-189	c23 N71-15978
US-PATENT-CLASS-148-1.5	c26 N71-10607	US-PATENT-CLASS-161-192	c15 N74-18126
US-PATENT-CLASS-148-1.5	c26 N71-23654	US-PATENT-CLASS-161-196	c15 N74-21063
US-PATENT-CLASS-148-1.5	c24 N74-20329	US-PATENT-CLASS-161-214	c06 N73-27980
US-PATENT-CLASS-148-6	c18 N71-29040	US-PATENT-CLASS-161-227	c06 N73-27980
US-PATENT-CLASS-148-6.3	c17 N71-33408	US-PATENT-CLASS-165-1	c09 N70-41717
US-PATENT-CLASS-148-6.11	c15 N71-24875	US-PATENT-CLASS-165-2	c33 N71-24876
US-PATENT-CLASS-148-6.16	c18 N71-23047	US-PATENT-CLASS-165-2	c14 N74-15093
US-PATENT-CLASS-148-6.20	c17 N71-23828	US-PATENT-CLASS-165-3	c03 N72-28025
US-PATENT-CLASS-148-11.5R	c15 N73-13465	US-PATENT-CLASS-165-12	c33 N71-24276
US-PATENT-CLASS-148-13	c14 N71-25892	US-PATENT-CLASS-165-20	c03 N72-28025
US-PATENT-CLASS-148-32.5	c17 N72-22535	US-PATENT-CLASS-165-32	c31 N73-30829
US-PATENT-CLASS-148-126	c17 N71-24142	US-PATENT-CLASS-165-32	c33 N73-32818
US-PATENT-CLASS-148-126	c18 N71-26153	US-PATENT-CLASS-165-44	c15 N71-26611
US-PATENT-CLASS-148-126	c18 N71-28729	US-PATENT-CLASS-165-46	c05 N71-19439
US-PATENT-CLASS-148-126	c17 N74-10521	US-PATENT-CLASS-165-46	c05 N71-24147
US-PATENT-CLASS-148-174	c26 N71-29156	US-PATENT-CLASS-165-46	c05 N73-20137
US-PATENT-CLASS-148-187	c26 N72-17820	US-PATENT-CLASS-165-46	c05 N73-26071
US-PATENT-CLASS-148-187	c14 N72-28438	US-PATENT-CLASS-165-47	c33 N71-29052
US-PATENT-CLASS-148-188	c24 N71-10560	US-PATENT-CLASS-165-47	c31 N73-30829
US-PATENT-CLASS-148-188	c09 N71-12513	US-PATENT-CLASS-165-86	c15 N71-26611
US-PATENT-CLASS-149-1	c23 N71-16212	US-PATENT-CLASS-165-86	c33 N71-29046
US-PATENT-CLASS-149-1	c06 N73-30097	US-PATENT-CLASS-165-96	c33 N70-36847
US-PATENT-CLASS-149-2	c12 N70-40124	US-PATENT-CLASS-165-96	c33 N71-22890
US-PATENT-CLASS-149-17	c27 N74-33209	US-PATENT-CLASS-165-96	c31 N73-30829
US-PATENT-CLASS-149-19	c27 N71-14090	US-PATENT-CLASS-165-96	c33 N73-32818
US-PATENT-CLASS-149-19	c27 N72-25699	US-PATENT-CLASS-165-104	c33 N71-25353
US-PATENT-CLASS-149-19	c27 N73-16764	US-PATENT-CLASS-165-105	c09 N71-24807
US-PATENT-CLASS-149-20	c27 N72-25699	US-PATENT-CLASS-165-105	c33 N71-25353
US-PATENT-CLASS-149-36	c27 N72-25699	US-PATENT-CLASS-165-105	c33 N72-17948
US-PATENT-CLASS-149-36	c27 N73-16764	US-PATENT-CLASS-165-105	c31 N73-30829
US-PATENT-CLASS-149-36	c06 N73-30097	US-PATENT-CLASS-165-105	c28 N73-32606
US-PATENT-CLASS-149-60	c27 N74-33209	US-PATENT-CLASS-165-105	c33 N74-18552
US-PATENT-CLASS-149-76	c27 N74-33209	US-PATENT-CLASS-165-106	c33 N73-32818
US-PATENT-CLASS-149-92	c27 N72-25699	US-PATENT-CLASS-165-107	c09 N71-24807
US-PATENT-CLASS-149-109	c27 N70-41897	US-PATENT-CLASS-165-109	c14 N74-15093
US-PATENT-CLASS-152-11	c31 N71-18611	US-PATENT-CLASS-165-133	c33 N71-16277
US-PATENT-CLASS-152-225	c15 N71-27091	US-PATENT-CLASS-165-133	c33 N71-25353
US-PATENT-CLASS-152-250	c15 N71-27091	US-PATENT-CLASS-165-133	c33 N72-20915
US-PATENT-CLASS-156-3	c17 N71-16044	US-PATENT-CLASS-165-138	c09 N71-24807
US-PATENT-CLASS-156-3	c15 N71-21404	US-PATENT-CLASS-165-141	c28 N73-32606
US-PATENT-CLASS-156-3	c15 N71-24047	US-PATENT-CLASS-165-155	c33 N72-20915
US-PATENT-CLASS-156-3	c06 N72-21094	US-PATENT-CLASS-165-158	c33 N72-20915
US-PATENT-CLASS-156-18	c26 N73-26752	US-PATENT-CLASS-165-161	c33 N72-20915
US-PATENT-CLASS-156-60	c15 N71-22713	US-PATENT-CLASS-165-174	c28 N73-32606
US-PATENT-CLASS-156-66	c15 N72-11392	US-PATENT-CLASS-165-185	c12 N72-21310
US-PATENT-CLASS-156-84	c15 N72-16330	US-PATENT-CLASS-169-28	c12 N72-21310
US-PATENT-CLASS-156-86	c15 N72-16330	US-PATENT-CLASS-169-36	c15 N73-13463
US-PATENT-CLASS-156-94	c07 N74-27612	US-PATENT-CLASS-173-131	c26 N73-26752
US-PATENT-CLASS-156-94	c18 N74-30001	US-PATENT-CLASS-174-DIG.6	c26 N73-32571
US-PATENT-CLASS-156-172	c15 N71-17651	US-PATENT-CLASS-174-DIG.6	c09 N74-22865
US-PATENT-CLASS-156-212	c03 N71-26726	US-PATENT-CLASS-174-DIG.8	c09 N74-27683
US-PATENT-CLASS-156-218	c05 N74-32546	US-PATENT-CLASS-174-15C	c09 N69-21542
US-PATENT-CLASS-156-242	c15 N69-24322	US-PATENT-CLASS-174-18	c07 N71-27191
US-PATENT-CLASS-156-245	c14 N74-18089	US-PATENT-CLASS-174-28	c09 N74-27683
US-PATENT-CLASS-156-247	c14 N74-18089	US-PATENT-CLASS-174-28	c07 N71-19436
US-PATENT-CLASS-156-250	c03 N72-25019	US-PATENT-CLASS-174-35	c09 N72-22198
US-PATENT-CLASS-156-264	c05 N72-25121	US-PATENT-CLASS-174-36	c15 N73-14469
US-PATENT-CLASS-156-285	c15 N71-23052	US-PATENT-CLASS-174-52S	c15 N70-41960
US-PATENT-CLASS-156-285	c18 N73-30532	US-PATENT-CLASS-174-68.5	c09 N74-22865
US-PATENT-CLASS-156-285	c14 N74-18089	US-PATENT-CLASS-174-69	c09 N74-22865
US-PATENT-CLASS-156-285	c18 N74-27035	US-PATENT-CLASS-174-70R	c03 N69-21539
US-PATENT-CLASS-156-308	c05 N72-25121	US-PATENT-CLASS-174-72	c15 N72-17455
US-PATENT-CLASS-156-309	c14 N74-18089	US-PATENT-CLASS-174-84	c09 N72-22198
US-PATENT-CLASS-156-320	c15 N72-11392	US-PATENT-CLASS-174-106R	c14 N71-27186
US-PATENT-CLASS-156-331	c15 N74-18126	US-PATENT-CLASS-174-110.3	c09 N74-27683
US-PATENT-CLASS-156-345	c15 N70-42033	US-PATENT-CLASS-174-111	c09 N70-38201
US-PATENT-CLASS-156-510	c15 N71-17687	US-PATENT-CLASS-174-115	c09 N72-22198
US-PATENT-CLASS-156-510	c03 N72-25019	US-PATENT-CLASS-174-117FF	c26 N73-32571
US-PATENT-CLASS-156-545	c15 N71-24164	US-PATENT-CLASS-174-126CP	c15 N73-32362
US-PATENT-CLASS-161-7	c18 N72-25540	US-PATENT-CLASS-175-26	c15 N70-42034
US-PATENT-CLASS-161-7	c18 N72-25541	US-PATENT-CLASS-175-310	c14 N69-21923
US-PATENT-CLASS-161-42	c15 N74-18126	US-PATENT-CLASS-175-323	c24 N72-33681
US-PATENT-CLASS-161-43	c15 N74-18126	US-PATENT-CLASS-176-11	c14 N70-34669
US-PATENT-CLASS-161-67	c33 N72-17947	US-PATENT-CLASS-176-19	c14 N70-36808
US-PATENT-CLASS-161-68	c18 N71-21651	US-PATENT-CLASS-176-19	c22 N70-34501
US-PATENT-CLASS-161-68	c18 N72-25540	US-PATENT-CLASS-176-35	c22 N71-28759
US-PATENT-CLASS-161-68	c18 N72-25541	US-PATENT-CLASS-176-45	c22 N70-34572
US-PATENT-CLASS-161-69	c33 N71-24858	US-PATENT-CLASS-176-52	c22 N72-20597
US-PATENT-CLASS-161-89	c17 N71-28747	US-PATENT-CLASS-176-86G	c22 N72-21644
US-PATENT-CLASS-161-93	c18 N73-12604	US-PATENT-CLASS-176-86L	c22 N73-32528
US-PATENT-CLASS-161-93	c15 N74-18126	US-PATENT-CLASS-176-169	c14 N74-26945
US-PATENT-CLASS-161-115	c18 N70-41583	US-PATENT-CLASS-177-200	

NUMBER INDEX

US-PATENT-CLASS-177-210	c14	N71-10773	US-PATENT-CLASS-179-158C	c08	N72-25208
US-PATENT-CLASS-177-211	c14	N74-26945	US-PATENT-CLASS-179-158C	c07	N73-16121
US-PATENT-CLASS-177-246	c14	N74-26945	US-PATENT-CLASS-179-158C	c07	N74-30523
US-PATENT-CLASS-178-DIG.1	c14	N74-20009	US-PATENT-CLASS-179-158L	c08	N72-22162
US-PATENT-CLASS-178-DIG.6	c10	N73-13235	US-PATENT-CLASS-179-158M	c07	N73-26118
US-PATENT-CLASS-178-DIG.8	c14	N72-25412	US-PATENT-CLASS-179-158S	c10	N71-33407
US-PATENT-CLASS-178-DIG.12	c07	N72-12081	US-PATENT-CLASS-179-158S	c07	N72-20140
US-PATENT-CLASS-178-DIG.20	c23	N72-27728	US-PATENT-CLASS-179-158S	c07	N73-30115
US-PATENT-CLASS-178-DIG.21	c16	N72-13437	US-PATENT-CLASS-179-158V	c07	N72-25172
US-PATENT-CLASS-178-DIG.23	c07	N73-30115	US-PATENT-CLASS-179-158Y	c07	N74-30524
US-PATENT-CLASS-178-DIG.28	c08	N72-22164	US-PATENT-CLASS-179-158D	c08	N72-25208
US-PATENT-CLASS-178-DIG.32	c14	N74-21014	US-PATENT-CLASS-179-158F	c07	N73-28012
US-PATENT-CLASS-178-DIG.36	c08	N72-22164	US-PATENT-CLASS-179-100.2	c09	N69-24329
US-PATENT-CLASS-178-5.2R	c09	N71-28618	US-PATENT-CLASS-179-100.2	c09	N71-25866
US-PATENT-CLASS-178-5.2R	c07	N72-17109	US-PATENT-CLASS-179-100.2	c08	N71-27210
US-PATENT-CLASS-178-5.4	c07	N72-17109	US-PATENT-CLASS-179-100.2	c08	N71-27255
US-PATENT-CLASS-178-5.8R	c14	N74-21014	US-PATENT-CLASS-179-100.2A	c21	N73-13644
US-PATENT-CLASS-178-6	c07	N71-19433	US-PATENT-CLASS-179-100.2A	c07	N74-27612
US-PATENT-CLASS-178-6	c09	N71-19449	US-PATENT-CLASS-179-100.2B	c07	N74-27612
US-PATENT-CLASS-178-6	c07	N71-23026	US-PATENT-CLASS-179-100.2CH	c16	N74-13205
US-PATENT-CLASS-178-6	c07	N71-26579	US-PATENT-CLASS-179-100.2K	c07	N72-21119
US-PATENT-CLASS-178-6	c07	N72-12081	US-PATENT-CLASS-179-100.2MD	c14	N74-11283
US-PATENT-CLASS-178-6	c16	N72-13437	US-PATENT-CLASS-179-100.2T	c14	N74-11283
US-PATENT-CLASS-178-6	c10	N73-13235	US-PATENT-CLASS-179-100.2CA	c09	N72-11224
US-PATENT-CLASS-178-6	c14	N74-20009	US-PATENT-CLASS-179-100.2MD	c09	N72-11224
US-PATENT-CLASS-178-6.5	c23	N72-27728	US-PATENT-CLASS-179-175.1A	c14	N73-27379
US-PATENT-CLASS-178-6.6	c07	N71-11300	US-PATENT-CLASS-180-6.5	c11	N73-26238
US-PATENT-CLASS-178-6.6	c07	N71-26102	US-PATENT-CLASS-180-7R	c11	N73-26238
US-PATENT-CLASS-178-6.6DD	c07	N73-30115	US-PATENT-CLASS-180-8A	c11	N73-26238
US-PATENT-CLASS-178-6.6DD	c14	N74-11283	US-PATENT-CLASS-180-9.2R	c11	N73-26238
US-PATENT-CLASS-178-6.7	c07	N72-17109	US-PATENT-CLASS-180-9.5	c11	N73-26238
US-PATENT-CLASS-178-6.7R	c07	N74-15831	US-PATENT-CLASS-180-41	c11	N73-26238
US-PATENT-CLASS-178-6.8	c08	N72-22164	US-PATENT-CLASS-180-79.3	c15	N74-18125
US-PATENT-CLASS-178-6.8	c14	N72-25412	US-PATENT-CLASS-180-105E	c11	N72-20244
US-PATENT-CLASS-178-6.8	c07	N73-30115	US-PATENT-CLASS-180-118	c31	N71-15689
US-PATENT-CLASS-178-7.1	c07	N71-24612	US-PATENT-CLASS-180-121	c31	N71-15689
US-PATENT-CLASS-178-7.1	c07	N71-27341	US-PATENT-CLASS-180-125	c15	N72-17451
US-PATENT-CLASS-178-7.1	c09	N72-17156	US-PATENT-CLASS-180-127	c15	N72-17451
US-PATENT-CLASS-178-7.1	c07	N74-19790	US-PATENT-CLASS-181.5R	c23	N74-31148
US-PATENT-CLASS-178-7.2	c14	N70-41807	US-PATENT-CLASS-181-.5	c11	N71-28779
US-PATENT-CLASS-178-7.2	c14	N74-21014	US-PATENT-CLASS-181-33C	c02	N74-32418
US-PATENT-CLASS-178-7.2R	c08	N72-22164	US-PATENT-CLASS-181-33P	c02	N74-32418
US-PATENT-CLASS-178-7.3	c07	N71-27341	US-PATENT-CLASS-181-33H	c02	N74-32418
US-PATENT-CLASS-178-7.3	c07	N72-12081	US-PATENT-CLASS-181-33HB	c02	N74-27490
US-PATENT-CLASS-178-7.5E	c10	N72-31273	US-PATENT-CLASS-181-33HC	c28	N74-33218
US-PATENT-CLASS-178-7.6	c14	N74-20009	US-PATENT-CLASS-181-33L	c02	N74-32418
US-PATENT-CLASS-178-7.7	c09	N71-12539	US-PATENT-CLASS-181-42	c02	N74-32418
US-PATENT-CLASS-178-7.7	c07	N74-20813	US-PATENT-CLASS-181-43	c28	N74-15453
US-PATENT-CLASS-178-7.92	c14	N72-25414	US-PATENT-CLASS-181-52	c28	N70-41582
US-PATENT-CLASS-178-48	c10	N73-32143	US-PATENT-CLASS-182-5	c15	N73-25512
US-PATENT-CLASS-178-50	c08	N72-18184	US-PATENT-CLASS-182-10	c15	N71-27067
US-PATENT-CLASS-178-50	c08	N72-25208	US-PATENT-CLASS-182-191	c05	N71-11199
US-PATENT-CLASS-178-52	c08	N72-22162	US-PATENT-CLASS-184-1	c15	N71-23048
US-PATENT-CLASS-178-54CF	c09	N71-28618	US-PATENT-CLASS-187-1	c15	N72-25453
US-PATENT-CLASS-178-54PE	c09	N71-28618	US-PATENT-CLASS-187-7.1	c07	N71-24742
US-PATENT-CLASS-178-66	c09	N71-25866	US-PATENT-CLASS-187-20	c15	N72-25453
US-PATENT-CLASS-178-66	c08	N72-18184	US-PATENT-CLASS-187-95	c15	N72-25453
US-PATENT-CLASS-178-67	c08	N70-41961	US-PATENT-CLASS-188-1	c15	N70-34861
US-PATENT-CLASS-178-67	c07	N74-26654	US-PATENT-CLASS-188-1	c15	N70-38601
US-PATENT-CLASS-178-69.4R	c07	N74-10132	US-PATENT-CLASS-188-1	c15	N70-40354
US-PATENT-CLASS-178-69.5	c07	N71-11281	US-PATENT-CLASS-188-1	c14	N71-17626
US-PATENT-CLASS-178-69.5	c10	N71-19468	US-PATENT-CLASS-188-1	c15	N71-22877
US-PATENT-CLASS-178-69.5	c10	N71-25865	US-PATENT-CLASS-188-1	c14	N71-23092
US-PATENT-CLASS-178-69.5	c10	N71-33407	US-PATENT-CLASS-188-1	c15	N71-26243
US-PATENT-CLASS-178-69.5	c07	N72-25173	US-PATENT-CLASS-188-1	c15	N71-27146
US-PATENT-CLASS-178-69.5	c07	N73-13149	US-PATENT-CLASS-188-1	c15	N71-27169
US-PATENT-CLASS-178-69.5	c09	N73-28084	US-PATENT-CLASS-188-1B	c15	N72-20443
US-PATENT-CLASS-178-69.5R	c07	N72-20140	US-PATENT-CLASS-188-1C	c15	N72-17450
US-PATENT-CLASS-178-88	c07	N71-12392	US-PATENT-CLASS-188-1C	c15	N72-20443
US-PATENT-CLASS-178-88	c08	N74-12887	US-PATENT-CLASS-188-1C	c15	N73-30460
US-PATENT-CLASS-178-88	c07	N74-20809	US-PATENT-CLASS-188-1C	c11	N73-32152
US-PATENT-CLASS-178-88	c10	N74-27705	US-PATENT-CLASS-188-65.1	c15	N73-25512
US-PATENT-CLASS-179-1	c07	N71-26181	US-PATENT-CLASS-188-65.5	c15	N71-27067
US-PATENT-CLASS-179-1	c31	N71-33160	US-PATENT-CLASS-188-87	c12	N71-16894
US-PATENT-CLASS-179-1P	c10	N73-12244	US-PATENT-CLASS-188-88	c15	N71-26611
US-PATENT-CLASS-179-1R	c07	N71-33108	US-PATENT-CLASS-188-103	c15	N71-27146
US-PATENT-CLASS-179-1SA	c10	N73-25240	US-PATENT-CLASS-188-129	c15	N72-17450
US-PATENT-CLASS-179-1VC	c07	N71-33108	US-PATENT-CLASS-188-163	c15	N74-26976
US-PATENT-CLASS-179-15	c07	N69-39978	US-PATENT-CLASS-188-171	c15	N74-26976
US-PATENT-CLASS-179-15	c07	N71-20814	US-PATENT-CLASS-188-266	c15	N73-25513
US-PATENT-CLASS-179-15	c07	N71-24621	US-PATENT-CLASS-188-268	c15	N72-20443
US-PATENT-CLASS-179-15	c07	N71-24622	US-PATENT-CLASS-189-36	c15	N70-36947
US-PATENT-CLASS-179-15	c08	N72-18184	US-PATENT-CLASS-192-43.1	c15	N71-17805
US-PATENT-CLASS-179-15.55R	c08	N72-11171	US-PATENT-CLASS-195-28H	c06	N72-25149
US-PATENT-CLASS-179-15.55R	c08	N72-33172	US-PATENT-CLASS-195-66H	c06	N73-27087
US-PATENT-CLASS-179-15A	c08	N72-22162	US-PATENT-CLASS-195-68	c04	N69-27486
US-PATENT-CLASS-179-15A	c07	N73-26118	US-PATENT-CLASS-195-99	c06	N71-17705
US-PATENT-CLASS-179-15AN	c07	N73-16121	US-PATENT-CLASS-195-103.5R	c06	N72-25149
US-PATENT-CLASS-179-15AT	c07	N74-30524	US-PATENT-CLASS-195-127	c15	N72-21465

NUMBER INDEX

US-PATENT-CLASS-195-127	c11 N72-25284	US-PATENT-CLASS-219-203	c11 N73-12265
US-PATENT-CLASS-195-127	c14 N72-25413	US-PATENT-CLASS-219-216	c07 N74-15831
US-PATENT-CLASS-195-127	c15 N73-20514	US-PATENT-CLASS-219-221	c15 N72-11392
US-PATENT-CLASS-195-127	c05 N73-32011	US-PATENT-CLASS-219-229	c15 N71-27214
US-PATENT-CLASS-200-6	c10 N71-15909	US-PATENT-CLASS-219-234	c15 N72-22491
US-PATENT-CLASS-200-6	c09 N71-16089	US-PATENT-CLASS-219-234	c15 N72-23497
US-PATENT-CLASS-200-19	c09 N70-39915	US-PATENT-CLASS-219-243	c15 N72-11392
US-PATENT-CLASS-200-39	c03 N70-38713	US-PATENT-CLASS-219-273	c15 N72-32487
US-PATENT-CLASS-200-61.42	c09 N71-12518	US-PATENT-CLASS-219-275	c15 N71-40395
US-PATENT-CLASS-200-61.45	c14 N70-41812	US-PATENT-CLASS-219-347	c15 N69-27871
US-PATENT-CLASS-200-64	c15 N72-17455	US-PATENT-CLASS-219-347	c33 N70-34545
US-PATENT-CLASS-200-81.9M	c09 N72-20199	US-PATENT-CLASS-219-348	c15 N73-27405
US-PATENT-CLASS-200-81B	c09 N72-22204	US-PATENT-CLASS-219-364	c33 N71-16278
US-PATENT-CLASS-200-82	c10 N71-23663	US-PATENT-CLASS-219-378	c33 N71-25353
US-PATENT-CLASS-200-82C	c09 N72-22204	US-PATENT-CLASS-219-388	c07 N74-15831
US-PATENT-CLASS-200-152	c09 N71-19610	US-PATENT-CLASS-219-411	c17 N69-25147
US-PATENT-CLASS-202-182	c05 N71-11207	US-PATENT-CLASS-219-413	c14 N71-28958
US-PATENT-CLASS-202-234	c15 N71-23086	US-PATENT-CLASS-219-477	c09 N74-14935
US-PATENT-CLASS-204-9	c15 N74-32919	US-PATENT-CLASS-219-499	c14 N73-26430
US-PATENT-CLASS-204-20	c18 N71-16210	US-PATENT-CLASS-219-505	c11 N71-27058
US-PATENT-CLASS-204-30	c09 N71-28691	US-PATENT-CLASS-219-522	c11 N73-12265
US-PATENT-CLASS-204-33	c17 N71-25903	US-PATENT-CLASS-219-530	c33 N71-25353
US-PATENT-CLASS-204-37	c33 N71-29151	US-PATENT-CLASS-219-539	c09 N74-14935
US-PATENT-CLASS-204-38	c17 N71-24830	US-PATENT-CLASS-220-1	c31 N71-17680
US-PATENT-CLASS-204-49	c15 N72-25452	US-PATENT-CLASS-220-5R	c15 N72-22486
US-PATENT-CLASS-204-59	c15 N72-21466	US-PATENT-CLASS-220-9	c23 N71-22881
US-PATENT-CLASS-204-130	c15 N72-21466	US-PATENT-CLASS-220-9	c18 N71-23658
US-PATENT-CLASS-204-157.1B	c06 N74-30502	US-PATENT-CLASS-220-9	c15 N71-23816
US-PATENT-CLASS-204-157.18AG	c15 N72-25452	US-PATENT-CLASS-220-9	c33 N71-25351
US-PATENT-CLASS-204-168	c24 N71-25555	US-PATENT-CLASS-220-14	c15 N69-39935
US-PATENT-CLASS-204-180R	c14 N74-26948	US-PATENT-CLASS-220-15	c31 N71-15664
US-PATENT-CLASS-204-180R	c12 N74-27744	US-PATENT-CLASS-220-46	c15 N71-27068
US-PATENT-CLASS-204-192	c15 N73-12487	US-PATENT-CLASS-220-55	c15 N69-27502
US-PATENT-CLASS-204-192	c17 N73-24569	US-PATENT-CLASS-220-63	c11 N70-38182
US-PATENT-CLASS-204-192	c18 N74-13270	US-PATENT-CLASS-220-67	c15 N71-10577
US-PATENT-CLASS-204-192	c28 N74-31269	US-PATENT-CLASS-220-89	c11 N71-15960
US-PATENT-CLASS-204-195	c14 N71-17575	US-PATENT-CLASS-220-89	c11 N71-17600
US-PATENT-CLASS-204-222	c15 N74-23065	US-PATENT-CLASS-221-265	c04 N74-15778
US-PATENT-CLASS-204-263	c14 N71-28933	US-PATENT-CLASS-222-45	c14 N70-40203
US-PATENT-CLASS-204-298	c15 N70-34967	US-PATENT-CLASS-222-49	c14 N71-27235
US-PATENT-CLASS-204-298	c09 N71-26701	US-PATENT-CLASS-222-61	c27 N71-29155
US-PATENT-CLASS-204-298	c15 N72-32487	US-PATENT-CLASS-222-71	c15 N72-21465
US-PATENT-CLASS-204-299	c12 N74-27744	US-PATENT-CLASS-222-135	c15 N72-21465
US-PATENT-CLASS-204-305	c03 N71-24718	US-PATENT-CLASS-222-137	c14 N71-27005
US-PATENT-CLASS-204-324	c33 N73-16918	US-PATENT-CLASS-222-193	c15 N74-13178
US-PATENT-CLASS-204-325	c33 N73-16918	US-PATENT-CLASS-222-309	c15 N72-21465
US-PATENT-CLASS-204-328	c33 N73-16918	US-PATENT-CLASS-222-309	c05 N74-12779
US-PATENT-CLASS-209-10	c15 N71-20440	US-PATENT-CLASS-222-324	c05 N74-17853
US-PATENT-CLASS-209-349	c15 N72-22483	US-PATENT-CLASS-222-340	c05 N74-12779
US-PATENT-CLASS-210-103	c05 N72-27102	US-PATENT-CLASS-222-387	c05 N74-12779
US-PATENT-CLASS-210-104	c05 N72-27102	US-PATENT-CLASS-222-389	c15 N70-38996
US-PATENT-CLASS-210-110	c05 N72-27102	US-PATENT-CLASS-222-414	c14 N73-27378
US-PATENT-CLASS-210-137	c05 N72-27102	US-PATENT-CLASS-222-514	c05 N74-12779
US-PATENT-CLASS-210-188	c12 N72-25292	US-PATENT-CLASS-224-25	c05 N71-12351
US-PATENT-CLASS-210-212	c03 N72-20033	US-PATENT-CLASS-224-25A	c05 N72-23085
US-PATENT-CLASS-210-314	c28 N70-41447	US-PATENT-CLASS-224-444	c05 N74-17853
US-PATENT-CLASS-210-445	c15 N72-11389	US-PATENT-CLASS-225-1	c15 N71-17628
US-PATENT-CLASS-212-11	c32 N71-17609	US-PATENT-CLASS-225-2	c26 N71-14354
US-PATENT-CLASS-212-134	c15 N72-11388	US-PATENT-CLASS-226-58	c14 N71-28935
US-PATENT-CLASS-214-1	c32 N70-41367	US-PATENT-CLASS-226-190	c08 N71-19420
US-PATENT-CLASS-214-1CB	c15 N72-28495	US-PATENT-CLASS-228-7	c15 N71-15607
US-PATENT-CLASS-214-90B	c03 N72-25021	US-PATENT-CLASS-228-8	c15 N71-23050
US-PATENT-CLASS-219-10.49	c11 N71-15925	US-PATENT-CLASS-228-9	c15 N71-20393
US-PATENT-CLASS-219-19	c33 N70-34812	US-PATENT-CLASS-228-50	c15 N70-39924
US-PATENT-CLASS-219-34	c09 N70-33312	US-PATENT-CLASS-228-50	c15 N70-40204
US-PATENT-CLASS-219-50	c14 N73-26430	US-PATENT-CLASS-228-53	c15 N71-27214
US-PATENT-CLASS-219-62	c15 N73-28515	US-PATENT-CLASS-228-57	c15 N72-22491
US-PATENT-CLASS-219-72	c15 N71-14932	US-PATENT-CLASS-229-DIG.11	c32 N73-13921
US-PATENT-CLASS-219-78	c15 N74-11300	US-PATENT-CLASS-230-54	c11 N72-22245
US-PATENT-CLASS-219-85	c15 N72-22491	US-PATENT-CLASS-230-162	c33 N71-17610
US-PATENT-CLASS-219-85	c15 N72-23497	US-PATENT-CLASS-230-221	c11 N72-22245
US-PATENT-CLASS-219-91	c15 N71-18613	US-PATENT-CLASS-233-11	c15 N71-16079
US-PATENT-CLASS-219-91	c15 N73-32358	US-PATENT-CLASS-235.150.27	c21 N74-13420
US-PATENT-CLASS-219-101	c15 N74-11300	US-PATENT-CLASS-235-10.2	c08 N73-25206
US-PATENT-CLASS-219-107	c15 N73-28515	US-PATENT-CLASS-235-61.6	c01 N71-13411
US-PATENT-CLASS-219-107	c15 N74-11300	US-PATENT-CLASS-235-61.6	c15 N71-21179
US-PATENT-CLASS-219-109	c15 N72-23497	US-PATENT-CLASS-235-61NV	c08 N72-21172
US-PATENT-CLASS-219-117	c15 N73-32358	US-PATENT-CLASS-235-92	c08 N71-22897
US-PATENT-CLASS-219-121	c15 N69-21471	US-PATENT-CLASS-235-92	c08 N71-24891
US-PATENT-CLASS-219-121	c33 N70-34540	US-PATENT-CLASS-235-92	c10 N71-27137
US-PATENT-CLASS-219-121	c15 N71-19486	US-PATENT-CLASS-235-92	c14 N71-27215
US-PATENT-CLASS-219-121	c16 N71-20400	US-PATENT-CLASS-235-92CA	c10 N74-10223
US-PATENT-CLASS-219-121	c15 N71-27135	US-PATENT-CLASS-235-92CC	c08 N72-20176
US-PATENT-CLASS-219-121P	c15 N72-32487	US-PATENT-CLASS-235-92CV	c08 N73-25206
US-PATENT-CLASS-219-125	c15 N71-23815	US-PATENT-CLASS-235-92DE	c08 N72-20176
US-PATENT-CLASS-219-130	c15 N71-23798	US-PATENT-CLASS-235-92DM	c08 N72-20176
US-PATENT-CLASS-219-131	c15 N71-15871	US-PATENT-CLASS-235-92DM	c10 N74-10223
US-PATENT-CLASS-219-137	c15 N70-34814	US-PATENT-CLASS-235-92DN	c08 N73-25206
US-PATENT-CLASS-219-158	c15 N72-22491	US-PATENT-CLASS-235-92EA	c08 N73-25206

NUMBER INDEX

US-PATENT-CLASS-235-92EV	c08 N73-25206	US-PATENT-CLASS-240-11.2	c09 N71-26787
US-PATENT-CLASS-235-92FQ	c08 N73-20217	US-PATENT-CLASS-240-11.4	c09 N71-26787
US-PATENT-CLASS-235-92LG	c08 N72-20176	US-PATENT-CLASS-240-47	c15 N74-23066
US-PATENT-CLASS-235-92MT	c08 N72-31226	US-PATENT-CLASS-240-51.11	c09 N71-26787
US-PATENT-CLASS-235-92MT	c32 N73-26910	US-PATENT-CLASS-242-54	c15 N72-18477
US-PATENT-CLASS-235-92PE	c15 N74-21056	US-PATENT-CLASS-242-55.19	c14 N70-41647
US-PATENT-CLASS-235-92R	c08 N72-20176	US-PATENT-CLASS-242-55.19	c07 N71-10609
US-PATENT-CLASS-235-92R	c08 N73-20217	US-PATENT-CLASS-242-192	c14 N71-23698
US-PATENT-CLASS-235-92R	c08 N73-25206	US-PATENT-CLASS-244-ISS	c03 N72-20031
US-PATENT-CLASS-235-92SB	c15 N74-21056	US-PATENT-CLASS-244-1	c31 N69-27499
US-PATENT-CLASS-235-92T	c03 N72-25020	US-PATENT-CLASS-244-1	c03 N70-33343
US-PATENT-CLASS-235-92T	c08 N73-20217	US-PATENT-CLASS-244-1	c33 N70-33344
US-PATENT-CLASS-235-150.1	c08 N71-29033	US-PATENT-CLASS-244-1	c03 N70-34157
US-PATENT-CLASS-235-150.1	c08 N72-31226	US-PATENT-CLASS-244-1	c31 N70-34176
US-PATENT-CLASS-235-150.2	c08 N71-29033	US-PATENT-CLASS-244-1	c21 N70-34295
US-PATENT-CLASS-235-150.3	c10 N74-10223	US-PATENT-CLASS-244-1	c31 N70-34296
US-PATENT-CLASS-235-150.22	c02 N71-13421	US-PATENT-CLASS-244-1	c21 N70-35395
US-PATENT-CLASS-235-150.22	c21 N74-13420	US-PATENT-CLASS-244-1	c31 N70-36410
US-PATENT-CLASS-235-150.25	c21 N71-21688	US-PATENT-CLASS-244-1	c33 N70-36617
US-PATENT-CLASS-235-150.26	c21 N74-13420	US-PATENT-CLASS-244-1	c21 N70-36943
US-PATENT-CLASS-235-150.27	c08 N71-29033	US-PATENT-CLASS-244-1	c31 N70-37924
US-PATENT-CLASS-235-150.52	c08 N72-22165	US-PATENT-CLASS-244-1	c31 N70-37938
US-PATENT-CLASS-235-150.53	c08 N72-22165	US-PATENT-CLASS-244-1	c31 N70-37986
US-PATENT-CLASS-235-150.53	c07 N73-13149	US-PATENT-CLASS-244-1	c31 N70-38676
US-PATENT-CLASS-235-151	c15 N74-21056	US-PATENT-CLASS-244-1	c30 N70-40016
US-PATENT-CLASS-235-151.1	c08 N71-29033	US-PATENT-CLASS-244-1	c31 N70-41373
US-PATENT-CLASS-235-151.1	c08 N72-31226	US-PATENT-CLASS-244-1	c31 N70-41588
US-PATENT-CLASS-235-151.3	c05 N74-22771	US-PATENT-CLASS-244-1	c31 N70-41631
US-PATENT-CLASS-235-151.27	c08 N73-25206	US-PATENT-CLASS-244-1	c31 N70-41855
US-PATENT-CLASS-235-151.31	c10 N73-25240	US-PATENT-CLASS-244-1	c21 N70-41856
US-PATENT-CLASS-235-152	c07 N71-24741	US-PATENT-CLASS-244-1	c31 N70-42075
US-PATENT-CLASS-235-152	c08 N72-20176	US-PATENT-CLASS-244-1	c03 N71-11058
US-PATENT-CLASS-235-152	c08 N72-22167	US-PATENT-CLASS-244-1	c33 N71-14035
US-PATENT-CLASS-235-152	c08 N72-25210	US-PATENT-CLASS-244-1	c21 N71-14132
US-PATENT-CLASS-235-152	c08 N73-12175	US-PATENT-CLASS-244-1	c21 N71-14159
US-PATENT-CLASS-235-152	c09 N73-13209	US-PATENT-CLASS-244-1	c21 N71-15583
US-PATENT-CLASS-235-152	c08 N73-26175	US-PATENT-CLASS-244-1	c31 N71-15663
US-PATENT-CLASS-235-152IE	c08 N73-32081	US-PATENT-CLASS-244-1	c31 N71-15674
US-PATENT-CLASS-235-153	c08 N71-24633	US-PATENT-CLASS-244-1	c31 N71-15676
US-PATENT-CLASS-235-153	c08 N72-22166	US-PATENT-CLASS-244-1	c02 N71-16087
US-PATENT-CLASS-235-153AK	c08 N74-14920	US-PATENT-CLASS-244-1	c31 N71-16222
US-PATENT-CLASS-235-154	c08 N70-34778	US-PATENT-CLASS-244-1	c31 N71-16345
US-PATENT-CLASS-235-154	c10 N71-23662	US-PATENT-CLASS-244-1	c31 N71-16346
US-PATENT-CLASS-235-154	c08 N72-18184	US-PATENT-CLASS-244-1	c31 N71-17679
US-PATENT-CLASS-235-154	c08 N72-25206	US-PATENT-CLASS-244-1	c15 N71-17693
US-PATENT-CLASS-235-155	c08 N71-24890	US-PATENT-CLASS-244-1	c31 N71-17729
US-PATENT-CLASS-235-155	c08 N72-21197	US-PATENT-CLASS-244-1	c15 N71-19214
US-PATENT-CLASS-235-155	c08 N73-12176	US-PATENT-CLASS-244-1	c03 N71-20273
US-PATENT-CLASS-235-156	c08 N71-18693	US-PATENT-CLASS-244-1	c31 N71-20396
US-PATENT-CLASS-235-158	c08 N71-19437	US-PATENT-CLASS-244-1	c31 N71-21064
US-PATENT-CLASS-235-164	c08 N71-33110	US-PATENT-CLASS-244-1	c14 N71-21082
US-PATENT-CLASS-235-164	c08 N73-26175	US-PATENT-CLASS-244-1	c21 N71-21708
US-PATENT-CLASS-235-164	c08 N74-20836	US-PATENT-CLASS-244-1	c31 N71-21881
US-PATENT-CLASS-235-175	c08 N71-18602	US-PATENT-CLASS-244-1	c33 N71-22792
US-PATENT-CLASS-235-175	c08 N71-33110	US-PATENT-CLASS-244-1	c31 N71-22968
US-PATENT-CLASS-235-176	c08 N70-34787	US-PATENT-CLASS-244-1	c31 N71-22969
US-PATENT-CLASS-235-181	c07 N71-21476	US-PATENT-CLASS-244-1	c31 N71-23009
US-PATENT-CLASS-235-181	c07 N73-13149	US-PATENT-CLASS-244-1	c14 N71-23040
US-PATENT-CLASS-235-183	c08 N72-22165	US-PATENT-CLASS-244-1	c31 N71-23912
US-PATENT-CLASS-235-186	c10 N73-26230	US-PATENT-CLASS-244-1	c31 N71-24315
US-PATENT-CLASS-235-194	c09 N71-19480	US-PATENT-CLASS-244-1	c15 N71-24600
US-PATENT-CLASS-235-194	c08 N72-22165	US-PATENT-CLASS-244-1	c05 N71-24728
US-PATENT-CLASS-235-194	c10 N73-26230	US-PATENT-CLASS-244-1	c33 N71-25353
US-PATENT-CLASS-235-197	c08 N72-22165	US-PATENT-CLASS-244-1	c31 N71-25434
US-PATENT-CLASS-235-197	c09 N72-23173	US-PATENT-CLASS-244-1	c31 N71-26537
US-PATENT-CLASS-235-197	c10 N73-20253	US-PATENT-CLASS-244-1	c15 N71-26611
US-PATENT-CLASS-235-197	c10 N73-26230	US-PATENT-CLASS-244-1	c28 N71-27095
US-PATENT-CLASS-235-201	c10 N71-25899	US-PATENT-CLASS-244-1	c21 N71-27324
US-PATENT-CLASS-236-1	c33 N71-16357	US-PATENT-CLASS-244-1	c33 N71-28903
US-PATENT-CLASS-236-49	c15 N74-27902	US-PATENT-CLASS-244-1	c15 N71-28936
US-PATENT-CLASS-236-68	c15 N72-12409	US-PATENT-CLASS-244-1	c31 N71-29050
US-PATENT-CLASS-238-1	c05 N71-28619	US-PATENT-CLASS-244-1	c31 N71-33160
US-PATENT-CLASS-238-134	c11 N74-34672	US-PATENT-CLASS-244-1.55	c03 N73-20040
US-PATENT-CLASS-239-127.1	c28 N71-23968	US-PATENT-CLASS-244-1SA	c21 N72-21624
US-PATENT-CLASS-239-127.1	c28 N73-32606	US-PATENT-CLASS-244-1SA	c21 N72-25595
US-PATENT-CLASS-239-265.11	c18 N71-21068	US-PATENT-CLASS-244-1SA	c03 N73-20039
US-PATENT-CLASS-239-265.11	c28 N74-33218	US-PATENT-CLASS-244-1SA	c15 N73-25513
US-PATENT-CLASS-239-265.17	c02 N74-27490	US-PATENT-CLASS-244-1SA	c21 N73-30640
US-PATENT-CLASS-239-265.19	c28 N71-21493	US-PATENT-CLASS-244-1SA	c14 N74-15089
US-PATENT-CLASS-239-265.19	c28 N72-11708	US-PATENT-CLASS-244-1SA	c21 N74-28097
US-PATENT-CLASS-239-265.43	c28 N71-16224	US-PATENT-CLASS-244-1SB	c15 N73-12486
US-PATENT-CLASS-239-265.43	c28 N72-11708	US-PATENT-CLASS-244-1SC	c31 N71-232750
US-PATENT-CLASS-239-416	c15 N69-23185	US-PATENT-CLASS-244-1SD	c31 N73-26876
US-PATENT-CLASS-239-416	c15 N71-17654	US-PATENT-CLASS-244-1SD	c15 N74-27903
US-PATENT-CLASS-239-418	c28 N72-23809	US-PATENT-CLASS-244-1SS	c11 N73-13257
US-PATENT-CLASS-239-424	c15 N72-25455	US-PATENT-CLASS-244-1SS	c03 N73-20039
US-PATENT-CLASS-239-433	c28 N72-23809	US-PATENT-CLASS-244-1SS	c14 N73-27378
US-PATENT-CLASS-239-543	c28 N72-23809	US-PATENT-CLASS-244-1SS	c31 N73-30829
US-PATENT-CLASS-240-1.2	c11 N70-33329	US-PATENT-CLASS-244-1SS	c31 N73-32750

NUMBER INDEX

US-PATENT-CLASS-244-15S	.....	c33	N73-32818	US-PATENT-CLASS-244-151R	.....	c09	N74-22865
US-PATENT-CLASS-244-15S	.....	c15	N74-22136	US-PATENT-CLASS-244-152	.....	c02	N70-36804
US-PATENT-CLASS-244-15S	.....	c32	N74-27397	US-PATENT-CLASS-244-155	.....	c30	N73-12884
US-PATENT-CLASS-244-3.14	.....	c31	N71-17691	US-PATENT-CLASS-244-155	.....	c31	N73-14854
US-PATENT-CLASS-244-3.16	.....	c14	N74-15089	US-PATENT-CLASS-244-327	.....	c02	N74-30421
US-PATENT-CLASS-244-3.21	.....	c30	N72-17873	US-PATENT-CLASS-248-14	.....	c15	N72-17454
US-PATENT-CLASS-244-3.22	.....	c31	N71-17629	US-PATENT-CLASS-248-16	.....	c32	N74-27397
US-PATENT-CLASS-244-3.22	.....	c28	N72-22769	US-PATENT-CLASS-248-18	.....	c14	N69-27486
US-PATENT-CLASS-244-4	.....	c05	N69-21380	US-PATENT-CLASS-248-18	.....	c15	N72-11391
US-PATENT-CLASS-244-4	.....	c05	N71-12336	US-PATENT-CLASS-248-20	.....	c15	N72-11391
US-PATENT-CLASS-244-4	.....	c28	N71-27585	US-PATENT-CLASS-248-23	.....	c32	N74-27397
US-PATENT-CLASS-244-4	.....	c02	N70-33332	US-PATENT-CLASS-248-27	.....	c15	N71-20613
US-PATENT-CLASS-244-12	.....	c01	N71-23497	US-PATENT-CLASS-248-119	.....	c11	N70-35383
US-PATENT-CLASS-244-13	.....	c02	N73-26005	US-PATENT-CLASS-248-178	.....	c15	N70-41310
US-PATENT-CLASS-244-13	.....	c14	N70-33322	US-PATENT-CLASS-248-183	.....	c14	N71-26627
US-PATENT-CLASS-244-14	.....	c31	N72-18859	US-PATENT-CLASS-248-183	.....	c15	N72-11386
US-PATENT-CLASS-244-15.5	.....	c02	N70-41863	US-PATENT-CLASS-248-188.4	.....	c15	N72-27484
US-PATENT-CLASS-244-16	.....	c02	N73-19004	US-PATENT-CLASS-248-188.9	.....	c31	N70-34159
US-PATENT-CLASS-244-17.13	.....	c02	N71-11039	US-PATENT-CLASS-248-278	.....	c15	N71-21386
US-PATENT-CLASS-244-23	.....	c21	N72-25595	US-PATENT-CLASS-248-317	.....	c11	N69-27166
US-PATENT-CLASS-244-23A	.....	c02	N71-11037	US-PATENT-CLASS-248-346	.....	c14	N70-39898
US-PATENT-CLASS-244-31	.....	c31	N71-16081	US-PATENT-CLASS-248-358	.....	c15	N70-40156
US-PATENT-CLASS-244-31	.....	c14	N74-23039	US-PATENT-CLASS-248-358	.....	c2J	N71-15673
US-PATENT-CLASS-244-31	.....	c02	N73-13008	US-PATENT-CLASS-248-358	.....	c15	N71-24694
US-PATENT-CLASS-244-32	.....	c01	N71-13410	US-PATENT-CLASS-248-360	.....	c15	N71-17649
US-PATENT-CLASS-244-35	.....	c02	N70-42016	US-PATENT-CLASS-248-361	.....	c05	N71-28619
US-PATENT-CLASS-244-35	.....	c02	N71-26110	US-PATENT-CLASS-248-487	.....	c15	N72-11386
US-PATENT-CLASS-244-42	.....	c02	N70-33255	US-PATENT-CLASS-249-83	.....	c15	N74-32920
US-PATENT-CLASS-244-43	.....	c02	N71-11043	US-PATENT-CLASS-249-95	.....	c15	N74-32920
US-PATENT-CLASS-244-43	.....	c02	N71-11038	US-PATENT-CLASS-249-145	.....	c15	N74-32920
US-PATENT-CLASS-244-43	.....	c02	N71-12243	US-PATENT-CLASS-249-184	.....	c06	N71-13461
US-PATENT-CLASS-244-43	.....	c02	N70-33266	US-PATENT-CLASS-250-41.9	.....	c24	N71-16095
US-PATENT-CLASS-244-44	.....	c02	N70-33286	US-PATENT-CLASS-250-41.9	.....	c14	N71-23041
US-PATENT-CLASS-244-45	.....	c02	N70-34178	US-PATENT-CLASS-250-41.9	.....	c14	N71-28863
US-PATENT-CLASS-244-46	.....	c02	N70-34858	US-PATENT-CLASS-250-41.9	.....	c14	N72-17328
US-PATENT-CLASS-244-46	.....	c31	N70-38010	US-PATENT-CLASS-250-41.9	.....	c14	N73-32325
US-PATENT-CLASS-244-46	.....	c02	N70-38011	US-PATENT-CLASS-250-41.9D	.....	c14	N72-29464
US-PATENT-CLASS-244-46	.....	c02	N71-11041	US-PATENT-CLASS-250-41.9G	.....	c14	N73-12444
US-PATENT-CLASS-244-46	.....	c02	N73-26005	US-PATENT-CLASS-250-41.9G	.....	c14	N73-12444
US-PATENT-CLASS-244-46	.....	c02	N70-34160	US-PATENT-CLASS-250-41.9S	.....	c14	N71-28992
US-PATENT-CLASS-244-50	.....	c02	N70-34856	US-PATENT-CLASS-250-41.9S	.....	c27	N71-16348
US-PATENT-CLASS-244-51	.....	c28	N71-15563	US-PATENT-CLASS-250-43.5	.....	c15	N71-24896
US-PATENT-CLASS-244-53	.....	c02	N74-20646	US-PATENT-CLASS-250-43.5	.....	c14	N71-25901
US-PATENT-CLASS-244-53B	.....	c02	N73-26005	US-PATENT-CLASS-250-43.5PC	.....	c14	N72-11365
US-PATENT-CLASS-244-55	.....	c15	N71-26611	US-PATENT-CLASS-250-43.5R	.....	c14	N71-27090
US-PATENT-CLASS-244-57	.....	c02	N73-26004	US-PATENT-CLASS-250-43.5R	.....	c14	N72-21408
US-PATENT-CLASS-244-75A	.....	c21	N70-34539	US-PATENT-CLASS-250-43.5R	.....	c06	N72-25146
US-PATENT-CLASS-244-76	.....	c02	N71-13422	US-PATENT-CLASS-250-43.5R	.....	c06	N72-31141
US-PATENT-CLASS-244-76	.....	c02	N71-20570	US-PATENT-CLASS-250-49.5	.....	c14	N69-39982
US-PATENT-CLASS-244-76C	.....	c02	N73-26004	US-PATENT-CLASS-250-49.5	.....	c14	N71-28863
US-PATENT-CLASS-244-77	.....	c32	N71-23971	US-PATENT-CLASS-250-49.5	.....	c14	N72-17328
US-PATENT-CLASS-244-77A	.....	c21	N74-13420	US-PATENT-CLASS-250-49.5B	.....	c24	N72-11595
US-PATENT-CLASS-244-77B	.....	c21	N74-13420	US-PATENT-CLASS-250-49.5B	.....	c24	N72-11595
US-PATENT-CLASS-244-77D	.....	c02	N73-19004	US-PATENT-CLASS-250-49.5TE	.....	c24	N72-11595
US-PATENT-CLASS-244-77F	.....	c02	N73-26004	US-PATENT-CLASS-250-51	.....	c23	N73-13662
US-PATENT-CLASS-244-77G	.....	c02	N73-26004	US-PATENT-CLASS-250-51.5	.....	c14	N73-28491
US-PATENT-CLASS-244-83	.....	c21	N70-33279	US-PATENT-CLASS-250-52	.....	c15	N71-15606
US-PATENT-CLASS-244-83	.....	c15	N71-23255	US-PATENT-CLASS-250-52	.....	c11	N71-23042
US-PATENT-CLASS-244-83	.....	c31	N71-33160	US-PATENT-CLASS-250-52	.....	c24	N72-11595
US-PATENT-CLASS-244-83	.....	c03	N74-10942	US-PATENT-CLASS-250-52	.....	c23	N73-13662
US-PATENT-CLASS-244-90	.....	c02	N71-27088	US-PATENT-CLASS-250-52	.....	c15	N72-25452
US-PATENT-CLASS-244-90R	.....	c02	N74-30421	US-PATENT-CLASS-250-65P	.....	c14	N73-30389
US-PATENT-CLASS-244-91	.....	c02	N74-30421	US-PATENT-CLASS-250-65R	.....	c14	N70-41676
US-PATENT-CLASS-244-100	.....	c15	N70-34850	US-PATENT-CLASS-250-71	.....	c14	N72-17328
US-PATENT-CLASS-244-100	.....	c31	N70-36654	US-PATENT-CLASS-250-71.5R	.....	c14	N72-29464
US-PATENT-CLASS-244-100	.....	c02	N70-36845	US-PATENT-CLASS-250-71R	.....	c06	N73-16106
US-PATENT-CLASS-244-100	.....	c02	N70-41589	US-PATENT-CLASS-250-83	.....	c14	N69-27484
US-PATENT-CLASS-244-103	.....	c02	N70-36825	US-PATENT-CLASS-250-83	.....	c14	N69-39937
US-PATENT-CLASS-244-113	.....	c02	N70-37939	US-PATENT-CLASS-250-83	.....	c09	N71-18830
US-PATENT-CLASS-244-113	.....	c31	N71-25434	US-PATENT-CLASS-250-83	.....	c05	N71-19440
US-PATENT-CLASS-244-114	.....	c21	N72-22619	US-PATENT-CLASS-250-83	.....	c14	N71-20430
US-PATENT-CLASS-244-117	.....	c31	N70-33242	US-PATENT-CLASS-250-83	.....	c14	N71-23401
US-PATENT-CLASS-244-117	.....	c33	N72-17947	US-PATENT-CLASS-250-83	.....	c09	N71-27232
US-PATENT-CLASS-244-117A	.....	c33	N73-25952	US-PATENT-CLASS-250-83.3	.....	c21	N70-33181
US-PATENT-CLASS-244-122	.....	c05	N71-20718	US-PATENT-CLASS-250-83.3	.....	c21	N70-34297
US-PATENT-CLASS-244-127	.....	c14	N74-23039	US-PATENT-CLASS-250-83.3	.....	c14	N71-15599
US-PATENT-CLASS-244-135	.....	c31	N70-42015	US-PATENT-CLASS-250-83.3	.....	c14	N71-18699
US-PATENT-CLASS-244-135	.....	c15	N73-12486	US-PATENT-CLASS-250-83.3	.....	c14	N71-21088
US-PATENT-CLASS-244-135	.....	c14	N73-27378	US-PATENT-CLASS-250-83.3	.....	c09	N71-22985
US-PATENT-CLASS-244-137P	.....	c31	N73-26876	US-PATENT-CLASS-250-83.3	.....	c14	N71-25901
US-PATENT-CLASS-244-138	.....	c01	N69-39981	US-PATENT-CLASS-250-83.3	.....	c14	N71-26475
US-PATENT-CLASS-244-138	.....	c02	N70-41630	US-PATENT-CLASS-250-83.3	.....	c14	N71-27323
US-PATENT-CLASS-244-138	.....	c31	N71-16085	US-PATENT-CLASS-250-83.3	.....	c14	N72-17328
US-PATENT-CLASS-244-138	.....	c31	N71-25434	US-PATENT-CLASS-250-83.3H	.....	c14	N72-21408
US-PATENT-CLASS-244-138	.....	c31	N71-28851	US-PATENT-CLASS-250-83.3H	.....	c14	N72-24477
US-PATENT-CLASS-244-139	.....	c31	N73-13898	US-PATENT-CLASS-250-83.3H	.....	c14	N73-12445
US-PATENT-CLASS-244-140	.....	c02	N70-38009	US-PATENT-CLASS-250-83.3H	.....	c14	N73-20475
US-PATENT-CLASS-244-145	.....	c02	N74-10034	US-PATENT-CLASS-250-83.3H	.....	c14	N73-25462
US-PATENT-CLASS-244-150	.....	c15	N71-24600				



NUMBER INDEX

US-PATENT-CLASS-250-83.3R	c14 N73-12445	US-PATENT-CLASS-250-226	c14 N72-25409
US-PATENT-CLASS-250-83.3F	c14 N73-20477	US-PATENT-CLASS-250-227	c14 N71-22991
US-PATENT-CLASS-250-83.3S	c14 N73-32317	US-PATENT-CLASS-250-227	c14 N71-23240
US-PATENT-CLASS-250-83.3UV	c10 N72-17173	US-PATENT-CLASS-250-229	c08 N73-30135
US-PATENT-CLASS-250-83.3UV	c14 N72-25409	US-PATENT-CLASS-250-231	c14 N73-20475
US-PATENT-CLASS-250-83.3UV	c06 N73-16106	US-PATENT-CLASS-250-231SB	c23 N74-21304
US-PATENT-CLASS-250-83.6	c10 N70-41991	US-PATENT-CLASS-250-232	c23 N71-21821
US-PATENT-CLASS-250-83.6R	c14 N71-27090	US-PATENT-CLASS-250-233	c23 N71-16100
US-PATENT-CLASS-250-83.6R	c14 N72-20381	US-PATENT-CLASS-250-234	c03 N73-20040
US-PATENT-CLASS-250-83.6R	c25 N72-33696	US-PATENT-CLASS-250-235	c14 N72-11364
US-PATENT-CLASS-250-83JCD	c14 N74-13130	US-PATENT-CLASS-250-236	c21 N73-30640
US-PATENT-CLASS-250-83R	c14 N73-12445	US-PATENT-CLASS-250-237	c14 N69-24331
US-PATENT-CLASS-250-83R	c14 N73-20477	US-PATENT-CLASS-250-237R	c08 N73-30135
US-PATENT-CLASS-250-84	c14 N71-24809	US-PATENT-CLASS-250-237R	c14 N74-15089
US-PATENT-CLASS-250-105	c14 N70-40240	US-PATENT-CLASS-250-239	c08 N73-30135
US-PATENT-CLASS-250-105	c14 N73-30389	US-PATENT-CLASS-250-281	c14 N74-34857
US-PATENT-CLASS-250-199	c16 N69-27491	US-PATENT-CLASS-250-295	c14 N74-34857
US-PATENT-CLASS-250-199	c07 N71-12389	US-PATENT-CLASS-250-304	c14 N74-26947
US-PATENT-CLASS-250-199	c16 N71-22895	US-PATENT-CLASS-250-336	c14 N73-28488
US-PATENT-CLASS-250-199	c16 N71-25914	US-PATENT-CLASS-250-338	c14 N74-18088
US-PATENT-CLASS-250-199	c16 N71-27183	US-PATENT-CLASS-250-343	c14 N74-11284
US-PATENT-CLASS-250-199	c16 N71-28963	US-PATENT-CLASS-250-343	c14 N74-26947
US-PATENT-CLASS-250-199	c16 N73-16536	US-PATENT-CLASS-250-360	c14 N74-15091
US-PATENT-CLASS-250-199	c07 N73-26119	US-PATENT-CLASS-250-361	c14 N74-15091
US-PATENT-CLASS-250-201	c14 N70-40238	US-PATENT-CLASS-250-369	c14 N74-15091
US-PATENT-CLASS-250-20J	c14 N69-27432	US-PATENT-CLASS-250-370	c14 N74-18088
US-PATENT-CLASS-250-20J	c14 N69-27485	US-PATENT-CLASS-250-371	c14 N74-18088
US-PATENT-CLASS-250-20J	c07 N69-39736	US-PATENT-CLASS-250-372	c03 N74-29410
US-PATENT-CLASS-250-20J	c14 N70-34158	US-PATENT-CLASS-250-373	c14 N74-26947
US-PATENT-CLASS-250-20J	c21 N70-35089	US-PATENT-CLASS-250-374	c14 N74-26949
US-PATENT-CLASS-250-20J	c14 N70-40239	US-PATENT-CLASS-250-385	c14 N74-26949
US-PATENT-CLASS-250-20J	c21 N71-10678	US-PATENT-CLASS-250-394	c14 N73-30392
US-PATENT-CLASS-250-20J	c21 N71-10771	US-PATENT-CLASS-250-394	c03 N74-29410
US-PATENT-CLASS-250-20J	c21 N71-15642	US-PATENT-CLASS-250-492	c14 N74-15091
US-PATENT-CLASS-250-20J	c14 N71-19568	US-PATENT-CLASS-250-499	c11 N74-26767
US-PATENT-CLASS-250-20J	c14 N71-23269	US-PATENT-CLASS-250-505	c14 N74-27866
US-PATENT-CLASS-250-20J	c14 N71-23797	US-PATENT-CLASS-250-511	c14 N74-27866
US-PATENT-CLASS-250-20J	c14 N72-22444	US-PATENT-CLASS-250-518	c14 N73-30392
US-PATENT-CLASS-250-20J	c14 N73-30393	US-PATENT-CLASS-250-576	c14 N74-27860
US-PATENT-CLASS-250-20JR	c14 N72-27409	US-PATENT-CLASS-251-11	c15 N70-35407
US-PATENT-CLASS-250-20JR	c14 N73-25462	US-PATENT-CLASS-251-31	c15 N71-19485
US-PATENT-CLASS-250-20JR	c14 N73-28490	US-PATENT-CLASS-251-61	c15 N71-10778
US-PATENT-CLASS-250-20JR	c21 N73-30640	US-PATENT-CLASS-251-61.1	c12 N71-18615
US-PATENT-CLASS-250-20JR	c14 N74-15089	US-PATENT-CLASS-251-86	c15 N72-31483
US-PATENT-CLASS-250-20JR	c14 N74-30886	US-PATENT-CLASS-251-118	c15 N71-18580
US-PATENT-CLASS-250-20JX	c16 N72-13437	US-PATENT-CLASS-251-120	c15 N74-21065
US-PATENT-CLASS-250-204	c16 N74-21091	US-PATENT-CLASS-251-121	c15 N71-18580
US-PATENT-CLASS-250-205	c14 N72-27411	US-PATENT-CLASS-251-122	c15 N73-13462
US-PATENT-CLASS-250-205	c09 N73-14214	US-PATENT-CLASS-251-122	c15 N74-21065
US-PATENT-CLASS-250-205	c16 N74-13205	US-PATENT-CLASS-251-127	c12 N71-18615
US-PATENT-CLASS-250-206	c10 N71-20782	US-PATENT-CLASS-251-129	c15 N72-20442
US-PATENT-CLASS-250-207	c14 N71-21040	US-PATENT-CLASS-251-148	c15 N71-23024
US-PATENT-CLASS-250-207	c14 N72-17328	US-PATENT-CLASS-251-172	c15 N71-21234
US-PATENT-CLASS-250-207	c14 N73-32317	US-PATENT-CLASS-251-173	c15 N70-33376
US-PATENT-CLASS-250-207	c09 N74-27682	US-PATENT-CLASS-251-210	c15 N74-21065
US-PATENT-CLASS-250-208	c14 N72-20379	US-PATENT-CLASS-251-331	c15 N72-31483
US-PATENT-CLASS-250-209	c07 N69-39980	US-PATENT-CLASS-251-333	c15 N70-34859
US-PATENT-CLASS-250-209	c20 N71-16340	US-PATENT-CLASS-251-333	c12 N71-18615
US-PATENT-CLASS-250-209	c10 N72-17173	US-PATENT-CLASS-251-333	c15 N72-20442
US-PATENT-CLASS-250-209	c14 N72-25409	US-PATENT-CLASS-251-342	c12 N71-18615
US-PATENT-CLASS-250-209	c14 N73-16483	US-PATENT-CLASS-251-358	c15 N71-17648
US-PATENT-CLASS-250-209	c14 N73-26432	US-PATENT-CLASS-251-360	c15 N72-25451
US-PATENT-CLASS-250-209	c14 N73-28490	US-PATENT-CLASS-252-8.1	c18 N73-26572
US-PATENT-CLASS-250-209	c21 N73-30640	US-PATENT-CLASS-252-8.1	c18 N74-27037
US-PATENT-CLASS-250-211J	c09 N72-17152	US-PATENT-CLASS-252-12	c15 N71-23810
US-PATENT-CLASS-250-211J	c09 N73-14214	US-PATENT-CLASS-252-26	c15 N71-21403
US-PATENT-CLASS-250-211J	c14 N74-15090	US-PATENT-CLASS-252-26	c15 N71-24046
US-PATENT-CLASS-250-212	c03 N71-23354	US-PATENT-CLASS-252-58	c18 N70-39897
US-PATENT-CLASS-250-212	c03 N73-20040	US-PATENT-CLASS-252-62	c18 N74-27037
US-PATENT-CLASS-250-212	c09 N73-32109	US-PATENT-CLASS-252-62.3	c26 N71-23292
US-PATENT-CLASS-250-214	c14 N73-25462	US-PATENT-CLASS-252-300	c14 N72-22443
US-PATENT-CLASS-250-214	c14 N73-25462	US-PATENT-CLASS-252-301.2	c18 N71-27170
US-PATENT-CLASS-250-214	c14 N74-15090	US-PATENT-CLASS-252-301.4	c06 N73-30097
US-PATENT-CLASS-250-214R	c14 N73-28490	US-PATENT-CLASS-252-305	c06 N73-30097
US-PATENT-CLASS-250-215	c14 N73-16483	US-PATENT-CLASS-252-408	c14 N73-14428
US-PATENT-CLASS-250-217	c14 N69-39896	US-PATENT-CLASS-252-431N	c06 N73-32029
US-PATENT-CLASS-250-217	c14 N73-16483	US-PATENT-CLASS-252-431R	c06 N73-32029
US-PATENT-CLASS-250-217	c16 N74-13205	US-PATENT-CLASS-252-514	c05 N72-25120
US-PATENT-CLASS-250-217F	c14 N73-16484	US-PATENT-CLASS-253-39.1	c33 N71-29152
US-PATENT-CLASS-250-217F	c14 N73-19419	US-PATENT-CLASS-253-39.15	c15 N70-33226
US-PATENT-CLASS-250-217SS	c09 N73-14214	US-PATENT-CLASS-253-39.15	c15 N70-33264
US-PATENT-CLASS-250-217SS	c16 N74-15145	US-PATENT-CLASS-253-66	c28 N70-33372
US-PATENT-CLASS-250-218	c14 N71-22996	US-PATENT-CLASS-253-66	c15 N70-36412
US-PATENT-CLASS-250-218	c14 N71-28994	US-PATENT-CLASS-253-77	c28 N70-39895
US-PATENT-CLASS-250-219	c14 N71-28993	US-PATENT-CLASS-253-77	c28 N71-28928
US-PATENT-CLASS-250-219DF	c14 N74-13130	US-PATENT-CLASS-254-29A	c15 N71-29154
US-PATENT-CLASS-250-219TH	c26 N73-26751	US-PATENT-CLASS-254-93R	c28 N73-30457
US-PATENT-CLASS-250-225	c14 N71-24864	US-PATENT-CLASS-254-150	c14 N74-13129
US-PATENT-CLASS-250-225	c14 N72-27409		c15 N71-24599



NUMBER INDEX

US-PATENT-CLASS-254-156	c15 N73-25512	US-PATENT-CLASS-263-48	c15 N69-27483
US-PATENT-CLASS-254-173	c15 N71-24599	US-PATENT-CLASS-264-DIG.36	c18 N73-14584
US-PATENT-CLASS-254-186	c15 N71-24599	US-PATENT-CLASS-264-DIG.44	c15 N72-16329
US-PATENT-CLASS-254-190	c15 N72-25453	US-PATENT-CLASS-264-3	c28 N71-26779
US-PATENT-CLASS-259-DIG.18	c14 N74-15093	US-PATENT-CLASS-264-22	c15 N72-20446
US-PATENT-CLASS-259-4	c15 N73-19458	US-PATENT-CLASS-264-22	c14 N72-22439
US-PATENT-CLASS-259-60	c14 N74-15093	US-PATENT-CLASS-264-27	c26 N71-17418
US-PATENT-CLASS-259-71	c15 N71-21177	US-PATENT-CLASS-264-28	c15 N73-12489
US-PATENT-CLASS-259-72	c15 N74-18123	US-PATENT-CLASS-264-36	c15 N73-12489
US-PATENT-CLASS-259-98	c15 N74-15126	US-PATENT-CLASS-264-36	c07 N74-27612
US-PATENT-CLASS-260.46.5E	c18 N74-21156	US-PATENT-CLASS-264-40	c15 N73-12489
US-PATENT-CLASS-260-DIG.24	c18 N74-27037	US-PATENT-CLASS-264-65	c18 N73-14584
US-PATENT-CLASS-260-2	c06 N71-11243	US-PATENT-CLASS-264-92	c15 N71-17803
US-PATENT-CLASS-260-2	c06 N71-20717	US-PATENT-CLASS-264-92	c15 N72-24522
US-PATENT-CLASS-260-2	c06 N71-20905	US-PATENT-CLASS-264-102	c15 N71-10672
US-PATENT-CLASS-260-2	c06 N71-27363	US-PATENT-CLASS-264-102	c15 N73-12489
US-PATENT-CLASS-260-2	c06 N73-30102	US-PATENT-CLASS-264-102	c15 N74-14133
US-PATENT-CLASS-260-2.1E	c18 N72-22567	US-PATENT-CLASS-264-102	c15 N74-18124
US-PATENT-CLASS-260-2.5	c06 N71-11242	US-PATENT-CLASS-264-104	c05 N72-25120
US-PATENT-CLASS-260-2.5	c06 N71-24739	US-PATENT-CLASS-264-111	c17 N71-29137
US-PATENT-CLASS-260-2.5	c06 N71-25929	US-PATENT-CLASS-264-135	c15 N74-18126
US-PATENT-CLASS-260-2.5	c18 N71-26155	US-PATENT-CLASS-264-136	c15 N74-18126
US-PATENT-CLASS-260-2.5	c06 N72-25150	US-PATENT-CLASS-264-221	c15 N72-16329
US-PATENT-CLASS-260-2.5AM	c06 N74-12812	US-PATENT-CLASS-264-225	c15 N72-16329
US-PATENT-CLASS-260-2.5F	c18 N73-13562	US-PATENT-CLASS-264-227	c15 N74-18126
US-PATENT-CLASS-260-2.5FP	c06 N72-25147	US-PATENT-CLASS-264-257	c15 N74-13177
US-PATENT-CLASS-260-2.5FP	c18 N74-27037	US-PATENT-CLASS-264-294	c15 N70-33382
US-PATENT-CLASS-260-2.5L	c06 N74-12814	US-PATENT-CLASS-266-19	c17 N72-28535
US-PATENT-CLASS-260-2.5H	c18 N74-27037	US-PATENT-CLASS-266-24	c15 N69-27504
US-PATENT-CLASS-260-2R	c15 N74-18126	US-PATENT-CLASS-267-1	c15 N70-38225
US-PATENT-CLASS-260-2R	c18 N74-27037	US-PATENT-CLASS-267-64	c15 N71-21530
US-PATENT-CLASS-260-18S	c06 N72-25151	US-PATENT-CLASS-267-166	c33 N74-18552
US-PATENT-CLASS-260-29.6S	c18 N74-17283	US-PATENT-CLASS-269-48.1	c14 N74-13131
US-PATENT-CLASS-260-30.2	c06 N73-27980	US-PATENT-CLASS-272-DIG.1	c05 N73-32014
US-PATENT-CLASS-260-30.8DS	c06 N73-27980	US-PATENT-CLASS-272-DIG.4	c05 N73-32014
US-PATENT-CLASS-260-32.6M	c06 N73-27980	US-PATENT-CLASS-272-DIG.5	c05 N71-28619
US-PATENT-CLASS-260-33.4E	c06 N73-27980	US-PATENT-CLASS-272-73	c14 N73-23737
US-PATENT-CLASS-260-33.6R	c06 N73-27980	US-PATENT-CLASS-272-73	c05 N73-27941
US-PATENT-CLASS-260-37	c18 N71-25881	US-PATENT-CLASS-272-73	c15 N74-18127
US-PATENT-CLASS-260-46.5	c06 N71-11237	US-PATENT-CLASS-272-79C	c05 N73-32014
US-PATENT-CLASS-260-46.5	c06 N71-11240	US-PATENT-CLASS-272-80	c15 N74-18127
US-PATENT-CLASS-260-46.5E	c06 N72-25151	US-PATENT-CLASS-273-1E	c05 N73-13114
US-PATENT-CLASS-260-46.5G	c06 N72-25151	US-PATENT-CLASS-274-4R	c09 N72-11224
US-PATENT-CLASS-260-46.5P	c06 N73-26100	US-PATENT-CLASS-277-13	c15 N71-26294
US-PATENT-CLASS-260-46.5R	c06 N71-28620	US-PATENT-CLASS-277-25	c15 N69-21362
US-PATENT-CLASS-260-47	c06 N71-28807	US-PATENT-CLASS-277-25	c15 N71-19570
US-PATENT-CLASS-260-47	c06 N73-27980	US-PATENT-CLASS-277-25	c15 N72-29488
US-PATENT-CLASS-260-47CP	c06 N73-32029	US-PATENT-CLASS-277-25	c15 N74-10474
US-PATENT-CLASS-260-47DP	c06 N73-27980	US-PATENT-CLASS-277-27	c15 N72-29488
US-PATENT-CLASS-260-65	c06 N71-11236	US-PATENT-CLASS-277-27	c15 N74-10474
US-PATENT-CLASS-260-72.5	c06 N71-11239	US-PATENT-CLASS-277-27	c15 N74-15125
US-PATENT-CLASS-260-72.5	c06 N71-24740	US-PATENT-CLASS-277-27	c15 N72-29488
US-PATENT-CLASS-260-72.5	c06 N73-30099	US-PATENT-CLASS-277-74	c15 N74-15125
US-PATENT-CLASS-260-77.5	c06 N73-30100	US-PATENT-CLASS-277-91	c15 N74-10474
US-PATENT-CLASS-260-77.5	c06 N73-30103	US-PATENT-CLASS-277-96	c15 N72-25450
US-PATENT-CLASS-260-77.5AP	c06 N72-27144	US-PATENT-CLASS-285-DIG.21	c33 N73-26958
US-PATENT-CLASS-260-77.5AP	c06 N73-33076	US-PATENT-CLASS-285-DIG.21	c15 N69-27490
US-PATENT-CLASS-260-78	c06 N71-11235	US-PATENT-CLASS-285-3	c15 N72-25450
US-PATENT-CLASS-260-78	c06 N71-11238	US-PATENT-CLASS-285-3	c15 N72-20445
US-PATENT-CLASS-260-78TP	c06 N73-27980	US-PATENT-CLASS-285-18	c15 N71-10782
US-PATENT-CLASS-260-78TP	c18 N74-23125	US-PATENT-CLASS-285-24	c15 N70-41808
US-PATENT-CLASS-260-78UA	c06 N73-27980	US-PATENT-CLASS-285-27	c15 N72-25450
US-PATENT-CLASS-260-85.5	c06 N71-23500	US-PATENT-CLASS-285-33	c15 N71-24903
US-PATENT-CLASS-260-92.1	c06 N72-25150	US-PATENT-CLASS-285-38	c15 N71-24903
US-PATENT-CLASS-260-92.1	c06 N72-25152	US-PATENT-CLASS-285-45	c15 N71-28937
US-PATENT-CLASS-260-93.5A	c06 N73-32029	US-PATENT-CLASS-285-314	c15 N71-24903
US-PATENT-CLASS-260-93.5S	c06 N73-32029	US-PATENT-CLASS-285-316	c15 N72-25450
US-PATENT-CLASS-260-94.2M	c06 N73-32029	US-PATENT-CLASS-285-316	c33 N73-26958
US-PATENT-CLASS-260-94.2R	c06 N73-32029	US-PATENT-CLASS-285-317	c15 N71-24903
US-PATENT-CLASS-260-94.7R	c06 N73-32029	US-PATENT-CLASS-285-331	c15 N70-41629
US-PATENT-CLASS-260-94.8	c27 N73-22710	US-PATENT-CLASS-285-345	c15 N72-20445
US-PATENT-CLASS-260-211.5	c06 N72-25149	US-PATENT-CLASS-285-406	c15 N71-24903
US-PATENT-CLASS-260-348SC	c06 N72-25148	US-PATENT-CLASS-285-410	c05 N72-11085
US-PATENT-CLASS-260-396N	c18 N74-27037	US-PATENT-CLASS-287-54A	c11 N72-25287
US-PATENT-CLASS-260-404.5	c18 N71-15688	US-PATENT-CLASS-287-85R	c15 N73-12488
US-PATENT-CLASS-260-429	c06 N71-28808	US-PATENT-CLASS-287-92	c31 N73-32749
US-PATENT-CLASS-260-448.2	c06 N71-23230	US-PATENT-CLASS-287-119	c15 N70-41829
US-PATENT-CLASS-260-448.2D	c06 N72-25151	US-PATENT-CLASS-287-189.36	c15 N71-10799
US-PATENT-CLASS-260-448.2D	c06 N73-32030	US-PATENT-CLASS-287-189.365	c15 N71-26312
US-PATENT-CLASS-260-448.2N	c15 N74-21058	US-PATENT-CLASS-290-40	c03 N71-11057
US-PATENT-CLASS-260-485P	c06 N73-30098	US-PATENT-CLASS-294-15	c15 N71-29133
US-PATENT-CLASS-260-535H	c06 N72-27144	US-PATENT-CLASS-294-83	c15 N71-24897
US-PATENT-CLASS-260-544P	c06 N72-20121	US-PATENT-CLASS-297-68	c05 N71-12343
US-PATENT-CLASS-260-567.6M	c06 N73-32029	US-PATENT-CLASS-297-68	c05 N72-11085
US-PATENT-CLASS-260-615	c06 N71-27254	US-PATENT-CLASS-297-216	c05 N70-35152
US-PATENT-CLASS-260-615	c06 N73-30101	US-PATENT-CLASS-297-232	c05 N72-11085
US-PATENT-CLASS-260-877	c06 N72-22107	US-PATENT-CLASS-297-385	c05 N71-12341
US-PATENT-CLASS-261-145	c28 N72-22772	US-PATENT-CLASS-297-386	c15 N73-30460

NUMBER INDEX

US-PATENT-CLASS-299-67	c15	N74-23068	US-PATENT-CLASS-307-252L	c09	N74-27682
US-PATENT-CLASS-295-86	c15	N74-23069	US-PATENT-CLASS-307-252N	c09	N72-23171
US-PATENT-CLASS-301-52P	c15	N74-18125	US-PATENT-CLASS-307-252Q	c09	N74-27682
US-PATENT-CLASS-305-35EB	c11	N73-26238	US-PATENT-CLASS-307-252H	c09	N72-23171
US-PATENT-CLASS-305-39	c11	N73-26238	US-PATENT-CLASS-307-253	c10	N71-27126
US-PATENT-CLASS-307-18	c03	N73-31988	US-PATENT-CLASS-307-254	c10	N71-24799
US-PATENT-CLASS-307-18	c09	N74-34638	US-PATENT-CLASS-307-254	c09	N72-22200
US-PATENT-CLASS-307-28	c03	N73-31988	US-PATENT-CLASS-307-257	c09	N72-21247
US-PATENT-CLASS-307-28	c03	N73-31988	US-PATENT-CLASS-307-259	c09	N72-21247
US-PATENT-CLASS-307-35	c09	N74-34638	US-PATENT-CLASS-307-259	c09	N72-23171
US-PATENT-CLASS-307-38	c03	N73-31988	US-PATENT-CLASS-307-259	c10	N73-13235
US-PATENT-CLASS-307-53	c10	N71-26626	US-PATENT-CLASS-307-260	c09	N71-23311
US-PATENT-CLASS-307-61	c09	N72-17157	US-PATENT-CLASS-307-260	c05	N71-23317
US-PATENT-CLASS-307-83	c09	N72-25262	US-PATENT-CLASS-307-261	c09	N71-33109
US-PATENT-CLASS-307-88	c08	N70-34743	US-PATENT-CLASS-307-261	c09	N72-25251
US-PATENT-CLASS-307-88	c09	N70-38604	US-PATENT-CLASS-307-262	c10	N72-16172
US-PATENT-CLASS-307-88	c09	N71-24800	US-PATENT-CLASS-307-262	c09	N72-22197
US-PATENT-CLASS-307-88	c09	N71-26003	US-PATENT-CLASS-307-262	c09	N72-33204
US-PATENT-CLASS-307-88.3	c09	N72-25258	US-PATENT-CLASS-307-263	c09	N71-23270
US-PATENT-CLASS-307-88.5	c09	N70-34819	US-PATENT-CLASS-307-263	c09	N71-28926
US-PATENT-CLASS-307-88.5	c09	N70-40272	US-PATENT-CLASS-307-265	c09	N69-39987
US-PATENT-CLASS-307-88.5	c09	N70-41675	US-PATENT-CLASS-307-265	c10	N71-23029
US-PATENT-CLASS-307-88.5	c10	N70-42032	US-PATENT-CLASS-307-265	c09	N72-28468
US-PATENT-CLASS-307-88.5	c09	N71-10673	US-PATENT-CLASS-307-265	c10	N71-28860
US-PATENT-CLASS-307-88.5	c10	N71-15910	US-PATENT-CLASS-307-265	c08	N71-29138
US-PATENT-CLASS-307-88.5	c10	N71-16042	US-PATENT-CLASS-307-265	c09	N71-29139
US-PATENT-CLASS-307-88.5	c10	N71-28739	US-PATENT-CLASS-307-267	c09	N71-20447
US-PATENT-CLASS-307-88MP	c05	N72-22197	US-PATENT-CLASS-307-267	c10	N74-32711
US-PATENT-CLASS-307-92	c09	N72-27227	US-PATENT-CLASS-307-268	c09	N69-24317
US-PATENT-CLASS-307-103	c09	N72-25262	US-PATENT-CLASS-307-271	c10	N73-32145
US-PATENT-CLASS-307-104	c09	N71-24892	US-PATENT-CLASS-307-273	c10	N71-18723
US-PATENT-CLASS-307-106	c09	N69-21468	US-PATENT-CLASS-307-273	c09	N71-27016
US-PATENT-CLASS-307-118	c09	N72-27227	US-PATENT-CLASS-307-273	c09	N71-28468
US-PATENT-CLASS-307-126	c14	N71-27407	US-PATENT-CLASS-307-273	c10	N71-28860
US-PATENT-CLASS-307-127	c10	N74-19956	US-PATENT-CLASS-307-273	c09	N71-29139
US-PATENT-CLASS-307-136	c09	N69-27500	US-PATENT-CLASS-307-273	c10	N72-20221
US-PATENT-CLASS-307-141.8	c03	N72-25020	US-PATENT-CLASS-307-284	c09	N72-22201
US-PATENT-CLASS-307-149	c09	N71-13486	US-PATENT-CLASS-307-288	c09	N71-23015
US-PATENT-CLASS-307-157	c16	N73-32391	US-PATENT-CLASS-307-288	c09	N71-28468
US-PATENT-CLASS-307-206	c10	N72-22236	US-PATENT-CLASS-307-288	c10	N72-20221
US-PATENT-CLASS-307-207	c08	N71-29034	US-PATENT-CLASS-307-288	c09	N72-22202
US-PATENT-CLASS-307-207	c09	N73-13209	US-PATENT-CLASS-307-289	c10	N71-19547
US-PATENT-CLASS-307-215	c10	N71-28860	US-PATENT-CLASS-307-290	c07	N74-22814
US-PATENT-CLASS-307-215	c09	N71-29139	US-PATENT-CLASS-307-294	c09	N71-29139
US-PATENT-CLASS-307-215	c10	N72-22236	US-PATENT-CLASS-307-295	c10	N72-17171
US-PATENT-CLASS-307-215	c09	N73-13209	US-PATENT-CLASS-307-295	c10	N72-20223
US-PATENT-CLASS-307-215	c07	N74-22814	US-PATENT-CLASS-307-295	c09	N72-21245
US-PATENT-CLASS-307-216	c08	N71-18751	US-PATENT-CLASS-307-295	c09	N72-33204
US-PATENT-CLASS-307-220	c10	N73-26229	US-PATENT-CLASS-307-295	c09	N74-34638
US-PATENT-CLASS-307-221B	c10	N73-20254	US-PATENT-CLASS-307-296	c08	N71-12494
US-PATENT-CLASS-307-222	c09	N69-27463	US-PATENT-CLASS-307-296	c07	N71-28430
US-PATENT-CLASS-307-222	c08	N71-29034	US-PATENT-CLASS-307-299	c08	N72-21198
US-PATENT-CLASS-307-223	c09	N72-17157	US-PATENT-CLASS-307-299	c26	N72-21701
US-PATENT-CLASS-307-223B	c09	N72-22201	US-PATENT-CLASS-307-300	c10	N71-27126
US-PATENT-CLASS-307-225R	c10	N74-10223	US-PATENT-CLASS-307-303	c08	N72-21198
US-PATENT-CLASS-307-227	c09	N72-17157	US-PATENT-CLASS-307-304	c09	N72-22201
US-PATENT-CLASS-307-229	c09	N71-12520	US-PATENT-CLASS-307-304	c09	N73-20232
US-PATENT-CLASS-307-229	c09	N72-23173	US-PATENT-CLASS-307-304	c09	N74-34638
US-PATENT-CLASS-307-230	c10	N72-16172	US-PATENT-CLASS-307-305	c09	N72-23171
US-PATENT-CLASS-307-230	c09	N72-21245	US-PATENT-CLASS-307-308	c14	N73-28488
US-PATENT-CLASS-307-230	c09	N73-20232	US-PATENT-CLASS-307-310	c09	N73-14214
US-PATENT-CLASS-307-230	c10	N74-32712	US-PATENT-CLASS-307-311	c14	N72-18411
US-PATENT-CLASS-307-231	c09	N72-22202	US-PATENT-CLASS-307-311	c08	N72-21198
US-PATENT-CLASS-307-233	c09	N72-25257	US-PATENT-CLASS-307-311	c09	N73-14214
US-PATENT-CLASS-307-233	c10	N73-26229	US-PATENT-CLASS-307-313	c10	N72-20221
US-PATENT-CLASS-307-234	c10	N71-23315	US-PATENT-CLASS-307-317	c09	N72-22200
US-PATENT-CLASS-307-234	c09	N71-27016	US-PATENT-CLASS-307-317	c09	N72-22201
US-PATENT-CLASS-307-234	c08	N71-29138	US-PATENT-CLASS-307-322	c10	N72-22236
US-PATENT-CLASS-307-235	c10	N71-19471	US-PATENT-CLASS-307-323	c10	N72-22236
US-PATENT-CLASS-307-235	c09	N71-23545	US-PATENT-CLASS-308-DIG.1	c15	N72-17451
US-PATENT-CLASS-307-235	c10	N71-24862	US-PATENT-CLASS-308-1	c31	N71-26537
US-PATENT-CLASS-307-237	c09	N72-22200	US-PATENT-CLASS-308-2	c15	N71-23812
US-PATENT-CLASS-307-237	c07	N74-19788	US-PATENT-CLASS-308-2A	c15	N72-26371
US-PATENT-CLASS-307-241	c09	N72-22201	US-PATENT-CLASS-308-2A	c15	N73-12488
US-PATENT-CLASS-307-242	c10	N73-13235	US-PATENT-CLASS-308-5	c15	N71-10617
US-PATENT-CLASS-307-243	c09	N71-12516	US-PATENT-CLASS-308-5	c15	N72-11388
US-PATENT-CLASS-307-243	c08	N72-22162	US-PATENT-CLASS-308-5	c15	N72-17451
US-PATENT-CLASS-307-243	c07	N74-22814	US-PATENT-CLASS-308-9	c15	N70-34664
US-PATENT-CLASS-307-246	c09	N71-27016	US-PATENT-CLASS-308-9	c15	N70-38620
US-PATENT-CLASS-307-247	c09	N71-29139	US-PATENT-CLASS-308-9	c15	N70-39896
US-PATENT-CLASS-307-247	c09	N72-22202	US-PATENT-CLASS-308-9	c15	N71-20739
US-PATENT-CLASS-307-251	c09	N71-33109	US-PATENT-CLASS-308-9	c14	N71-26627
US-PATENT-CLASS-307-251	c08	N72-22162	US-PATENT-CLASS-308-9	c15	N72-17451
US-PATENT-CLASS-307-252	c10	N69-39888	US-PATENT-CLASS-308-9	c15	N73-32359
US-PATENT-CLASS-307-252	c09	N71-12514	US-PATENT-CLASS-308-10	c15	N71-22997
US-PATENT-CLASS-307-252P	c09	N72-17153	US-PATENT-CLASS-308-10	c15	N72-33476
US-PATENT-CLASS-307-252J	c09	N72-17153	US-PATENT-CLASS-308-10	c23	N74-18323
US-PATENT-CLASS-307-252J	c09	N72-22201	US-PATENT-CLASS-308-35	c15	N73-32359
US-PATENT-CLASS-307-252K	c09	N72-22201	US-PATENT-CLASS-308-73	c15	N74-21061

NUMBER INDEX

US-PATENT-CLASS-308-121	.....	c15 N74-32921	US-PATENT-CLASS-313-231	.....	c09 N71-33519
US-PATENT-CLASS-308-170	.....	c15 N71-28465	US-PATENT-CLASS-313-231	.....	c25 N72-24753
US-PATENT-CLASS-308-176	.....	c15 N71-22982	US-PATENT-CLASS-313-231	.....	c25 N72-32688
US-PATENT-CLASS-308-177	.....	c15 N71-29136	US-PATENT-CLASS-313-231	.....	c28 N73-24783
US-PATENT-CLASS-308-187	.....	c15 N71-26189	US-PATENT-CLASS-313-231	.....	c25 N73-25760
US-PATENT-CLASS-308-188	.....	c15 N73-30458	US-PATENT-CLASS-313-236	.....	c09 N71-26182
US-PATENT-CLASS-308-188	.....	c15 N74-21064	US-PATENT-CLASS-313-237	.....	c09 N71-26182
US-PATENT-CLASS-308-191	.....	c15 N74-21064	US-PATENT-CLASS-313-271	.....	c25 N71-20747
US-PATENT-CLASS-308-193	.....	c15 N73-30458	US-PATENT-CLASS-313-309	.....	c10 N72-27246
US-PATENT-CLASS-308-195	.....	c15 N72-22490	US-PATENT-CLASS-313-336	.....	c10 N72-27246
US-PATENT-CLASS-310-2	.....	c03 N72-23048	US-PATENT-CLASS-313-351	.....	c10 N72-27246
US-PATENT-CLASS-310-2	.....	c09 N69-21313	US-PATENT-CLASS-313-352	.....	c09 N71-22987
US-PATENT-CLASS-310-4	.....	c03 N69-39898	US-PATENT-CLASS-313-355	.....	c28 N73-27699
US-PATENT-CLASS-310-4	.....	c09 N69-39929	US-PATENT-CLASS-313-356	.....	c14 N72-29464
US-PATENT-CLASS-310-4	.....	c03 N70-34134	US-PATENT-CLASS-314-129	.....	c15 N69-24266
US-PATENT-CLASS-310-4	.....	c03 N71-11055	US-PATENT-CLASS-315-DIG.2	.....	c16 N73-32391
US-PATENT-CLASS-310-4	.....	c22 N71-23599	US-PATENT-CLASS-315-3.5	.....	c09 N73-13208
US-PATENT-CLASS-310-4	.....	c09 N71-24807	US-PATENT-CLASS-315-5.35	.....	c09 N74-10195
US-PATENT-CLASS-310-4	.....	c33 N71-27862	US-PATENT-CLASS-315-5.38	.....	c09 N73-13208
US-PATENT-CLASS-310-4	.....	c09 N71-28421	US-PATENT-CLASS-315-5.38	.....	c09 N74-10195
US-PATENT-CLASS-310-4	.....	c09 N72-25260	US-PATENT-CLASS-315-10	.....	c09 N74-21850
US-PATENT-CLASS-310-4	.....	c09 N72-27228	US-PATENT-CLASS-315-11	.....	c09 N74-21850
US-PATENT-CLASS-310-4	.....	c09 N74-27683	US-PATENT-CLASS-315-12	.....	c09 N74-21850
US-PATENT-CLASS-310-4R	.....	c03 N70-35408	US-PATENT-CLASS-315-18	.....	c07 N74-20813
US-PATENT-CLASS-310-5	.....	c14 N71-22993	US-PATENT-CLASS-315-22	.....	c10 N72-20225
US-PATENT-CLASS-310-8.5	.....	c15 N71-21311	US-PATENT-CLASS-315-22	.....	c07 N74-20813
US-PATENT-CLASS-310-9.1	.....	c03 N69-39890	US-PATENT-CLASS-315-22R	.....	c10 N72-31273
US-PATENT-CLASS-310-10	.....	c09 N71-23443	US-PATENT-CLASS-315-24	.....	c08 N71-20571
US-PATENT-CLASS-310-10	.....	c09 N71-24904	US-PATENT-CLASS-315-25	.....	c10 N72-20225
US-PATENT-CLASS-310-10	.....	c09 N72-25255	US-PATENT-CLASS-315-26	.....	c09 N71-23189
US-PATENT-CLASS-310-11	.....	c25 N69-21929	US-PATENT-CLASS-315-30R	.....	c10 N72-31273
US-PATENT-CLASS-310-11	.....	c03 N69-39983	US-PATENT-CLASS-315-36	.....	c10 N72-27246
US-PATENT-CLASS-310-11	.....	c03 N70-36803	US-PATENT-CLASS-315-101	.....	c16 N73-32391
US-PATENT-CLASS-310-11	.....	c14 N72-22439	US-PATENT-CLASS-315-108	.....	c09 N71-33519
US-PATENT-CLASS-310-11	.....	c12 N72-25292	US-PATENT-CLASS-315-111	.....	c25 N70-33267
US-PATENT-CLASS-310-11	.....	c14 N74-21018	US-PATENT-CLASS-315-111	.....	c25 N70-41628
US-PATENT-CLASS-310-15	.....	c09 N72-25255	US-PATENT-CLASS-315-111	.....	c25 N71-15562
US-PATENT-CLASS-310-42	.....	c14 N72-22439	US-PATENT-CLASS-315-111	.....	c24 N71-16213
US-PATENT-CLASS-310-51	.....	c15 N71-27169	US-PATENT-CLASS-315-111	.....	c25 N71-21693
US-PATENT-CLASS-310-54	.....	c09 N71-20446	US-PATENT-CLASS-315-111	.....	c28 N71-26781
US-PATENT-CLASS-310-68	.....	c15 N72-25456	US-PATENT-CLASS-315-111	.....	c25 N71-29181
US-PATENT-CLASS-310-80	.....	c15 N72-25456	US-PATENT-CLASS-315-111	.....	c25 N71-29184
US-PATENT-CLASS-310-83	.....	c15 N72-25456	US-PATENT-CLASS-315-111	.....	c09 N71-33519
US-PATENT-CLASS-310-93	.....	c15 N71-17652	US-PATENT-CLASS-315-111	.....	c25 N72-24753
US-PATENT-CLASS-310-101	.....	c15 N71-24696	US-PATENT-CLASS-315-111	.....	c25 N72-32688
US-PATENT-CLASS-310-168	.....	c09 N71-25999	US-PATENT-CLASS-315-111	.....	c14 N73-30391
US-PATENT-CLASS-310-254	.....	c09 N71-25999	US-PATENT-CLASS-315-135	.....	c09 N72-25250
US-PATENT-CLASS-312-1	.....	c05 N71-23080	US-PATENT-CLASS-315-151	.....	c14 N72-27411
US-PATENT-CLASS-312-1	.....	c05 N73-20137	US-PATENT-CLASS-315-153	.....	c14 N73-16483
US-PATENT-CLASS-312-1	.....	c15 N74-20063	US-PATENT-CLASS-315-156	.....	c14 N72-27411
US-PATENT-CLASS-312-209	.....	c15 N74-18123	US-PATENT-CLASS-315-158	.....	c14 N72-27411
US-PATENT-CLASS-312-257	.....	c31 N72-22874	US-PATENT-CLASS-315-160	.....	c09 N71-12540
US-PATENT-CLASS-312-296	.....	c09 N71-18600	US-PATENT-CLASS-315-169R	.....	c23 N73-13660
US-PATENT-CLASS-313-DIG.8	.....	c28 N73-24783	US-PATENT-CLASS-315-169TV	.....	c23 N73-13660
US-PATENT-CLASS-313-7	.....	c14 N71-18482	US-PATENT-CLASS-315-211	.....	c09 N74-20859
US-PATENT-CLASS-313-11.5	.....	c14 N73-32324	US-PATENT-CLASS-315-228	.....	c09 N74-20859
US-PATENT-CLASS-313-22	.....	c28 N70-39925	US-PATENT-CLASS-315-241	.....	c09 N71-13516
US-PATENT-CLASS-313-32	.....	c09 N71-26787	US-PATENT-CLASS-315-248	.....	c09 N73-30181
US-PATENT-CLASS-313-32	.....	c09 N74-12913	US-PATENT-CLASS-315-258	.....	c16 N73-32391
US-PATENT-CLASS-313-44	.....	c15 N69-24319	US-PATENT-CLASS-315-297	.....	c14 N72-27411
US-PATENT-CLASS-313-61S	.....	c11 N74-26767	US-PATENT-CLASS-315-307	.....	c14 N72-27411
US-PATENT-CLASS-313-63	.....	c28 N70-41576	US-PATENT-CLASS-315-310	.....	c14 N72-27411
US-PATENT-CLASS-313-63	.....	c09 N71-10618	US-PATENT-CLASS-315-311	.....	c14 N72-27411
US-PATENT-CLASS-313-63	.....	c28 N71-26781	US-PATENT-CLASS-315-311	.....	c09 N73-30181
US-PATENT-CLASS-313-63	.....	c28 N73-24783	US-PATENT-CLASS-315-324	.....	c25 N72-24753
US-PATENT-CLASS-313-63	.....	c28 N73-27699	US-PATENT-CLASS-315-326	.....	c09 N72-25250
US-PATENT-CLASS-313-63	.....	c14 N74-26949	US-PATENT-CLASS-315-349	.....	c16 N73-32391
US-PATENT-CLASS-313-93	.....	c14 N73-32317	US-PATENT-CLASS-315-356	.....	c25 N72-24753
US-PATENT-CLASS-313-104	.....	c09 N71-33519	US-PATENT-CLASS-315-358	.....	c10 N71-26334
US-PATENT-CLASS-313-109.5	.....	c09 N71-12521	US-PATENT-CLASS-317-DIG.3	.....	c10 N73-26228
US-PATENT-CLASS-313-110	.....	c09 N74-12913	US-PATENT-CLASS-317-DIG.6	.....	c09 N71-22796
US-PATENT-CLASS-313-153	.....	c25 N71-29181	US-PATENT-CLASS-317-9	.....	c09 N71-27001
US-PATENT-CLASS-313-155	.....	c25 N70-34661	US-PATENT-CLASS-317-16	.....	c09 N69-39897
US-PATENT-CLASS-313-156	.....	c25 N71-29181	US-PATENT-CLASS-317-16	.....	c09 N74-17929
US-PATENT-CLASS-313-161	.....	c25 N73-25760	US-PATENT-CLASS-317-20	.....	c10 N71-26531
US-PATENT-CLASS-313-161	.....	c09 N73-30181	US-PATENT-CLASS-317-31	.....	c09 N71-12526
US-PATENT-CLASS-313-161	.....	c25 N72-24753	US-PATENT-CLASS-317-31	.....	c10 N71-23543
US-PATENT-CLASS-313-186	.....	c09 N74-12913	US-PATENT-CLASS-317-31	.....	c09 N74-17929
US-PATENT-CLASS-313-209	.....	c25 N72-24753	US-PATENT-CLASS-317-33	.....	c10 N71-26531
US-PATENT-CLASS-313-212	.....	c28 N73-27699	US-PATENT-CLASS-317-33	.....	c09 N71-27001
US-PATENT-CLASS-313-217	.....	c09 N74-12913	US-PATENT-CLASS-317-33	.....	c10 N71-27366
US-PATENT-CLASS-313-217	.....	c28 N73-27699	US-PATENT-CLASS-317-33	.....	c09 N71-29008
US-PATENT-CLASS-313-218	.....	c25 N72-24753	US-PATENT-CLASS-317-33SC	.....	c10 N74-14956
US-PATENT-CLASS-313-224	.....	c09 N74-12913	US-PATENT-CLASS-317-43	.....	c10 N74-14956
US-PATENT-CLASS-313-224	.....	c28 N71-28850	US-PATENT-CLASS-317-46	.....	c10 N74-14956
US-PATENT-CLASS-313-230	.....	c28 N73-27699	US-PATENT-CLASS-317-47	.....	c10 N74-14956
US-PATENT-CLASS-313-231	.....	c06 N69-39889	US-PATENT-CLASS-317-48	.....	c10 N74-14956
US-PATENT-CLASS-313-231	.....	c09 N71-23190	US-PATENT-CLASS-317-54	.....	c09 N71-29008
US-PATENT-CLASS-313-231	.....	c25 N71-29181	US-PATENT-CLASS-317-60	.....	c09 N71-29008

NUMBER INDEX

US-PATENT-CLASS-317-100	c10	N71-28783	US-PATENT-CLASS-318-327	c11	N72-20244
US-PATENT-CLASS-317-100	c10	N73-25243	US-PATENT-CLASS-318-328	c09	N73-32107
US-PATENT-CLASS-317-101	c09	N71-26133	US-PATENT-CLASS-318-331	c09	N71-28886
US-PATENT-CLASS-317-101A	c09	N72-33205	US-PATENT-CLASS-318-341	c10	N73-32145
US-PATENT-CLASS-317-101A	c23	N73-13660	US-PATENT-CLASS-318-345	c09	N71-28886
US-PATENT-CLASS-317-101DH	c15	N72-22486	US-PATENT-CLASS-318-376	c10	N71-16030
US-PATENT-CLASS-317-101DH	c10	N73-25243	US-PATENT-CLASS-318-376	c11	N72-20244
US-PATENT-CLASS-317-117	c15	N72-22486	US-PATENT-CLASS-318-382	c15	N71-24695
US-PATENT-CLASS-317-120	c15	N72-22486	US-PATENT-CLASS-318-489	c02	N73-19004
US-PATENT-CLASS-317-122	c15	N71-16701	US-PATENT-CLASS-318-504	c09	N71-28886
US-PATENT-CLASS-317-123	c09	N71-24892	US-PATENT-CLASS-318-571	c10	N71-27136
US-PATENT-CLASS-317-140	c09	N70-34502	US-PATENT-CLASS-318-576	c09	N72-21246
US-PATENT-CLASS-317-148.5	c10	N71-23271	US-PATENT-CLASS-318-580	c03	N74-10942
US-PATENT-CLASS-317-148.5	c09	N71-24892	US-PATENT-CLASS-318-599	c10	N71-24861
US-PATENT-CLASS-317-153	c10	N71-26334	US-PATENT-CLASS-318-602	c09	N74-29556
US-PATENT-CLASS-317-155.5	c09	N71-29008	US-PATENT-CLASS-318-603	c09	N74-29556
US-PATENT-CLASS-317-157.5	c15	N69-21472	US-PATENT-CLASS-318-628	c03	N74-10942
US-PATENT-CLASS-317-158	c15	N73-28516	US-PATENT-CLASS-318-653	c10	N71-27136
US-PATENT-CLASS-317-158	c26	N73-28710	US-PATENT-CLASS-318-664	c09	N74-29556
US-PATENT-CLASS-317-158	c15	N73-32361	US-PATENT-CLASS-320-13	c03	N71-29129
US-PATENT-CLASS-317-230	c09	N71-27232	US-PATENT-CLASS-320-17	c03	N71-24605
US-PATENT-CLASS-317-230	c26	N72-28761	US-PATENT-CLASS-320-23	c03	N71-19438
US-PATENT-CLASS-317-231	c09	N71-27232	US-PATENT-CLASS-320-39	c03	N71-24719
US-PATENT-CLASS-317-234	c14	N69-23191	US-PATENT-CLASS-320-48	c03	N72-25020
US-PATENT-CLASS-317-234	c09	N69-27422	US-PATENT-CLASS-321-1.5	c09	N73-32109
US-PATENT-CLASS-317-234	c26	N71-18064	US-PATENT-CLASS-321-2	c03	N69-21330
US-PATENT-CLASS-317-234A	c15	N73-14469	US-PATENT-CLASS-321-2	c03	N69-25146
US-PATENT-CLASS-317-234D	c14	N72-31446	US-PATENT-CLASS-321-2	c03	N71-12255
US-PATENT-CLASS-317-234E	c10	N74-12951	US-PATENT-CLASS-321-2	c09	N71-23188
US-PATENT-CLASS-317-234F	c10	N74-12951	US-PATENT-CLASS-321-2	c03	N71-23239
US-PATENT-CLASS-317-234G	c14	N72-31446	US-PATENT-CLASS-321-2	c10	N71-26085
US-PATENT-CLASS-317-234G	c15	N73-14469	US-PATENT-CLASS-321-2	c09	N72-22196
US-PATENT-CLASS-317-234G	c09	N73-27150	US-PATENT-CLASS-321-2	c09	N72-22203
US-PATENT-CLASS-317-234J	c26	N72-25679	US-PATENT-CLASS-321-2	c03	N72-23048
US-PATENT-CLASS-317-234L	c09	N73-27150	US-PATENT-CLASS-321-2	c09	N72-25249
US-PATENT-CLASS-317-234M	c09	N73-27150	US-PATENT-CLASS-321-2	c09	N72-25251
US-PATENT-CLASS-317-234M	c10	N74-12951	US-PATENT-CLASS-321-2	c09	N72-25252
US-PATENT-CLASS-317-234N	c09	N73-27150	US-PATENT-CLASS-321-2	c09	N72-25253
US-PATENT-CLASS-317-234N	c10	N74-12951	US-PATENT-CLASS-321-2	c09	N72-25254
US-PATENT-CLASS-317-234R	c09	N73-27150	US-PATENT-CLASS-321-2	c09	N74-11049
US-PATENT-CLASS-317-234R	c10	N74-12951	US-PATENT-CLASS-321-5	c08	N71-18752
US-PATENT-CLASS-317-234V	c26	N72-21701	US-PATENT-CLASS-321-6R	c14	N74-18090
US-PATENT-CLASS-317-234V	c09	N73-15235	US-PATENT-CLASS-321-9	c10	N71-25139
US-PATENT-CLASS-317-235	c09	N69-24318	US-PATENT-CLASS-321-10	c09	N72-17154
US-PATENT-CLASS-317-235	c09	N72-33205	US-PATENT-CLASS-321-11	c09	N69-39984
US-PATENT-CLASS-317-235A	c26	N72-25679	US-PATENT-CLASS-321-11	c09	N72-25252
US-PATENT-CLASS-317-235A	c09	N72-33205	US-PATENT-CLASS-321-11	c10	N73-26228
US-PATENT-CLASS-317-235AG	c09	N73-15235	US-PATENT-CLASS-321-12	c10	N71-27366
US-PATENT-CLASS-317-235AJ	c26	N72-25679	US-PATENT-CLASS-321-14	c09	N72-22196
US-PATENT-CLASS-317-235AJ	c09	N72-33205	US-PATENT-CLASS-321-15	c09	N72-22203
US-PATENT-CLASS-317-235AN	c09	N73-19235	US-PATENT-CLASS-321-18	c09	N72-22203
US-PATENT-CLASS-317-235K	c09	N73-15235	US-PATENT-CLASS-321-18	c09	N72-25251
US-PATENT-CLASS-317-235M	c14	N72-31446	US-PATENT-CLASS-321-18	c09	N72-25252
US-PATENT-CLASS-317-235N	c09	N73-19235	US-PATENT-CLASS-321-18	c09	N74-11049
US-PATENT-CLASS-317-235N	c14	N74-15090	US-PATENT-CLASS-321-19	c09	N72-22196
US-PATENT-CLASS-317-235R	c26	N72-21701	US-PATENT-CLASS-321-19	c09	N72-25252
US-PATENT-CLASS-317-235R	c26	N72-25679	US-PATENT-CLASS-321-25	c09	N72-22196
US-PATENT-CLASS-317-235R	c14	N72-31446	US-PATENT-CLASS-321-45	c09	N71-24800
US-PATENT-CLASS-317-235R	c09	N73-19235	US-PATENT-CLASS-321-45	c09	N72-22203
US-PATENT-CLASS-317-235R	c09	N73-32112	US-PATENT-CLASS-321-45C	c10	N73-26228
US-PATENT-CLASS-317-235T	c09	N73-19235	US-PATENT-CLASS-321-45ER	c09	N72-25252
US-PATENT-CLASS-317-235UA	c09	N73-19235	US-PATENT-CLASS-321-45R	c09	N72-25252
US-PATENT-CLASS-317-235WM	c09	N73-32112	US-PATENT-CLASS-321-45R	c09	N72-25254
US-PATENT-CLASS-317-238	c09	N71-27232	US-PATENT-CLASS-321-45R	c09	N74-22864
US-PATENT-CLASS-317-246	c14	N69-21541	US-PATENT-CLASS-321-45S	c09	N74-11049
US-PATENT-CLASS-317-247	c14	N72-24477	US-PATENT-CLASS-321-47	c09	N71-33109
US-PATENT-CLASS-317-258	c09	N71-13522	US-PATENT-CLASS-321-47	c09	N72-25253
US-PATENT-CLASS-317-261	c26	N72-28761	US-PATENT-CLASS-321-48	c12	N71-20896
US-PATENT-CLASS-318-20.105	c08	N71-27057	US-PATENT-CLASS-321-60	c14	N71-23174
US-PATENT-CLASS-318-22	c15	N71-17694	US-PATENT-CLASS-321-61	c09	N71-27364
US-PATENT-CLASS-318-31	c15	N71-28952	US-PATENT-CLASS-321-64	c09	N71-27364
US-PATENT-CLASS-318-138	c09	N71-10677	US-PATENT-CLASS-321-69	c10	N71-26414
US-PATENT-CLASS-318-138	c14	N71-17585	US-PATENT-CLASS-322-2	c03	N72-23048
US-PATENT-CLASS-318-138	c10	N71-18772	US-PATENT-CLASS-322-32	c09	N71-27364
US-PATENT-CLASS-318-138	c09	N71-25999	US-PATENT-CLASS-323-DIG.1	c09	N72-21243
US-PATENT-CLASS-318-227	c07	N71-33613	US-PATENT-CLASS-323-DIG.1	c09	N72-25249
US-PATENT-CLASS-318-230	c07	N71-33613	US-PATENT-CLASS-323-DIG.1	c09	N74-11049
US-PATENT-CLASS-318-230	c10	N73-32145	US-PATENT-CLASS-323-8	c10	N71-10578
US-PATENT-CLASS-318-231	c10	N73-32145	US-PATENT-CLASS-323-17	c09	N72-25249
US-PATENT-CLASS-318-254	c09	N71-25999	US-PATENT-CLASS-323-19	c08	N72-31226
US-PATENT-CLASS-318-254	c09	N73-32107	US-PATENT-CLASS-323-20	c14	N71-27407
US-PATENT-CLASS-318-257	c10	N71-18724	US-PATENT-CLASS-323-22	c09	N71-21449
US-PATENT-CLASS-318-258	c09	N71-26092	US-PATENT-CLASS-323-22	c09	N71-23316
US-PATENT-CLASS-318-260	c09	N70-38712	US-PATENT-CLASS-323-22T	c09	N72-21243
US-PATENT-CLASS-318-265	c15	N71-24895	US-PATENT-CLASS-323-22T	c09	N72-25249
US-PATENT-CLASS-318-308	c11	N72-20244	US-PATENT-CLASS-323-38	c09	N72-21243
US-PATENT-CLASS-318-314	c10	N71-20448	US-PATENT-CLASS-323-48	c09	N71-27053
US-PATENT-CLASS-318-317	c09	N71-28886	US-PATENT-CLASS-323-48	c09	N72-25262
US-PATENT-CLASS-318-318	c09	N71-24805	US-PATENT-CLASS-323-56	c10	N71-22961

NUMBER INDEX

US-PATENT-CLASS-323-56	c09 N71-24893	US-PATENT-CLASS-324-102	c09 N74-17930
US-PATENT-CLASS-323-56	c09 N72-22196	US-PATENT-CLASS-324-103	c10 N71-27338
US-PATENT-CLASS-323-60	c09 N71-27053	US-PATENT-CLASS-324-106	c14 N70-38602
US-PATENT-CLASS-323-82	c09 N72-25262	US-PATENT-CLASS-324-106	c08 N71-29138
US-PATENT-CLASS-323-89C	c09 N72-22196	US-PATENT-CLASS-324-107	c10 N71-27338
US-PATENT-CLASS-323-106	c10 N74-22885	US-PATENT-CLASS-324-113	c09 N70-41655
US-PATENT-CLASS-323-122	c10 N74-22885	US-PATENT-CLASS-324-115	c14 N71-26244
US-PATENT-CLASS-323-128	c10 N74-22885	US-PATENT-CLASS-324-115	c10 N72-20222
US-PATENT-CLASS-324-.5	c14 N71-20428	US-PATENT-CLASS-324-117	c14 N71-23037
US-PATENT-CLASS-324-.5R	c16 N73-13489	US-PATENT-CLASS-324-118	c09 N74-17930
US-PATENT-CLASS-324-0.5	c14 N71-26137	US-PATENT-CLASS-324-119	c09 N72-11225
US-PATENT-CLASS-324-0.5	c14 N71-26266	US-PATENT-CLASS-324-120	c14 N71-19431
US-PATENT-CLASS-324-5	c14 N71-28991	US-PATENT-CLASS-324-120	c09 N71-23021
US-PATENT-CLASS-324-20R	c09 N72-23172	US-PATENT-CLASS-324-123R	c09 N72-11225
US-PATENT-CLASS-324-29.5	c03 N72-25020	US-PATENT-CLASS-324-132	c09 N71-13530
US-PATENT-CLASS-324-29.5	c14 N73-30388	US-PATENT-CLASS-324-132	c10 N72-20222
US-PATENT-CLASS-324-29.5	c03 N74-27519	US-PATENT-CLASS-324-133	c10 N71-27338
US-PATENT-CLASS-324-30R	c14 N73-20478	US-PATENT-CLASS-324-158	c09 N69-21926
US-PATENT-CLASS-324-32	c14 N71-16014	US-PATENT-CLASS-324-158D	c15 N72-25457
US-PATENT-CLASS-324-33	c25 N69-39884	US-PATENT-CLASS-324-158T	c09 N71-24717
US-PATENT-CLASS-324-33	c14 N70-35666	US-PATENT-CLASS-324-181	c09 N72-25257
US-PATENT-CLASS-324-33	c24 N71-20518	US-PATENT-CLASS-324-186	c05 N74-12778
US-PATENT-CLASS-324-33	c14 N71-21090	US-PATENT-CLASS-324-186	c07 N71-16088
US-PATENT-CLASS-324-33	c14 N71-27090	US-PATENT-CLASS-325-4	c07 N71-19773
US-PATENT-CLASS-324-34	c25 N71-16073	US-PATENT-CLASS-325-4	c07 N71-24621
US-PATENT-CLASS-324-34FL	c14 N74-21018	US-PATENT-CLASS-325-4	c07 N72-11149
US-PATENT-CLASS-324-40	c23 N74-15395	US-PATENT-CLASS-325-4	c07 N72-12080
US-PATENT-CLASS-324-41	c10 N72-28240	US-PATENT-CLASS-325-4	c07 N72-20140
US-PATENT-CLASS-324-43	c14 N69-27423	US-PATENT-CLASS-325-4	c07 N72-25171
US-PATENT-CLASS-324-43	c09 N70-40123	US-PATENT-CLASS-325-4	c07 N73-20174
US-PATENT-CLASS-324-43	c14 N71-15962	US-PATENT-CLASS-325-5	c07 N73-20174
US-PATENT-CLASS-324-43	c14 N71-26135	US-PATENT-CLASS-325-7	c07 N73-20174
US-PATENT-CLASS-324-43	c14 N71-27325	US-PATENT-CLASS-325-8	c07 N73-20174
US-PATENT-CLASS-324-43	c14 N72-17325	US-PATENT-CLASS-325-9	c07 N72-12081
US-PATENT-CLASS-324-52	c14 N73-28486	US-PATENT-CLASS-325-10	c07 N73-20174
US-PATENT-CLASS-324-52	c10 N71-16057	US-PATENT-CLASS-325-12	c07 N72-12081
US-PATENT-CLASS-324-52	c09 N71-20569	US-PATENT-CLASS-325-13	c07 N71-27056
US-PATENT-CLASS-324-57	c15 N72-21464	US-PATENT-CLASS-325-16	c07 N73-20174
US-PATENT-CLASS-324-57R	c14 N73-30388	US-PATENT-CLASS-325-17	c07 N71-27056
US-PATENT-CLASS-324-57R	c14 N74-18090	US-PATENT-CLASS-325-23	c09 N72-22202
US-PATENT-CLASS-324-57R	c15 N71-17822	US-PATENT-CLASS-325-29	c07 N74-26654
US-PATENT-CLASS-324-58.5	c25 N71-20563	US-PATENT-CLASS-325-30	c07 N71-20791
US-PATENT-CLASS-324-58.5	c14 N71-26137	US-PATENT-CLASS-325-31	c07 N72-20140
US-PATENT-CLASS-324-58.5	c18 N71-27397	US-PATENT-CLASS-325-38	c07 N72-25173
US-PATENT-CLASS-324-61	c14 N69-39785	US-PATENT-CLASS-325-38B	c07 N74-17885
US-PATENT-CLASS-324-61	c14 N70-36618	US-PATENT-CLASS-325-39	c07 N72-11149
US-PATENT-CLASS-324-61	c14 N71-10797	US-PATENT-CLASS-325-40	c07 N73-26118
US-PATENT-CLASS-324-61	c18 N71-27397	US-PATENT-CLASS-325-41	c10 N71-26577
US-PATENT-CLASS-324-61B	c14 N72-22442	US-PATENT-CLASS-325-42	c07 N71-11266
US-PATENT-CLASS-324-62B	c14 N72-24477	US-PATENT-CLASS-325-45	c07 N73-25160
US-PATENT-CLASS-324-64	c14 N73-30388	US-PATENT-CLASS-325-51	c07 N72-25173
US-PATENT-CLASS-324-65	c15 N72-21464	US-PATENT-CLASS-325-55	c07 N72-11149
US-PATENT-CLASS-324-65P	c14 N71-27186	US-PATENT-CLASS-325-58	c07 N72-20140
US-PATENT-CLASS-324-65R	c14 N73-20478	US-PATENT-CLASS-325-58	c07 N72-25173
US-PATENT-CLASS-324-66	c15 N72-23497	US-PATENT-CLASS-325-60	c08 N71-19763
US-PATENT-CLASS-324-70	c05 N72-16015	US-PATENT-CLASS-325-60	c07 N73-16121
US-PATENT-CLASS-324-70	c14 N70-41332	US-PATENT-CLASS-325-61	c07 N73-25160
US-PATENT-CLASS-324-70	c14 N71-22990	US-PATENT-CLASS-325-62	c08 N72-25208
US-PATENT-CLASS-324-71	c10 N71-24863	US-PATENT-CLASS-325-62	c10 N74-19870
US-PATENT-CLASS-324-71R	c09 N71-24843	US-PATENT-CLASS-325-63	c10 N71-19467
US-PATENT-CLASS-324-71R	c09 N72-21246	US-PATENT-CLASS-325-63	c07 N72-25173
US-PATENT-CLASS-324-72	c15 N72-21464	US-PATENT-CLASS-325-64	c07 N70-41331
US-PATENT-CLASS-324-72	c25 N71-15650	US-PATENT-CLASS-325-65	c07 N70-41372
US-PATENT-CLASS-324-72	c10 N71-19421	US-PATENT-CLASS-325-65	c07 N71-11284
US-PATENT-CLASS-324-72	c14 N71-23699	US-PATENT-CLASS-325-67	c07 N71-26292
US-PATENT-CLASS-324-72	c07 N73-20175	US-PATENT-CLASS-325-67	c10 N73-25241
US-PATENT-CLASS-324-72	c14 N73-32318	US-PATENT-CLASS-325-113	c07 N71-24840
US-PATENT-CLASS-324-72	c14 N74-27862	US-PATENT-CLASS-325-113	c07 N73-25160
US-PATENT-CLASS-324-72.5	c03 N74-27519	US-PATENT-CLASS-325-114	c07 N72-25173
US-PATENT-CLASS-324-73	c14 N71-28991	US-PATENT-CLASS-325-139	c05 N74-26625
US-PATENT-CLASS-324-73AT	c08 N72-22166	US-PATENT-CLASS-325-141	c05 N71-12342
US-PATENT-CLASS-324-77	c09 N71-10659	US-PATENT-CLASS-325-141	c07 N74-19790
US-PATENT-CLASS-324-77	c07 N71-24622	US-PATENT-CLASS-325-141	c08 N71-27057
US-PATENT-CLASS-324-77G	c08 N72-20177	US-PATENT-CLASS-325-148	c07 N71-23405
US-PATENT-CLASS-324-77R	c10 N73-25240	US-PATENT-CLASS-325-151.11	c07 N71-28430
US-PATENT-CLASS-324-78D	c09 N72-25257	US-PATENT-CLASS-325-163	c07 N72-25173
US-PATENT-CLASS-324-78D	c05 N74-12778	US-PATENT-CLASS-325-185	c07 N71-10775
US-PATENT-CLASS-324-78E	c14 N73-24473	US-PATENT-CLASS-325-302	c10 N71-20841
US-PATENT-CLASS-324-78J	c10 N73-25240	US-PATENT-CLASS-325-305	c07 N71-23098
US-PATENT-CLASS-324-79D	c14 N73-30386	US-PATENT-CLASS-325-305	c08 N74-12887
US-PATENT-CLASS-324-79R	c14 N72-27408	US-PATENT-CLASS-325-320	c07 N74-20809
US-PATENT-CLASS-324-83A	c10 N72-20224	US-PATENT-CLASS-325-320	c07 N74-20811
US-PATENT-CLASS-324-83Q	c14 N74-21017		
US-PATENT-CLASS-324-85	c10 N72-20224		
US-PATENT-CLASS-324-92	c26 N72-25680		
US-PATENT-CLASS-324-95	c10 N71-12554		
US-PATENT-CLASS-324-95	c14 N73-30388		
US-PATENT-CLASS-324-96	c26 N72-25680		
US-PATENT-CLASS-324-102	c09 N72-11225		

NUMBER INDEX

US-PATENT-CLASS-325-320	c10	N74-27705	US-PATENT-CLASS-328-172	c07	N74-19788
US-PATENT-CLASS-325-321	c07	N72-20140	US-PATENT-CLASS-328-186	c09	N72-17157
US-PATENT-CLASS-325-321	c07	N74-20810	US-PATENT-CLASS-328-187	c10	N73-20254
US-PATENT-CLASS-325-325	c07	N71-24613	US-PATENT-CLASS-328-189	c14	N72-27408
US-PATENT-CLASS-325-325	c07	N72-25173	US-PATENT-CLASS-328-207	c09	N71-28468
US-PATENT-CLASS-325-325	c07	N73-13149	US-PATENT-CLASS-328-207	c10	N71-28860
US-PATENT-CLASS-325-346	c10	N73-16205	US-PATENT-CLASS-328-207	c09	N71-29139
US-PATENT-CLASS-325-346	c07	N74-30523	US-PATENT-CLASS-328-207	c10	N72-20221
US-PATENT-CLASS-325-347	c07	N71-33696	US-PATENT-CLASS-328-233	c10	N71-22962
US-PATENT-CLASS-325-348	c07	N71-33696	US-PATENT-CLASS-329-50	c09	N74-17930
US-PATENT-CLASS-325-363	c07	N71-11267	US-PATENT-CLASS-329-104	c07	N71-11282
US-PATENT-CLASS-325-363	c14	N71-26774	US-PATENT-CLASS-329-104	c08	N74-12887
US-PATENT-CLASS-325-363	c14	N72-28437	US-PATENT-CLASS-329-120	c07	N73-30113
US-PATENT-CLASS-325-363	c10	N73-25241	US-PATENT-CLASS-329-122	c10	N71-19469
US-PATENT-CLASS-325-369	c07	N71-27056	US-PATENT-CLASS-329-122	c07	N73-28012
US-PATENT-CLASS-325-373	c07	N72-33146	US-PATENT-CLASS-329-122	c08	N74-12887
US-PATENT-CLASS-325-419	c10	N73-16205	US-PATENT-CLASS-329-122	c07	N74-20811
US-PATENT-CLASS-325-419	c07	N73-28012	US-PATENT-CLASS-329-126	c08	N74-12887
US-PATENT-CLASS-325-419	c07	N74-20810	US-PATENT-CLASS-329-140	c07	N71-24583
US-PATENT-CLASS-325-419	c07	N74-20811	US-PATENT-CLASS-329-145	c07	N71-33696
US-PATENT-CLASS-325-420	c07	N73-30113	US-PATENT-CLASS-329-161	c07	N72-20141
US-PATENT-CLASS-325-422	c07	N73-30113	US-PATENT-CLASS-329-162	c07	N72-20141
US-PATENT-CLASS-325-423	c07	N74-20809	US-PATENT-CLASS-330-2	c09	N69-39986
US-PATENT-CLASS-325-445	c07	N72-20141	US-PATENT-CLASS-330-2	c09	N72-25250
US-PATENT-CLASS-325-446	c09	N69-24324	US-PATENT-CLASS-330-4	c16	N71-15550
US-PATENT-CLASS-325-473	c07	N71-33696	US-PATENT-CLASS-330-4	c16	N71-24831
US-PATENT-CLASS-325-473	c10	N73-12244	US-PATENT-CLASS-330-4	c16	N72-28521
US-PATENT-CLASS-325-478	c07	N71-33696	US-PATENT-CLASS-330-4.3	c16	N73-32391
US-PATENT-CLASS-325-480	c07	N71-33696	US-PATENT-CLASS-330-4.5	c09	N72-25258
US-PATENT-CLASS-325-480	c10	N73-12244	US-PATENT-CLASS-330-4.9	c09	N74-32660
US-PATENT-CLASS-325-482	c07	N71-33696	US-PATENT-CLASS-330-9	c09	N74-14939
US-PATENT-CLASS-325-492	c09	N72-17153	US-PATENT-CLASS-330-10	c09	N74-14939
US-PATENT-CLASS-325-492	c09	N72-22202	US-PATENT-CLASS-330-11	c09	N71-13531
US-PATENT-CLASS-328-1	c23	N71-16099	US-PATENT-CLASS-330-11	c10	N71-33129
US-PATENT-CLASS-328-1	c10	N71-19472	US-PATENT-CLASS-330-11	c09	N72-17156
US-PATENT-CLASS-328-1	c09	N72-22200	US-PATENT-CLASS-330-12	c10	N72-33230
US-PATENT-CLASS-328-16	c10	N72-20223	US-PATENT-CLASS-330-13	c10	N71-26415
US-PATENT-CLASS-328-20	c10	N72-20223	US-PATENT-CLASS-330-14	c09	N70-35440
US-PATENT-CLASS-328-24	c09	N72-33204	US-PATENT-CLASS-330-16	c10	N71-33129
US-PATENT-CLASS-328-37	c08	N71-12503	US-PATENT-CLASS-330-18	c09	N72-17155
US-PATENT-CLASS-328-37	c10	N73-20254	US-PATENT-CLASS-330-20	c09	N73-20232
US-PATENT-CLASS-328-38	c10	N72-20223	US-PATENT-CLASS-330-22	c09	N71-10798
US-PATENT-CLASS-328-42	c08	N71-19432	US-PATENT-CLASS-330-22	c09	N73-20232
US-PATENT-CLASS-328-44	c08	N71-29034	US-PATENT-CLASS-330-24	c10	N71-33129
US-PATENT-CLASS-328-48	c14	N73-30386	US-PATENT-CLASS-330-26	c10	N72-17172
US-PATENT-CLASS-328-48	c10	N74-10223	US-PATENT-CLASS-330-27R	c10	N72-31273
US-PATENT-CLASS-328-49	c10	N71-27137	US-PATENT-CLASS-330-28	c09	N74-21851
US-PATENT-CLASS-328-58	c08	N71-29138	US-PATENT-CLASS-330-29	c09	N69-24330
US-PATENT-CLASS-328-58	c10	N74-32711	US-PATENT-CLASS-330-29	c10	N72-28241
US-PATENT-CLASS-328-61	c09	N71-23525	US-PATENT-CLASS-330-30	c09	N71-19466
US-PATENT-CLASS-328-61	c10	N73-20254	US-PATENT-CLASS-330-30	c09	N71-19516
US-PATENT-CLASS-328-67	c10	N71-28960	US-PATENT-CLASS-330-30	c09	N71-27016
US-PATENT-CLASS-328-92	c10	N71-28860	US-PATENT-CLASS-330-300	c10	N72-20221
US-PATENT-CLASS-328-104	c08	N72-22162	US-PATENT-CLASS-330-300	c09	N73-20232
US-PATENT-CLASS-328-104	c10	N73-13235	US-PATENT-CLASS-330-31	c10	N71-26331
US-PATENT-CLASS-328-106	c09	N72-22201	US-PATENT-CLASS-330-31	c10	N72-17172
US-PATENT-CLASS-328-110	c09	N71-12519	US-PATENT-CLASS-330-35	c09	N72-17156
US-PATENT-CLASS-328-116	c09	N69-39885	US-PATENT-CLASS-330-35	c09	N73-20232
US-PATENT-CLASS-328-120	c09	N71-27016	US-PATENT-CLASS-330-35	c09	N74-14939
US-PATENT-CLASS-328-123	c08	N74-12888	US-PATENT-CLASS-330-40	c07	N71-28430
US-PATENT-CLASS-328-129	c14	N73-30386	US-PATENT-CLASS-330-40	c09	N72-17155
US-PATENT-CLASS-328-133	c09	N71-24596	US-PATENT-CLASS-330-40	c09	N73-20232
US-PATENT-CLASS-328-133	c10	N72-20224	US-PATENT-CLASS-330-49	c14	N70-35220
US-PATENT-CLASS-328-134	c08	N71-18692	US-PATENT-CLASS-330-51	c10	N71-28859
US-PATENT-CLASS-328-134	c14	N73-30386	US-PATENT-CLASS-330-53	c09	N74-32660
US-PATENT-CLASS-328-136	c09	N72-25257	US-PATENT-CLASS-330-59	c09	N72-25250
US-PATENT-CLASS-328-140	c09	N72-25257	US-PATENT-CLASS-330-59	c09	N74-21851
US-PATENT-CLASS-328-142	c09	N72-21245	US-PATENT-CLASS-330-61	c09	N71-23097
US-PATENT-CLASS-328-145	c09	N72-23173	US-PATENT-CLASS-330-69	c10	N74-32712
US-PATENT-CLASS-328-151	c09	N72-22200	US-PATENT-CLASS-330-70CR	c10	N73-27171
US-PATENT-CLASS-328-154	c08	N72-22162	US-PATENT-CLASS-330-70R	c09	N72-21245
US-PATENT-CLASS-328-154	c10	N73-13235	US-PATENT-CLASS-330-80T	c09	N73-20232
US-PATENT-CLASS-328-154	c07	N74-22814	US-PATENT-CLASS-330-85	c09	N72-21245
US-PATENT-CLASS-328-155	c10	N72-16172	US-PATENT-CLASS-330-86	c09	N73-20231
US-PATENT-CLASS-328-155	c09	N72-33204	US-PATENT-CLASS-330-94	c10	N72-17172
US-PATENT-CLASS-328-155	c09	N74-17927	US-PATENT-CLASS-330-103	c14	N74-22096
US-PATENT-CLASS-328-160	c07	N74-19788	US-PATENT-CLASS-330-107	c10	N72-12556
US-PATENT-CLASS-328-164	c07	N71-33696	US-PATENT-CLASS-330-107	c10	N72-17172
US-PATENT-CLASS-328-165	c09	N71-24806	US-PATENT-CLASS-330-109	c10	N72-11256
US-PATENT-CLASS-328-165	c07	N71-33696	US-PATENT-CLASS-330-109	c10	N72-17171
US-PATENT-CLASS-328-166	c10	N72-20223	US-PATENT-CLASS-330-109	c10	N72-17172
US-PATENT-CLASS-328-167	c10	N71-22986	US-PATENT-CLASS-330-109	c09	N73-20231
US-PATENT-CLASS-328-167	c08	N71-29034	US-PATENT-CLASS-330-124	c07	N71-28430
US-PATENT-CLASS-328-167	c10	N72-17171	US-PATENT-CLASS-330-176	c10	N72-17171
US-PATENT-CLASS-328-167	c09	N72-21245	US-PATENT-CLASS-330-200	c07	N71-28430
US-PATENT-CLASS-328-167	c09	N73-20231	US-PATENT-CLASS-331-1A	c09	N74-10194
US-PATENT-CLASS-328-167	c08	N73-26175	US-PATENT-CLASS-331-4	c09	N69-21543
US-PATENT-CLASS-328-168	c07	N74-19788	US-PATENT-CLASS-331-4	c09	N74-10194
US-PATENT-CLASS-328-171	c10	N71-24844	US-PATENT-CLASS-331-7	c07	N72-11150

NUMBER INDEX

US-PATENT-CLASS-331-10	.....	c07 N72-11150	US-PATENT-CLASS-333-14	.....	c07 N74-19788
US-PATENT-CLASS-331-14	.....	c09 N72-21247	US-PATENT-CLASS-333-16	.....	c09 N74-17927
US-PATENT-CLASS-331-14	.....	c09 N74-10194	US-PATENT-CLASS-333-17	.....	c10 N74-19870
US-PATENT-CLASS-331-17	.....	c10 N71-20852	US-PATENT-CLASS-333-18	.....	c09 N74-17927
US-PATENT-CLASS-331-17	.....	c10 N73-27171	US-PATENT-CLASS-333-21	.....	c07 N71-10676
US-PATENT-CLASS-331-17	.....	c09 N74-10194	US-PATENT-CLASS-333-21A	.....	c07 N71-33606
US-PATENT-CLASS-331-18	.....	c10 N71-26374	US-PATENT-CLASS-333-24R	.....	c09 N72-29172
US-PATENT-CLASS-331-18	.....	c09 N74-10194	US-PATENT-CLASS-333-30	.....	c10 N71-25900
US-PATENT-CLASS-331-23	.....	c09 N72-21247	US-PATENT-CLASS-333-70CR	.....	c10 N72-17171
US-PATENT-CLASS-331-25	.....	c10 N73-27171	US-PATENT-CLASS-333-72	.....	c10 N71-25900
US-PATENT-CLASS-331-30	.....	c09 N72-21247	US-PATENT-CLASS-333-73	.....	c07 N69-24323
US-PATENT-CLASS-331-34	.....	c07 N72-11150	US-PATENT-CLASS-333-73	.....	c09 N71-23573
US-PATENT-CLASS-331-44	.....	c14 N72-27408	US-PATENT-CLASS-333-73R	.....	c09 N73-26195
US-PATENT-CLASS-331-45	.....	c10 N73-16206	US-PATENT-CLASS-333-73S	.....	c09 N73-26195
US-PATENT-CLASS-331-62	.....	c09 N74-11049	US-PATENT-CLASS-333-73W	.....	c07 N72-20141
US-PATENT-CLASS-331-66	.....	c07 N72-11150	US-PATENT-CLASS-333-79	.....	c10 N70-41964
US-PATENT-CLASS-331-78	.....	c09 N71-23598	US-PATENT-CLASS-333-79	.....	c09 N72-25256
US-PATENT-CLASS-331-78	.....	c08 N73-12175	US-PATENT-CLASS-333-80	.....	c09 N71-12517
US-PATENT-CLASS-331-90	.....	c09 N73-15235	US-PATENT-CLASS-333-80	.....	c09 N72-21245
US-PATENT-CLASS-331-94	.....	c16 N70-41578	US-PATENT-CLASS-333-80R	.....	c10 N74-32712
US-PATENT-CLASS-331-94	.....	c16 N72-28521	US-PATENT-CLASS-333-80T	.....	c10 N72-33230
US-PATENT-CLASS-331-94	.....	c16 N73-13489	US-PATENT-CLASS-333-81	.....	c07 N71-29065
US-PATENT-CLASS-331-94.5	.....	c16 N71-18614	US-PATENT-CLASS-333-81B	.....	c14 N73-13420
US-PATENT-CLASS-331-94.5	.....	c16 N71-28832	US-PATENT-CLASS-333-81R	.....	c07 N72-25170
US-PATENT-CLASS-331-94.5	.....	c23 N71-26722	US-PATENT-CLASS-333-82A	.....	c09 N73-26195
US-PATENT-CLASS-331-94.5	.....	c15 N71-27135	US-PATENT-CLASS-333-83	.....	c09 N71-24841
US-PATENT-CLASS-331-94.5	.....	c23 N71-29125	US-PATENT-CLASS-333-83R	.....	c16 N74-11313
US-PATENT-CLASS-331-94.5	.....	c16 N71-33410	US-PATENT-CLASS-333-84M	.....	c09 N73-26195
US-PATENT-CLASS-331-94.5	.....	c16 N72-12440	US-PATENT-CLASS-333-95	.....	c07 N71-27191
US-PATENT-CLASS-331-94.5	.....	c25 N72-24753	US-PATENT-CLASS-333-96	.....	c09 N71-20445
US-PATENT-CLASS-331-94.5	.....	c16 N72-25485	US-PATENT-CLASS-333-96	.....	c07 N71-27191
US-PATENT-CLASS-331-94.5	.....	c07 N73-26119	US-PATENT-CLASS-333-97	.....	c07 N69-27462
US-PATENT-CLASS-331-94.5	.....	c09 N73-32111	US-PATENT-CLASS-333-97R	.....	c16 N74-11313
US-PATENT-CLASS-331-94.5	.....	c16 N73-32391	US-PATENT-CLASS-333-98	.....	c09 N71-23548
US-PATENT-CLASS-331-94.5A	.....	c16 N73-33397	US-PATENT-CLASS-333-98	.....	c09 N71-24808
US-PATENT-CLASS-331-94.5D	.....	c09 N74-20859	US-PATENT-CLASS-333-98P	.....	c07 N72-25170
US-PATENT-CLASS-331-94.5K	.....	c16 N74-15145	US-PATENT-CLASS-333-98P	.....	c09 N72-29172
US-PATENT-CLASS-331-94.5S	.....	c16 N74-15145	US-PATENT-CLASS-333-98R	.....	c07 N72-25170
US-PATENT-CLASS-331-107	.....	c09 N71-18721	US-PATENT-CLASS-333-98R	.....	c09 N72-29172
US-PATENT-CLASS-331-107	.....	c26 N72-21701	US-PATENT-CLASS-333-98R	.....	c14 N73-13420
US-PATENT-CLASS-331-107G	.....	c26 N72-25679	US-PATENT-CLASS-333-98S	.....	c07 N72-25170
US-PATENT-CLASS-331-107G	.....	c09 N73-15235	US-PATENT-CLASS-333-205	.....	c09 N72-20199
US-PATENT-CLASS-331-108A	.....	c09 N74-20862	US-PATENT-CLASS-335-216	.....	c16 N71-28554
US-PATENT-CLASS-331-109	.....	c10 N71-27271	US-PATENT-CLASS-335-216	.....	c23 N71-29049
US-PATENT-CLASS-331-109	.....	c09 N74-26732	US-PATENT-CLASS-335-216	.....	c26 N73-32571
US-PATENT-CLASS-331-111	.....	c10 N71-23669	US-PATENT-CLASS-335-296	.....	c09 N73-30185
US-PATENT-CLASS-331-111	.....	c09 N72-21247	US-PATENT-CLASS-335-297	.....	c09 N73-30185
US-PATENT-CLASS-331-113	.....	c09 N70-38995	US-PATENT-CLASS-335-300	.....	c09 N70-41929
US-PATENT-CLASS-331-113	.....	c10 N71-19418	US-PATENT-CLASS-336-DIG.1	.....	c26 N73-26752
US-PATENT-CLASS-331-113	.....	c09 N71-19470	US-PATENT-CLASS-336-60	.....	c09 N72-27226
US-PATENT-CLASS-331-113	.....	c10 N71-25882	US-PATENT-CLASS-336-178	.....	c09 N72-17154
US-PATENT-CLASS-331-113	.....	c10 N71-25950	US-PATENT-CLASS-336-198	.....	c09 N72-27226
US-PATENT-CLASS-331-113	.....	c09 N71-28810	US-PATENT-CLASS-336-200	.....	c26 N73-26752
US-PATENT-CLASS-331-113A	.....	c09 N72-25253	US-PATENT-CLASS-336-210	.....	c09 N74-17928
US-PATENT-CLASS-331-113A	.....	c09 N72-25254	US-PATENT-CLASS-336-220	.....	c09 N72-27226
US-PATENT-CLASS-331-113A	.....	c09 N74-11049	US-PATENT-CLASS-337-75	.....	c15 N72-12409
US-PATENT-CLASS-331-115	.....	c10 N72-33230	US-PATENT-CLASS-337-114	.....	c09 N71-29035
US-PATENT-CLASS-331-115	.....	c09 N74-20862	US-PATENT-CLASS-337-121	.....	c09 N71-29035
US-PATENT-CLASS-331-116R	.....	c10 N72-33230	US-PATENT-CLASS-337-354	.....	c15 N72-12409
US-PATENT-CLASS-331-116R	.....	c09 N74-20862	US-PATENT-CLASS-337-359	.....	c15 N72-12409
US-PATENT-CLASS-331-117	.....	c10 N71-27271	US-PATENT-CLASS-338-5	.....	c32 N71-15974
US-PATENT-CLASS-331-117	.....	c09 N72-22203	US-PATENT-CLASS-338-5	.....	c14 N74-27864
US-PATENT-CLASS-331-117R	.....	c09 N74-26732	US-PATENT-CLASS-338-64	.....	c09 N71-21583
US-PATENT-CLASS-331-135	.....	c10 N73-32145	US-PATENT-CLASS-338-82	.....	c09 N71-20842
US-PATENT-CLASS-331-159	.....	c09 N74-20862	US-PATENT-CLASS-338-89	.....	c14 N74-32877
US-PATENT-CLASS-331-177	.....	c10 N74-27271	US-PATENT-CLASS-338-114	.....	c14 N74-27864
US-PATENT-CLASS-331-177R	.....	c09 N73-15235	US-PATENT-CLASS-338-320	.....	c09 N74-14935
US-PATENT-CLASS-331-178	.....	c09 N74-10194	US-PATENT-CLASS-339-5	.....	c15 N71-23049
US-PATENT-CLASS-331-183	.....	c09 N74-26732	US-PATENT-CLASS-339-17	.....	c14 N69-27431
US-PATENT-CLASS-332-1	.....	c10 N71-23084	US-PATENT-CLASS-339-17	.....	c15 N71-17685
US-PATENT-CLASS-332-7.51	.....	c16 N72-25485	US-PATENT-CLASS-339-17	.....	c09 N71-26133
US-PATENT-CLASS-332-7.51	.....	c07 N73-26119	US-PATENT-CLASS-339-17R	.....	c15 N71-29133
US-PATENT-CLASS-332-7.51	.....	c09 N74-20859	US-PATENT-CLASS-339-45M	.....	c15 N72-25450
US-PATENT-CLASS-332-9	.....	c07 N71-12390	US-PATENT-CLASS-339-46	.....	c15 N72-17455
US-PATENT-CLASS-332-9R	.....	c08 N71-29138	US-PATENT-CLASS-339-75MP	.....	c09 N72-28225
US-PATENT-CLASS-332-10	.....	c08 N71-29138	US-PATENT-CLASS-339-91	.....	c09 N69-21927
US-PATENT-CLASS-332-11D	.....	c07 N74-17885	US-PATENT-CLASS-339-91B	.....	c15 N72-25450
US-PATENT-CLASS-332-19	.....	c10 N71-23544	US-PATENT-CLASS-339-94M	.....	c09 N72-28225
US-PATENT-CLASS-332-21	.....	c08 N72-25208	US-PATENT-CLASS-339-95	.....	c09 N69-39734
US-PATENT-CLASS-332-29	.....	c07 N71-28429	US-PATENT-CLASS-339-143R	.....	c09 N72-25256
US-PATENT-CLASS-332-30	.....	c10 N71-27271	US-PATENT-CLASS-339-147R	.....	c09 N72-25256
US-PATENT-CLASS-332-30	.....	c07 N71-28429	US-PATENT-CLASS-339-150	.....	c09 N69-21470
US-PATENT-CLASS-332-31	.....	c08 N71-12500	US-PATENT-CLASS-339-176	.....	c09 N70-34596
US-PATENT-CLASS-332-31	.....	c26 N72-21701	US-PATENT-CLASS-339-176	.....	c09 N70-36494
US-PATENT-CLASS-332-51M	.....	c07 N72-20141	US-PATENT-CLASS-339-176M	.....	c15 N72-17455
US-PATENT-CLASS-333-6	.....	c07 N71-33606	US-PATENT-CLASS-339-176MP	.....	c09 N72-28225
US-PATENT-CLASS-333-7	.....	c07 N71-33606	US-PATENT-CLASS-339-177	.....	c09 N71-20851
US-PATENT-CLASS-333-7	.....	c07 N72-25170	US-PATENT-CLASS-339-218M	.....	c09 N72-28225
US-PATENT-CLASS-333-8	.....	c07 N69-24334	US-PATENT-CLASS-339-275T	.....	c09 N72-20200



NUMBER INDEX

US-PATENT-CLASS-339-276T	c09 N72-20200	US-PATENT-CLASS-340-18J	c05 N74-26625
US-PATENT-CLASS-339-278M	c15 N72-17455	US-PATENT-CLASS-340-198	c14 N70-33179
US-PATENT-CLASS-340-5C	c14 N73-27379	US-PATENT-CLASS-340-198	c07 N71-11298
US-PATENT-CLASS-340-5R	c15 N74-16135	US-PATENT-CLASS-340-200	c14 N74-27862
US-PATENT-CLASS-340-8R	c15 N74-16135	US-PATENT-CLASS-340-203	c09 N72-22202
US-PATENT-CLASS-340-12R	c15 N74-16135	US-PATENT-CLASS-340-203	c05 N74-26625
US-PATENT-CLASS-340-15.5GC	c14 N73-26432	US-PATENT-CLASS-340-207	c07 N73-25160
US-PATENT-CLASS-340-25	c14 N73-16483	US-PATENT-CLASS-340-207R	c05 N74-26625
US-PATENT-CLASS-340-26	c21 N72-22619	US-PATENT-CLASS-340-210	c03 N72-20031
US-PATENT-CLASS-340-27AT	c21 N73-14692	US-PATENT-CLASS-340-213	c10 N71-27272
US-PATENT-CLASS-340-27NA	c21 N73-13643	US-PATENT-CLASS-340-213.1	c10 N71-19417
US-PATENT-CLASS-340-27R	c14 N73-16483	US-PATENT-CLASS-340-223	c10 N73-32144
US-PATENT-CLASS-340-27R	c14 N73-20474	US-PATENT-CLASS-340-227	c10 N71-16058
US-PATENT-CLASS-340-33	c21 N73-13643	US-PATENT-CLASS-340-227	c14 N71-27186
US-PATENT-CLASS-340-37	c14 N71-15620	US-PATENT-CLASS-340-227R	c14 N72-25412
US-PATENT-CLASS-340-97	c21 N73-13643	US-PATENT-CLASS-340-228.2	c10 N72-17173
US-PATENT-CLASS-340-146.1	c09 N71-18843	US-PATENT-CLASS-340-228.5	c14 N73-16484
US-PATENT-CLASS-340-146.1	c08 N71-22749	US-PATENT-CLASS-340-233	c14 N71-25901
US-PATENT-CLASS-340-146.1	c10 N71-26103	US-PATENT-CLASS-340-235	c10 N71-26334
US-PATENT-CLASS-340-146.1	c08 N71-27255	US-PATENT-CLASS-340-240	c09 N72-27227
US-PATENT-CLASS-340-146.1	c08 N72-22167	US-PATENT-CLASS-340-248	c10 N71-27338
US-PATENT-CLASS-340-146.1	c08 N72-25207	US-PATENT-CLASS-340-258	c10 N72-28240
US-PATENT-CLASS-340-146.1	c07 N73-13149	US-PATENT-CLASS-340-258R	c07 N73-25160
US-PATENT-CLASS-340-146.1AL	c08 N72-25210	US-PATENT-CLASS-340-277	c10 N73-30205
US-PATENT-CLASS-340-146.1AL	c08 N73-12175	US-PATENT-CLASS-340-279	c05 N72-16015
US-PATENT-CLASS-340-146.1AQ	c08 N73-12177	US-PATENT-CLASS-340-279	c10 N73-30205
US-PATENT-CLASS-340-146.1AQ	c07 N74-32598	US-PATENT-CLASS-340-285	c14 N71-25901
US-PATENT-CLASS-340-146.1AV	c08 N73-12177	US-PATENT-CLASS-340-324	c08 N71-12507
US-PATENT-CLASS-340-146.1C	c07 N73-20176	US-PATENT-CLASS-340-324	c09 N71-33519
US-PATENT-CLASS-340-146.2	c08 N71-12505	US-PATENT-CLASS-340-324A	c09 N72-25248
US-PATENT-CLASS-340-146.2	c08 N71-23295	US-PATENT-CLASS-340-324R	c26 N72-25680
US-PATENT-CLASS-340-147	c09 N70-33182	US-PATENT-CLASS-340-332	c09 N72-25250
US-PATENT-CLASS-340-147	c09 N70-38998	US-PATENT-CLASS-340-336	c09 N71-33519
US-PATENT-CLASS-340-147R	c07 N73-20176	US-PATENT-CLASS-340-347	c08 N70-35423
US-PATENT-CLASS-340-150	c10 N71-27272	US-PATENT-CLASS-340-347	c08 N70-40125
US-PATENT-CLASS-340-151	c14 N74-27862	US-PATENT-CLASS-340-347	c08 N71-12501
US-PATENT-CLASS-340-163	c07 N73-20176	US-PATENT-CLASS-340-347	c08 N71-18594
US-PATENT-CLASS-340-164	c10 N71-27272	US-PATENT-CLASS-340-347	c08 N71-19435
US-PATENT-CLASS-340-166	c10 N71-27272	US-PATENT-CLASS-340-347	c08 N71-19544
US-PATENT-CLASS-340-166	c10 N73-32144	US-PATENT-CLASS-340-347	c08 N71-19687
US-PATENT-CLASS-340-167	c07 N72-25173	US-PATENT-CLASS-340-347	c08 N72-24650
US-PATENT-CLASS-340-171	c09 N72-22202	US-PATENT-CLASS-340-347	c10 N71-25917
US-PATENT-CLASS-340-171	c16 N73-16536	US-PATENT-CLASS-340-347	c10 N71-26544
US-PATENT-CLASS-340-172.5	c08 N69-21928	US-PATENT-CLASS-340-347	c08 N73-28045
US-PATENT-CLASS-340-172.5	c09 N69-24333	US-PATENT-CLASS-340-347AD	c14 N71-28991
US-PATENT-CLASS-340-172.5	c08 N71-12502	US-PATENT-CLASS-340-347AD	c08 N72-21200
US-PATENT-CLASS-340-172.5	c08 N71-12506	US-PATENT-CLASS-340-347AD	c08 N72-22163
US-PATENT-CLASS-340-172.5	c31 N71-15566	US-PATENT-CLASS-340-347AD	c08 N72-22166
US-PATENT-CLASS-340-172.5	c08 N71-19288	US-PATENT-CLASS-340-347AD	c08 N72-31226
US-PATENT-CLASS-340-172.5	c08 N71-22707	US-PATENT-CLASS-340-347AD	c08 N73-20271
US-PATENT-CLASS-340-172.5	c08 N71-22710	US-PATENT-CLASS-340-347AD	c07 N74-17885
US-PATENT-CLASS-340-172.5	c07 N71-24624	US-PATENT-CLASS-340-347AD	c14 N74-32877
US-PATENT-CLASS-340-172.5	c08 N71-27255	US-PATENT-CLASS-340-347DA	c08 N71-27057
US-PATENT-CLASS-340-172.5	c07 N72-25172	US-PATENT-CLASS-340-347DA	c08 N72-20176
US-PATENT-CLASS-340-172.5	c08 N72-25207	US-PATENT-CLASS-340-347DA	c08 N72-25206
US-PATENT-CLASS-340-172.5	c09 N72-25248	US-PATENT-CLASS-340-347DA	c08 N73-32081
US-PATENT-CLASS-340-172.5	c08 N73-13187	US-PATENT-CLASS-340-347DD	c10 N71-33407
US-PATENT-CLASS-340-172.5	c08 N73-26176	US-PATENT-CLASS-340-347DD	c08 N72-18184
US-PATENT-CLASS-340-173	c10 N73-32144	US-PATENT-CLASS-340-347DD	c08 N72-20176
US-PATENT-CLASS-340-173.2	c08 N72-21198	US-PATENT-CLASS-340-347DD	c08 N72-21197
US-PATENT-CLASS-340-173CR	c08 N74-12888	US-PATENT-CLASS-340-347R	c08 N73-12176
US-PATENT-CLASS-340-173LH	c08 N74-12888	US-PATENT-CLASS-340-348	c08 N72-22165
US-PATENT-CLASS-340-173LS	c08 N72-21198	US-PATENT-CLASS-340-403	c08 N72-22167
US-PATENT-CLASS-340-174	c08 N71-12504	US-PATENT-CLASS-340-407	c10 N71-27272
US-PATENT-CLASS-340-174	c09 N71-12515	US-PATENT-CLASS-340-412	c14 N74-21014
US-PATENT-CLASS-340-174	c08 N71-18595	US-PATENT-CLASS-340-415	c10 N71-24798
US-PATENT-CLASS-340-174	c08 N71-18694	US-PATENT-CLASS-340-418	c10 N73-32144
US-PATENT-CLASS-340-174	c10 N71-23033	US-PATENT-CLASS-343-DIG.2	c14 N73-16484
US-PATENT-CLASS-340-174	c10 N71-26418	US-PATENT-CLASS-343-DIG.2	c07 N73-24176
US-PATENT-CLASS-340-174	c10 N71-26434	US-PATENT-CLASS-343-DIG.3	c09 N74-20860
US-PATENT-CLASS-340-174	c08 N71-28925	US-PATENT-CLASS-343-5C	c09 N72-12136
US-PATENT-CLASS-340-174	c10 N71-29135	US-PATENT-CLASS-343-5DP	c07 N72-21118
US-PATENT-CLASS-340-174.1	c08 N71-21042	US-PATENT-CLASS-343-5DP	c07 N72-11149
US-PATENT-CLASS-340-174.1	c07 N71-23001	US-PATENT-CLASS-343-6	c09 N73-42211
US-PATENT-CLASS-340-174.1	c08 N71-27210	US-PATENT-CLASS-343-6.5	c30 N71-16090
US-PATENT-CLASS-340-174.1L	c14 N74-11283	US-PATENT-CLASS-343-6.5R	c21 N71-11766
US-PATENT-CLASS-340-174.1R	c16 N74-13205	US-PATENT-CLASS-343-6.5R	c10 N71-23099
US-PATENT-CLASS-340-174.1R	c21 N73-13644	US-PATENT-CLASS-343-6.5R	c07 N72-12080
US-PATENT-CLASS-340-174AG	c23 N72-17747	US-PATENT-CLASS-343-6.5R	c07 N72-21118
US-PATENT-CLASS-340-174CS	c08 N72-21199	US-PATENT-CLASS-343-6.5R	c07 N72-25171
US-PATENT-CLASS-340-174CT	c23 N72-17747	US-PATENT-CLASS-343-6.5R	c08 N72-25209
US-PATENT-CLASS-340-174GA	c23 N72-17747	US-PATENT-CLASS-343-6.5R	c07 N73-25161
US-PATENT-CLASS-340-174LC	c08 N72-21199	US-PATENT-CLASS-343-6.5SS	c21 N73-30641
US-PATENT-CLASS-340-174M	c08 N72-21199	US-PATENT-CLASS-343-6.8R	c09 N74-12912
US-PATENT-CLASS-340-174MC	c23 N72-17747	US-PATENT-CLASS-343-6.8R	c09 N74-12912
US-PATENT-CLASS-340-174SR	c08 N72-21199	US-PATENT-CLASS-343-6.8R	c07 N72-12080
US-PATENT-CLASS-340-174YC	c16 N74-13205	US-PATENT-CLASS-343-6.8R	c07 N73-25161
US-PATENT-CLASS-340-177	c09 N72-17153	US-PATENT-CLASS-343-7.4	c14 N73-25461
US-PATENT-CLASS-340-182	c14 N74-27862		c10 N72-22235



NUMBER INDEX

US-PATENT-CLASS-343-7.5	c07	N69-39974	US-PATENT-CLASS-343-779	c07	N71-11285
US-PATENT-CLASS-343-7.5	c09	N71-24595	US-PATENT-CLASS-343-779	c10	N72-22235
US-PATENT-CLASS-343-7.5	c07	N72-11149	US-PATENT-CLASS-343-779	c07	N72-25174
US-PATENT-CLASS-343-7.5	c10	N74-19870	US-PATENT-CLASS-343-781	c09	N70-35219
US-PATENT-CLASS-343-11R	c09	N73-12211	US-PATENT-CLASS-343-781	c09	N70-35382
US-PATENT-CLASS-343-11VB	c09	N73-12211	US-PATENT-CLASS-343-781	c09	N70-35425
US-PATENT-CLASS-343-12	c21	N70-41930	US-PATENT-CLASS-343-781	c07	N72-32169
US-PATENT-CLASS-343-12	c10	N72-20224	US-PATENT-CLASS-343-781	c07	N74-11000
US-PATENT-CLASS-343-12R	c08	N72-25209	US-PATENT-CLASS-343-782	c07	N73-14130
US-PATENT-CLASS-343-13	c09	N71-18598	US-PATENT-CLASS-343-784	c07	N71-28940
US-PATENT-CLASS-343-14	c07	N70-41680	US-PATENT-CLASS-343-786	c07	N71-15907
US-PATENT-CLASS-343-14	c08	N72-25209	US-PATENT-CLASS-343-786	c07	N71-22750
US-PATENT-CLASS-343-14	c14	N73-25461	US-PATENT-CLASS-343-786	c07	N71-26101
US-PATENT-CLASS-343-16	c09	N71-20864	US-PATENT-CLASS-343-786	c07	N71-27233
US-PATENT-CLASS-343-16	c10	N71-21483	US-PATENT-CLASS-343-786	c07	N72-20141
US-PATENT-CLASS-343-16M	c10	N72-22235	US-PATENT-CLASS-343-786	c10	N72-22235
US-PATENT-CLASS-343-17.2	c07	N70-36911	US-PATENT-CLASS-343-786	c07	N72-25174
US-PATENT-CLASS-343-17.5	c14	N73-25461	US-PATENT-CLASS-343-786	c09	N72-31235
US-PATENT-CLASS-343-17.7	c07	N71-12391	US-PATENT-CLASS-343-786	c09	N74-20863
US-PATENT-CLASS-343-17.7	c10	N74-19870	US-PATENT-CLASS-343-797	c09	N71-24842
US-PATENT-CLASS-343-18	c31	N70-37981	US-PATENT-CLASS-343-797	c07	N72-22127
US-PATENT-CLASS-343-18	c07	N70-40063	US-PATENT-CLASS-343-797	c09	N72-31235
US-PATENT-CLASS-343-18	c30	N70-40309	US-PATENT-CLASS-343-797	c07	N73-28013
US-PATENT-CLASS-343-18	c07	N70-41678	US-PATENT-CLASS-343-797	c09	N74-20863
US-PATENT-CLASS-343-18B	c09	N74-12912	US-PATENT-CLASS-343-799	c07	N71-27233
US-PATENT-CLASS-343-100	c10	N71-18722	US-PATENT-CLASS-343-803	c07	N73-28013
US-PATENT-CLASS-343-100	c07	N71-19854	US-PATENT-CLASS-343-803	c07	N71-28979
US-PATENT-CLASS-343-100	c30	N71-23723	US-PATENT-CLASS-343-803	c31	N70-34135
US-PATENT-CLASS-343-100	c07	N71-24621	US-PATENT-CLASS-343-837	c07	N72-32169
US-PATENT-CLASS-343-100	c09	N71-24800	US-PATENT-CLASS-343-837	c07	N73-14130
US-PATENT-CLASS-343-100	c31	N71-24813	US-PATENT-CLASS-343-839	c09	N73-19234
US-PATENT-CLASS-343-100	c07	N71-27056	US-PATENT-CLASS-343-840	c07	N71-27233
US-PATENT-CLASS-343-100	c07	N71-28900	US-PATENT-CLASS-343-840	c09	N72-12136
US-PATENT-CLASS-343-100HB	c14	N72-28437	US-PATENT-CLASS-343-840	c07	N72-32169
US-PATENT-CLASS-343-100HB	c14	N73-26432	US-PATENT-CLASS-343-853	c07	N72-11148
US-PATENT-CLASS-343-100R	c10	N73-16206	US-PATENT-CLASS-343-853	c07	N72-22127
US-PATENT-CLASS-343-100SA	c10	N73-16206	US-PATENT-CLASS-343-853	c07	N72-25174
US-PATENT-CLASS-343-100SA	c09	N74-20860	US-PATENT-CLASS-343-853	c09	N72-31235
US-PATENT-CLASS-343-100ST	c07	N72-21118	US-PATENT-CLASS-343-853	c10	N73-16206
US-PATENT-CLASS-343-100ST	c09	N74-20860	US-PATENT-CLASS-343-853	c09	N74-20863
US-PATENT-CLASS-343-100R	c21	N74-13420	US-PATENT-CLASS-343-853	c09	N74-20864
US-PATENT-CLASS-343-112	c21	N71-13958	US-PATENT-CLASS-343-854	c07	N69-27460
US-PATENT-CLASS-343-112	c02	N71-19287	US-PATENT-CLASS-343-854	c07	N71-27233
US-PATENT-CLASS-343-112	c21	N71-24948	US-PATENT-CLASS-343-854	c09	N73-19234
US-PATENT-CLASS-343-112CA	c21	N73-13643	US-PATENT-CLASS-343-854	c09	N74-20860
US-PATENT-CLASS-343-112CA	c21	N73-30641	US-PATENT-CLASS-343-872	c07	N71-28980
US-PATENT-CLASS-343-112D	c14	N72-28437	US-PATENT-CLASS-343-873	c07	N71-19493
US-PATENT-CLASS-343-112D	c09	N73-32110	US-PATENT-CLASS-343-873	c09	N72-25247
US-PATENT-CLASS-343-113	c10	N71-21473	US-PATENT-CLASS-343-880	c07	N73-26117
US-PATENT-CLASS-343-113	c07	N71-24625	US-PATENT-CLASS-343-883	c07	N73-26117
US-PATENT-CLASS-343-113R	c09	N73-32110	US-PATENT-CLASS-343-884	c07	N71-27191
US-PATENT-CLASS-343-117	c07	N71-27056	US-PATENT-CLASS-343-889	c07	N73-26117
US-PATENT-CLASS-343-176	c07	N71-27056	US-PATENT-CLASS-343-893	c09	N72-21244
US-PATENT-CLASS-343-179	c07	N72-11149	US-PATENT-CLASS-343-893	c07	N73-28013
US-PATENT-CLASS-343-179	c07	N73-20174	US-PATENT-CLASS-343-895	c09	N73-19234
US-PATENT-CLASS-343-200	c07	N73-16121	US-PATENT-CLASS-343-895	c07	N73-26117
US-PATENT-CLASS-343-204	c07	N73-26118	US-PATENT-CLASS-343-909	c07	N74-11000
US-PATENT-CLASS-343-703	c09	N71-13521	US-PATENT-CLASS-343-912	c07	N72-21117
US-PATENT-CLASS-343-703	c07	N71-24614	US-PATENT-CLASS-343-912	c07	N72-22127
US-PATENT-CLASS-343-705	c07	N70-38200	US-PATENT-CLASS-343-915	c31	N71-16102
US-PATENT-CLASS-343-705	c07	N70-40202	US-PATENT-CLASS-343-915	c09	N71-20658
US-PATENT-CLASS-343-705	c31	N71-10747	US-PATENT-CLASS-343-915	c07	N72-32169
US-PATENT-CLASS-343-706	c07	N72-21117	US-PATENT-CLASS-343-915	c07	N73-14130
US-PATENT-CLASS-343-708	c09	N71-22888	US-PATENT-CLASS-343-915	c07	N73-24176
US-PATENT-CLASS-343-708	c07	N71-22984	US-PATENT-CLASS-346-1	c12	N71-20815
US-PATENT-CLASS-343-708	c07	N71-28980	US-PATENT-CLASS-346-1	c09	N72-21246
US-PATENT-CLASS-343-708	c09	N72-25247	US-PATENT-CLASS-346-23	c14	N72-18411
US-PATENT-CLASS-343-708	c09	N74-20864	US-PATENT-CLASS-346-24	c07	N74-15831
US-PATENT-CLASS-343-718	c09	N71-18720	US-PATENT-CLASS-346-29	c09	N72-21246
US-PATENT-CLASS-343-720	c09	N72-12136	US-PATENT-CLASS-346-33R	c14	N74-32877
US-PATENT-CLASS-343-725	c07	N73-28013	US-PATENT-CLASS-346-44	c09	N69-21467
US-PATENT-CLASS-343-729	c07	N73-28013	US-PATENT-CLASS-346-50	c14	N71-21006
US-PATENT-CLASS-343-730	c09	N74-20863	US-PATENT-CLASS-346-74MD	c21	N73-13644
US-PATENT-CLASS-343-754	c09	N73-19234	US-PATENT-CLASS-346-107	c23	N71-23976
US-PATENT-CLASS-343-762	c07	N72-25174	US-PATENT-CLASS-346-107A	c14	N72-18411
US-PATENT-CLASS-343-768	c10	N71-26142	US-PATENT-CLASS-346-108	c07	N74-15831
US-PATENT-CLASS-343-769	c09	N74-20864	US-PATENT-CLASS-346-110	c14	N73-32322
US-PATENT-CLASS-343-770	c09	N72-31235	US-PATENT-CLASS-346-138	c21	N73-13644
US-PATENT-CLASS-343-771	c07	N71-28809	US-PATENT-CLASS-346-138	c07	N74-15831
US-PATENT-CLASS-343-771	c07	N72-11148	US-PATENT-CLASS-350-1	c23	N69-24332
US-PATENT-CLASS-343-771	c09	N72-21244	US-PATENT-CLASS-350-1	c07	N71-29065
US-PATENT-CLASS-343-771	c07	N72-22127	US-PATENT-CLASS-350-1	c16	N72-12440
US-PATENT-CLASS-343-771	c09	N72-25247	US-PATENT-CLASS-350-2	c23	N71-30027
US-PATENT-CLASS-343-772	c09	N72-31235	US-PATENT-CLASS-350-3.5	c16	N71-15551
US-PATENT-CLASS-343-773	c07	N72-20141	US-PATENT-CLASS-350-3.5	c16	N71-15565
US-PATENT-CLASS-343-776	c07	N72-20141	US-PATENT-CLASS-350-3.5	c16	N71-15567
US-PATENT-CLASS-343-777	c07	N71-12396	US-PATENT-CLASS-350-3.5	c16	N71-26154
US-PATENT-CLASS-343-777	c07	N71-27233	US-PATENT-CLASS-350-3.5	c16	N71-29131
US-PATENT-CLASS-343-777	c07	N72-25174	US-PATENT-CLASS-350-3.5	c14	N72-17324

NUMBER INDEX

OS-PATENT-CLASS-350-3.5	c16 N73-30476	OS-PATENT-CLASS-356-72	c14 N71-23268
OS-PATENT-CLASS-350-3.5	c16 N74-15146	OS-PATENT-CLASS-356-72	c33 N73-27796
OS-PATENT-CLASS-350-3.5	c14 N74-17153	OS-PATENT-CLASS-356-73	c25 N74-30156
OS-PATENT-CLASS-350-3.5	c14 N74-26946	OS-PATENT-CLASS-356-74	c30 N71-15990
OS-PATENT-CLASS-350-6	c14 N69-27461	OS-PATENT-CLASS-356-76	c23 N71-26206
OS-PATENT-CLASS-350-6	c16 N74-15145	OS-PATENT-CLASS-356-76	c14 N71-29041
OS-PATENT-CLASS-350-7	c14 N74-15095	OS-PATENT-CLASS-356-85	c15 N74-18123
OS-PATENT-CLASS-350-7	c14 N72-22444	OS-PATENT-CLASS-356-85	c25 N74-30156
OS-PATENT-CLASS-350-16	c14 N72-22441	OS-PATENT-CLASS-356-87	c25 N74-30156
OS-PATENT-CLASS-350-19	c14 N72-22441	OS-PATENT-CLASS-356-103	c14 N71-28994
OS-PATENT-CLASS-350-23	c14 N72-22441	OS-PATENT-CLASS-356-104	c16 N71-24074
OS-PATENT-CLASS-350-26	c14 N72-22441	OS-PATENT-CLASS-356-106	c14 N71-17627
OS-PATENT-CLASS-350-35	c14 N72-22441	OS-PATENT-CLASS-356-106	c14 N71-17655
OS-PATENT-CLASS-350-36	c14 N72-22441	OS-PATENT-CLASS-356-106	c14 N71-27215
OS-PATENT-CLASS-350-49	c14 N72-22441	OS-PATENT-CLASS-356-106	c14 N73-12446
OS-PATENT-CLASS-350-52	c14 N72-22444	OS-PATENT-CLASS-356-106	c16 N74-15146
OS-PATENT-CLASS-350-52	c23 N71-33229	OS-PATENT-CLASS-356-106R	c24 N74-19310
OS-PATENT-CLASS-350-55	c14 N73-30393	OS-PATENT-CLASS-356-106S	c23 N73-13661
OS-PATENT-CLASS-350-55	c23 N73-30666	OS-PATENT-CLASS-356-107	c16 N71-24170
OS-PATENT-CLASS-350-58	c14 N71-15604	OS-PATENT-CLASS-356-108	c26 N73-26751
OS-PATENT-CLASS-350-79	c14 N72-32452	OS-PATENT-CLASS-356-108	c16 N73-30476
OS-PATENT-CLASS-350-86	c14 N72-22445	OS-PATENT-CLASS-356-109	c16 N73-30476
OS-PATENT-CLASS-350-96	c07 N71-26291	OS-PATENT-CLASS-356-110	c14 N73-25463
OS-PATENT-CLASS-350-102	c23 N71-29123	OS-PATENT-CLASS-356-112	c24 N74-19310
OS-PATENT-CLASS-350-138	c23 N72-27728	OS-PATENT-CLASS-356-113	c14 N72-17323
OS-PATENT-CLASS-350-147	c14 N72-27409	OS-PATENT-CLASS-356-113	c14 N74-23040
OS-PATENT-CLASS-350-150	c26 N72-25680	OS-PATENT-CLASS-356-114	c14 N73-12446
OS-PATENT-CLASS-350-151	c16 N74-13205	OS-PATENT-CLASS-356-117	c23 N71-16101
OS-PATENT-CLASS-350-160R	c14 N72-25410	OS-PATENT-CLASS-356-138	c14 N72-20379
OS-PATENT-CLASS-350-160R	c26 N72-25680	OS-PATENT-CLASS-356-138	c16 N73-33397
OS-PATENT-CLASS-350-161	c26 N72-27784	OS-PATENT-CLASS-356-141	c14 N72-27409
OS-PATENT-CLASS-350-162	c14 N72-17323	OS-PATENT-CLASS-356-141	c14 N73-28490
OS-PATENT-CLASS-350-162SF	c23 N73-30666	OS-PATENT-CLASS-356-141	c16 N74-21091
OS-PATENT-CLASS-350-171	c23 N72-23695	OS-PATENT-CLASS-356-141	c14 N74-30886
OS-PATENT-CLASS-350-175FS	c14 N72-25414	OS-PATENT-CLASS-356-147	c14 N74-30886
OS-PATENT-CLASS-350-189	c23 N71-24857	OS-PATENT-CLASS-356-148	c16 N73-33397
OS-PATENT-CLASS-350-199	c14 N73-30393	OS-PATENT-CLASS-356-150	c15 N71-28740
OS-PATENT-CLASS-350-202	c23 N73-20741	OS-PATENT-CLASS-356-152	c15 N71-28740
OS-PATENT-CLASS-350-203	c14 N72-25409	OS-PATENT-CLASS-356-152	c16 N72-13437
OS-PATENT-CLASS-350-204	c14 N73-30393	OS-PATENT-CLASS-356-152	c14 N72-20379
OS-PATENT-CLASS-350-213	c14 N71-15622	OS-PATENT-CLASS-356-152	c14 N72-27409
OS-PATENT-CLASS-350-236	c14 N74-15095	OS-PATENT-CLASS-356-152	c14 N73-25462
OS-PATENT-CLASS-350-269	c09 N74-20861	OS-PATENT-CLASS-356-152	c16 N74-15145
OS-PATENT-CLASS-350-270	c23 N74-21300	OS-PATENT-CLASS-356-152	c16 N74-21091
OS-PATENT-CLASS-350-275	c09 N71-19479	OS-PATENT-CLASS-356-152	c23 N74-21304
OS-PATENT-CLASS-350-285	c14 N71-15605	OS-PATENT-CLASS-356-153	c15 N71-28740
OS-PATENT-CLASS-350-285	c14 N71-17662	OS-PATENT-CLASS-356-153	c23 N71-29125
OS-PATENT-CLASS-350-285	c19 N71-26674	OS-PATENT-CLASS-356-153	c16 N73-33397
OS-PATENT-CLASS-350-285	c15 N72-11386	OS-PATENT-CLASS-356-154	c15 N71-26673
OS-PATENT-CLASS-350-285	c16 N73-33397	OS-PATENT-CLASS-356-161	c26 N73-26751
OS-PATENT-CLASS-350-285	c14 N74-15095	OS-PATENT-CLASS-356-166	c14 N71-23175
OS-PATENT-CLASS-350-286	c07 N71-29065	OS-PATENT-CLASS-356-167	c14 N72-11364
OS-PATENT-CLASS-350-287	c15 N72-11386	OS-PATENT-CLASS-356-172	c16 N73-33397
OS-PATENT-CLASS-350-288	c23 N71-29123	OS-PATENT-CLASS-356-172	c16 N74-21091
OS-PATENT-CLASS-350-293	c16 N73-16536	OS-PATENT-CLASS-356-180	c14 N74-27860
OS-PATENT-CLASS-350-299	c23 N74-21304	OS-PATENT-CLASS-356-197	c15 N74-18123
OS-PATENT-CLASS-350-310	c11 N69-28321	OS-PATENT-CLASS-356-201	c25 N74-30156
OS-PATENT-CLASS-350-310	c23 N71-24868	OS-PATENT-CLASS-356-202	c26 N73-26751
OS-PATENT-CLASS-350-310	c23 N71-29123	OS-PATENT-CLASS-356-203	c14 N71-26788
OS-PATENT-CLASS-350-310	c23 N71-33229	OS-PATENT-CLASS-356-209	c23 N71-16341
OS-PATENT-CLASS-350-310	c23 N72-22673	OS-PATENT-CLASS-356-209	c14 N71-28993
OS-PATENT-CLASS-350-312	c16 N72-12440	OS-PATENT-CLASS-356-209	c14 N72-17323
OS-PATENT-CLASS-351-23	c05 N73-26072	OS-PATENT-CLASS-356-216	c14 N74-15095
OS-PATENT-CLASS-351-30	c05 N73-26072	OS-PATENT-CLASS-356-222	c03 N72-20033
OS-PATENT-CLASS-351-36	c05 N73-26072	OS-PATENT-CLASS-356-241	c14 N72-32452
OS-PATENT-CLASS-352-84	c16 N71-33410	OS-PATENT-CLASS-356-244	c14 N72-17323
OS-PATENT-CLASS-352-84	c14 N72-18411	OS-PATENT-CLASS-356-246	c14 N74-27860
OS-PATENT-CLASS-352-84	c14 N73-14427	OS-PATENT-CLASS-356-248	c14 N72-22444
OS-PATENT-CLASS-352-169	c15 N74-23066	OS-PATENT-CLASS-356-106S	c14 N74-23040
OS-PATENT-CLASS-353-54	c15 N74-23066	OS-PATENT-CLASS-408-80	c15 N74-25968
OS-PATENT-CLASS-353-61	c09 N74-20861	OS-PATENT-CLASS-408-111	c15 N74-25968
OS-PATENT-CLASS-354-234	c23 N74-21300	OS-PATENT-CLASS-408-137	c15 N71-33518
OS-PATENT-CLASS-354-234	c14 N73-33361	OS-PATENT-CLASS-415-181	c28 N74-28226
OS-PATENT-CLASS-355-18	c14 N72-17326	OS-PATENT-CLASS-415-181	c28 N74-31270
OS-PATENT-CLASS-356-4	c07 N73-26119	OS-PATENT-CLASS-416-115	c02 N72-11018
OS-PATENT-CLASS-356-4	c16 N74-15145	OS-PATENT-CLASS-416-121	c02 N72-11018
OS-PATENT-CLASS-356-5	c07 N73-26119	OS-PATENT-CLASS-416-127	c02 N72-11018
OS-PATENT-CLASS-356-5	c16 N74-15145	OS-PATENT-CLASS-416-130	c02 N72-11018
OS-PATENT-CLASS-356-17	c14 N72-21409	OS-PATENT-CLASS-416-149	c02 N72-11018
OS-PATENT-CLASS-356-18	c14 N72-21409	OS-PATENT-CLASS-416-200	c02 N72-11018
OS-PATENT-CLASS-356-28	c21 N71-19212	OS-PATENT-CLASS-416-223	c28 N74-28226
OS-PATENT-CLASS-356-28	c16 N71-24828	OS-PATENT-CLASS-416-237	c28 N74-28226
OS-PATENT-CLASS-356-28	c24 N74-19310	OS-PATENT-CLASS-417-50	c15 N71-27084
OS-PATENT-CLASS-356-32	c14 N72-11364	OS-PATENT-CLASS-417-52	c15 N74-27904
OS-PATENT-CLASS-356-32	c32 N73-20740	OS-PATENT-CLASS-417-152	c15 N72-22489
OS-PATENT-CLASS-356-36	c23 N71-16365	OS-PATENT-CLASS-417-391	c15 N73-24513
OS-PATENT-CLASS-356-43	c14 N74-15095	OS-PATENT-CLASS-417-470	c15 N74-15126
OS-PATENT-CLASS-356-43	c25 N74-30156	OS-PATENT-CLASS-417-471	c15 N74-15126
OS-PATENT-CLASS-356-51	c06 N72-31141	OS-PATENT-CLASS-423-231	c06 N74-12813

NUMBER INDEX

US-PATENT-CLASS-423-446	c15 N73-19457	US-PATENT-3, 100, 990	c14 N70-34813
US-PATENT-CLASS-423-579	c13 N74-13011	US-PATENT-3, 102, 948	c15 N70-34814
US-PATENT-CLASS-423-625	c15 N73-19457	US-PATENT-3, 104, 079	c31 N70-37966
US-PATENT-CLASS-425-28B	c15 N74-32917	US-PATENT-3, 104, 082	c02 N70-38011
US-PATENT-CLASS-425-35	c15 N74-32917	US-PATENT-3, 105, 515	c15 N70-38603
US-PATENT-CLASS-425-77	c15 N72-20446	US-PATENT-3, 106, 603	c09 N70-38201
US-PATENT-CLASS-425-113	c15 N73-13464	US-PATENT-3, 108, 171	c33 N70-34812
US-PATENT-CLASS-425-128	c15 N74-32920	US-PATENT-3, 110, 318	c12 N70-38997
US-PATENT-CLASS-425-133	c15 N73-13464	US-PATENT-3, 112, 672	c11 N70-38202
US-PATENT-CLASS-425-176	c15 N73-13464	US-PATENT-3, 115, 630	c31 N70-37981
US-PATENT-CLASS-425-415	c15 N74-32920	US-PATENT-3, 118, 100	c03 N71-29129
US-PATENT-CLASS-431-9	c23 N73-30665	US-PATENT-3, 119, 232	c28 N70-37980
US-PATENT-CLASS-431-173	c23 N73-30665	US-PATENT-3, 120, 101	c28 N70-34860
US-PATENT-CLASS-431-202	c33 N74-33378	US-PATENT-3, 120, 361	c31 N70-38010
US-PATENT-CLASS-431-352	c28 N71-28915	US-PATENT-3, 120, 738	c28 N70-38249
		US-PATENT-3, 121, 309	c28 N70-35381
US-PATENT-DES-228,688	c02 N74-10907	US-PATENT-3, 122, 000	c15 N70-38020
		US-PATENT-3, 122, 098	c28 N70-38181
US-PATENT-RE-26,548	c07 N71-12389	US-PATENT-3, 122, 885	c28 N70-38710
		US-PATENT-3, 123, 248	c11 N70-38182
		US-PATENT-3, 127, 157	c15 N70-38225
US-PATENT-2, 837, 706	c15 N71-28952	US-PATENT-3, 128, 389	c09 N70-38604
US-PATENT-2, 898, 889	c02 N71-29128	US-PATENT-3, 128, 845	c15 N70-38601
US-PATENT-2, 903, 307	c15 N71-29136	US-PATENT-3, 130, 940	c33 N70-33344
US-PATENT-2, 926, 123	c33 N71-29151	US-PATENT-3, 132, 342	c07 N70-38200
US-PATENT-2, 934, 331	c15 N70-33382	US-PATENT-3, 132, 476	c28 N70-34294
US-PATENT-2, 940, 259	c28 N70-33241	US-PATENT-3, 132, 479	c15 N71-28951
US-PATENT-2, 944, 316	c15 N71-16076	US-PATENT-3, 132, 903	c15 N70-38620
US-PATENT-2, 945, 667	c15 N70-33376	US-PATENT-3, 135, 089	c28 N70-38504
US-PATENT-2, 956, 772	c33 N71-29152	US-PATENT-3, 135, 090	c28 N70-38505
US-PATENT-2, 960, 002	c14 N70-41946	US-PATENT-3, 136, 123	c08 N70-38199
US-PATENT-2, 971, 837	c17 N70-33283	US-PATENT-3, 137, 082	c09 N73-14215
US-PATENT-2, 974, 925	c28 N70-33372	US-PATENT-3, 138, 837	c17 N70-38198
US-PATENT-2, 984, 735	c11 N70-33329	US-PATENT-3, 139, 725	c28 N70-38645
US-PATENT-2, 991, 671	c15 N70-33330	US-PATENT-3, 140, 728	c15 N70-36908
US-PATENT-2, 991, 961	c02 N70-33332	US-PATENT-3, 141, 340	c11 N70-38196
US-PATENT-2, 996, 212	c31 N71-17680	US-PATENT-3, 141, 769	c28 N70-38197
US-PATENT-2, 997, 274	c28 N71-29154	US-PATENT-3, 141, 932	c03 N70-38713
US-PATENT-3, 001, 363	c28 N70-33331	US-PATENT-3, 143, 321	c15 N70-34850
US-PATENT-3, 001, 395	c14 N70-33386	US-PATENT-3, 143, 651	c14 N70-40240
US-PATENT-3, 001, 739	c03 N70-33343	US-PATENT-3, 144, 219	c31 N70-38676
US-PATENT-3, 004, 735	c14 N70-33322	US-PATENT-3, 144, 999	c02 N70-34856
US-PATENT-3, 005, 081	c09 N70-33312	US-PATENT-3, 145, 874	c11 N71-15960
US-PATENT-3, 005, 339	c11 N70-33287	US-PATENT-3, 147, 422	c09 N70-38712
US-PATENT-3, 008, 229	c15 N70-33311	US-PATENT-3, 149, 897	c09 N70-36494
US-PATENT-3, 010, 372	c15 N70-33180	US-PATENT-3, 150, 329	c09 N70-38995
US-PATENT-3, 011, 760	c15 N70-33226	US-PATENT-3, 150, 387	c03 N70-36778
US-PATENT-3, 012, 400	c28 N70-33374	US-PATENT-3, 152, 344	c05 N70-36493
US-PATENT-3, 012, 407	c15 N70-33323	US-PATENT-3, 155, 992	c05 N70-34857
US-PATENT-3, 016, 693	c28 N70-33356	US-PATENT-3, 156, 090	c28 N70-37245
US-PATENT-3, 016, 863	c12 N70-33305	US-PATENT-3, 157, 529	c18 N70-36400
US-PATENT-3, 022, 672	c14 N70-34816	US-PATENT-3, 158, 172	c15 N70-34817
US-PATENT-3, 024, 659	c14 N70-34820	US-PATENT-3, 158, 336	c31 N70-36410
US-PATENT-3, 028, 122	c02 N70-33286	US-PATENT-3, 158, 764	c03 N70-36803
US-PATENT-3, 028, 126	c21 N70-33279	US-PATENT-3, 159, 967	c28 N70-36802
US-PATENT-3, 028, 128	c31 N70-33242	US-PATENT-3, 160, 567	c14 N70-36808
US-PATENT-3, 035, 333	c28 N70-41818	US-PATENT-3, 160, 825	c14 N70-35220
US-PATENT-3, 038, 077	c21 N70-33181	US-PATENT-3, 160, 950	c15 N70-36409
US-PATENT-3, 038, 175	c05 N70-33285	US-PATENT-3, 162, 012	c15 N70-36411
US-PATENT-3, 041, 587	c14 N70-33179	US-PATENT-3, 163, 935	c14 N70-36410
US-PATENT-3, 041, 924	c14 N70-33254	US-PATENT-3, 164, 222	c15 N70-34861
US-PATENT-3, 045, 424	c28 N70-40367	US-PATENT-3, 164, 369	c15 N70-36412
US-PATENT-3, 049, 876	c28 N70-33284	US-PATENT-3, 165, 356	c05 N70-35152
US-PATENT-3, 053, 484	c02 N70-33255	US-PATENT-3, 166, 834	c15 N70-36901
US-PATENT-3, 057, 597	c15 N70-33264	US-PATENT-3, 167, 426	c17 N70-36616
US-PATENT-3, 059, 220	c09 N70-33182	US-PATENT-3, 168, 827	c14 N70-36807
US-PATENT-3, 063, 291	c11 N70-33278	US-PATENT-3, 169, 001	c02 N70-36825
US-PATENT-3, 064, 928	c02 N70-33266	US-PATENT-3, 169, 613	c15 N70-36947
US-PATENT-3, 067, 573	c28 N70-39899	US-PATENT-3, 169, 725	c31 N70-34296
US-PATENT-3, 068, 658	c15 N70-34247	US-PATENT-3, 170, 286	c15 N70-36535
US-PATENT-3, 069, 123	c14 N70-39898	US-PATENT-3, 170, 290	c28 N70-36910
US-PATENT-3, 070, 330	c21 N70-34539	US-PATENT-3, 170, 295	c27 N71-28929
US-PATENT-3, 070, 349	c28 N70-39895	US-PATENT-3, 170, 324	c14 N70-36824
US-PATENT-3, 070, 407	c15 N70-39896	US-PATENT-3, 170, 471	c32 N70-36536
US-PATENT-3, 072, 574	c18 N70-39897	US-PATENT-3, 170, 486	c15 N70-36492
US-PATENT-3, 076, 065	c09 N70-39915	US-PATENT-3, 170, 605	c15 N70-38996
US-PATENT-3, 077, 599	c07 N70-40202	US-PATENT-3, 170, 657	c02 N70-34858
US-PATENT-3, 079, 113	c02 N70-38009	US-PATENT-3, 170, 660	c02 N70-36804
US-PATENT-3, 080, 711	c28 N70-38711	US-PATENT-3, 170, 773	c17 N70-33288
US-PATENT-3, 083, 611	c21 N70-35427	US-PATENT-3, 171, 060	c25 N70-33267
US-PATENT-3, 084, 421	c17 N70-38490	US-PATENT-3, 171, 081	c14 N70-35666
US-PATENT-3, 085, 165	c09 N70-34819	US-PATENT-3, 172, 097	c08 N70-35423
US-PATENT-3, 087, 692	c02 N70-34178	US-PATENT-3, 173, 246	c28 N70-33265
US-PATENT-3, 088, 441	c15 N70-35409	US-PATENT-3, 173, 251	c28 N70-33375
US-PATENT-3, 090, 212	c33 N70-37979	US-PATENT-3, 174, 278	c25 N70-36946
US-PATENT-3, 090, 580	c31 N70-37924	US-PATENT-3, 174, 279	c28 N70-36806
US-PATENT-3, 093, 000	c15 N70-37925	US-PATENT-3, 174, 827	c26 N70-36805
US-PATENT-3, 093, 346	c31 N70-37938	US-PATENT-3, 175, 789	c31 N70-36654
US-PATENT-3, 098, 630	c02 N70-37939	US-PATENT-3, 176, 222	c14 N70-36618
US-PATENT-3, 100, 294	c09 N70-38998		

NUMBER INDEX

US-PATENT-3, 176, 499	c14 N70-35368	US-PATENT-3, 228, 492	c15 N70-40354
US-PATENT-3, 176, 933	c33 N70-36617	US-PATENT-3, 228, 558	c14 N70-40233
US-PATENT-3, 177, 933	c33 N70-36847	US-PATENT-3, 229, 099	c14 N70-40238
US-PATENT-3, 178, 883	c21 N70-36938	US-PATENT-3, 229, 102	c14 N70-40239
US-PATENT-3, 180, 264	c33 N70-36846	US-PATENT-3, 229, 139	c28 N70-39925
US-PATENT-3, 180, 587	c21 N70-36943	US-PATENT-3, 229, 155	c25 N70-41628
US-PATENT-3, 181, 821	c31 N70-36845	US-PATENT-3, 229, 463	c28 N70-39931
US-PATENT-3, 182, 496	c11 N70-36913	US-PATENT-3, 229, 568	c14 N70-40003
US-PATENT-3, 183, 506	c07 N70-36911	US-PATENT-3, 229, 636	c03 N70-39930
US-PATENT-3, 184, 915	c22 N70-34248	US-PATENT-3, 229, 682	c09 N70-40234
US-PATENT-3, 185, 023	c14 N70-34298	US-PATENT-3, 229, 689	c05 N70-39922
US-PATENT-3, 187, 583	c11 N70-38675	US-PATENT-3, 229, 884	c15 N70-39924
US-PATENT-3, 188, 472	c21 N70-34297	US-PATENT-3, 229, 930	c30 N70-40016
US-PATENT-3, 188, 844	c15 N70-34249	US-PATENT-3, 230, 053	c26 N70-40015
US-PATENT-3, 189, 299	c21 N70-34295	US-PATENT-3, 236, 066	c15 N71-28959
US-PATENT-3, 189, 535	c15 N70-34967	US-PATENT-3, 237, 253	c15 N71-15966
US-PATENT-3, 189, 726	c33 N70-34545	US-PATENT-3, 238, 345	c11 N71-15925
US-PATENT-3, 189, 794	c09 N70-34502	US-PATENT-3, 238, 413	c25 N71-29184
US-PATENT-3, 189, 864	c09 N70-34596	US-PATENT-3, 238, 715	c28 N71-14043
US-PATENT-3, 191, 316	c31 N70-34966	US-PATENT-3, 238, 730	c03 N71-12260
US-PATENT-3, 191, 379	c27 N70-35534	US-PATENT-3, 238, 774	c14 N71-14996
US-PATENT-3, 191, 907	c15 N70-34859	US-PATENT-3, 238, 777	c14 N71-15598
US-PATENT-3, 192, 730	c06 N70-34946	US-PATENT-3, 239, 660	c23 N71-30292
US-PATENT-3, 193, 883	c27 N70-34783	US-PATENT-3, 242, 716	c14 N71-15992
US-PATENT-3, 194, 060	c14 N70-34794	US-PATENT-3, 243, 154	c23 N71-15673
US-PATENT-3, 194, 525	c11 N70-35383	US-PATENT-3, 243, 791	c07 N71-11298
US-PATENT-3, 194, 951	c08 N70-34778	US-PATENT-3, 244, 943	c15 N73-28516
US-PATENT-3, 196, 261	c08 N70-34787	US-PATENT-3, 249, 012	c03 N71-12258
US-PATENT-3, 196, 362	c09 N70-35440	US-PATENT-3, 249, 013	c03 N71-12259
US-PATENT-3, 196, 557	c11 N70-34815	US-PATENT-3, 251, 053	c08 N71-12501
US-PATENT-3, 196, 558	c14 N70-35394	US-PATENT-3, 252, 100	c10 N71-28960
US-PATENT-3, 196, 598	c28 N70-34788	US-PATENT-3, 254, 395	c28 N71-15658
US-PATENT-3, 196, 675	c14 N70-34818	US-PATENT-3, 254, 487	c28 N71-15659
US-PATENT-3, 196, 690	c11 N70-34786	US-PATENT-3, 257, 780	c15 N71-15968
US-PATENT-3, 197, 616	c14 N71-28958	US-PATENT-3, 258, 582	c02 N71-13421
US-PATENT-3, 198, 709	c22 N70-34501	US-PATENT-3, 258, 687	c14 N71-15962
US-PATENT-3, 198, 955	c08 N70-34743	US-PATENT-3, 258, 831	c15 N71-15986
US-PATENT-3, 198, 994	c26 N73-28710	US-PATENT-3, 258, 912	c27 N71-15634
US-PATENT-3, 199, 340	c14 N70-34799	US-PATENT-3, 258, 918	c27 N71-15635
US-PATENT-3, 199, 343	c11 N70-34844	US-PATENT-3, 260, 055	c23 N71-15467
US-PATENT-3, 199, 931	c15 N70-34664	US-PATENT-3, 260, 204	c31 N71-15692
US-PATENT-3, 200, 706	c03 N70-34667	US-PATENT-3, 260, 326	c11 N71-28779
US-PATENT-3, 201, 560	c33 N70-34540	US-PATENT-3, 261, 210	c14 N71-15969
US-PATENT-3, 201, 635	c25 N70-34661	US-PATENT-3, 262, 025	c15 N73-32361
US-PATENT-3, 201, 989	c14 N70-40203	US-PATENT-3, 262, 186	c15 N71-16052
US-PATENT-3, 202, 381	c31 N70-34176	US-PATENT-3, 262, 262	c28 N71-15661
US-PATENT-3, 202, 398	c28 N71-28928	US-PATENT-3, 262, 351	c15 N71-15922
US-PATENT-3, 202, 582	c22 N70-34572	US-PATENT-3, 262, 365	c31 N71-15675
US-PATENT-3, 202, 844	c03 N70-34134	US-PATENT-3, 262, 395	c15 N71-30028
US-PATENT-3, 202, 915	c14 N70-38602	US-PATENT-3, 262, 518	c05 N71-11199
US-PATENT-3, 202, 998	c31 N70-34135	US-PATENT-3, 262, 655	c31 N71-15663
US-PATENT-3, 204, 447	c14 N70-34156	US-PATENT-3, 263, 016	c33 N71-15625
US-PATENT-3, 204, 889	c03 N70-34157	US-PATENT-3, 263, 171	c09 N71-13530
US-PATENT-3, 205, 141	c14 N70-34669	US-PATENT-3, 263, 610	c15 N71-13789
US-PATENT-3, 205, 361	c14 N70-34158	US-PATENT-3, 264, 135	c15 N71-16075
US-PATENT-3, 205, 362	c21 N70-35089	US-PATENT-3, 270, 441	c11 N71-16028
US-PATENT-3, 205, 381	c03 N70-35408	US-PATENT-3, 270, 499	c28 N71-15660
US-PATENT-3, 206, 141	c21 N70-35395	US-PATENT-3, 270, 501	c31 N71-15647
US-PATENT-3, 208, 215	c28 N70-34162	US-PATENT-3, 270, 503	c33 N71-15623
US-PATENT-3, 208, 272	c14 N70-34161	US-PATENT-3, 270, 504	c31 N71-15637
US-PATENT-3, 208, 694	c02 N70-34160	US-PATENT-3, 270, 505	c21 N71-15582
US-PATENT-3, 208, 707	c31 N70-34159	US-PATENT-3, 270, 512	c15 N71-15906
US-PATENT-3, 209, 360	c09 N70-35219	US-PATENT-3, 270, 565	c14 N71-30265
US-PATENT-3, 209, 361	c09 N70-35425	US-PATENT-3, 270, 756	c15 N71-15967
US-PATENT-3, 210, 927	c28 N70-34175	US-PATENT-3, 270, 802	c33 N71-24876
US-PATENT-3, 211, 169	c15 N70-35087	US-PATENT-3, 270, 835	c28 N70-41582
US-PATENT-3, 211, 414	c15 N70-35407	US-PATENT-3, 270, 908	c31 N71-15664
US-PATENT-3, 212, 096	c09 N70-35382	US-PATENT-3, 270, 985	c21 N71-15583
US-PATENT-3, 212, 259	c28 N71-29153	US-PATENT-3, 270, 986	c05 N71-12336
US-PATENT-3, 212, 325	c14 N70-34705	US-PATENT-3, 270, 988	c01 N71-13410
US-PATENT-3, 212, 564	c33 N71-29052	US-PATENT-3, 270, 989	c02 N71-11041
US-PATENT-3, 215, 572	c12 N70-40124	US-PATENT-3, 270, 990	c28 N71-15563
US-PATENT-3, 215, 842	c16 N71-28963	US-PATENT-3, 271, 140	c17 N71-15644
US-PATENT-3, 216, 007	c08 N70-40125	US-PATENT-3, 271, 181	c15 N71-16077
US-PATENT-3, 217, 624	c14 N70-40273	US-PATENT-3, 271, 532	c09 N71-16089
US-PATENT-3, 218, 479	c09 N70-40272	US-PATENT-3, 271, 558	c15 N71-15871
US-PATENT-3, 218, 547	c09 N70-40123	US-PATENT-3, 271, 594	c10 N71-28739
US-PATENT-3, 218, 850	c14 N70-40490	US-PATENT-3, 271, 620	c09 N71-12540
US-PATENT-3, 219, 250	c15 N70-40204	US-PATENT-3, 271, 637	c26 N71-18064
US-PATENT-3, 219, 365	c15 N71-28937	US-PATENT-3, 271, 649	c10 N71-16030
US-PATENT-3, 219, 997	c08 N73-28045	US-PATENT-3, 273, 094	c23 N71-29049
US-PATENT-3, 220, 004	c30 N70-40309	US-PATENT-3, 273, 355	c33 N71-17897
US-PATENT-3, 221, 547	c14 N70-40201	US-PATENT-3, 273, 381	c32 N71-17645
US-PATENT-3, 221, 549	c14 N70-40157	US-PATENT-3, 273, 388	c09 N71-16086
US-PATENT-3, 223, 374	c15 N70-40156	US-PATENT-3, 273, 392	c23 N71-17802
US-PATENT-3, 224, 001	c07 N70-40063	US-PATENT-3, 273, 399	c12 N71-24692
US-PATENT-3, 224, 173	c15 N70-40062	US-PATENT-3, 274, 304	c26 N71-17818
US-PATENT-3, 224, 263	c15 N70-40180	US-PATENT-3, 276, 251	c11 N71-15926
US-PATENT-3, 224, 336	c30 N70-40353	US-PATENT-3, 276, 376	c31 N71-17629

BOMBER INDEX

US-PATENT-3,276,602	.....	c32 N71-17609	US-PATENT-3,304,773	.....	c14 N70-41957
US-PATENT-3,276,679	.....	c15 N71-16079	US-PATENT-3,304,799	.....	c03 N70-41954
US-PATENT-3,276,722	.....	c02 N71-16087	US-PATENT-3,304,865	.....	c28 N70-41967
US-PATENT-3,276,726	.....	c31 N71-16081	US-PATENT-3,305,415	.....	c27 N70-41897
US-PATENT-3,276,865	.....	c17 N71-16025	US-PATENT-3,305,636	.....	c08 N70-41961
US-PATENT-3,276,866	.....	c17 N71-16026	US-PATENT-3,305,801	.....	c10 N70-41964
US-PATENT-3,276,946	.....	c23 N71-15978	US-PATENT-3,305,810	.....	c09 N70-41929
US-PATENT-3,277,314	.....	c10 N71-16042	US-PATENT-3,305,861	.....	c21 N70-41930
US-PATENT-3,277,366	.....	c10 N71-16057	US-PATENT-3,305,870	.....	c07 N71-15907
US-PATENT-3,277,373	.....	c07 N71-16088	US-PATENT-3,308,848	.....	c12 N71-16031
US-PATENT-3,277,375	.....	c07 N71-11284	US-PATENT-3,309,012	.....	c33 N71-17610
US-PATENT-3,277,458	.....	c10 N71-16058	US-PATENT-3,309,961	.....	c15 N71-16078
US-PATENT-3,277,486	.....	c31 N71-10747	US-PATENT-3,310,054	.....	c08 N71-15908
US-PATENT-3,279,193	.....	c33 N71-28852	US-PATENT-3,310,138	.....	c12 N71-16894
US-PATENT-3,281,963	.....	c11 N71-10746	US-PATENT-3,310,256	.....	c31 N71-17679
US-PATENT-3,281,964	.....	c11 N71-10776	US-PATENT-3,310,258	.....	c31 N71-17691
US-PATENT-3,281,965	.....	c11 N71-10748	US-PATENT-3,310,261	.....	c02 N71-11038
US-PATENT-3,282,035	.....	c11 N71-10777	US-PATENT-3,310,262	.....	c02 N71-12243
US-PATENT-3,282,091	.....	c14 N71-10781	US-PATENT-3,310,643	.....	c24 N71-10560
US-PATENT-3,282,532	.....	c31 N71-17729	US-PATENT-3,310,699	.....	c14 N73-32324
US-PATENT-3,282,541	.....	c31 N71-24750	US-PATENT-3,310,978	.....	c14 N71-10616
US-PATENT-3,282,739	.....	c03 N71-11053	US-PATENT-3,310,980	.....	c11 N71-10604
US-PATENT-3,282,740	.....	c03 N71-11051	US-PATENT-3,311,315	.....	c07 N71-10609
US-PATENT-3,283,088	.....	c10 N71-15909	US-PATENT-3,311,502	.....	c03 N71-10608
US-PATENT-3,283,175	.....	c10 N71-15910	US-PATENT-3,311,510	.....	c26 N71-10607
US-PATENT-3,283,241	.....	c14 N71-16014	US-PATENT-3,311,748	.....	c21 N71-10678
US-PATENT-3,286,274	.....	c05 N71-12335	US-PATENT-3,311,772	.....	c09 N71-10618
US-PATENT-3,286,531	.....	c30 N71-17788	US-PATENT-3,311,832	.....	c07 N71-10775
US-PATENT-3,286,629	.....	c31 N71-17730	US-PATENT-3,312,101	.....	c14 N71-10774
US-PATENT-3,286,630	.....	c31 N71-10582	US-PATENT-3,316,716	.....	c28 N71-10780
US-PATENT-3,286,882	.....	c27 N71-29155	US-PATENT-3,316,752	.....	c14 N71-10779
US-PATENT-3,286,953	.....	c21 N70-41856	US-PATENT-3,316,991	.....	c14 N71-10773
US-PATENT-3,286,957	.....	c02 N70-41863	US-PATENT-3,317,180	.....	c15 N71-10778
US-PATENT-3,287,031	.....	c15 N70-41808	US-PATENT-3,317,341	.....	c18 N71-10772
US-PATENT-3,287,174	.....	c03 N70-41864	US-PATENT-3,317,352	.....	c03 N71-10728
US-PATENT-3,287,496	.....	c14 N70-41807	US-PATENT-3,317,641	.....	c15 N71-10672
US-PATENT-3,287,582	.....	c28 N70-41576	US-PATENT-3,317,731	.....	c21 N71-10771
US-PATENT-3,287,640	.....	c09 N70-41655	US-PATENT-3,317,751	.....	c09 N71-10673
US-PATENT-3,287,660	.....	c16 N70-41578	US-PATENT-3,317,797	.....	c10 N71-28783
US-PATENT-3,287,725	.....	c07 N70-41680	US-PATENT-3,317,832	.....	c09 N71-10659
US-PATENT-3,289,205	.....	c07 N70-41678	US-PATENT-3,318,093	.....	c15 N71-10658
US-PATENT-3,295,360	.....	c14 N70-41681	US-PATENT-3,318,096	.....	c28 N71-28849
US-PATENT-3,295,366	.....	c11 N70-41677	US-PATENT-3,318,343	.....	c15 N71-10809
US-PATENT-3,295,377	.....	c14 N70-41682	US-PATENT-3,318,622	.....	c15 N71-10799
US-PATENT-3,295,386	.....	c05 N70-41581	US-PATENT-3,319,175	.....	c09 N71-10798
US-PATENT-3,295,512	.....	c03 N70-41580	US-PATENT-3,319,979	.....	c15 N71-10782
US-PATENT-3,295,545	.....	c15 N70-41646	US-PATENT-3,320,669	.....	c15 N70C-42017
US-PATENT-3,295,556	.....	c32 N70-41579	US-PATENT-3,321,034	.....	c15 N70-42034
US-PATENT-3,295,684	.....	c28 N70-41447	US-PATENT-3,321,154	.....	c31 N70-42075
US-PATENT-3,295,699	.....	c32 N70-41367	US-PATENT-3,321,157	.....	c02 N70-42016
US-PATENT-3,295,782	.....	c14 N70-41647	US-PATENT-3,321,159	.....	c31 N70-42015
US-PATENT-3,295,790	.....	c31 N70-41588	US-PATENT-3,321,570	.....	c15 N70-41960
US-PATENT-3,295,798	.....	c02 N70-41589	US-PATENT-3,321,628	.....	c10 N70-41991
US-PATENT-3,295,808	.....	c15 N70-41310	US-PATENT-3,321,645	.....	c10 N70-42032
US-PATENT-3,296,060	.....	c18 N70-41583	US-PATENT-3,321,922	.....	c28 N70-41992
US-PATENT-3,296,526	.....	c14 N70-41332	US-PATENT-3,323,356	.....	c15 N70-41993
US-PATENT-3,296,531	.....	c07 N70-41331	US-PATENT-3,323,362	.....	c14 N70-41994
US-PATENT-3,298,175	.....	c33 N71-29053	US-PATENT-3,323,370	.....	c05 N70-42000
US-PATENT-3,298,182	.....	c28 N70-41311	US-PATENT-3,323,386	.....	c03 N70-42073
US-PATENT-3,298,221	.....	c14 N70-41330	US-PATENT-3,323,408	.....	c14 N70-41955
US-PATENT-3,298,285	.....	c32 N70-41370	US-PATENT-3,323,484	.....	c14 N70-42074
US-PATENT-3,298,362	.....	c05 N70-41329	US-PATENT-3,323,967	.....	c15 N70C-42033
US-PATENT-3,298,582	.....	c14 N71-28935	US-PATENT-3,324,370	.....	c09 N71-10677
US-PATENT-3,299,364	.....	c16 N71-15550	US-PATENT-3,324,388	.....	c14 N71-10797
US-PATENT-3,299,431	.....	c07 N71-28979	US-PATENT-3,324,423	.....	c07 N71-10676
US-PATENT-3,299,913	.....	c15 N71-15918	US-PATENT-3,324,659	.....	c28 N71-10574
US-PATENT-3,300,162	.....	c31 N70-41373	US-PATENT-3,325,229	.....	c15 N71-10617
US-PATENT-3,300,717	.....	c25 N71-15650	US-PATENT-3,325,723	.....	c10 N71-10578
US-PATENT-3,300,731	.....	c07 N70-41372	US-PATENT-3,325,749	.....	c09 N71-28810
US-PATENT-3,300,847	.....	c15 N70-41371	US-PATENT-3,326,043	.....	c14 N71-10500
US-PATENT-3,300,949	.....	c05 N70-41297	US-PATENT-3,326,407	.....	c15 N71-10577
US-PATENT-3,300,981	.....	c28 N70-41275	US-PATENT-3,327,298	.....	c08 N71-21042
US-PATENT-3,301,046	.....	c14 N70-41366	US-PATENT-3,327,991	.....	c15 N71-21234
US-PATENT-3,301,315	.....	c09 N70-41717	US-PATENT-3,328,624	.....	c28 N71-28850
US-PATENT-3,301,507	.....	c31 N70-41631	US-PATENT-3,329,375	.....	c21 N71-21708
US-PATENT-3,301,511	.....	c02 N70-41630	US-PATENT-3,329,918	.....	c09 N71-21583
US-PATENT-3,301,578	.....	c15 N70-41629	US-PATENT-3,330,052	.....	c11 N71-21474
US-PATENT-3,302,023	.....	c14 N70-41676	US-PATENT-3,330,082	.....	c15 N71-21531
US-PATENT-3,302,040	.....	c09 N70-41675	US-PATENT-3,330,510	.....	c31 N71-28851
US-PATENT-3,302,569	.....	c15 N70-41679	US-PATENT-3,330,549	.....	c15 N71-21530
US-PATENT-3,302,633	.....	c05 N70-41819	US-PATENT-3,331,071	.....	c07 N71-28900
US-PATENT-3,302,662	.....	c15 N70-41811	US-PATENT-3,331,246	.....	c11 N71-21475
US-PATENT-3,302,960	.....	c15 N70-41829	US-PATENT-3,331,255	.....	c15 N71-21529
US-PATENT-3,303,304	.....	c14 N70-41812	US-PATENT-3,331,404	.....	c12 N71-21089
US-PATENT-3,304,028	.....	c31 N70-41855	US-PATENT-3,331,951	.....	c21 N71-21688
US-PATENT-3,304,718	.....	c28 N70-41922	US-PATENT-3,333,152	.....	c25 N71-21693
US-PATENT-3,304,724	.....	c31 N70-41948	US-PATENT-3,333,788	.....	c31 N71-21881
US-PATENT-3,304,729	.....	c31 N70-41871	US-PATENT-3,334,225	.....	c14 N73-32325
US-PATENT-3,304,768	.....	c32 N70-42003	US-PATENT-3,336,725	.....	c15 N71-21528

NUMBER INDEX

US-PATENT-3, 336, 748	.....	c25 N71-21694	US-PATENT-3, 361, 666	.....	c15 N71-21403
US-PATENT-3, 336, 754	.....	c28 N71-22983	US-PATENT-3, 361, 985	.....	c10 N71-20852
US-PATENT-3, 337, 004	.....	c14 N71-23092	US-PATENT-3, 364, 311	.....	c07 N71-20814
US-PATENT-3, 337, 279	.....	c05 N71-23080	US-PATENT-3, 364, 366	.....	c09 N71-28926
US-PATENT-3, 337, 315	.....	c18 N71-23088	US-PATENT-3, 364, 578	.....	c14 N71-21079
US-PATENT-3, 337, 337	.....	c18 N71-22894	US-PATENT-3, 364, 631	.....	c32 N71-21045
US-PATENT-3, 337, 790	.....	c12 N71-20896	US-PATENT-3, 364, 777	.....	c15 N71-20740
US-PATENT-3, 337, 812	.....	c09 N71-23097	US-PATENT-3, 364, 813	.....	c09 N71-22999
US-PATENT-3, 339, 404	.....	c14 N71-22765	US-PATENT-3, 365, 657	.....	c10 N71-22961
US-PATENT-3, 339, 863	.....	c14 N71-23040	US-PATENT-3, 365, 665	.....	c14 N71-23037
US-PATENT-3, 340, 099	.....	c03 N71-23006	US-PATENT-3, 365, 897	.....	c33 N71-28892
US-PATENT-3, 340, 395	.....	c14 N71-23041	US-PATENT-3, 365, 930	.....	c14 N71-22964
US-PATENT-3, 340, 397	.....	c11 N71-23042	US-PATENT-3, 365, 941	.....	c14 N71-22965
US-PATENT-3, 340, 430	.....	c09 N71-22796	US-PATENT-3, 366, 886	.....	c10 N71-22962
US-PATENT-3, 340, 532	.....	c10 N71-21473	US-PATENT-3, 366, 894	.....	c10 N71-23084
US-PATENT-3, 340, 599	.....	c09 N71-23027	US-PATENT-3, 367, 114	.....	c28 N71-23081
US-PATENT-3, 340, 713	.....	c15 N71-22723	US-PATENT-3, 367, 121	.....	c15 N71-23025
US-PATENT-3, 340, 732	.....	c02 N71-23007	US-PATENT-3, 367, 182	.....	c33 N71-23085
US-PATENT-3, 341, 151	.....	c31 N71-23009	US-PATENT-3, 367, 224	.....	c15 N71-22798
US-PATENT-3, 341, 169	.....	c15 N71-23024	US-PATENT-3, 367, 271	.....	c15 N71-24042
US-PATENT-3, 341, 708	.....	c16 N71-22895	US-PATENT-3, 367, 308	.....	c11 N71-22875
US-PATENT-3, 341, 778	.....	c07 N71-23098	US-PATENT-3, 367, 445	.....	c15 N71-23048
US-PATENT-3, 341, 977	.....	c15 N71-22705	US-PATENT-3, 368, 486	.....	c15 N71-22874
US-PATENT-3, 342, 055	.....	c15 N71-22797	US-PATENT-3, 369, 222	.....	c08 N71-22707
US-PATENT-3, 342, 066	.....	c11 N71-23030	US-PATENT-3, 369, 223	.....	c08 N71-22710
US-PATENT-3, 342, 653	.....	c15 N71-22713	US-PATENT-3, 369, 564	.....	c15 N71-23051
US-PATENT-3, 343, 180	.....	c05 N71-23159	US-PATENT-3, 370, 039	.....	c06 N71-28807
US-PATENT-3, 343, 189	.....	c05 N71-22748	US-PATENT-3, 372, 588	.....	c33 N71-29051
US-PATENT-3, 344, 340	.....	c09 N71-21449	US-PATENT-3, 373, 069	.....	c15 N71-23052
US-PATENT-3, 344, 425	.....	c10 N71-21483	US-PATENT-3, 373, 404	.....	c08 N71-22749
US-PATENT-3, 345, 820	.....	c28 N71-21822	US-PATENT-3, 373, 430	.....	c09 N71-22888
US-PATENT-3, 345, 822	.....	c27 N71-21819	US-PATENT-3, 373, 431	.....	c07 N71-22750
US-PATENT-3, 345, 840	.....	c15 N71-21536	US-PATENT-3, 373, 640	.....	c15 N71-22722
US-PATENT-3, 345, 866	.....	c11 N71-21481	US-PATENT-3, 373, 914	.....	c15 N71-23050
US-PATENT-3, 346, 419	.....	c03 N71-20895	US-PATENT-3, 374, 339	.....	c08 N71-22897
US-PATENT-3, 346, 442	.....	c18 N71-21651	US-PATENT-3, 374, 366	.....	c09 N71-23015
US-PATENT-3, 346, 515	.....	c06 N71-20905	US-PATENT-3, 374, 830	.....	c33 N71-22890
US-PATENT-3, 346, 724	.....	c15 N71-21179	US-PATENT-3, 375, 451	.....	c10 N71-22986
US-PATENT-3, 346, 806	.....	c14 N71-21090	US-PATENT-3, 375, 479	.....	c15 N71-23049
US-PATENT-3, 346, 929	.....	c15 N71-21076	US-PATENT-3, 375, 885	.....	c15 N71-32362
US-PATENT-3, 347, 046	.....	c33 N71-21507	US-PATENT-3, 376, 730	.....	c14 N71-22995
US-PATENT-3, 347, 309	.....	c33 N71-29046	US-PATENT-3, 377, 208	.....	c14 N71-23039
US-PATENT-3, 347, 465	.....	c18 N71-21068	US-PATENT-3, 377, 845	.....	c14 N71-22992
US-PATENT-3, 347, 466	.....	c28 N71-21493	US-PATENT-3, 378, 315	.....	c15 N71-22997
US-PATENT-3, 347, 531	.....	c15 N71-21177	US-PATENT-3, 378, 851	.....	c05 N71-23096
US-PATENT-3, 347, 665	.....	c17 N71-20743	US-PATENT-3, 378, 892	.....	c15 N71-22994
US-PATENT-3, 348, 048	.....	c14 N71-21088	US-PATENT-3, 379, 052	.....	c14 N71-32321
US-PATENT-3, 348, 053	.....	c10 N71-20782	US-PATENT-3, 379, 064	.....	c14 N71-23093
US-PATENT-3, 348, 152	.....	c10 N71-20841	US-PATENT-3, 379, 330	.....	c23 N71-22881
US-PATENT-3, 348, 218	.....	c10 N71-29135	US-PATENT-3, 379, 885	.....	c09 N71-22985
US-PATENT-3, 349, 814	.....	c33 N71-20834	US-PATENT-3, 379, 974	.....	c14 N71-22990
US-PATENT-3, 350, 033	.....	c14 N71-21082	US-PATENT-3, 380, 042	.....	c07 N71-23001
US-PATENT-3, 350, 034	.....	c31 N71-21064	US-PATENT-3, 380, 049	.....	c10 N71-23099
US-PATENT-3, 350, 214	.....	c17 N71-20941	US-PATENT-3, 381, 339	.....	c06 N71-22975
US-PATENT-3, 350, 643	.....	c07 N71-20791	US-PATENT-3, 381, 517	.....	c09 N71-22988
US-PATENT-3, 350, 671	.....	c09 N71-20842	US-PATENT-3, 381, 527	.....	c15 N71-22878
US-PATENT-3, 350, 926	.....	c14 N71-21091	US-PATENT-3, 381, 569	.....	c21 N71-22880
US-PATENT-3, 352, 157	.....	c14 N71-21072	US-PATENT-3, 381, 778	.....	c15 N71-22877
US-PATENT-3, 352, 192	.....	c15 N71-21489	US-PATENT-3, 382, 082	.....	c18 N71-22998
US-PATENT-3, 353, 359	.....	c28 N71-20942	US-PATENT-3, 382, 105	.....	c03 N71-29044
US-PATENT-3, 354, 098	.....	c06 N71-20717	US-PATENT-3, 382, 107	.....	c03 N71-22974
US-PATENT-3, 354, 320	.....	c23 N71-21821	US-PATENT-3, 382, 714	.....	c14 N71-22989
US-PATENT-3, 354, 462	.....	c14 N71-21006	US-PATENT-3, 383, 461	.....	c14 N71-23026
US-PATENT-3, 355, 861	.....	c18 N71-20742	US-PATENT-3, 383, 524	.....	c07 N71-23029
US-PATENT-3, 355, 948	.....	c14 N71-21007	US-PATENT-3, 383, 903	.....	c14 N71-23036
US-PATENT-3, 356, 320	.....	c05 N71-20718	US-PATENT-3, 383, 922	.....	c14 N71-22752
US-PATENT-3, 356, 549	.....	c15 N71-21404	US-PATENT-3, 384, 016	.....	c31 N71-23008
US-PATENT-3, 356, 885	.....	c25 N71-20747	US-PATENT-3, 384, 075	.....	c05 N71-22896
US-PATENT-3, 357, 024	.....	c12 N71-20815	US-PATENT-3, 384, 111	.....	c15 N71-22706
US-PATENT-3, 357, 093	.....	c15 N71-21078	US-PATENT-3, 384, 324	.....	c33 N71-22792
US-PATENT-3, 357, 237	.....	c33 N71-21586	US-PATENT-3, 384, 820	.....	c09 N71-23021
US-PATENT-3, 357, 862	.....	c03 N71-20904	US-PATENT-3, 384, 895	.....	c07 N71-22984
US-PATENT-3, 358, 145	.....	c14 N71-21040	US-PATENT-3, 385, 036	.....	c15 N71-22721
US-PATENT-3, 358, 264	.....	c09 N71-20851	US-PATENT-3, 386, 337	.....	c15 N71-22799
US-PATENT-3, 359, 046	.....	c15 N71-20739	US-PATENT-3, 386, 685	.....	c31 N71-22968
US-PATENT-3, 359, 132	.....	c09 N71-20705	US-PATENT-3, 386, 686	.....	c31 N71-22969
US-PATENT-3, 355, 409	.....	c07 N71-21476	US-PATENT-3, 387, 149	.....	c14 N71-22993
US-PATENT-3, 359, 435	.....	c15 N71-21311	US-PATENT-3, 388, 258	.....	c14 N71-22996
US-PATENT-3, 359, 555	.....	c09 N71-20864	US-PATENT-3, 388, 387	.....	c10 N71-23033
US-PATENT-3, 359, 819	.....	c15 N71-21744	US-PATENT-3, 388, 590	.....	c14 N71-23087
US-PATENT-3, 359, 855	.....	c23 N71-21882	US-PATENT-3, 389, 017	.....	c15 N71-23022
US-PATENT-3, 360, 798	.....	c09 N71-20658	US-PATENT-3, 389, 260	.....	c14 N71-23269
US-PATENT-3, 360, 864	.....	c14 N71-24693	US-PATENT-3, 389, 346	.....	c10 N71-28859
US-PATENT-3, 360, 972	.....	c15 N71-24833	US-PATENT-3, 389, 877	.....	c15 N71-28936
US-PATENT-3, 360, 980	.....	c14 N71-20741	US-PATENT-3, 390, 017	.....	c03 N71-23336
US-PATENT-3, 360, 988	.....	c09 N71-20816	US-PATENT-3, 390, 020	.....	c26 N71-23654
US-PATENT-3, 361, 045	.....	c15 N71-21060	US-PATENT-3, 390, 282	.....	c09 N71-23311
US-PATENT-3, 361, 067	.....	c26 N71-21824	US-PATENT-3, 390, 378	.....	c08 N71-23295
US-PATENT-3, 361, 400	.....	c15 N71-20813	US-PATENT-3, 391, 080	.....	c15 N71-24046

NUMBER INDEX

US-PATENT-3, 392, 403	c23 N71-23976	US-PATENT-3, 421, 004	c14 N71-19568
US-PATENT-3, 392, 586	c14 N71-24232	US-PATENT-3, 421, 053	c15 N69-21472
US-PATENT-3, 392, 864	c18 N71-23658	US-PATENT-3, 421, 056	c14 N69-23191
US-PATENT-3, 392, 865	c15 N71-23816	US-PATENT-3, 421, 105	c09 N69-21543
US-PATENT-3, 392, 936	c01 N71-23497	US-PATENT-3, 421, 134	c09 N69-21470
US-PATENT-3, 393, 059	c06 N71-23499	US-PATENT-3, 421, 331	c15 N69-23190
US-PATENT-3, 393, 330	c22 N71-23599	US-PATENT-3, 421, 363	c11 N69-21540
US-PATENT-3, 393, 332	c09 N71-23443	US-PATENT-3, 421, 506	c05 N69-23192
US-PATENT-3, 393, 347	c10 N71-23543	US-PATENT-3, 421, 541	c15 N69-21924
US-PATENT-3, 393, 380	c10 N71-23544	US-PATENT-3, 421, 549	c03 N69-21469
US-PATENT-3, 393, 384	c09 N71-23573	US-PATENT-3, 421, 591	c14 N69-21923
US-PATENT-3, 394, 286	c14 N73-30391	US-PATENT-3, 421, 700	c15 N69-23185
US-PATENT-3, 394, 359	c08 N71-28925	US-PATENT-3, 421, 768	c15 N69-21362
US-PATENT-3, 394, 975	c23 N71-30027	US-PATENT-3, 421, 864	c17 N71-23046
US-PATENT-3, 395, 053	c18 N71-23047	US-PATENT-3, 421, 948	c03 N69-21337
US-PATENT-3, 395, 565	c14 N73-30390	US-PATENT-3, 422, 213	c03 N69-21539
US-PATENT-3, 396, 057	c26 N71-23043	US-PATENT-3, 422, 278	c09 N69-21468
US-PATENT-3, 396, 184	c06 N71-28808	US-PATENT-3, 422, 291	c25 N69-21929
US-PATENT-3, 396, 303	c09 N71-22987	US-PATENT-3, 422, 324	c14 N69-21541
US-PATENT-3, 396, 584	c14 N71-30026	US-PATENT-3, 422, 352	c14 N71-19431
US-PATENT-3, 396, 920	c31 N71-29050	US-PATENT-3, 422, 354	c09 N69-21926
US-PATENT-3, 397, 094	c26 N71-29156	US-PATENT-3, 422, 390	c09 N69-21927
US-PATENT-3, 397, 117	c15 N71-23086	US-PATENT-3, 422, 403	c08 N69-21928
US-PATENT-3, 397, 318	c14 N71-22991	US-PATENT-3, 422, 440	c09 N69-21467
US-PATENT-3, 397, 512	c15 N71-23023	US-PATENT-3, 423, 179	c15 N69-21922
US-PATENT-3, 397, 932	c15 N71-22982	US-PATENT-3, 423, 290	c06 N71-17705
US-PATENT-3, 399, 299	c10 N71-23662	US-PATENT-3, 423, 579	c09 N71-19440
US-PATENT-3, 399, 574	c32 N71-24285	US-PATENT-3, 423, 608	c09 N69-21313
US-PATENT-3, 402, 265	c09 N73-28084	US-PATENT-3, 424, 966	c10 N71-20448
US-PATENT-3, 404, 289	c09 N71-23545	US-PATENT-3, 425, 131	c15 N71-19489
US-PATENT-3, 404, 348	c14 N74-22096	US-PATENT-3, 425, 268	c14 N69-39975
US-PATENT-3, 405, 406	c05 N71-23161	US-PATENT-3, 425, 272	c14 N71-20439
US-PATENT-3, 405, 887	c31 N71-24315	US-PATENT-3, 425, 276	c14 N69-24257
US-PATENT-3, 406, 336	c10 N71-24863	US-PATENT-3, 425, 486	c05 N71-24147
US-PATENT-3, 406, 742	c33 N71-24276	US-PATENT-3, 425, 487	c05 N71-19439
US-PATENT-3, 407, 304	c14 N71-23240	US-PATENT-3, 425, 885	c15 N69-24322
US-PATENT-3, 408, 816	c28 N71-24736	US-PATENT-3, 426, 219	c09 N69-24317
US-PATENT-3, 408, 870	c14 N71-23227	US-PATENT-3, 426, 230	c15 N69-24319
US-PATENT-3, 409, 247	c33 N71-28903	US-PATENT-3, 426, 263	c03 N71-19438
US-PATENT-3, 409, 252	c15 N71-23255	US-PATENT-3, 426, 272	c14 N69-39785
US-PATENT-3, 409, 554	c26 N71-23292	US-PATENT-3, 426, 746	c05 N71-26293
US-PATENT-3, 409, 730	c33 N71-24145	US-PATENT-3, 426, 791	c15 N71-19569
US-PATENT-3, 411, 356	c14 N71-23226	US-PATENT-3, 427, 047	c15 N69-27490
US-PATENT-3, 412, 559	c28 N71-23293	US-PATENT-3, 427, 089	c23 N69-24332
US-PATENT-3, 412, 598	c14 N71-23225	US-PATENT-3, 427, 093	c09 N71-19479
US-PATENT-3, 412, 729	c04 N71-23185	US-PATENT-3, 427, 097	c11 N69-24321
US-PATENT-3, 412, 961	c32 N71-23971	US-PATENT-3, 427, 205	c15 N69-24320
US-PATENT-3, 413, 115	c17 N71-23365	US-PATENT-3, 427, 435	c17 N69-25147
US-PATENT-3, 413, 393	c17 N71-29137	US-PATENT-3, 427, 454	c05 N71-19440
US-PATENT-3, 413, 510	c09 N71-23190	US-PATENT-3, 427, 525	c03 N69-21330
US-PATENT-3, 413, 536	c03 N71-24605	US-PATENT-3, 428, 761	c09 N69-24329
US-PATENT-3, 414, 012	c09 N71-23191	US-PATENT-3, 428, 812	c14 N69-27485
US-PATENT-3, 414, 358	c14 N71-23175	US-PATENT-3, 428, 847	c15 N69-24266
US-PATENT-3, 415, 032	c15 N71-23256	US-PATENT-3, 428, 910	c09 N69-24330
US-PATENT-3, 415, 069	c15 N71-24044	US-PATENT-3, 428, 919	c07 N69-24334
US-PATENT-3, 415, 116	c14 N71-23790	US-PATENT-3, 428, 923	c07 N69-27462
US-PATENT-3, 415, 126	c21 N71-23289	US-PATENT-3, 429, 058	c12 N69-39988
US-PATENT-3, 415, 156	c15 N71-24043	US-PATENT-3, 429, 177	c06 N69-39733
US-PATENT-3, 415, 643	c17 N71-23248	US-PATENT-3, 429, 477	c15 N69-27502
US-PATENT-3, 416, 106	c09 N71-24808	US-PATENT-3, 430, 063	c09 N69-27500
US-PATENT-3, 416, 274	c31 N71-24035	US-PATENT-3, 430, 115	c09 N69-24318
US-PATENT-3, 416, 939	c18 N71-24183	US-PATENT-3, 430, 131	c24 N71-20518
US-PATENT-3, 416, 975	c17 N71-23828	US-PATENT-3, 430, 182	c14 N69-27431
US-PATENT-3, 416, 988	c15 N71-24164	US-PATENT-3, 430, 227	c08 N71-19687
US-PATENT-3, 417, 247	c14 N71-23797	US-PATENT-3, 430, 237	c07 N69-39974
US-PATENT-3, 417, 266	c09 N71-23270	US-PATENT-3, 430, 460	c15 N69-27505
US-PATENT-3, 417, 298	c10 N71-23271	US-PATENT-3, 430, 902	c14 N69-27486
US-PATENT-3, 417, 316	c14 N71-23174	US-PATENT-3, 430, 909	c11 N69-27466
US-PATENT-3, 417, 321	c09 N71-23316	US-PATENT-3, 430, 937	c15 N69-27483
US-PATENT-3, 417, 332	c07 N71-23405	US-PATENT-3, 430, 942	c15 N69-27504
US-PATENT-3, 417, 399	c30 N71-23723	US-PATENT-3, 431, 149	c14 N69-27459
US-PATENT-3, 417, 400	c07 N71-28809	US-PATENT-3, 431, 397	c15 N69-27871
US-PATENT-3, 419, 329	c14 N71-23268	US-PATENT-3, 431, 460	c09 N71-23189
US-PATENT-3, 419, 363	c18 N71-23710	US-PATENT-3, 431, 559	c09 N69-24333
US-PATENT-3, 419, 384	c17 N73-28573	US-PATENT-3, 432, 730	c09 N69-27422
US-PATENT-3, 419, 433	c03 N71-23187	US-PATENT-3, 433, 015	c28 N71-20330
US-PATENT-3, 419, 537	c06 N71-23500	US-PATENT-3, 433, 079	c14 N69-27503
US-PATENT-3, 419, 827	c09 N71-23548	US-PATENT-3, 433, 662	c14 N71-20461
US-PATENT-3, 419, 964	c14 N69-21363	US-PATENT-3, 433, 818	c06 N71-23230
US-PATENT-3, 419, 992	c14 N71-23401	US-PATENT-3, 433, 909	c10 N71-23663
US-PATENT-3, 420, 069	c15 N69-21465	US-PATENT-3, 433, 953	c14 N69-27484
US-PATENT-3, 420, 223	c05 N69-21925	US-PATENT-3, 433, 960	c16 N69-27491
US-PATENT-3, 420, 225	c05 N69-21473	US-PATENT-3, 433, 961	c14 N69-27432
US-PATENT-3, 420, 253	c12 N69-21466	US-PATENT-3, 434, 033	c09 N69-39984
US-PATENT-3, 420, 338	c15 N71-26243	US-PATENT-3, 434, 037	c10 N71-26414
US-PATENT-3, 420, 471	c05 N69-21380	US-PATENT-3, 434, 050	c09 N71-20569
US-PATENT-3, 420, 704	c15 N69-21460	US-PATENT-3, 434, 064	c09 N69-39986
US-PATENT-3, 420, 945	c09 N69-21542	US-PATENT-3, 434, 855	c18 N71-24184
US-PATENT-3, 420, 978	c15 N69-21471	US-PATENT-3, 434, 885	c03 N71-20492



NUMBER INDEX

US-PATENT-3,435,246	.....	c14 N69-24331	US-PATENT-3,463,563	.....	c15 N71-23812
US-PATENT-3,437,394	.....	c14 N69-27461	US-PATENT-3,463,673	.....	c03 N71-20491
US-PATENT-3,437,527	.....	c03 N69-24267	US-PATENT-3,463,679	.....	c17 N71-24142
US-PATENT-3,437,560	.....	c04 N69-27487	US-PATENT-3,463,761	.....	c06 N73-30099
US-PATENT-3,437,818	.....	c03 N71-23354	US-PATENT-3,463,762	.....	c06 N73-30100
US-PATENT-3,437,832	.....	c09 N69-27463	US-PATENT-3,463,939	.....	c10 N71-19471
US-PATENT-3,437,874	.....	c08 N71-20571	US-PATENT-3,464,012	.....	c14 N71-26244
US-PATENT-3,437,903	.....	c03 N69-25146	US-PATENT-3,464,016	.....	c10 N71-19472
US-PATENT-3,437,919	.....	c14 N69-27423	US-PATENT-3,464,018	.....	c09 N71-23525
US-PATENT-3,437,935	.....	c09 N69-24324	US-PATENT-3,464,049	.....	c32 N71-15974
US-PATENT-3,437,959	.....	c07 N69-24323	US-PATENT-3,464,051	.....	c15 N71-17685
US-PATENT-3,438,044	.....	c07 N69-27460	US-PATENT-3,465,482	.....	c31 N71-16080
US-PATENT-3,438,263	.....	c14 N71-20435	US-PATENT-3,465,567	.....	c15 N71-18579
US-PATENT-3,439,886	.....	c31 N69-27499	US-PATENT-3,465,569	.....	c14 N71-17659
US-PATENT-3,440,419	.....	c14 N73-28491	US-PATENT-3,465,584	.....	c14 N71-23726
US-PATENT-3,443,128	.....	c03 N69-39890	US-PATENT-3,465,638	.....	c11 N71-18578
US-PATENT-3,443,208	.....	c14 N71-20428	US-PATENT-3,465,986	.....	c31 N71-20396
US-PATENT-3,443,384	.....	c28 N71-24321	US-PATENT-3,466,052	.....	c15 N71-19570
US-PATENT-3,443,390	.....	c11 N71-24964	US-PATENT-3,466,085	.....	c05 N71-12343
US-PATENT-3,443,412	.....	c15 N71-23811	US-PATENT-3,466,198	.....	c03 N71-19545
US-PATENT-3,443,416	.....	c06 N69-39936	US-PATENT-3,466,243	.....	c15 N71-23810
US-PATENT-3,443,472	.....	c15 N71-23254	US-PATENT-3,466,418	.....	c15 N71-18613
US-PATENT-3,443,583	.....	c14 N71-18625	US-PATENT-3,466,424	.....	c15 N71-20395
US-PATENT-3,443,584	.....	c32 N71-16106	US-PATENT-3,466,459	.....	c09 N71-26000
US-PATENT-3,443,732	.....	c15 N71-15607	US-PATENT-3,466,484	.....	c14 N71-18482
US-PATENT-3,443,773	.....	c31 N71-23912	US-PATENT-3,466,560	.....	c09 N71-19466
US-PATENT-3,443,779	.....	c01 N69-39981	US-PATENT-3,466,570	.....	c10 N71-25950
US-PATENT-3,444,051	.....	c05 N71-11207	US-PATENT-3,467,837	.....	c05 N71-23317
US-PATENT-3,444,127	.....	c06 N71-11237	US-PATENT-3,468,303	.....	c09 N71-26002
US-PATENT-3,444,375	.....	c14 N71-15599	US-PATENT-3,468,548	.....	c15 N71-26294
US-PATENT-3,444,380	.....	c07 N69-39980	US-PATENT-3,468,609	.....	c16 N71-24170
US-PATENT-3,446,075	.....	c14 N73-30394	US-PATENT-3,468,727	.....	c14 N71-25892
US-PATENT-3,446,387	.....	c15 N69-39935	US-PATENT-3,468,765	.....	c17 N71-25903
US-PATENT-3,446,558	.....	c16 N71-24074	US-PATENT-3,469,068	.....	c15 N71-23815
US-PATENT-3,446,642	.....	c18 N69-39895	US-PATENT-3,469,069	.....	c15 N71-23798
US-PATENT-3,446,676	.....	c03 N71-11050	US-PATENT-3,469,087	.....	c16 N71-25914
US-PATENT-3,446,960	.....	c14 N69-39982	US-PATENT-3,469,289	.....	c15 N71-25975
US-PATENT-3,446,992	.....	c09 N69-39987	US-PATENT-3,469,375	.....	c14 N71-18483
US-PATENT-3,446,997	.....	c03 N69-39898	US-PATENT-3,469,436	.....	c15 N71-23817
US-PATENT-3,446,998	.....	c09 N69-39929	US-PATENT-3,469,437	.....	c14 N71-24234
US-PATENT-3,447,003	.....	c09 N71-20446	US-PATENT-3,469,734	.....	c11 N71-17600
US-PATENT-3,447,015	.....	c06 N69-39889	US-PATENT-3,470,043	.....	c15 N71-24047
US-PATENT-3,447,071	.....	c25 N69-39884	US-PATENT-3,470,304	.....	c14 N71-23267
US-PATENT-3,447,154	.....	c21 N71-11766	US-PATENT-3,470,313	.....	c07 N71-26579
US-PATENT-3,447,155	.....	c09 N71-18598	US-PATENT-3,470,318	.....	c07 N71-24612
US-PATENT-3,447,233	.....	c15 N69-39786	US-PATENT-3,470,342	.....	c09 N71-19610
US-PATENT-3,447,774	.....	c15 N71-19485	US-PATENT-3,470,443	.....	c03 N71-23239
US-PATENT-3,447,850	.....	c09 N71-18600	US-PATENT-3,470,446	.....	c09 N71-23188
US-PATENT-3,448,273	.....	c07 N69-39736	US-PATENT-3,470,466	.....	c14 N71-23699
US-PATENT-3,448,290	.....	c10 N71-23315	US-PATENT-3,470,475	.....	c10 N71-19467
US-PATENT-3,448,293	.....	c09 N71-12526	US-PATENT-3,470,489	.....	c09 N71-23598
US-PATENT-3,448,341	.....	c15 N71-18701	US-PATENT-3,470,495	.....	c10 N71-23669
US-PATENT-3,448,346	.....	c07 N69-39978	US-PATENT-3,470,496	.....	c09 N71-19470
US-PATENT-3,450,842	.....	c14 N71-20430	US-PATENT-3,471,856	.....	c30 N71-16090
US-PATENT-3,450,878	.....	c09 N69-39897	US-PATENT-3,471,858	.....	c07 N71-12391
US-PATENT-3,450,946	.....	c06 N73-30101	US-PATENT-3,472,019	.....	c10 N71-26326
US-PATENT-3,452,103	.....	c26 N71-16037	US-PATENT-3,472,059	.....	c14 N71-23755
US-PATENT-3,452,423	.....	c14 N69-39896	US-PATENT-3,472,060	.....	c14 N71-26136
US-PATENT-3,452,872	.....	c15 N69-39735	US-PATENT-3,472,069	.....	c15 N71-20441
US-PATENT-3,453,172	.....	c03 N69-39983	US-PATENT-3,472,080	.....	c10 N71-26339
US-PATENT-3,453,462	.....	c05 N71-12342	US-PATENT-3,472,086	.....	c15 N71-23809
US-PATENT-3,453,546	.....	c18 N69-39979	US-PATENT-3,472,140	.....	c14 N71-26474
US-PATENT-3,454,410	.....	c14 N71-20427	US-PATENT-3,472,202	.....	c17 N71-24911
US-PATENT-3,455,121	.....	c23 N71-16098	US-PATENT-3,472,372	.....	c15 N71-20440
US-PATENT-3,456,112	.....	c14 N69-39937	US-PATENT-3,472,470	.....	c02 N71-20570
US-PATENT-3,456,193	.....	c08 N71-19763	US-PATENT-3,472,577	.....	c23 N71-24857
US-PATENT-3,456,201	.....	c09 N69-39885	US-PATENT-3,472,625	.....	c06 N71-23527
US-PATENT-3,458,104	.....	c15 N71-20393	US-PATENT-3,472,629	.....	c14 N71-20442
US-PATENT-3,458,313	.....	c14 N71-17574	US-PATENT-3,472,698	.....	c03 N71-23449
US-PATENT-3,458,651	.....	c09 N71-19449	US-PATENT-3,472,709	.....	c18 N71-26153
US-PATENT-3,458,702	.....	c14 N71-18699	US-PATENT-3,472,742	.....	c17 N71-24830
US-PATENT-3,458,726	.....	c10 N69-39888	US-PATENT-3,472,998	.....	c16 N71-20400
US-PATENT-3,458,833	.....	c10 N71-19418	US-PATENT-3,473,050	.....	c09 N71-20447
US-PATENT-3,458,851	.....	c09 N69-39734	US-PATENT-3,473,116	.....	c25 N71-20563
US-PATENT-3,459,391	.....	c03 N71-11058	US-PATENT-3,473,165	.....	c05 N71-26333
US-PATENT-3,460,378	.....	c14 N71-24233	US-PATENT-3,473,216	.....	c15 N71-20443
US-PATENT-3,460,379	.....	c15 N71-24834	US-PATENT-3,473,379	.....	c12 N71-26387
US-PATENT-3,460,381	.....	c14 N71-23725	US-PATENT-3,473,758	.....	c03 N71-20273
US-PATENT-3,460,397	.....	c15 N71-24045	US-PATENT-3,474,192	.....	c07 N71-26102
US-PATENT-3,460,759	.....	c28 N71-23968	US-PATENT-3,474,220	.....	c15 N71-19486
US-PATENT-3,460,781	.....	c14 N71-23698	US-PATENT-3,474,328	.....	c14 N71-26266
US-PATENT-3,460,995	.....	c03 N71-20407	US-PATENT-3,474,357	.....	c09 N71-20445
US-PATENT-3,461,290	.....	c14 N71-26475	US-PATENT-3,474,413	.....	c10 N71-26103
US-PATENT-3,461,393	.....	c10 N71-26415	US-PATENT-3,474,441	.....	c08 N71-19544
US-PATENT-3,461,437	.....	c10 N71-26434	US-PATENT-3,475,384	.....	c06 N73-30103
US-PATENT-3,461,700	.....	c15 N71-26346	US-PATENT-3,480,789	.....	c10 N71-26626
US-PATENT-3,461,721	.....	c12 N71-20436	US-PATENT-3,481,638	.....	c15 N71-26312
US-PATENT-3,461,855	.....	c05 N71-20268	US-PATENT-3,481,887	.....	c18 N71-26155
US-PATENT-3,463,001	.....	c14 N71-20429	US-PATENT-3,482,179	.....	c10 N71-26331



NUMBER INDEX

US-PATENT-3,483,535	c10 N71-26418	US-PATENT-3,507,146	c05 N71-11202
US-PATENT-3,484,712	c10 N71-26374	US-PATENT-3,507,150	c20 N71-16281
US-PATENT-3,486,123	c16 N71-24831	US-PATENT-3,507,425	c15 N71-17628
US-PATENT-3,487,216	c14 N71-24809	US-PATENT-3,507,436	c08 N71-19420
US-PATENT-3,487,281	c15 N71-24695	US-PATENT-3,507,704	c03 N71-11052
US-PATENT-3,487,288	c10 N71-25139	US-PATENT-3,507,706	c03 N71-18698
US-PATENT-3,487,680	c15 N71-17696	US-PATENT-3,508,036	c08 N71-18693
US-PATENT-3,488,103	c14 N71-15604	US-PATENT-3,508,039	c08 N71-19437
US-PATENT-3,488,123	c14 N71-17627	US-PATENT-3,508,053	c09 N71-18830
US-PATENT-3,488,414	c15 N71-17803	US-PATENT-3,508,070	c03 N71-11057
US-PATENT-3,488,461	c09 N71-12518	US-PATENT-3,508,152	c07 N71-11266
US-PATENT-3,488,504	c21 N71-15642	US-PATENT-3,508,156	c07 N71-11267
US-PATENT-3,490,130	c05 N71-12345	US-PATENT-3,508,347	c05 N71-24606
US-PATENT-3,490,205	c14 N71-17588	US-PATENT-3,508,402	c33 N71-16104
US-PATENT-3,490,235	c28 N71-14044	US-PATENT-3,508,541	c05 N71-11193
US-PATENT-3,490,238	c15 N70-22192	US-PATENT-3,508,578	c32 N71-16103
US-PATENT-3,490,405	c15 N71-15597	US-PATENT-3,508,723	c31 N71-16222
US-PATENT-3,490,440	c05 N71-12346	US-PATENT-3,508,724	c02 N71-11037
US-PATENT-3,490,718	c33 N71-14035	US-PATENT-3,508,739	c15 N71-17648
US-PATENT-3,490,719	c21 N71-14159	US-PATENT-3,508,779	c15 N71-24897
US-PATENT-3,490,721	c02 N71-11039	US-PATENT-3,508,940	c18 N71-16124
US-PATENT-3,490,939	c33 N71-14032	US-PATENT-3,508,955	c18 N71-16105
US-PATENT-3,490,965	c09 N71-12513	US-PATENT-3,508,999	c15 N71-17687
US-PATENT-3,491,202	c07 N71-12392	US-PATENT-3,509,034	c14 N71-17575
US-PATENT-3,491,255	c09 N71-12514	US-PATENT-3,509,386	c03 N71-11055
US-PATENT-3,491,335	c14 N71-15620	US-PATENT-3,509,419	c24 N71-16213
US-PATENT-3,491,857	c14 N71-17626	US-PATENT-3,509,469	c23 N71-16099
US-PATENT-3,492,176	c27 N71-14090	US-PATENT-3,509,475	c09 N71-24596
US-PATENT-3,492,672	c05 N71-12344	US-PATENT-3,509,491	c09 N71-18721
US-PATENT-3,492,739	c15 N71-15571	US-PATENT-3,509,551	c08 N71-18694
US-PATENT-3,492,862	c14 N71-15600	US-PATENT-3,509,558	c08 N71-19435
US-PATENT-3,492,947	c28 N71-14058	US-PATENT-3,509,570	c09 N71-18720
US-PATENT-3,493,003	c15 N71-15609	US-PATENT-3,509,578	c07 N71-19493
US-PATENT-3,493,004	c12 N71-17579	US-PATENT-3,512,009	c08 N71-18751
US-PATENT-3,493,012	c15 N71-15608	US-PATENT-3,516,091	c05 N71-24623
US-PATENT-3,493,027	c31 N71-18611	US-PATENT-3,516,179	c11 N71-19494
US-PATENT-3,493,153	c05 N71-12351	US-PATENT-3,516,185	c12 N71-18603
US-PATENT-3,493,155	c26 N71-14354	US-PATENT-3,516,284	c12 N71-17573
US-PATENT-3,493,194	c21 N71-14132	US-PATENT-3,516,404	c05 N71-17599
US-PATENT-3,493,197	c02 N71-11043	US-PATENT-3,516,711	c05 N71-12341
US-PATENT-3,493,291	c14 N71-15622	US-PATENT-3,516,879	c23 N71-16212
US-PATENT-3,493,294	c14 N71-15605	US-PATENT-3,516,964	c06 N71-11240
US-PATENT-3,493,401	c18 N71-14014	US-PATENT-3,516,970	c06 N71-11239
US-PATENT-3,493,415	c15 N71-15610	US-PATENT-3,516,971	c06 N71-24740
US-PATENT-3,493,437	c03 N71-11056	US-PATENT-3,517,109	c07 N71-19436
US-PATENT-3,493,522	c06 N71-11243	US-PATENT-3,517,162	c33 N71-16278
US-PATENT-3,493,524	c06 N71-11242	US-PATENT-3,517,171	c08 N71-24633
US-PATENT-3,493,665	c14 N71-15621	US-PATENT-3,517,221	c10 N71-19547
US-PATENT-3,493,677	c07 N71-11300	US-PATENT-3,517,268	c10 N71-19469
US-PATENT-3,493,711	c15 N71-14932	US-PATENT-3,517,302	c25 N71-16073
US-PATENT-3,493,746	c15 N71-15606	US-PATENT-3,517,318	c08 N71-19432
US-PATENT-3,493,797	c15 N71-17652	US-PATENT-3,517,328	c16 N71-18614
US-PATENT-3,493,805	c09 N71-12521	US-PATENT-3,518,232	c06 N71-11235
US-PATENT-3,493,901	c09 N71-12517	US-PATENT-3,520,190	c10 N71-13537
US-PATENT-3,493,929	c08 N71-12505	US-PATENT-3,520,238	c14 N71-18465
US-PATENT-3,493,942	c08 N71-12504	US-PATENT-3,520,317	c12 N71-17578
US-PATENT-3,495,260	c21 N71-13958	US-PATENT-3,520,496	c31 N71-16345
US-PATENT-3,495,262	c07 N71-12396	US-PATENT-3,520,503	c31 N71-16085
US-PATENT-3,500,020	c01 N71-13411	US-PATENT-3,520,617	c23 N71-16101
US-PATENT-3,500,525	c15 N71-17688	US-PATENT-3,520,660	c23 N71-16355
US-PATENT-3,500,677	c14 N71-17584	US-PATENT-3,521,054	c06 N71-13461
US-PATENT-3,500,686	c12 N71-17569	US-PATENT-3,521,143	c08 N71-18752
US-PATENT-3,500,688	c14 N71-17587	US-PATENT-3,521,290	c31 N71-16102
US-PATENT-3,500,747	c09 N71-18599	US-PATENT-3,523,228	c10 N71-24861
US-PATENT-3,500,827	c05 N71-11203	US-PATENT-3,526,030	c15 N71-17686
US-PATENT-3,501,112	c15 N71-17693	US-PATENT-3,526,134	c33 N71-16356
US-PATENT-3,501,337	c15 N71-17695	US-PATENT-3,526,139	c31 N71-16221
US-PATENT-3,501,632	c27 N71-16348	US-PATENT-3,526,140	c27 N71-16223
US-PATENT-3,501,641	c20 N71-16340	US-PATENT-3,526,359	c33 N71-16357
US-PATENT-3,501,648	c10 N71-24799	US-PATENT-3,526,365	c28 N71-16224
US-PATENT-3,501,649	c10 N71-18723	US-PATENT-3,526,372	c31 N71-16346
US-PATENT-3,501,664	c14 N71-17585	US-PATENT-3,526,382	c15 N71-17649
US-PATENT-3,501,683	c15 N71-17694	US-PATENT-3,526,460	c23 N71-16365
US-PATENT-3,501,684	c09 N71-26092	US-PATENT-3,526,473	c18 N71-15545
US-PATENT-3,501,701	c08 N71-18692	US-PATENT-3,526,580	c18 N71-16210
US-PATENT-3,501,704	c07 N71-11282	US-PATENT-3,526,611	c06 N71-11236
US-PATENT-3,501,712	c09 N71-19516	US-PATENT-3,526,845	c09 N71-13531
US-PATENT-3,501,743	c09 N71-18843	US-PATENT-3,526,897	c09 N71-13521
US-PATENT-3,501,750	c08 N71-19288	US-PATENT-3,529,480	c15 N71-17692
US-PATENT-3,501,752	c08 N71-18595	US-PATENT-3,529,928	c17 N71-16393
US-PATENT-3,501,764	c10 N71-18722	US-PATENT-3,530,336	c09 N71-13518
US-PATENT-3,502,051	c15 N71-17647	US-PATENT-3,531,964	c15 N71-18616
US-PATENT-3,502,074	c05 N71-11190	US-PATENT-3,531,978	c14 N71-18481
US-PATENT-3,502,141	c33 N71-16277	US-PATENT-3,531,982	c15 N71-18132
US-PATENT-3,503,251	c32 N71-16428	US-PATENT-3,531,989	c33 N71-15641
US-PATENT-3,504,258	c10 N71-18724	US-PATENT-3,532,118	c12 N71-18615
US-PATENT-3,504,983	c23 N71-16341	US-PATENT-3,532,128	c15 N71-18580
US-PATENT-3,507,034	c15 N71-17650	US-PATENT-3,532,427	c21 N71-19212
US-PATENT-3,507,114	c27 N71-16392	US-PATENT-3,532,428	c30 N71-15990

NUMBER INDEX

US-PATENT-3,532,538	c18	N71-16046	US-PATENT-3,540,449	c15	N71-24835
US-PATENT-3,532,551	c03	N71-11049	US-PATENT-3,540,615	c33	N71-25351
US-PATENT-3,532,568	c17	N71-16044	US-PATENT-3,540,676	c15	N71-24600
US-PATENT-3,532,673	c06	N71-11238	US-PATENT-3,540,790	c16	N71-26154
US-PATENT-3,532,807	c07	N71-19433	US-PATENT-3,540,802	c23	N71-24868
US-PATENT-3,532,819	c10	N71-19468	US-PATENT-3,540,942	c15	N71-24875
US-PATENT-3,532,866	c08	N71-18602	US-PATENT-3,540,989	c24	N71-25555
US-PATENT-3,532,880	c24	N71-16095	US-PATENT-3,541,250	c07	N71-24742
US-PATENT-3,532,894	c23	N71-16100	US-PATENT-3,541,312	c08	N71-24891
US-PATENT-3,532,948	c10	N71-18772	US-PATENT-3,541,314	c07	N71-24741
US-PATENT-3,532,960	c03	N71-12255	US-PATENT-3,541,346	c09	N71-24803
US-PATENT-3,532,973	c15	N71-17822	US-PATENT-3,541,361	c09	N71-24904
US-PATENT-3,532,975	c10	N71-19421	US-PATENT-3,541,422	c03	N71-24719
US-PATENT-3,532,979	c10	N71-12554	US-PATENT-3,541,428	c09	N71-24893
US-PATENT-3,532,985	c07	N71-19773	US-PATENT-3,541,439	c09	N71-24843
US-PATENT-3,533,001	c07	N71-24583	US-PATENT-3,541,450	c07	N71-24840
US-PATENT-3,533,006	c10	N72-28241	US-PATENT-3,541,459	c10	N71-24844
US-PATENT-3,533,074	c08	N71-12502	US-PATENT-3,541,479	c09	N71-24841
US-PATENT-3,533,093	c10	N71-19417	US-PATENT-3,541,486	c16	N71-28554
US-PATENT-3,533,098	c08	N71-18594	US-PATENT-3,541,679	c03	N71-24681
US-PATENT-3,534,365	c07	N71-19854	US-PATENT-3,541,825	c15	N71-24836
US-PATENT-3,534,367	c02	N71-19287	US-PATENT-3,541,875	c15	N71-24984
US-PATENT-3,534,375	c07	N71-11285	US-PATENT-3,543,050	c10	N71-24862
US-PATENT-3,534,376	c07	N71-26101	US-PATENT-3,543,159	c09	N71-24717
US-PATENT-3,534,406	c05	N71-11195	US-PATENT-3,545,208	c28	N71-25213
US-PATENT-3,534,407	c05	N71-11194	US-PATENT-3,545,226	c23	N71-24725
US-PATENT-3,534,479	c14	N71-17657	US-PATENT-3,545,252	c11	N71-24985
US-PATENT-3,534,480	c14	N71-17658	US-PATENT-3,545,275	c09	N71-24597
US-PATENT-3,534,485	c11	N71-18773	US-PATENT-3,545,725	c15	N71-24599
US-PATENT-3,534,555	c12	N71-17631	US-PATENT-3,545,792	c15	N71-24903
US-PATENT-3,534,584	c10	N71-13545	US-PATENT-3,546,386	c07	N71-24621
US-PATENT-3,534,585	c14	N71-17701	US-PATENT-3,546,471	c14	N71-24864
US-PATENT-3,534,592	c14	N71-17656	US-PATENT-3,546,552	c15	N71-24895
US-PATENT-3,534,596	c14	N71-17586	US-PATENT-3,546,553	c09	N71-24805
US-PATENT-3,534,557	c31	N71-15643	US-PATENT-3,546,684	c07	N71-24624
US-PATENT-3,534,650	c15	N71-17653	US-PATENT-3,546,694	c10	N71-24798
US-PATENT-3,534,686	c31	N71-15687	US-PATENT-3,546,705	c09	N71-24842
US-PATENT-3,534,727	c05	N71-11189	US-PATENT-3,546,917	c15	N71-24679
US-PATENT-3,534,765	c12	N71-17661	US-PATENT-3,546,920	c06	N71-24607
US-PATENT-3,534,826	c31	N71-15689	US-PATENT-3,546,931	c32	N71-25360
US-PATENT-3,534,836	c15	N71-17805	US-PATENT-3,547,105	c09	N71-24618
US-PATENT-3,534,909	c15	N71-17654	US-PATENT-3,547,376	c31	N71-25434
US-PATENT-3,534,924	c31	N71-15674	US-PATENT-3,547,540	c16	N71-24828
US-PATENT-3,534,925	c31	N71-15676	US-PATENT-3,547,801	c03	N71-24718
US-PATENT-3,534,926	c15	N71-19214	US-PATENT-3,548,107	c07	N71-24622
US-PATENT-3,534,930	c02	N71-13422	US-PATENT-3,548,633	c18	N71-24934
US-PATENT-3,535,012	c16	N71-15567	US-PATENT-3,548,636	c15	N71-24910
US-PATENT-3,535,013	c16	N71-15551	US-PATENT-3,548,812	c05	N71-24729
US-PATENT-3,535,014	c16	N71-15565	US-PATENT-3,548,930	c33	N71-25353
US-PATENT-3,535,024	c14	N71-17662	US-PATENT-3,549,435	c14	N72-28438
US-PATENT-3,535,041	c14	N71-17655	US-PATENT-3,549,564	c06	N71-24739
US-PATENT-3,535,110	c17	N71-15468	US-PATENT-3,549,799	c09	N71-25866
US-PATENT-3,535,130	c18	N71-15469	US-PATENT-3,549,882	c15	N71-24896
US-PATENT-3,535,165	c33	N71-15568	US-PATENT-3,549,955	c09	N71-24892
US-PATENT-3,535,179	c15	N71-17651	US-PATENT-3,550,023	c04	N71-24806
US-PATENT-3,535,352	c18	N71-15688	US-PATENT-3,550,034	c16	N71-24832
US-PATENT-3,535,446	c09	N71-12539	US-PATENT-3,550,129	c21	N71-24948
US-PATENT-3,535,451	c07	N71-11281	US-PATENT-3,550,585	c05	N71-24738
US-PATENT-3,535,457	c08	N71-24890	US-PATENT-3,551,266	c33	N71-24858
US-PATENT-3,535,543	c09	N71-13486	US-PATENT-3,551,816	c07	N71-24613
US-PATENT-3,535,547	c09	N71-12520	US-PATENT-3,552,124	c28	N71-26642
US-PATENT-3,535,554	c09	N71-12516	US-PATENT-3,552,125	c28	N71-26173
US-PATENT-3,535,560	c08	N71-12494	US-PATENT-3,553,002	c18	N71-26100
US-PATENT-3,535,562	c33	N71-27862	US-PATENT-3,553,586	c07	N71-26292
US-PATENT-3,535,570	c15	N71-24696	US-PATENT-3,553,704	c10	N71-26142
US-PATENT-3,535,586	c25	N71-15562	US-PATENT-3,553,904	c15	N71-26134
US-PATENT-3,535,602	c09	N71-13522	US-PATENT-3,554,466	c31	N71-26537
US-PATENT-3,535,642	c08	N71-12503	US-PATENT-3,554,647	c23	N71-26206
US-PATENT-3,535,644	c09	N71-12519	US-PATENT-3,554,806	c03	N71-26084
US-PATENT-3,535,657	c07	N71-12390	US-PATENT-3,555,192	c07	N71-26181
US-PATENT-3,535,658	c08	N71-12500	US-PATENT-3,555,361	c10	N71-26531
US-PATENT-3,535,683	c31	N71-15566	US-PATENT-3,555,455	c23	N71-26722
US-PATENT-3,535,696	c08	N71-12506	US-PATENT-3,555,867	c15	N71-26144
US-PATENT-3,535,702	c09	N71-12515	US-PATENT-3,555,898	c12	N71-26546
US-PATENT-3,536,103	c15	N71-19213	US-PATENT-3,556,048	c09	N71-26701
US-PATENT-3,537,096	c08	N71-12507	US-PATENT-3,556,634	c07	N71-26291
US-PATENT-3,537,103	c08	N71-24650	US-PATENT-3,557,027	c06	N71-25929
US-PATENT-3,537,107	c05	N71-24730	US-PATENT-3,557,534	c15	N71-26185
US-PATENT-3,537,305	c26	N71-25490	US-PATENT-3,559,031	c10	N71-26085
US-PATENT-3,537,515	c09	N71-24807	US-PATENT-3,559,096	c10	N71-25842
US-PATENT-3,537,668	c05	N71-24728	US-PATENT-3,559,460	c14	N71-26672
US-PATENT-3,537,672	c15	N71-24694	US-PATENT-3,559,937	c14	N71-26627
US-PATENT-3,539,905	c09	N71-24800	US-PATENT-3,560,081	c19	N71-26674
US-PATENT-3,540,045	c09	N71-24595	US-PATENT-3,560,161	c06	N71-26754
US-PATENT-3,540,048	c31	N71-24813	US-PATENT-3,561,828	c15	N71-26189
US-PATENT-3,540,050	c09	N71-24804	US-PATENT-3,562,575	c09	N71-26182
US-PATENT-3,540,054	c07	N71-24625	US-PATENT-3,562,631	c14	N71-26137
US-PATENT-3,540,056	c07	N71-24614	US-PATENT-3,562,857	c15	N71-26721
US-PATENT-3,540,250	c15	N71-24865	US-PATENT-3,562,881	c09	N71-26678

NUMBER INDEX

US-PATENT-3, 562, 919	c15 N71-26145	US-PATENT-3, 574, 770	c06 N71-27254
US-PATENT-3, 563, 135	c15 N71-27147	US-PATENT-3, 575, 336	c15 N71-27214
US-PATENT-3, 563, 198	c18 N71-26285	US-PATENT-3, 575, 585	c14 N71-27058
US-PATENT-3, 563, 232	c05 N71-27234	US-PATENT-3, 575, 597	c14 N71-27090
US-PATENT-3, 563, 307	c15 N71-26611	US-PATENT-3, 575, 602	c16 N71-27183
US-PATENT-3, 563, 668	c14 N71-26788	US-PATENT-3, 575, 638	c09 N71-26133
US-PATENT-3, 563, 727	c15 N71-27184	US-PATENT-3, 575, 641	c10 N71-26334
US-PATENT-3, 563, 918	c06 N71-27363	US-PATENT-3, 576, 107	c28 N71-26781
US-PATENT-3, 564, 234	c09 N71-26787	US-PATENT-3, 576, 127	c14 N71-26161
US-PATENT-3, 564, 401	c14 N71-26135	US-PATENT-3, 576, 135	c15 N71-26635
US-PATENT-3, 564, 420	c14 N71-26774	US-PATENT-3, 576, 301	c02 N71-26110
US-PATENT-3, 564, 564	c15 N71-26762	US-PATENT-3, 576, 656	c18 N71-26772
US-PATENT-3, 564, 866	c23 N71-26654	US-PATENT-3, 576, 669	c15 N71-29032
US-PATENT-3, 564, 906	c32 N71-26681	US-PATENT-3, 576, 723	c09 N71-28691
US-PATENT-3, 565, 530	c15 N71-26673	US-PATENT-3, 576, 786	c06 N71-28620
US-PATENT-3, 565, 584	c15 N71-27372	US-PATENT-3, 577, 014	c10 N71-28860
US-PATENT-3, 565, 607	c17 N71-26773	US-PATENT-3, 577, 092	c07 N71-28430
US-PATENT-3, 565, 719	c03 N71-26726	US-PATENT-3, 577, 356	c06 N73-30102
US-PATENT-3, 566, 027	c07 N71-27341	US-PATENT-3, 578, 755	c14 N71-29134
US-PATENT-3, 566, 045	c08 N71-27210	US-PATENT-3, 578, 756	c11 N71-28629
US-PATENT-3, 566, 122	c14 N71-27323	US-PATENT-3, 578, 758	c14 N71-28992
US-PATENT-3, 566, 143	c14 N71-27407	US-PATENT-3, 578, 838	c16 N71-29131
US-PATENT-3, 566, 158	c10 N71-27126	US-PATENT-3, 578, 867	c14 N71-28994
US-PATENT-3, 566, 268	c10 N71-26577	US-PATENT-3, 578, 957	c08 N71-29033
US-PATENT-3, 566, 396	c10 N71-26544	US-PATENT-3, 578, 988	c09 N71-29139
US-PATENT-3, 566, 459	c14 N71-27334	US-PATENT-3, 578, 992	c09 N71-28421
US-PATENT-3, 566, 676	c14 N71-26199	US-PATENT-3, 579, 028	c25 N71-29181
US-PATENT-3, 566, 993	c15 N71-27169	US-PATENT-3, 579, 041	c09 N71-29008
US-PATENT-3, 567, 155	c21 N71-27324	US-PATENT-3, 579, 103	c14 N71-28991
US-PATENT-3, 567, 339	c15 N71-27084	US-PATENT-3, 579, 122	c08 N71-29034
US-PATENT-3, 567, 651	c18 N71-27170	US-PATENT-3, 579, 146	c08 N71-29138
US-PATENT-3, 567, 677	c18 N71-25881	US-PATENT-3, 579, 147	c07 N71-28429
US-PATENT-3, 567, 861	c10 N71-25865	US-PATENT-3, 579, 168	c09 N71-29035
US-PATENT-3, 567, 913	c10 N71-27137	US-PATENT-3, 579, 242	c07 N71-28980
US-PATENT-3, 567, 927	c14 N71-28863	US-PATENT-3, 579, 390	c18 N71-28729
US-PATENT-3, 568, 010	c09 N71-27232	US-PATENT-3, 579, 412	c17 N71-28747
US-PATENT-3, 568, 028	c10 N71-27136	US-PATENT-3, 581, 492	c28 N71-28915
US-PATENT-3, 568, 103	c10 N71-25900	US-PATENT-3, 582, 960	c09 N71-28618
US-PATENT-3, 568, 197	c07 N71-27056	US-PATENT-3, 583, 058	c15 N71-29018
US-PATENT-3, 568, 447	c15 N71-27432	US-PATENT-3, 583, 239	c15 N71-29132
US-PATENT-3, 568, 572	c15 N71-27754	US-PATENT-3, 583, 322	c05 N71-28619
US-PATENT-3, 568, 702	c10 N71-25899	US-PATENT-3, 583, 419	c12 N71-28741
US-PATENT-3, 568, 748	c15 N71-27091	US-PATENT-3, 583, 744	c15 N71-29133
US-PATENT-3, 568, 795	c15 N71-27067	US-PATENT-3, 583, 777	c15 N71-28465
US-PATENT-3, 568, 805	c15 N71-27146	US-PATENT-3, 583, 815	c15 N71-28740
US-PATENT-3, 568, 874	c15 N71-27068	US-PATENT-3, 584, 311	c09 N71-28468
US-PATENT-3, 568, 885	c14 N71-27005	US-PATENT-3, 584, 660	c15 N72-12408
US-PATENT-3, 569, 710	c14 N71-25901	US-PATENT-3, 585, 514	c10 N71-33129
US-PATENT-3, 569, 744	c09 N71-27016	US-PATENT-3, 585, 882	c15 N71-33518
US-PATENT-3, 569, 804	c09 N71-25999	US-PATENT-3, 586, 261	c31 N71-33160
US-PATENT-3, 569, 827	c18 N71-27397	US-PATENT-3, 587, 306	c11 N71-33612
US-PATENT-3, 569, 828	c14 N71-27186	US-PATENT-3, 587, 424	c16 N71-33410
US-PATENT-3, 569, 866	c10 N71-27271	US-PATENT-3, 588, 220	c23 N71-33229
US-PATENT-3, 569, 875	c07 N71-27191	US-PATENT-3, 588, 331	c07 N72-12081
US-PATENT-3, 569, 956	c10 N71-25917	US-PATENT-3, 588, 359	c07 N71-33108
US-PATENT-3, 569, 976	c07 N71-27233	US-PATENT-3, 588, 483	c08 N71-33110
US-PATENT-3, 570, 143	c10 N71-27365	US-PATENT-3, 588, 648	c07 N71-33613
US-PATENT-3, 570, 364	c28 N71-26779	US-PATENT-3, 588, 671	c09 N71-33109
US-PATENT-3, 570, 513	c12 N71-27332	US-PATENT-3, 588, 705	c07 N71-33696
US-PATENT-3, 570, 785	c28 N71-27585	US-PATENT-3, 588, 751	c07 N71-33606
US-PATENT-3, 570, 789	c02 N71-27088	US-PATENT-3, 588, 874	c09 N71-33519
US-PATENT-3, 571, 555	c15 N71-27135	US-PATENT-3, 588, 883	c10 N71-33407
US-PATENT-3, 571, 656	c09 N71-27001	US-PATENT-3, 591, 420	c03 N71-33409
US-PATENT-3, 571, 662	c10 N71-27366	US-PATENT-3, 591, 426	c17 N71-33408
US-PATENT-3, 571, 693	c09 N71-27364	US-PATENT-3, 591, 885	c15 N72-11390
US-PATENT-3, 571, 699	c09 N71-27053	US-PATENT-3, 591, 960	c15 N72-12409
US-PATENT-3, 571, 700	c14 N71-27325	US-PATENT-3, 591, 967	c28 N72-11709
US-PATENT-3, 571, 707	c10 N71-27338	US-PATENT-3, 592, 422	c15 N72-11391
US-PATENT-3, 571, 800	c10 N71-27272	US-PATENT-3, 592, 478	c09 N72-11224
US-PATENT-3, 571, 801	c08 N71-27255	US-PATENT-3, 592, 505	c05 N72-11085
US-PATENT-3, 572, 089	c14 N71-27185	US-PATENT-3, 592, 545	c14 N72-11364
US-PATENT-3, 572, 104	c28 N71-27094	US-PATENT-3, 592, 559	c02 N72-11018
US-PATENT-3, 572, 112	c15 N71-27006	US-PATENT-3, 592, 628	c15 N72-11387
US-PATENT-3, 572, 610	c28 N71-27095	US-PATENT-3, 592, 768	c15 N72-11389
US-PATENT-3, 572, 935	c14 N71-27215	US-PATENT-3, 593, 001	c15 N72-11392
US-PATENT-3, 573, 583	c09 N71-28886	US-PATENT-3, 593, 024	c24 N72-11595
US-PATENT-3, 573, 797	c08 N71-27057	US-PATENT-3, 593, 132	c09 N72-11225
US-PATENT-3, 573, 977	c15 N71-28582	US-PATENT-3, 593, 138	c07 N72-11149
US-PATENT-3, 573, 986	c03 N71-28579	US-PATENT-3, 593, 175	c10 N72-11256
US-PATENT-3, 573, 996	c18 N71-29040	US-PATENT-3, 593, 180	c07 N72-11150
US-PATENT-3, 574, 057	c22 N71-28759	US-PATENT-3, 593, 194	c16 N72-12440
US-PATENT-3, 574, 084	c14 N71-28933	US-PATENT-3, 594, 790	c07 N72-12080
US-PATENT-3, 574, 277	c15 N71-28467	US-PATENT-3, 594, 803	c09 N72-12136
US-PATENT-3, 574, 286	c11 N71-27036	US-PATENT-3, 596, 465	c28 N72-11708
US-PATENT-3, 574, 438	c07 N71-29065	US-PATENT-3, 596, 510	c14 N72-11363
US-PATENT-3, 574, 448	c23 N71-29123	US-PATENT-3, 596, 554	c15 N72-11385
US-PATENT-3, 574, 462	c14 N71-29041	US-PATENT-3, 596, 863	c15 N72-11386
US-PATENT-3, 574, 467	c23 N71-29125	US-PATENT-3, 597, 281	c03 N72-11062
US-PATENT-3, 574, 470	c14 N71-28993	US-PATENT-3, 598, 921	c08 N72-11711

NUMBER INDEX

US-PATENT-3,599,216	.....	c07 N72-11148	US-PATENT-3,619,924	.....	c11 N72-22247
US-PATENT-3,599,335	.....	c08 N72-11172	US-PATENT-3,620,018	.....	c28 N72-22771
US-PATENT-3,599,443	.....	c05 N72-11084	US-PATENT-3,620,069	.....	c14 N72-22440
US-PATENT-3,599,489	.....	c14 N72-11365	US-PATENT-3,620,076	.....	c11 N72-22246
US-PATENT-3,600,046	.....	c15 N72-11388	US-PATENT-3,620,083	.....	c14 N72-22438
US-PATENT-3,602,920	.....	c11 N72-17183	US-PATENT-3,620,095	.....	c15 N72-21463
US-PATENT-3,602,923	.....	c05 N72-22093	US-PATENT-3,620,585	.....	c15 N72-22490
US-PATENT-3,602,979	.....	c15 N72-22492	US-PATENT-3,620,595	.....	c14 N72-22445
US-PATENT-3,602,984	.....	c26 N72-17820	US-PATENT-3,620,606	.....	c23 N72-22673
US-PATENT-3,603,092	.....	c28 N72-17843	US-PATENT-3,620,718	.....	c17 N72-22535
US-PATENT-3,603,093	.....	c28 N72-18766	US-PATENT-3,620,784	.....	c18 N72-23581
US-PATENT-3,603,260	.....	c33 N72-17947	US-PATENT-3,620,791	.....	c18 N72-22566
US-PATENT-3,603,382	.....	c33 N72-17948	US-PATENT-3,620,846	.....	c31 N72-22874
US-PATENT-3,603,433	.....	c15 N72-17450	US-PATENT-3,621,130	.....	c08 N72-22164
US-PATENT-3,603,532	.....	c30 N72-17873	US-PATENT-3,621,193	.....	c15 N72-23497
US-PATENT-3,603,683	.....	c14 N72-17326	US-PATENT-3,621,194	.....	c15 N72-22491
US-PATENT-3,603,686	.....	c16 N72-13437	US-PATENT-3,621,228	.....	c08 N72-22165
US-PATENT-3,603,690	.....	c14 N72-17323	US-PATENT-3,621,277	.....	c10 N72-22236
US-PATENT-3,603,722	.....	c07 N72-17109	US-PATENT-3,621,285	.....	c09 N72-22200
US-PATENT-3,603,772	.....	c08 N72-22166	US-PATENT-3,621,287	.....	c09 N72-22201
US-PATENT-3,603,798	.....	c09 N72-17152	US-PATENT-3,621,290	.....	c09 N72-22202
US-PATENT-3,603,864	.....	c09 N72-17154	US-PATENT-3,621,294	.....	c09 N72-23171
US-PATENT-3,603,892	.....	c09 N72-17155	US-PATENT-3,621,362	.....	c09 N72-22203
US-PATENT-3,603,946	.....	c09 N72-17153	US-PATENT-3,621,372	.....	c09 N72-25249
US-PATENT-3,603,974	.....	c14 N72-18411	US-PATENT-3,621,406	.....	c09 N72-33204
US-PATENT-3,603,976	.....	c08 N72-18184	US-PATENT-3,621,407	.....	c09 N72-21245
US-PATENT-3,605,032	.....	c10 N72-17172	US-PATENT-3,621,565	.....	c09 N72-22199
US-PATENT-3,605,424	.....	c15 N72-17453	US-PATENT-3,623,030	.....	c08 N72-21198
US-PATENT-3,605,482	.....	c14 N72-16282	US-PATENT-3,623,094	.....	c10 N72-22235
US-PATENT-3,605,495	.....	c14 N72-17327	US-PATENT-3,623,107	.....	c07 N72-21117
US-PATENT-3,605,519	.....	c14 N72-17324	US-PATENT-3,623,114	.....	c07 N72-22127
US-PATENT-3,606,212	.....	c31 N72-18859	US-PATENT-3,623,360	.....	c14 N72-21405
US-PATENT-3,606,470	.....	c15 N74-23068	US-PATENT-3,623,361	.....	c14 N72-21407
US-PATENT-3,606,522	.....	c23 N72-23695	US-PATENT-3,623,394	.....	c15 N72-22488
US-PATENT-3,606,979	.....	c15 N72-17454	US-PATENT-3,623,828	.....	c15 N72-22489
US-PATENT-3,607,015	.....	c06 N72-17093	US-PATENT-3,623,861	.....	c17 N72-22530
US-PATENT-3,607,076	.....	c06 N72-17094	US-PATENT-3,624,241	.....	c22 N72-21644
US-PATENT-3,607,080	.....	c06 N72-17095	US-PATENT-3,624,496	.....	c15 N72-21464
US-PATENT-3,607,338	.....	c18 N72-17532	US-PATENT-3,624,598	.....	c21 N72-22619
US-PATENT-3,607,401	.....	c03 N72-15986	US-PATENT-3,624,650	.....	c07 N72-21118
US-PATENT-3,607,495	.....	c15 N72-16330	US-PATENT-3,624,659	.....	c09 N72-21246
US-PATENT-3,608,046	.....	c15 N72-16329	US-PATENT-3,624,839	.....	c05 N72-20098
US-PATENT-3,608,365	.....	c15 N72-17452	US-PATENT-3,625,018	.....	c15 N72-22484
US-PATENT-3,608,409	.....	c14 N72-16283	US-PATENT-3,625,084	.....	c15 N72-22485
US-PATENT-3,608,844	.....	c15 N72-18477	US-PATENT-3,625,766	.....	c03 N72-20032
US-PATENT-3,609,230	.....	c09 N72-17156	US-PATENT-3,626,189	.....	c14 N72-20381
US-PATENT-3,609,271	.....	c09 N72-22204	US-PATENT-3,626,218	.....	c14 N72-22439
US-PATENT-3,609,327	.....	c08 N72-22167	US-PATENT-3,626,298	.....	c07 N72-20140
US-PATENT-3,609,353	.....	c14 N72-17328	US-PATENT-3,626,308	.....	c10 N72-20223
US-PATENT-3,609,364	.....	c10 N72-17173	US-PATENT-3,626,828	.....	c14 N72-20380
US-PATENT-3,609,387	.....	c09 N72-17157	US-PATENT-3,629,068	.....	c22 N72-20597
US-PATENT-3,609,535	.....	c14 N72-17325	US-PATENT-3,629,161	.....	c18 N72-22567
US-PATENT-3,609,567	.....	c10 N72-17171	US-PATENT-3,630,276	.....	c33 N72-20915
US-PATENT-3,609,740	.....	c05 N72-16015	US-PATENT-3,630,304	.....	c11 N72-20244
US-PATENT-3,610,365	.....	c15 N72-17451	US-PATENT-3,630,627	.....	c03 N72-20033
US-PATENT-3,611,274	.....	c15 N72-17455	US-PATENT-3,631,339	.....	c08 N72-20177
US-PATENT-3,611,330	.....	c23 N72-17747	US-PATENT-3,631,351	.....	c10 N72-20224
US-PATENT-3,611,798	.....	c14 N72-22437	US-PATENT-3,631,382	.....	c09 N72-20200
US-PATENT-3,611,801	.....	c14 N72-17329	US-PATENT-3,631,737	.....	c15 N72-28495
US-PATENT-3,612,030	.....	c15 N74-23069	US-PATENT-3,632,081	.....	c15 N72-20442
US-PATENT-3,612,391	.....	c11 N72-22245	US-PATENT-3,632,140	.....	c15 N72-20445
US-PATENT-3,612,442	.....	c28 N72-22789	US-PATENT-3,632,242	.....	c15 N72-20446
US-PATENT-3,612,645	.....	c14 N72-22441	US-PATENT-3,632,923	.....	c09 N72-20199
US-PATENT-3,612,743	.....	c05 N72-22198	US-PATENT-3,632,996	.....	c08 N72-20176
US-PATENT-3,612,895	.....	c09 N72-22197	US-PATENT-3,633,048	.....	c10 N72-20221
US-PATENT-3,613,110	.....	c08 N72-21199	US-PATENT-3,633,110	.....	c07 N72-20141
US-PATENT-3,613,111	.....	c08 N72-21200	US-PATENT-3,634,383	.....	c27 N73-22710
US-PATENT-3,613,370	.....	c28 N72-22770	US-PATENT-3,635,216	.....	c05 N72-20096
US-PATENT-3,613,457	.....	c15 N72-22482	US-PATENT-3,635,765	.....	c03 N72-20034
US-PATENT-3,613,794	.....	c12 N72-21310	US-PATENT-3,636,539	.....	c03 N72-20031
US-PATENT-3,614,228	.....	c14 N72-21409	US-PATENT-3,636,564	.....	c05 N72-22092
US-PATENT-3,614,327	.....	c08 N72-22162	US-PATENT-3,636,623	.....	c15 N72-20444
US-PATENT-3,614,343	.....	c07 N72-21119	US-PATENT-3,636,711	.....	c28 N72-20758
US-PATENT-3,614,431	.....	c14 N72-21408	US-PATENT-3,636,966	.....	c05 N72-20097
US-PATENT-3,614,475	.....	c10 N72-16172	US-PATENT-3,637,051	.....	c15 N72-20443
US-PATENT-3,614,557	.....	c26 N72-21701	US-PATENT-3,637,170	.....	c21 N72-21624
US-PATENT-3,614,587	.....	c09 N72-22196	US-PATENT-3,637,312	.....	c14 N72-20379
US-PATENT-3,614,648	.....	c09 N72-21247	US-PATENT-3,637,842	.....	c06 N72-20121
US-PATENT-3,614,772	.....	c08 N72-22163	US-PATENT-3,638,002	.....	c08 N72-21197
US-PATENT-3,614,898	.....	c15 N72-21462	US-PATENT-3,638,066	.....	c10 N72-20225
US-PATENT-3,614,899	.....	c09 N72-22195	US-PATENT-3,638,103	.....	c09 N72-21243
US-PATENT-3,615,021	.....	c15 N72-22483	US-PATENT-3,638,114	.....	c10 N72-20222
US-PATENT-3,615,241	.....	c15 N72-21465	US-PATENT-3,638,224	.....	c09 N72-21244
US-PATENT-3,615,465	.....	c06 N72-21094	US-PATENT-3,639,250	.....	c14 N72-22443
US-PATENT-3,615,853	.....	c03 N72-22042	US-PATENT-3,639,510	.....	c06 N72-22107
US-PATENT-3,616,338	.....	c15 N72-21466	US-PATENT-3,639,809	.....	c15 N72-22486
US-PATENT-3,616,528	.....	c03 N72-22041	US-PATENT-3,639,835	.....	c14 N72-22442
US-PATENT-3,617,804	.....	c25 N72-24753	US-PATENT-3,640,256	.....	c28 N72-22772
US-PATENT-3,619,896	.....	c15 N72-22487	US-PATENT-3,647,276	.....	c14 N72-22444

NUMBER INDEX

US-PATENT-3,647,529	.....	c18 N74-23125	US-PATENT-3,667,039	.....	c26 N72-25680
US-PATENT-3,647,924	.....	c11 N72-23215	US-PATENT-3,667,044	.....	c07 N72-25171
US-PATENT-3,648,043	.....	c09 N72-23173	US-PATENT-3,668,956	.....	c15 N72-27485
US-PATENT-3,648,083	.....	c12 N72-25292	US-PATENT-3,669,110	.....	c05 N72-27103
US-PATENT-3,648,152	.....	c03 N72-23048	US-PATENT-3,669,393	.....	c15 N72-27484
US-PATENT-3,648,209	.....	c09 N72-27226	US-PATENT-3,670,097	.....	c23 N72-27728
US-PATENT-3,648,250	.....	c09 N72-25248	US-PATENT-3,670,168	.....	c14 N72-27409
US-PATENT-3,648,256	.....	c08 N72-25207	US-PATENT-3,670,202	.....	c14 N72-27411
US-PATENT-3,648,275	.....	c08 N72-25206	US-PATENT-3,670,241	.....	c14 N72-27408
US-PATENT-3,648,461	.....	c28 N72-23810	US-PATENT-3,670,290	.....	c09 N72-28225
US-PATENT-3,648,516	.....	c14 N74-22095	US-PATENT-3,670,559	.....	c33 N72-27959
US-PATENT-3,649,242	.....	c15 N72-25448	US-PATENT-3,670,563	.....	c14 N72-27412
US-PATENT-3,649,353	.....	c26 N72-28762	US-PATENT-3,670,564	.....	c11 N72-27262
US-PATENT-3,649,356	.....	c15 N72-25447	US-PATENT-3,670,890	.....	c05 N72-27102
US-PATENT-3,649,462	.....	c11 N72-25284	US-PATENT-3,671,105	.....	c26 N72-27784
US-PATENT-3,649,907	.....	c09 N72-23172	US-PATENT-3,671,329	.....	c14 N72-27410
US-PATENT-3,649,921	.....	c05 N72-23085	US-PATENT-3,671,497	.....	c06 N72-27144
US-PATENT-3,649,935	.....	c07 N72-25170	US-PATENT-3,671,798	.....	c10 N72-27246
US-PATENT-3,650,095	.....	c14 N72-23457	US-PATENT-3,672,999	.....	c03 N72-27053
US-PATENT-3,650,474	.....	c28 N72-23809	US-PATENT-3,673,424	.....	c09 N72-27227
US-PATENT-3,653,052	.....	c09 N72-25247	US-PATENT-3,673,440	.....	c09 N72-27228
US-PATENT-3,653,882	.....	c18 N72-25539	US-PATENT-3,675,332	.....	c14 N72-28436
US-PATENT-3,653,970	.....	c03 N72-24037	US-PATENT-3,675,376	.....	c15 N72-28496
US-PATENT-3,654,036	.....	c03 N72-25019	US-PATENT-3,675,712	.....	c03 N72-28025
US-PATENT-3,656,313	.....	c23 N72-25619	US-PATENT-3,675,910	.....	c17 N72-28535
US-PATENT-3,656,317	.....	c33 N72-25911	US-PATENT-3,675,935	.....	c15 N72-29488
US-PATENT-3,656,352	.....	c14 N72-25411	US-PATENT-3,676,084	.....	c17 N72-28536
US-PATENT-3,656,781	.....	c15 N72-25450	US-PATENT-3,676,674	.....	c14 N72-29464
US-PATENT-3,657,549	.....	c14 N72-25409	US-PATENT-3,676,754	.....	c26 N72-28761
US-PATENT-3,657,644	.....	c14 N72-24477	US-PATENT-3,676,772	.....	c10 N72-28240
US-PATENT-3,657,928	.....	c14 N72-25410	US-PATENT-3,676,787	.....	c16 N72-28521
US-PATENT-3,658,295	.....	c15 N72-25451	US-PATENT-3,676,809	.....	c09 N72-29172
US-PATENT-3,658,569	.....	c15 N72-25452	US-PATENT-3,678,191	.....	c10 N72-31273
US-PATENT-3,658,608	.....	c27 N72-25699	US-PATENT-3,678,654	.....	c06 N72-31140
US-PATENT-3,658,974	.....	c15 N72-25452	US-PATENT-3,678,685	.....	c21 N72-31637
US-PATENT-3,659,043	.....	c14 N72-25412	US-PATENT-3,678,771	.....	c15 N74-23070
US-PATENT-3,659,053	.....	c08 N72-25208	US-PATENT-3,679,360	.....	c04 N72-33072
US-PATENT-3,659,188	.....	c09 N72-25250	US-PATENT-3,679,899	.....	c06 N72-31141
US-PATENT-3,659,184	.....	c09 N72-25251	US-PATENT-3,680,142	.....	c09 N72-31235
US-PATENT-3,659,225	.....	c16 N72-25485	US-PATENT-3,680,144	.....	c07 N72-32169
US-PATENT-3,659,292	.....	c08 N72-25209	US-PATENT-3,680,830	.....	c15 N72-31483
US-PATENT-3,660,240	.....	c06 N72-25149	US-PATENT-3,681,581	.....	c08 N72-31226
US-PATENT-3,660,434	.....	c06 N72-25148	US-PATENT-3,686,542	.....	c14 N72-31446
US-PATENT-3,660,704	.....	c15 N72-25456	US-PATENT-3,690,291	.....	c15 N72-32487
US-PATENT-3,660,851	.....	c05 N72-25119	US-PATENT-3,692,533	.....	c05 N72-33096
US-PATENT-3,662,337	.....	c08 N72-25210	US-PATENT-3,693,002	.....	c25 N72-32688
US-PATENT-3,662,441	.....	c05 N72-25121	US-PATENT-3,693,105	.....	c10 N72-33230
US-PATENT-3,662,547	.....	c15 N72-25455	US-PATENT-3,693,346	.....	c15 N72-33477
US-PATENT-3,662,604	.....	c13 N72-25323	US-PATENT-3,693,418	.....	c14 N72-33377
US-PATENT-3,662,661	.....	c31 N72-25842	US-PATENT-3,694,041	.....	c15 N72-33476
US-PATENT-3,662,744	.....	c05 N72-25122	US-PATENT-3,694,094	.....	c14 N72-32452
US-PATENT-3,662,973	.....	c21 N72-25595	US-PATENT-3,694,313	.....	c24 N72-33681
US-PATENT-3,663,346	.....	c18 N72-25541	US-PATENT-3,694,581	.....	c08 N72-33172
US-PATENT-3,663,347	.....	c18 N72-25540	US-PATENT-3,694,655	.....	c25 N72-33696
US-PATENT-3,663,464	.....	c06 N72-25147	US-PATENT-3,694,700	.....	c09 N72-33205
US-PATENT-3,663,521	.....	c06 N72-25152	US-PATENT-3,694,753	.....	c07 N72-33146
US-PATENT-3,663,753	.....	c14 N72-25414	US-PATENT-3,694,771	.....	c09 N73-15235
US-PATENT-3,663,828	.....	c09 N72-25262	US-PATENT-3,695,101	.....	c11 N73-12264
US-PATENT-3,663,839	.....	c09 N72-25260	US-PATENT-3,696,418	.....	c09 N73-12211
US-PATENT-3,663,843	.....	c09 N72-25255	US-PATENT-3,696,833	.....	c11 N73-12265
US-PATENT-3,663,885	.....	c09 N72-25257	US-PATENT-3,697,021	.....	c15 N73-12486
US-PATENT-3,663,886	.....	c09 N72-25258	US-PATENT-3,697,630	.....	c15 N73-12489
US-PATENT-3,663,929	.....	c09 N72-25256	US-PATENT-3,697,733	.....	c08 N73-12176
US-PATENT-3,663,938	.....	c03 N72-25020	US-PATENT-3,697,950	.....	c08 N73-12177
US-PATENT-3,663,940	.....	c09 N72-25252	US-PATENT-3,697,968	.....	c21 N73-13644
US-PATENT-3,663,941	.....	c09 N72-25253	US-PATENT-3,698,385	.....	c05 N73-13114
US-PATENT-3,663,944	.....	c09 N72-25254	US-PATENT-3,698,412	.....	c14 N73-13418
US-PATENT-3,664,185	.....	c15 N72-26371	US-PATENT-3,698,659	.....	c11 N73-13257
US-PATENT-3,664,874	.....	c09 N72-25259	US-PATENT-3,698,667	.....	c02 N73-13008
US-PATENT-3,665,064	.....	c05 N72-25120	US-PATENT-3,698,848	.....	c15 N73-13464
US-PATENT-3,665,307	.....	c15 N72-25457	US-PATENT-3,699,511	.....	c21 N73-13643
US-PATENT-3,665,313	.....	c07 N72-25173	US-PATENT-3,699,645	.....	c14 N73-13417
US-PATENT-3,665,417	.....	c07 N72-25172	US-PATENT-3,699,799	.....	c15 N73-13463
US-PATENT-3,665,467	.....	c14 N72-28437	US-PATENT-3,699,807	.....	c14 N73-13416
US-PATENT-3,665,481	.....	c07 N72-25174	US-PATENT-3,699,811	.....	c14 N73-13415
US-PATENT-3,665,589	.....	c09 N72-25261	US-PATENT-3,700,005	.....	c15 N73-13462
US-PATENT-3,665,669	.....	c15 N72-25454	US-PATENT-3,700,192	.....	c31 N73-13898
US-PATENT-3,665,670	.....	c11 N72-25287	US-PATENT-3,700,193	.....	c30 N73-12884
US-PATENT-3,665,750	.....	c33 N72-25913	US-PATENT-3,700,291	.....	c15 N73-12488
US-PATENT-3,665,751	.....	c32 N72-25877	US-PATENT-3,700,334	.....	c14 N73-12446
US-PATENT-3,665,758	.....	c11 N72-25288	US-PATENT-3,700,503	.....	c14 N73-12447
US-PATENT-3,666,051	.....	c15 N72-25453	US-PATENT-3,700,538	.....	c18 N73-12604
US-PATENT-3,666,120	.....	c03 N72-25021	US-PATENT-3,700,575	.....	c15 N73-12487
US-PATENT-3,666,566	.....	c03 N72-26031	US-PATENT-3,700,603	.....	c14 N73-14428
US-PATENT-3,666,631	.....	c14 N72-25413	US-PATENT-3,700,812	.....	c10 N73-12244
US-PATENT-3,666,718	.....	c06 N72-25151	US-PATENT-3,700,868	.....	c09 N73-13209
US-PATENT-3,666,741	.....	c06 N72-25150	US-PATENT-3,700,869	.....	c08 N73-12175
US-PATENT-3,666,942	.....	c06 N72-25146	US-PATENT-3,700,893	.....	c14 N73-12444
US-PATENT-3,667,010	.....	c26 N72-25679	US-PATENT-3,700,897	.....	c14 N73-12445

NUMBER INDEX

US-PATENT-3,700,961	c23 N73-13660	OS-PATENT-3,733,350	c06 N73-26100
US-PATENT-3,701,631	c17 N73-12547	OS-PATENT-3,733,424	c32 N73-26910
OS-PATENT-3,701,894	c07 N73-13149	US-PATENT-3,733,463	c14 N73-26430
OS-PATENT-3,702-791	c15 N73-13465	OS-PATENT-3,734,432	c02 N73-26004
OS-PATENT-3,702,463	c08 N73-13187	US-PATENT-3,735,206	c10 N73-25243
OS-PATENT-3,702,520	c32 N73-13921	OS-PATENT-3,735,591	c25 N73-25760
OS-PATENT-3,702,532	c15 N73-13467	US-PATENT-3,736,607	c02 N73-26006
US-PATENT-3,702,536	c28 N73-13773	OS-PATENT-3,736,764	c05 N73-26071
US-PATENT-3,702,575	c15 N73-13466	US-PATENT-3,736,849	c14 N73-26431
US-PATENT-3,702,688	c31 N73-14854	US-PATENT-3,736,938	c05 N73-27062
US-PATENT-3,702,735	c23 N73-13661	OS-PATENT-3,736,956	c15 N73-26472
US-PATENT-3,702,762	c06 N73-13129	US-PATENT-3,737,117	c31 N73-26876
US-PATENT-3,702,775	c06 N73-13128	US-PATENT-3,737,118	c15 N73-25513
US-PATENT-3,702,841	c18 N73-13562	US-PATENT-3,737,121	c02 N73-26005
US-PATENT-3,702,899	c10 N73-13235	US-PATENT-3,737,181	c33 N73-26958
US-PATENT-3,702,933	c23 N73-13662	US-PATENT-3,737,217	c05 N73-26072
US-PATENT-3,702,951	c09 N73-13208	US-PATENT-3,737,231	c07 N73-26119
US-PATENT-3,702,972	c16 N73-13489	US-PATENT-3,737,237	c26 N73-26751
US-PATENT-3,702,979	c14 N73-13420	US-PATENT-3,737,639	c10 N73-26230
US-PATENT-3,704,659	c14 N73-14427	US-PATENT-3,737,676	c10 N73-26229
US-PATENT-3,705,255	c15 N73-14469	US-PATENT-3,737,757	c10 N73-26228
US-PATENT-3,705,316	c09 N73-14214	US-PATENT-3,737,762	c14 N73-28486
US-PATENT-3,705,406	c07 N73-14130	US-PATENT-3,737,776	c07 N73-26118
US-PATENT-3,706,221	c14 N73-14429	US-PATENT-3,737,781	c10 N73-25241
US-PATENT-3,706,230	c31 N73-14855	US-PATENT-3,737,815	c09 N73-26195
OS-PATENT-3,706,281	c31 N73-14853	US-PATENT-3,737,824	c26 N73-26752
US-PATENT-3,706,583	c18 N73-14584	US-PATENT-3,737,905	c14 N73-26432
US-PATENT-3,706,970	c21 N73-14692	US-PATENT-3,737,912	c07 N73-26117
OS-PATENT-3,708,359	c27 N73-16764	US-PATENT-3,740,671	c10 N73-27171
US-PATENT-3,708,419	c33 N73-16918	OS-PATENT-3,740,725	c08 N73-26176
US-PATENT-3,708,671	c14 N73-16483	OS-PATENT-3,741,001	c14 N73-27376
OS-PATENT-3,708,674	c14 N73-16484	US-PATENT-3,742,316	c09 N73-27150
US-PATENT-3,709,663	c06 N73-16106	OS-PATENT-3,744,128	c09 N73-28083
US-PATENT-3,710,122	c16 N73-16536	OS-PATENT-3,744,148	c14 N73-28489
US-PATENT-3,710,257	c07 N73-16121	US-PATENT-3,744,247	c28 N73-27699
US-PATENT-3,710,261	c10 N73-16205	US-PATENT-3,744,294	c14 N73-27379
US-PATENT-3,710,329	c10 N73-16206	OS-PATENT-3,744,305	c12 N73-28144
OS-PATENT-3,711,042	c02 N73-19004	OS-PATENT-3,744,480	c05 N73-27941
US-PATENT-3,712,120	c14 N73-19421	US-PATENT-3,744,510	c15 N73-27406
US-PATENT-3,712,121	c14 N73-19420	US-PATENT-3,744,738	c14 N73-27378
OS-PATENT-3,712,132	c14 N73-20478	US-PATENT-3,744,794	c14 N73-27377
OS-PATENT-3,712,195	c14 N73-19419	US-PATENT-3,744,912	c16 N73-30476
OS-PATENT-3,712,591	c15 N73-19458	US-PATENT-3,744,913	c14 N73-28490
US-PATENT-3,713,163	c09 N73-19234	US-PATENT-3,744,972	c17 N73-27446
US-PATENT-3,713,290	c28 N73-19793	OS-PATENT-3,745,082	c18 N73-30532
US-PATENT-3,713,480	c05 N73-20137	US-PATENT-3,745,089	c06 N73-27086
US-PATENT-3,713,987	c15 N73-20514	US-PATENT-3,745,090	c04 N73-27052
US-PATENT-3,714,332	c15 N73-19457	OS-PATENT-3,745,149	c06 N73-27980
OS-PATENT-3,714,405	c10 N73-20253	OS-PATENT-3,745,255	c07 N73-28012
OS-PATENT-3,714,432	c14 N73-20475	OS-PATENT-3,745,300	c15 N73-28515
OS-PATENT-3,714,526	c09 N73-19235	OS-PATENT-3,745,352	c08 N73-30135
US-PATENT-3,714,588	c09 N73-20231	OS-PATENT-3,745,357	c14 N73-28488
US-PATENT-3,714,624	c14 N73-20474	OS-PATENT-3,745,410	c09 N73-30181
US-PATENT-3,714,645	c08 N73-20217	US-PATENT-3,745,475	c14 N73-30386
US-PATENT-3,714,821	c14 N73-20476	US-PATENT-3,745,739	c15 N73-27405
US-PATENT-3,714,833	c11 N73-20267	US-PATENT-3,745,816	c33 N73-27796
OS-PATENT-3,715,092	c03 N73-20039	OS-PATENT-3,746,998	c07 N73-30113
US-PATENT-3,715,152	c23 N73-20741	US-PATENT-3,747,111	c07 N73-28013
OS-PATENT-3,715,590	c14 N73-20477	US-PATENT-3,748,722	c15 N73-33383
OS-PATENT-3,715,600	c03 N73-20040	US-PATENT-3,748,853	c23 N73-30665
US-PATENT-3,715,660	c07 N73-20175	OS-PATENT-3,748,905	c14 N73-30395
US-PATENT-3,715,663	c07 N73-20174	US-PATENT-3,749,123	c15 N73-30459
US-PATENT-3,715,693	c09 N73-20232	US-PATENT-3,749,156	c31 N73-30829
US-PATENT-3,715,723	c07 N73-20176	US-PATENT-3,749,205	c15 N73-30460
US-PATENT-3,715,915	c32 N73-20740	US-PATENT-3,749,332	c31 N73-32750
US-PATENT-3,718,863	c10 N73-20254	US-PATENT-3,749,362	c15 N73-30457
US-PATENT-3,719,891	c07 N73-25160	US-PATENT-3,749,831	c07 N73-30115
US-PATENT-3,720,075	c33 N73-25952	US-PATENT-3,749,911	c14 N73-30389
US-PATENT-3,720,208	c05 N73-25125	OS-PATENT-3,750,016	c14 N73-30388
US-PATENT-3,723,475	c14 N73-25462	OS-PATENT-3,750,067	c09 N73-30185
OS-PATENT-3,728,861	c28 N73-24783	US-PATENT-3,750,131	c10 N73-30205
US-PATENT-3,729,068	c15 N73-25512	US-PATENT-3,750,168	c21 N73-30641
US-PATENT-3,729,129	c08 N73-25206	OS-PATENT-3,750,479	c05 N73-30078
US-PATENT-3,729,260	c14 N73-25463	US-PATENT-3,751,123	c15 N73-30458
US-PATENT-3,729,343	c14 N73-24472	OS-PATENT-3,751,727	c05 N73-32012
US-PATENT-3,729,676	c14 N73-24473	US-PATENT-3,751,733	c05 N73-32013
US-PATENT-3,729,736	c07 N73-25161	OS-PATENT-3,751,913	c06 N73-30097
OS-PATENT-3,729,743	c07 N73-24176	OS-PATENT-3,751,980	c14 N73-32326
US-PATENT-3,729,935	c28 N73-24784	US-PATENT-3,752,556	c14 N74-17153
OS-PATENT-3,730,287	c11 N73-26238	OS-PATENT-3,752,559	c14 N73-30393
US-PATENT-3,730,891	c18 N73-26572	US-PATENT-3,752,564	c23 N73-30666
US-PATENT-3,731,528	c12 N73-25262	OS-PATENT-3,752,665	c18 N73-32437
OS-PATENT-3,731,531	c14 N73-25460	US-PATENT-3,752,847	c06 N73-30098
OS-PATENT-3,732,040	c15 N73-24513	OS-PATENT-3,752,986	c14 N73-30392
US-PATENT-3,732,158	c17 N73-24569	US-PATENT-3,752,993	c21 N73-30640
US-PATENT-3,732,397	c09 N74-14935	US-PATENT-3,752,996	c14 N74-13130
US-PATENT-3,732,405	c10 N73-25240	US-PATENT-3,753,148	c09 N73-32111
US-PATENT-3,732,409	c06 N73-26175	US-PATENT-3,754,236	c08 N73-32081
US-PATENT-3,732,567	c14 N73-25461	US-PATENT-3,754,263	c09 N73-32110

NUMBER INDEX

US-PATENT-3,754,976	c15 N73-32360	US-PATENT-3,782,177	c23 N74-15395
US-PATENT-3,755,265	c06 N73-33076	US-PATENT-3,782,181	c33 N74-15652
US-PATENT-3,755,283	c06 N73-32029	US-PATENT-3,782,205	c14 N74-15094
US-PATENT-3,755,686	c03 N73-31988	US-PATENT-3,782,334	c04 N74-15778
US-PATENT-3,756,920	c05 N73-32011	US-PATENT-3,782,698	c14 N74-15093
US-PATENT-3,757,163	c09 N73-32107	US-PATENT-3,782,699	c15 N74-15126
US-PATENT-3,757,476	c31 N73-32749	US-PATENT-3,782,737	c15 N74-15125
US-PATENT-3,757,568	c14 N73-32323	US-PATENT-3,782,825	c16 N74-15146
US-PATENT-3,757,659	c14 N73-32322	US-PATENT-3,782,835	c14 N74-15095
US-PATENT-3,758,112	c05 N73-32014	US-PATENT-3,782,904	c15 N74-15127
US-PATENT-3,758,718	c10 N73-32143	US-PATENT-3,783,250	c08 N74-14920
US-PATENT-3,758,741	c15 N73-32358	US-PATENT-3,783,354	c10 N74-14956
US-PATENT-3,758,781	c14 N73-32317	US-PATENT-3,783,399	c09 N74-14939
US-PATENT-3,758,877	c16 N73-32391	US-PATENT-3,783,443	c15 N74-16135
US-PATENT-3,759,152	c14 N73-32319	US-PATENT-3,784,499	c18 N74-17283
US-PATENT-3,759,249	c05 N73-32015	US-PATENT-3,787,959	c15 N74-18128
US-PATENT-3,759,443	c28 N73-32606	US-PATENT-3,788,163	c15 N74-18127
US-PATENT-3,759,588	c15 N73-32359	US-PATENT-3,789,654	c33 N74-18571
US-PATENT-3,759,672	c14 N73-32320	US-PATENT-3,789,920	c33 N74-18552
US-PATENT-3,759,746	c09 N73-32108	US-PATENT-3,789,947	c15 N74-18125
US-PATENT-3,759,747	c03 N74-19692	US-PATENT-3,790,037	c05 N74-17853
US-PATENT-3,759,787	c22 N73-32528	US-PATENT-3,790,347	c15 N74-18123
US-PATENT-3,760,239	c09 N73-32112	US-PATENT-3,790,409	c03 N74-19693
US-PATENT-3,760,248	c10 N73-32145	US-PATENT-3,790,432	c15 N74-18126
US-PATENT-3,760,257	c09 N73-32109	US-PATENT-3,790,650	c15 N74-18124
US-PATENT-3,760,268	c14 N73-32318	US-PATENT-3,790,795	c14 N74-18088
US-PATENT-3,760,394	c10 N73-32144	US-PATENT-3,790,806	c09 N74-17927
US-PATENT-3,762,884	c17 N73-32414	US-PATENT-3,791,207	c11 N74-17955
US-PATENT-3,762,918	c17 N73-32415	US-PATENT-3,792,399	c09 N74-17928
US-PATENT-3,763,204	c06 N73-32030	US-PATENT-3,793,109	c14 N74-18089
US-PATENT-3,763,552	c26 N73-32571	US-PATENT-3,795,134	c32 N74-19528
US-PATENT-3,763,691	c14 N73-32327	US-PATENT-3,795,448	c24 N74-19310
US-PATENT-3,763,708	c23 N74-18323	US-PATENT-3,795,840	c09 N74-17929
US-PATENT-3,763,740	c11 N73-32152	US-PATENT-3,795,858	c14 N74-18090
US-PATENT-3,763,928	c33 N73-32818	US-PATENT-3,795,862	c09 N74-17930
US-PATENT-3,764,097	c02 N74-10034	US-PATENT-3,795,900	c07 N74-17885
US-PATENT-3,764,209	c14 N73-33361	US-PATENT-3,795,910	c10 N74-19870
US-PATENT-3,764,220	c16 N73-33397	US-PATENT-3,796,473	c15 N74-20063
US-PATENT-3,764,790	c10 N74-10223	US-PATENT-3,796,592	c06 N74-19769
US-PATENT-3,764,850	c09 N74-10195	US-PATENT-3,797,098	c15 N74-21057
US-PATENT-3,764,933	c09 N74-10194	US-PATENT-3,797,919	c23 N74-21300
US-PATENT-3,765,229	c14 N74-10415	US-PATENT-3,798,741	c15 N74-21059
US-PATENT-3,765,958	c17 N74-10521	US-PATENT-3,798,748	c15 N74-21055
US-PATENT-3,766,315	c07 N74-10132	US-PATENT-3,798,778	c14 N74-21015
US-PATENT-3,766,380	c14 N74-11284	US-PATENT-3,798,896	c15 N74-21060
US-PATENT-3,767,212	c15 N74-10474	US-PATENT-3,799,149	c05 N74-20728
US-PATENT-3,769,623	c07 N74-11000	US-PATENT-3,799,475	c02 N74-20646
US-PATENT-3,769,689	c15 N74-11301	US-PATENT-3,799,793	c14 N74-20008
US-PATENT-3,769,834	c05 N74-10975	US-PATENT-3,799,813	c24 N74-20329
US-PATENT-3,770,021	c09 N74-11050	US-PATENT-3,800,074	c14 N74-20009
US-PATENT-3,770,903	c14 N74-11283	US-PATENT-3,800,082	c14 N74-21014
US-PATENT-3,770,933	c15 N74-11300	US-PATENT-3,800,224	c07 N74-19790
US-PATENT-3,771,037	c03 N74-10942	US-PATENT-3,800,227	c07 N74-20809
US-PATENT-3,771,040	c09 N74-11049	US-PATENT-3,800,237	c07 N74-19788
US-PATENT-3,771,074	c16 N74-11313	US-PATENT-3,800,253	c15 N74-21056
US-PATENT-3,771,959	c06 N74-12813	US-PATENT-3,801,617	c15 N74-21058
US-PATENT-3,772,174	c18 N74-13270	US-PATENT-3,802,249	c14 N74-21019
US-PATENT-3,772,216	c06 N74-12812	US-PATENT-3,802,253	c05 N74-20726
US-PATENT-3,772,220	c06 N74-12814	US-PATENT-3,802,262	c14 N74-21018
US-PATENT-3,772,272	c08 N74-12887	US-PATENT-3,802,660	c15 N74-21065
US-PATENT-3,772,418	c15 N74-13177	US-PATENT-3,802,753	c15 N74-21064
US-PATENT-3,772,691	c09 N74-12912	US-PATENT-3,802,779	c23 N74-21304
US-PATENT-3,773,038	c05 N74-12778	US-PATENT-3,803,090	c18 N74-21156
US-PATENT-3,773,913	c13 N74-13011	US-PATENT-3,803,393	c08 N74-20836
US-PATENT-3,775,101	c15 N74-13179	US-PATENT-3,803,445	c07 N74-20813
US-PATENT-3,776,028	c14 N74-13129	US-PATENT-3,803,617	c09 N74-20863
US-PATENT-3,776,432	c15 N74-13178	US-PATENT-3,804,472	c15 N74-21061
US-PATENT-3,776,455	c21 N74-13420	US-PATENT-3,804,506	c09 N74-20861
US-PATENT-3,777,200	c14 N74-13132	US-PATENT-3,804,525	c16 N74-21091
US-PATENT-3,777,490	c09 N74-12913	US-PATENT-3,804,703	c15 N74-21063
US-PATENT-3,777,546	c28 N74-13502	US-PATENT-3,805,266	c09 N74-20864
US-PATENT-3,777,552	c15 N74-15130	US-PATENT-3,805,303	c05 N74-20725
US-PATENT-3,777,605	c14 N74-13131	US-PATENT-3,805,622	c15 N74-21062
US-PATENT-3,777,942	c05 N74-12779	US-PATENT-3,806,756	c09 N74-21850
US-PATENT-3,778,685	c10 N74-12951	US-PATENT-3,806,802	c14 N74-21017
US-PATENT-3,778,786	c08 N74-12888	US-PATENT-3,806,815	c07 N74-20811
US-PATENT-3,778,791	c16 N74-13205	US-PATENT-3,806,816	c07 N74-20810
US-PATENT-3,779,788	c23 N74-13436	US-PATENT-3,806,831	c09 N74-20862
US-PATENT-3,780,151	c15 N74-14133	US-PATENT-3,806,835	c09 N74-20859
US-PATENT-3,780,424	c03 N74-14784	US-PATENT-3,806,932	c09 N74-20860
US-PATENT-3,780,563	c14 N74-15092	US-PATENT-3,807,384	c14 N74-23039
US-PATENT-3,780,827	c28 N74-15453	US-PATENT-3,807,656	c15 N74-22136
US-PATENT-3,780,966	c14 N74-15089	US-PATENT-3,808,464	c07 N74-22814
US-PATENT-3,781,111	c16 N74-15145	US-PATENT-3,808,511	c09 N74-22864
US-PATENT-3,781,549	c14 N74-15090	US-PATENT-3,808,517	c10 N74-22895
US-PATENT-3,781,562	c14 N74-15091	US-PATENT-3,809,481	c14 N74-23040
US-PATENT-3,781,902	c07 N74-15831	US-PATENT-3,809,601	c15 N74-23064
US-PATENT-3,781,933	c05 N74-14845	US-PATENT-3,809,800	c09 N74-22865
US-PATENT-3,781,958	c15 N74-15128	US-PATENT-3,809,871	c05 N74-22771

NUMBER INDEX

US-PATENT-3,810,829	.....	c15 N74-23065
US-PATENT-3,811,044	.....	c15 N74-23066
US-PATENT-3,811,094	.....	c09 N74-21851
US-PATENT-3,811,429	.....	c05 N74-27566
US-PATENT-3,812,358	.....	c14 N74-26949
US-PATENT-3,812,783	.....	c33 N74-27425
US-PATENT-3,812,924	.....	c14 N74-26945
US-PATENT-3,812,936	.....	c15 N74-26976
US-PATENT-3,813,183	.....	c15 N74-25968
US-PATENT-3,813,875	.....	c31 N74-27360
US-PATENT-3,813,937	.....	c14 N74-27859
US-PATENT-3,814,083	.....	c05 N74-26626
US-PATENT-3,814,350	.....	c32 N74-27397
US-PATENT-3,814,645	.....	c18 N74-30001
US-PATENT-3,814,653	.....	c18 N74-27035
US-PATENT-3,814,678	.....	c14 N74-26948
US-PATENT-3,814,939	.....	c14 N74-26947
US-PATENT-3,815,049	.....	c09 N74-26732
US-PATENT-3,815,109	.....	c05 N74-26625
US-PATENT-3,815,205	.....	c15 N74-26977
US-PATENT-3,815,969	.....	c14 N74-26946
US-PATENT-3,816,657	.....	c07 N74-26654
US-PATENT-3,816,785	.....	c11 N74-26767
US-PATENT-3,817,082	.....	c12 N74-27730
US-PATENT-3,817,084	.....	c15 N74-27900
US-PATENT-3,817,622	.....	c25 N74-30156
US-PATENT-3,817,627	.....	c14 N74-27860
US-PATENT-3,818,325	.....	c03 N74-27519
US-PATENT-3,818,346	.....	c10 N74-27705
US-PATENT-3,818,767	.....	c21 N74-28097
US-PATENT-3,818,775	.....	c15 N74-27901
US-PATENT-3,818,814	.....	c15 N74-27902
US-PATENT-3,819,299	.....	c15 N74-27904
US-PATENT-3,819,419	.....	c14 N74-27861
US-PATENT-3,819,440	.....	c07 N74-27612
US-PATENT-3,819,550	.....	c18 N74-27037
US-PATENT-3,820,095	.....	c14 N74-27862
US-PATENT-3,820,286	.....	c15 N74-27905
US-PATENT-3,820,388	.....	c14 N74-27865
US-PATENT-3,820,529	.....	c14 N74-27864
US-PATENT-3,820,630	.....	c02 N74-27490
US-PATENT-3,820,741	.....	c15 N74-27903
US-PATENT-3,820,918	.....	c28 N74-28226
US-PATENT-3,821,102	.....	c12 N74-27744
US-PATENT-3,821,462	.....	c09 N74-27683
US-PATENT-3,821,546	.....	c09 N74-27682
US-PATENT-3,821,556	.....	c14 N74-27866
US-PATENT-3,824,707	.....	c11 N74-30597
US-PATENT-3,825,760	.....	c03 N74-29410
US-PATENT-3,826,448	.....	c02 N74-30421
US-PATENT-3,826,726	.....	c06 N74-30502
US-PATENT-3,826,729	.....	c28 N74-31269
US-PATENT-3,826,964	.....	c09 N74-29556
US-PATENT-3,827,288	.....	c23 N74-31148
US-PATENT-3,827,807	.....	c14 N74-30886
US-PATENT-3,828,137	.....	c07 N74-30524
US-PATENT-3,828,138	.....	c07 N74-30523
US-PATENT-3,828,524	.....	c12 N74-30608
US-PATENT-3,829,237	.....	c28 N74-31270
US-PATENT-3,830,060	.....	c33 N74-33379
US-PATENT-3,830,094	.....	c14 N74-32879
US-PATENT-3,830,335	.....	c02 N74-32418
US-PATENT-3,830,431	.....	c28 N74-33218
US-PATENT-3,830,552	.....	c15 N74-32921
US-PATENT-3,830,609	.....	c15 N74-32920
US-PATENT-3,830,673	.....	c27 N74-33209
US-PATENT-3,831,058	.....	c10 N74-32711
US-PATENT-3,831,117	.....	c10 N74-32712
US-PATENT-3,831,142	.....	c07 N74-32598
US-PATENT-3,832,290	.....	c15 N74-32919
US-PATENT-3,832,735	.....	c05 N74-32546
US-PATENT-3,832,764	.....	c15 N74-32918
US-PATENT-3,832,781	.....	c14 N74-32877
US-PATENT-3,832,903	.....	c14 N74-32878
US-PATENT-3,833,322	.....	c15 N74-32917
US-PATENT-3,833,336	.....	c33 N74-33378
US-PATENT-3,833,857	.....	c09 N74-32660
US-PATENT-3,835,318	.....	c14 N74-34857
US-PATENT-3,837,285	.....	c11 N74-34672
US-PATENT-3,840,829	.....	c09 N74-34638
US-PATENT-313-204	.....	c28 N73-24783



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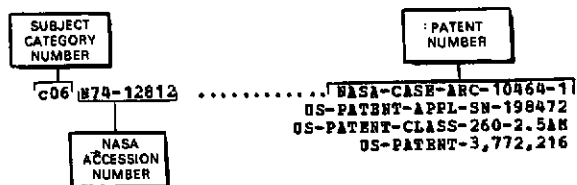
# Accession Number Index

NASA PATENT ABSTRACTS BIBLIOGRAPHY

JANUARY 1975

Section 2

Typical Accession Number Index Listing



Listings in the index are arranged numerically by NASA accession number. The category number indicates the category in Section 1 (Abstracts) in which the citation is located. The NASA accession number denotes the number by which the citation is identified within the subject category. The "patent" numbers are the identification numbers that have been assigned to the item by the issuing body or other agency.

c06	179-12812	NASA-CASE-ARC-10464-11	c05	N69-21473	US-PATENT-APPL-SN-487344
		US-PATENT-APPL-SN-198472			US-PATENT-CLASS-317-157.5
		US-PATENT-CLASS-260-2.5A			US-PATENT-3,421,053
		US-PATENT-3,772,216			NASA-CASE-XAR-01547
					US-PATENT-APPL-SN-391343
					US-PATENT-CLASS-128-2.08
					US-PATENT-3,420,225
					NASA-CASE-XGS-01395
					US-PATENT-APPL-SN-545535
					US-PATENT-CLASS-174-72
					US-PATENT-3,422,213
					NASA-CASE-XLA-02704
					US-PATENT-APPL-SN-469011
					US-PATENT-CLASS-73-67.2
					US-PATENT-3,421,363
					NASA-CASE-XNP-09752
					US-PATENT-APPL-SN-640460
					US-PATENT-CLASS-317-246
					US-PATENT-3,422,324
					NASA-CASE-XLE-03778
					US-PATENT-APPL-SN-626247
					US-PATENT-CLASS-174-18
					US-PATENT-3,420,945
					NASA-CASE-XGS-04994
					US-PATENT-APPL-SN-619907
					US-PATENT-CLASS-331-4
					US-PATENT-3,421,105
					NASA-CASE-XHQ-03903
					US-PATENT-APPL-SN-560967
					US-PATENT-CLASS-23-208
					US-PATENT-3,423,179
					NASA-CASE-XNP-07478
					US-PATENT-APPL-SN-605097
					US-PATENT-CLASS-175-323
					US-PATENT-3,421,591
					NASA-CASE-XMS-05894-1
					US-PATENT-APPL-SN-685766
					US-PATENT-CLASS-137-491
					US-PATENT-3,421,541
					NASA-CASE-XMS-02872
					US-PATENT-APPL-SN-422864
					US-PATENT-CLASS-128-2.06
					US-PATENT-3,420,223
					NASA-CASE-XNP-06032
					US-PATENT-APPL-SN-590146
					US-PATENT-CLASS-324-158
					US-PATENT-3,422,354
					NASA-CASE-XMS-07846-1
					US-PATENT-APPL-SN-694247
					US-PATENT-CLASS-339-91
					US-PATENT-3,422,390
					NASA-CASE-XNP-09785
					US-PATENT-APPL-SN-599975
					US-PATENT-CLASS-340-172.5
					US-PATENT-3,422,403
					NASA-CASE-XNP-07481
					US-PATENT-APPL-SN-563650
					US-PATENT-CLASS-310-11
					US-PATENT-3,422,291
					NASA-CASE-XNP-05975
					US-PATENT-APPL-SN-579097
					US-PATENT-CLASS-239-416
					US-PATENT-3,421,700
					NASA-CASE-NPO-10309
					US-PATENT-APPL-SN-574282
					US-PATENT-APPL-SN-700985
					US-PATENT-CLASS-62-6
					US-PATENT-3,421,331
					NASA-CASE-XLB-10529
					US-PATENT-APPL-SN-603396
					US-PATENT-CLASS-317-234
					US-PATENT-3,421,056
					NASA-CASE-XMS-06761
					US-PATENT-APPL-SN-575475
					US-PATENT-CLASS-128-283
					US-PATENT-3,421,506
					NASA-CASE-XMS-04917
					US-PATENT-APPL-SN-574283
					US-PATENT-CLASS-73-198
					US-PATENT-3,425,276

ACCESSION

ACCESSION NUMBER INDEX

c15 N69-24266	NASA-CASE-XMS-03700 US-PATENT-APPL-SN-617783 US-PATENT-CLASS-314-129 US-PATENT-3,428,847		US-PATENT-APPL-SN-685764 US-PATENT-CLASS-136-213 US-PATENT-3,431,149
c03 N69-24267	NASA-CASE-XGS-04531 US-PATENT-APPL-SN-590141 US-PATENT-CLASS-136-89 US-PATENT-3,437,527	c07 N69-27460	NASA-CASE-XGS-05582 US-PATENT-APPL-SN-646424 US-PATENT-CLASS-343-854 US-PATENT-3,438,044
c09 N69-24317	NASA-CASE-XGS-04999 US-PATENT-APPL-SN-519395 US-PATENT-CLASS-307-268 US-PATENT-3,426,219	c14 N69-27461	NASA-CASE-XLA-03724 US-PATENT-APPL-SN-568071 US-PATENT-CLASS-350-6 US-PATENT-3,437,394
c09 N69-24318	NASA-CASE-XGS-05003 US-PATENT-APPL-SN-576797 US-PATENT-CLASS-317-235 US-PATENT-3,430,115	c07 N69-27462	NASA-CASE-XMS-05303 US-PATENT-APPL-SN-617022 US-PATENT-CLASS-333-97 US-PATENT-3,428,923
c15 N69-24319	NASA-CASE-XNP-09227 US-PATENT-APPL-SN-632164 US-PATENT-CLASS-313-44 US-PATENT-3,426,230	c09 N69-27463	NASA-CASE-XGS-03095 US-PATENT-APPL-SN-552344 US-PATENT-CLASS-307-222 US-PATENT-3,437,832
c15 N69-24320	NASA-CASE-XGS-03864 US-PATENT-APPL-SN-577114 US-PATENT-CLASS-136-133 US-PATENT-3,427,205	c11 N69-27466	NASA-CASE-XNP-04969 US-PATENT-APPL-SN-593604 US-PATENT-CLASS-248-317 US-PATENT-3,430,909
c11 N69-24321	NASA-CASE-XLA-03271 US-PATENT-APPL-SN-482313 US-PATENT-CLASS-350-310 US-PATENT-3,427,097	c15 N69-27483	NASA-CASE-XLA-03105 US-PATENT-APPL-SN-529594 US-PATENT-CLASS-263-48 US-PATENT-3,430,937
c15 N69-24322	NASA-CASE-XMS-01108 US-PATENT-APPL-SN-432032 US-PATENT-CLASS-156-242 US-PATENT-3,425,885	c14 N69-27484	NASA-CASE-XLA-04556 US-PATENT-APPL-SN-607608 US-PATENT-CLASS-250-83 US-PATENT-3,433,953
c07 N69-24323	NASA-CASE-XGS-02816 US-PATENT-APPL-SN-521998 US-PATENT-CLASS-333-73 US-PATENT-3,437,959	c14 N69-27485	NASA-CASE-XGS-02401 US-PATENT-APPL-SN-502740 US-PATENT-CLASS-250-203 US-PATENT-3,428,812
c09 N69-24324	NASA-CASE-XGS-02171 US-PATENT-APPL-SN-590159 US-PATENT-CLASS-325-446 US-PATENT-3,437,935	c14 N69-27486	NASA-CASE-XAC-11225 US-PATENT-APPL-SN-638707 US-PATENT-CLASS-248-18 US-PATENT-3,430,902
c09 N69-24329	NASA-CASE-XNP-04183 US-PATENT-APPL-SN-546142 US-PATENT-CLASS-179-100.2 US-PATENT-3,428,761	c04 N69-27487	NASA-CASE-XGS-05533 US-PATENT-APPL-SN-568346 US-PATENT-CLASS-195-68 US-PATENT-3,437,560
c09 N69-24330	NASA-CASE-XMS-05307 US-PATENT-APPL-SN-516154 US-PATENT-CLASS-330-29 US-PATENT-3,428,910	c15 N69-27490	NASA-CASE-XLA-02854 US-PATENT-APPL-SN-598118 US-PATENT-CLASS-285-3 US-PATENT-3,427,047
c14 N69-24331	NASA-CASE-XNP-03930 US-PATENT-APPL-SN-526665 US-PATENT-CLASS-250-237 US-PATENT-3,435,246	c16 N69-27491	NASA-CASE-IGS-04480 US-PATENT-APPL-SN-591007 US-PATENT-CLASS-250-199 US-PATENT-3,433,960
c23 N69-24332	NASA-CASE-XNP-02340 US-PATENT-APPL-SN-439490 US-PATENT-CLASS-350-1 US-PATENT-3,427,089	c31 N69-27499	NASA-CASE-XMS-12158-1 US-PATENT-APPL-SN-762936 US-PATENT-CLASS-244-1 US-PATENT-3,439,886
c09 N69-24333	NASA-CASE-XNP-09225 US-PATENT-APPL-SN-640785 US-PATENT-CLASS-340-172.5 US-PATENT-3,431,559	c09 N69-27500	NASA-CASE-XNP-09228 US-PATENT-APPL-SN-584070 US-PATENT-CLASS-307-136 US-PATENT-3,430,063
c07 N69-24334	NASA-CASE-XGS-01110 US-PATENT-APPL-SN-526664 US-PATENT-CLASS-333-8 US-PATENT-3,428,919	c15 N69-27502	NASA-CASE-XNP-04132 US-PATENT-APPL-SN-640788 US-PATENT-CLASS-220-55 US-PATENT-3,429,477
c03 N69-25146	NASA-CASE-XGS-04808 US-PATENT-APPL-SN-640781 US-PATENT-CLASS-321-2 US-PATENT-3,437,903	c14 N69-27503	NASA-CASE-XPR-09479 US-PATENT-APPL-SN-653278 US-PATENT-CLASS-73-49.8 US-PATENT-3,433,079
c17 N69-25147	NASA-CASE-XLE-10466 US-PATENT-APPL-SN-644448 US-PATENT-CLASS-219-411 US-PATENT-3,427,435	c15 N69-27504	NASA-CASE-XNP-09452 US-PATENT-APPL-SN-640789 US-PATENT-CLASS-267-1 US-PATENT-3,430,942
c09 N69-27422	NASA-CASE-XLA-04980 US-PATENT-APPL-SN-577548 US-PATENT-CLASS-317-234 US-PATENT-3,432,730	c15 N69-27505	NASA-CASE-XLA-09122 US-PATENT-APPL-SN-619903 US-PATENT-CLASS-64-28 US-PATENT-3,430,460
c14 N69-27423	NASA-CASE-XAC-02407 US-PATENT-APPL-SN-469013 US-PATENT-CLASS-324-43 US-PATENT-3,437,919	c15 N69-27871	NASA-CASE-XMS-04318 US-PATENT-APPL-SN-521996 US-PATENT-CLASS-219-347 US-PATENT-3,431,397
c14 N69-27431	NASA-CASE-XNP-01483 US-PATENT-APPL-SN-635325 US-PATENT-CLASS-339-17 US-PATENT-3,430,182	c06 N69-31244	NASA-CASE-NPO-10714 US-PATENT-APPL-SN-817569 US-PATENT-CLASS-ERC-10187 US-PATENT-APPL-SN-825253
c14 N69-27432	NASA-CASE-XGS-08266 US-PATENT-APPL-SN-628248 US-PATENT-CLASS-250-203 US-PATENT-3,433,961	c26 N69-33482	NASA-CASE-ERC-10120 US-PATENT-APPL-SN-827597 US-PATENT-CLASS-IMP-03873 US-PATENT-APPL-SN-543774
c14 N69-27459	NASA-CASE-XMS-05909-1	c06 N69-39733	US-PATENT-CLASS-73-24 US-PATENT-3,429,177

ACCESSION NUMBER INDEX

c09 N69-39734	NASA-CASE-IMP-04238 US-PATENT-APPL-SN-562443 US-PATENT-CLASS-339-95 US-PATENT-3,458,851	US-PATENT-APPL-SN-590145 US-PATENT-CLASS-250-209 US-PATENT-3,444,380
c15 N69-35735	NASA-CASE-XGS-00963 US-PATENT-APPL-SN-494282 US-PATENT-CLASS-161-182 US-PATENT-3,453,172	c01 N69-39981 NASA-CASE-XLA-06095 US-PATENT-APPL-SN-683612 US-PATENT-CLASS-244-138 US-PATENT-3,443,779
c07 N69-39736	NASA-CASE-IMP-04180 US-PATENT-APPL-SN-545228 US-PATENT-CLASS-250-203 US-PATENT-3,448,273	c14 N69-39982 NASA-CASE-XGS-01725 US-PATENT-APPL-SN-483891 US-PATENT-CLASS-250-49.5 US-PATENT-3,446,960
c14 N69-35785	NASA-CASE-YKS-03495 US-PATENT-APPL-SN-559351 US-PATENT-CLASS-324-61 US-PATENT-3,426,272	c03 N69-39983 NASA-CASE-XLE-02083 US-PATENT-APPL-SN-568362 US-PATENT-CLASS-310-11 US-PATENT-3,453,462
c15 N69-39786	NASA-CASE-XGS-04554 US-PATENT-APPL-SN-584072 US-PATENT-CLASS-29-472.9 US-PATENT-3,447,233	c09 N69-39984 NASA-CASE-XLA-08507 US-PATENT-APPL-SN-632154 US-PATENT-CLASS-321-11 US-PATENT-3,434,033
c25 N69-39884	NASA-CASE-XLE-00690 US-PATENT-APPL-SN-489442 US-PATENT-CLASS-324-33 US-PATENT-3,447,071	c09 N69-39986 NASA-CASE-XMS-05562-1 US-PATENT-APPL-SN-529609 US-PATENT-CLASS-330-2 US-PATENT-3,434,064
c09 N69-39885	NASA-CASE-XMS-04061-1 US-PATENT-APPL-SN-511564 US-PATENT-CLASS-328-116 US-PATENT-3,456,201	c09 N69-39987 NASA-CASE-XMS-04215-1 US-PATENT-APPL-SN-605102 US-PATENT-CLASS-307-265 US-PATENT-3,446,992
c10 N69-35888	NASA-CASE-XNP-02713 US-PATENT-APPL-SN-528031 US-PATENT-CLASS-307-252 US-PATENT-3,458,726	c12 N69-39988 NASA-CASE-XLE-02624 US-PATENT-APPL-SN-635327 US-PATENT-CLASS-35-49 US-PATENT-3,429,058
c06 N69-35885	NASA-CASE-XLE-07087 US-PATENT-APPL-SN-619521 US-PATENT-CLASS-313-231 US-PATENT-3,447,015	c15 N70-10867 NASA-CASE-ERC-10208 US-PATENT-APPL-SN-847596 NASA-CASE-ERC-10072
c03 N69-39890	NASA-CASE-XLE-02824 US-PATENT-APPL-SN-487343 US-PATENT-CLASS-310-10 US-PATENT-3,443,128	c09 N70-11148 NASA-CASE-ERC-10072 US-PATENT-APPL-SN-845972 NASA-CASE-NPO-10863
c18 N69-35855	NASA-CASE-XNP-06508 US-PATENT-APPL-SN-617776 US-PATENT-CLASS-117-21 US-PATENT-3,446,642	c06 N70-11251 NASA-CASE-NPO-10863 US-PATENT-APPL-SN-848325 NASA-CASE-NPO-10447
c14 N69-39896	NASA-CASE-XAC-02970 US-PATENT-APPL-SN-447930 US-PATENT-CLASS-250-217 US-PATENT-3,452,872	c06 N70-11252 NASA-CASE-NPO-10447 US-PATENT-APPL-SN-848351 NASA-CASE-NSC-12259-1
c09 N69-39897	NASA-CASE-XAC-08981 US-PATENT-APPL-SN-634060 US-PATENT-CLASS-317-16 US-PATENT-3,450,946	c07 N70-12616 NASA-CASE-NSC-12259-1 US-PATENT-APPL-SN-853763 NASA-CASE-ARC-10268-1
c03 N69-39898	NASA-CASE-XLE-01015 US-PATENT-APPL-SN-502746 US-PATENT-CLASS-310-4 US-PATENT-3,446,997	c09 N70-12620 NASA-CASE-ARC-10268-1 US-PATENT-APPL-SN-856257 NASA-CASE-ERC-10031
c09 N69-39925	NASA-CASE-XNP-09776 US-PATENT-APPL-SN-617779 US-PATENT-CLASS-310-4 US-PATENT-3,446,996	c05 N70-20717 NASA-CASE-ERC-10031 US-PATENT-APPL-SN-856511 NASA-CASE-NPS-14741
c15 N69-39935	NASA-CASE-XNP-08882 US-PATENT-APPL-SN-640784 US-PATENT-CLASS-220-14 US-PATENT-3,446,387	c09 N70-20737 US-PATENT-APPL-SN-880247 NASA-CASE-ERC-10323-1 US-PATENT-APPL-SN-727207
c06 N69-39936	NASA-CASE-IMP-04816 US-PATENT-APPL-SN-578926 US-PATENT-CLASS-73-23.1 US-PATENT-3,443,416	c30 N70-22183 NASA-CASE-ERC-10323-1 US-PATENT-APPL-SN-727207 NASA-CASE-XMS-04890-1
c14 N69-39937	NASA-CASE-XNP-09750 US-PATENT-APPL-SN-632162 US-PATENT-CLASS-250-83 US-PATENT-3,456,112	c15 N70-22192 NASA-CASE-XMS-04890-1 US-PATENT-APPL-SN-797057 US-PATENT-CLASS-60-258 US-PATENT-3,490,238
c07 N69-39974	NASA-CASE-XGS-05918 US-PATENT-APPL-SN-685497 US-PATENT-CLASS-343-7.5 US-PATENT-3,430,237	c11 N70-26813 NASA-CASE-LAR-10276-1 US-PATENT-APPL-SN-29979 NASA-CASE-LAR-10367-1
c14 N69-39975	NASA-CASE-XLA-01781 US-PATENT-APPL-SN-441936 US-PATENT-CLASS-73-86 US-PATENT-3,425,268	c03 N70-26817 NASA-CASE-LAR-10367-1 US-PATENT-APPL-SN-864710 NASA-CASE-LAR-10590-1
c07 N69-39978	NASA-CASE-XGS-02749 US-PATENT-APPL-SN-502753 US-PATENT-CLASS-179-15 US-PATENT-3,450,842	c15 N70-26819 NASA-CASE-LAR-10590-1 US-PATENT-APPL-SN-21732 NASA-CASE-XMP-00447
c18 N69-39975	NASA-CASE-XGS-04119 US-PATENT-APPL-SN-452945 US-PATENT-CLASS-106-74 US-PATENT-3,454,410	c14 N70-33179 US-PATENT-APPL-SN-134479 US-PATENT-CLASS-340-198 US-PATENT-3,041,587
c07 N69-39980	NASA-CASE-XGS-05211	c15 N70-33180 NASA-CASE-XLA-00137 US-PATENT-APPL-SN-8203 US-PATENT-CLASS-93-1 US-PATENT-3,010,372
		c21 N70-33181 NASA-CASE-XLA-00120 US-PATENT-APPL-SN-853984 US-PATENT-CLASS-250-83.3 US-PATENT-3,038,077
		c09 N70-33182 NASA-CASE-XAC-00086 US-PATENT-APPL-SN-824755 US-PATENT-CLASS-340-147 US-PATENT-3,059,220
		c15 N70-33226 NASA-CASE-XLE-00020 US-PATENT-APPL-SN-387332 US-PATENT-CLASS-253-39.15 US-PATENT-3,011,760
		c28 N70-33241 NASA-CASE-XLE-00103 US-PATENT-APPL-SN-517100 US-PATENT-CLASS-60-39.74 US-PATENT-2,940,259
		c31 N70-33242 NASA-CASE-XLA-00165 US-PATENT-APPL-SN-47120 US-PATENT-CLASS-244-117 US-PATENT-3,028,128
		c14 N70-33254 NASA-CASE-XLA-00062 US-PATENT-APPL-SN-853983

ACCRSSION NUMBER INDEX

	US-PATENT-CLASS-88-16		US-PATENT-2,991,961
	US-PATENT-3,041,924	c03 N70-33343	NASA-CASE-XLA-00115
c02 N70-33255	NASA-CASE-XLA-00230		US-PATENT-APPL-SN-847027
	US-PATENT-APPL-SN-41455		US-PATENT-CLASS-244-1
	US-PATENT-CLASS-244-43		US-PATENT-3,001,739
	US-PATENT-3,053,484	c33 N70-33344	NASA-CASE-XMS-00486
c15 N70-33264	NASA-CASE-XLE-00092		US-PATENT-APPL-SN-300113
	US-PATENT-APPL-SN-835146		US-PATENT-CLASS-244-1
	US-PATENT-CLASS-253-39,15		US-PATENT-3,130,940
	US-PATENT-3,057,597	c28 N70-33356	NASA-CASE-XLE-00267
c28 N70-33265	NASA-CASE-XLE-00817		US-PATENT-APPL-SN-58147
	US-PATENT-APPL-SN-264735		US-PATENT-CLASS-60-35.5
	US-PATENT-CLASS-60-35,3		US-PATENT-3,016,693
	US-PATENT-3,173,246	c28 N70-33372	NASA-CASE-XLE-00037
c02 N70-33266	NASA-CASE-XLA-00221		US-PATENT-APPL-SN-639589
	US-PATENT-APPL-SN-51473		US-PATENT-CLASS-253-39,15
	US-PATENT-CLASS-244-46		US-PATENT-2,974,925
	US-PATENT-3,064,928	c28 N70-33374	NASA-CASE-XLA-00154
c25 N70-33267	NASA-CASE-XLA-00675		US-PATENT-APPL-SN-31242
	US-PATENT-APPL-SN-178213		US-PATENT-CLASS-60-35,6
	US-PATENT-CLASS-315-111		US-PATENT-3,012,400
	US-PATENT-3,171,060	c28 N70-33375	NASA-CASE-XLE-00207
c11 N70-33278	NASA-CASE-XLE-00168		US-PATENT-APPL-SN-180370
	US-PATENT-APPL-SN-842170		US-PATENT-CLASS-60-35,6
	US-PATENT-CLASS-73-116		US-PATENT-3,173,251
	US-PATENT-3,063,291	c15 N70-33376	NASA-CASE-XLE-00101
c21 N70-33279	NASA-CASE-XFR-00181		US-PATENT-APPL-SN-551961
	US-PATENT-APPL-SN-28175		US-PATENT-CLASS-251-173
	US-PATENT-CLASS-244-83		US-PATENT-2,945,667
	US-PATENT-3,028,126	c15 N70-33382	NASA-CASE-XLE-00010
c17 N70-33283	NASA-CASE-XLE-00151		US-PATENT-APPL-SN-554899
	US-PATENT-APPL-SN-848481		US-PATENT-CLASS-266-19
	US-PATENT-CLASS-75-171		US-PATENT-2,934,331
	US-PATENT-2,971,837	c14 N70-33386	NASA-CASE-XLA-00113
c28 N70-33284	NASA-CASE-XLE-00078		US-PATENT-APPL-SN-2792
	US-PATENT-APPL-SN-18776		US-PATENT-CLASS-73-147
	US-PATENT-CLASS-60-35,6		US-PATENT-3,001,395
	US-PATENT-3,049,876	c03 N70-34134	NASA-CASE-XLE-00212
c05 N70-33285	NASA-CASE-XLA-00118		US-PATENT-APPL-SN-151598
	US-PATENT-APPL-SN-840983		US-PATENT-CLASS-310-4
	US-PATENT-CLASS-5-345		US-PATENT-3,202,844
	US-PATENT-3,038,175	c31 N70-34135	NASA-CASE-XLA-00686
c02 N70-33286	NASA-CASE-XLA-00142		US-PATENT-APPL-SN-195347
	US-PATENT-APPL-SN-26375		US-PATENT-CLASS-343-833
	US-PATENT-CLASS-244-46		US-PATENT-3,202,998
	US-PATENT-3,028,122	c14 N70-34156	NASA-CASE-XLE-00266
c11 N70-33287	NASA-CASE-XLA-00112		US-PATENT-APPL-SN-202024
	US-PATENT-APPL-SN-843022		US-PATENT-CLASS-73-15
	US-PATENT-CLASS-73-147		US-PATENT-3,204,447
	US-PATENT-3,005,339	c03 N70-34157	NASA-CASE-XMF-00517
c17 N70-33288	NASA-CASE-XLE-02428		US-PATENT-APPL-SN-216711
	US-PATENT-APPL-SN-339821		US-PATENT-CLASS-244-1
	US-PATENT-CLASS-29-198		US-PATENT-3,204,889
	US-PATENT-3,170,773	c14 N70-34158	NASA-CASE-XGS-00359
c12 N70-33305	NASA-CASE-XLA-00229		US-PATENT-APPL-SN-94952
	US-PATENT-APPL-SN-18780		US-PATENT-CLASS-250-203
	US-PATENT-CLASS-114-66,5		US-PATENT-3,205,361
	US-PATENT-3,016,863	c31 N70-34159	NASA-CASE-XMF-03856
c15 N70-33311	NASA-CASE-XLE-00046		US-PATENT-APPL-SN-416941
	US-PATENT-APPL-SN-686796		US-PATENT-CLASS-248-188,9
	US-PATENT-CLASS-29-488		US-PATENT-3,208,707
	US-PATENT-3,008,229	c02 N70-34160	NASA-CASE-XLA-01804
c09 N70-33312	NASA-CASE-XLA-00141		US-PATENT-APPL-SN-353637
	US-PATENT-APPL-SN-19971		US-PATENT-CLASS-244-50
	US-PATENT-CLASS-219-34		US-PATENT-3,208,694
	US-PATENT-3,005,081	c14 N70-34161	NASA-CASE-XLA-00203
c14 N70-33322	NASA-CASE-XLA-00135		US-PATENT-APPL-SN-227682
	US-PATENT-APPL-SN-861152		US-PATENT-CLASS-73-105
	US-PATENT-CLASS-244-14		US-PATENT-3,208,272
	US-PATENT-3,004,735	c28 N70-34162	NASA-CASE-XMF-01544
c15 N70-33323	NASA-CASE-XMF-00341		US-PATENT-APPL-SN-394638
	US-PATENT-APPL-SN-77256		US-PATENT-CLASS-60-35,55
	US-PATENT-CLASS-62-45		US-PATENT-3,208,215
	US-PATENT-3,012,407	c28 N70-34175	NASA-CASE-XLE-01783
c11 N70-33325	NASA-CASE-XLA-00119		US-PATENT-APPL-SN-313132
	US-PATENT-APPL-SN-842171		US-PATENT-CLASS-60-35,5
	US-PATENT-CLASS-240-1,2		US-PATENT-3,210,927
	US-PATENT-2,984,735	c31 N70-34176	NASA-CASE-XMF-00389
c15 N70-33330	NASA-CASE-XLE-00023		US-PATENT-APPL-SN-151114
	US-PATENT-APPL-SN-512352		US-PATENT-CLASS-244-1
	US-PATENT-CLASS-78-1		US-PATENT-3,202,381
	US-PATENT-2,991,671	c02 N70-34178	NASA-CASE-XLA-00166
c28 N70-33331	NASA-CASE-XLA-00105		US-PATENT-APPL-SN-84961
	US-PATENT-APPL-SN-719173		US-PATENT-CLASS-244-46
	US-PATENT-CLASS-60-35,6		US-PATENT-3,087,692
	US-PATENT-3,001,363	c15 N70-34247	NASA-CASE-XLE-00288
c02 N70-33332	NASA-CASE-XLA-00087		US-PATENT-APPL-SN-118200
	US-PATENT-APPL-SN-811509		US-PATENT-CLASS-62-50
	US-PATENT-CLASS-244-12		US-PATENT-3,068,658

ACCESSION NUMBER INDEX

c22 N70-34248	NASA-CASE-XLR-00818 US-PATENT-APPL-SN-253006 US-PATENT-CLASS-60-35.5 US-PATENT-3, 184, 915	US-PATENT-APPL-SN-120803 US-PATENT-CLASS-307-88 US-PATENT-3, 198, 955 NASA-CASE-XLA-00471
c15 N70-34249	NASA-CASE-XMF-00375 US-PATENT-APPL-SN-166969 US-PATENT-CLASS-72-56 US-PATENT-3, 188, 844	US-PATENT-APPL-SN-197553 US-PATENT-CLASS-235-154 US-PATENT-3, 194, 951 NASA-CASE-XLA-00304
c28 N70-34294	NASA-CASE-XLE-00208 US-PATENT-APPL-SN-106135 US-PATENT-CLASS-60-35.54 US-PATENT-3, 132, 476	US-PATENT-APPL-SN-54552 US-PATENT-CLASS-18-39 US-PATENT-3, 193, 883 NASA-CASE-XLA-00493
c21 N70-34295	NASA-CASE-XLA-01989 US-PATENT-APPL-SN-305020 US-PATENT-CLASS-244-1 US-PATENT-3, 189, 299	US-PATENT-APPL-SN-202029 US-PATENT-CLASS-73-432 US-PATENT-3, 196, 690 NASA-CASE-XGS-00689
c31 N70-34296	NASA-CASE-XLA-00678 US-PATENT-APPL-SN-197551 US-PATENT-CLASS-244-1 US-PATENT-3, 169, 725	US-PATENT-APPL-SN-250451 US-PATENT-CLASS-235-176 US-PATENT-3, 196, 261 NASA-CASE-XLE-00388
c21 N70-34297	NASA-CASE-XGS-00466 US-PATENT-APPL-SN-123597 US-PATENT-CLASS-250-83.3 US-PATENT-3, 188, 472	US-PATENT-APPL-SN-234568 US-PATENT-CLASS-55-306 US-PATENT-3, 196, 598 NASA-CASE-XMF-00479
c14 N70-34298	NASA-CASE-XMF-00462 US-PATENT-APPL-SN-148001 US-PATENT-CLASS-88-14 US-PATENT-3, 185, 023	US-PATENT-APPL-SN-169977 US-PATENT-CLASS-73-71.2 US-PATENT-3, 194, 060 NASA-CASE-XLA-00492
c22 N70-34501	NASA-CASE-XLE-00298 US-PATENT-APPL-SN-277402 US-PATENT-CLASS-176-35 US-PATENT-3, 198, 709	US-PATENT-APPL-SN-284265 US-PATENT-CLASS-73-88.5 US-PATENT-3, 199, 340 NASA-CASE-XLE-00387
c09 N70-34502	NASA-CASE-XMF-00421 US-PATENT-APPL-SN-197548 US-PATENT-CLASS-317-140 US-PATENT-3, 189, 794	US-PATENT-APPL-SN-203411 US-PATENT-CLASS-219-19 US-PATENT-3, 108, 171 NASA-CASE-XAC-00073
c21 N70-34539	NASA-CASE-XMF-00185 US-PATENT-APPL-SN-97112 US-PATENT-CLASS-244-76 US-PATENT-3, 070, 330	US-PATENT-APPL-SN-47122 US-PATENT-CLASS-73-147 US-PATENT-3, 100, 990 NASA-CASE-XMF-00392
c33 N70-34540	NASA-CASE-XLA-00330 US-PATENT-APPL-SN-264729 US-PATENT-CLASS-219-121 US-PATENT-3, 201, 560	US-PATENT-APPL-SN-151112 US-PATENT-CLASS-219-137 US-PATENT-3, 102, 948 NASA-CASE-XAC-00399
c33 N70-34545	NASA-CASE-XLE-00490 US-PATENT-APPL-SN-252259 US-PATENT-CLASS-219-347 US-PATENT-3, 189, 726	US-PATENT-APPL-SN-134481 US-PATENT-CLASS-35-12 US-PATENT-3, 196, 557 NASA-CASE-XAC-00042
c09 N70-34559	NASA-CASE-LAR-10218-1 US-PATENT-APPL-SN-47441 US-PATENT-CLASS-176-52 US-PATENT-3, 202, 582	US-PATENT-APPL-SN-734805 US-PATENT-CLASS-73-398 US-PATENT-3, 022, 672 NASA-CASE-XAC-00074
c22 N70-34572	NASA-CASE-XLE-00321 US-PATENT-APPL-SN-134478 US-PATENT-CLASS-176-52 US-PATENT-3, 202, 582	US-PATENT-APPL-SN-47123 US-PATENT-CLASS-137-340 US-PATENT-3, 158, 172 NASA-CASE-XLE-00503
c09 N70-34596	NASA-CASE-IMF-00324 US-PATENT-APPL-SN-109789 US-PATENT-CLASS-339-176 US-PATENT-3, 189, 864	US-PATENT-APPL-SN-261912 US-PATENT-CLASS-73-136 US-PATENT-3, 196, 675 NASA-CASE-XGS-00381
c03 N70-34646	NASA-CASE-NPO-11138 US-PATENT-APPL-SN-9251 NASA-CASE-XLA-00147 US-PATENT-APPL-SN-178215	US-PATENT-APPL-SN-104188 US-PATENT-CLASS-307-88.5 US-PATENT-3, 085, 165 NASA-CASE-XAC-00030
c25 N70-34661	US-PATENT-CLASS-313-156 US-PATENT-3, 201, 635 NASA-CASE-XMF-00515 US-PATENT-APPL-SN-278790	US-PATENT-APPL-SN-760819 US-PATENT-CLASS-73-401 US-PATENT-3, 024, 659 NASA-CASE-XLE-00252
c15 N70-34664	US-PATENT-CLASS-308-9 US-PATENT-3, 199, 931 NASA-CASE-XLA-00326 US-PATENT-APPL-SN-318443	US-PATENT-APPL-SN-144803 US-PATENT-CLASS-73-116 US-PATENT-3, 199, 343 NASA-CASE-XLA-00754
c03 N70-34667	US-PATENT-CLASS-89-1 US-PATENT-3, 200, 706 NASA-CASE-XLE-00724 US-PATENT-APPL-SN-284757	US-PATENT-APPL-SN-209479 US-PATENT-CLASS-244-100 US-PATENT-3, 143, 321 NASA-CASE-XAC-00139
c14 N70-34665	US-PATENT-CLASS-176-19 US-PATENT-3, 205, 141 NASA-CASE-XMF-04162-1 US-PATENT-APPL-SN-872664	US-PATENT-APPL-SN-168560 US-PATENT-CLASS-244-51 US-PATENT-3, 144, 993 NASA-CASE-IMS-00863
c08 N70-34675	NASA-CASE-ARC-10280-1 US-PATENT-APPL-SN-34553 NASA-CASE-NPO-11106 US-PATENT-APPL-SN-15020	US-PATENT-APPL-SN-221634 US-PATENT-CLASS-9-11 US-PATENT-3, 155, 992 NASA-CASE-XLA-00806
c18 N70-34695	US-PATENT-CLASS-10682 US-PATENT-APPL-SN-15023 NASA-CASE-IMF-00456 US-PATENT-APPL-SN-298800	US-PATENT-APPL-SN-26375 US-PATENT-APPL-SN-181828 US-PATENT-CLASS-244-46 US-PATENT-3, 170, 657
c14 N70-34697	US-PATENT-CLASS-73-88.5 US-PATENT-3, 212, 325 NASA-CASE-XGS-00174	US-PATENT-CLASS-244-46 US-PATENT-3, 170, 657 NASA-CASE-XLE-00715
c15 N70-34699		
c14 N70-34705		
c08 N70-34743		
c08 N70-34778		
c27 N70-34783		
c11 N70-34786		
c08 N70-34787		
c28 N70-34788		
c14 N70-34794		
c14 N70-34799		
c33 N70-34812		
c14 N70-34813		
c15 N70-34814		
c11 N70-34815		
c14 N70-34816		
c15 N70-34817		
c14 N70-34818		
c09 N70-34819		
c14 N70-34820		
c11 N70-34844		
c15 N70-34850		
c02 N70-34856		
c05 N70-34857		
c02 N70-34858		
c15 N70-34859		

ACCESSION NUMBER INDEX

	US-PATENT-APPL-SN-212174	c21 N70-35427	NASA-CASE-XGS-00809
	US-PATENT-CLASS-251-333		US-PATENT-APPL-SN-85585
	US-PATENT-3, 191, 907		US-PATENT-CLASS-88-1
c28 N70-34860	NASA-CASE-XLE-00144		US-PATENT-3, 083, 611
	US-PATENT-APPL-SN-177684	c09 N70-35440	NASA-CASE-XAC-00435
	US-PATENT-CLASS-60-35.6		US-PATENT-APPL-SN-164428
	US-PATENT-3, 120, 101		US-PATENT-CLASS-330-14
c15 N70-34861	NASA-CASE-XLE-00810		US-PATENT-3, 196, 362
	US-PATENT-APPL-SN-249540	c27 N70-35534	NASA-CASE-XGS-03556
	US-PATENT-CLASS-188-1		US-PATENT-APPL-SN-94259
	US-PATENT-3, 164, 222		US-PATENT-CLASS-60-35.6
c06 N70-34946	NASA-CASE-XNP-00733		US-PATENT-3, 191, 379
	US-PATENT-APPL-SN-256484	c03 N70-35584	NASA-CASE-B-GSC-11063-1
	US-PATENT-CLASS-62-15		US-PATENT-APPL-SN-41431
	US-PATENT-3, 192, 730	c14 N70-35666	NASA-CASE-XNP-00646
c31 N70-34966	NASA-CASE-XFR-00929		US-PATENT-APPL-SN-173981
	US-PATENT-APPL-SN-290868		US-PATENT-CLASS-324-33
	US-PATENT-CLASS-35-12		US-PATENT-3, 171, 081
	US-PATENT-3, 191, 316	c15 N70-35679	NASA-CASE-HSC-12279-1
	NASA-CASE-XNP-00595		US-PATENT-APPL-SN-24154
c15 N70-34967	US-PATENT-APPL-SN-188594	c18 N70-36400	NASA-CASE-XMS-00259
	US-PATENT-CLASS-204-298		US-PATENT-APPL-SN-145007
	US-PATENT-3, 189, 535		US-PATENT-CLASS-117-69
c15 N70-35087	NASA-CASE-XGS-00587		US-PATENT-3, 157, 529
	US-PATENT-APPL-SN-313135	c15 N70-36409	NASA-CASE-XLA-00482
	US-PATENT-CLASS-137-340		US-PATENT-APPL-SN-166970
	US-PATENT-3, 211, 169		US-PATENT-CLASS-29-423
c21 N70-35085	NASA-CASE-XNP-00438		US-PATENT-3, 160, 950
	US-PATENT-APPL-SN-180381	c31 N70-36410	NASA-CASE-XMF-00641
	US-PATENT-CLASS-250-203		US-PATENT-APPL-SN-221945
	US-PATENT-3, 205, 362		US-PATENT-CLASS-244-1
c05 N70-35152	NASA-CASE-XMS-01240		US-PATENT-3, 158, 336
	US-PATENT-APPL-SN-331324	c15 N70-36411	NASA-CASE-XLE-00164
	US-PATENT-CLASS-297-216		US-PATENT-APPL-SN-107870
	US-PATENT-3, 165, 356		US-PATENT-CLASS-60-39.66
c09 N70-35215	NASA-CASE-XNP-00061		US-PATENT-3, 162, 012
	US-PATENT-APPL-SN-140443	c15 N70-36412	NASA-CASE-XLE-00170
	US-PATENT-CLASS-343-781		US-PATENT-APPL-SN-232914
	US-PATENT-3, 209, 360		US-PATENT-CLASS-253-66
c14 N70-35220	NASA-CASE-XNP-00049		US-PATENT-3, 164, 369
	US-PATENT-APPL-SN-118169	c15 N70-36492	NASA-CASE-XLE-00397
	US-PATENT-CLASS-330-49		US-PATENT-APPL-SN-195346
	US-PATENT-3, 160, 825		US-PATENT-CLASS-137-614
c14 N70-35368	NASA-CASE-XLE-00335		US-PATENT-3, 170, 486
	US-PATENT-APPL-SN-197554	c05 N70-36493	NASA-CASE-XMS-00864
	US-PATENT-CLASS-73-15.6		US-PATENT-APPL-SN-258932
	US-PATENT-3, 176, 499		US-PATENT-CLASS-9-316
c28 N70-35381	NASA-CASE-XHQ-01897		US-PATENT-3, 152, 344
	US-PATENT-APPL-SN-129579	c09 N70-36494	NASA-CASE-XMF-00369
	US-PATENT-CLASS-60-35.6		US-PATENT-APPL-SN-134782
	US-PATENT-3, 121, 309		US-PATENT-CLASS-339-176
c09 N70-35382	NASA-CASE-XNP-00540		US-PATENT-3, 149, 897
	US-PATENT-APPL-SN-140509	c15 N70-36535	NASA-CASE-XLE-00303
	US-PATENT-CLASS-343-781		US-PATENT-APPL-SN-182692
	US-PATENT-3, 212, 096		US-PATENT-CLASS-60-35.6
c11 N70-35383	NASA-CASE-XNP-00580		US-PATENT-3, 170, 286
	US-PATENT-APPL-SN-343425	c32 N70-36536	NASA-CASE-XLA-00204
	US-PATENT-CLASS-248-119		US-PATENT-APPL-SN-189648
	US-PATENT-3, 194, 525		US-PATENT-CLASS-135-1
c14 N70-35394	NASA-CASE-XNP-00708		US-PATENT-3, 170, 471
	US-PATENT-APPL-SN-281069	c17 N70-36616	NASA-CASE-XLE-00283
	US-PATENT-CLASS-35-45		US-PATENT-APPL-SN-107866
	US-PATENT-3, 196, 558		US-PATENT-CLASS-75-171
c21 N70-35395	NASA-CASE-XNP-00465		US-PATENT-3, 167, 426
	US-PATENT-APPL-SN-180379	c33 N70-36617	NASA-CASE-XLA-01291
	US-PATENT-CLASS-244-1		US-PATENT-APPL-SN-277961
	US-PATENT-3, 206, 141		US-PATENT-CLASS-244-1
c15 N70-35407	NASA-CASE-XLE-00815		US-PATENT-3, 176, 933
	US-PATENT-APPL-SN-300712	c14 N70-36618	NASA-CASE-XLE-00143
	US-PATENT-CLASS-251-11		US-PATENT-APPL-SN-104187
	US-PATENT-3, 211, 414		US-PATENT-CLASS-324-61
c03 N70-35408	NASA-CASE-XGS-01593		US-PATENT-3, 176, 222
	US-PATENT-APPL-SN-178721	c31 N70-36654	NASA-CASE-XMF-02853
	US-PATENT-CLASS-310-5		US-PATENT-APPL-SN-360182
	US-PATENT-3, 205, 381		US-PATENT-CLASS-244-100
c15 N70-35409	NASA-CASE-XHQ-01208		US-PATENT-3, 175, 789
	US-PATENT-APPL-SN-42022	c03 N70-36778	NASA-CASE-XLA-00838
	US-PATENT-CLASS-121-38		US-PATENT-APPL-SN-192016
	US-PATENT-3, 088, 441		US-PATENT-CLASS-9-8
c28 N70-35422	NASA-CASE-LEW-10814-1		US-PATENT-3, 150, 387
	US-PATENT-APPL-SN-38262	c28 N70-36802	NASA-CASE-XNP-00923
	US-PATENT-CLASS-35-45		US-PATENT-APPL-SN-264736
c08 N70-35423	NASA-CASE-XNP-00432		US-PATENT-CLASS-60-35.5
	US-PATENT-APPL-SN-127234		US-PATENT-3, 159, 967
	US-PATENT-CLASS-340-347	c03 N70-36803	NASA-CASE-XNP-00644
	US-PATENT-3, 172, 097		US-PATENT-APPL-SN-212496
c09 N70-35425	NASA-CASE-XNP-00683		US-PATENT-CLASS-310-11
	US-PATENT-APPL-SN-251451		US-PATENT-3, 158, 764
	US-PATENT-CLASS-343-781	c02 N70-36804	NASA-CASE-XLA-00898
	US-PATENT-3, 209, 361		

ACCESSION NUMBER INDEX

	US-PATENT-APPL-SN-227683		US-PATENT-CLASS-73-384
	US-PATENT-CLASS-244-152		US-PATENT-3,093,000
	US-PATENT-3,170,660	c31 N70-37938	NASA-CASE-XLA-00149
c26 N70-36805	NASA-CASE-XLA-00158		US-PATENT-APPL-SN-847023
	US-PATENT-APPL-SN-221637		US-PATENT-CLASS-244-1
	US-PATENT-CLASS-23-208		US-PATENT-3,093,346
	US-PATENT-3,174,827	c02 N70-37939	NASA-CASE-XLE-00222
c28 N70-36806	NASA-CASE-XLE-00145		US-PATENT-APPL-SN-77252
	US-PATENT-APPL-SN-173081		US-PATENT-CLASS-244-113
	US-PATENT-CLASS-60-35.6		US-PATENT-3,098,630
	US-PATENT-3,174,279	c33 N70-37979	NASA-CASE-XLA-00349
c14 N70-36807	NASA-CASE-XLA-00100		US-PATENT-APPL-SN-141220
	US-PATENT-APPL-SN-534901		US-PATENT-CLASS-62-467
	US-PATENT-CLASS-73-178		US-PATENT-3,090,212
	US-PATENT-3,168,827	c28 N70-37980	NASA-CASE-XLE-00342
c14 N70-36808	NASA-CASE-XLE-00301		US-PATENT-APPL-SN-60531
	US-PATENT-APPL-SN-138540		US-PATENT-CLASS-60-35.5
	US-PATENT-CLASS-176-19		US-PATENT-3,119,232
	US-PATENT-3,160,567	c31 N70-37981	NASA-CASE-XLA-00138
c14 N70-36824	NASA-CASE-XLA-00481		US-PATENT-APPL-SN-8204
	US-PATENT-APPL-SN-120797		US-PATENT-CLASS-343-18
	US-PATENT-CLASS-73-212		US-PATENT-3,115,630
	US-PATENT-3,170,324	c31 N70-37986	NASA-CASE-XLA-00241
	NASA-CASE-XLA-01583		US-PATENT-APPL-SN-61329
c02 N70-36825	US-PATENT-APPL-SN-327565		US-PATENT-CLASS-244-1
	US-PATENT-CLASS-244-103		US-PATENT-3,104,079
	US-PATENT-3,169,001	c02 N70-38009	NASA-CASE-XLA-00195
c31 N70-36845	NASA-CASE-XNP-02108		US-PATENT-APPL-SN-60536
	US-PATENT-APPL-SN-372727		US-PATENT-CLASS-244-140
	US-PATENT-CLASS-244-100		US-PATENT-3,079,113
	US-PATENT-3,181,821	c31 N70-38010	NASA-CASE-XLA-00805
c33 N70-36846	NASA-CASE-XLA-00189		US-PATENT-APPL-SN-181829
	US-PATENT-APPL-SN-223003		US-PATENT-CLASS-244-46
	US-PATENT-CLASS-102-49		US-PATENT-3,120,361
	US-PATENT-3,180,264	c02 N70-38011	NASA-CASE-XLA-00350
c33 N70-36847	NASA-CASE-XNP-00463		US-PATENT-APPL-SN-153266
	US-PATENT-APPL-SN-259487		US-PATENT-CLASS-244-46
	US-PATENT-CLASS-165-96		US-PATENT-3,104,082
	US-PATENT-3,177,933	c15 N70-38020	NASA-CASE-XLE-00345
c15 N70-36901	NASA-CASE-XPR-00811		US-PATENT-APPL-SN-183978
	US-PATENT-APPL-SN-257346		US-PATENT-CLASS-62-55
	US-PATENT-CLASS-29-234		US-PATENT-3,122,000
	US-PATENT-3,166,834	c28 N70-38181	NASA-CASE-XNP-00217
c14 N70-36907	NASA-CASE-XNP-00614		US-PATENT-APPL-SN-180374
	US-PATENT-APPL-SN-247419		US-PATENT-CLASS-102-49
	US-PATENT-CLASS-33-1		US-PATENT-3,122,098
	US-PATENT-3,163,935	c11 N70-38182	NASA-CASE-XNP-00612
c15 N70-36908	NASA-CASE-XNP-00214		US-PATENT-APPL-SN-228507
	US-PATENT-APPL-SN-180377		US-PATENT-CLASS-220-63
	US-PATENT-CLASS-137-625.49		US-PATENT-3,123,248
	US-PATENT-3,140,728	c11 N70-38196	NASA-CASE-XNP-00424
c28 N70-36910	NASA-CASE-XNP-00610		US-PATENT-APPL-SN-159804
	US-PATENT-APPL-SN-211464		US-PATENT-CLASS-73-517
	US-PATENT-CLASS-60-35.6		US-PATENT-3,141,340
	US-PATENT-3,170,290	c28 N70-38197	NASA-CASE-XLE-00455
c07 N70-36911	NASA-CASE-XNP-00748		US-PATENT-APPL-SN-203409
	US-PATENT-APPL-SN-184649		US-PATENT-CLASS-75-222
	US-PATENT-CLASS-343-17.2		US-PATENT-3,141,769
	US-PATENT-3,183,506	c17 N70-38198	NASA-CASE-XLE-00231
c11 N70-36913	NASA-CASE-XNP-00411		US-PATENT-APPL-SN-64226
	US-PATENT-APPL-SN-158914		US-PATENT-CLASS-22-203
	US-PATENT-CLASS-73-147		US-PATENT-3,138,837
	US-PATENT-3,182,496	c28 N70-38199	NASA-CASE-XLE-00111
c21 N70-36938	NASA-CASE-XNP-00294		US-PATENT-APPL-SN-835152
	US-PATENT-APPL-SN-182696		US-PATENT-CLASS-60-39.48
	US-PATENT-CLASS-60-35.5		US-PATENT-3,136,123
	US-PATENT-3,178,883	c07 N70-38200	NASA-CASE-XLA-00414
c21 N70-36943	NASA-CASE-XLA-00281		US-PATENT-APPL-SN-209478
	US-PATENT-APPL-SN-84962		US-PATENT-CLASS-343-705
	US-PATENT-CLASS-244-1		US-PATENT-3,132,342
	US-PATENT-3,180,587	c09 N70-38201	NASA-CASE-XNP-00738
c25 N70-36946	NASA-CASE-XLA-01354		US-PATENT-APPL-SN-204015
	US-PATENT-APPL-SN-253774		US-PATENT-CLASS-174-115
	US-PATENT-CLASS-60-35.5		US-PATENT-3,106,603
	US-PATENT-3,170,278	c11 N70-38202	NASA-CASE-XNP-00425
c15 N70-36947	NASA-CASE-XNP-00416		US-PATENT-APPL-SN-180396
	US-PATENT-APPL-SN-180395		US-PATENT-CLASS-89-1.7
	US-PATENT-CLASS-189-36		US-PATENT-3,112,672
	US-PATENT-3,169,613	c15 N70-38225	NASA-CASE-XNP-00840
c28 N70-37245	NASA-CASE-XLE-00376		US-PATENT-APPL-SN-269222
	US-PATENT-APPL-SN-139007		US-PATENT-CLASS-267-1
	US-PATENT-CLASS-60-35.5		US-PATENT-3,127,157
	US-PATENT-3,156,090	c28 N70-38249	NASA-CASE-XNP-00249
c31 N70-37924	NASA-CASE-IGS-00260		US-PATENT-APPL-SN-180391
	US-PATENT-APPL-SN-187446		US-PATENT-CLASS-60-35.6
	US-PATENT-CLASS-244-1		US-PATENT-3,120,738
	US-PATENT-3,090,580	c17 N70-38490	NASA-CASE-XLE-00228
c15 N70-37925	NASA-CASE-XLA-00128		US-PATENT-APPL-SN-64224
	US-PATENT-APPL-SN-32496		US-PATENT-CLASS-29-183.5



ACCESSION NUMBER INDEX

c28 N70-38504	US-PATENT-3,084,421 NASA-CASE-IXS-00583 US-PATENT-APPL-SN-182699 US-PATENT-CLASS-60-35.6 US-PATENT-3,135,089	c28 N70-39899	NASA-CASE-XLE-00005 US-PATENT-APPL-SN-718095 US-PATENT-CLASS-60-35.6 US-PATENT-3,067,573
c28 N70-38505	NASA-CASE-XLE-00323 US-PATENT-APPL-SN-183977 US-PATENT-CLASS-60-35.6 US-PATENT-3,135,090	c09 N70-39915	NASA-CASE-IAC-00060 US-PATENT-APPL-SN-47121 US-PATENT-CLASS-200-19 US-PATENT-3,076,065
c15 N70-38601	NASA-CASE-ILA-00679 US-PATENT-APPL-SN-213836 US-PATENT-CLASS-188-1 US-PATENT-3,128,845	c05 N70-39922	NASA-CASE-IXS-01115 US-PATENT-APPL-SN-277404 US-PATENT-CLASS-128-29 US-PATENT-3,229,689
c14 N70-38602	NASA-CASE-XLE-00243 US-PATENT-APPL-SN-118203 US-PATENT-CLASS-324-106 US-PATENT-3,202,915	c15 N70-39924	NASA-CASE-IXF-00640 US-PATENT-APPL-SN-341467 US-PATENT-CLASS-228-50 US-PATENT-3,229,884
c15 N70-38603	NASA-CASE-IXP-00450 US-PATENT-APPL-SN-180394 US-PATENT-CLASS-137-495 US-PATENT-3,105,515	c28 N70-39925	NASA-CASE-XLE-00660 US-PATENT-APPL-SN-231604 US-PATENT-CLASS-313-11.5 US-PATENT-3,229,139
c09 N70-38604	NASA-CASE-IGS-00458 US-PATENT-APPL-SN-139006 US-PATENT-CLASS-307-88 US-PATENT-3,128,389	c03 N70-39930	NASA-CASE-ILA-00791 US-PATENT-APPL-SN-347960 US-PATENT-CLASS-102-49 US-PATENT-3,229,636
c15 N70-38620	NASA-CASE-IXP-00476 US-PATENT-APPL-SN-182698 US-PATENT-CLASS-308-9 US-PATENT-3,132,903	c28 N70-39931	NASA-CASE-IXP-01104 US-PATENT-APPL-SN-290867 US-PATENT-CLASS-60-39.48 US-PATENT-3,229,463
c28 N70-38645	NASA-CASE-IXP-00234 US-PATENT-APPL-SN-180382 US-PATENT-CLASS-60-35.54 US-PATENT-3,139,725	c14 N70-40003	NASA-CASE-IGS-01036 US-PATENT-APPL-SN-227692 US-PATENT-CLASS-88-14 US-PATENT-3,229,568
c11 N70-38675	NASA-CASE-IXP-00459 US-PATENT-APPL-SN-180384 US-PATENT-CLASS-73-432 US-PATENT-3,187,583	c26 N70-40015	NASA-CASE-ILA-02057 US-PATENT-APPL-SN-320595 US-PATENT-CLASS-23-277 US-PATENT-3,230,053
c31 N70-38676	NASA-CASE-ILA-00258 US-PATENT-APPL-SN-101029 US-PATENT-CLASS-244-1 US-PATENT-3,144,219	c30 N70-40016	NASA-CASE-IGS-00619 US-PATENT-APPL-SN-264728 US-PATENT-CLASS-244-1 US-PATENT-3,229,930
c28 N70-38710	NASA-CASE-IXP-00148 US-PATENT-APPL-SN-118202 US-PATENT-CLASS-60-35.6 US-PATENT-3,122,885	c15 N70-40062	NASA-CASE-IXS-01624 US-PATENT-APPL-SN-422867 US-PATENT-CLASS-55-408 US-PATENT-3,224,173
c28 N70-38711	NASA-CASE-XLE-00057 US-PATENT-APPL-SN-0914 US-PATENT-CLASS-60-35.55 US-PATENT-3,080,711	c07 N70-40063	NASA-CASE-IXS-00893 US-PATENT-APPL-SN-251449 US-PATENT-CLASS-343-18 US-PATENT-3,224,001
c09 N70-38712	NASA-CASE-IXP-01129 US-PATENT-APPL-SN-273534 US-PATENT-CLASS-318-260 US-PATENT-3,147,422	c09 N70-40123	NASA-CASE-IGS-01881 US-PATENT-APPL-SN-155584 US-PATENT-CLASS-324-43 US-PATENT-3,218,547
c03 N70-38713	NASA-CASE-IGS-00473 US-PATENT-APPL-SN-139012 US-PATENT-CLASS-200-39 US-PATENT-3,141,932	c12 N70-40124	NASA-CASE-XLE-01512 US-PATENT-APPL-SN-315096 US-PATENT-CLASS-149-2 US-PATENT-3,215,572
c09 N70-38995	NASA-CASE-IGS-00131 US-PATENT-APPL-SN-14488 US-PATENT-CLASS-331-113 US-PATENT-3,150,329	c08 N70-40125	NASA-CASE-IAC-00404 US-PATENT-APPL-SN-209801 US-PATENT-CLASS-340-347 US-PATENT-3,216,007
c15 N70-38996	NASA-CASE-IXP-00676 US-PATENT-APPL-SN-290870 US-PATENT-CLASS-222-389 US-PATENT-3,170,605	c15 N70-40156	NASA-CASE-ILA-01019 US-PATENT-APPL-SN-282817 US-PATENT-CLASS-248-358 US-PATENT-3,223,374
c12 N70-38997	NASA-CASE-IXP-00658 US-PATENT-APPL-SN-216710 US-PATENT-CLASS-137-1 US-PATENT-3,110,318	c14 N70-40157	NASA-CASE-ILA-00487 US-PATENT-APPL-SN-236748 US-PATENT-CLASS-73-178 US-PATENT-3,221,549
c09 N70-38998	NASA-CASE-IXP-00431 US-PATENT-APPL-SN-180380 US-PATENT-CLASS-340-147 US-PATENT-3,100,294	c15 N70-40180	NASA-CASE-IAC-00472 US-PATENT-APPL-SN-236749 US-PATENT-CLASS-73-142 US-PATENT-3,224,263
c28 N70-39895	NASA-CASE-XLE-00085 US-PATENT-APPL-SN-25175 US-PATENT-CLASS-253-66 US-PATENT-3,070,349	c14 N70-40201	NASA-CASE-XLE-00720 US-PATENT-APPL-SN-302749 US-PATENT-CLASS-73-134 US-PATENT-3,221,547
c15 N70-39896	NASA-CASE-IXP-00339 US-PATENT-APPL-SN-110591 US-PATENT-CLASS-308-9 US-PATENT-3,070,407	c07 N70-40202	NASA-CASE-IXP-00437 US-PATENT-APPL-SN-120795 US-PATENT-CLASS-343-705 US-PATENT-3,077,599
c18 N70-39897	NASA-CASE-XLE-00353 US-PATENT-APPL-SN-65548 US-PATENT-CLASS-252-58 US-PATENT-3,072,574	c14 N70-40203	NASA-CASE-XLE-00702 US-PATENT-APPL-SN-258931 US-PATENT-CLASS-73-116 US-PATENT-3,201,980
c14 N70-39898	NASA-CASE-IXP-00480 US-PATENT-APPL-SN-144804 US-PATENT-CLASS-248-346 US-PATENT-3,069,123	c15 N70-40204	NASA-CASE-IXP-00722 US-PATENT-APPL-SN-347626 US-PATENT-CLASS-228-50 US-PATENT-3,219,250
		c14 N70-40233	NASA-CASE-IXS-01546

ACCESSION NUMBER INDEX

	US-PATENT-APPL-SN-386467		US-PATENT-CLASS-92-94
	US-PATENT-CLASS-222-45		US-PATENT-3,298,285
	US-PATENT-3,228,558	c15 870-41371	NASA-CASE-IMP-01452
c09 870-40234	NASA-CASE-XLE-01716		US-PATENT-APPL-SN-356692
	US-PATENT-APPL-SN-349778		US-PATENT-CLASS-29-271
	US-PATENT-CLASS-126-270		US-PATENT-3,300,847
c14 870-40238	US-PATENT-3,229,682	c07 870-41372	NASA-CASE-XLA-01127
	NASA-CASE-IMP-00908		US-PATENT-APPL-SN-363654
	US-PATENT-APPL-SN-241085		US-PATENT-CLASS-325-65
	US-PATENT-CLASS-250-201		US-PATENT-3,300,731
c14 870-40239	US-PATENT-3,229,099	c31 870-41373	NASA-CASE-XMS-01906
	NASA-CASE-XLA-00183		US-PATENT-APPL-SN-339040
	US-PATENT-APPL-SN-199202		US-PATENT-CLASS-244-1
	US-PATENT-CLASS-250-203		US-PATENT-3,300,162
c14 870-40240	US-PATENT-3,229,102	c28 870-41447	NASA-CASE-IMP-00732
	NASA-CASE-XHQ-04106		US-PATENT-APPL-SN-261918
	US-PATENT-APPL-SN-91180		US-PATENT-CLASS-210-314
	US-PATENT-CLASS-250-105		US-PATENT-3,295,684
	US-PATENT-3,143,651	c28 870-41576	NASA-CASE-XLE-00519
c09 870-40272	NASA-CASE-IMP-00701		US-PATENT-APPL-SN-249542
	US-PATENT-APPL-SN-261917		US-PATENT-CLASS-313-63
	US-PATENT-CLASS-307-88.5		US-PATENT-3,287,582
c14 870-40273	US-PATENT-3,218,479	c16 870-41578	NASA-CASE-IGS-01504
	NASA-CASE-IMP-00637		US-PATENT-APPL-SN-340113
	US-PATENT-APPL-SN-280776		US-PATENT-CLASS-331-94
	US-PATENT-CLASS-95-58		US-PATENT-3,287,660
c30 870-40309	US-PATENT-3,217,624	c32 870-41579	NASA-CASE-XLB-00620
	NASA-CASE-XLA-00210		US-PATENT-APPL-SN-304698
	US-PATENT-APPL-SN-82658		US-PATENT-CLASS-138-119
	US-PATENT-CLASS-343-18		US-PATENT-3,295,556
c30 870-40353	US-PATENT-3,220,004	c03 870-41580	NASA-CASE-XLA-04622
	NASA-CASE-IMP-03198		US-PATENT-APPL-SN-277833
	US-PATENT-APPL-SN-370134		US-PATENT-CLASS-126-270
	US-PATENT-CLASS-89-1.7		US-PATENT-3,295,512
c15 870-40354	US-PATENT-3,224,336	c05 870-41581	NASA-CASE-IAC-01404
	NASA-CASE-IMP-01045		US-PATENT-APPL-SN-363348
	US-PATENT-APPL-SN-355130		US-PATENT-CLASS-74-471
	US-PATENT-CLASS-188-1	c28 870-41582	US-PATENT-3,295,386
c28 870-40367	US-PATENT-3,228,492		NASA-CASE-IMP-01813
	NASA-CASE-XLE-00177		US-PATENT-APPL-SN-375674
	US-PATENT-APPL-SN-10812		US-PATENT-CLASS-181-52
	US-PATENT-CLASS-60-35.3		US-PATENT-3,270,835
c14 870-40400	US-PATENT-3,045,424	c18 870-41583	NASA-CASE-IMP-01030
	NASA-CASE-XAC-00648		US-PATENT-APPL-SN-317389
	US-PATENT-APPL-SN-216939		US-PATENT-CLASS-161-115
	US-PATENT-CLASS-73-147		US-PATENT-3,296,060
c28 870-41275	US-PATENT-3,218,850	c31 870-41588	NASA-CASE-IMP-01973
	NASA-CASE-IMP-01390		US-PATENT-APPL-SN-375682
	US-PATENT-APPL-SN-824157		US-PATENT-CLASS-244-1
	US-PATENT-CLASS-60-259		US-PATENT-3,295,790
c05 870-41297	US-PATENT-3,300,981	c02 870-41589	NASA-CASE-IMP-01174
	NASA-CASE-XMS-01492		US-PATENT-APPL-SN-410331
	US-PATENT-APPL-SN-398131		US-PATENT-CLASS-244-100
	US-PATENT-CLASS-55-35	c25 870-41628	US-PATENT-3,295,798
c15 870-41310	US-PATENT-3,300,949		NASA-CASE-IAC-00319
	NASA-CASE-IMP-01567		US-PATENT-APPL-SN-77251
	US-PATENT-APPL-SN-448898		US-PATENT-CLASS-315-111
	US-PATENT-CLASS-248-178		US-PATENT-3,229,155
c28 870-41311	US-PATENT-3,295,808	c15 870-41629	NASA-CASE-IGS-02441
	NASA-CASE-IMP-00876		US-PATENT-APPL-SN-411944
	US-PATENT-APPL-SN-377784		US-PATENT-CLASS-285-331
	US-PATENT-CLASS-60-251		US-PATENT-3,301,578
c05 870-41329	US-PATENT-3,298,182	c02 870-41630	NASA-CASE-IMS-00907
	NASA-CASE-IMS-01615		US-PATENT-APPL-SN-428890
	US-PATENT-APPL-SN-329595		US-PATENT-CLASS-244-138
	US-PATENT-CLASS-128-2.05		US-PATENT-3,301,511
c14 870-41330	US-PATENT-3,298,362	c31 870-41631	NASA-CASE-XMS-04142
	NASA-CASE-XLB-00688		US-PATENT-APPL-SN-422865
	US-PATENT-APPL-SN-334672		US-PATENT-CLASS-244-1
	US-PATENT-CLASS-73-32		US-PATENT-3,301,507
c07 870-41331	US-PATENT-3,298,221	c15 870-41646	NASA-CASE-XLE-01449
	NASA-CASE-XLA-01400		US-PATENT-APPL-SN-330209
	US-PATENT-APPL-SN-363653		US-PATENT-CLASS-137-197
	US-PATENT-CLASS-325-65		US-PATENT-3,295,545
c14 870-41332	US-PATENT-3,296,531	c14 870-41647	NASA-CASE-IGS-00769
	NASA-CASE-XLA-00495		US-PATENT-APPL-SN-319893
	US-PATENT-APPL-SN-269215		US-PATENT-CLASS-242-55.19
	US-PATENT-CLASS-324-70		US-PATENT-3,295,782
c14 870-41366	US-PATENT-3,296,526	c09 870-41655	NASA-CASE-IMP-00906
	NASA-CASE-XLA-01353		US-PATENT-APPL-SN-264731
	US-PATENT-APPL-SN-403960		US-PATENT-CLASS-324-113
	US-PATENT-CLASS-73-147		US-PATENT-3,287,640
c32 870-41367	US-PATENT-3,301,046	c09 870-41675	NASA-CASE-IMS-01315
	NASA-CASE-IGS-00938		US-PATENT-APPL-SN-347101
	US-PATENT-APPL-SN-392970		US-PATENT-CLASS-307-88.5
	US-PATENT-CLASS-214-1		US-PATENT-3,302,040
c32 870-41370	US-PATENT-3,295,699	c14 870-41676	NASA-CASE-IGS-01231
	NASA-CASE-IMP-01962		US-PATENT-APPL-SN-346356
	US-PATENT-APPL-SN-369640		US-PATENT-CLASS-250-71

ACCESSION NUMBER INDEX

c11 N70-41677	US-PATENT-3,302,023 NASA-CASE-XMP-01772 US-PATENT-APPL-SN-370135 US-PATENT-CLASS-73-116 US-PATENT-3,295,366	c21 N70-41930	NASA-CASE-XMP-01501 US-PATENT-APPL-SN-432027 US-PATENT-CLASS-343-12 US-PATENT-3,305,861
c07 N70-41678	NASA-CASE-XGS-02608 US-PATENT-APPL-SN-456578 US-PATENT-CLASS-343-18 US-PATENT-3,289,205 NASA-CASE-XLA-01441	c14 N70-41946	NASA-CASE-XLB-00011 US-PATENT-APPL-SN-735911 US-PATENT-CLASS-88-14 US-PATENT-2,960,002
c15 N70-41679	US-PATENT-APPL-SN-516151 US-PATENT-CLASS-102-49 US-PATENT-3,302,569 NASA-CASE-XMP-02723	c31 N70-41948	NASA-CASE-YMP-01899 US-PATENT-APPL-SN-428882 US-PATENT-CLASS-60-257 US-PATENT-3,304,724
c07 N70-41680	US-PATENT-3,302,569 NASA-CASE-XMP-02723 US-PATENT-APPL-SN-371857 US-PATENT-CLASS-343-14 US-PATENT-3,287,725	c03 N70-41954	NASA-CASE-YAC-03392 US-PATENT-APPL-SN-430776 US-PATENT-CLASS-74-519 US-PATENT-3,304,799
c14 N70-41681	NASA-CASE-XAC-02877 US-PATENT-APPL-SN-449902 US-PATENT-CLASS-73-30 US-PATENT-3,295,360	c14 N70-41955	NASA-CASE-YMP-02029 US-PATENT-APPL-SN-221276 US-PATENT-CLASS-88-14 US-PATENT-3,323,408
c14 N70-41682	NASA-CASE-XMS-05936 US-PATENT-APPL-SN-557868 US-PATENT-CLASS-73-517 US-PATENT-3,295,377 NASA-CASE-XMS-02087	c14 N70-41957	NASA-CASE-XAC-01101 US-PATENT-APPL-SN-355129 US-PATENT-CLASS-73-141 US-PATENT-3,304,773
c09 N70-41717	US-PATENT-APPL-SN-439489 US-PATENT-CLASS-165-1 US-PATENT-3,301,315 NASA-CASE-XMP-01472	c15 N70-41960	NASA-CASE-XMP-05082 US-PATENT-APPL-SN-521753 US-PATENT-CLASS-174-68.5 US-PATENT-3,321,570
c14 N70-41807	US-PATENT-3,301,315 NASA-CASE-XMP-01472 US-PATENT-APPL-SN-321656 US-PATENT-CLASS-178-7.2 US-PATENT-3,287,496	c08 N70-41961	NASA-CASE-XMP-00911 US-PATENT-APPL-SN-280777 US-PATENT-CLASS-178-67 US-PATENT-3,305,636
c15 N70-41808	NASA-CASE-XMS-02532 US-PATENT-APPL-SN-398132 US-PATENT-CLASS-285-27 US-PATENT-3,287,031 NASA-CASE-XMP-01152	c10 N70-41964	NASA-CASE-XGS-01983 US-PATENT-APPL-SN-388023 US-PATENT-CLASS-333-79 US-PATENT-3,305,801
c15 N70-41811	US-PATENT-APPL-SN-369337 US-PATENT-CLASS-137-539 US-PATENT-3,302,662 NASA-CASE-XMS-03792	c28 N70-41967	NASA-CASE-XLA-02651 US-PATENT-APPL-SN-449901 US-PATENT-CLASS-102-49 US-PATENT-3,304,865
c14 N70-41812	US-PATENT-3,302,662 NASA-CASE-XMS-03792 US-PATENT-APPL-SN-516159 US-PATENT-CLASS-200-61.45 US-PATENT-3,303,304	c12 N70-41976	NASA-CASE-HFS-10354 US-PATENT-APPL-SN-64392 NASA-CASE-XMP-03128 US-PATENT-APPL-SN-397665
c28 N70-41818	US-PATENT-CLASS-29-157.3 US-PATENT-3,035,333 NASA-CASE-XAC-00405 US-PATENT-APPL-SN-158916 US-PATENT-CLASS-128-1 US-PATENT-3,302,633	c10 N70-41991	US-PATENT-CLASS-250-83.6 US-PATENT-3,321,628 NASA-CASE-XLE-00685 US-PATENT-APPL-SN-407595
c05 N70-41819	US-PATENT-3,302,633 NASA-CASE-XMP-01371 US-PATENT-APPL-SN-353634 US-PATENT-CLASS-287-119 US-PATENT-3,302,960	c28 N70-41992	US-PATENT-CLASS-60-260 US-PATENT-3,321,922 NASA-CASE-XLE-01300 US-PATENT-APPL-SN-380960
c15 N70-41829	US-PATENT-3,302,960 NASA-CASE-XMP-02982 US-PATENT-APPL-SN-388966 US-PATENT-CLASS-244-1 US-PATENT-3,304,028	c15 N70-41993	US-PATENT-CLASS-73-100 US-PATENT-3,323,356 NASA-CASE-XMP-02822 US-PATENT-APPL-SN-403959
c31 N70-41855	NASA-CASE-XMP-01307 US-PATENT-APPL-SN-390250 US-PATENT-CLASS-244-1 US-PATENT-3,286,953 NASA-CASE-XLA-01220	c14 N70-41994	US-PATENT-CLASS-73-194 US-PATENT-3,323,362 NASA-CASE-XMS-03371 US-PATENT-APPL-SN-418931
c02 N70-41863	US-PATENT-APPL-SN-379417 US-PATENT-CLASS-244-16 US-PATENT-3,286,957 NASA-CASE-XGS-01419 US-PATENT-APPL-SN-323182 US-PATENT-CLASS-136-179	c05 N70-42000	US-PATENT-CLASS-03371 US-PATENT-APPL-SN-418931 US-PATENT-CLASS-73-432 US-PATENT-3,323,370
c03 N70-41864	US-PATENT-3,287,174 NASA-CASE-XMS-04390 US-PATENT-APPL-SN-502729 US-PATENT-CLASS-62-45 US-PATENT-3,304,729	c32 N70-42003	NASA-CASE-XLA-02131 US-PATENT-APPL-SN-377777 US-PATENT-CLASS-73-90 US-PATENT-3,304,768
c31 N70-41871	NASA-CASE-XMP-01749 US-PATENT-APPL-SN-440033 US-PATENT-CLASS-149-109 US-PATENT-3,305,415 NASA-CASE-XMP-02839	c31 N70-42015	NASA-CASE-XLA-01967 US-PATENT-APPL-SN-457875 US-PATENT-CLASS-244-135 US-PATENT-3,321,159
c27 N70-41897	US-PATENT-3,304,729 NASA-CASE-XMP-01749 US-PATENT-APPL-SN-440033 US-PATENT-CLASS-149-109 US-PATENT-3,305,415	c02 N70-42016	NASA-CASE-XLA-01290 US-PATENT-APPL-SN-393451 US-PATENT-CLASS-244-42 US-PATENT-3,321,157
c28 N70-41922	NASA-CASE-XMP-02839 US-PATENT-APPL-SN-477333 US-PATENT-CLASS-60-202 US-PATENT-3,304,718 NASA-CASE-XMP-01951	c15 N70-42017	NASA-CASE-XMS-04072 US-PATENT-APPL-SN-485960 US-PATENT-CLASS-30-228 US-PATENT-3,320,669
c09 N70-41929	US-PATENT-APPL-SN-413662 US-PATENT-CLASS-335-300 US-PATENT-3,305,810	c10 N70-42032	NASA-CASE-XMP-02654 US-PATENT-APPL-SN-435387 US-PATENT-CLASS-307-88.5 US-PATENT-3,321,645
		c15 N70-42033	NASA-CASE-XMP-02092 US-PATENT-APPL-SN-371856 US-PATENT-CLASS-156-345 US-PATENT-3,323,967
		c15 N70-42034	NASA-CASE-XMP-01412 US-PATENT-APPL-SN-426702 US-PATENT-CLASS-175-310

ACCESSION NUMBER INDEX

CD3 N70-42073	US-PATENT-3, 321, 034 NASA-CASE-XPR-04104 US-PATENT-APPL-SN-476759 US-PATENT-CLASS-74-471	c21 N71-10678	NASA-CASE-IGS-01159 US-PATENT-APPL-SN-332313 US-PATENT-CLASS-250-203
c14 N70-42074	US-PATENT-3, 323, 386 NASA-CASE-XLE-02998 US-PATENT-APPL-SN-516794 US-PATENT-CLASS-116-117	c03 N71-10728	US-PATENT-3, 311, 748 NASA-CASE-XNP-01464 US-PATENT-APPL-SN-430778 US-PATENT-CLASS-136-182
c31 N70-42075	US-PATENT-3, 323, 484 NASA-CASE-XMS-02677 US-PATENT-APPL-SN-472066 US-PATENT-CLASS-244-1	c11 N71-10746	US-PATENT-3, 317, 352 NASA-CASE-XMS-02977 US-PATENT-APPL-SN-416938 US-PATENT-CLASS-35-12
c14 N71-10500	US-PATENT-3, 321, 154 NASA-CASE-XLE-01609 US-PATENT-APPL-SN-438797 US-PATENT-CLASS-73-290	c31 N71-10747	US-PATENT-3, 281, 963 NASA-CASE-XMF-00442 US-PATENT-APPL-SN-202030 US-PATENT-CLASS-343-705
c24 N71-10560	US-PATENT-3, 326, 043 NASA-CASE-XLE-00808 US-PATENT-APPL-SN-307269 US-PATENT-CLASS-148-188	c11 N71-10748	US-PATENT-3, 277, 486 NASA-CASE-XPR-04147 US-PATENT-APPL-SN-476761 US-PATENT-CLASS-35-12
c28 N71-10574	US-PATENT-3, 310, 443 NASA-CASE-XLE-01902 US-PATENT-APPL-SN-485656 US-PATENT-CLASS-60-202	c21 N71-10771	US-PATENT-3, 281, 965 NASA-CASE-XNP-03914 US-PATENT-APPL-SN-468647 US-PATENT-CLASS-250-203
c15 N71-10577	US-PATENT-3, 324, 659 NASA-CASE-XLE-04677 US-PATENT-APPL-SN-447928 US-PATENT-CLASS-220-67	c18 N71-10772	US-PATENT-3, 317, 731 NASA-CASE-XLE-01765 US-PATENT-APPL-SN-316477 US-PATENT-CLASS-117-65.2
c10 N71-10578	US-PATENT-3, 326, 407 NASA-CASE-XMS-01554 US-PATENT-APPL-SN-414482 US-PATENT-CLASS-323-8	c14 N71-10773	US-PATENT-3, 317, 341 NASA-CASE-XLA-02605 US-PATENT-APPL-SN-459138 US-PATENT-CLASS-177-210
c31 N71-10582	US-PATENT-3, 325, 723 NASA-CASE-XLA-02132 US-PATENT-APPL-SN-453227 US-PATENT-CLASS-102-49	c14 N71-10774	US-PATENT-3, 316, 991 NASA-CASE-XLA-01131 US-PATENT-APPL-SN-322545 US-PATENT-CLASS-73-23
c11 N71-10604	US-PATENT-3, 286, 630 NASA-CASE-XMF-03248 US-PATENT-APPL-SN-377780 US-PATENT-CLASS-73-116	c07 N71-10775	US-PATENT-3, 312, 101 NASA-CASE-XLA-00901 US-PATENT-APPL-SN-269212 US-PATENT-CLASS-325-305
c26 N71-10607	US-PATENT-3, 310, 980 NASA-CASE-XLE-02792 US-PATENT-APPL-SN-352400 US-PATENT-CLASS-148-1.5	c11 N71-10776	US-PATENT-3, 311, 832 NASA-CASE-XLA-03127 US-PATENT-APPL-SN-447927 US-PATENT-CLASS-35-12
c03 N71-10608	US-PATENT-3, 311, 510 NASA-CASE-IGS-03505 US-PATENT-APPL-SN-498167 US-PATENT-CLASS-136-28	c11 N71-10777	US-PATENT-3, 281, 964 NASA-CASE-XLE-01533 US-PATENT-APPL-SN-334678 US-PATENT-CLASS-55-400
c07 N71-10609	US-PATENT-3, 311, 502 NASA-CASE-IGS-01223 US-PATENT-APPL-SN-319892 US-PATENT-CLASS-242-55.19	c15 N71-10778	US-PATENT-3, 282, 035 NASA-CASE-XNP-00710 US-PATENT-APPL-SN-271821 US-PATENT-CLASS-251-61
c14 N71-10616	US-PATENT-3, 311, 315 NASA-CASE-XMF-02433 US-PATENT-APPL-SN-405630 US-PATENT-CLASS-73-70.2	c14 N71-10779	US-PATENT-3, 317, 180 NASA-CASE-XMF-02307 US-PATENT-APPL-SN-422869 US-PATENT-CLASS-73-40.5
c15 N71-10617	US-PATENT-3, 310, 978 NASA-CASE-XMF-01887 US-PATENT-APPL-SN-422868 US-PATENT-CLASS-308-5	c28 N71-10780	US-PATENT-3, 316, 752 NASA-CASE-XLA-01043 US-PATENT-APPL-SN-379768 US-PATENT-CLASS-60-225
c09 N71-10618	US-PATENT-3, 325, 229 NASA-CASE-XNP-03332 US-PATENT-APPL-SN-368123 US-PATENT-CLASS-313-63	c14 N71-10781	US-PATENT-3, 316, 716 NASA-CASE-XLE-01481 US-PATENT-APPL-SN-319905 US-PATENT-CLASS-73-99
c15 N71-10658	US-PATENT-3, 311, 772 NASA-CASE-XMS-03252 US-PATENT-APPL-SN-425362 US-PATENT-CLASS-60-54.5	c15 N71-10782	US-PATENT-3, 282, 091 NASA-CASE-XKS-01985 US-PATENT-APPL-SN-357337 US-PATENT-CLASS-285-24
c09 N71-10659	US-PATENT-3, 318, 093 NASA-CASE-XNP-01383 US-PATENT-APPL-SN-369336 US-PATENT-CLASS-324-77	c14 N71-10797	US-PATENT-3, 319, 979 NASA-CASE-XLE-01246 US-PATENT-APPL-SN-249537 US-PATENT-CLASS-324-61
c15 N71-10672	US-PATENT-3, 317, 832 NASA-CASE-XLA-01091 US-PATENT-APPL-SN-351259 US-PATENT-CLASS-264-102	c09 N71-10798	US-PATENT-3, 324, 388 NASA-CASE-XMS-00945 US-PATENT-APPL-SN-385530 US-PATENT-CLASS-330-22
c09 N71-10673	US-PATENT-3, 317, 641 NASA-CASE-XGS-01473 US-PATENT-APPL-SN-364867 US-PATENT-CLASS-307-88.5	c15 N71-10799	US-PATENT-3, 319, 175 NASA-CASE-XLA-01807 US-PATENT-APPL-SN-442558 US-PATENT-CLASS-287-189.36
c07 N71-10676	US-PATENT-3, 317, 751 NASA-CASE-XNP-03134 US-PATENT-APPL-SN-422095 US-PATENT-CLASS-333-21	c15 N71-10809	US-PATENT-3, 318, 622 NASA-CASE-XMF-02107 US-PATENT-APPL-SN-384811 US-PATENT-CLASS-140-124
c09 N71-10677	US-PATENT-3, 324, 423 NASA-CASE-IGS-01451 US-PATENT-APPL-SN-405629 US-PATENT-CLASS-318-138	c02 N71-11037	US-PATENT-3, 318, 343 NASA-CASE-XLA-06824-2 US-PATENT-APPL-SN-775966 US-PATENT-CLASS-244-31
	US-PATENT-3, 324, 370	c02 N71-11038	US-PATENT-3, 508, 724 NASA-CASE-XLA-06958

ACCESSION NUMBER INDEX

	US-PATENT-APPL-SN-551815		US-PATENT-3,518,232
	US-PATENT-CLASS-244-84	c06 N71-11236	NASA-CASE-IMP-08651
	US-PATENT-3,310,261		US-PATENT-APPL-SN-593594
c02 N71-11039	NASA-CASE-MSC-12111-1		US-PATENT-CLASS-260-72.5
	US-PATENT-APPL-SN-775877		US-PATENT-3,526,611
	US-PATENT-CLASS-244-23	c06 N71-11237	NASA-CASE-IMP-10753
	US-PATENT-3,490,721		US-PATENT-APPL-SN-668751
c02 N71-11041	NASA-CASE-ILA-03659		US-PATENT-CLASS-260-46.5
	US-PATENT-APPL-SN-444087		US-PATENT-3,444,127
	US-PATENT-CLASS-244-46	c06 N71-11238	NASA-CASE-ILA-08802
	US-PATENT-3,270,989		US-PATENT-APPL-SN-640454
c02 N71-11043	NASA-CASE-XLA-08801-1		US-PATENT-CLASS-260-78
	US-PATENT-APPL-SN-710533		US-PATENT-3,532,673
	US-PATENT-CLASS-244-43	c06 N71-11239	NASA-CASE-IMP-08655
	US-PATENT-3,493,197		US-PATENT-APPL-SN-593593
c03 N71-11049	NASA-CASE-NPO-10109		US-PATENT-CLASS-260-72.5
	US-PATENT-APPL-SN-701654		US-PATENT-3,516,970
	US-PATENT-CLASS-136-89	c06 N71-11240	NASA-CASE-NFS-13994-1
	US-PATENT-3,532,551		US-PATENT-APPL-SN-715975
c03 N71-11050	NASA-CASE-IMP-06506		US-PATENT-CLASS-260-46.5
	US-PATENT-APPL-SN-577778		US-PATENT-3,516,964
	US-PATENT-CLASS-136-89	c06 N71-11242	NASA-CASE-IMP-08656
	US-PATENT-3,446,676		US-PATENT-APPL-SN-593605
c03 N71-11051	NASA-CASE-IMP-03378		US-PATENT-CLASS-260-2.5
	US-PATENT-APPL-SN-360878		US-PATENT-3,493,524
	US-PATENT-CLASS-136-170	c06 N71-11243	NASA-CASE-IMP-08652
	US-PATENT-3,282,740		US-PATENT-APPL-SN-593606
c03 N71-11052	NASA-CASE-ILE-04526		US-PATENT-CLASS-260-2
	US-PATENT-APPL-SN-640457		US-PATENT-3,493,522
	US-PATENT-CLASS-136-86	c07 N71-11266	NASA-CASE-ILA-03076
	US-PATENT-3,507,704		US-PATENT-APPL-SN-591004
c03 N71-11053	NASA-CASE-IGS-00886		US-PATENT-CLASS-325-42
	US-PATENT-APPL-SN-319894		US-PATENT-3,508,152
	US-PATENT-CLASS-136-132	c07 N71-11267	NASA-CASE-IMP-10843
	US-PATENT-3,282,739		US-PATENT-APPL-SN-649358
c03 N71-11055	NASA-CASE-IMP-05843		US-PATENT-CLASS-325-363
	US-PATENT-APPL-SN-666553		US-PATENT-3,508,156
	US-PATENT-CLASS-310-4	c07 N71-11281	NASA-CASE-IMP-10830
	US-PATENT-3,509,386		US-PATENT-APPL-SN-692332
c03 N71-11056	NASA-CASE-IMP-05821		US-PATENT-CLASS-178-69.5
	US-PATENT-APPL-SN-545223		US-PATENT-3,535,451
	US-PATENT-CLASS-136-89	c07 N71-11282	NASA-CASE-IGS-02889
	US-PATENT-3,493,437		US-PATENT-APPL-SN-685748
c03 N71-11057	NASA-CASE-MSC-13112		US-PATENT-CLASS-329-104
	US-PATENT-APPL-SN-765738		US-PATENT-3,501,704
	US-PATENT-CLASS-290-40	c07 N71-11284	NASA-CASE-ILA-01552
	US-PATENT-3,508,070		US-PATENT-APPL-SN-332339
c03 N71-11058	NASA-CASE-XGS-01475		US-PATENT-CLASS-325-65
	US-PATENT-APPL-SN-344793		US-PATENT-3,277,375
	US-PATENT-CLASS-244-1	c07 N71-11285	NASA-CASE-NPO-10539
	US-PATENT-3,459,391		US-PATENT-APPL-SN-743429
c05 N71-11189	NASA-CASE-IFR-10856		US-PATENT-CLASS-343-779
	US-PATENT-APPL-SN-626376		US-PATENT-3,534,375
	US-PATENT-3,534,727	c07 N71-11298	NASA-CASE-IMP-01160
c05 N71-11190	NASA-CASE-IMS-04935		US-PATENT-APPL-SN-310507
	US-PATENT-APPL-SN-518487		US-PATENT-CLASS-340-198
	US-PATENT-CLASS-128-142.5		US-PATENT-3,243,791
	US-PATENT-3,502,074	c07 N71-11300	NASA-CASE-IMS-07168
c05 N71-11193	NASA-CASE-ABC-10043-1		US-PATENT-APPL-SN-769788
	US-PATENT-APPL-SN-676012		US-PATENT-CLASS-178-6.6
	US-PATENT-CLASS-128-2.1		US-PATENT-3,493,677
	US-PATENT-3,508,541	c21 N71-11766	NASA-CASE-LAB-10403
c05 N71-11194	NASA-CASE-XLA-05332		US-PATENT-APPL-SN-676391
	US-PATENT-APPL-SN-757861		US-PATENT-CLASS-343-6.5
	US-PATENT-CLASS-2-2.1		US-PATENT-3,447,154
	US-PATENT-3,534,407	c01 N71-12217	NASA-CASE-PRC-10063
c05 N71-11195	NASA-CASE-LAR-10007-1		US-PATENT-APPL-SN-21263
	US-PATENT-APPL-SN-770203	c02 N71-12243	NASA-CASE-ILA-04451
	US-PATENT-CLASS-2-2.1		US-PATENT-APPL-SN-457876
	US-PATENT-3,534,406		US-PATENT-CLASS-244-45
c05 N71-11199	NASA-CASE-IKS-02342		US-PATENT-3,310,262
	US-PATENT-APPL-SN-407603	c03 N71-12255	NASA-CASE-NPO-10404
	US-PATENT-CLASS-182-191		US-PATENT-APPL-SN-728234
	US-PATENT-3,262,518		US-PATENT-CLASS-321-2
c05 N71-11202	NASA-CASE-IFR-08403		US-PATENT-3,532,960
	US-PATENT-APPL-SN-704420	c03 N71-12258	NASA-CASE-ILA-00711
	US-PATENT-CLASS-73-23		US-PATENT-APPL-SN-357334
	US-PATENT-3,507,146		US-PATENT-CLASS-89-1.7
c05 N71-11203	NASA-CASE-IMS-09632-1		US-PATENT-3,249,012
	US-PATENT-APPL-SN-791693	c03 N71-12259	NASA-CASE-ILA-01396
	US-PATENT-CLASS-128-142.5		US-PATENT-APPL-SN-357336
	US-PATENT-3,500,827		US-PATENT-CLASS-89-1.7
c05 N71-11207	NASA-CASE-ILA-03213		US-PATENT-3,249,013
	US-PATENT-APPL-SN-621715	c03 N71-12260	NASA-CASE-IMP-01020
	US-PATENT-CLASS-202-182		US-PATENT-APPL-SN-430780
	US-PATENT-3,444,051		US-PATENT-CLASS-60-97
c06 N71-11235	NASA-CASE-ILA-03104		US-PATENT-3,238,730
	US-PATENT-APPL-SN-510155	c05 N71-12335	NASA-CASE-IMS-00784
	US-PATENT-CLASS-260-78		US-PATENT-APPL-SN-358127

ACCESSION NUMBER INDEX

	US-PATENT-CLASS-2-2.1		US-PATENT-3,537,096
	US-PATENT-3,286,274	c09 N71-12513	NASA-CASE-XGS-07801
c05 N71-12336	NASA-CASE-XMS-05304		US-PATENT-APPL-SN-640452
	US-PATENT-APPL-SN-511567		US-PATENT-CLASS-148-188
	US-PATENT-CLASS-244-4		US-PATENT-3,490,965
	US-PATENT-3,270,986	c09 N71-12514	NASA-CASE-XLA-07497
c05 N71-12341	NASA-CASE-MFS-14671		US-PATENT-APPL-SN-631848
	US-PATENT-APPL-SN-723476		US-PATENT-CLASS-307-252
	US-PATENT-CLASS-297-385		US-PATENT-3,491,255
	US-PATENT-3,516,711	c09 N71-12515	NASA-CASE-INP-08836
	NASA-CASE-XAC-05706		US-PATENT-APPL-SN-668968
c05 N71-12342	US-PATENT-APPL-SN-592694		US-PATENT-CLASS-340-174
	US-PATENT-CLASS-325-143		US-PATENT-3,535,702
	US-PATENT-3,453,546	c09 N71-12516	NASA-CASE-INP-09768
	NASA-CASE-MSC-11253		US-PATENT-APPL-SN-698629
c05 N71-12343	US-PATENT-APPL-SN-695973		US-PATENT-CLASS-307-243
	US-PATENT-CLASS-297-68		US-PATENT-3,535,554
	US-PATENT-3,466,085	c09 N71-12517	NASA-CASE-XAC-10608-1
	NASA-CASE-XMS-09636		US-PATENT-APPL-SN-710561
c05 N71-12344	US-PATENT-APPL-SN-586330		US-PATENT-CLASS-333-80
	US-PATENT-CLASS-2-2.1		US-PATENT-3,493,901
	US-PATENT-3,492,672	c09 N71-12518	NASA-CASE-INP-09808
	NASA-CASE-MSC-12086-1		US-PATENT-APPL-SN-692471
c05 N71-12345	US-PATENT-APPL-SN-812999		US-PATENT-CLASS-200-61.42
	US-PATENT-CLASS-29-400		US-PATENT-3,488,461
	US-PATENT-3,490,130	c09 N71-12519	NASA-CASE-INP-06519
	NASA-CASE-XMS-04212-1		US-PATENT-APPL-SN-656952
c05 N71-12346	US-PATENT-APPL-SN-607461		US-PATENT-CLASS-328-110
	US-PATENT-CLASS-128-2.1		US-PATENT-3,535,644
	US-PATENT-3,490,440	c09 N71-12520	NASA-CASE-NPO-10230
	NASA-CASE-LAR-10056		US-PATENT-APPL-SN-691735
c05 N71-12351	US-PATENT-APPL-SN-674357		US-PATENT-CLASS-307-229
	US-PATENT-CLASS-224-25		US-PATENT-3,535,547
	US-PATENT-3,493,153	c09 N71-12521	NASA-CASE-ARC-10030
	NASA-CASE-XLA-01090		US-PATENT-APPL-SN-679885
c07 N71-12389	US-PATENT-APPL-SN-741824		US-PATENT-CLASS-313-110
	US-PATENT-CLASS-250-199		US-PATENT-3,493,805
	US-PATENT-RE-26,548	c09 N71-12526	NASA-CASE-MSC-12135-1
	NASA-CASE-XER-09213		US-PATENT-APPL-SN-761404
c07 N71-12390	US-PATENT-APPL-SN-668302		US-PATENT-CLASS-317-31
	US-PATENT-CLASS-332-9		US-PATENT-3,448,341
	US-PATENT-3,535,657	c09 N71-12539	NASA-CASE-ERC-10552
	NASA-CASE-XMS-05454-1		US-PATENT-APPL-SN-720125
c07 N71-12391	US-PATENT-APPL-SN-771803		US-PATENT-CLASS-178-7.7
	US-PATENT-CLASS-343-17.7		US-PATENT-3,535,446
	US-PATENT-3,471,858	c09 N71-12540	NASA-CASE-INP-01058
	NASA-CASE-XGS-01590		US-PATENT-APPL-SN-313136
c07 N71-12392	US-PATENT-APPL-SN-584067		US-PATENT-CLASS-315-160
	US-PATENT-CLASS-178-88		US-PATENT-3,271,620
	US-PATENT-3,491,202	c10 N71-12554	NASA-CASE-NPO-10398
	NASA-CASE-GSC-10452		US-PATENT-APPL-SN-704668
c07 N71-12396	US-PATENT-APPL-SN-797794		US-PATENT-CLASS-324-95
	US-PATENT-CLASS-343-776		US-PATENT-3,532,979
	US-PATENT-3,495,262	c01 N71-13410	NASA-CASE-XLA-00755
	NASA-CASE-XGS-04767		US-PATENT-APPL-SN-247423
c08 N71-12494	US-PATENT-APPL-SN-645584		US-PATENT-CLASS-244-35
	US-PATENT-CLASS-307-296		US-PATENT-3,270,988
	US-PATENT-3,535,560	c01 N71-13411	NASA-CASE-XLA-05828
	NASA-CASE-INP-07040		US-PATENT-APPL-SN-509460
c08 N71-12500	US-PATENT-APPL-SN-649357		US-PATENT-CLASS-235-61.6
	US-PATENT-CLASS-332-31		US-PATENT-3,500,020
	US-PATENT-3,535,658	c02 N71-13421	NASA-CASE-IFR-00756
	NASA-CASE-XLA-00670		US-PATENT-APPL-SN-212173
c08 N71-12501	US-PATENT-APPL-SN-235162		US-PATENT-CLASS-235-150.22
	US-PATENT-CLASS-340-347		US-PATENT-3,258,582
	US-PATENT-3,251,053	c02 N71-13422	NASA-CASE-XLA-06339
	NASA-CASE-NPO-10112		US-PATENT-APPL-SN-801336
c08 N71-12502	US-PATENT-APPL-SN-673226		US-PATENT-CLASS-244-76
	US-PATENT-CLASS-340-172.5		US-PATENT-3,534,930
	US-PATENT-3,533,074	c06 N71-13461	NASA-CASE-LAR-10180-1
	NASA-CASE-NPO-10351		US-PATENT-APPL-SN-709398
c08 N71-12503	US-PATENT-APPL-SN-712065		US-PATENT-CLASS-250-41.9
	US-PATENT-CLASS-328-37		US-PATENT-3,521,054
	US-PATENT-3,535,642	c09 N71-13486	NASA-CASE-MFS-20333
	NASA-CASE-INP-05835		US-PATENT-APPL-SN-820965
c08 N71-12504	US-PATENT-APPL-SN-627257		US-PATENT-CLASS-307-149
	US-PATENT-CLASS-340-174		US-PATENT-3,535,543
	US-PATENT-3,493,942	c09 N71-13518	NASA-CASE-MSC-12178-1
	NASA-CASE-INP-05415		US-PATENT-APPL-SN-845365
c08 N71-12505	US-PATENT-APPL-SN-578932		US-PATENT-CLASS-315-241
	US-PATENT-CLASS-340-146.2		US-PATENT-3,530,336
	US-PATENT-3,493,929	c09 N71-13521	NASA-CASE-IKS-09348
	NASA-CASE-INP-08832		US-PATENT-APPL-SN-677505
c08 N71-12506	US-PATENT-APPL-SN-681692		US-PATENT-CLASS-343-703
	US-PATENT-CLASS-340-172.5		US-PATENT-3,526,897
	US-PATENT-3,535,696	c09 N71-13522	NASA-CASE-LEW-10364-1
	NASA-CASE-XLA-01952		US-PATENT-APPL-SN-822518
c08 N71-12507	US-PATENT-APPL-SN-676386		US-PATENT-CLASS-317-258
	US-PATENT-CLASS-340-324		US-PATENT-3,535,602

ACCESSION NUMBER INDEX

c09 N71-13530	NASA-CASE-XNP-00384 US-PATENT-APPL-SN-180392 US-PATENT-CLASS-324-132 US-PATENT-3,263,171	US-PATENT-APPL-SN-336103 US-PATENT-CLASS-330-4 US-PATENT-3,299,364
c09 N71-13531	NASA-CASE-NSC-12033-1 US-PATENT-APPL-SN-602828 US-PATENT-CLASS-330-11 US-PATENT-3,526,845	NASA-CASE-ERC-10019 US-PATENT-APPL-SN-677508 US-PATENT-CLASS-350-3.5 US-PATENT-3,535,013
c10 N71-13537	NASA-CASE-XNP-08274 US-PATENT-APPL-SN-730703 US-PATENT-CLASS-73-382 US-PATENT-3,520,190	NASA-CASE-XLA-03374 US-PATENT-APPL-SN-793770 US-PATENT-CLASS-315-111 US-PATENT-3,535,586
c10 N71-13545	NASA-CASE-LAR-10774 US-PATENT-APPL-SN-802820 US-PATENT-CLASS-73-1 US-PATENT-3,534,584	NASA-CASE-XLA-02865 US-PATENT-APPL-SN-416946 US-PATENT-CLASS-244-53 US-PATENT-3,270,990
c15 N71-13789	NASA-CASE-XLA-01141 US-PATENT-APPL-SN-353632 US-PATENT-CLASS-102-49 US-PATENT-3,263,610	NASA-CASE-HFS-20074 US-PATENT-APPL-SN-801312 US-PATENT-CLASS-350-3.5 US-PATENT-3,535,014
c21 N71-13958	NASA-CASE-GSC-10087-2 US-PATENT-APPL-SN-701744 US-PATENT-CLASS-343-112 US-PATENT-3,495,260	NASA-CASE-KKS-08012-2 US-PATENT-APPL-SN-874958 US-PATENT-CLASS-340-172.5 US-PATENT-3,535,683
c18 N71-14014	NASA-CASE-GSC-10072 US-PATENT-APPL-SN-686296 US-PATENT-CLASS-106-15 US-PATENT-3,493,401	NASA-CASE-ERC-10017 US-PATENT-APPL-SN-677506 US-PATENT-CLASS-350-3.5 US-PATENT-3,535,012
c33 N71-14032	NASA-CASE-XLE-05913 US-PATENT-APPL-SN-551933 US-PATENT-CLASS-117-106 US-PATENT-3,490,939	NASA-CASE-XLE-09475-1 US-PATENT-APPL-SN-710945 US-PATENT-CLASS-136-228 US-PATENT-3,535,165
c33 N71-14035	NASA-CASE-XLE-03307 US-PATENT-APPL-SN-613979 US-PATENT-CLASS-244-1 US-PATENT-3,490,718	NASA-CASE-ILA-07911 US-PATENT-APPL-SN-660572 US-PATENT-CLASS-33-207 US-PATENT-3,492,739
c28 N71-14043	NASA-CASE-XLE-01124 US-PATENT-APPL-SN-312269 US-PATENT-CLASS-60-35.5 US-PATENT-3,238,715	NASA-CASE-XLA-01163 US-PATENT-APPL-SN-405632 US-PATENT-CLASS-60-35.55 US-PATENT-3,270,505
c28 N71-14044	NASA-CASE-XGS-08729 US-PATENT-APPL-SN-667637 US-PATENT-CLASS-60-200 US-PATENT-3,490,235	NASA-CASE-XNP-01598 US-PATENT-APPL-SN-333770 US-PATENT-CLASS-244-1 US-PATENT-3,270,985
c28 N71-14058	NASA-CASE-NSC-12139-1 US-PATENT-APPL-SN-797796 US-PATENT-CLASS-103-37 US-PATENT-3,492,947	NASA-CASE-XLE-08917 US-PATENT-CLASS-113-116 US-PATENT-3,490,405
c27 N71-14090	NASA-CASE-LAR-10173-1 US-PATENT-APPL-SN-758942 US-PATENT-CLASS-149-19 US-PATENT-3,492,176	NASA-CASE-IAC-00812 US-PATENT-APPL-SN-255132 US-PATENT-CLASS-73-341 US-PATENT-3,238,777
c21 N71-14132	NASA-CASE-XLA-05464 US-PATENT-APPL-SN-656995 US-PATENT-CLASS-244-1 US-PATENT-3,493,194	NASA-CASE-XNP-04161 US-PATENT-APPL-SN-568356 US-PATENT-CLASS-250-83.3 US-PATENT-3,444,375
c21 N71-14159	NASA-CASE-XGS-04393 US-PATENT-APPL-SN-700142 US-PATENT-CLASS-244-1 US-PATENT-3,490,719	NASA-CASE-XKS-06250 US-PATENT-APPL-SN-649075 US-PATENT-CLASS-73-97 US-PATENT-3,492,862
c26 N71-14354	NASA-CASE-ERC-10138 US-PATENT-APPL-SN-821586 US-PATENT-CLASS-225-2 US-PATENT-3,493,155	NASA-CASE-NPO-10337 US-PATENT-APPL-SN-714296 US-PATENT-CLASS-350-58 US-PATENT-3,488,103
c15 N71-14932	NASA-CASE-LEW-11531 US-PATENT-APPL-SN-643332 US-PATENT-CLASS-219-72 US-PATENT-3,493,711	NASA-CASE-GSC-10062 US-PATENT-APPL-SN-658955 US-PATENT-CLASS-350-285 US-PATENT-3,493,294
c14 N71-14996	NASA-CASE-XLA-00936 US-PATENT-APPL-SN-282818 US-PATENT-CLASS-73-170 US-PATENT-3,238,774	NASA-CASE-XNP-06031 US-PATENT-APPL-SN-590144 US-PATENT-CLASS-250-52 US-PATENT-3,493,746
c23 N71-15467	NASA-CASE-XNP-03796 US-PATENT-APPL-SN-453231 US-PATENT-CLASS-62-6 US-PATENT-3,260,055	NASA-CASE-XNP-03287 US-PATENT-APPL-SN-658956 US-PATENT-CLASS-228-7 US-PATENT-3,443,732
c17 N71-15468	NASA-CASE-LEW-10393-1 US-PATENT-APPL-SN-644799 US-PATENT-CLASS-75-202 US-PATENT-3,535,110	NASA-CASE-NPO-10117 US-PATENT-APPL-SN-668238 US-PATENT-CLASS-138-42 US-PATENT-3,493,012
c18 N71-15469	NASA-CASE-ARC-10099-1 US-PATENT-APPL-SN-704224 US-PATENT-CLASS-106-15 US-PATENT-3,535,130	NASA-CASE-XNP-04709 US-PATENT-APPL-SN-683507 US-PATENT-CLASS-137-81.5 US-PATENT-3,493,003
c18 N71-15545	NASA-CASE-IMS-09691-1 US-PATENT-APPL-SN-738119 US-PATENT-CLASS-8-94.12 US-PATENT-3,526,473	NASA-CASE-XLE-01604-2 US-PATENT-APPL-SN-683613 US-PATENT-CLASS-117-50 US-PATENT-3,493,415
c16 N71-15550	NASA-CASE-XNP-05219	NASA-CASE-XLA-01926 US-PATENT-APPL-SN-784521

ACCESSION NUMBER INDEX

	US-PATENT-CLASS-340-57				US-PATENT-3,262,365
	US-PATENT-3,491,335	c31	N71-15676	.....	NASA-CASE-IGS-05579
c14	N71-15621	.....			US-PATENT-APPL-SN-719869
	NASA-CASE-XMP-09572				US-PATENT-CLASS-244-1
	US-PATENT-APPL-SN-660841				US-PATENT-3,534,925
	US-PATENT-CLASS-35-10.2				NASA-CASE-XLA-05369
	US-PATENT-3,493,665	c31	N71-15687	.....	US-PATENT-APPL-SN-765123
c14	N71-15622	.....			US-PATENT-CLASS-102-49.5
	NASA-CASE-XMP-04111				US-PATENT-3,534,686
	US-PATENT-APPL-SN-560969				NASA-CASE-INP-03459-2
	US-PATENT-CLASS-350-213				US-PATENT-APPL-SN-681942
	US-PATENT-3,493,291	c18	N71-15688	.....	US-PATENT-CLASS-260-404.5
c33	N71-15623	.....			US-PATENT-3,535,352
	NASA-CASE-XAS-01816				NASA-CASE-MFS-14685
	US-PATENT-APPL-SN-425364				US-PATENT-APPL-SN-752947
	US-PATENT-CLASS-60-35.6				US-PATENT-CLASS-180-118
	US-PATENT-3,270,503	c31	N71-15689	.....	US-PATENT-CLASS-180-121
c33	N71-15625	.....			US-PATENT-3,534,826
	NASA-CASE-XLE-01399				US-PATENT-3,534,826
	US-PATENT-APPL-SN-320233				NASA-CASE-XLA-01339
	US-PATENT-CLASS-13-26				US-PATENT-APPL-SN-373591
	US-PATENT-3,263,016	c31	N71-15692	.....	US-PATENT-CLASS-102-49
c27	N71-15634	.....			US-PATENT-3,260,204
	NASA-CASE-XLE-01988				NASA-CASE-INP-02039
	US-PATENT-APPL-SN-308918				US-PATENT-APPL-SN-438143
	US-PATENT-CLASS-60-35.6				US-PATENT-CLASS-219-131
	US-PATENT-3,258,912	c15	N71-15871	.....	US-PATENT-3,271,558
c27	N71-15635	.....			NASA-CASE-INP-00920
	NASA-CASE-XLE-01182				US-PATENT-APPL-SN-329331
	US-PATENT-APPL-SN-411949				US-PATENT-CLASS-62-2
	US-PATENT-CLASS-60-39.46				US-PATENT-3,270,512
	US-PATENT-3,258,918	c07	N71-15907	.....	NASA-CASE-XMP-01057
c31	N71-15637	.....			US-PATENT-APPL-SN-301683
	NASA-CASE-XLE-01640				US-PATENT-CLASS-343-786
	US-PATENT-APPL-SN-473535				US-PATENT-3,305,870
	US-PATENT-CLASS-60-35.6				NASA-CASE-XLA-02705
	US-PATENT-3,270,504	c08	N71-15908	.....	US-PATENT-APPL-SN-473537
c33	N71-15641	.....			US-PATENT-CLASS-129-16.7
	NASA-CASE-INP-09802				US-PATENT-3,310,054
	US-PATENT-APPL-SN-673229				NASA-CASE-XAC-03777
	US-PATENT-CLASS-73-190				US-PATENT-APPL-SN-484489
	US-PATENT-3,531,989	c10	N71-15909	.....	US-PATENT-CLASS-200-6
c21	N71-15642	.....			US-PATENT-3,283,088
	NASA-CASE-IGS-03431				NASA-CASE-IGS-00823
	US-PATENT-APPL-SN-588635				US-PATENT-APPL-SN-336607
	US-PATENT-CLASS-250-203				US-PATENT-CLASS-307-88.5
	US-PATENT-3,488,504	c15	N71-15918	.....	US-PATENT-3,283,175
c31	N71-15643	.....			NASA-CASE-IMS-02383
	NASA-CASE-NPO-10311				US-PATENT-APPL-SN-299042
	US-PATENT-APPL-SN-725475				US-PATENT-CLASS-140-123
	US-PATENT-CLASS-73-116				US-PATENT-3,299,913
	US-PATENT-3,534,597	c15	N71-15922	.....	NASA-CASE-IGS-01971
c17	N71-15644	.....			US-PATENT-APPL-SN-353645
	NASA-CASE-XLE-00726				US-PATENT-CLASS-85-33
	US-PATENT-APPL-SN-355126				US-PATENT-3,262,351
	US-PATENT-CLASS-75-170				NASA-CASE-XLA-00378
	US-PATENT-3,271,140	c11	N71-15925	.....	US-PATENT-APPL-SN-266107
c31	N71-15647	.....			US-PATENT-CLASS-219-10.49
	NASA-CASE-IGS-01143				US-PATENT-3,238,345
	US-PATENT-APPL-SN-349781				NASA-CASE-XLA-00939
	US-PATENT-CLASS-60-35.6				US-PATENT-APPL-SN-309354
	US-PATENT-3,270,501	c15	N71-15926	.....	US-PATENT-CLASS-73-147
c25	N71-15650	.....			US-PATENT-3,276,251
	NASA-CASE-XLE-00821				NASA-CASE-XAC-00731
	US-PATENT-APPL-SN-228707				US-PATENT-APPL-SN-232318
	US-PATENT-CLASS-324-72				US-PATENT-CLASS-220-89
	US-PATENT-3,300,717	c14	N71-15962	.....	US-PATENT-3,145,874
c28	N71-15658	.....			NASA-CASE-IGS-01587
	NASA-CASE-XLE-00409				US-PATENT-APPL-SN-298799
	US-PATENT-APPL-SN-249539				US-PATENT-CLASS-324-43
	US-PATENT-CLASS-29-157				US-PATENT-3,258,687
	US-PATENT-3,254,395	c15	N71-15966	.....	NASA-CASE-XLE-00953
c28	N71-15659	.....			US-PATENT-APPL-SN-336320
	NASA-CASE-XLE-05689				US-PATENT-CLASS-22-200
	US-PATENT-APPL-SN-491845				US-PATENT-3,237,253
	US-PATENT-CLASS-60-35.60				NASA-CASE-XLE-00703
	US-PATENT-3,254,487	c15	N71-15967	.....	US-PATENT-APPL-SN-271822
c28	N71-15660	.....			US-PATENT-CLASS-137-13
	NASA-CASE-XMP-00968				US-PATENT-3,270,756
	US-PATENT-APPL-SN-339825				NASA-CASE-XLE-00586
	US-PATENT-CLASS-60-35.6				US-PATENT-APPL-SN-317391
	US-PATENT-3,270,499	c15	N71-15968	.....	US-PATENT-CLASS-55-160
c28	N71-15661	.....			US-PATENT-3,257,780
	NASA-CASE-XLE-02066				NASA-CASE-XMP-01099
	US-PATENT-APPL-SN-426455				US-PATENT-APPL-SN-73367
	US-PATENT-CLASS-60-35.5				US-PATENT-CLASS-73-517
	US-PATENT-3,262,262				US-PATENT-3,261,210
c31	N71-15663	.....			NASA-CASE-IMS-06782
	NASA-CASE-XLA-00256				US-PATENT-APPL-SN-691739
	US-PATENT-APPL-SN-333766				US-PATENT-CLASS-338-5
	US-PATENT-CLASS-244-1				
	US-PATENT-3,262,655				
c31	N71-15664	.....			
	NASA-CASE-XLA-01332				
	US-PATENT-APPL-SN-250974				
	US-PATENT-CLASS-220-15				
	US-PATENT-3,270,908				
c23	N71-15673	.....			
	NASA-CASE-IMS-01620				
	US-PATENT-APPL-SN-357340				
	US-PATENT-CLASS-248-358				
	US-PATENT-3,243,154				
c31	N71-15674	.....			
	NASA-CASE-XLA-03691				
	US-PATENT-APPL-SN-667625				
	US-PATENT-CLASS-244-1				
	US-PATENT-3,534,924				
c31	N71-15675	.....			
	NASA-CASE-XMP-03169				
	US-PATENT-APPL-SN-375405				
	US-PATENT-CLASS-89-1.5				



ACCESSION NUMBER INDEX

c23 N71-15978	US-PATENT-3,864,049 NASA-CASE-IGS-00373 US-PATENT-APPL-SN-105518 US-PATENT-CLASS-161-189 US-PATENT-3,276,946	c15 N71-16079	NASA-CASE-XLA-00415 US-PATENT-APPL-SN-314074 US-PATENT-CLASS-233-11 US-PATENT-3,276,679
c15 N71-15986	NASA-CASE-IMP-03498 US-PATENT-APPL-SN-396443 US-PATENT-CLASS-29-155.55 US-PATENT-3,258,831	c31 N71-16080	NASA-CASE-NSC-12049 US-PATENT-APPL-SN-693420 US-PATENT-CLASS-52-3 US-PATENT-3,465,482
c30 N71-15990	NASA-CASE-IAC-08494 US-PATENT-APPL-SN-690998 US-PATENT-CLASS-356-74 US-PATENT-3,532,428	c31 N71-16081	NASA-CASE-IGS-03351 US-PATENT-APPL-SN-472747 US-PATENT-CLASS-244-31 US-PATENT-3,276,726
c14 N71-15992	NASA-CASE-IGS-01052 US-PATENT-APPL-SN-314572 US-PATENT-CLASS-73-15 US-PATENT-3,242,716	c31 N71-16085	NASA-CASE-XLA-09881 US-PATENT-APPL-SN-710562 US-PATENT-CLASS-244-138 US-PATENT-3,520,503
c14 N71-16014	NASA-CASE-XLE-00820 US-PATENT-APPL-SN-228569 US-PATENT-CLASS-324-32 US-PATENT-3,283,241	c09 N71-16086	NASA-CASE-XLE-02038 US-PATENT-APPL-SN-349782 US-PATENT-CLASS-73-147 US-PATENT-3,273,388
c17 N71-16025	NASA-CASE-XLE-02991 US-PATENT-APPL-SN-375401 US-PATENT-CLASS-75-170 US-PATENT-3,276,865	c02 N71-16087	NASA-CASE-IAC-02058 US-PATENT-APPL-SN-342572 US-PATENT-CLASS-244-1 US-PATENT-3,276,722
c17 N71-16026	NASA-CASE-XLE-02082 US-PATENT-APPL-SN-360180 US-PATENT-CLASS-75-171 US-PATENT-3,276,866	c07 N71-16088	NASA-CASE-IGS-01022 US-PATENT-APPL-SN-331323 US-PATENT-CLASS-325-4 US-PATENT-3,277,373
c11 N71-16028	NASA-CASE-XLA-01787 US-PATENT-APPL-SN-304749 US-PATENT-CLASS-35-29 US-PATENT-3,270,441	c09 N71-16089	NASA-CASE-XAC-02405 US-PATENT-APPL-SN-433821 US-PATENT-CLASS-200-6 US-PATENT-3,271,532
c10 N71-16030	NASA-CASE-IMP-01096 US-PATENT-APPL-SN-307270 US-PATENT-CLASS-318-376 US-PATENT-3,271,649	c30 N71-16090	NASA-CASE-GSC-10083-1 US-PATENT-APPL-SN-641431 US-PATENT-CLASS-343-6 US-PATENT-3,471,856
c12 N71-16031	NASA-CASE-IMS-01445 US-PATENT-APPL-SN-385526 US-PATENT-CLASS-137-615 US-PATENT-3,308,848	c24 N71-16095	NASA-CASE-XAC-05506-1 US-PATENT-APPL-SN-701732 US-PATENT-CLASS-250-41.9 US-PATENT-3,532,880
c26 N71-16037	NASA-CASE-IGS-05718 US-PATENT-APPL-SN-584071 US-PATENT-CLASS-29-472.9 US-PATENT-3,452,423	c23 N71-16098	NASA-CASE-IAC-03107 US-PATENT-APPL-SN-538168 US-PATENT-CLASS-73-505 US-PATENT-3,455,171
c10 N71-16042	NASA-CASE-XAC-00942 US-PATENT-APPL-SN-310506 US-PATENT-CLASS-307-88.5 US-PATENT-3,277,314	c23 N71-16099	NASA-CASE-IGS-07514 US-PATENT-APPL-SN-640453 US-PATENT-CLASS-328-1 US-PATENT-3,509,469
c17 N71-16044	NASA-CASE-IGS-06306 US-PATENT-APPL-SN-685473 US-PATENT-CLASS-156-3 US-PATENT-3,532,568	c23 N71-16100	NASA-CASE-IGS-05715 US-PATENT-APPL-SN-668257 US-PATENT-CLASS-250-233 US-PATENT-3,532,894
c18 N71-16046	NASA-CASE-GSC-10007 US-PATENT-APPL-SN-627599 US-PATENT-CLASS-117-201 US-PATENT-3,532,538	c23 N71-16101	NASA-CASE-IMP-08883 US-PATENT-APPL-SN-617021 US-PATENT-CLASS-356-117 US-PATENT-3,520,617
c15 N71-16052	NASA-CASE-XLE-02999 US-PATENT-APPL-SN-431235 US-PATENT-CLASS-29-148.4 US-PATENT-3,262,186	c31 N71-16102	NASA-CASE-IGS-09190 US-PATENT-APPL-SN-647298 US-PATENT-CLASS-343-915 US-PATENT-3,521,290
c10 N71-16057	NASA-CASE-IMP-01193 US-PATENT-APPL-SN-366226 US-PATENT-CLASS-324-57 US-PATENT-3,277,366	c32 N71-16103	NASA-CASE-LAR-10317-1 US-PATENT-APPL-SN-739927 US-PATENT-CLASS-137-582 US-PATENT-3,508,578
c10 N71-16058	NASA-CASE-IMP-01097 US-PATENT-APPL-SN-290873 US-PATENT-CLASS-340-227 US-PATENT-3,277,458	c33 N71-16104	NASA-CASE-XLE-00785 US-PATENT-APPL-SN-666554 US-PATENT-CLASS-60-108 US-PATENT-3,508,402
c25 N71-16073	NASA-CASE-IAC-05695 US-PATENT-APPL-SN-634038 US-PATENT-CLASS-324-34 US-PATENT-3,517,302	c18 N71-16105	NASA-CASE-XLE-08511-2 US-PATENT-APPL-SN-711921 US-PATENT-CLASS-117-119 US-PATENT-3,508,955
c15 N71-16075	NASA-CASE-XLA-00284 US-PATENT-APPL-SN-240760 US-PATENT-CLASS-117-69 US-PATENT-3,264,135	c32 N71-16106	NASA-CASE-XLA-04605 US-PATENT-APPL-SN-619519 US-PATENT-CLASS-137-582 US-PATENT-3,443,584
c15 N71-16076	NASA-CASE-XLE-00106 US-PATENT-APPL-SN-629759 US-PATENT-CLASS-25-156 US-PATENT-2,944,316	c18 N71-16124	NASA-CASE-IMP-05279 US-PATENT-APPL-SN-617774 US-PATENT-CLASS-106-88 US-PATENT-3,508,940
c15 N71-16077	NASA-CASE-XLA-00302 US-PATENT-APPL-SN-284266 US-PATENT-CLASS-117-46 US-PATENT-3,271,181	c18 N71-16210	NASA-CASE-IMP-08837 US-PATENT-APPL-SN-691736 US-PATENT-CLASS-204-20 US-PATENT-3,526,580
c15 N71-16078	NASA-CASE-IGS-00824 US-PATENT-APPL-SN-379072 US-PATENT-CLASS-89-1 US-PATENT-3,309,961	c23 N71-16212	NASA-CASE-NPO-10250 US-PATENT-APPL-SN-736848 US-PATENT-CLASS-149-1 US-PATENT-3,516,879
		c24 N71-16213	NASA-CASE-IGS-06628

ACCESSION NUMBER INDEX

	US-PATENT-APPL-SN-665680		US-PATENT-CLASS-73-45.5
	US-PATENT-CLASS-315-111		US-PATENT-3,516,284
	US-PATENT-3,509,419	c14 871-17574	NASA-CASE-XGS-04993
c31 871-16221	NASA-CASE-XLA-05906		US-PATENT-APPL-SN-577775
	US-PATENT-APPL-SN-777766		US-PATENT-CLASS-96-49
	US-PATENT-CLASS-73-432		US-PATENT-3,458,313
	US-PATENT-3,526,139	c14 871-17575	NASA-CASE-XMP-06531
c31 871-16222	NASA-CASE-HFS-11133		US-PATENT-APPL-SN-732917
	US-PATENT-APPL-SN-693419		US-PATENT-CLASS-204-195
	US-PATENT-CLASS-244-1		US-PATENT-3,509,034
	US-PATENT-3,508,723	c12 871-17578	NASA-CASE-HFS-10412
c27 871-16223	NASA-CASE-HFS-12750		US-PATENT-APPL-SN-701635
	US-PATENT-APPL-SN-806149		US-PATENT-CLASS-137-81.5
	US-PATENT-CLASS-73-432		US-PATENT-3,520,317
	US-PATENT-3,526,140	c12 871-17579	NASA-CASE-XLA-07391
c28 871-16224	NASA-CASE-HFS-11497		US-PATENT-APPL-SN-726898
	US-PATENT-APPL-SN-730733		US-PATENT-CLASS-137-81.5
	US-PATENT-CLASS-239-265.43		US-PATENT-3,493,004
	US-PATENT-3,526,365	c14 871-17584	NASA-CASE-XMP-09462
c33 871-16277	NASA-CASE-XMS-04268		US-PATENT-APPL-SN-658957
	US-PATENT-APPL-SN-516160		US-PATENT-CLASS-73-57
	US-PATENT-CLASS-165-133		US-PATENT-3,500,677
	US-PATENT-3,502,141	c14 871-17585	NASA-CASE-XGS-05680
c33 871-16278	NASA-CASE-XMP-04237		US-PATENT-APPL-SN-656953
	US-PATENT-APPL-SN-539237		US-PATENT-CLASS-318-138
	US-PATENT-CLASS-219-364		US-PATENT-3,501,664
	US-PATENT-3,517,162	c14 871-17586	NASA-CASE-XLA-08646
c20 871-16281	NASA-CASE-XLA-02081		US-PATENT-APPL-SN-677476
	US-PATENT-APPL-SN-522795		US-PATENT-CLASS-73-105
	US-PATENT-CLASS-73-189		US-PATENT-3,534,596
	US-PATENT-3,507,150	c14 871-17587	NASA-CASE-XMP-05844
c20 871-16340	NASA-CASE-XMP-14032		US-PATENT-APPL-SN-706564
	US-PATENT-APPL-SN-679862		US-PATENT-CLASS-73-382
	US-PATENT-CLASS-250-209		US-PATENT-3,500,688
	US-PATENT-3,501,641	c14 871-17588	NASA-CASE-HFS-12806
c23 871-16341	NASA-CASE-XGS-05291		US-PATENT-APPL-SN-686933
	US-PATENT-APPL-SN-553891		US-PATENT-CLASS-55-179
	US-PATENT-CLASS-356-209		US-PATENT-3,490,205
	US-PATENT-3,504,983	c05 871-17599	NASA-CASE-MSC-12206-1
c31 871-16345	NASA-CASE-XMP-05344		US-PATENT-APPL-SN-856258
	US-PATENT-APPL-SN-702396		US-PATENT-CLASS-128-142.5
	US-PATENT-CLASS-244-1		US-PATENT-3,516,404
	US-PATENT-3,520,496	c11 871-17600	NASA-CASE-HFS-12915
c31 871-16346	NASA-CASE-XMS-03613		US-PATENT-APPL-SN-694340
	US-PATENT-APPL-SN-802816		US-PATENT-CLASS-220-89
	US-PATENT-CLASS-244-1		US-PATENT-3,469,734
	US-PATENT-3,526,372	c32 871-17609	NASA-CASE-XLA-02332
c27 871-16348	NASA-CASE-MSC-12280		US-PATENT-APPL-SN-388024
	US-PATENT-APPL-SN-372648		US-PATENT-CLASS-212-11
	US-PATENT-CLASS-250-43.5		US-PATENT-3,276,602
	US-PATENT-3,501,632	c33 871-17610	NASA-CASE-XLA-00377
c23 871-16355	NASA-CASE-XGS-05534		US-PATENT-APPL-SN-270118
	US-PATENT-APPL-SN-578925		US-PATENT-CLASS-230-162
	US-PATENT-CLASS-23-253		US-PATENT-3,309,012
	US-PATENT-3,520,660	c14 871-17626	NASA-CASE-LAR-10274-1
c33 871-16356	NASA-CASE-NPO-10158		US-PATENT-APPL-SN-717052
	US-PATENT-APPL-SN-730702		US-PATENT-CLASS-188-1
	US-PATENT-CLASS-73-343		US-PATENT-3,491,857
	US-PATENT-3,526,134	c14 871-17627	NASA-CASE-XGS-03532
c33 871-16357	NASA-CASE-NPO-10138		US-PATENT-APPL-SN-538913
	US-PATENT-APPL-SN-759457		US-PATENT-CLASS-356-106
	US-PATENT-CLASS-236-1		US-PATENT-3,488,123
	US-PATENT-3,526,359	c15 871-17628	NASA-CASE-HFS-10340
c23 871-16365	NASA-CASE-XMP-08840		US-PATENT-APPL-SN-716734
	US-PATENT-APPL-SN-649360		US-PATENT-CLASS-225-1
	US-PATENT-CLASS-356-36		US-PATENT-3,507,425
	US-PATENT-3,526,460	c31 871-17629	NASA-CASE-ILE-03583
c27 871-16392	NASA-CASE-XMP-09744		US-PATENT-APPL-SN-400617
	US-PATENT-APPL-SN-685750		US-PATENT-CLASS-244-3.22
	US-PATENT-CLASS-60-39.47		US-PATENT-3,276,376
	US-PATENT-3,507,114	c12 871-17631	NASA-CASE-NPO-10122
c17 871-16393	NASA-CASE-NPO-10271		US-PATENT-APPL-SN-710949
	US-PATENT-APPL-SN-763869		US-PATENT-CLASS-60-217
	US-PATENT-CLASS-21-207		US-PATENT-3,534,555
	US-PATENT-3,529,928	c32 871-17645	NASA-CASE-XMP-01153
c32 871-16428	NASA-CASE-XLA-03135		US-PATENT-APPL-SN-336608
	US-PATENT-APPL-SN-582171		US-PATENT-CLASS-73-88
	US-PATENT-CLASS-73-71.4		US-PATENT-3,273,381
	US-PATENT-3,503,251	c15 871-17647	NASA-CASE-XMP-01667
c12 871-16894	NASA-CASE-XLA-02079		US-PATENT-APPL-SN-577115
	US-PATENT-APPL-SN-435756		US-PATENT-CLASS-118-11
	US-PATENT-CLASS-188-87		US-PATENT-3,502,051
	US-PATENT-3,310,138	c15 871-17648	NASA-CASE-MSC-12116-1
c12 871-17569	NASA-CASE-MSC-12084-1		US-PATENT-APPL-SN-768336
	US-PATENT-APPL-SN-762438		US-PATENT-CLASS-251-358
	US-PATENT-CLASS-73-204		US-PATENT-3,508,739
	US-PATENT-3,500,686	c15 871-17649	NASA-CASE-HFS-11132
c12 871-17573	NASA-CASE-LAR-10323-1		US-PATENT-APPL-SN-744910
	US-PATENT-APPL-SN-738314		US-PATENT-CLASS-248-360

ACCESSION NUMBER INDEX

	US-PATENT-3,526,382		US-PATENT-3,501,683
c15 N71-17650	NASA-CASE-XMP-05114	c15 N71-17695	NASA-CASE-XMP-03704
	US-PATENT-APPL-SN-637882		US-PATENT-APPL-SN-605088
	US-PATENT-CLASS-29-517		US-PATENT-CLASS-117-107.2
	US-PATENT-3,507,034		US-PATENT-3,501,337
c15 N71-17651	NASA-CASE-XLE-03803-2	c15 N71-17696	NASA-CASE-XLA-05100
	US-PATENT-APPL-SN-669336		US-PATENT-APPL-SN-724551
	US-PATENT-CLASS-156-172		US-PATENT-CLASS-73-103
	US-PATENT-3,535,179		US-PATENT-3,487,680
c15 N71-17652	NASA-CASE-XLE-05079	c14 N71-17701	NASA-CASE-NPO-10144
	US-PATENT-APPL-SN-601228		US-PATENT-APPL-SN-688805
	US-PATENT-CLASS-310-93		US-PATENT-CLASS-73-29
	US-PATENT-3,493,797		US-PATENT-3,534,585
c15 N71-17653	NASA-CASE-ARC-10140-1	c06 N71-17705	NASA-CASE-XGS-05532
	US-PATENT-APPL-SN-783379		US-PATENT-APPL-SN-570093
	US-PATENT-CLASS-24-211		US-PATENT-CLASS-195-99
	US-PATENT-3,534,650		US-PATENT-3,423,290
c15 N71-17654	NASA-CASE-XMP-09702	c31 N71-17729	NASA-CASE-XAC-01591
	US-PATENT-APPL-SN-730734		US-PATENT-APPL-SN-385527
	US-PATENT-CLASS-239-416		US-PATENT-CLASS-244-1
	US-PATENT-3,534,909		US-PATENT-3,282,532
c14 N71-17655	NASA-CASE-NPO-10320	c31 N71-17730	NASA-CASE-XMP-01543
	US-PATENT-APPL-SN-718689		US-PATENT-APPL-SN-402365
	US-PATENT-CLASS-356-106		US-PATENT-CLASS-102-49
	US-PATENT-3,535,041		US-PATENT-3,286,629
c14 N71-17656	NASA-CASE-MFS-12827	c30 N71-17788	NASA-CASE-XGS-00783
	US-PATENT-APPL-SN-742816		US-PATENT-APPL-SN-372438
	US-PATENT-CLASS-73-88.5		US-PATENT-CLASS-73-432
	US-PATENT-3,534,592		US-PATENT-3,286,531
c14 N71-17657	NASA-CASE-XMP-09205	c23 N71-17802	NASA-CASE-XLE-00454
	US-PATENT-APPL-SN-768473		US-PATENT-APPL-SN-295855
	US-PATENT-CLASS-33-149		US-PATENT-CLASS-73-295
	US-PATENT-3,534,479		US-PATENT-3,273,392
c14 N71-17658	NASA-CASE-XMP-04966	c15 N71-17803	NASA-CASE-XMS-05516
	US-PATENT-APPL-SN-727480		US-PATENT-APPL-SN-563648
	US-PATENT-CLASS-33-174		US-PATENT-CLASS-264-92
	US-PATENT-3,534,480		US-PATENT-3,488,414
c14 N71-17659	NASA-CASE-XMP-02964	c15 N71-17805	NASA-CASE-MFS-12805
	US-PATENT-APPL-SN-493942		US-PATENT-APPL-SN-758082
	US-PATENT-CLASS-73-15.4		US-PATENT-CLASS-81-63.1
	US-PATENT-3,465,569		US-PATENT-CLASS-192-43.1
c12 N71-17661	NASA-CASE-NPO-10298		US-PATENT-3,534,836
	US-PATENT-APPL-SN-745852	c26 N71-17818	NASA-CASE-XMP-01016
	US-PATENT-CLASS-137-341		US-PATENT-APPL-SN-326299
	US-PATENT-3,534,765		US-PATENT-CLASS-264-27
c14 N71-17662	NASA-CASE-NPO-10300		US-PATENT-3,274,304
	US-PATENT-APPL-SN-718769	c15 N71-17822	NASA-CASE-ARC-10009-1
	US-PATENT-CLASS-350-285		US-PATENT-APPL-SN-714595
	US-PATENT-3,535,024		US-PATENT-CLASS-324-58.5
c31 N71-17679	NASA-CASE-XMP-02507		US-PATENT-3,532,973
	US-PATENT-APPL-SN-475299	c33 N71-17897	NASA-CASE-XLA-00892
	US-PATENT-CLASS-244-1		US-PATENT-APPL-SN-245941
	US-PATENT-3,310,256		US-PATENT-CLASS-62-467
c31 N71-17680	NASA-CASE-XLA-00117		US-PATENT-3,273,355
	US-PATENT-APPL-SN-835153	c26 N71-18064	NASA-CASE-XMP-01328
	US-PATENT-CLASS-220-1		US-PATENT-APPL-SN-296879
	US-PATENT-2,996,212		US-PATENT-CLASS-317-234
c15 N71-17685	NASA-CASE-NPO-10034		US-PATENT-3,271,637
	US-PATENT-APPL-SN-668241	c15 N71-18132	NASA-CASE-MFS-13686
	US-PATENT-CLASS-339-17		US-PATENT-APPL-SN-716183
	US-PATENT-3,464,051		US-PATENT-CLASS-73-67.2
c15 N71-17686	NASA-CASE-MFS-20586		US-PATENT-3,531,982
	US-PATENT-APPL-SN-688868	c14 N71-18465	NASA-CASE-NPO-10174
	US-PATENT-CLASS-29-428		US-PATENT-APPL-SN-690163
	US-PATENT-3,526,030		US-PATENT-CLASS-95-11
c15 N71-17687	NASA-CASE-XLA-04143		US-PATENT-3,520,238
	US-PATENT-APPL-SN-628246	c14 N71-18481	NASA-CASE-XLA-02758
	US-PATENT-CLASS-156-510		US-PATENT-APPL-SN-759665
	US-PATENT-3,508,999		US-PATENT-CLASS-73-4
c15 N71-17688	NASA-CASE-XLE-09527		US-PATENT-3,531,978
	US-PATENT-APPL-SN-686344	c14 N71-18482	NASA-CASE-XLA-07424
	US-PATENT-CLASS-29-148.4		US-PATENT-APPL-SN-635326
	US-PATENT-3,500,525		US-PATENT-CLASS-313-7
c31 N71-17691	NASA-CASE-XLA-00937		US-PATENT-3,466,484
	US-PATENT-APPL-SN-393461	c14 N71-18483	NASA-CASE-XER-09519
	US-PATENT-CLASS-244-3.14		US-PATENT-APPL-SN-676375
	US-PATENT-3,310,258		US-PATENT-CLASS-55-208
c15 N71-17692	NASA-CASE-MFS-14772		US-PATENT-3,469,375
	US-PATENT-APPL-SN-774151	c11 N71-18578	NASA-CASE-XAC-05902
	US-PATENT-CLASS-74-63		US-PATENT-APPL-SN-662828
	US-PATENT-3,529,480		US-PATENT-CLASS-89-8
c15 N71-17693	NASA-CASE-NPO-10064		US-PATENT-3,465,638
	US-PATENT-APPL-SN-668755	c15 N71-18579	NASA-CASE-XGS-04175
	US-PATENT-CLASS-244-1		US-PATENT-APPL-SN-606464
	US-PATENT-3,501,112		US-PATENT-CLASS-72-364
c15 N71-17694	NASA-CASE-XMP-08897		US-PATENT-3,465,567
	US-PATENT-APPL-SN-640450	c15 N71-18580	NASA-CASE-XMP-09698
	US-PATENT-CLASS-318-22		US-PATENT-APPL-SN-698592
			US-PATENT-CLASS-138-4

ACCESSION NUMBER INDEX

	US-PATENT-CLASS-138-45	c09 N71-18721	NASA-CASE-XER-07894
	US-PATENT-CLASS-251-118		US-PATENT-APPL-SN-644444
	US-PATENT-CLASS-251-121		US-PATENT-CLASS-331-107
	US-PATENT-3,532,128		US-PATENT-3,509,491
c08 N71-18594	NASA-CASE-XAC-04031	c10 N71-18722	NASA-CASE-ERC-10046
	US-PATENT-APPL-SN-538905		US-PATENT-APPL-SN-793772
	US-PATENT-CLASS-340-347		US-PATENT-CLASS-343-100
	US-PATENT-3,533,098		US-PATENT-3,501,764
c08 N71-18595	NASA-CASE-XGS-03303	c10 N71-18723	NASA-CASE-XMP-09450
	US-PATENT-APPL-SN-520838		US-PATENT-APPL-SN-640459
	US-PATENT-CLASS-340-174		US-PATENT-CLASS-307-273
	US-PATENT-3,501,752		US-PATENT-3,501,649
c09 N71-18598	NASA-CASE-NPO-10066	c10 N71-18724	NASA-CASE-XLA-09371
	US-PATENT-APPL-SN-681693		US-PATENT-APPL-SN-568160
	US-PATENT-CLASS-343-13		US-PATENT-CLASS-318-257
	US-PATENT-3,447,155		US-PATENT-3,504,258
c09 N71-18599	NASA-CASE-LAR-10372	c08 N71-18751	NASA-CASE-XLA-07732
	US-PATENT-APPL-SN-730162		US-PATENT-APPL-SN-641841
	US-PATENT-CLASS-102-70.2		US-PATENT-CLASS-307-216
	US-PATENT-3,500,747		US-PATENT-3,512,009
c09 N71-18600	NASA-CASE-MSC-12168-1	c08 N71-18752	NASA-CASE-XMP-00663
	US-PATENT-APPL-SN-640154		US-PATENT-APPL-SN-205470
	US-PATENT-CLASS-312-296		US-PATENT-CLASS-321-5
	US-PATENT-3,447,850		US-PATENT-3,521,143
c08 N71-18602	NASA-CASE-XGS-04766	c10 N71-18772	NASA-CASE-GSC-10366-1
	US-PATENT-APPL-SN-598120		US-PATENT-APPL-SN-771523
	US-PATENT-CLASS-235-175		US-PATENT-CLASS-318-138
	US-PATENT-3,532,866		US-PATENT-3,532,948
c12 N71-18603	NASA-CASE-ERC-10031	c11 N71-18773	NASA-CASE-XMP-07488
	US-PATENT-APPL-SN-741461		US-PATENT-APPL-SN-707495
	US-PATENT-CLASS-40-28		US-PATENT-CLASS-35-12
	US-PATENT-3,516,185		US-PATENT-3,534,485
c31 N71-18611	NASA-CASE-MPS-20400	c09 N71-18830	NASA-CASE-XAC-10768
	US-PATENT-APPL-SN-551694		US-PATENT-APPL-SN-711970
	US-PATENT-CLASS-152-11		US-PATENT-CLASS-250-83
	US-PATENT-3,493,027		US-PATENT-3,508,053
c15 N71-18613	NASA-CASE-XMP-02588	c09 N71-18843	NASA-CASE-XMP-03263
	US-PATENT-APPL-SN-563644		US-PATENT-APPL-SN-506908
	US-PATENT-CLASS-219-91		US-PATENT-CLASS-340-146.1
	US-PATENT-3,466,418		US-PATENT-3,501,743
c16 N71-18614	NASA-CASE-XGS-03644	c21 N71-19212	NASA-CASE-MPS-20386
	US-PATENT-APPL-SN-505320		US-PATENT-APPL-SN-818349
	US-PATENT-CLASS-331-94.5		US-PATENT-CLASS-356-28
	US-PATENT-3,517,328		US-PATENT-3,532,427
c12 N71-18615	NASA-CASE-XMP-09704	c15 N71-19213	NASA-CASE-MPS-14259
	US-PATENT-APPL-SN-730701		US-PATENT-APPL-SN-787410
	US-PATENT-CLASS-137-594		US-PATENT-CLASS-138-43
	US-PATENT-CLASS-138-46		US-PATENT-3,536,103
	US-PATENT-CLASS-251-61.1	c15 N71-19214	NASA-CASE-MPS-20410
	US-PATENT-CLASS-251-127		US-PATENT-APPL-SN-819599
	US-PATENT-CLASS-251-333		US-PATENT-CLASS-244-1
	US-PATENT-CLASS-251-342		US-PATENT-3,534,926
	US-PATENT-3,532,118	c02 N71-19287	NASA-CASE-GSC-10087-1
c15 N71-18616	NASA-CASE-XLA-07390		US-PATENT-APPL-SN-701679
	US-PATENT-APPL-SN-665681		US-PATENT-CLASS-343-112
	US-PATENT-CLASS-72-53		US-PATENT-3,534,367
	US-PATENT-3,531,964	c08 N71-19288	NASA-CASE-NPO-10068
c14 N71-18625	NASA-CASE-NPO-10175		US-PATENT-APPL-SN-668969
	US-PATENT-APPL-SN-685787		US-PATENT-CLASS-340-172.5
	US-PATENT-CLASS-137-505.12		US-PATENT-3,501,750
	US-PATENT-3,443,583	c10 N71-19417	NASA-CASE-XMS-10984-1
c08 N71-18692	NASA-CASE-MPS-14322		US-PATENT-APPL-SN-605095
	US-PATENT-APPL-SN-646934		US-PATENT-CLASS-340-213.1
	US-PATENT-CLASS-328-134		US-PATENT-3,533,093
	US-PATENT-3,501,701	c10 N71-19418	NASA-CASE-GSC-10041-1
c08 N71-18693	NASA-CASE-XGS-04765		US-PATENT-APPL-SN-684209
	US-PATENT-APPL-SN-577545		US-PATENT-CLASS-331-113
	US-PATENT-CLASS-235-156		US-PATENT-3,458,833
	US-PATENT-3,508,036	c08 N71-19420	NASA-CASE-IMP-09453
c08 N71-18694	NASA-CASE-NPO-10201		US-PATENT-APPL-SN-640448
	US-PATENT-APPL-SN-691738		US-PATENT-CLASS-226-190
	US-PATENT-CLASS-340-174		US-PATENT-3,507,436
	US-PATENT-3,509,551	c10 N71-19421	NASA-CASE-XLA-08493
c03 N71-18698	NASA-CASE-NPO-10373		US-PATENT-APPL-SN-749148
	US-PATENT-APPL-SN-718752		US-PATENT-CLASS-324-72
	US-PATENT-CLASS-136-89		US-PATENT-3,532,975
	US-PATENT-3,507,706	c14 N71-19431	NASA-CASE-XGS-02439
c14 N71-18699	NASA-CASE-XLA-03273		US-PATENT-APPL-SN-487341
	US-PATENT-APPL-SN-487352		US-PATENT-CLASS-324-120
	US-PATENT-CLASS-250-83.3		US-PATENT-3,422,352
	US-PATENT-3,458,702	c08 N71-19432	NASA-CASE-XGS-02440
c15 N71-18701	NASA-CASE-IMP-07587		US-PATENT-APPL-SN-655677
	US-PATENT-APPL-SN-649359		US-PATENT-CLASS-328-42
	US-PATENT-CLASS-317-122		US-PATENT-3,517,318
	US-PATENT-3,448,346	c07 N71-19433	NASA-CASE-MPS-13046
c09 N71-18720	NASA-CASE-MSC-12101		US-PATENT-APPL-SN-673228
	US-PATENT-APPL-SN-763705		US-PATENT-CLASS-178-6
	US-PATENT-CLASS-343-718		US-PATENT-3,532,807
	US-PATENT-3,509,570	c08 N71-19435	NASA-CASE-XGS-02612

ACCESSION NUMBER INDEX

	US-PATENT-APPL-SN-502743		US-PATENT-CLASS-340-347
	US-PATENT-CLASS-340-347		US-PATENT-3,474,441
	US-PATENT-3,509,558	c03 N71-19545	NASA-CASE-NPO-10821
c07 N71-19436	NASA-CASE-XMP-09422		US-PATENT-APPL-SN-670814
	US-PATENT-APPL-SN-783378		US-PATENT-CLASS-136-89
	US-PATENT-CLASS-174-35		US-PATENT-3,466,198
	US-PATENT-3,517,109	c10 N71-19547	NASA-CASE-XGS-03058
c08 N71-19437	NASA-CASE-XGS-04768		US-PATENT-APPL-SN-568987
	US-PATENT-APPL-SN-598119		US-PATENT-CLASS-307-289
	US-PATENT-CLASS-235-158		US-PATENT-3,517,221
	US-PATENT-3,508,039	c14 N71-19568	NASA-CASE-NSC-10966
c03 N71-19438	NASA-CASE-XGS-05432		US-PATENT-APPL-SN-665676
	US-PATENT-APPL-SN-549860		US-PATENT-CLASS-250-203
	US-PATENT-CLASS-320-23		US-PATENT-3,421,004
	US-PATENT-3,426,263	c15 N71-19569	NASA-CASE-XLA-05749
c05 N71-19439	NASA-CASE-XMS-09571		US-PATENT-APPL-SN-621714
	US-PATENT-APPL-SN-678700		US-PATENT-CLASS-137-582
	US-PATENT-CLASS-165-46		US-PATENT-3,426,791
	US-PATENT-3,425,487	c15 N71-19570	NASA-CASE-XLE-05130-2
c05 N71-19440	NASA-CASE-XMS-01177		US-PATENT-APPL-SN-700586
	US-PATENT-APPL-SN-516150		US-PATENT-CLASS-277-25
	US-PATENT-CLASS-250-83		US-PATENT-3,466,052
	US-PATENT-3,427,454	c09 N71-19610	NASA-CASE-NPO-10037
c09 N71-19449	NASA-CASE-XPR-03107		US-PATENT-APPL-SN-700987
	US-PATENT-APPL-SN-507257		US-PATENT-CLASS-200-152
	US-PATENT-CLASS-178-6		US-PATENT-3,470,342
	US-PATENT-3,458,651	c08 N71-19687	NASA-CASE-XNP-04780
c09 N71-19466	NASA-CASE-XGS-02812		US-PATENT-APPL-SN-455477
	US-PATENT-APPL-SN-502750		US-PATENT-CLASS-340-347
	US-PATENT-CLASS-330-30		US-PATENT-3,430,227
	US-PATENT-3,466,560	c08 N71-19763	NASA-CASE-IAC-06302
c10 N71-19467	NASA-CASE-XMP-08665		US-PATENT-APPL-SN-574284
	US-PATENT-APPL-SN-582609		US-PATENT-CLASS-325-60
	US-PATENT-CLASS-325-63		US-PATENT-3,456,193
	US-PATENT-3,470,475	c07 N71-19773	NASA-CASE-GSC-10373-1
c10 N71-19468	NASA-CASE-XMS-05605-1		US-PATENT-APPL-SN-712658
	US-PATENT-APPL-SN-764812		US-PATENT-CLASS-325-4
	US-PATENT-CLASS-178-69.5		US-PATENT-3,532,985
	US-PATENT-3,532,819	c07 N71-19854	NASA-CASE-GSC-10553-1
c10 N71-19469	NASA-CASE-XNP-00777		US-PATENT-APPL-SN-820963
	US-PATENT-APPL-SN-486573		US-PATENT-CLASS-343-100
	US-PATENT-CLASS-329-122		US-PATENT-3,534,365
	US-PATENT-3,517,268	c05 N71-20268	NASA-CASE-XLA-02898
c09 N71-19470	NASA-CASE-XGS-05289		US-PATENT-APPL-SN-429932
	US-PATENT-APPL-SN-632104		US-PATENT-CLASS-128-1
	US-PATENT-CLASS-331-113		US-PATENT-3,461,855
	US-PATENT-3,470,496	c03 N71-20273	NASA-CASE-NPO-10188
c10 N71-19471	NASA-CASE-XLE-03804		US-PATENT-APPL-SN-681687
	US-PATENT-APPL-SN-526631		US-PATENT-CLASS-244-1
	US-PATENT-CLASS-307-235		US-PATENT-3,473,758
	US-PATENT-3,463,939	c28 N71-20330	NASA-CASE-XLE-103477-1
c10 N71-19472	NASA-CASE-IAC-04030		US-PATENT-APPL-SN-466390
	US-PATENT-APPL-SN-520839		US-PATENT-CLASS-60-39.36
	US-PATENT-CLASS-328-1		US-PATENT-3,433,015
	US-PATENT-3,464,016	c15 N71-20393	NASA-CASE-HFS-06074
c09 N71-19479	NASA-CASE-XMS-04300		US-PATENT-APPL-SN-688743
	US-PATENT-APPL-SN-516158		US-PATENT-CLASS-228-9
	US-PATENT-CLASS-350-275		US-PATENT-3,458,104
	US-PATENT-3,427,093	c15 N71-20395	NASA-CASE-XMP-04065
c09 N71-19480	NASA-CASE-XPR-05637		US-PATENT-APPL-SN-665679
	US-PATENT-APPL-SN-484855		US-PATENT-CLASS-219-275
	US-PATENT-CLASS-235-194		US-PATENT-3,466,424
	US-PATENT-3,423,579	c31 N71-20396	NASA-CASE-XMP-08523
c15 N71-19485	NASA-CASE-HSC-11010		US-PATENT-APPL-SN-645563
	US-PATENT-APPL-SN-605090		US-PATENT-CLASS-244-1
	US-PATENT-CLASS-251-31		US-PATENT-3,465,986
	US-PATENT-3,447,774	c16 N71-20400	NASA-CASE-HFS-11279
c15 N71-19486	NASA-CASE-XMP-08522		US-PATENT-APPL-SN-628094
	US-PATENT-APPL-SN-640447		US-PATENT-CLASS-219-121
	US-PATENT-CLASS-219-121		US-PATENT-3,472,998
	US-PATENT-3,474,220	c03 N71-20407	NASA-CASE-NPO-10194
c15 N71-19489	NASA-CASE-XMP-04680		US-PATENT-APPL-SN-668249
	US-PATENT-APPL-SN-634040		US-PATENT-CLASS-136-182
	US-PATENT-CLASS-33-147		US-PATENT-3,460,995
	US-PATENT-3,425,131	c14 N71-20427	NASA-CASE-XMS-13052
c07 N71-19493	NASA-CASE-XKS-08485		US-PATENT-APPL-SN-561223
	US-PATENT-APPL-SN-649078		US-PATENT-CLASS-62-268
	US-PATENT-CLASS-343-873		US-PATENT-3,455,121
	US-PATENT-3,509,578	c14 N71-20428	NASA-CASE-XGS-04879
c11 N71-19494	NASA-CASE-HFS-10555		US-PATENT-APPL-SN-541399
	US-PATENT-APPL-SN-700984		US-PATENT-CLASS-324-.5
	US-PATENT-CLASS-35-12		US-PATENT-3,443,208
	US-PATENT-3,516,179	c14 N71-20429	NASA-CASE-XLE-05260
c09 N71-19516	NASA-CASE-XMP-06937		US-PATENT-APPL-SN-674355
	US-PATENT-APPL-SN-640449		US-PATENT-CLASS-73-117.4
	US-PATENT-CLASS-330-30		US-PATENT-3,463,001
	US-PATENT-3,501,712	c14 N71-20430	NASA-CASE-XLA-03645
c08 N71-19544	NASA-CASE-XGS-01230		US-PATENT-APPL-SN-600266
	US-PATENT-APPL-SN-356488		US-PATENT-CLASS-250-83

ACCESSION NUMBER INDEX

c14 N71-20435	US-PATENT-3,450,878 NASA-CASE-XMS-06767-1 US-PATENT-APPL-SN-716795 US-PATENT-CLASS-73-422	c05 N71-20718	NASA-CASE-XMS-04625 US-PATENT-APPL-SN-519161 US-PATENT-CLASS-244-122 US-PATENT-3,356,320
c12 N71-20436	US-PATENT-3,430,263 NASA-CASE-LAR-11138 US-PATENT-APPL-SN-694317 US-PATENT-CLASS-73-147	c15 N71-20739	NASA-CASE-XGS-02011 US-PATENT-APPL-SN-502693 US-PATENT-CLASS-308-9 US-PATENT-3,359,046
c14 N71-20439	US-PATENT-3,461,721 NASA-CASE-IAC-04886-1 US-PATENT-APPL-SN-574290 US-PATENT-CLASS-73-142	c15 N71-20740	NASA-CASE-XLA-01808 US-PATENT-APPL-SN-517159 US-PATENT-CLASS-74-471 US-PATENT-3,364,777
c15 N71-20440	US-PATENT-3,425,272 NASA-CASE-XNP-09770 US-PATENT-APPL-SN-700120 US-PATENT-CLASS-209-10	c14 N71-20741	NASA-CASE-XMS-01618 US-PATENT-APPL-SN-418362 US-PATENT-CLASS-73-29 US-PATENT-3,360,980
c15 N71-20441	US-PATENT-3,472,372 NASA-CASE-XMS-06329-1 US-PATENT-APPL-SN-688742 US-PATENT-CLASS-73-141	c18 N71-20742	NASA-CASE-XMS-02952 US-PATENT-APPL-SN-519160 US-PATENT-CLASS-55-158 US-PATENT-3,355,861
c14 N71-20442	US-PATENT-3,472,069 NASA-CASE-MFS-11537 US-PATENT-APPL-SN-636878 US-PATENT-CLASS-23-254	c17 N71-20743	NASA-CASE-XNP-02786 US-PATENT-APPL-SN-466873 US-PATENT-CLASS-75-142 US-PATENT-3,347,665
c15 N71-20443	US-PATENT-3,472,629 NASA-CASE-MFS-07369 US-PATENT-APPL-SN-640462 US-PATENT-CLASS-29-492	c25 N71-20747	NASA-CASE-XLE-02578 US-PATENT-APPL-SN-469012 US-PATENT-CLASS-313-271 US-PATENT-3,356,885
c09 N71-20445	US-PATENT-3,473,216 NASA-CASE-XNP-09775 US-PATENT-APPL-SN-668247 US-PATENT-CLASS-333-96	c10 N71-20782	NASA-CASE-XGS-01784 US-PATENT-APPL-SN-396444 US-PATENT-CLASS-250-206 US-PATENT-3,348,053
c09 N71-20446	US-PATENT-3,474,357 NASA-CASE-XLE-04250 US-PATENT-APPL-SN-621098 US-PATENT-CLASS-310-54	c07 N71-20791	NASA-CASE-XNP-05254 US-PATENT-APPL-SN-472372 US-PATENT-CLASS-325-31 US-PATENT-3,350,643
c09 N71-20447	US-PATENT-3,447,003 NASA-CASE-XLA-02850 US-PATENT-APPL-SN-556784 US-PATENT-CLASS-307-267	c15 N71-20813	NASA-CASE-XMS-02184 US-PATENT-APPL-SN-608247 US-PATENT-CLASS-248-27 US-PATENT-3,361,400
c10 N71-20448	US-PATENT-3,473,050 NASA-CASE-XNP-03744 US-PATENT-APPL-SN-547677 US-PATENT-CLASS-318-314	c07 N71-20814	NASA-CASE-XNP-01306 US-PATENT-APPL-SN-343426 US-PATENT-CLASS-179-15 US-PATENT-3,364,311
c14 N71-20461	US-PATENT-3,424,966 NASA-CASE-XNP-09763 US-PATENT-APPL-SN-600682 US-PATENT-CLASS-117-6	c12 N71-20815	NASA-CASE-XNP-01779 US-PATENT-APPL-SN-521999 US-PATENT-CLASS-346-1 US-PATENT-3,357,024
c03 N71-20491	US-PATENT-3,433,662 NASA-CASE-XGS-05434 US-PATENT-APPL-SN-667636 US-PATENT-CLASS-136-182	c09 N71-20816	NASA-CASE-XAC-01677 US-PATENT-APPL-SN-596338 US-PATENT-CLASS-73-147 US-PATENT-3,360,988
c03 N71-20492	US-PATENT-3,463,673 NASA-CASE-XLE-04787 US-PATENT-APPL-SN-551846 US-PATENT-CLASS-136-89	c33 N71-20834	NASA-CASE-XMS-02009 US-PATENT-APPL-SN-455352 US-PATENT-CLASS-141-5 US-PATENT-3,349,814
c24 N71-20518	US-PATENT-3,434,885 NASA-CASE-XNP-02592 US-PATENT-APPL-SN-484490 US-PATENT-CLASS-324-33	c10 N71-20841	NASA-CASE-XGS-01222 US-PATENT-APPL-SN-354182 US-PATENT-CLASS-325-305 US-PATENT-3,348,152
c25 N71-20563	US-PATENT-3,430,131 NASA-CASE-XLA-06232 US-PATENT-APPL-SN-612740 US-PATENT-CLASS-324-58.5	c09 N71-20842	NASA-CASE-XNP-05381 US-PATENT-APPL-SN-568352 US-PATENT-CLASS-338-82 US-PATENT-3,350,671
c09 N71-20569	US-PATENT-3,473,116 NASA-CASE-XMS-08589-1 US-PATENT-APPL-SN-544899 US-PATENT-CLASS-324-57	c09 N71-20851	NASA-CASE-XNP-04732 US-PATENT-APPL-SN-557584 US-PATENT-CLASS-339-177 US-PATENT-3,358,264
c02 N71-20570	US-PATENT-3,434,050 NASA-CASE-XAC-08972 US-PATENT-APPL-SN-700174 US-PATENT-CLASS-244-76	c10 N71-20852	NASA-CASE-XGS-03502 US-PATENT-APPL-SN-584066 US-PATENT-CLASS-331-17 US-PATENT-3,361,985
c08 N71-20571	US-PATENT-3,472,470 NASA-CASE-XGS-04987 US-PATENT-APPL-SN-619908 US-PATENT-CLASS-315-24	c09 N71-20864	NASA-CASE-XGS-03501 US-PATENT-APPL-SN-576521 US-PATENT-CLASS-343-16 US-PATENT-3,359,555
c09 N71-20658	US-PATENT-3,437,874 NASA-CASE-XMS-03454 US-PATENT-APPL-SN-425363 US-PATENT-CLASS-343-915	c03 N71-20895	NASA-CASE-XNP-00826 US-PATENT-APPL-SN-327163 US-PATENT-CLASS-136-89 US-PATENT-3,346,419
c09 N71-20705	US-PATENT-3,360,798 NASA-CASE-XNP-01599 US-PATENT-APPL-SN-381940 US-PATENT-CLASS-117-212	c12 N71-20896	NASA-CASE-XNP-02251 US-PATENT-APPL-SN-432030 US-PATENT-CLASS-321-48 US-PATENT-3,337,790
c06 N71-20717	US-PATENT-3,359,132 NASA-CASE-XNP-04133 US-PATENT-APPL-SN-554949 US-PATENT-CLASS-260-2	c03 N71-20904	NASA-CASE-XLE-01645 US-PATENT-APPL-SN-342574 US-PATENT-CLASS-136-86 US-PATENT-3,357,862
	US-PATENT-3,354,098	c06 N71-20905	NASA-CASE-XNP-02584

ACCESSION NUMBER INDEX

	US-PATENT-APPL-SN-506135		US-PATENT-CLASS-251-172
	US-PATENT-CLASS-260-2		US-PATENT-3,327,991
	US-PATENT-3,346,515	c15 N71-21311	NASA-CASE-XNP-03637
c17 N71-20941	NASA-CASE-XMS-00370		US-PATENT-APPL-SN-453232
	US-PATENT-APPL-SN-71366		US-PATENT-CLASS-310-9.1
	US-PATENT-CLASS-106-55		US-PATENT-3,359,435
	US-PATENT-3,350,214	c15 N71-21403	NASA-CASE-XMP-03988
c28 N71-20942	NASA-CASE-XNP-04389		US-PATENT-APPL-SN-578923
	US-PATENT-APPL-SN-523511		US-PATENT-CLASS-252-26
	US-PATENT-CLASS-60-265		US-PATENT-3,361,666
	US-PATENT-3,353,359	c15 N71-21404	NASA-CASE-XLA-01262
c14 N71-21006	NASA-CASE-XLA-01832		US-PATENT-APPL-SN-386800
	US-PATENT-APPL-SN-517858		US-PATENT-CLASS-156-3
	US-PATENT-CLASS-346-50		US-PATENT-3,356,549
	US-PATENT-3,354,462	c09 N71-21449	NASA-CASE-XMS-01991
c14 N71-21007	NASA-CASE-XMS-06236		US-PATENT-APPL-SN-410326
	US-PATENT-APPL-SN-482670		US-PATENT-CLASS-323-22
	US-PATENT-CLASS-73-290		US-PATENT-3,344,340
	US-PATENT-3,355,948	c10 N71-21473	NASA-CASE-XGS-08679
c14 N71-21040	NASA-CASE-XMS-03478		US-PATENT-APPL-SN-312443
	US-PATENT-APPL-SN-422100		US-PATENT-CLASS-343-113
	US-PATENT-CLASS-250-207		US-PATENT-3,340,532
	US-PATENT-3,358,145	c11 N71-21474	NASA-CASE-XMS-04798
c08 N71-21042	NASA-CASE-XGS-01021		US-PATENT-APPL-SN-480210
	US-PATENT-APPL-SN-279646		US-PATENT-CLASS-35-12
	US-PATENT-CLASS-340-174.1		US-PATENT-3,330,052
	US-PATENT-3,327,298	c11 N71-21475	NASA-CASE-XLA-05378
c32 N71-21045	NASA-CASE-XLA-01731		US-PATENT-APPL-SN-484156
	US-PATENT-APPL-SN-425365		US-PATENT-CLASS-73-343
	US-PATENT-CLASS-52-2		US-PATENT-3,331,246
	US-PATENT-3,364,631	c07 N71-21476	NASA-CASE-XNP-00746
c15 N71-21060	NASA-CASE-XLA-03660		US-PATENT-APPL-SN-271824
	US-PATENT-APPL-SN-482307		US-PATENT-CLASS-235-181
	US-PATENT-CLASS-95-53		US-PATENT-3,359,409
	US-PATENT-3,361,045	c11 N71-21481	NASA-CASE-XLA-01326
c31 N71-21064	NASA-CASE-XGS-02554		US-PATENT-APPL-SN-422097
	US-PATENT-APPL-SN-504266		US-PATENT-CLASS-73-147
	US-PATENT-CLASS-244-1		US-PATENT-3,345,866
	US-PATENT-3,350,034	c10 N71-21483	NASA-CASE-XGS-01155
c18 N71-21068	NASA-CASE-XNP-02888		US-PATENT-APPL-SN-557871
	US-PATENT-APPL-SN-409126		US-PATENT-CLASS-343-16
	US-PATENT-CLASS-239-265.11		US-PATENT-3,344,425
	US-PATENT-3,347,465	c15 N71-21489	NASA-CASE-XNP-06914
c14 N71-21072	NASA-CASE-XAC-02981		US-PATENT-APPL-SN-590147
	US-PATENT-APPL-SN-464879		US-PATENT-CLASS-85-33
	US-PATENT-CLASS-73-398		US-PATENT-3,352,192
	US-PATENT-3,352,157	c28 N71-21493	NASA-CASE-XLA-10450
c15 N71-21076	NASA-CASE-XMS-03745		US-PATENT-APPL-SN-594587
	US-PATENT-APPL-SN-534295		US-PATENT-CLASS-239-265.19
	US-PATENT-CLASS-24-263		US-PATENT-3,347,466
	US-PATENT-3,346,929	c33 N71-21507	NASA-CASE-XLE-04603
c15 N71-21078	NASA-CASE-XNP-03459		US-PATENT-APPL-SN-638194
	US-PATENT-APPL-SN-457879		US-PATENT-CLASS-60-243
	US-PATENT-CLASS-29-495		US-PATENT-3,347,046
	US-PATENT-3,357,093	c15 N71-21528	NASA-CASE-XLA-01446
c14 N71-21079	NASA-CASE-XLA-03102		US-PATENT-APPL-SN-400613
	US-PATENT-APPL-SN-576195		US-PATENT-CLASS-53-102
	US-PATENT-CLASS-33-31		US-PATENT-3,336,725
	US-PATENT-3,364,578	c15 N71-21529	NASA-CASE-XGS-02422
c14 N71-21082	NASA-CASE-XGS-02629		US-PATENT-APPL-SN-493943
	US-PATENT-APPL-SN-500435		US-PATENT-CLASS-74-126
	US-PATENT-CLASS-244-1		US-PATENT-3,331,255
	US-PATENT-3,350,033	c15 N71-21530	NASA-CASE-XMS-03722
c14 N71-21088	NASA-CASE-XNP-06957		US-PATENT-APPL-SN-487934
	US-PATENT-APPL-SN-406097		US-PATENT-CLASS-267-64
	US-PATENT-CLASS-250-83.3		US-PATENT-3,330,549
	US-PATENT-3,348,048	c15 N71-21531	NASA-CASE-XNP-02341
c12 N71-21089	NASA-CASE-XMS-01905		US-PATENT-APPL-SN-432025
	US-PATENT-APPL-SN-280580		US-PATENT-CLASS-52-127
	US-PATENT-CLASS-141-91		US-PATENT-3,330,082
	US-PATENT-3,331,404	c15 N71-21536	NASA-CASE-XMS-06876
c14 N71-21090	NASA-CASE-XLE-00787		US-PATENT-APPL-SN-605100
	US-PATENT-APPL-SN-330210		US-PATENT-CLASS-72-34
	US-PATENT-CLASS-324-33		US-PATENT-3,345,840
	US-PATENT-3,346,806	c09 N71-21583	NASA-CASE-XLE-02008
c14 N71-21091	NASA-CASE-XNP-02983		US-PATENT-APPL-SN-487342
	US-PATENT-APPL-SN-407599		US-PATENT-CLASS-338-64
	US-PATENT-CLASS-73-88.5		US-PATENT-3,329,918
	US-PATENT-3,350,926	c33 N71-21586	NASA-CASE-XLA-01794
c15 N71-21177	NASA-CASE-XAC-06956		US-PATENT-APPL-SN-464880
	US-PATENT-APPL-SN-538166		US-PATENT-CLASS-73-86
	US-PATENT-CLASS-259-71		US-PATENT-3,357,237
	US-PATENT-3,347,531	c18 N71-21651	NASA-CASE-XNP-01402
c15 N71-21179	NASA-CASE-XLA-01401		US-PATENT-APPL-SN-328140
	US-PATENT-APPL-SN-382976		US-PATENT-CLASS-161-68
	US-PATENT-CLASS-235-61.6		US-PATENT-3,346,442
	US-PATENT-3,346,724	c21 N71-21688	NASA-CASE-XNP-00684
c15 N71-21234	NASA-CASE-XKS-02582		US-PATENT-APPL-SN-260087
	US-PATENT-APPL-SN-424153		US-PATENT-CLASS-235-150.25

ACCESSION NUMBER INDEX

c25 N71-21693	US-PATENT-3,331,951 NASA-CASE-XLA-03103 US-PATENT-APPL-SN-531642 US-PATENT-CLASS-315-111 US-PATENT-3,333,152	c14 N71-22765	NASA-CASE-XLA-00934 US-PATENT-APPL-SN-326298 US-PATENT-CLASS-73-84 US-PATENT-3,339,404
c25 N71-21694	NASA-CASE-XLE-02902 US-PATENT-APPL-SN-485957 US-PATENT-CLASS-60-202 US-PATENT-3,336,748	c33 N71-22792	NASA-CASE-XLA-01243 US-PATENT-APPL-SN-538911 US-PATENT-CLASS-244-1 US-PATENT-3,384,324
c21 N71-21708	NASA-CASE-XLA-02551 US-PATENT-APPL-SN-416940 US-PATENT-CLASS-244-1 US-PATENT-3,329,375	c09 N71-22796	NASA-CASE-XKS-03381 US-PATENT-APPL-SN-437611 US-PATENT-CLASS-317-9 US-PATENT-3,340,430
c15 N71-21744	NASA-CASE-IGS-04227 US-PATENT-APPL-SN-545805 US-PATENT-CLASS-74-409 US-PATENT-3,359,819	c15 N71-22797	NASA-CASE-XLE-01092 US-PATENT-APPL-SN-422098 US-PATENT-CLASS-72-253 US-PATENT-3,342,055
c27 N71-21819	NASA-CASE-XLE-03494 US-PATENT-APPL-SN-529593 US-PATENT-CLASS-60-251 US-PATENT-3,345,822	c15 N71-22798	NASA-CASE-XMS-04178 US-PATENT-APPL-SN-511299 US-PATENT-CLASS-83-467 US-PATENT-3,367,224
c23 N71-21821	NASA-CASE-IMP-01059 US-PATENT-APPL-SN-393464 US-PATENT-CLASS-250-232 US-PATENT-3,354,320	c15 N71-22799	NASA-CASE-IMP-03511 US-PATENT-APPL-SN-540414 US-PATENT-CLASS-90-12 US-PATENT-3,386,337
c28 N71-21822	NASA-CASE-IMP-04124 US-PATENT-APPL-SN-498168 US-PATENT-CLASS-60-202 US-PATENT-3,345,820	c15 N71-22874	NASA-CASE-XLA-00188 US-PATENT-APPL-SN-254847 US-PATENT-CLASS-102-49.5 US-PATENT-3,368,486
c26 N71-21824	NASA-CASE-IMP-05429 US-PATENT-APPL-SN-578928 US-PATENT-CLASS-103-1 US-PATENT-3,361,067	c11 N71-22875	NASA-CASE-XAC-05333 US-PATENT-APPL-SN-546148 US-PATENT-CLASS-119-15 US-PATENT-3,367,308
c31 N71-21881	NASA-CASE-IMP-02595 US-PATENT-APPL-SN-502709 US-PATENT-CLASS-244-1 US-PATENT-3,333,788	c15 N71-22877	NASA-CASE-IMP-10040 US-PATENT-APPL-SN-592680 US-PATENT-CLASS-188-1 US-PATENT-3,381,778
c23 N71-21882	NASA-CASE-IMP-03853 US-PATENT-APPL-SN-578931 US-PATENT-CLASS-88-24 US-PATENT-3,359,855	c15 N71-22878	NASA-CASE-IMS-04545 US-PATENT-APPL-SN-508601 US-PATENT-CLASS-73-144 US-PATENT-3,381,527
c15 N71-22705	NASA-CASE-IGS-02884 US-PATENT-APPL-SN-432433 US-PATENT-CLASS-51-57 US-PATENT-3,341,977	c21 N71-22880	NASA-CASE-XLA-00793 US-PATENT-APPL-SN-369334 US-PATENT-CLASS-88-1 US-PATENT-3,381,569
c15 N71-22706	NASA-CASE-IMS-09310 US-PATENT-APPL-SN-655724 US-PATENT-CLASS-137-496 US-PATENT-3,384,111	c23 N71-22881	NASA-CASE-XLE-04222 US-PATENT-APPL-SN-512559 US-PATENT-CLASS-220-9 US-PATENT-3,379,330
c08 N71-22707	NASA-CASE-IMP-04067 US-PATENT-APPL-SN-466875 US-PATENT-CLASS-340-172.5 US-PATENT-3,369,222	c09 N71-22888	NASA-CASE-XLA-03114 US-PATENT-APPL-SN-440039 US-PATENT-CLASS-343-708 US-PATENT-3,373,430
c08 N71-22710	NASA-CASE-IMP-02778 US-PATENT-APPL-SN-508170 US-PATENT-CLASS-340-172.5 US-PATENT-3,369,223	c33 N71-22890	NASA-CASE-XLA-07728 US-PATENT-APPL-SN-538908 US-PATENT-CLASS-165-96 US-PATENT-3,374,830
c15 N71-22713	NASA-CASE-XLA-03492 US-PATENT-APPL-SN-395348 US-PATENT-CLASS-156-60 US-PATENT-3,342,653	c18 N71-22894	NASA-CASE-XLE-03925 US-PATENT-APPL-SN-514407 US-PATENT-CLASS-75-204 US-PATENT-3,337,337
c15 N71-22721	NASA-CASE-IMP-03212 US-PATENT-APPL-SN-577549 US-PATENT-CLASS-55-418 US-PATENT-3,385,036	c16 N71-22895	NASA-CASE-IMS-04269 US-PATENT-APPL-SN-516793 US-PATENT-CLASS-250-199 US-PATENT-3,341,708
c15 N71-22722	NASA-CASE-XMS-04292 US-PATENT-APPL-SN-517157 US-PATENT-CLASS-82-14 US-PATENT-3,373,640	c05 N71-22896	NASA-CASE-IMS-02399 US-PATENT-APPL-SN-492344 US-PATENT-CLASS-128-2.06 US-PATENT-3,384,075
c15 N71-22723	NASA-CASE-IMP-01083 US-PATENT-APPL-SN-432028 US-PATENT-CLASS-72-83 US-PATENT-3,340,713	c08 N71-22897	NASA-CASE-IMP-01753 US-PATENT-APPL-SN-423412 US-PATENT-CLASS-235-92 US-PATENT-3,374,339
c05 N71-22748	NASA-CASE-IMS-04170 US-PATENT-APPL-SN-482311 US-PATENT-CLASS-9-312 US-PATENT-3,343,189	c10 N71-22961	NASA-CASE-IMS-02159 US-PATENT-APPL-SN-534564 US-PATENT-CLASS-323-56 US-PATENT-3,365,657
c08 N71-22749	NASA-CASE-IMP-02748 US-PATENT-APPL-SN-420245 US-PATENT-CLASS-340-146.1 US-PATENT-3,373,404	c10 N71-22962	NASA-CASE-IGS-05441 US-PATENT-APPL-SN-505321 US-PATENT-CLASS-328-233 US-PATENT-3,366,886
c07 N71-22750	NASA-CASE-IMP-01735 US-PATENT-APPL-SN-408438 US-PATENT-CLASS-343-786 US-PATENT-3,373,431	c14 N71-22964	NASA-CASE-XLE-02024 US-PATENT-APPL-SN-422099 US-PATENT-CLASS-73-15 US-PATENT-3,365,930
c14 N71-22752	NASA-CASE-IMP-01974 US-PATENT-APPL-SN-568354 US-PATENT-CLASS-73-419 US-PATENT-3,383,922	c14 N71-22965	NASA-CASE-IGS-02319 US-PATENT-APPL-SN-496205 US-PATENT-CLASS-73-117 US-PATENT-3,365,941
		c31 N71-22968	NASA-CASE-XLA-02050



ACCESSION NUMBER INDEX

	US-PATENT-APPL-SN-568067		US-PATENT-CLASS-340-174.1
	US-PATENT-CLASS-244-1		US-PATENT-3,380,042
c31 N71-22969	US-PATENT-3,386,685	c03 N71-23006	NASA-CASE-XGS-02631
	NASA-CASE-XLA-03132		US-PATENT-APPL-SN-425972
	US-PATENT-APPL-SN-610728		US-PATENT-CLASS-136-133
	US-PATENT-CLASS-244-1		US-PATENT-3,340,099
c03 N71-22974	US-PATENT-3,386,686	c02 N71-23007	NASA-CASE-XMP-04163
	NASA-CASE-XGS-02630		US-PATENT-APPL-SN-424156
	US-PATENT-APPL-SN-494287		US-PATENT-CLASS-73-189
	US-PATENT-CLASS-136-132		US-PATENT-3,340,732
	US-PATENT-3,382,107	c31 N71-23008	NASA-CASE-XLA-04804
c06 N71-22975	NASA-CASE-INP-07659		US-PATENT-APPL-SN-577546
	US-PATENT-APPL-SN-567806		US-PATENT-CLASS-102-49.5
	US-PATENT-CLASS-18-26		US-PATENT-3,384,016
	US-PATENT-3,381,339	c31 N71-23009	NASA-CASE-XGS-02607
c15 N71-22982	NASA-CASE-XLA-02809		US-PATENT-APPL-SN-474531
	US-PATENT-APPL-SN-554897		US-PATENT-CLASS-244-1
	US-PATENT-CLASS-308-176		US-PATENT-3,341,151
	US-PATENT-3,397,932	c09 N71-23015	NASA-CASE-XGS-02751
c28 N71-22983	NASA-CASE-XMP-06926		US-PATENT-APPL-SN-491059
	US-PATENT-APPL-SN-537615		US-PATENT-CLASS-307-288
	US-PATENT-CLASS-60-258		US-PATENT-3,374,366
	US-PATENT-3,336,754	c09 N71-23021	NASA-CASE-IAC-02807
c07 N71-22984	NASA-CASE-XNS-04312		US-PATENT-APPL-SN-456581
	US-PATENT-APPL-SN-521754		US-PATENT-CLASS-324-120
	US-PATENT-CLASS-343-708		US-PATENT-3,384,820
	US-PATENT-3,384,895	c15 N71-23022	NASA-CASE-XNS-01625
c09 N71-22985	NASA-CASE-XMP-03934		US-PATENT-APPL-SN-418933
	US-PATENT-APPL-SN-530958		US-PATENT-CLASS-136-86
	US-PATENT-CLASS-250-83.3		US-PATENT-3,389,017
	US-PATENT-3,379,885	c15 N71-23023	NASA-CASE-XMP-04042
c10 N71-22986	NASA-CASE-INP-01892		US-PATENT-APPL-SN-605578
	US-PATENT-APPL-SN-464878		US-PATENT-CLASS-55-204
	US-PATENT-CLASS-328-167		US-PATENT-3,397,512
	US-PATENT-3,375,451	c15 N71-23024	NASA-CASE-INP-01747
c09 N71-22987	NASA-CASE-XLE-04788		US-PATENT-APPL-SN-413661
	US-PATENT-APPL-SN-537617		US-PATENT-CLASS-251-148
	US-PATENT-CLASS-313-352		US-PATENT-3,341,169
	US-PATENT-3,396,303	c15 N71-23025	NASA-CASE-XMP-08877
c09 N71-22988	NASA-CASE-IGS-03304		US-PATENT-APPL-SN-574282
	US-PATENT-APPL-SN-483886		US-PATENT-CLASS-62-6
	US-PATENT-CLASS-73-1		US-PATENT-3,367,121
	US-PATENT-3,381,517	c07 N71-23026	NASA-CASE-INP-02791
c14 N71-22989	NASA-CASE-XLA-01551		US-PATENT-APPL-SN-390251
	US-PATENT-APPL-SN-422092		US-PATENT-CLASS-178-6
	US-PATENT-CLASS-73-190		US-PATENT-3,383,461
	US-PATENT-3,382,714	c09 N71-23027	NASA-CASE-XMP-01960
c14 N71-22990	NASA-CASE-IBS-04201		US-PATENT-APPL-SN-438135
	US-PATENT-APPL-SN-507254		US-PATENT-CLASS-29-572
	US-PATENT-CLASS-324-70		US-PATENT-3,340,599
	US-PATENT-3,379,974	c10 N71-23029	NASA-CASE-IGS-03427
c14 N71-22991	NASA-CASE-XLA-01791		US-PATENT-APPL-SN-500446
	US-PATENT-APPL-SN-462763		US-PATENT-CLASS-307-265
	US-PATENT-CLASS-250-227		US-PATENT-3,383,524
	US-PATENT-3,397,318	c11 N71-23030	NASA-CASE-XMP-03578
c14 N71-22992	NASA-CASE-XGS-01023		US-PATENT-APPL-SN-445292
	US-PATENT-APPL-SN-406131		US-PATENT-CLASS-73-147
	US-PATENT-CLASS-73-65		US-PATENT-3,342,066
	US-PATENT-3,377,845	c10 N71-23033	NASA-CASE-XMP-01318
c14 N71-22993	NASA-CASE-XNS-05365		US-PATENT-APPL-SN-380965
	US-PATENT-APPL-SN-515489		US-PATENT-CLASS-340-174
	US-PATENT-CLASS-310-8.5		US-PATENT-3,388,387
	US-PATENT-3,387,149	c14 N71-23036	NASA-CASE-XMP-01660
c15 N71-22994	NASA-CASE-XPR-05421		US-PATENT-APPL-SN-578916
	US-PATENT-APPL-SN-567686		US-PATENT-CLASS-73-4
	US-PATENT-CLASS-24-126		US-PATENT-3,383,903
	US-PATENT-3,378,892	c14 N71-23037	NASA-CASE-XAC-01662
c14 N71-22995	NASA-CASE-XMP-08680		US-PATENT-APPL-SN-385520
	US-PATENT-APPL-SN-562444		US-PATENT-CLASS-324-117
	US-PATENT-CLASS-73-9		US-PATENT-3,365,665
	US-PATENT-3,376,730	c14 N71-23039	NASA-CASE-XMP-01659
c14 N71-22996	NASA-CASE-XGS-01331		US-PATENT-APPL-SN-410332
	US-PATENT-APPL-SN-445807		US-PATENT-CLASS-136-230
	US-PATENT-CLASS-250-218		US-PATENT-3,377,208
	US-PATENT-3,388,258	c14 N71-23040	NASA-CASE-INP-05535
c15 N71-22997	NASA-CASE-XMP-01641		US-PATENT-APPL-SN-487939
	US-PATENT-APPL-SN-464885		US-PATENT-CLASS-244-1
	US-PATENT-CLASS-308-10		US-PATENT-3,339,863
	US-PATENT-3,378,315	c14 N71-23041	NASA-CASE-INP-01056
c18 N71-22998	NASA-CASE-XGS-02435		US-PATENT-APPL-SN-377146
	US-PATENT-APPL-SN-392965		US-PATENT-CLASS-250-41.9
	US-PATENT-CLASS-106-40		US-PATENT-3,340,395
	US-PATENT-3,382,082	c11 N71-23042	NASA-CASE-XNS-02930
c09 N71-22999	NASA-CASE-XLA-00781		US-PATENT-APPL-SN-417253
	US-PATENT-APPL-SN-307271		US-PATENT-CLASS-250-52
	US-PATENT-CLASS-88-14		US-PATENT-3,340,397
	US-PATENT-3,364,813	c26 N71-23043	NASA-CASE-INP-01959
c07 N71-23001	NASA-CASE-XGS-01812		US-PATENT-APPL-SN-410330
	US-PATENT-APPL-SN-392973		US-PATENT-CLASS-136-89

ACCESSION NUMBER INDEX

c17	N71-23046	US-PATENT-3, 396, 057 NASA-CASE-IMP-04338 US-PATENT-APPL-SN-461765 US-PATENT-CLASS-29-182.2 US-PATENT-3, 421, 864	c14	N71-23174	NASA-CASE-IGS-02610 US-PATENT-APPL-SN-491054 US-PATENT-CLASS-321-60 US-PATENT-3, 417, 316
c18	N71-23047	NASA-CASE-XLA-01995 US-PATENT-APPL-SN-411945 US-PATENT-CLASS-148-6.16 US-PATENT-3, 395, 053	c14	N71-23175	NASA-CASE-IGS-03509 US-PATENT-APPL-SN-566392 US-PATENT-CLASS-356-166 US-PATENT-3, 414, 358
c15	N71-23048	NASA-CASE-IMP-03972 US-PATENT-APPL-SN-502710 US-PATENT-CLASS-184-1 US-PATENT-3, 367, 445	c04	N71-23185	NASA-CASE-IAC-05422 US-PATENT-APPL-SN-483885 US-PATENT-CLASS-128-2.05 US-PATENT-3, 412, 729
c15	N71-23049	NASA-CASE-IMP-01049 US-PATENT-APPL-SN-506137 US-PATENT-CLASS-339-5 US-PATENT-3, 375, 479	c03	N71-23187	NASA-CASE-IGS-03390 US-PATENT-APPL-SN-551182 US-PATENT-CLASS-136-89 US-PATENT-3, 419, 433
c15	N71-23050	NASA-CASE-IMP-01730 US-PATENT-APPL-SN-517869 US-PATENT-CLASS-228-8 US-PATENT-3, 373, 914	c09	N71-23188	NASA-CASE-IMP-14301 US-PATENT-APPL-SN-697341 US-PATENT-CLASS-321-2 US-PATENT-3, 470, 446
c15	N71-23051	NASA-CASE-IAC-01158 US-PATENT-APPL-SN-420250 US-PATENT-CLASS-137-625.5 US-PATENT-3, 369, 564	c09	N71-23189	NASA-CASE-IMP-06028 US-PATENT-APPL-SN-649356 US-PATENT-CLASS-315-26 US-PATENT-3, 431, 460
c15	N71-23052	NASA-CASE-XLA-03497 US-PATENT-APPL-SN-392992 US-PATENT-CLASS-156-285 US-PATENT-3, 373, 069	c09	N71-23190	NASA-CASE-XLE-04501 US-PATENT-APPL-SN-522794 US-PATENT-CLASS-313-231 US-PATENT-3, 413, 510
c05	N71-23080	NASA-CASE-XLE-02531 US-PATENT-APPL-SN-425096 US-PATENT-CLASS-312-1 US-PATENT-3, 337, 279	c09	N71-23191	NASA-CASE-IGS-05890 US-PATENT-APPL-SN-650166 US-PATENT-CLASS-137-554 US-PATENT-3, 414, 012
c28	N71-23081	NASA-CASE-IMP-02923 US-PATENT-APPL-SN-494280 US-PATENT-CLASS-60-202 US-PATENT-3, 367, 114	c14	N71-23225	NASA-CASE-IMP-04817 US-PATENT-APPL-SN-516152 US-PATENT-CLASS-73-12 US-PATENT-3, 412, 598
c10	N71-23084	NASA-CASE-XLA-01219 US-PATENT-APPL-SN-402978 US-PATENT-CLASS-332-1 US-PATENT-3, 366, 894	c14	N71-23226	NASA-CASE-IMP-06509 US-PATENT-APPL-SN-570095 US-PATENT-CLASS-73-194 US-PATENT-3, 411, 356
c33	N71-23085	NASA-CASE-IMP-03802 US-PATENT-APPL-SN-460877 US-PATENT-CLASS-73-190 US-PATENT-3, 367, 182	c14	N71-23227	NASA-CASE-IMP-06515 US-PATENT-APPL-SN-548808 US-PATENT-CLASS-73-432 US-PATENT-3, 408, 870
c15	N71-23086	NASA-CASE-IGS-04533 US-PATENT-APPL-SN-557016 US-PATENT-CLASS-202-234 US-PATENT-3, 397, 117	c06	N71-23230	NASA-CASE-IMP-06409 US-PATENT-APPL-SN-575930 US-PATENT-CLASS-260-448.2 US-PATENT-3, 433, 818
c14	N71-23087	NASA-CASE-IMP-03918 US-PATENT-APPL-SN-510475 US-PATENT-CLASS-73-88.5 US-PATENT-3, 388, 590	c03	N71-23239	NASA-CASE-IMP-08217 US-PATENT-APPL-SN-688807 US-PATENT-CLASS-321-2 US-PATENT-3, 470, 443
c18	N71-23088	NASA-CASE-IMP-00597 US-PATENT-APPL-SN-410325 US-PATENT-CLASS-65-7 US-PATENT-3, 337, 315	c14	N71-23240	NASA-CASE-XLA-00941 US-PATENT-APPL-SN-508873 US-PATENT-CLASS-250-227 US-PATENT-3, 407, 304
c14	N71-23092	NASA-CASE-XLA-01530 US-PATENT-APPL-SN-420466 US-PATENT-CLASS-188-1 US-PATENT-3, 337, 004	c17	N71-23248	NASA-CASE-XLE-03629 US-PATENT-APPL-SN-554950 US-PATENT-CLASS-75-170 US-PATENT-3, 415, 643
c14	N71-23093	NASA-CASE-XLE-03280 US-PATENT-APPL-SN-517156 US-PATENT-CLASS-73-400 US-PATENT-3, 379, 064	c15	N71-23254	NASA-CASE-IMP-05302 US-PATENT-APPL-SN-685463 US-PATENT-CLASS-85-7 US-PATENT-3, 443, 472
c05	N71-23096	NASA-CASE-IGS-06064 US-PATENT-APPL-SN-563646 US-PATENT-CLASS-2-14 US-PATENT-3, 378, 851	c15	N71-23255	NASA-CASE-IGS-07487 US-PATENT-APPL-SN-580365 US-PATENT-CLASS-244-83 US-PATENT-3, 409, 252
c09	N71-23097	NASA-CASE-IMP-02140 US-PATENT-APPL-SN-440036 US-PATENT-CLASS-330-61 US-PATENT-3, 337, 812	c15	N71-23256	NASA-CASE-IMP-03290 US-PATENT-APPL-SN-479353 US-PATENT-CLASS-53-22 US-PATENT-3, 415, 032
c07	N71-23098	NASA-CASE-IGS-00740 US-PATENT-APPL-SN-353644 US-PATENT-CLASS-325-305 US-PATENT-3, 341, 778	c14	N71-23267	NASA-CASE-XLE-04026 US-PATENT-APPL-SN-617770 US-PATENT-CLASS-13-26 US-PATENT-3, 470, 304
c10	N71-23099	NASA-CASE-IMP-08875 US-PATENT-APPL-SN-640455 US-PATENT-CLASS-343-6.5 US-PATENT-3, 380, 049	c14	N71-23268	NASA-CASE-XLA-01907 US-PATENT-APPL-SN-335441 US-PATENT-CLASS-356-72 US-PATENT-3, 419, 329
c05	N71-23159	NASA-CASE-IMP-06589 US-PATENT-APPL-SN-543206 US-PATENT-CLASS-5-82 US-PATENT-3, 343, 180	c14	N71-23269	NASA-CASE-XLA-01584 US-PATENT-APPL-SN-416943 US-PATENT-CLASS-250-203 US-PATENT-3, 389, 260
c05	N71-23161	NASA-CASE-IAC-07043 US-PATENT-APPL-SN-566397 US-PATENT-CLASS-2-2.1 US-PATENT-3, 405, 406	c09	N71-23270	NASA-CASE-IGS-04919 US-PATENT-APPL-SN-516155 US-PATENT-CLASS-307-263 US-PATENT-3, 417, 266
			c10	N71-23271	NASA-CASE-IMP-00952

ACCESSION NUMBER INDEX

	US-PATENT-APPL-SN-388967		US-PATENT-CLASS-332-19
	US-PATENT-CLASS-317-148.5		US-PATENT-3,393,380
	US-PATENT-3,417,298	c09 N71-23545	NASA-CASE-XMF-04367
c21 N71-23289	NASA-CASE-XMF-01669		US-PATENT-APPL-SN-457874
	US-PATENT-APPL-SN-399419		US-PATENT-CLASS-307-235
	US-PATENT-CLASS-74-5.47		US-PATENT-3,404,289
	US-PATENT-3,415,126	c09 N71-23548	NASA-CASE-XNP-06507
c26 N71-23292	NASA-CASE-XLB-10715		US-PATENT-APPL-SN-605099
	US-PATENT-APPL-SN-603397		US-PATENT-CLASS-333-98
	US-PATENT-CLASS-252-62.3		US-PATENT-3,419,827
	US-PATENT-3,409,554	c09 N71-23573	NASA-CASE-XGS-01418
c28 N71-23293	NASA-CASE-XRP-06942		US-PATENT-APPL-SN-392969
	US-PATENT-APPL-SN-563651		US-PATENT-CLASS-333-73
	US-PATENT-CLASS-60-202		US-PATENT-3,393,384
	US-PATENT-3,412,559	c09 N71-23598	NASA-CASE-XER-11019
c08 N71-23295	NASA-CASE-XNP-04819		US-PATENT-APPL-SN-711971
	US-PATENT-APPL-SN-502701		US-PATENT-CLASS-331-78
	US-PATENT-CLASS-340-146.2		US-PATENT-3,470,489
	US-PATENT-3,390,378	c22 N71-23599	NASA-CASE-XLB-01903
c09 N71-23311	NASA-CASE-XGS-03632		US-PATENT-APPL-SN-466868
	US-PATENT-APPL-SN-502739		US-PATENT-CLASS-310-4
	US-PATENT-CLASS-307-260		US-PATENT-3,393,330
	US-PATENT-3,390,282	c26 N71-23654	NASA-CASE-XLE-02798
c10 N71-23315	NASA-CASE-XLA-03356		US-PATENT-APPL-SN-660571
	US-PATENT-APPL-SN-536216		US-PATENT-CLASS-148-1.5
	US-PATENT-CLASS-307-234		US-PATENT-3,390,020
	US-PATENT-3,448,290	c18 N71-23658	NASA-CASE-XLE-02647
c09 N71-23316	NASA-CASE-XMS-09352		US-PATENT-APPL-SN-430226
	US-PATENT-APPL-SN-564919		US-PATENT-CLASS-220-9
	US-PATENT-CLASS-323-22		US-PATENT-3,392,664
	US-PATENT-3,417,321	c10 N71-23662	NASA-CASE-XGS-01118
c05 N71-23317	NASA-CASE-XMS-06061		US-PATENT-APPL-SN-408442
	US-PATENT-APPL-SN-605092		US-PATENT-CLASS-235-154
	US-PATENT-CLASS-307-260		US-PATENT-3,399,299
	US-PATENT-3,467,837	c10 N71-23663	NASA-CASE-XKS-04631
c03 N71-23336	NASA-CASE-XGS-01513		US-PATENT-APPL-SN-663180
	US-PATENT-APPL-SN-502756		US-PATENT-CLASS-200-82
	US-PATENT-CLASS-136-166		US-PATENT-3,433,909
	US-PATENT-3,390,017	c10 N71-23669	NASA-CASE-XAC-10607
c03 N71-23354	NASA-CASE-XLE-04535		US-PATENT-APPL-SN-694345
	US-PATENT-APPL-SN-588671		US-PATENT-CLASS-331-111
	US-PATENT-CLASS-250-212		US-PATENT-3,470,495
	US-PATENT-3,437,818	c14 N71-23698	NASA-CASE-XGS-08259
c17 N71-23365	NASA-CASE-XNP-03063		US-PATENT-APPL-SN-666551
	US-PATENT-APPL-SN-521994		US-PATENT-CLASS-242-192
	US-PATENT-CLASS-75-172		US-PATENT-3,460,781
	US-PATENT-3,413,115	c14 N71-23699	NASA-CASE-XMF-10289
c14 N71-23401	NASA-CASE-XGS-03230		US-PATENT-APPL-SN-674356
	US-PATENT-APPL-SN-517158		US-PATENT-CLASS-324-72
	US-PATENT-CLASS-250-83		US-PATENT-3,470,466
	US-PATENT-3,419,992	c18 N71-23710	NASA-CASE-XLE-08511
c07 N71-23405	NASA-CASE-XGS-01537		US-PATENT-APPL-SN-635972
	US-PATENT-APPL-SN-432026		US-PATENT-CLASS-29-182.1
	US-PATENT-CLASS-325-163		US-PATENT-3,419,363
	US-PATENT-3,417,332	c30 N71-23723	NASA-CASE-XNP-09832
c09 N71-23443	NASA-CASE-XLB-02823		US-PATENT-APPL-SN-632163
	US-PATENT-APPL-SN-491058		US-PATENT-CLASS-343-100
	US-PATENT-CLASS-310-10		US-PATENT-3,417,399
	US-PATENT-3,393,332	c14 N71-23725	NASA-CASE-XGS-01013
c03 N71-23449	NASA-CASE-XLE-08569		US-PATENT-APPL-SN-665209
	US-PATENT-APPL-SN-641420		US-PATENT-CLASS-73-133
	US-PATENT-CLASS-136-89		US-PATENT-3,460,381
	US-PATENT-3,472,698	c14 N71-23726	NASA-CASE-XMF-05224
c01 N71-23497	NASA-CASE-XLA-01486		US-PATENT-APPL-SN-660842
	US-PATENT-APPL-SN-484485		US-PATENT-CLASS-73-189
	US-PATENT-CLASS-244-13		US-PATENT-3,465,584
	US-PATENT-3,392,936	c14 N71-23755	NASA-CASE-XMF-04134
c06 N71-23499	NASA-CASE-XNP-03835		US-PATENT-APPL-SN-610723
	US-PATENT-APPL-SN-456874		US-PATENT-CLASS-73-4
	US-PATENT-CLASS-44-77		US-PATENT-3,472,059
	US-PATENT-3,393,059	c14 N71-23790	NASA-CASE-XAC-04885
c06 N71-23500	NASA-CASE-XNP-03250		US-PATENT-APPL-SN-573432
	US-PATENT-APPL-SN-485058		US-PATENT-CLASS-73-141
	US-PATENT-CLASS-260-85.5		US-PATENT-3,415,116
	US-PATENT-3,419,537	c14 N71-23797	NASA-CASE-XNP-06510
c09 N71-23525	NASA-CASE-XGS-02317		US-PATENT-APPL-SN-562445
	US-PATENT-APPL-SN-576183		US-PATENT-CLASS-250-203
	US-PATENT-CLASS-328-61		US-PATENT-3,417,237
	US-PATENT-3,464,018	c15 N71-23798	NASA-CASE-XNP-02330
c06 N71-23527	NASA-CASE-XLE-01997		US-PATENT-APPL-SN-608944
	US-PATENT-APPL-SN-427990		US-PATENT-CLASS-219-130
	US-PATENT-CLASS-23-230		US-PATENT-3,469,069
	US-PATENT-3,472,625	c15 N71-23809	NASA-CASE-XAC-10019
c10 N71-23543	NASA-CASE-XMS-00913		US-PATENT-APPL-SN-686209
	US-PATENT-APPL-SN-416945		US-PATENT-CLASS-74-89.18
	US-PATENT-CLASS-317-31		US-PATENT-3,472,086
	US-PATENT-3,393,347	c15 N71-23810	NASA-CASE-XLE-05033
c10 N71-23544	NASA-CASE-XNP-05382		US-PATENT-APPL-SN-510474
	US-PATENT-APPL-SN-536217		US-PATENT-CLASS-252-12

ACCESSION NUMBER INDEX

c15 N71-23811	US-PATENT-3,466,243 NASA-CASE-XNP-05297 US-PATENT-APPL-SN-640458 US-PATENT-CLASS-72-354	c16 N71-24170	NASA-CASE-XLA-04295 US-PATENT-APPL-SN-546149 US-PATENT-CLASS-356-107 US-PATENT-3,468,609
c15 N71-23812	US-PATENT-3,443,412 NASA-CASE-XNP-07808 US-PATENT-APPL-SN-684178 US-PATENT-CLASS-308-2	c18 N71-24183	NASA-CASE-XGS-04799 US-PATENT-APPL-SN-452944 US-PATENT-CLASS-106-84 US-PATENT-3,416,939
c15 N71-23815	US-PATENT-3,463,563 NASA-CASE-XMP-07069 US-PATENT-APPL-SN-672382 US-PATENT-CLASS-219-125	c18 N71-24184	NASA-CASE-XNP-02139 US-PATENT-APPL-SN-430777 US-PATENT-CLASS-106-84 US-PATENT-3,434,855
c15 N71-23816	US-PATENT-3,469,068 NASA-CASE-XLE-03803 US-PATENT-APPL-SN-505765 US-PATENT-CLASS-220-9	c14 N71-24232	US-PATENT-3,434,855 NASA-CASE-XAC-04458 US-PATENT-APPL-SN-534975 US-PATENT-CLASS-73-400
c15 N71-23817	US-PATENT-3,392,865 NASA-CASE-XLE-06773 US-PATENT-APPL-SN-646124 US-PATENT-CLASS-72-467	c14 N71-24233	US-PATENT-3,392,586 NASA-CASE-XGS-04478 US-PATENT-APPL-SN-566717 US-PATENT-CLASS-73-88.5
c17 N71-23828	US-PATENT-3,469,436 NASA-CASE-XMP-02303 US-PATENT-APPL-SN-453229 US-PATENT-CLASS-148-6.20	c14 N71-24234	US-PATENT-3,460,378 NASA-CASE-XMP-10968 US-PATENT-APPL-SN-644447 US-PATENT-CLASS-73-15.6
c31 N71-23912	US-PATENT-3,416,975 NASA-CASE-XMP-05941 US-PATENT-APPL-SN-653277 US-PATENT-CLASS-244-1	c33 N71-24276	US-PATENT-3,469,437 NASA-CASE-XLA-02059 US-PATENT-APPL-SN-576182 US-PATENT-CLASS-165-12
c28 N71-23968	US-PATENT-3,443,773 NASA-CASE-XLE-04857 US-PATENT-APPL-SN-621742 US-PATENT-CLASS-239-127.1	c32 N71-24285	US-PATENT-3,406,742 NASA-CASE-XMP-02392 US-PATENT-APPL-SN-596735 US-PATENT-CLASS-73-49.2
c32 N71-23971	US-PATENT-3,460,759 NASA-CASE-XAC-05632 US-PATENT-APPL-SN-568355 US-PATENT-CLASS-244-77	c31 N71-24315	US-PATENT-3,399,574 NASA-CASE-XLA-04901 US-PATENT-APPL-SN-586325 US-PATENT-CLASS-244-1
c23 N71-23976	US-PATENT-3,412,961 NASA-CASE-XLA-01987 US-PATENT-APPL-SN-542713 US-PATENT-CLASS-346-107	c28 N71-24321	US-PATENT-3,405,887 NASA-CASE-XNP-03692 US-PATENT-APPL-SN-640787 US-PATENT-CLASS-60-263
c31 N71-24035	US-PATENT-3,392,403 NASA-CASE-XLA-01027 US-PATENT-APPL-SN-494283 US-PATENT-CLASS-52-272	c07 N71-24583	US-PATENT-3,443,384 NASA-CASE-NPO-10096 US-PATENT-APPL-SN-730700 US-PATENT-CLASS-329-140
c15 N71-24042	US-PATENT-3,416,274 NASA-CASE-XNP-04731 US-PATENT-APPL-SN-534966 US-PATENT-CLASS-103-48	c09 N71-24595	US-PATENT-3,533,001 NASA-CASE-GSC-10021-1 US-PATENT-APPL-SN-790420 US-PATENT-CLASS-343-7.5
c15 N71-24043	US-PATENT-3,367,271 NASA-CASE-XKS-03338 US-PATENT-APPL-SN-547072 US-PATENT-CLASS-89-1.806	c09 N71-24596	US-PATENT-3,540,045 NASA-CASE-XNP-01306-2 US-PATENT-APPL-SN-684083 US-PATENT-CLASS-328-133
c15 N71-24044	US-PATENT-3,415,156 NASA-CASE-XMP-06888 US-PATENT-APPL-SN-591000 US-PATENT-CLASS-62-40	c09 N71-24597	US-PATENT-3,509,475 NASA-CASE-ARC-10132-1 US-PATENT-APPL-SN-759460 US-PATENT-CLASS-73-398
c15 N71-24045	US-PATENT-3,415,069 NASA-CASE-XGS-04548 US-PATENT-APPL-SN-672383 US-PATENT-CLASS-74-100	c15 N71-24599	US-PATENT-3,545,275 NASA-CASE-HSC-12052-1 US-PATENT-APPL-SN-770371 US-PATENT-CLASS-254-150
c15 N71-24046	US-PATENT-3,460,397 NASA-CASE-XLE-10337 US-PATENT-APPL-SN-594633 US-PATENT-CLASS-252-26	c15 N71-24600	US-PATENT-CLASS-254-173 US-PATENT-CLASS-254-186 US-PATENT-3,545,725 NASA-CASE-IGS-08718
c15 N71-24047	US-PATENT-3,391,080 NASA-CASE-XGS-03120 US-PATENT-APPL-SN-485958 US-PATENT-CLASS-156-3	c03 N71-24605	US-PATENT-APPL-SN-785611 US-PATENT-CLASS-9-9 US-PATENT-CLASS-74-2 US-PATENT-CLASS-89-1.5
c16 N71-24074	US-PATENT-3,470,043 NASA-CASE-XLA-03375 US-PATENT-APPL-SN-512562 US-PATENT-CLASS-356-104	c05 N71-24606	US-PATENT-CLASS-244-1 US-PATENT-CLASS-244-150 US-PATENT-3,540,676 NASA-CASE-XNP-04758
c17 N71-24142	US-PATENT-3,446,558 NASA-CASE-XLE-06969 US-PATENT-APPL-SN-655675 US-PATENT-CLASS-148-126	c06 N71-24607	US-PATENT-APPL-SN-557861 US-PATENT-CLASS-320-17 US-PATENT-3,413,536 NASA-CASE-XKS-10804
c33 N71-24145	US-PATENT-3,463,679 NASA-CASE-XLE-03432 US-PATENT-APPL-SN-559349 US-PATENT-CLASS-13-35	c07 N71-24612	US-PATENT-CLASS-35-17 US-PATENT-3,508,347 NASA-CASE-XNP-09699 US-PATENT-APPL-SN-711972
c05 N71-24147	US-PATENT-3,409,730 NASA-CASE-XMS-10269 US-PATENT-APPL-SN-590158 US-PATENT-CLASS-165-46	c07 N71-24613	US-PATENT-CLASS-73-17 US-PATENT-3,546,920 NASA-CASE-XMP-06092 US-PATENT-APPL-SN-550088
c15 N71-24164	US-PATENT-3,425,486 NASA-CASE-XLA-01494 US-PATENT-APPL-SN-499122 US-PATENT-CLASS-156-545		US-PATENT-CLASS-178-7.1 US-PATENT-3,470,318 NASA-CASE-NPO-10851 US-PATENT-APPL-SN-805406
	US-PATENT-3,416,988		US-PATENT-CLASS-325-325

ACCESSION NUMBER INDEX

	US-PATENT-3,551,816		US-PATENT-APPL-SN-8498
c07 N71-24614	NASA-CASE-XKS-09340		US-PATENT-CLASS-128-2.1
	US-PATENT-APPL-SN-666555	c05 N71-24730	US-PATENT-3,548,812
	US-PATENT-CLASS-343-703		NASA-CASE-XMS-09637-1
	US-PATENT-3,540,056		US-PATENT-APPL-SN-785710
c09 N71-24618	NASA-CASE-PHC-10029		US-PATENT-CLASS-2-2.1
	US-PATENT-APPL-SN-760389		US-PATENT-3,537,107
	US-PATENT-CLASS-128-2.06	c28 N71-24736	NASA-CASE-XLF-03157
	US-PATENT-3,547,105		US-PATENT-APPL-SN-591014
c07 N71-24621	NASA-CASE-GSC-10118-1		US-PATENT-CLASS-60-240
	US-PATENT-APPL-SN-783375		US-PATENT-3/408,816
	US-PATENT-CLASS-179-15	c05 N71-24738	NASA-CASE-ARC-10100-1
	US-PATENT-CLASS-325-4		US-PATENT-APPL-SN-797058
	US-PATENT-CLASS-343-100		US-PATENT-CLASS-128-24
	US-PATENT-3,546,386		US-PATENT-CLASS-128-25
c07 N71-24622	NASA-CASE-NPO-10388		US-PATENT-3,550,585
	US-PATENT-APPL-SN-725432	c06 N71-24739	NASA-CASE-ARC-10098-1
	US-PATENT-CLASS-179-15		US-PATENT-APPL-SN-702967
	US-PATENT-CLASS-324-77		US-PATENT-CLASS-260-2.5
	US-PATENT-3,548,107		US-PATENT-3,549,564
c05 N71-24623	NASA-CASE-XMS-09635	c06 N71-24740	NASA-CASE-XMF-03074
	US-PATENT-APPL-SN-586329		US-PATENT-APPL-SN-593595
	US-PATENT-CLASS-2-2.1		US-PATENT-CLASS-260-72.5
	US-PATENT-3,516,091		US-PATENT-3,516,971
c07 N71-24624	NASA-CASE-GSC-10131-1	c07 N71-24741	NASA-CASE-NPO-10118
	US-PATENT-APPL-SN-754055		US-PATENT-APPL-SN-704465
	US-PATENT-CLASS-340-172.5		US-PATENT-CLASS-235-152
	US-PATENT-3,546,684		US-PATENT-3,541,314
c07 N71-24625	NASA-CASE-XMS-09610	c07 N71-24742	NASA-CASE-NPO-10140
	US-PATENT-APPL-SN-766170		US-PATENT-APPL-SN-691737
	US-PATENT-CLASS-343-113		US-PATENT-CLASS-187-7.1
	US-PATENT-3,540,954		US-PATENT-3,541,250
c08 N71-24633	NASA-CASE-NPO-10567	c31 N71-24750	NASA-CASE-XGS-01654
	US-PATENT-APPL-SN-679055		US-PATENT-APPL-SN-434148
	US-PATENT-CLASS-235-153		US-PATENT-CLASS-102-50
	US-PATENT-3,517,171		US-PATENT-3,282,541
c08 N71-24650	NASA-CASE-NPO-10150	c10 N71-24798	NASA-CASE-XLE-03061-1
	US-PATENT-APPL-SN-660843		US-PATENT-APPL-SN-632152
	US-PATENT-CLASS-340-347		US-PATENT-CLASS-340-412
	US-PATENT-3,537,103		US-PATENT-3,546,694
c15 N71-24679	NASA-CASE-XNP-10475	c10 N71-24799	NASA-CASE-XNP-06505
	US-PATENT-APPL-SN-763868		US-PATENT-APPL-SN-562933
	US-PATENT-CLASS-72-369		US-PATENT-CLASS-307-254
	US-PATENT-3,546,917		US-PATENT-3,501,648
c03 N71-24681	NASA-CASE-XLE-08569-2	c09 N71-24800	NASA-CASE-ERC-10075
	US-PATENT-APPL-SN-829825		US-PATENT-APPL-SN-775870
	US-PATENT-CLASS-29-572		US-PATENT-CLASS-321-45
	US-PATENT-3,541,679		US-PATENT-3,539,905
c12 N71-24692	NASA-CASE-XFR-02007	c09 N71-24803	NASA-CASE-NPO-10242
	US-PATENT-APPL-SN-378080		US-PATENT-APPL-SN-749181
	US-PATENT-CLASS-73-389		US-PATENT-CLASS-307-88
	US-PATENT-3,273,399		US-PATENT-3,541,346
c14 N71-24693	NASA-CASE-XMF-04415	c09 N71-24804	NASA-CASE-GSC-10299-1
	US-PATENT-APPL-SN-644466		US-PATENT-APPL-SN-836367
	US-PATENT-CLASS-33-174		US-PATENT-CLASS-343-100
	US-PATENT-3,360,864		US-PATENT-3,540,050
c15 N71-24694	NASA-CASE-GSC-10306-1	c09 N71-24805	NASA-CASE-XMF-06892
	US-PATENT-APPL-SN-789278		US-PATENT-APPL-SN-757875
	US-PATENT-CLASS-248-358		US-PATENT-CLASS-318-318
	US-PATENT-3,537,672		US-PATENT-3,546,553
c15 N71-24695	NASA-CASE-XNP-06936	c09 N71-24806	NASA-CASE-NPO-10198
	US-PATENT-APPL-SN-640786		US-PATENT-APPL-SN-723804
	US-PATENT-CLASS-318-382		US-PATENT-CLASS-328-165
	US-PATENT-3,487,281		US-PATENT-3,550,023
c15 N71-24696	NASA-CASE-NPO-10173	c09 N71-24807	NASA-CASE-HPS-14114-2
	US-PATENT-APPL-SN-796360		US-PATENT-APPL-SN-854815
	US-PATENT-CLASS-310-101		US-PATENT-CLASS-165-105
	US-PATENT-3,535,570		US-PATENT-CLASS-165-107
c09 N71-24717	NASA-CASE-XMF-08804		US-PATENT-CLASS-165-138
	US-PATENT-APPL-SN-683606		US-PATENT-CLASS-310-4
	US-PATENT-CLASS-324-181		US-PATENT-3,537,515
	US-PATENT-3,543,159	c09 N71-24808	NASA-CASE-XNP-08880
c03 N71-24718	NASA-CASE-HSC-10960-1		US-PATENT-APPL-SN-605094
	US-PATENT-APPL-SN-751198		US-PATENT-CLASS-333-98
	US-PATENT-CLASS-204-305		US-PATENT-3,416,106
	US-PATENT-3,547,801	c14 N71-24809	NASA-CASE-XNP-08961
c03 N71-24719	NASA-CASE-GSC-10487-1		US-PATENT-APPL-SN-661170
	US-PATENT-APPL-SN-828983		US-PATENT-CLASS-250-84
	US-PATENT-CLASS-320-39		US-PATENT-3,487,216
	US-PATENT-3,541,422	c31 N71-24813	NASA-CASE-XAC-06029-1
c23 N71-24725	NASA-CASE-GSC-10188-1		US-PATENT-APPL-SN-588651
	US-PATENT-APPL-SN-791888		US-PATENT-CLASS-343-100
	US-PATENT-CLASS-62-384		US-PATENT-3,540,048
	US-PATENT-3,545,226	c16 N71-24828	NASA-CASE-XAC-10770-1
c05 N71-24728	NASA-CASE-HSC-12243-1		US-PATENT-APPL-SN-690997
	US-PATENT-APPL-SN-857445		US-PATENT-CLASS-356-28
	US-PATENT-CLASS-244-1		US-PATENT-3,547,540
	US-PATENT-3,537,668	c17 N71-24830	NASA-CASE-XNP-04148
c05 N71-24729	NASA-CASE-HSC-13282-1		US-PATENT-APPL-SN-536210

ACCESSION NUMBER INDEX

	US-PATENT-CLASS-204-38		US-PATENT-CLASS-235-155
	US-PATENT-3,472,742		US-PATENT-3,535,497
c16 N71-24831	NASA-CASE-NPO-10548	c08 N71-24891	NASA-CASE-IMP-09759
	US-PATENT-APPL-SN-775072		US-PATENT-APPL-SN-606462
	US-PATENT-CLASS-330-4		US-PATENT-CLASS-235-92
	US-PATENT-3,486,123		US-PATENT-3,541,312
c16 N71-24832	NASA-CASE-ERC-10178	c09 N71-24892	NASA-CASE-NPO-10716
	US-PATENT-APPL-SN-800973		US-PATENT-APPL-SN-851394
	US-PATENT-CLASS-331-94.5		US-PATENT-CLASS-307-104
	US-PATENT-3,550,034		US-PATENT-CLASS-317-123
c15 N71-24833	NASA-CASE-IMP-03793		US-PATENT-CLASS-317-148.5
	US-PATENT-APPL-SN-453225		US-PATENT-3,549,955
	US-PATENT-CLASS-72-56	c09 N71-24893	NASA-CASE-ERC-10125
	US-PATENT-3,360,972		US-PATENT-APPL-SN-773029
c15 N71-24834	NASA-CASE-IMP-05634		US-PATENT-CLASS-323-56
	US-PATENT-APPL-SN-605096		US-PATENT-3,541,428
	US-PATENT-CLASS-73-95	c15 N71-24895	NASA-CASE-ILA-07473
	US-PATENT-3,460,379		US-PATENT-APPL-SN-839935
c15 N71-24835	NASA-CASE-NPO-10123		US-PATENT-CLASS-318-265
	US-PATENT-APPL-SN-731388		US-PATENT-3,546,552
	US-PATENT-CLASS-128-272	c15 N71-24896	NASA-CASE-ERC-10034
	US-PATENT-CLASS-128-275		US-PATENT-APPL-SN-763706
	US-PATENT-3,540,449		US-PATENT-CLASS-250-43.5
c15 N71-24836	NASA-CASE-XLE-08917-2		US-PATENT-3,549,882
	US-PATENT-APPL-SN-852131	c15 N71-24897	NASA-CASE-ILA-03538
	US-PATENT-CLASS-72-60		US-PATENT-APPL-SN-749149
	US-PATENT-3,541,825		US-PATENT-CLASS-294-83
c07 N71-24840	NASA-CASE-NPO-10649		US-PATENT-3,508,779
	US-PATENT-APPL-SN-795182	c15 N71-24903	NASA-CASE-MFS-20395
	US-PATENT-CLASS-325-113		US-PATENT-APPL-SN-830715
	US-PATENT-3,541,450		US-PATENT-CLASS-285-38
c09 N71-24841	NASA-CASE-IMP-09771		US-PATENT-CLASS-285-314
	US-PATENT-APPL-SN-698630		US-PATENT-CLASS-285-317
	US-PATENT-CLASS-333-83		US-PATENT-CLASS-285-406
	US-PATENT-3,541,479		US-PATENT-3,545,792
c09 N71-24842	NASA-CASE-MSC-12209	c09 N71-24904	NASA-CASE-MFS-20385
	US-PATENT-APPL-SN-881039		US-PATENT-APPL-SN-853716
	US-PATENT-CLASS-343-797		US-PATENT-CLASS-310-10
	US-PATENT-3,546,705		US-PATENT-3,541,361
c09 N71-24843	NASA-CASE-IMP-06617	c15 N71-24910	NASA-CASE-ERC-10045
	US-PATENT-APPL-SN-656993		US-PATENT-APPL-SN-763685
	US-PATENT-CLASS-324-71		US-PATENT-CLASS-73-40.7
	US-PATENT-3,541,439		US-PATENT-3,548,636
c10 N71-24844	NASA-CASE-NPO-10169	c17 N71-24911	NASA-CASE-XLE-04946
	US-PATENT-APPL-SN-701733		US-PATENT-APPL-SN-605093
	US-PATENT-CLASS-328-171		US-PATENT-CLASS-118-308
	US-PATENT-3,541,459		US-PATENT-3,472,202
c23 N71-24857	NASA-CASE-IMS-06056-1	c18 N71-24934	NASA-CASE-NPO-10051
	US-PATENT-APPL-SN-532006		US-PATENT-APPL-SN-711898
	US-PATENT-CLASS-350-189		US-PATENT-CLASS-73-38
	US-PATENT-3,472,577		US-PATENT-3,548,633
c33 N71-24858	NASA-CASE-MFS-14253	c21 N71-24948	NASA-CASE-ERC-10090
	US-PATENT-APPL-SN-709622		US-PATENT-APPL-SN-811542
	US-PATENT-CLASS-161-69		US-PATENT-CLASS-303-112
	US-PATENT-3,551,266		US-PATENT-3,550,129
c10 N71-24861	NASA-CASE-IMP-05195	c11 N71-24964	NASA-CASE-NPO-10141
	US-PATENT-APPL-SN-785595		US-PATENT-APPL-SN-673227
	US-PATENT-CLASS-318-599		US-PATENT-CLASS-62-55.5
	US-PATENT-3,523,228		US-PATENT-3,443,390
c10 N71-24862	NASA-CASE-FRC-10010	c15 N71-24984	NASA-CASE-MFS-14971
	US-PATENT-APPL-SN-771937		US-PATENT-APPL-SN-827579
	US-PATENT-CLASS-307-235		US-PATENT-CLASS-74-468
	US-PATENT-3,543,050		US-PATENT-3,541,875
c10 N71-24863	NASA-CASE-IMP-02966	c11 N71-24985	NASA-CASE-KSC-10126
	US-PATENT-APPL-SN-560968		US-PATENT-APPL-SN-845973
	US-PATENT-CLASS-324-70		US-PATENT-CLASS-73-15
	US-PATENT-3,406,336		US-PATENT-3,545,252
c14 N71-24864	NASA-CASE-XLE-04503	c10 N71-25139	NASA-CASE-MFS-10068
	US-PATENT-APPL-SN-606463		US-PATENT-APPL-SN-700541
	US-PATENT-CLASS-250-225		US-PATENT-CLASS-321-9
	US-PATENT-3,546,471		US-PATENT-3,487,288
c15 N71-24865	NASA-CASE-IMP-05114-3	c28 N71-25213	NASA-CASE-GSC-10709-1
	US-PATENT-APPL-SN-837378		US-PATENT-APPL-SN-791288
	US-PATENT-CLASS-72-56		US-PATENT-CLASS-60-202
	US-PATENT-3,540,250		US-PATENT-3,545,208
c23 N71-24868	NASA-CASE-ERC-10001	c33 N71-25351	NASA-CASE-MFS-14023
	US-PATENT-APPL-SN-712099		US-PATENT-APPL-SN-795217
	US-PATENT-CLASS-350-310		US-PATENT-CLASS-52-249
	US-PATENT-3,540,802		US-PATENT-CLASS-52-404
c15 N71-24875	NASA-CASE-ILA-06199		US-PATENT-CLASS-62-45
	US-PATENT-APPL-SN-702911		US-PATENT-CLASS-161-161
	US-PATENT-CLASS-148-6.11		US-PATENT-CLASS-220-9
	US-PATENT-3,540,942		US-PATENT-3,540,615
c33 N71-24876	NASA-CASE-IMP-05524	c33 N71-25353	NASA-CASE-MFS-20355
	US-PATENT-APPL-SN-250567		US-PATENT-APPL-SN-845974
	US-PATENT-CLASS-165-2		US-PATENT-CLASS-165-104
	US-PATENT-3,270,802		US-PATENT-CLASS-165-105
c08 N71-24890	NASA-CASE-IKS-06167		US-PATENT-CLASS-165-133
	US-PATENT-APPL-SN-649076		US-PATENT-CLASS-219-378

ACCESSION NUMBER INDEX

	US-PATENT-CLASS-219-530		US-PATENT-3,569,904
	US-PATENT-CLASS-244-1	c09 N71-26000	NASA-CASE-XNP-08667
	US-PATENT-3,548,930		US-PATENT-APPL-SN-640783
c32 N71-25360	NASA-CASE-XLA-08530		US-PATENT-CLASS-307-88
	US-PATENT-APPL-SN-808577		US-PATENT-3,466,459
	US-PATENT-CLASS-73-90	c09 N71-26002	NASA-CASE-XMS-04113-1
	US-PATENT-3,546,931		US-PATENT-APPL-SN-607484
c31 N71-25434	NASA-CASE-NSC-13047-1		US-PATENT-CLASS-178-2.1
	US-PATENT-APPL-SN-850586		US-PATENT-3,468,303
	US-PATENT-CLASS-244-1	c03 N71-26084	NASA-CASE-LEV-11358
	US-PATENT-CLASS-244-113		US-PATENT-APPL-SN-787906
	US-PATENT-CLASS-244-138		US-PATENT-CLASS-136-6
	US-PATENT-3,547,376		US-PATENT-3,554,806
c26 N71-25490	NASA-CASE-ERC-10088	c10 N71-26085	NASA-CASE-GSC-10735-1
	US-PATENT-APPL-SN-760927		US-PATENT-APPL-SN-863963
	US-PATENT-CLASS-73-141		US-PATENT-CLASS-321-2
	US-PATENT-3,537,305		US-PATENT-3,559,031
c24 N71-25555	NASA-CASE-XNP-09469	c09 N71-26092	NASA-CASE-XNP-07477
	US-PATENT-APPL-SN-645573		US-PATENT-APPL-SN-605098
	US-PATENT-CLASS-204-168		US-PATENT-CLASS-318-258
	US-PATENT-3,540,989		US-PATENT-3,501,684
c10 N71-25865	NASA-CASE-RSC-10002	c18 N71-26100	NASA-CASE-XLA-04251
	US-PATENT-APPL-SN-782956		US-PATENT-APPL-SN-657742
	US-PATENT-CLASS-178-69.5		US-PATENT-CLASS-117-104
	US-PATENT-3,567,861		US-PATENT-3,553,002
c09 N71-25866	NASA-CASE-ARC-10003-1	c07 N71-26101	NASA-CASE-NPO-10231
	US-PATENT-APPL-SN-717822		US-PATENT-APPL-SN-701767
	US-PATENT-CLASS-178-66		US-PATENT-CLASS-343-786
	US-PATENT-CLASS-179-100.2		US-PATENT-3,534,376
	US-PATENT-3,549,799	c07 N71-26102	NASA-CASE-XNP-06611
c18 N71-25881	NASA-CASE-XGS-05180		NASA-CASE-XNP-09830
	US-PATENT-APPL-SN-721607		US-PATENT-APPL-SN-593607
	US-PATENT-CLASS-260-37		US-PATENT-CLASS-178-6.6
	US-PATENT-3,567,677		US-PATENT-3,474,192
c10 N71-25882	NASA-CASE-GSC-10022-1	c10 N71-26103	NASA-CASE-XNP-04623
	US-PATENT-APPL-SN-785546		US-PATENT-APPL-SN-510150
	US-PATENT-CLASS-331-113		US-PATENT-CLASS-340-146.1
	US-PATENT-3,559,096		US-PATENT-3,474,413
c14 N71-25892	NASA-CASE-XLA-04555-1	c02 N71-26110	NASA-CASE-LAR-10249-1
	US-PATENT-APPL-SN-594584		US-PATENT-APPL-SN-835060
	US-PATENT-CLASS-148-13		US-PATENT-CLASS-244-42
	US-PATENT-3,468,727		US-PATENT-3,576,301
c10 N71-25899	NASA-CASE-LER-10345-1	c09 N71-26133	NASA-CASE-NFS-20075
	US-PATENT-APPL-SN-805298		US-PATENT-APPL-SN-835059
	US-PATENT-CLASS-137-81.5		US-PATENT-CLASS-317-101
	US-PATENT-CLASS-235-201		US-PATENT-CLASS-339-17
	US-PATENT-3,568,702		US-PATENT-3,575,638
c10 N71-25900	NASA-CASE-ERC-10032	c15 N71-26134	NASA-CASE-XKS-07953
	US-PATENT-APPL-SN-757857		US-PATENT-APPL-SN-725405
	US-PATENT-CLASS-333-30		US-PATENT-CLASS-51-170
	US-PATENT-CLASS-333-72		US-PATENT-3,553,904
	US-PATENT-3,568,103	c14 N71-26135	NASA-CASE-XAC-03740
c14 N71-25901	NASA-CASE-XLA-02810		US-PATENT-APPL-SN-480211
	US-PATENT-APPL-SN-764252		US-PATENT-CLASS-324-43
	US-PATENT-CLASS-250-43.5		US-PATENT-3,564,401
	US-PATENT-CLASS-250-83.3	c14 N71-26136	NASA-CASE-XLA-01782
	US-PATENT-CLASS-340-233		US-PATENT-APPL-SN-576792
	US-PATENT-CLASS-340-285		US-PATENT-CLASS-73-15.6
	US-PATENT-3,569,710		US-PATENT-3,472,060
c17 N71-25903	NASA-CASE-XLA-08966-1	c14 N71-26137	NASA-CASE-LAR-10305
	US-PATENT-APPL-SN-570678		US-PATENT-APPL-SN-811037
	US-PATENT-CLASS-204-33		US-PATENT-CLASS-324-0.5
	US-PATENT-3,468,765		US-PATENT-CLASS-324-58.5
c16 N71-25914	NASA-CASE-XLA-03410		US-PATENT-3,562,631
	US-PATENT-APPL-SN-512561	c10 N71-26142	NASA-CASE-NPO-10302
	US-PATENT-CLASS-250-199		US-PATENT-APPL-SN-848811
	US-PATENT-3,469,087		US-PATENT-CLASS-343-768
c10 N71-25917	NASA-CASE-NPO-10595		US-PATENT-3,553,704
	US-PATENT-APPL-SN-771760	c15 N71-26145	NASA-CASE-FRC-10005
	US-PATENT-CLASS-340-347		US-PATENT-APPL-SN-756266
	US-PATENT-3,569,956		US-PATENT-CLASS-33-189
c06 N71-25929	NASA-CASE-NPO-10596		US-PATENT-3,562,919
	US-PATENT-APPL-SN-756381	c15 N71-26148	NASA-CASE-XNP-05114-2
	US-PATENT-CLASS-260-2.5		US-PATENT-APPL-SN-837377
	US-PATENT-3,557,027		US-PATENT-CLASS-72-56
c10 N71-25950	NASA-CASE-XGS-06226		US-PATENT-3,555,867
	US-PATENT-APPL-SN-676387	c18 N71-26153	NASA-CASE-XLE-03940
	US-PATENT-CLASS-331-113		US-PATENT-APPL-SN-539255
	US-PATENT-3,466,570		US-PATENT-CLASS-148-126
c15 N71-25975	NASA-CASE-XMS-10660-1		US-PATENT-3,472,709
	US-PATENT-APPL-SN-797056	c16 N71-26154	NASA-CASE-ERC-10020
	US-PATENT-CLASS-24-205.17		US-PATENT-APPL-SN-709399
	US-PATENT-3,469,289		US-PATENT-CLASS-350-3.5
c09 N71-25999	NASA-CASE-XGS-05290		US-PATENT-3,540,790
	US-PATENT-APPL-SN-754019	c18 N71-26155	NASA-CASE-LAR-10373-1
	US-PATENT-CLASS-310-168		US-PATENT-APPL-SN-761007
	US-PATENT-CLASS-310-254		US-PATENT-CLASS-260-2.5
	US-PATENT-CLASS-318-138		US-PATENT-3,481,887
	US-PATENT-CLASS-318-254	c14 N71-26161	NASA-CASE-XLA-08254

ACCESSION NUMBER INDEX

	US-PATENT-APPL-SN-867843		US-PATENT-APPL-SN-796691
	US-PATENT-CLASS-73-12		US-PATENT-CLASS-317-DIG.3
	US-PATENT-CLASS-73-79		US-PATENT-CLASS-317-153
	US-PATENT-3,576,127		US-PATENT-CLASS-390-235
c15 N71-26162	NASA-CASE-MSC-15474-1	c10 N71-26339	US-PATENT-3,575,641
	US-PATENT-APPL-SN-878731		NASA-CASE-NPO-10185
	US-PATENT-CLASS-24-263		US-PATENT-APPL-SN-723805
	US-PATENT-3,564,564		US-PATENT-CLASS-73-432
c28 N71-26173	NASA-CASE-LEM-10689-1		US-PATENT-3,472,080
	US-PATENT-APPL-SN-830978	c15 N71-26346	NASA-CASE-XLE-05641-1
	US-PATENT-CLASS-60-202		US-PATENT-APPL-SN-605091
	US-PATENT-3,552,125		US-PATENT-CLASS-72-61
c07 N71-26181	NASA-CASE-MSC-12223-1		US-PATENT-3,461,700
	US-PATENT-APPL-SN-839941	c10 N71-26374	NASA-CASE-GSC-11367
	US-PATENT-CLASS-179-1		US-PATENT-APPL-SN-675238
	US-PATENT-3,555,192		US-PATENT-CLASS-331-18
c09 N71-26182	NASA-CASE-NPO-10625		US-PATENT-3,484,712
	US-PATENT-APPL-SN-856415	c12 N71-26387	NASA-CASE-XLA-05541
	US-PATENT-CLASS-60-23		US-PATENT-APPL-SN-700986
	US-PATENT-CLASS-313-236		US-PATENT-CLASS-73-301
	US-PATENT-CLASS-313-237		US-PATENT-3,473,379
	US-PATENT-3,562,575	c10 N71-26414	NASA-CASE-IMP-04958-1
c15 N71-26185	NASA-CASE-MPS-14711		US-PATENT-APPL-SN-448365
	US-PATENT-APPL-SN-774266		US-PATENT-CLASS-321-69
	US-PATENT-CLASS-55-75		US-PATENT-3,434,037
	US-PATENT-3,557,534	c10 N71-26415	NASA-CASE-NPO-10003
c15 N71-26189	NASA-CASE-XLE-09527-2		US-PATENT-APPL-SN-638192
	US-PATENT-APPL-SN-840870		US-PATENT-CLASS-330-13
	US-PATENT-CLASS-308-187		US-PATENT-3,461,393
	US-PATENT-3,561,828	c10 N71-26418	NASA-CASE-XGS-04224
c14 N71-26199	NASA-CASE-NPO-10691		US-PATENT-APPL-SN-568364
	US-PATENT-APPL-SN-816988		US-PATENT-CLASS-340-174
	US-PATENT-CLASS-73-61		US-PATENT-3,483,535
	US-PATENT-3,566,676	c10 N71-26434	NASA-CASE-IMP-01466
c23 N71-26206	NASA-CASE-XGS-08269		US-PATENT-APPL-SN-487940
	US-PATENT-APPL-SN-787393		US-PATENT-CLASS-340-174
	US-PATENT-CLASS-356-76		US-PATENT-3,461,437
	US-PATENT-3,554,647	c14 N71-26474	NASA-CASE-IMP-03844-1
c15 N71-26243	NASA-CASE-MSC-10959		US-PATENT-APPL-SN-601229
	US-PATENT-APPL-SN-725719		US-PATENT-CLASS-95-44
	US-PATENT-CLASS-188-1		US-PATENT-3,472,140
	US-PATENT-3,420,338	c14 N71-26475	NASA-CASE-IMP-09701
c14 N71-26244	NASA-CASE-IMS-06497		US-PATENT-APPL-SN-584015
	US-PATENT-APPL-SN-617778		US-PATENT-CLASS-250-83.3
	US-PATENT-CLASS-324-115		US-PATENT-3,461,290
	US-PATENT-3,464,012	c10 N71-26531	NASA-CASE-GSC-10413
c14 N71-26266	NASA-CASE-IMP-09830		US-PATENT-APPL-SN-789043
	US-PATENT-APPL-SN-632165		US-PATENT-CLASS-317-20
	US-PATENT-CLASS-324-0.5		US-PATENT-CLASS-317-33
	US-PATENT-3,474,328		US-PATENT-3,555,361
c18 N71-26285	NASA-CASE-MSC-12109	c31 N71-26537	NASA-CASE-GSC-10556-1
	US-PATENT-APPL-SN-889376		NASA-CASE-GSC-10557-1
	US-PATENT-CLASS-2-81		US-PATENT-APPL-SN-808193
	US-PATENT-CLASS-2-275		US-PATENT-CLASS-74-5.12
	US-PATENT-CLASS-112-402		US-PATENT-CLASS-244-1
	US-PATENT-3,563,198		US-PATENT-CLASS-308-1
c07 N71-26291	NASA-CASE-HQM-10541-1		US-PATENT-3,554,466
	US-PATENT-APPL-SN-494739	c10 N71-26544	NASA-CASE-NPO-10344
	US-PATENT-CLASS-350-96		US-PATENT-APPL-SN-732921
	US-PATENT-3,556,634		US-PATENT-CLASS-340-347
c07 N71-26292	NASA-CASE-IXS-10543		US-PATENT-3,566,396
	US-PATENT-APPL-SN-719870	c12 N71-26546	NASA-CASE-PRC-10022
	US-PATENT-CLASS-325-67		US-PATENT-APPL-SN-763729
	US-PATENT-3,553,586		US-PATENT-CLASS-73-194
c05 N71-26293	NASA-CASE-XFR-07658-1		US-PATENT-3,555,898
	US-PATENT-APPL-SN-586324	c10 N71-26577	NASA-CASE-NPO-10214
	US-PATENT-CLASS-128-2.06		US-PATENT-APPL-SN-704299
	US-PATENT-3,426,746		US-PATENT-CLASS-325-41
c15 N71-26294	NASA-CASE-IMP-02862-1		US-PATENT-3,566,268
	US-PATENT-APPL-SN-556830	c07 N71-26579	NASA-CASE-IMS-06740-1
	US-PATENT-CLASS-277-13		US-PATENT-APPL-SN-554277
	US-PATENT-3,468,548		US-PATENT-CLASS-178-6
c15 N71-26312	NASA-CASE-IMP-01263-2		US-PATENT-3,470,313
	US-PATENT-APPL-SN-718279	c15 N71-26611	NASA-CASE-MSC-11817-1
	US-PATENT-CLASS-287-189.365		US-PATENT-APPL-SN-7668
	US-PATENT-3,481,638		US-PATENT-CLASS-165-44
c10 N71-26326	NASA-CASE-NPO-10143		US-PATENT-CLASS-165-86
	US-PATENT-APPL-SN-692331		US-PATENT-CLASS-188-88
	US-PATENT-CLASS-58-24		US-PATENT-CLASS-244-1
	US-PATENT-3,472,019		US-PATENT-CLASS-244-57
c10 N71-26331	NASA-CASE-IMP-10854		US-PATENT-3,563,307
	US-PATENT-APPL-SN-668248	c10 N71-26626	NASA-CASE-GSC-10891-1
	US-PATENT-CLASS-330-31		US-PATENT-APPL-SN-568620
	US-PATENT-3,482,179		US-PATENT-CLASS-307-53
c05 N71-26333	NASA-CASE-XMS-09652-1		US-PATENT-3,480,789
	US-PATENT-APPL-SN-618969	c14 N71-26627	NASA-CASE-MPS-14017
	US-PATENT-CLASS-2-6		US-PATENT-APPL-SN-762956
	US-PATENT-3,473,165		US-PATENT-CLASS-248-183
c10 N71-26334	NASA-CASE-XLA-02619		US-PATENT-CLASS-308-9



ACCESSION NUMBER INDEX

c15	771-26635	US-PATENT-3,559,937 NASA-CASE-ERC-10022 US-PATENT-APPL-SN-874733 US-PATENT-CLASS-74-89.15 US-PATENT-CLASS-74-424.8 US-PATENT-3,576,135	c09	771-27001	US-PATENT-CLASS-356-203 US-PATENT-3,563,668 NASA-CASE-XGS-11177 US-PATENT-APPL-SN-828921 US-PATENT-CLASS-317-9 US-PATENT-CLASS-317-33 US-PATENT-3,571,656
c28	771-26642	NASA-CASE-LEW-10106-1 US-PATENT-APPL-SN-758390 US-PATENT-CLASS-60-202 US-PATENT-3,552,124	c14	771-27005	NASA-CASE-NFS-20261 US-PATENT-APPL-SN-845990 US-PATENT-CLASS-1 US-PATENT-CLASS-141-258 US-PATENT-CLASS-222-49 US-PATENT-CLASS-222-137 US-PATENT-3,568,885
c23	771-26654	NASA-CASE-WPO-10467 US-PATENT-APPL-SN-798277 US-PATENT-CLASS-62-514 US-PATENT-3,564,866	c15	771-27006	NASA-CASE-LAR-10083-1 US-PATENT-APPL-SN-837825 US-PATENT-CLASS-73-147 US-PATENT-3,572,112
c14	771-26672	NASA-CASE-ERC-10033 US-PATENT-APPL-SN-801660 US-PATENT-CLASS-73-49.3 US-PATENT-3,559,460	c09	771-27016	NASA-CASE-GSC-11139 US-PATENT-APPL-SN-756511 US-PATENT-CLASS-307-234 US-PATENT-CLASS-307-246 US-PATENT-CLASS-307-273 US-PATENT-CLASS-328-120 US-PATENT-CLASS-330-30 US-PATENT-3,569,744
c15	771-26673	NASA-CASE-XAC-09489-1 US-PATENT-APPL-SN-694246 US-PATENT-CLASS-356-154 US-PATENT-3,565,530	c11	771-27036	NASA-CASE-XNP-09770-3 US-PATENT-APPL-SN-863967 US-PATENT-CLASS-74-18.2 US-PATENT-3,574,286
c19	771-26674	NASA-CASE-XGS-04173 US-PATENT-APPL-SN-658964 US-PATENT-CLASS-350-285 US-PATENT-3,560,081	c09	771-27053	NASA-CASE-ERC-10113 US-PATENT-APPL-SN-865811 US-PATENT-CLASS-323-48 US-PATENT-CLASS-323-60 US-PATENT-3,571,699
c09	771-26678	NASA-CASE-ERC-10013 US-PATENT-APPL-SN-802972 US-PATENT-CLASS-29-25.18 US-PATENT-3,562,881	c07	771-27056	NASA-CASE-ESC-12205-1 US-PATENT-APPL-SN-882577 US-PATENT-CLASS-325-16 US-PATENT-CLASS-325-23 US-PATENT-CLASS-325-369 US-PATENT-CLASS-343-100 US-PATENT-CLASS-343-117 US-PATENT-CLASS-343-176 US-PATENT-3,568,197
c32	771-26681	NASA-CASE-LAR-10090 US-PATENT-APPL-SN-677475 US-PATENT-CLASS-73-71.4 US-PATENT-3,564,906	c08	771-27057	NASA-CASE-XLA-07828 US-PATENT-APPL-SN-770209 US-PATENT-CLASS-318-20.105 US-PATENT-CLASS-325-151.11 US-PATENT-CLASS-340-347DA US-PATENT-3,573,797
c09	771-26701	NASA-CASE-WPO-10331 US-PATENT-APPL-SN-757625 US-PATENT-CLASS-118-49.5 US-PATENT-CLASS-204-298 US-PATENT-3,556,048	c14	771-27058	NASA-CASE-NSC-13276-1 US-PATENT-APPL-SN-880272 US-PATENT-CLASS-219-505 US-PATENT-3,575,585
c15	771-26721	NASA-CASE-LAR-10121-1 US-PATENT-APPL-SN-766244 US-PATENT-CLASS-18-6 US-PATENT-3,562,857	c15	771-27067	NASA-CASE-XKS-07814 US-PATENT-APPL-SN-672384 US-PATENT-CLASS-182-10 US-PATENT-CLASS-188-65.5 US-PATENT-3,568,795
c23	771-26722	NASA-CASE-GSC-10216-1 US-PATENT-APPL-SN-756260 US-PATENT-CLASS-331-94.5 US-PATENT-3,555,455	c15	771-27068	NASA-CASE-WPO-10796 US-PATENT-APPL-SN-815760 US-PATENT-CLASS-220-46 US-PATENT-3,568,874
c03	771-26726	NASA-CASE-XNP-03413 US-PATENT-APPL-SN-640456 US-PATENT-CLASS-156-212 US-PATENT-3,565,719	c15	771-27084	NASA-CASE-WPO-10755 US-PATENT-APPL-SN-816733 US-PATENT-CLASS-417-50 US-PATENT-3,567,339
c06	771-26754	NASA-CASE-XNP-09451 US-PATENT-APPL-SN-713162 US-PATENT-CLASS-23-253 US-PATENT-3,560,161	c02	771-27088	NASA-CASE-XLA-08967 US-PATENT-APPL-SN-837830 US-PATENT-CLASS-244-90 US-PATENT-3,570,789
c18	771-26772	NASA-CASE-XNP-07770-2 US-PATENT-APPL-SN-711903 US-PATENT-CLASS-106-296 US-PATENT-3,576,656	c14	771-27090	NASA-CASE-ERC-10040-1 US-PATENT-APPL-SN-811892 US-PATENT-CLASS-250-43.5R US-PATENT-CLASS-250-83.6R US-PATENT-CLASS-324-33 US-PATENT-3,575,597
c17	771-26773	NASA-CASE-XNP-04262-2 US-PATENT-APPL-SN-684894 US-PATENT-CLASS-75-66 US-PATENT-3,565,607	c15	771-27091	NASA-CASE-NFS-13929 US-PATENT-APPL-SN-779887 US-PATENT-CLASS-152-225 US-PATENT-CLASS-152-250 US-PATENT-3,568,748
c14	771-26774	NASA-CASE-ERC-11020 US-PATENT-APPL-SN-686248 US-PATENT-CLASS-325-363 US-PATENT-3,564,420	c28	771-27094	NASA-CASE-GSC-10710-1 US-PATENT-APPL-SN-828909 US-PATENT-CLASS-73-117.4 US-PATENT-3,572,104
c28	771-26779	NASA-CASE-XLA-04126 US-PATENT-APPL-SN-467820 US-PATENT-CLASS-86-1 US-PATENT-CLASS-86-20.2 US-PATENT-CLASS-102-101 US-PATENT-CLASS-264-3 US-PATENT-3,570,364	c28	771-27095	NASA-CASE-NFS-20325 US-PATENT-APPL-SN-840176 US-PATENT-CLASS-244-1
c28	771-26781	NASA-CASE-LEW-10210-1 US-PATENT-APPL-SN-804172 US-PATENT-CLASS-60-202 US-PATENT-CLASS-313-63 US-PATENT-CLASS-315-111 US-PATENT-3,576,107			
c09	771-26787	NASA-CASE-XKS-05932 US-PATENT-APPL-SN-752729 US-PATENT-CLASS-240-11.2 US-PATENT-CLASS-240-11.4 US-PATENT-CLASS-240-51.11 US-PATENT-CLASS-313-22 US-PATENT-3,564,234			
c14	771-26788	NASA-CASE-NFS-20240 US-PATENT-APPL-SN-825259			

ACCESSION NUMBER INDEX

	US-PATENT-3,572,610	c07 N71-27233	NASA-CASE-GSC-10220-1
c10 N71-27126	NASA-CASE-LEW-10233		US-PATENT-APPL-SN-759256
	US-PATENT-APPL-SN-750787		US-PATENT-CLASS-343-777
	US-PATENT-CLASS-307-253		US-PATENT-CLASS-343-786
	US-PATENT-CLASS-307-300		US-PATENT-CLASS-343-799
	US-PATENT-3,566,158		US-PATENT-CLASS-343-840
c15 N71-27135	NASA-CASE-HQN-10541-2		US-PATENT-CLASS-343-854
	US-PATENT-APPL-SN-822088	c05 N71-27234	US-PATENT-3,569,976
	US-PATENT-CLASS-219-121		NASA-CASE-IFR-07172
	US-PATENT-CLASS-331-94.5		US-PATENT-APPL-SN-720041
	US-PATENT-3,571,555		US-PATENT-CLASS-128-2.05
c10 N71-27136	NASA-CASE-GSC-10065-1		US-PATENT-3,563,232
	US-PATENT-APPL-SN-808462	c06 N71-27254	NASA-CASE-NPO-10768
	US-PATENT-CLASS-318-571		US-PATENT-APPL-SN-770398
	US-PATENT-CLASS-318-653		US-PATENT-CLASS-260-615
	US-PATENT-3,568,028		US-PATENT-3,574,770
c10 N71-27137	NASA-CASE-XMP-06234	c08 N71-27255	NASA-CASE-NPO-12107
	US-PATENT-APPL-SN-723827		US-PATENT-APPL-SN-555189
	US-PATENT-CLASS-235-92		US-PATENT-CLASS-179-100.2
	US-PATENT-CLASS-328-49		US-PATENT-CLASS-340-146.1
	US-PATENT-3,567,913		US-PATENT-CLASS-340-172.5
c15 N71-27146	NASA-CASE-LAR-10193-1		US-PATENT-3,571,801
	US-PATENT-APPL-SN-794968	c10 N71-27271	NASA-CASE-ILA-03893
	US-PATENT-CLASS-188-1		US-PATENT-APPL-SN-779024
	US-PATENT-CLASS-188-103		US-PATENT-CLASS-331-109
	US-PATENT-3,568,805		US-PATENT-CLASS-331-117
c15 N71-27147	NASA-CASE-NSC-12121-1		US-PATENT-CLASS-331-177
	US-PATENT-APPL-SN-783374		US-PATENT-CLASS-332-30
	US-PATENT-CLASS-91-390	c10 N71-27272	US-PATENT-3,569,866
	US-PATENT-CLASS-91-461		NASA-CASE-ILA-08799
	US-PATENT-3,563,135		US-PATENT-APPL-SN-668242
c15 N71-27169	NASA-CASE-LAR-10106-1		US-PATENT-CLASS-340-150
	US-PATENT-APPL-SN-810575		US-PATENT-CLASS-340-164
	US-PATENT-CLASS-188-1		US-PATENT-CLASS-340-166
	US-PATENT-CLASS-310-51		US-PATENT-CLASS-340-213
	US-PATENT-3,566,993		US-PATENT-CLASS-340-403
c18 N71-27170	NASA-CASE-XMP-02221	c14 N71-27323	US-PATENT-3,571,800
	US-PATENT-APPL-SN-430192		NASA-CASE-NPO-10810
	US-PATENT-CLASS-252-301.2		US-PATENT-APPL-SN-805405
	US-PATENT-3,567,651		US-PATENT-CLASS-73-355
c16 N71-27183	NASA-CASE-HQN-10541-4		US-PATENT-CLASS-250-83.3
	US-PATENT-APPL-SN-822090		US-PATENT-3,566,122
	US-PATENT-CLASS-250-199	c21 N71-27324	NASA-CASE-GSC-10555-1
	US-PATENT-3,575,602		US-PATENT-APPL-SN-785620
c15 N71-27184	NASA-CASE-XMP-08124		US-PATENT-CLASS-244-1
	US-PATENT-APPL-SN-697075		US-PATENT-3,567,155
	US-PATENT-CLASS-75-63	c14 N71-27325	NASA-CASE-GSC-10441-1
	US-PATENT-3,563,727		US-PATENT-APPL-SN-782544
c14 N71-27185	NASA-CASE-NPO-10556		US-PATENT-CLASS-324-43
	US-PATENT-APPL-SN-796405		US-PATENT-3,571,700
	US-PATENT-CLASS-73-71.6	c12 N71-27332	NASA-CASE-NPO-10416
	US-PATENT-3,572,089		US-PATENT-APPL-SN-754020
c14 N71-27186	NASA-CASE-XMP-03968		US-PATENT-CLASS-137-81.5
	US-PATENT-APPL-SN-719029		US-PATENT-3,570,513
	US-PATENT-CLASS-60-35.6	c14 N71-27334	NASA-CASE-ERC-10087
	US-PATENT-CLASS-174-110.3		US-PATENT-APPL-SN-738315
	US-PATENT-CLASS-324-65		US-PATENT-CLASS-29-588
	US-PATENT-CLASS-340-227		US-PATENT-3,566,459
	US-PATENT-3,569,828	c10 N71-27338	NASA-CASE-KSC-10020
c07 N71-27191	NASA-CASE-NPS-20068		US-PATENT-APPL-SN-817482
	US-PATENT-APPL-SN-797795		US-PATENT-CLASS-324-103
	US-PATENT-CLASS-174-28		US-PATENT-CLASS-324-107
	US-PATENT-CLASS-333-95		US-PATENT-CLASS-324-133
	US-PATENT-CLASS-333-96		US-PATENT-CLASS-340-248
	US-PATENT-CLASS-343-884		US-PATENT-3,571,707
	US-PATENT-3,569,875	c07 N71-27341	NASA-CASE-NPO-10343
c08 N71-27210	NASA-CASE-GSC-10097-1		US-PATENT-APPL-SN-750786
	US-PATENT-APPL-SN-762957		US-PATENT-CLASS-178-7.1
	US-PATENT-CLASS-29-603		US-PATENT-CLASS-178-7.3
	US-PATENT-CLASS-179-100.2		US-PATENT-3,566,027
	US-PATENT-CLASS-340-174.1	c06 N71-27363	NASA-CASE-HQN-10364
	US-PATENT-3,566,045		US-PATENT-APPL-SN-713616
c15 N71-27214	NASA-CASE-ILA-08911		US-PATENT-CLASS-260-2
	US-PATENT-APPL-SN-777768		US-PATENT-3,563,918
	US-PATENT-CLASS-219-229	c09 N71-27364	NASA-CASE-ERC-10065
	US-PATENT-CLASS-228-53		US-PATENT-APPL-SN-777818
	US-PATENT-3,575,336		US-PATENT-CLASS-321-61
c14 N71-27215	NASA-CASE-LAR-10204		US-PATENT-CLASS-321-64
	US-PATENT-APPL-SN-766245		US-PATENT-CLASS-322-32
	US-PATENT-CLASS-235-92		US-PATENT-3,571,693
	US-PATENT-CLASS-356-106	c10 N71-27365	NASA-CASE-NPO-10251
	US-PATENT-3,572,935		US-PATENT-APPL-SN-774265
c09 N71-27232	NASA-CASE-NPO-10607		US-PATENT-CLASS-35-19
	US-PATENT-APPL-SN-799353		US-PATENT-3,570,143
	US-PATENT-CLASS-250-83	c10 N71-27366	NASA-CASE-GSC-10114-1
	US-PATENT-CLASS-317-230		US-PATENT-APPL-SN-796370
	US-PATENT-CLASS-317-231		US-PATENT-CLASS-317-33
	US-PATENT-CLASS-317-238		US-PATENT-CLASS-321-42
	US-PATENT-3,568,010		US-PATENT-3,571,662

ACCESSION NUMBER INDEX

c15 N71-27372	NASA-CASE-NPO-10070 US-PATENT-APPL-SN-780064 US-PATENT-CLASS-23-259 US-PATENT-3,565,584	US-PATENT-CLASS-104-139 US-PATENT-CLASS-119-96 US-PATENT-CLASS-238-1 US-PATENT-CLASS-248-361 US-PATENT-CLASS-272-70 US-PATENT-3,583,322	
c18 N71-27397	NASA-CASE-INP-02500 US-PATENT-APPL-SN-508169 US-PATENT-CLASS-324-58.5 US-PATENT-CLASS-324-61 US-PATENT-3,569,827	c06 N71-28620	NASA-CASE-NPO-10701 US-PATENT-APPL-SN-763355 US-PATENT-CLASS-260-47 US-PATENT-3,576,786
c14 N71-27407	NASA-CASE-GSC-10376-1 US-PATENT-APPL-SN-806226 US-PATENT-CLASS-307-126 US-PATENT-CLASS-323-20 US-PATENT-3,566,143	c11 N71-28629	NASA-CASE-RSC-10198 US-PATENT-APPL-SN-845971 US-PATENT-CLASS-73-15 US-PATENT-CLASS-73-432 US-PATENT-3,578,756
c15 N71-27432	NASA-CASE-NPO-10808 US-PATENT-APPL-SN-808192 US-PATENT-CLASS-60-243 US-PATENT-3,568,447	c09 N71-28691	NASA-CASE-NFS-13687 US-PATENT-APPL-SN-723488 US-PATENT-CLASS-204-30 US-PATENT-3,576,723
c28 N71-27585	NASA-CASE-NFS-20130 US-PATENT-APPL-SN-809822 US-PATENT-CLASS-244-4 US-PATENT-3,570,785	c18 N71-28729	NASA-CASE-LEW-10219-1 US-PATENT-APPL-SN-785780 US-PATENT-CLASS-148-126 US-PATENT-3,579,390
c15 N71-27754	NASA-CASE-ABC-10131-1 US-PATENT-APPL-SN-808576 US-PATENT-CLASS-60-51 US-PATENT-CLASS-91-361 US-PATENT-CLASS-91-390 US-PATENT-CLASS-91-448 US-PATENT-3,568,572	c10 N71-28739	NASA-CASE-XNP-01068 US-PATENT-APPL-SN-375680 US-PATENT-CLASS-307-88.5 US-PATENT-3,271,594
c33 N71-27862	NASA-CASE-NFS-14114 US-PATENT-APPL-SN-706013 US-PATENT-CLASS-310-4 US-PATENT-3,535,562	c15 N71-28740	NASA-CASE-ILA-09346 US-PATENT-APPL-SN-820964 US-PATENT-CLASS-73-147 US-PATENT-CLASS-356-150 US-PATENT-CLASS-356-152 US-PATENT-CLASS-356-153 US-PATENT-3,583,815
c09 N71-28421	NASA-CASE-NPO-10412 US-PATENT-APPL-SN-768470 US-PATENT-CLASS-310-4 US-PATENT-3,578,992	c12 N71-28741	NASA-CASE-ILE-09341 US-PATENT-APPL-SN-780065 US-PATENT-CLASS-137-81.5 US-PATENT-3,583,419
c07 N71-28429	NASA-CASE-NSC-13201-1 US-PATENT-APPL-SN-789903 US-PATENT-CLASS-332-29 US-PATENT-CLASS-332-30 US-PATENT-3,579,147	c17 N71-28747	NASA-CASE-INP-08881 US-PATENT-APPL-SN-732922 US-PATENT-CLASS-161-89 US-PATENT-3,579,412
c07 N71-28430	NASA-CASE-GSC-10668-1 US-PATENT-APPL-SN-743525 US-PATENT-CLASS-307-296 US-PATENT-CLASS-325-185 US-PATENT-CLASS-330-40 US-PATENT-CLASS-330-124 US-PATENT-CLASS-330-208 US-PATENT-3,577,092	c22 N71-28759	NASA-CASE-LEW-10250-1 US-PATENT-APPL-SN-732455 US-PATENT-CLASS-176-45 US-PATENT-3,574,057
c21 N71-28461	NASA-CASE-GSC-11079-1 US-PATENT-APPL-SN-100637	c11 N71-28779	NASA-CASE-INP-00250 US-PATENT-APPL-SN-212497 US-PATENT-CLASS-181-.5 US-PATENT-3,260,326
c15 N71-28465	NASA-CASE-ERC-10097 US-PATENT-APPL-SN-797059 US-PATENT-CLASS-308-170 US-PATENT-3,583,777	c10 N71-28783	NASA-CASE-XMS-02182 US-PATENT-APPL-SN-516153 US-PATENT-CLASS-317-100 US-PATENT-3,317,797
c15 N71-28467	NASA-CASE-NPO-10646 US-PATENT-APPL-SN-813488 US-PATENT-CLASS-64-18 US-PATENT-3,574,277	c06 N71-28807	NASA-CASE-INP-08674 US-PATENT-APPL-SN-617775 US-PATENT-CLASS-260-47 US-PATENT-3,370,039
c09 N71-28468	NASA-CASE-ARC-10137-1 US-PATENT-APPL-SN-799013 US-PATENT-CLASS-307-265 US-PATENT-CLASS-307-273 US-PATENT-CLASS-307-288 US-PATENT-CLASS-328-207 US-PATENT-3,584,311	c06 N71-28808	NASA-CASE-INP-04023 US-PATENT-APPL-SN-470902 US-PATENT-CLASS-260-429 US-PATENT-3,396,184
c16 N71-28554	NASA-CASE-IGS-10518 US-PATENT-APPL-SN-764470 US-PATENT-CLASS-335-216 US-PATENT-3,541,486	c07 N71-28809	NASA-CASE-IGS-02290 US-PATENT-APPL-SN-544895 US-PATENT-CLASS-343-771 US-PATENT-3,417,400
c03 N71-28579	NASA-CASE-LEW-11359 US-PATENT-APPL-SN-787911 US-PATENT-CLASS-136-83 US-PATENT-3,573,986	c09 N71-28810	NASA-CASE-INP-03916 US-PATENT-APPL-SN-535304 US-PATENT-CLASS-331-113 US-PATENT-3,325,749
c15 N71-28582	NASA-CASE-LEW-10278-1 US-PATENT-APPL-SN-760928 US-PATENT-CLASS-117-224 US-PATENT-3,573,977	c28 N71-28849	NASA-CASE-XMS-04826 US-PATENT-APPL-SN-521755 US-PATENT-CLASS-60-258 US-PATENT-3,318,096
c09 N71-28618	NASA-CASE-ERC-10098 US-PATENT-APPL-SN-779169 US-PATENT-CLASS-178-5.2R US-PATENT-CLASS-178-54CP US-PATENT-CLASS-178-54PE US-PATENT-3,582,960	c28 N71-28850	NASA-CASE-INP-01954 US-PATENT-APPL-SN-372730 US-PATENT-CLASS-313-230 US-PATENT-3,328,624
c05 N71-28619	NASA-CASE-ARC-10153 US-PATENT-APPL-SN-783377 US-PATENT-CLASS-35-29 US-PATENT-CLASS-104-1	c31 N71-28851	NASA-CASE-XMS-06162 US-PATENT-APPL-SN-610724 US-PATENT-CLASS-244-138 US-PATENT-3,330,510
		c33 N71-28852	NASA-CASE-INP-01310 US-PATENT-APPL-SN-379771 US-PATENT-CLASS-60-266 US-PATENT-3,279,193
		c10 N71-28859	NASA-CASE-INP-01107 US-PATENT-APPL-SN-384010 US-PATENT-CLASS-330-51

ACCESSION NUMBER INDEX

c10 N71-28860	US-PATENT-3,389,346 NASA-CASE-HSC-13492-1 US-PATENT-APPL-SN-53156 US-PATENT-CLASS-307-215 US-PATENT-CLASS-307-265 US-PATENT-CLASS-307-273 US-PATENT-CLASS-328-92 US-PATENT-CLASS-328-207 US-PATENT-3,577,014	c16 N71-28963	US-PATENT-CLASS-328-67 US-PATENT-3,252,100 NASA-CASE-XLA-01090 US-PATENT-APPL-SN-274065 US-PATENT-CLASS-250-199 US-PATENT-3,215,842
c14 N71-28863	NASA-CASE-ERC-10014 US-PATENT-APPL-SN-815367 US-PATENT-CLASS-250-41.9 US-PATENT-CLASS-250-49.5 US-PATENT-3,567,927	c07 N71-28965	NASA-CASE-GSC-10949-1 US-PATENT-APPL-SN-94369
c09 N71-28886	NASA-CASE-MFS-14610 US-PATENT-APPL-SN-885571 US-PATENT-CLASS-318-317 US-PATENT-CLASS-318-331 US-PATENT-CLASS-318-345 US-PATENT-CLASS-318-504 US-PATENT-3,573,583	c07 N71-28979	NASA-CASE-HQW-00937 US-PATENT-APPL-SN-343760 US-PATENT-CLASS-343-823 US-PATENT-3,299,431
c33 N71-28892	NASA-CASE-IMP-05046 US-PATENT-APPL-SN-559350 US-PATENT-CLASS-62-45 US-PATENT-3,365,897	c07 N71-28980	NASA-CASE-XLA-10772 US-PATENT-APPL-SN-887700 US-PATENT-CLASS-343-708 US-PATENT-CLASS-343-784 US-PATENT-CLASS-343-872 US-PATENT-3,579,242
c07 N71-28900	NASA-CASE-KNP-02389 US-PATENT-APPL-SN-516162 US-PATENT-CLASS-343-100 US-PATENT-3,331,071	c14 N71-28991	NASA-CASE-XLA-06713 US-PATENT-APPL-SN-863913 US-PATENT-CLASS-324-5 US-PATENT-CLASS-324-73 US-PATENT-CLASS-340-347AD US-PATENT-3,579,103
c33 N71-28903	NASA-CASE-XLA-01745 US-PATENT-APPL-SN-538907 US-PATENT-CLASS-244-1 US-PATENT-3,409,247	c14 N71-28992	NASA-CASE-ERC-10150 US-PATENT-APPL-SN-822519 US-PATENT-CLASS-73-40.7 US-PATENT-CLASS-250-41.95 US-PATENT-3,578,758
c28 N71-28915	NASA-CASE-LEW-10286-1 US-PATENT-APPL-SN-839994 US-PATENT-CLASS-60-39.36 US-PATENT-CLASS-60-39.65 US-PATENT-CLASS-431-352 US-PATENT-3,581,492	c14 N71-28993	NASA-CASE-MFS-20044 US-PATENT-APPL-SN-838630 US-PATENT-CLASS-250-219 US-PATENT-CLASS-356-209 US-PATENT-3,574,470
c08 N71-28925	NASA-CASE-KNP-01012 US-PATENT-APPL-SN-369338 US-PATENT-CLASS-340-174 US-PATENT-3,394,359	c14 N71-28994	NASA-CASE-XER-11203 US-PATENT-APPL-SN-815366 US-PATENT-CLASS-250-218 US-PATENT-CLASS-356-103 US-PATENT-3,578,867
c09 N71-28926	NASA-CASE-INS-03542 US-PATENT-APPL-SN-482952 US-PATENT-CLASS-307-263 US-PATENT-3,364,366	c09 N71-29008	NASA-CASE-HSC-11277 US-PATENT-APPL-SN-771759 US-PATENT-CLASS-317-33 US-PATENT-CLASS-317-54 US-PATENT-CLASS-317-60 US-PATENT-CLASS-317-155.5 US-PATENT-3,579,041
c28 N71-28928	NASA-CASE-KNP-00816 US-PATENT-APPL-SN-235588 US-PATENT-CLASS-253-77 US-PATENT-3,202,398	c15 N71-29018	NASA-CASE-XLA-08916 US-PATENT-APPL-SN-777765 US-PATENT-CLASS-29-421 US-PATENT-3,583,058
c27 N71-28929	NASA-CASE-KNP-00650 US-PATENT-APPL-SN-271823 US-PATENT-CLASS-60-39.48 US-PATENT-3,170,295	c15 N71-29032	NASA-CASE-KMP-05999 US-PATENT-APPL-SN-752946 US-PATENT-CLASS-117-212 US-PATENT-3,576,669
c14 N71-28933	NASA-CASE-XLA-08913 US-PATENT-APPL-SN-865109 US-PATENT-CLASS-204-263 US-PATENT-3,574,084	c08 N71-29033	NASA-CASE-GSC-10554-1 US-PATENT-APPL-SN-828984 US-PATENT-CLASS-235-150.1 US-PATENT-CLASS-235-150.2 US-PATENT-CLASS-235-150.27 US-PATENT-CLASS-235-151.1 US-PATENT-3,578,957
c14 N71-28935	NASA-CASE-LAR-10686 US-PATENT-APPL-SN-280362 US-PATENT-CLASS-226-58 US-PATENT-3,298,582	c08 N71-29034	NASA-CASE-NPO-11088 US-PATENT-APPL-SN-887701 US-PATENT-CLASS-307-207 US-PATENT-CLASS-307-222 US-PATENT-CLASS-328-44 US-PATENT-CLASS-328-167 US-PATENT-3,579,122
c15 N71-28936	NASA-CASE-KNS-10993 US-PATENT-APPL-SN-660573 US-PATENT-CLASS-244-1 US-PATENT-3,389,877	c09 N71-29035	NASA-CASE-LEW-10155-1 US-PATENT-APPL-SN-889387 US-PATENT-CLASS-337-114 US-PATENT-CLASS-337-121 US-PATENT-3,579,168
c15 N71-28937	NASA-CASE-KNP-01855 US-PATENT-APPL-SN-408435 US-PATENT-CLASS-285-45 US-PATENT-3,219,365	c18 N71-29040	NASA-CASE-XLE-10910 US-PATENT-APPL-SN-751061 US-PATENT-CLASS-148-6 US-PATENT-3,573,996
c15 N71-28951	NASA-CASE-KNP-02278 US-PATENT-APPL-SN-11853 US-PATENT-CLASS-60-35.55 US-PATENT-3,132,479	c14 N71-29041	NASA-CASE-XLA-10402 US-PATENT-APPL-SN-762935 US-PATENT-CLASS-356-76 US-PATENT-3,574,462
c15 N71-28952	NASA-CASE-XAC-00001 US-PATENT-APPL-SN-612568 US-PATENT-CLASS-318-31 US-PATENT-2,837,706	c03 N71-29044	NASA-CASE-KNS-02063 US-PATENT-APPL-SN-422096 US-PATENT-CLASS-136-86 US-PATENT-3,382,105
c14 N71-28958	NASA-CASE-KNP-02792 US-PATENT-APPL-SN-262596 US-PATENT-CLASS-219-413 US-PATENT-3,197,616	c33 N71-29046	NASA-CASE-XHQ-03673 US-PATENT-APPL-SN-559055 US-PATENT-CLASS-165-86 US-PATENT-3,347,309
c15 N71-28959	NASA-CASE-KNP-01848 US-PATENT-APPL-SN-359532 US-PATENT-CLASS-64-27 US-PATENT-3,236,066		
c10 N71-28960	NASA-CASE-KNP-00745 US-PATENT-APPL-SN-314570		

ACCESSION NUMBER INDEX

c23 N71-29049	NASA-CASE-XWP-06503 US-PATENT-APPL-SN-370989 US-PATENT-CLASS-335-216 US-PATENT-3,273,094	US-PATENT-CLASS-307-247 US-PATENT-CLASS-307-265 US-PATENT-CLASS-307-273 US-PATENT-CLASS-307-294
c31 N71-29050	NASA-CASE-HQN-00936 US-PATENT-APPL-SN-862921 US-PATENT-CLASS-244-1 US-PATENT-3,396,920	US-PATENT-CLASS-328-207 US-PATENT-3,578,988
c33 N71-29051	NASA-CASE-XMP-04208 US-PATENT-APPL-SN-428887 US-PATENT-CLASS-73-190 US-PATENT-3,372,588	c33 N71-29151 NASA-CASE-XLR-00035 US-PATENT-APPL-SN-575291 US-PATENT-CLASS-204-37 US-PATENT-2,926,123
c33 N71-29052	NASA-CASE-MSC-12389 US-PATENT-APPL-SN-229286 US-PATENT-CLASS-165-47 US-PATENT-3,212,564	c33 N71-29152 NASA-CASE-XLR-00027 US-PATENT-APPL-SN-529594 US-PATENT-CLASS-253-39.1 US-PATENT-2,956,772
c33 N71-29053	NASA-CASE-HQN-00938 US-PATENT-APPL-SN-300957 US-PATENT-CLASS-60-267 US-PATENT-3,298,175	c28 N71-29153 NASA-CASE-MFS-20831 US-PATENT-APPL-SN-238421 US-PATENT-CLASS-60-35.54 US-PATENT-3,212,259
c07 N71-29065	NASA-CASE-ERC-10011 US-PATENT-APPL-SN-802818 US-PATENT-CLASS-333-81 US-PATENT-CLASS-350-1 US-PATENT-CLASS-350-286 US-PATENT-3,574,438	c28 N71-29154 NASA-CASE-XLR-00155 US-PATENT-APPL-SN-348600 US-PATENT-CLASS-253-77 US-PATENT-2,997,274
c23 N71-29123	NASA-CASE-IMP-08907 US-PATENT-APPL-SN-824042 US-PATENT-CLASS-350-102 US-PATENT-CLASS-350-288 US-PATENT-CLASS-350-310 US-PATENT-3,574,448	c27 N71-29155 NASA-CASE-MSC-12390 US-PATENT-APPL-SN-231520 US-PATENT-CLASS-222-61 US-PATENT-3,286,882
c23 N71-29125	NASA-CASE-NPO-11087 US-PATENT-APPL-SN-840359 US-PATENT-CLASS-331-94.5 US-PATENT-CLASS-356-153 US-PATENT-3,574,467	c26 N71-29156 NASA-CASE-IMP-01961 US-PATENT-APPL-SN-442835 US-PATENT-CLASS-148-174 US-PATENT-3,397,094
c02 N71-29128	NASA-CASE-IAC-00048 US-PATENT-APPL-SN-765264 US-PATENT-CLASS-121-38 US-PATENT-2,898,889	c25 N71-29181 NASA-CASE-ARC-10109 US-PATENT-APPL-SN-769998 US-PATENT-CLASS-313-155 US-PATENT-CLASS-313-161 US-PATENT-CLASS-313-231 US-PATENT-CLASS-315-111 US-PATENT-3,579,028
c03 N71-29129	NASA-CASE-XGS-01674 US-PATENT-APPL-SN-248985 US-PATENT-CLASS-320-13 US-PATENT-3,118,100	c25 N71-29184 NASA-CASE-XLA-00327 US-PATENT-APPL-SN-199199 US-PATENT-CLASS-315-111 US-PATENT-3,238,413
c16 N71-29131	NASA-CASE-ERC-10151 US-PATENT-APPL-SN-853856 US-PATENT-CLASS-350-3.5 US-PATENT-3,578,838	c14 N71-30026 NASA-CASE-MFS-20096 US-PATENT-APPL-SN-435433 US-PATENT-CLASS-73-432 US-PATENT-3,396,584
c15 N71-29132	NASA-CASE-NPO-10431 US-PATENT-APPL-SN-865329 US-PATENT-CLASS-73-49.8 US-PATENT-3,583,239	c23 N71-30027 NASA-CASE-GSC-10700 US-PATENT-APPL-SN-311387 US-PATENT-CLASS-350-2 US-PATENT-3,394,975
c15 N71-29133	NASA-CASE-MFS-20453 US-PATENT-APPL-SN-885594 US-PATENT-CLASS-29-278R US-PATENT-CLASS-81-3R US-PATENT-CLASS-294-15 US-PATENT-CLASS-339-17R US-PATENT-3,583,744	c15 N71-30028 NASA-CASE-MFS-20830 US-PATENT-APPL-SN-286620 US-PATENT-3,262,395
c14 N71-29134	NASA-CASE-MFS-11204 US-PATENT-APPL-SN-845991 US-PATENT-CLASS-73-1R US-PATENT-CLASS-73-304C US-PATENT-3,578,755	c14 N71-30265 NASA-CASE-HQN-10780 US-PATENT-APPL-SN-247136 US-PATENT-CLASS-73-497 US-PATENT-3,270,565
c10 N71-29135	NASA-CASE-GSC-10564 US-PATENT-APPL-SN-292596 US-PATENT-CLASS-340-174 US-PATENT-3,348,218	c23 N71-30292 NASA-CASE-HQN-10781 US-PATENT-APPL-SN-86018 US-PATENT-3,239,660
c15 N71-29136	NASA-CASE-XLA-00013 US-PATENT-APPL-SN-579121 US-PATENT-CLASS-308-177 US-PATENT-2,903,307	c18 N71-31140 NASA-CASE-NPO-11433 US-PATENT-APPL-SN-111123
c17 N71-29137	NASA-CASE-IMP-04339 US-PATENT-APPL-SN-451596 US-PATENT-CLASS-264-111 US-PATENT-3,413,393	c07 N71-33108 NASA-CASE-KSC-10164 US-PATENT-APPL-SN-782955 US-PATENT-CLASS-179-1R US-PATENT-CLASS-179-1VC US-PATENT-3,588,359
c08 N71-29138	NASA-CASE-ERC-10041 US-PATENT-APPL-SN-889478 US-PATENT-CLASS-307-234 US-PATENT-CLASS-307-265 US-PATENT-CLASS-324-106 US-PATENT-CLASS-328-58 US-PATENT-CLASS-332-9R US-PATENT-CLASS-332-10 US-PATENT-3,579,146	c09 N71-33109 NASA-CASE-ARC-10101-1 US-PATENT-APPL-SN-793823 US-PATENT-CLASS-307-251 US-PATENT-CLASS-307-261 US-PATENT-CLASS-321-47 US-PATENT-3,588,671
c09 N71-29139	NASA-CASE-XLA-07788 US-PATENT-APPL-SN-874732 US-PATENT-CLASS-307-215	c08 N71-33110 NASA-CASE-GSC-10186 US-PATENT-APPL-SN-713188 US-PATENT-CLASS-235-164 US-PATENT-CLASS-235-175 US-PATENT-3,588,483
		c10 N71-33129 NASA-CASE-GSC-10667-1 US-PATENT-APPL-SN-749548 US-PATENT-CLASS-330-11 US-PATENT-CLASS-330-16 US-PATENT-CLASS-330-24 US-PATENT-3,585,514
		c31 N71-33160 NASA-CASE-XLA-04063 US-PATENT-APPL-SN-802948 US-PATENT-CLASS-179-1 US-PATENT-CLASS-244-1 US-PATENT-CLASS-244-83 US-PATENT-3,586,261

ACCESSION NUMBER INDEX

c23 N71-33229	NASA-CASE-NPO-10468 US-PATENT-APPL-SN-787846 US-PATENT-CLASS-350-55 US-PATENT-CLASS-350-310 US-PATENT-3,588,220	US-PATENT-CLASS-416-130 US-PATENT-CLASS-416-149 US-PATENT-CLASS-416-200 US-PATENT-3,592,559
c10 N71-33407	NASA-CASE-NPO-10342 US-PATENT-APPL-SN-704446 US-PATENT-CLASS-178-69.5 US-PATENT-CLASS-179-158S US-PATENT-CLASS-340-347DD US-PATENT-3,588,883	c03 N72-11062 NASA-CASE-IGS-04047-2 US-PATENT-APPL-SN-843251 US-PATENT-CLASS-136-206 US-PATENT-3,597,281
c17 N71-33408	NASA-CASE-LEW-10327 US-PATENT-APPL-SN-772006 US-PATENT-CLASS-148-6.3 US-PATENT-3,591,426	c03 N72-11064 NASA-CASE-LEW-11065-1 US-PATENT-APPL-SN-154930
c03 N71-33409	NASA-CASE-ARC-10050 US-PATENT-APPL-SN-797219 US-PATENT-CLASS-136-89 US-PATENT-3,591,420	c05 N72-11084 NASA-CASE-NPO-10677 US-PATENT-APPL-SN-868530 US-PATENT-CLASS-62-56 US-PATENT-CLASS-62-467 US-PATENT-3,599,443
c16 N71-33410	NASA-CASE-NPO-10417 US-PATENT-APPL-SN-753974 US-PATENT-CLASS-95-11 US-PATENT-CLASS-331-94.5 US-PATENT-CLASS-352-84 US-PATENT-3,587,424	c05 N72-11085 NASA-CASE-HSC-13601-1 US-PATENT-APPL-SN-796358 US-PATENT-CLASS-5-69 US-PATENT-CLASS-285-410 US-PATENT-CLASS-297-68 US-PATENT-CLASS-297-232 US-PATENT-3,592,505
c15 N71-33518	NASA-CASE-ILA-03661 US-PATENT-APPL-SN-751266 US-PATENT-CLASS-90-11 US-PATENT-CLASS-408-137 US-PATENT-3,585,882	c05 N72-11088 NASA-CASE-HSC-13601-1 US-PATENT-APPL-SN-160371
c09 N71-33519	NASA-CASE-ERC-10100 US-PATENT-APPL-SN-766697 US-PATENT-CLASS-313-109.5 US-PATENT-CLASS-313-231 US-PATENT-CLASS-315-108 US-PATENT-CLASS-315-111 US-PATENT-CLASS-340-324 US-PATENT-CLASS-340-336 US-PATENT-3,588,874	c07 N72-11148 NASA-CASE-NPO-10301 US-PATENT-APPL-SN-848810 US-PATENT-CLASS-343-771 US-PATENT-CLASS-343-853 US-PATENT-3,599,216
c07 N71-33606	NASA-CASE-NPO-11031 US-PATENT-APPL-SN-864097 US-PATENT-CLASS-333-6 US-PATENT-CLASS-333-7 US-PATENT-CLASS-333-21A US-PATENT-3,588,751	c07 N72-11149 NASA-CASE-GSC-10390-1 US-PATENT-APPL-SN-749121 US-PATENT-CLASS-325-4 US-PATENT-CLASS-325-39 US-PATENT-CLASS-325-58 US-PATENT-CLASS-343-5DP US-PATENT-CLASS-343-7.5 US-PATENT-CLASS-343-179 US-PATENT-3,593,138
c11 N71-33612	NASA-CASE-XLA-09480 US-PATENT-APPL-SN-874435 US-PATENT-CLASS-73-147 US-PATENT-3,587,306	c07 N72-11150 NASA-CASE-NPO-11064 US-PATENT-APPL-SN-880248 US-PATENT-CLASS-331-7 US-PATENT-CLASS-331-10 US-PATENT-CLASS-331-34 US-PATENT-CLASS-331-66 US-PATENT-3,593,180
c07 N71-33613	NASA-CASE-NPO-10700 US-PATENT-APPL-SN-840308 US-PATENT-CLASS-318-227 US-PATENT-CLASS-318-230 US-PATENT-3,588,648	c08 N72-11171 NASA-CASE-NPO-10769 US-PATENT-APPL-SN-813494 US-PATENT-CLASS-179-15.55R US-PATENT-3,598,921
c07 N71-33696	NASA-CASE-MSC-12165-1 US-PATENT-APPL-SN-875849 US-PATENT-CLASS-325-347 US-PATENT-CLASS-325-348 US-PATENT-CLASS-325-473 US-PATENT-CLASS-325-478 US-PATENT-CLASS-325-480 US-PATENT-CLASS-325-482 US-PATENT-CLASS-328-164 US-PATENT-CLASS-328-165 US-PATENT-CLASS-329-145 US-PATENT-3,588,705	c08 N72-11172 NASA-CASE-GSC-10880-1 US-PATENT-APPL-SN-831118 US-PATENT-CLASS-33-15A US-PATENT-CLASS-33-204C US-PATENT-CLASS-235-61NV US-PATENT-3,599,335
c03 N71-34044	NASA-CASE-NPO-11190 US-PATENT-APPL-SN-115944	c09 N72-11224 NASA-CASE-GSC-10614-1 US-PATENT-APPL-SN-822534 US-PATENT-CLASS-179-100-2CA US-PATENT-CLASS-179-100-2MD US-PATENT-CLASS-274-4R US-PATENT-3,592,478
c09 N71-34212	NASA-CASE-HFS-20935 US-PATENT-APPL-SN-136007	c09 N72-11225 NASA-CASE-KSC-10162 US-PATENT-APPL-SN-817481 US-PATENT-CLASS-324-102 US-PATENT-CLASS-324-119 US-PATENT-CLASS-324-123R US-PATENT-3,593,132
c15 N71-34427	NASA-CASE-GSC-10984-1 US-PATENT-APPL-SN-127480	c10 N72-11256 NASA-CASE-ARC-10042-2 US-PATENT-APPL-SN-33159 US-PATENT-CLASS-330-107 US-PATENT-CLASS-330-109 US-PATENT-3,593,175
c18 N71-34502	NASA-CASE-HFS-21077 US-PATENT-APPL-SN-127481	c14 N72-11363 NASA-CASE-MSC-11847-1 US-PATENT-APPL-SN-8497 US-PATENT-CLASS-73-149 US-PATENT-CLASS-73-290B US-PATENT-3,596,510
g33 N71-35153	NASA-CASE-LEW-11227-1 US-PATENT-APPL-SN-146939	c14 N72-11364 NASA-CASE-NPO-10778 US-PATENT-APPL-SN-865909 US-PATENT-CLASS-33-125 US-PATENT-CLASS-73-95 US-PATENT-CLASS-250-235 US-PATENT-CLASS-356-32 US-PATENT-CLASS-356-167 US-PATENT-3,592,545
c02 N72-10033	NASA-CASE-LEW-11224-1 US-PATENT-APPL-SN-154934	c14 N72-11365 NASA-CASE-HFS-20485 US-PATENT-APPL-SN-22320 US-PATENT-CLASS-73-194P US-PATENT-CLASS-250-43.5PC
c10 N72-10205	NASA-CASE-ARC-10348-1 US-PATENT-APPL-SN-140439	
c14 N72-10375	NASA-CASE-GSC-11095-1 US-PATENT-APPL-SN-147940	
c16 N72-10432	NASA-CASE-ARC-10370-1 US-PATENT-APPL-SN-137391	
c02 N72-11018	NASA-CASE-LAR-10557 US-PATENT-APPL-SN-853746 US-PATENT-CLASS-416-115 US-PATENT-CLASS-416-121 US-PATENT-CLASS-416-127	

ACCESSION NUMBER INDEX

c15 N72-11385	US-PATENT-3,599,489 NASA-CASE-MFS-18495 US-PATENT-APPL-SN-38814 US-PATENT-CLASS-24-211N US-PATENT-CLASS-85-5B US-PATENT-3,596,554	c15 N72-12408	NASA-CASE-XLA-05966 US-PATENT-APPL-SN-784544 US-PATENT-CLASS-72-307 US-PATENT-CLASS-140-105 US-PATENT-3,584,660
c15 N72-11386	NASA-CASE-MFS-20249 US-PATENT-APPL-SN-794530 US-PATENT-CLASS-33-72 US-PATENT-CLASS-248-183 US-PATENT-CLASS-248-278 US-PATENT-CLASS-248-487 US-PATENT-CLASS-350-285 US-PATENT-CLASS-350-287 US-PATENT-3,596,863	c15 N72-12409	NASA-CASE-NPO-10637 US-PATENT-APPL-SN-851298 US-PATENT-CLASS-60-23 US-PATENT-CLASS-236-68 US-PATENT-CLASS-337-75 US-PATENT-CLASS-337-354 US-PATENT-CLASS-337-359 US-PATENT-3,591,960
c15 N72-11387	NASA-CASE-XMF-05902 US-PATENT-APPL-SN-769665 US-PATENT-CLASS-75-20F US-PATENT-3,592,628	c16 N72-12440	NASA-CASE-MFS-20180 US-PATENT-APPL-SN-863276 US-PATENT-CLASS-331-94.5 US-PATENT-CLASS-350-1 US-PATENT-CLASS-350-312 US-PATENT-3,593,194
c15 N72-11388	NASA-CASE-MFS-20423 US-PATENT-APPL-SN-865298 US-PATENT-CLASS-212-134 US-PATENT-CLASS-308-5 US-PATENT-3,600,046	c16 N72-13437	NASA-CASE-MFS-20125 US-PATENT-APPL-SN-830366 US-PATENT-CLASS-178-DIG.21 US-PATENT-CLASS-178-6 US-PATENT-CLASS-250-203X US-PATENT-CLASS-356-152 US-PATENT-3,603,686
c15 N72-11389	NASA-CASE-XLA-05056 US-PATENT-APPL-SN-596733 US-PATENT-CLASS-210-445 US-PATENT-3,592,768	c05 N72-15098	NASA-CASE-MSC-13917-1 US-PATENT-APPL-SN-198355
c15 N72-11390	NASA-CASE-MFS-18100 US-PATENT-APPL-SN-784055 US-PATENT-CLASS-15-143 US-PATENT-CLASS-15-210 US-PATENT-3,591,885	c15 N72-15476	NASA-CASE-MSC-12332-1 US-PATENT-APPL-SN-87223
c15 N72-11391	NASA-CASE-NPO-11012 US-PATENT-APPL-SN-845807 US-PATENT-CLASS-248-18 US-PATENT-CLASS-248-20 US-PATENT-3,592,422	c03 N72-15986	NASA-CASE-XGS-10010 US-PATENT-APPL-SN-729299 US-PATENT-CLASS-136-6 US-PATENT-CLASS-136-133 US-PATENT-CLASS-136-135 US-PATENT-3,607,401
c15 N72-11392	NASA-CASE-MFS-20299 US-PATENT-APPL-SN-889437 US-PATENT-CLASS-156-66 US-PATENT-CLASS-156-320 US-PATENT-CLASS-219-221 US-PATENT-CLASS-219-243 US-PATENT-3,593,001	c05 N72-16015	NASA-CASE-KSC-10278 US-PATENT-APPL-SN-856327 US-PATENT-CLASS-35-8 US-PATENT-CLASS-324-66 US-PATENT-CLASS-340-279 US-PATENT-3,609,740
c23 N72-11568	NASA-CASE-GSC-11133-1 US-PATENT-APPL-SN-121328	c10 N72-16172	NASA-CASE-ARC-10269-1 US-PATENT-APPL-SN-56791 US-PATENT-CLASS-307-230 US-PATENT-CLASS-307-262 US-PATENT-CLASS-328-155 US-PATENT-3,614,475
c24 N72-11595	NASA-CASE-MFS-20095 US-PATENT-APPL-SN-855004 US-PATENT-CLASS-250-49.5B US-PATENT-CLASS-250-49.5TE US-PATENT-CLASS-250-51 US-PATENT-CLASS-250-52 US-PATENT-3,593,024	c14 N72-16282	NASA-CASE-LAR-10913 US-PATENT-APPL-SN-779160 US-PATENT-CLASS-73-12 US-PATENT-3,605,482
c28 N72-11708	NASA-CASE-MFS-20619 US-PATENT-APPL-SN-18982 US-PATENT-CLASS-60-271 US-PATENT-CLASS-139-425R US-PATENT-CLASS-239-265.19 US-PATENT-CLASS-239-265.43 US-PATENT-3,596,465	c14 N72-16283	NASA-CASE-GSC-10780-1 US-PATENT-APPL-SN-860493 US-PATENT-CLASS-82-24R US-PATENT-3,608,409
c28 N72-11709	NASA-CASE-NPO-10737 US-PATENT-APPL-SN-760114 US-PATENT-CLASS-60-39-48 US-PATENT-CLASS-60-202 US-PATENT-3,591,967	c15 N72-16329	NASA-CASE-XLA-07829 US-PATENT-APPL-SN-763684 US-PATENT-CLASS-264-DIG.44 US-PATENT-CLASS-264-221 US-PATENT-CLASS-264-225 US-PATENT-CLASS-264-227 US-PATENT-3,608,046
c07 N72-12080	NASA-CASE-GSC-10087-3 US-PATENT-APPL-SN-880885 US-PATENT-CLASS-325-4 US-PATENT-CLASS-343-6.5R US-PATENT-CLASS-343-6.8R US-PATENT-3,594,790	c15 N72-16330	NASA-CASE-LAR-10203-1 US-PATENT-APPL-SN-769592 US-PATENT-CLASS-156-84 US-PATENT-CLASS-156-86 US-PATENT-3,607,495
c07 N72-12081	NASA-CASE-GSC-10185-1 US-PATENT-APPL-SN-733039 US-PATENT-CLASS-178-DIG.12 US-PATENT-CLASS-178-6 US-PATENT-CLASS-178-7.3 US-PATENT-CLASS-325-10 US-PATENT-CLASS-325-13 US-PATENT-3,588,331	c06 N72-17093	NASA-CASE-LEW-10794-1 US-PATENT-APPL-SN-33535 US-PATENT-CLASS-23-55 US-PATENT-CLASS-23-88 US-PATENT-CLASS-23-97 US-PATENT-3,607,015
c09 N72-12136	NASA-CASE-XER-09521 US-PATENT-APPL-SN-771530 US-PATENT-CLASS-136-202 US-PATENT-CLASS-136-206 US-PATENT-CLASS-136-227 US-PATENT-CLASS-343-DIG.3 US-PATENT-CLASS-343-720 US-PATENT-CLASS-343-840 US-PATENT-3,594,803	c06 N72-17094	NASA-CASE-NPO-10234 US-PATENT-APPL-SN-800204 US-PATENT-CLASS-23-230R US-PATENT-CLASS-23-232C US-PATENT-CLASS-23-253PC US-PATENT-CLASS-73-23.1 US-PATENT-3,607,076
		c06 N72-17095	NASA-CASE-NPO-10774 US-PATENT-APPL-SN-848805 US-PATENT-CLASS-23-201 US-PATENT-CLASS-23-230 US-PATENT-CLASS-23-253 US-PATENT-CLASS-73-76 US-PATENT-3,607,080
		c07 N72-17109	NASA-CASE-MSC-12146-1

ACCESSION NUMBER INDEX

	US-PATENT-APPL-SN-50206	c14 772-17328	NASA-CASE-XLA-07813
	US-PATENT-CLASS-178-5.2R		US-PATENT-APPL-SN-791364
	US-PATENT-CLASS-178-5.4		US-PATENT-CLASS-250-41.9
	US-PATENT-CLASS-178-6.7		US-PATENT-CLASS-250-49.5
	US-PATENT-3,603,722		US-PATENT-CLASS-250-71.5
c09 772-17152	NASA-CASE-ARC-10178-1		US-PATENT-CLASS-250-83.3
	US-PATENT-APPL-SN-47443		US-PATENT-CLASS-250-207
	US-PATENT-CLASS-250-211J		US-PATENT-3,609,353
	US-PATENT-3,603,798	c14 772-17329	NASA-CASE-ERC-10012
c09 772-17153	NASA-CASE-ARC-10105		US-PATENT-APPL-SN-771216
	US-PATENT-APPL-SN-887698		US-PATENT-CLASS-73-194A
	US-PATENT-CLASS-128-2.1A		US-PATENT-3,611,801
	US-PATENT-CLASS-307-252P	c15 772-17450	NASA-CASE-MSC-12279
	US-PATENT-CLASS-307-252J		US-PATENT-APPL-SN-24154
	US-PATENT-CLASS-325-492		US-PATENT-CLASS-188-1C
	US-PATENT-CLASS-340-177		US-PATENT-CLASS-188-129
	US-PATENT-3,603,946		US-PATENT-3,603,433
c09 772-17154	NASA-CASE-ERC-10139	c15 772-17451	NASA-CASE-WLP-10002
	US-PATENT-APPL-SN-889555		US-PATENT-APPL-SN-47062
	US-PATENT-CLASS-321-10		US-PATENT-CLASS-180-125
	US-PATENT-CLASS-336-178		US-PATENT-CLASS-180-127
	US-PATENT-3,603,864		US-PATENT-CLASS-308-DIG.1
c09 772-17155	NASA-CASE-NPO-11023		US-PATENT-CLASS-308-5
	US-PATENT-APPL-SN-865274		US-PATENT-CLASS-308-9
	US-PATENT-CLASS-330-18		US-PATENT-3,610,365
	US-PATENT-CLASS-330-40	c15 772-17452	NASA-CASE-XLA-10322
	US-PATENT-3,603,892		US-PATENT-APPL-SN-887699
c09 772-17156	NASA-CASE-NPO-10199		US-PATENT-CLASS-73-88.5R
	US-PATENT-APPL-SN-739391		US-PATENT-3,608,365
	US-PATENT-CLASS-178-7.1	c15 772-17453	NASA-CASE-NPO-11177
	US-PATENT-CLASS-330-11		US-PATENT-APPL-SN-20960
	US-PATENT-CLASS-330-35		US-PATENT-CLASS-62-51
	US-PATENT-3,609,230		US-PATENT-3,605,424
c09 772-17157	NASA-CASE-NPO-11253	c15 772-17454	NASA-CASE-NPO-11059
	US-PATENT-APPL-SN-21906		US-PATENT-APPL-SN-864020
	US-PATENT-CLASS-307-81		US-PATENT-CLASS-248-14
	US-PATENT-CLASS-307-223		US-PATENT-3,606,979
	US-PATENT-CLASS-307-227	c15 772-17455	NASA-CASE-NPO-11140
	US-PATENT-CLASS-328-186		US-PATENT-APPL-SN-15019
	US-PATENT-3,609,387		US-PATENT-CLASS-89-1.811
c10 772-17171	NASA-CASE-XAC-05462-2		US-PATENT-CLASS-174-84
	US-PATENT-APPL-SN-28235		US-PATENT-CLASS-200-64
	US-PATENT-CLASS-307-295		US-PATENT-CLASS-339-46
	US-PATENT-CLASS-328-167		US-PATENT-CLASS-339-176M
	US-PATENT-CLASS-330-109		US-PATENT-CLASS-339-278M
	US-PATENT-CLASS-330-176		US-PATENT-3,611,274
	US-PATENT-CLASS-333-70CR	c18 772-17532	NASA-CASE-EFS-13532
	US-PATENT-3,609,567		US-PATENT-APPL-SN-720546
c10 772-17172	NASA-CASE-ARC-10020		US-PATENT-CLASS-106-292
	US-PATENT-APPL-SN-31885		US-PATENT-CLASS-106-299
	US-PATENT-CLASS-330-26		US-PATENT-3,607,338
	US-PATENT-CLASS-330-31	c23 772-17747	NASA-CASE-ERC-10089
	US-PATENT-CLASS-330-94		US-PATENT-APPL-SN-791267
	US-PATENT-CLASS-330-107		US-PATENT-CLASS-340-174AG
	US-PATENT-CLASS-330-109		US-PATENT-CLASS-340-174CT
	US-PATENT-3,605,032		US-PATENT-CLASS-340-174GA
c10 772-17173	NASA-CASE-EFS-13130		US-PATENT-CLASS-340-174SC
	US-PATENT-APPL-SN-7868		US-PATENT-3,611,330
	US-PATENT-CLASS-250-83.30V	c26 772-17820	NASA-CASE-XER-08476-1
	US-PATENT-CLASS-250-209		US-PATENT-APPL-SN-672388
	US-PATENT-CLASS-340-228.2		US-PATENT-CLASS-29-578
	US-PATENT-3,609,364		US-PATENT-CLASS-29-589
c11 772-17183	NASA-CASE-EFS-20509		US-PATENT-CLASS-148-187
	US-PATENT-APPL-SN-889557		US-PATENT-3,602,984
	US-PATENT-CLASS-73-147	c28 772-17843	NASA-CASE-NPO-10046
	US-PATENT-3,602,920		US-PATENT-APPL-SN-860635
c14 772-17323	NASA-CASE-ERC-10248		US-PATENT-CLASS-60-39.74
	US-PATENT-APPL-SN-868445		US-PATENT-CLASS-60-258
	US-PATENT-CLASS-350-162		US-PATENT-3,603,092
	US-PATENT-CLASS-356-113	c30 772-17873	NASA-CASE-ARC-10134
	US-PATENT-CLASS-356-209		US-PATENT-APPL-SN-819898
	US-PATENT-CLASS-356-244		US-PATENT-CLASS-244-3.21
	US-PATENT-3,603,690		US-PATENT-3,603,532
c14 772-17324	NASA-CASE-EFS-20596	c33 772-17947	NASA-CASE-HSC-12143-1
	US-PATENT-APPL-SN-7867		US-PATENT-APPL-SN-791268
	US-PATENT-CLASS-350-3.5		US-PATENT-CLASS-102-105
	US-PATENT-3,605,519		US-PATENT-CLASS-161-67
c14 772-17325	NASA-CASE-MSC-15158-1		US-PATENT-CLASS-244-117
	US-PATENT-APPL-SN-889479		US-PATENT-3,603,260
	US-PATENT-CLASS-324-52	c33 772-17948	NASA-CASE-NPO-10828
	US-PATENT-3,609,535		US-PATENT-APPL-SN-873260
c14 772-17326	NASA-CASE-XMS-01994-1		US-PATENT-CLASS-165-105
	US-PATENT-APPL-SN-814212		US-PATENT-3,603,382
	US-PATENT-CLASS-356-4	c08 772-18184	NASA-CASE-NPO-10629
	US-PATENT-3,603,683		US-PATENT-APPL-SN-860751
c14 772-17327	NASA-CASE-LRN-10281-1		US-PATENT-CLASS-178-50
	US-PATENT-APPL-SN-861649		US-PATENT-CLASS-178-66
	US-PATENT-CLASS-73-198		US-PATENT-CLASS-179-15
	US-PATENT-3,605,495		US-PATENT-CLASS-235-154



ACCESSION NUMBER INDEX

	US-PATENT-CLASS-340-347DD	c08 N72-20176	NASA-CASE-NPO-11130
	US-PATENT-3,603,976		US-PATENT-APPL-SN-21508
c14 N72-18411	NASA-CASE-KSC-10294		US-PATENT-CLASS-235-92CC
	US-PATENT-APPL-SN-889556		US-PATENT-CLASS-235-92DR
	US-PATENT-CLASS-95-1.1		US-PATENT-CLASS-235-92DN
	US-PATENT-CLASS-307-311		US-PATENT-CLASS-235-92LG
	US-PATENT-CLASS-346-23		US-PATENT-CLASS-235-92R
	US-PATENT-CLASS-346-107A		US-PATENT-CLASS-235-152
	US-PATENT-CLASS-352-84		US-PATENT-CLASS-340-347DA
	US-PATENT-3,603,974		US-PATENT-CLASS-340-347DD
c15 N72-18477	NASA-CASE-GSC-10566-1	c08 N72-20177	US-PATENT-3,632,996
	US-PATENT-APPL-SN-889438		NASA-CASE-NPO-10748
	US-PATENT-CLASS-52-108		US-PATENT-APPL-SN-63383
	US-PATENT-CLASS-242-54		US-PATENT-CLASS-324-77G
	US-PATENT-3,608,844		US-PATENT-3,631,339
c28 N72-18766	NASA-CASE-GSC-10640-1	c09 N72-20199	NASA-CASE-NPO-10722
	US-PATENT-APPL-SN-17101		US-PATENT-APPL-SN-860492
	US-PATENT-CLASS-23-281		US-PATENT-CLASS-200-81.9E
	US-PATENT-CLASS-23-288		US-PATENT-CLASS-335-205
	US-PATENT-CLASS-60-260		US-PATENT-3,632,923
	US-PATENT-3,603,093	c09 N72-20200	NASA-CASE-NPO-10694
c31 N72-18859	NASA-CASE-MSC-13281		US-PATENT-APPL-SN-24224
	US-PATENT-APPL-SN-76669		US-PATENT-CLASS-339-275T
	US-PATENT-CLASS-244-15.5		US-PATENT-CLASS-339-276T
	US-PATENT-3,606,212	c09 N72-20205	US-PATENT-3,631,382
c03 N72-20031	NASA-CASE-GSC-10669-1		NASA-CASE-XLE-03155-2
	US-PATENT-APPL-SN-90595		US-PATENT-APPL-SN-17102
	US-PATENT-CLASS-136-89	c10 N72-20221	NASA-CASE-GSC-10082-1
	US-PATENT-CLASS-244-ISS		US-PATENT-APPL-SN-41430
	US-PATENT-CLASS-340-210		US-PATENT-CLASS-307-273
	US-PATENT-3,636,539		US-PATENT-CLASS-307-288
c03 N72-20032	NASA-CASE-NPO-11021		US-PATENT-CLASS-307-313
	US-PATENT-APPL-SN-880250		US-PATENT-CLASS-328-207
	US-PATENT-CLASS-136-79		US-PATENT-CLASS-330-30D
	US-PATENT-CLASS-136-81	c10 N72-20222	US-PATENT-3,633,048
	US-PATENT-CLASS-136-166		NASA-CASE-XLA-11189
	US-PATENT-3,625,766		US-PATENT-APPL-SN-889375
c03 N72-20033	NASA-CASE-NPO-10401		US-PATENT-CLASS-324-115
	US-PATENT-APPL-SN-15025		US-PATENT-CLASS-324-132
	US-PATENT-CLASS-210-212		US-PATENT-3,638,114
	US-PATENT-CLASS-356-222	c10 N72-20223	NASA-CASE-NPO-11133
	US-PATENT-3,630,627		US-PATENT-APPL-SN-887685
c03 N72-20034	NASA-CASE-LEW-11359-2		US-PATENT-CLASS-307-295
	US-PATENT-APPL-SN-57399		US-PATENT-CLASS-328-16
	US-PATENT-CLASS-136-83R		US-PATENT-CLASS-328-20
	US-PATENT-CLASS-136-100R		US-PATENT-CLASS-328-38
	US-PATENT-CLASS-136-175		US-PATENT-CLASS-328-166
	US-PATENT-3,635,765	c10 N72-20224	US-PATENT-3,626,308
c05 N72-20096	NASA-CASE-MSC-12411-1		NASA-CASE-NPO-11203
	US-PATENT-APPL-SN-701244		US-PATENT-APPL-SN-3696
	US-PATENT-CLASS-2-2.1		US-PATENT-CLASS-324-83A
	US-PATENT-CLASS-128-142.5		US-PATENT-CLASS-324-85
	US-PATENT-CLASS-128-402		US-PATENT-CLASS-328-133
	US-PATENT-3,635,216		US-PATENT-CLASS-343-12
c05 N72-20097	NASA-CASE-MFS-20332		US-PATENT-3,631,351
	US-PATENT-APPL-SN-869260	c10 N72-20225	NASA-CASE-MSC-13407-1
	US-PATENT-CLASS-137-81		US-PATENT-APPL-SN-65840
	US-PATENT-CLASS-137-469		US-PATENT-CLASS-315-22
	US-PATENT-3,636,966		US-PATENT-CLASS-315-25
c05 N72-20098	NASA-CASE-MSC-12398		US-PATENT-3,638,066
	US-PATENT-APPL-SN-785615	c11 N72-20244	NASA-CASE-NPO-11210
	US-PATENT-CLASS-2-2.1		US-PATENT-APPL-SN-880831
	US-PATENT-3,624,839		US-PATENT-CLASS-123-102
c06 N72-20121	NASA-CASE-NPO-10765		US-PATENT-CLASS-180-105E
	US-PATENT-APPL-SN-770425		US-PATENT-CLASS-318-308
	US-PATENT-CLASS-260-544F		US-PATENT-CLASS-318-327
	US-PATENT-3,637,842		US-PATENT-CLASS-318-376
c07 N72-20140	NASA-CASE-NPO-10844		US-PATENT-3,630,304
	US-PATENT-APPL-SN-839934	c11 N72-20253	NASA-CASE-LAB-10256-1
	US-PATENT-CLASS-178-69.5R		US-PATENT-APPL-SN-220785
	US-PATENT-CLASS-179-15BS	c14 N72-20379	NASA-CASE-GSC-10514-1
	US-PATENT-CLASS-325-4		US-PATENT-APPL-SN-873045
	US-PATENT-CLASS-325-38		US-PATENT-CLASS-250-208
	US-PATENT-CLASS-325-56		US-PATENT-CLASS-356-138
	US-PATENT-CLASS-325-321		US-PATENT-CLASS-356-152
	US-PATENT-3,626,298	c14 N72-20380	US-PATENT-3,637,312
c07 N72-20141	NASA-CASE-BRC-10179		NASA-CASE-LAB-10176-1
	US-PATENT-APPL-SN-50207		US-PATENT-APPL-SN-811038
	US-PATENT-CLASS-325-445		US-PATENT-CLASS-95-18
	US-PATENT-CLASS-329-161		US-PATENT-3,626,828
	US-PATENT-CLASS-329-162	c14 N72-20381	NASA-CASE-GSC-10503-1
	US-PATENT-CLASS-332-51W		US-PATENT-APPL-SN-789044
	US-PATENT-CLASS-333-73W		US-PATENT-CLASS-250-83.6R
	US-PATENT-CLASS-343-772		US-PATENT-3,626,189
	US-PATENT-CLASS-343-773	c14 N72-20394	NASA-CASE-MSC-12448-1
	US-PATENT-CLASS-343-786		US-PATENT-APPL-SN-212010
	US-PATENT-3,633,110	c15 N72-20442	NASA-CASE-GSC-10607-1
c07 N72-20154	NASA-CASE-NPO-11243		US-PATENT-APPL-SN-27340
	US-PATENT-APPL-SN-177753		US-PATENT-CLASS-251-129

ACCESSION NUMBER INDEX

c15 N72-20443 ..... US-PATENT-CLASS-251-333  
 US-PATENT-3,632,081  
 NASA-CASE-NPO-10671  
 US-PATENT-APPL-SN-857967  
 US-PATENT-CLASS-188-1B  
 US-PATENT-CLASS-188-1C  
 US-PATENT-CLASS-188-26B  
 US-PATENT-3,637,051  
 NASA-CASE-FRC-10038  
 c15 N72-20444 ..... US-PATENT-APPL-SN-889554  
 US-PATENT-CLASS-29-412  
 US-PATENT-CLASS-29-426  
 US-PATENT-CLASS-29-527.2  
 US-PATENT-CLASS-29-624  
 US-PATENT-CLASS-51-216  
 US-PATENT-CLASS-51-320  
 US-PATENT-CLASS-51-323  
 US-PATENT-3,636,623  
 c15 N72-20445 ..... NASA-CASE-NPO-10704  
 US-PATENT-APPL-SN-59895  
 US-PATENT-CLASS-138-178  
 US-PATENT-CLASS-285-18  
 US-PATENT-CLASS-285-345  
 US-PATENT-3,632,140  
 c15 N72-20446 ..... NASA-CASE-NFS-20698  
 US-PATENT-APPL-SN-3418  
 US-PATENT-CLASS-23-209.1  
 US-PATENT-CLASS-100-299  
 US-PATENT-CLASS-264-22  
 US-PATENT-CLASS-425-77  
 US-PATENT-3,632,242  
 c22 N72-20597 ..... NASA-CASE-XLR-04599  
 US-PATENT-APPL-SN-751215  
 US-PATENT-CLASS-176-866  
 US-PATENT-3,629,068  
 c28 N72-20758 ..... NASA-CASE-INP-03282  
 US-PATENT-APPL-SN-745337  
 US-PATENT-CLASS-60-254  
 US-PATENT-3,636,711  
 c28 N72-20767 ..... NASA-CASE-ARC-10180-1  
 US-PATENT-APPL-SN-136253  
 c30 N72-20805 ..... NASA-CASE-MSC-13802-1  
 US-PATENT-APPL-SN-189438  
 c31 N72-20840 ..... NASA-CASE-NFS-20922  
 US-PATENT-APPL-SN-220274  
 c33 N72-20915 ..... NASA-CASE-NPO-10831  
 US-PATENT-APPL-SN-10161  
 US-PATENT-CLASS-122-32  
 US-PATENT-CLASS-165-133  
 US-PATENT-CLASS-165-155  
 US-PATENT-CLASS-165-158  
 US-PATENT-CLASS-165-161  
 US-PATENT-CLASS-165-174  
 US-PATENT-3,630,276  
 c06 N72-21094 ..... NASA-CASE-ERC-10108  
 US-PATENT-APPL-SN-833049  
 US-PATENT-CLASS-96-36.2  
 US-PATENT-CLASS-156-3  
 US-PATENT-3,615,465  
 c06 N72-21100 ..... NASA-CASE-NPO-12061-1  
 US-PATENT-APPL-SN-45549  
 c06 N72-21105 ..... NASA-CASE-GSC-11304-1  
 US-PATENT-APPL-SN-137912  
 c07 N72-21117 ..... NASA-CASE-XLA-11154  
 US-PATENT-APPL-SN-23532  
 US-PATENT-CLASS-343-706  
 US-PATENT-CLASS-343-912  
 US-PATENT-3,623,107  
 c07 N72-21118 ..... NASA-CASE-NPO-11001  
 US-PATENT-APPL-SN-856279  
 US-PATENT-CLASS-343-5CH  
 US-PATENT-CLASS-343-6.5R  
 US-PATENT-CLASS-343-100ST  
 US-PATENT-3,624,650  
 c07 N72-21119 ..... NASA-CASE-ERC-10112  
 US-PATENT-APPL-SN-796690  
 US-PATENT-CLASS-179-100.2K  
 US-PATENT-3,614,343  
 c08 N72-21197 ..... NASA-CASE-KSC-10326  
 US-PATENT-APPL-SN-25487  
 US-PATENT-CLASS-235-155  
 US-PATENT-CLASS-340-347DD  
 US-PATENT-3,638,002  
 c08 N72-21198 ..... NASA-CASE-ERC-10307  
 US-PATENT-APPL-SN-39755  
 US-PATENT-CLASS-307-299  
 US-PATENT-CLASS-307-303  
 US-PATENT-CLASS-307-311  
 US-PATENT-CLASS-340-173.2

c08 N72-21199 ..... US-PATENT-CLASS-340-173L  
 US-PATENT-3,623,031  
 NASA-CASE-NPO-10743  
 US-PATENT-APPL-SN-850587  
 US-PATENT-CLASS-340-174CS  
 US-PATENT-CLASS-340-174LC  
 US-PATENT-CLASS-340-174M  
 US-PATENT-CLASS-340-174SR  
 US-PATENT-3,613,110  
 c08 N72-21200 ..... NASA-CASE-NPO-11018  
 US-PATENT-APPL-SN-873259  
 US-PATENT-CLASS-340-347AD  
 US-PATENT-3,613,111  
 c09 N72-21243 ..... NASA-CASE-LEW-11005-1  
 US-PATENT-APPL-SN-86548  
 US-PATENT-CLASS-323-DIG.1  
 US-PATENT-CLASS-323-22T  
 US-PATENT-CLASS-323-38  
 US-PATENT-3,638,103  
 c09 N72-21244 ..... NASA-CASE-LAR-10545-1  
 US-PATENT-APPL-SN-31703  
 US-PATENT-CLASS-343-771  
 US-PATENT-CLASS-343-893  
 US-PATENT-3,638,224  
 c09 N72-21245 ..... NASA-CASE-ARC-10192  
 US-PATENT-APPL-SN-15024  
 US-PATENT-CLASS-307-230  
 US-PATENT-CLASS-307-295  
 US-PATENT-CLASS-328-142  
 US-PATENT-CLASS-328-167  
 US-PATENT-CLASS-330-70R  
 US-PATENT-CLASS-330-85  
 US-PATENT-CLASS-333-80  
 US-PATENT-3,621,407  
 c09 N72-21246 ..... NASA-CASE-NPO-11134  
 US-PATENT-APPL-SN-883524  
 US-PATENT-CLASS-318-576  
 US-PATENT-CLASS-324-71R  
 US-PATENT-CLASS-346-1  
 US-PATENT-CLASS-346-29  
 US-PATENT-3,624,659  
 c09 N72-21247 ..... NASA-CASE-KSC-10393  
 US-PATENT-APPL-SN-71047  
 US-PATENT-CLASS-307-257  
 US-PATENT-CLASS-307-259  
 US-PATENT-CLASS-331-14  
 US-PATENT-CLASS-331-23  
 US-PATENT-CLASS-331-30  
 US-PATENT-CLASS-331-111  
 US-PATENT-3,614,648  
 c09 N72-21248 ..... NASA-CASE-LAR-10503-1  
 US-PATENT-APPL-SN-229143  
 c12 N72-21310 ..... NASA-CASE-NFS-20829  
 US-PATENT-APPL-SN-61894  
 US-PATENT-CLASS-169-28  
 US-PATENT-CLASS-169-36  
 US-PATENT-3,613,794  
 c14 N72-21405 ..... NASA-CASE-NPO-10832  
 US-PATENT-APPL-SN-22265  
 US-PATENT-CLASS-73-141A  
 US-PATENT-3,623,360  
 c14 N72-21407 ..... NASA-CASE-NFS-20642  
 US-PATENT-APPL-SN-873793  
 US-PATENT-CLASS-73-147  
 US-PATENT-3,623,361  
 c14 N72-21408 ..... NASA-CASE-MSC-13332-1  
 US-PATENT-APPL-SN-77169  
 US-PATENT-CLASS-250-43.5R  
 US-PATENT-CLASS-250-83.3B  
 US-PATENT-3,614,431  
 c14 N72-21409 ..... NASA-CASE-MSC-12105-1  
 US-PATENT-APPL-SN-763743  
 US-PATENT-CLASS-356-17  
 US-PATENT-CLASS-356-18  
 US-PATENT-3,614,228  
 c14 N72-21421 ..... NASA-CASE-ARC-10448-1  
 US-PATENT-APPL-SN-221670  
 c14 N72-21432 ..... NASA-CASE-LAR-10766-1  
 US-PATENT-APPL-SN-186836  
 c14 N72-21433 ..... NASA-CASE-ARC-10344-1  
 US-PATENT-APPL-SN-180962  
 c15 N72-21462 ..... NASA-CASE-NPO-10679  
 US-PATENT-APPL-SN-846282  
 US-PATENT-CLASS-74-89.15  
 US-PATENT-3,614,898  
 c15 N72-21463 ..... NASA-CASE-NFS-20413  
 US-PATENT-APPL-SN-69209  
 US-PATENT-CLASS-74-469  
 US-PATENT-3,620,095

ACCESSION NUMBER INDEX

c15 N72-21464	NASA-CASE-ARC-10176-1 US-PATENT-APPL-SM-889583 US-PATENT-CLASS-324-57R US-PATENT-CLASS-324-64 US-PATENT-CLASS-324-71R US-PATENT-3,624,496	US-PATENT-CLASS-340-347AD US-PATENT-3,614,772
c15 N72-21465	NASA-CASE-GSC-10218-1 US-PATENT-APPL-SM-15022 US-PATENT-CLASS-23-253R US-PATENT-CLASS-23-259 US-PATENT-CLASS-73-425.6 US-PATENT-CLASS-141-23 US-PATENT-CLASS-195-127 US-PATENT-CLASS-222-71 US-PATENT-CLASS-222-135 US-PATENT-CLASS-222-309 US-PATENT-3,615,241	c08 N72-22164 NASA-CASE-NPO-10745 US-PATENT-APPL-SM-878730 US-PATENT-CLASS-178-DIG.28 US-PATENT-CLASS-178-DIG.36 US-PATENT-CLASS-178-6.8 US-PATENT-CLASS-178-7.2R US-PATENT-3,621,130
c15 N72-21466	NASA-CASE-NPO-10440 US-PATENT-APPL-SM-756834 US-PATENT-CLASS-204-59 US-PATENT-CLASS-204-130 US-PATENT-3,616,338	c08 N72-22165 NASA-CASE-NPO-11104 US-PATENT-APPL-SM-860750 US-PATENT-CLASS-235-150.52 US-PATENT-CLASS-235-150.53 US-PATENT-CLASS-235-183 US-PATENT-CLASS-235-194 US-PATENT-CLASS-235-197 US-PATENT-CLASS-340-347R US-PATENT-3,621,228
c15 N72-21489	NASA-CASE-XLA-10470 US-PATENT-APPL-SM-219436	c08 N72-22166 NASA-CASE-NPO-10560 US-PATENT-APPL-SM-856282 US-PATENT-CLASS-235-153 US-PATENT-CLASS-324-73AT US-PATENT-CLASS-340-347AD US-PATENT-3,603,772
c21 N72-21624	NASA-CASE-HQM-10439 US-PATENT-APPL-SM-889551 US-PATENT-CLASS-244-15A US-PATENT-3,637,170	c08 N72-22167 NASA-CASE-NPO-11082 US-PATENT-APPL-SM-868529 US-PATENT-CLASS-235-152 US-PATENT-CLASS-340-146.1 US-PATENT-CLASS-340-348 US-PATENT-3,609,327
c21 N72-21631	NASA-CASE-ERC-10419 US-PATENT-APPL-SM-219722	c09 N72-22195 NASA-CASE-NFS-14710 US-PATENT-APPL-SM-852843 US-PATENT-CLASS-74-105 US-PATENT-3,614,899
c22 N72-21644	NASA-CASE-XLE-05799 US-PATENT-APPL-SM-10162 US-PATENT-CLASS-176-86L US-PATENT-3,624,241	c09 N72-22196 NASA-CASE-ERC-10075-2 US-PATENT-APPL-SM-775870 US-PATENT-CLASS-321-2 US-PATENT-CLASS-321-14 US-PATENT-CLASS-321-19 US-PATENT-CLASS-321-25 US-PATENT-CLASS-323-56 US-PATENT-CLASS-323-89C US-PATENT-3,614,587
c23 N72-21663	NASA-CASE-HQM-10542-1 US-PATENT-APPL-SM-163151	c09 N72-22197 NASA-CASE-LEW-10433-1 US-PATENT-APPL-SM-849106 US-PATENT-CLASS-307-88MP US-PATENT-CLASS-307-262 US-PATENT-3,612,895
c25 N72-21693	NASA-CASE-IMP-04167-3 US-PATENT-APPL-SM-170544	c09 N72-22198 NASA-CASE-NFS-13687-2 US-PATENT-APPL-SM-80369 US-PATENT-CLASS-174-36 US-PATENT-CLASS-178-106R US-PATENT-CLASS-174-117FF US-PATENT-3,612,743
c26 N72-21701	NASA-CASE-ERC-10119 US-PATENT-APPL-SM-825258 US-PATENT-CLASS-307-299 US-PATENT-CLASS-317-234V US-PATENT-CLASS-317-235R US-PATENT-CLASS-331-107 US-PATENT-CLASS-332-31 US-PATENT-3,614,557	c09 N72-22199 NASA-CASE-ERC-10222 US-PATENT-APPL-SM-832603 US-PATENT-CLASS-29-590 US-PATENT-3,621,565
c03 N72-22041	NASA-CASE-NPO-10591 US-PATENT-APPL-SM-776185 US-PATENT-CLASS-29-572 US-PATENT-3,616,528	c09 N72-22200 NASA-CASE-ERC-10036 US-PATENT-APPL-SM-872602 US-PATENT-CLASS-73-88.5 US-PATENT-CLASS-307-237 US-PATENT-CLASS-307-254 US-PATENT-CLASS-307-317 US-PATENT-CLASS-328-1 US-PATENT-CLASS-328-151 US-PATENT-3,621,285
c03 N72-22042	NASA-CASE-NPO-10747 US-PATENT-APPL-SM-6616 US-PATENT-CLASS-136-89 US-PATENT-3,615,853	c09 N72-22201 NASA-CASE-LEW-10387 US-PATENT-APPL-SM-76899 US-PATENT-CLASS-307-223B US-PATENT-CLASS-307-241 US-PATENT-CLASS-307-252J US-PATENT-CLASS-307-252K US-PATENT-CLASS-307-284 US-PATENT-CLASS-307-304 US-PATENT-CLASS-307-317 US-PATENT-CLASS-328-106 US-PATENT-3,621,287
c05 N72-22092	NASA-CASE-ARC-10275-1 US-PATENT-APPL-SM-21644 US-PATENT-CLASS-2-2.1A US-PATENT-3,636,564	c09 N72-22202 NASA-CASE-ARC-10136-1 US-PATENT-APPL-SM-865106 US-PATENT-CLASS-128-2.1A US-PATENT-CLASS-128-2R US-PATENT-CLASS-307-231 US-PATENT-CLASS-307-247 US-PATENT-CLASS-307-288 US-PATENT-CLASS-325-29 US-PATENT-CLASS-325-492 US-PATENT-CLASS-340-171 US-PATENT-CLASS-340-203
c05 N72-22093	NASA-CASE-HSC-12324-1 US-PATENT-APPL-SM-63384 US-PATENT-CLASS-4-99 US-PATENT-CLASS-4-110 US-PATENT-CLASS-128-295 US-PATENT-3,602,923	
c06 N72-22107	NASA-CASE-NPO-10862 US-PATENT-APPL-SM-810815 US-PATENT-CLASS-260-877 US-PATENT-3,639,510	
c06 N72-22114	NASA-CASE-NPO-11609-1 US-PATENT-APPL-SM-228229	
c07 N72-22127	NASA-CASE-NPO-10303 US-PATENT-APPL-SM-848776 US-PATENT-CLASS-343-771 US-PATENT-CLASS-343-797 US-PATENT-CLASS-343-853 US-PATENT-CLASS-343-912 US-PATENT-3,623,114	
c08 N72-22162	NASA-CASE-NPO-11333 US-PATENT-APPL-SM-78065 US-PATENT-CLASS-178-52 US-PATENT-CLASS-179-15A US-PATENT-CLASS-179-15BL US-PATENT-CLASS-307-243 US-PATENT-CLASS-307-251 US-PATENT-CLASS-328-104 US-PATENT-CLASS-328-154 US-PATENT-3,614,327	
c08 N72-22163	NASA-CASE-HSC-13110-1 US-PATENT-APPL-SM-23132	

ACCESSION NUMBER INDEX

c09 N72-22203	US-PATENT-3,621,290 NASA-CASE-XER-11046 US-PATENT-APPL-SN-810579 US-PATENT-CLASS-321-2 US-PATENT-CLASS-321-15 US-PATENT-CLASS-321-18 US-PATENT-CLASS-321-45 US-PATENT-CLASS-331-117 US-PATENT-3,621,362	c15 N72-22482	OS-PATENT-CLASS-33-174S US-PATENT-CLASS-350-86 US-PATENT-3,620,595 NASA-CASE-XLA-04897 US-PATENT-APPL-SN-880249 US-PATENT-CLASS-73-133 US-PATENT-3,613,457
c09 N72-22204	NASA-CASE-LAR-10137-1 US-PATENT-APPL-SN-881041 US-PATENT-CLASS-200-81R US-PATENT-CLASS-200-82C US-PATENT-3,609,271	c15 N72-22483	NASA-CASE-XND-09770-2 US-PATENT-APPL-SN-864039 US-PATENT-CLASS-209-349 US-PATENT-3,615,021 NASA-CASE-LAR-10031
c10 N72-22235	US-PATENT-CLASS-200-81R US-PATENT-CLASS-200-82C US-PATENT-3,609,271 NASA-CASE-GSC-10064-1 US-PATENT-APPL-SN-802812 US-PATENT-CLASS-343-7.4 US-PATENT-CLASS-343-16M US-PATENT-CLASS-343-779 US-PATENT-CLASS-343-786 US-PATENT-3,623,094	c15 N72-22484	US-PATENT-CLASS-62-55.5 US-PATENT-3,625,018 NASA-CASE-MSC-13512-1 US-PATENT-APPL-SN-73932 US-PATENT-CLASS-74-501R US-PATENT-3,625,084
c10 N72-22236	US-PATENT-CLASS-343-786 US-PATENT-3,623,094 NASA-CASE-GSC-10878-1 US-PATENT-APPL-SN-889423 US-PATENT-CLASS-307-206 US-PATENT-CLASS-307-215 US-PATENT-CLASS-307-322 US-PATENT-CLASS-307-323 US-PATENT-3,621,277	c15 N72-22485	NASA-CASE-RSC-10031 US-PATENT-APPL-SN-98773 US-PATENT-CLASS-220-5R US-PATENT-CLASS-317-101DB US-PATENT-CLASS-317-117 US-PATENT-CLASS-317-120 US-PATENT-3,639,809
c11 N72-22245	US-PATENT-CLASS-307-323 US-PATENT-3,621,277 NASA-CASE-NPO-12109 US-PATENT-APPL-SN-690172 US-PATENT-CLASS-230-54 US-PATENT-CLASS-230-221 US-PATENT-3,612,391	c15 N72-22487	US-PATENT-CLASS-220-5R US-PATENT-CLASS-317-117 US-PATENT-CLASS-317-120 US-PATENT-3,639,809 NASA-CASE-GSC-10303 US-PATENT-APPL-SN-802813 US-PATENT-CLASS-29-473.1 US-PATENT-3,619,896
c11 N72-22246	US-PATENT-CLASS-230-54 US-PATENT-CLASS-230-221 US-PATENT-3,612,391 NASA-CASE-XLA-07430 US-PATENT-APPL-SN-867841 US-PATENT-CLASS-73-147 US-PATENT-3,620,076	c15 N72-22488	NASA-CASE-MSC-11849-1 US-PATENT-APPL-SN-6617 US-PATENT-CLASS-85-1 US-PATENT-3,623,394 NASA-CASE-GSC-10518-1
c11 N72-22247	US-PATENT-CLASS-73-147 US-PATENT-3,620,076 NASA-CASE-NPO-11013 US-PATENT-APPL-SN-858695 US-PATENT-CLASS-42-1F US-PATENT-3,619,924	c15 N72-22489	US-PATENT-CLASS-85-1 US-PATENT-3,623,394 NASA-CASE-GSC-10518-1 US-PATENT-APPL-SN-789045 US-PATENT-CLASS-55-446 US-PATENT-CLASS-55-464 US-PATENT-CLASS-417-152 US-PATENT-3,623,828
c14 N72-22437	US-PATENT-CLASS-42-1F US-PATENT-3,619,924 NASA-CASE-LAR-10496-1 US-PATENT-APPL-SN-12661 US-PATENT-CLASS-73-141A US-PATENT-3,611,798	c15 N72-22490	US-PATENT-CLASS-417-152 US-PATENT-3,623,828 NASA-CASE-LEW-10856-1 US-PATENT-APPL-SN-3417 US-PATENT-CLASS-308-195 US-PATENT-3,620,585
c14 N72-22438	US-PATENT-3,611,798 NASA-CASE-ARC-10263-1 US-PATENT-APPL-SN-882122 US-PATENT-CLASS-73-398C US-PATENT-3,620,083	c15 N72-22491	US-PATENT-CLASS-308-195 US-PATENT-3,620,585 NASA-CASE-GSC-10913 US-PATENT-APPL-SN-889558 US-PATENT-CLASS-29-628 US-PATENT-CLASS-219-85 US-PATENT-CLASS-219-158
c14 N72-22439	US-PATENT-CLASS-73-398C US-PATENT-3,620,083 NASA-CASE-MFS-20890 US-PATENT-APPL-SN-103229 US-PATENT-CLASS-29-421 US-PATENT-CLASS-264-22 US-PATENT-CLASS-310-11 US-PATENT-CLASS-310-42 US-PATENT-3,626,218	c15 N72-22492	US-PATENT-CLASS-219-158 US-PATENT-CLASS-219-234 US-PATENT-CLASS-228-57 US-PATENT-3,621,194 NASA-CASE-MFS-20482 US-PATENT-APPL-SN-6610 US-PATENT-CLASS-29-472.9 US-PATENT-CLASS-29-473.1 US-PATENT-3,602,979
c14 N72-22440	US-PATENT-CLASS-310-42 US-PATENT-3,626,218 NASA-CASE-ARC-10154-1 US-PATENT-APPL-SN-793771 US-PATENT-CLASS-73-67.2 US-PATENT-3,620,069	c16 N72-22520	US-PATENT-CLASS-29-473.1 US-PATENT-3,602,979 NASA-CASE-LAR-10815-1 US-PATENT-APPL-SN-233587
c14 N72-22441	US-PATENT-CLASS-73-67.2 US-PATENT-3,620,069 NASA-CASE-NPO-11002 US-PATENT-APPL-SN-856328 US-PATENT-CLASS-350-19 US-PATENT-CLASS-350-23 US-PATENT-CLASS-350-26 US-PATENT-CLASS-350-35 US-PATENT-CLASS-350-36 US-PATENT-CLASS-350-49 US-PATENT-CLASS-350-52 US-PATENT-3,612,645	c17 N72-22530	US-PATENT-CLASS-228-57 US-PATENT-3,621,194 NASA-CASE-MFS-20482 US-PATENT-APPL-SN-6610 US-PATENT-CLASS-29-472.9 US-PATENT-CLASS-29-473.1 US-PATENT-3,602,979 NASA-CASE-LAR-10815-1 US-PATENT-APPL-SN-233587
c14 N72-22442	US-PATENT-CLASS-350-52 US-PATENT-3,612,645 NASA-CASE-MFS-21629 US-PATENT-APPL-SN-612265 US-PATENT-CLASS-73-304 US-PATENT-CLASS-324-61 US-PATENT-3,639,835	c17 N72-22535	US-PATENT-CLASS-228-57 US-PATENT-3,621,194 NASA-CASE-MFS-20482 US-PATENT-APPL-SN-6610 US-PATENT-CLASS-29-472.9 US-PATENT-CLASS-29-473.1 US-PATENT-3,602,979 NASA-CASE-LAR-10815-1 US-PATENT-APPL-SN-233587 NASA-CASE-XLB-06461 US-PATENT-APPL-SN-853855 US-PATENT-CLASS-75-15B US-PATENT-3,623,861
c14 N72-22443	US-PATENT-CLASS-324-61 US-PATENT-3,639,835 NASA-CASE-IGS-03736 US-PATENT-APPL-SN-749320 US-PATENT-CLASS-96-90PC US-PATENT-CLASS-252-300 US-PATENT-3,639,250	c18 N72-22566	US-PATENT-CLASS-75-15B US-PATENT-3,623,861 NASA-CASE-LEW-10874-1 US-PATENT-APPL-SN-68024 US-PATENT-CLASS-75-170 US-PATENT-CLASS-148-32.5 US-PATENT-3,620,718 NASA-CASE-MFS-20011 US-PATENT-APPL-SN-813338 US-PATENT-CLASS-106-84 US-PATENT-CLASS-106-286 US-PATENT-CLASS-106-288B US-PATENT-3,620,791
c14 N72-22444	US-PATENT-CLASS-96-90PC US-PATENT-CLASS-252-300 US-PATENT-3,639,250 NASA-CASE-LAR-10523-1 US-PATENT-APPL-SN-32665 US-PATENT-CLASS-250-203 US-PATENT-CLASS-350-16 US-PATENT-CLASS-350-52 US-PATENT-CLASS-356-248 US-PATENT-3,647,276	c18 N72-22567	US-PATENT-CLASS-106-288B US-PATENT-3,620,791 NASA-CASE-MPO-11091 US-PATENT-APPL-SN-860781 US-PATENT-CLASS-260-2.1E US-PATENT-3,629,161 NASA-CASE-ARC-10179-1 US-PATENT-APPL-SN-835058 US-PATENT-CLASS-244-114 US-PATENT-CLASS-340-26 US-PATENT-3,624,598
c14 N72-22445	US-PATENT-CLASS-350-16 US-PATENT-CLASS-350-52 US-PATENT-CLASS-356-248 US-PATENT-3,647,276 NASA-CASE-LAR-10184 US-PATENT-APPL-SN-16808	c21 N72-22619	US-PATENT-CLASS-340-26 US-PATENT-3,624,598 NASA-CASE-XBR-07896-2 US-PATENT-APPL-SN-36819 US-PATENT-CLASS-350-310 US-PATENT-3,620,606 NASA-CASE-ARC-10106-1 US-PATENT-APPL-SN-812998
		c23 N72-22673	
		c28 N72-22769	

ACCESSION NUMBER INDEX

	US-PATENT-CLASS-244-3.22		US-PATENT-CLASS-136-89
	US-PATENT-3,612,442		US-PATENT-3,653,970
c28 N72-22770	NASA-CASE-LEW-10770-1	c14 N72-24477	NASA-CASE-ARC-10138-1
	US-PATENT-APPL-SN-880246		US-PATENT-APPL-SN-774733
	US-PATENT-CLASS-60-202		US-PATENT-CLASS-73-355B
	US-PATENT-3,613,370		US-PATENT-CLASS-250-83.3H
c28 N72-22771	NASA-CASE-LEW-10835-1		US-PATENT-CLASS-317-247
	US-PATENT-APPL-SN-67815		US-PATENT-CLASS-324-61R
	US-PATENT-CLASS-60-202		US-PATENT-3,657,644
	US-PATENT-3,620,018	c15 N72-24522	NASA-CASE-NPO-11036
	NASA-CASE-NPO-12072		US-PATENT-APPL-SN-41346
c28 N72-22772	US-PATENT-APPL-SN-82647		US-PATENT-CLASS-264-92
	US-PATENT-CLASS-123-122AB		US-PATENT-3,658,974
	US-PATENT-CLASS-137-81.5	c25 N72-24753	NASA-CASE-XNP-04167-2
	US-PATENT-CLASS-261-145		US-PATENT-APPL-SN-866442
	US-PATENT-3,640,256		US-PATENT-CLASS-313-186
c31 N72-22874	NASA-CASE-NPO-10883		US-PATENT-CLASS-313-212
	US-PATENT-APPL-SN-26573		US-PATENT-CLASS-313-224
	US-PATENT-CLASS-136-89		US-PATENT-CLASS-313-231
	US-PATENT-CLASS-312-257		US-PATENT-CLASS-315-111
	US-PATENT-3,620,846		US-PATENT-CLASS-315-326
c03 N72-23048	NASA-CASE-NPO-11388		US-PATENT-CLASS-315-358
	US-PATENT-APPL-SN-119282		US-PATENT-CLASS-331-94.5
	US-PATENT-CLASS-310-2	c03 N72-25019	US-PATENT-3,617,804
	US-PATENT-CLASS-321-2		NASA-CASE-NPO-10575
	US-PATENT-CLASS-322-2		US-PATENT-APPL-SN-6615
	US-PATENT-3,648,152		US-PATENT-CLASS-156-250
c05 N72-23085	NASA-CASE-LAR-10102-1		US-PATENT-CLASS-156-510
	US-PATENT-APPL-SN-13266		US-PATENT-3,654,036
	US-PATENT-CLASS-224-25A	c03 N72-25020	NASA-CASE-GSC-11211-1
	US-PATENT-3,649,921		US-PATENT-APPL-SN-139528
c09 N72-23171	NASA-CASE-GSC-10221-1		US-PATENT-CLASS-235-92T
	US-PATENT-APPL-SN-779025		US-PATENT-CLASS-307-141.8
	US-PATENT-CLASS-307-252N		US-PATENT-CLASS-320-48
	US-PATENT-CLASS-307-252R		US-PATENT-CLASS-324-29.5
	US-PATENT-CLASS-307-259	c03 N72-25021	US-PATENT-3,663,938
	US-PATENT-CLASS-307-305		NASA-CASE-NPO-11118
	US-PATENT-3,621,294		US-PATENT-APPL-SN-8650
c09 N72-23172	NASA-CASE-LAR-10320-1		US-PATENT-CLASS-214-90R
	US-PATENT-APPL-SN-18427		US-PATENT-3,666,120
	US-PATENT-CLASS-324-20R	c05 N72-25119	NASA-CASE-HSC-12397-1
	US-PATENT-3,649,907		US-PATENT-APPL-SN-785613
c09 N72-23173	NASA-CASE-ERC-10267		US-PATENT-CLASS-2-2.1
	US-PATENT-APPL-SN-41348		US-PATENT-CLASS-2-115
	US-PATENT-CLASS-235-197		US-PATENT-3,660,851
	US-PATENT-CLASS-307-229	c05 N72-25120	NASA-CASE-HSC-90153-2
	US-PATENT-CLASS-328-145		US-PATENT-APPL-SN-844225
	US-PATENT-3,648,043		US-PATENT-CLASS-106-209
c11 N72-23215	NASA-CASE-MFS-20710		US-PATENT-CLASS-128-2.1
	US-PATENT-APPL-SN-114848		US-PATENT-CLASS-128-417
	US-PATENT-CLASS-13-20		US-PATENT-CLASS-252-514
	US-PATENT-CLASS-13-31		US-PATENT-CLASS-264-104
	US-PATENT-3,647,924		US-PATENT-3,665,064
c14 N72-23457	NASA-CASE-MSC-12297	c05 N72-25121	NASA-CASE-PRC-10029-2
	US-PATENT-APPL-SN-792623		US-PATENT-APPL-SN-78704
	US-PATENT-CLASS-55-493		US-PATENT-CLASS-29-25.14
	US-PATENT-CLASS-55-498		US-PATENT-CLASS-29-25.18
	US-PATENT-CLASS-55-502		US-PATENT-CLASS-29-482
	US-PATENT-CLASS-55-521		US-PATENT-CLASS-29-630A
	US-PATENT-3,650,095		US-PATENT-CLASS-156-264
c15 N72-23497	NASA-CASE-KSC-10242		US-PATENT-CLASS-156-308
	US-PATENT-APPL-SN-73834	c05 N72-25122	US-PATENT-3,662,441
	US-PATENT-CLASS-219-85		NASA-CASE-HSC-13609-1
	US-PATENT-CLASS-219-109		US-PATENT-APPL-SN-94347
	US-PATENT-CLASS-219-234		US-PATENT-CLASS-128-2N
	US-PATENT-CLASS-324-65R		US-PATENT-3,662,744
	US-PATENT-3,621,193	c05 N72-25142	NASA-CASE-HSC-13999-1
c18 N72-23581	NASA-CASE-GSC-10361-1		US-PATENT-APPL-SN-256317
	US-PATENT-APPL-SN-700040	c06 N72-25146	NASA-CASE-NPO-11322
	US-PATENT-CLASS-106-84		US-PATENT-APPL-SN-87550
	US-PATENT-3,620,784		US-PATENT-CLASS-73-23.1
c23 N72-23695	NASA-CASE-HQN-10541-3		US-PATENT-CLASS-250-43.5R
	US-PATENT-APPL-SN-822089		US-PATENT-3,666,942
	US-PATENT-CLASS-350-171	c06 N72-25147	NASA-CASE-ARC-10325
	US-PATENT-3,606,522		US-PATENT-APPL-SN-63610
c28 N72-23809	NASA-CASE-XNP-09461		US-PATENT-CLASS-260-2.5FP
	US-PATENT-APPL-SN-670829		US-PATENT-3,663,464
	US-PATENT-CLASS-239-418	c06 N72-25148	NASA-CASE-MFS-13994-2
	US-PATENT-CLASS-239-433		US-PATENT-APPL-SN-870689
	US-PATENT-CLASS-239-543		US-PATENT-CLASS-260-348SC
	US-PATENT-3,650,474		US-PATENT-3,660,434
c28 N72-23810	NASA-CASE-NPO-11458	c06 N72-25149	NASA-CASE-GSC-10565-1
	US-PATENT-APPL-SN-36926		US-PATENT-APPL-SN-822039
	US-PATENT-CLASS-60-266		US-PATENT-CLASS-195-28N
	US-PATENT-CLASS-60-271		US-PATENT-CLASS-195-103.5R
	US-PATENT-3,648,461		US-PATENT-CLASS-260-211.5
c03 N72-24037	NASA-CASE-GSC-11514-1		US-PATENT-3,660,240
	US-PATENT-APPL-SN-820453	c06 N72-25150	NASA-CASE-KLE-06774-2
	US-PATENT-CLASS-117-201		US-PATENT-APPL-SN-5114

ACCESSION NUMBER INDEX

	US-PATENT-CLASS-117-132		US-PATENT-CLASS-343-708
	US-PATENT-CLASS-117-161		US-PATENT-CLASS-343-771
	US-PATENT-CLASS-260-2.5		US-PATENT-CLASS-343-873
	US-PATENT-CLASS-260-92.1		US-PATENT-3,653,052
c06 N72-25151	US-PATENT-3,666,741	c09 N72-25248	NASA-CASE-NPO-11342
	NASA-CASE-MFS-20979		US-PATENT-APPL-SN-89209
	US-PATENT-APPL-SN-100774		US-PATENT-CLASS-340-172.5
	US-PATENT-CLASS-260-18S		US-PATENT-CLASS-340-324A
	US-PATENT-CLASS-260-46.5E		US-PATENT-3,648,250
	US-PATENT-CLASS-260-46.5F	c09 N72-25249	NASA-CASE-GSC-10656-1
	US-PATENT-CLASS-260-46.5P		US-PATENT-APPL-SN-59969
	US-PATENT-CLASS-260-448.2D		US-PATENT-CLASS-321-2
	US-PATENT-3,666,718		US-PATENT-CLASS-323-DIG.1
c06 N72-25152	NASA-CASE-MPO-10863-2		US-PATENT-CLASS-323-17
	US-PATENT-APPL-SN-145026		US-PATENT-CLASS-323-22T
	US-PATENT-CLASS-260-92.1		US-PATENT-3,621,372
	US-PATENT-3,663,521	c09 N72-25250	NASA-CASE-KSC-10565
	NASA-CASE-LAR-10513-1		US-PATENT-APPL-SN-98517
	US-PATENT-APPL-SN-64723		US-PATENT-CLASS-315-135
	US-PATENT-CLASS-333-7		US-PATENT-CLASS-315-349
	US-PATENT-CLASS-333-81R		US-PATENT-CLASS-330-2
	US-PATENT-CLASS-333-98P		US-PATENT-CLASS-330-59
	US-PATENT-CLASS-333-98R		US-PATENT-CLASS-340-332
	US-PATENT-CLASS-333-98S		US-PATENT-3,659,148
	US-PATENT-3,649,935	c09 N72-25251	NASA-CASE-ERC-10048
c07 N72-25171	NASA-CASE-MFS-21042		US-PATENT-APPL-SN-10329
	US-PATENT-APPL-SN-86417		US-PATENT-CLASS-307-261
	US-PATENT-CLASS-102-34.4		US-PATENT-CLASS-321-2
	US-PATENT-CLASS-325-4		US-PATENT-CLASS-321-18
	US-PATENT-CLASS-325-114		US-PATENT-3,659,184
	US-PATENT-CLASS-343-6.5R	c09 N72-25252	NASA-CASE-ERC-10268
	US-PATENT-3,667,044		US-PATENT-APPL-SN-39342
c07 N72-25172	NASA-CASE-NPO-11358		US-PATENT-CLASS-321-2
	US-PATENT-APPL-SN-116786		US-PATENT-CLASS-321-11
	US-PATENT-CLASS-179-15BV		US-PATENT-CLASS-321-18
	US-PATENT-CLASS-340-172.5		US-PATENT-CLASS-321-19
	US-PATENT-3,665,417		US-PATENT-CLASS-321-45ER
c07 N72-25173	NASA-CASE-ERC-10324		US-PATENT-CLASS-321-45R
	US-PATENT-APPL-SN-54270		US-PATENT-3,663,940
	US-PATENT-CLASS-178-69.5	c09 N72-25253	NASA-CASE-GSC-11126-1
	US-PATENT-CLASS-325-38		US-PATENT-APPL-SN-98640
	US-PATENT-CLASS-325-51		US-PATENT-CLASS-321-2
	US-PATENT-CLASS-325-55		US-PATENT-CLASS-321-47
	US-PATENT-CLASS-325-58		US-PATENT-CLASS-331-113A
	US-PATENT-CLASS-325-64		US-PATENT-3,663,941
	US-PATENT-CLASS-325-141	c09 N72-25254	NASA-CASE-NPO-10760
	US-PATENT-CLASS-325-302		US-PATENT-APPL-SN-129071
	US-PATENT-CLASS-325-325		US-PATENT-CLASS-321-2
	US-PATENT-CLASS-340-167		US-PATENT-CLASS-321-45R
	US-PATENT-3,665,313		US-PATENT-CLASS-331-113A
c07 N72-25174	NASA-CASE-NPO-11264		US-PATENT-3,663,944
	US-PATENT-APPL-SN-36531	c09 N72-25255	NASA-CASE-LAR-10620-1
	US-PATENT-CLASS-343-762		US-PATENT-APPL-SN-125979
	US-PATENT-CLASS-343-777		US-PATENT-CLASS-310-10
	US-PATENT-CLASS-343-779		US-PATENT-CLASS-310-15
	US-PATENT-CLASS-343-786		US-PATENT-3,663,843
	US-PATENT-CLASS-343-853	c09 N72-25256	NASA-CASE-XLA-02609
	US-PATENT-3,665,481		US-PATENT-APPL-SN-41347
c08 N72-25206	NASA-CASE-KSC-10397		US-PATENT-CLASS-333-79
	US-PATENT-APPL-SN-25488		US-PATENT-CLASS-339-143R
	US-PATENT-CLASS-235-154		US-PATENT-CLASS-339-147R
	US-PATENT-CLASS-340-347DA		US-PATENT-3,663,929
	US-PATENT-3,648,275	c09 N72-25257	NASA-CASE-MSC-12395
	NASA-CASE-NPO-11161		US-PATENT-APPL-SN-134573
c08 N72-25207	US-PATENT-APPL-SN-889374		US-PATENT-CLASS-307-233
	US-PATENT-CLASS-340-146.1		US-PATENT-CLASS-324-78D
	US-PATENT-CLASS-340-172.5		US-PATENT-CLASS-324-186
	US-PATENT-3,648,256		US-PATENT-CLASS-328-136
c08 N72-25208	NASA-CASE-NPO-11338		US-PATENT-CLASS-328-140
	US-PATENT-APPL-SN-89212		US-PATENT-3,663,885
	US-PATENT-CLASS-178-50	c09 N72-25258	NASA-CASE-LAR-10253-1
	US-PATENT-CLASS-179-15BC		US-PATENT-APPL-SN-99175
	US-PATENT-CLASS-179-15PD		US-PATENT-CLASS-307-88.3
	US-PATENT-CLASS-325-62		US-PATENT-CLASS-330-4.5
	US-PATENT-CLASS-332-21		US-PATENT-3,663,886
	US-PATENT-3,659,053	c09 N72-25259	NASA-CASE-GSC-10695-1
c08 N72-25209	NASA-CASE-NPO-11194		US-PATENT-APPL-SN-889422
	US-PATENT-APPL-SN-63532		US-PATENT-CLASS-29-198
	US-PATENT-CLASS-343-6.5R		US-PATENT-CLASS-117-200
	US-PATENT-CLASS-343-12R		US-PATENT-CLASS-136-89
	US-PATENT-CLASS-343-14		US-PATENT-3,664,874
	US-PATENT-3,659,292	c09 N72-25260	NASA-CASE-NPO-11283
c08 N72-25210	NASA-CASE-NPO-10636		US-PATENT-APPL-SN-118270
	US-PATENT-APPL-SN-77221		US-PATENT-CLASS-310-4
	US-PATENT-CLASS-235-152		US-PATENT-3,663,839
	US-PATENT-CLASS-340-146.1AL	c09 N72-25261	NASA-CASE-ERC-10224
	US-PATENT-3,662,337		US-PATENT-APPL-SN-868775
c09 N72-25247	NASA-CASE-LAR-10163-1		US-PATENT-CLASS-29-492
	US-PATENT-APPL-SN-73310		US-PATENT-CLASS-29-497

ACCESSION NUMBER INDEX

	US-PATENT-CLASS-29-498		US-PATENT-CLASS-75-0.5BB
	US-PATENT-CLASS-29-502		US-PATENT-CLASS-75-206
	US-PATENT-CLASS-29-589		US-PATENT-CLASS-75-213
	US-PATENT-CLASS-29-628		US-PATENT-3,649,242
	US-PATENT-3,665,589	c15 N72-25450	NASA-CASE-NPO-11202
c09 N72-25262	NASA-CASE-NPO-11078		US-PATENT-APPL-SN-66004
	US-PATENT-APPL-SN-82280		OS-PATENT-CLASS-285-DIG.21
	US-PATENT-CLASS-307-83		US-PATENT-CLASS-285-3
	US-PATENT-CLASS-307-103		US-PATENT-CLASS-285-33
	US-PATENT-CLASS-323-48		US-PATENT-CLASS-285-316
	US-PATENT-CLASS-323-82		US-PATENT-CLASS-339-45H
	US-PATENT-3,663,828		US-PATENT-CLASS-339-91B
c11 N72-25284	NASA-CASE-LAR-10507-1	c15 N72-25451	US-PATENT-3,656,781
	US-PATENT-APPL-SN-874177		NASA-CASE-NPO-10606
	US-PATENT-CLASS-195-127		US-PATENT-APPL-SN-8636
	US-PATENT-3,649,462		US-PATENT-CLASS-251-360
c11 N72-25287	NASA-CASE-LAR-10546-1		US-PATENT-3,658,295
	US-PATENT-APPL-SN-32664	c15 N72-25452	NASA-CASE-LEW-10965-1
	US-PATENT-CLASS-52-648		OS-PATENT-APPL-SN-876588
	US-PATENT-CLASS-52-655		US-PATENT-CLASS-96-36.2
	US-PATENT-CLASS-287-54A		US-PATENT-CLASS-117-16R
	US-PATENT-3,665,670		US-PATENT-CLASS-117-37
c11 N72-25288	NASA-CASE-MFS-20434		US-PATENT-CLASS-117-47R
	OS-PATENT-APPL-SN-55534		US-PATENT-CLASS-117-62
	US-PATENT-CLASS-73-140		US-PATENT-CLASS-117-93.3
	US-PATENT-CLASS-73-161		US-PATENT-CLASS-117-124C
	US-PATENT-3,665,758		US-PATENT-CLASS-117-152
c12 N72-25292	NASA-CASE-NPO-11556		US-PATENT-CLASS-204-49
	US-PATENT-APPL-SN-82648		US-PATENT-CLASS-204-157.18AG
	US-PATENT-CLASS-210-188		US-PATENT-CLASS-250-65F
	US-PATENT-CLASS-310-11		US-PATENT-3,658,569
	US-PATENT-3,648,083	c15 N72-25453	NASA-CASE-RSC-10513
c12 N72-25306	NASA-CASE-MFS-10354-2		OS-PATENT-APPL-SN-61535
	US-PATENT-APPL-SN-250335		OS-PATENT-CLASS-187-1
c13 N72-25323	NASA-CASE-NPO-11373		US-PATENT-CLASS-187-20
	OS-PATENT-APPL-SN-81095		US-PATENT-CLASS-187-95
	US-PATENT-CLASS-73-421.5R		US-PATENT-CLASS-254-190
	US-PATENT-CLASS-73-4226C		US-PATENT-3,666,051
	US-PATENT-CLASS-73-4227C	c15 N72-25454	NASA-CASE-MSC-12233-1
	US-PATENT-3,662,604		US-PATENT-APPL-SN-73422
c14 N72-25409	NASA-CASE-ERC-10174		US-PATENT-CLASS-52-169
	US-PATENT-APPL-SN-39344		US-PATENT-CLASS-52-173
	US-PATENT-CLASS-250-83.30V		US-PATENT-CLASS-52-594
	US-PATENT-CLASS-250-209		US-PATENT-3,665,669
	US-PATENT-CLASS-250-226	c15 N72-25455	NASA-CASE-NPO-11095
	US-PATENT-CLASS-350-203		OS-PATENT-APPL-SN-19585
	US-PATENT-3,657,549		OS-PATENT-CLASS-60-39.74A
c14 N72-25410	NASA-CASE-ERC-10292		US-PATENT-CLASS-60-258
	US-PATENT-APPL-SN-45519		US-PATENT-CLASS-239-424
	US-PATENT-CLASS-73-515		US-PATENT-3,662,547
	US-PATENT-CLASS-73-521	c15 N72-25456	NASA-CASE-NPO-11222
	US-PATENT-CLASS-350-160R		US-PATENT-APPL-SN-59893
	US-PATENT-3,657,928		US-PATENT-CLASS-310-68
c14 N72-25411	NASA-CASE-MSC-15626-1		US-PATENT-CLASS-310-80
	US-PATENT-APPL-SN-94374		US-PATENT-CLASS-310-83
	US-PATENT-CLASS-73-12		US-PATENT-3,660,704
	US-PATENT-CLASS-73-492	c15 N72-25457	NASA-CASE-ERC-10325
	US-PATENT-CLASS-116-114AH		US-PATENT-APPL-SN-43884
	US-PATENT-3,656,352		US-PATENT-CLASS-324-158D
c14 N72-25412	NASA-CASE-MFS-15063		US-PATENT-CLASS-324-158T
	US-PATENT-APPL-SN-51477		US-PATENT-3,665,307
	US-PATENT-CLASS-178-DIG.8	c16 N72-25485	NASA-CASE-ERC-10283
	US-PATENT-CLASS-178-6.8		US-PATENT-APPL-SN-39185
	US-PATENT-CLASS-340-227R		US-PATENT-CLASS-331-94.5
	US-PATENT-3,659,043		US-PATENT-CLASS-332-7.51
c14 N72-25413	NASA-CASE-GSC-10879-1		US-PATENT-3,659,225
	US-PATENT-APPL-SN-889420	c17 N72-25517	NASA-CASE-LEW-11348-1
	US-PATENT-CLASS-195-127		US-PATENT-APPL-SN-247482
	US-PATENT-3,666,631	c18 N72-25539	NASA-CASE-LEW-10424-2-2
c14 N72-25414	NASA-CASE-NPO-11311		US-PATENT-APPL-SN-15222
	US-PATENT-APPL-SN-57252		US-PATENT-CLASS-75-DIG.1
	US-PATENT-CLASS-178-7.92		US-PATENT-CLASS-75-208
	US-PATENT-CLASS-350-175FS		US-PATENT-CLASS-75-211
	US-PATENT-3,663,753		US-PATENT-CLASS-75-226
c14 N72-25428	NASA-CASE-BQN-10756-1		US-PATENT-3,653,882
	US-PATENT-APPL-SN-236052	c18 N72-25540	NASA-CASE-ERC-10364
c14 N72-25440	NASA-CASE-LEW-11632-1		OS-PATENT-APPL-SN-55537
	US-PATENT-APPL-SN-254173		US-PATENT-CLASS-52-DIG.10
c15 N72-25447	NASA-CASE-LEW-10489-1		US-PATENT-CLASS-52-80
	US-PATENT-APPL-SN-889682		US-PATENT-CLASS-161-7
	US-PATENT-CLASS-29-599		US-PATENT-CLASS-161-68
	US-PATENT-CLASS-117-62		US-PATENT-CLASS-161-127
	US-PATENT-CLASS-117-93.16D		US-PATENT-3,663,347
	US-PATENT-CLASS-117-107	c18 N72-25541	NASA-CASE-ERC-10363
	US-PATENT-CLASS-117-211		US-PATENT-APPL-SN-57253
	US-PATENT-CLASS-117-217		OS-PATENT-CLASS-52-DIG.10
	US-PATENT-3,649,356		US-PATENT-CLASS-52-80
c15 N72-25488	NASA-CASE-LEW-10450-1		US-PATENT-CLASS-161-7
	US-PATENT-APPL-SN-880271		US-PATENT-CLASS-161-68

ACCESSION NUMBER INDEX

	US-PATENT-CLASS-161-127		US-PATENT-CLASS-260-77.5AP
	US-PATENT-3,663,346		US-PATENT-CLASS-260-535H
c21 N72-25595	NASA-CASE-MSC-13397-1	c06 N72-27151	US-PATENT-3,671,497
	US-PATENT-APPL-SN-59966		NASA-CASE-NPO-10767-2
	US-PATENT-CLASS-244-15A	c07 N72-27178	US-PATENT-APPL-SN-241061
	US-PATENT-CLASS-244-23A		NASA-CASE-MSC-14070-1
	US-PATENT-3,662,973	c09 N72-27226	US-PATENT-APPL-SN-266940
c23 N72-25619	NASA-CASE-NPO-10634		NASA-CASE-LEW-10330-1
	US-PATENT-APPL-SN-112999		US-PATENT-APPL-SN-110402
	US-PATENT-CLASS-62-6		US-PATENT-CLASS-336-60
	US-PATENT-CLASS-62-80		US-PATENT-CLASS-336-198
	US-PATENT-CLASS-62-85		US-PATENT-CLASS-336-220
	US-PATENT-CLASS-62-475		US-PATENT-3,648,209
	US-PATENT-3,656,313	c09 N72-27227	NASA-CASE-KSC-10644
c26 N72-25679	NASA-CASE-XER-07895		US-PATENT-APPL-SN-114849
	US-PATENT-APPL-SN-651627		US-PATENT-CLASS-307-92
	US-PATENT-CLASS-317-234J		US-PATENT-CLASS-307-118
	US-PATENT-CLASS-317-235A		US-PATENT-CLASS-340-240
	US-PATENT-CLASS-317-235AJ		US-PATENT-3,673,424
	US-PATENT-CLASS-317-235R	c09 N72-27228	NASA-CASE-NPO-10542
	US-PATENT-CLASS-331-107G		US-PATENT-APPL-SN-767741
	US-PATENT-3,667,010		US-PATENT-CLASS-310-4
c26 N72-25680	NASA-CASE-BRC-10275		US-PATENT-3,673,440
	US-PATENT-APPL-SN-47061	c09 N72-27233	NASA-CASE-ARC-10596-1
	US-PATENT-CLASS-324-92		US-PATENT-APPL-SN-267862
	US-PATENT-CLASS-324-96	c10 N72-27246	NASA-CASE-ERC-10015-2
	US-PATENT-CLASS-340-324R		US-PATENT-APPL-SN-97343
	US-PATENT-CLASS-350-150		US-PATENT-APPL-SN-763744
	US-PATENT-CLASS-350-160R		US-PATENT-CLASS-313-309
	US-PATENT-3,667,039		US-PATENT-CLASS-313-336
c27 N72-25699	NASA-CASE-NPO-12000		US-PATENT-CLASS-313-351
	US-PATENT-APPL-SN-74861		US-PATENT-CLASS-315-36
	US-PATENT-CLASS-149-19		US-PATENT-3,671,798
	US-PATENT-CLASS-149-20	c11 N72-27262	NASA-CASE-NFS-20620
	US-PATENT-CLASS-149-36		US-PATENT-APPL-SN-154935
	US-PATENT-CLASS-149-92		US-PATENT-CLASS-73-117.1
	US-PATENT-3,658,608		US-PATENT-CLASS-73-432SD
c31 N72-25842	NASA-CASE-MSC-12372-1		US-PATENT-3,670,564
	US-PATENT-APPL-SN-64391	c14 N72-27408	NASA-CASE-NPO-11147
	US-PATENT-CLASS-95-12.5		US-PATENT-APPL-SN-63195
	US-PATENT-3,662,661		US-PATENT-CLASS-324-79R
c31 N72-25853	NASA-CASE-NFS-20855-1		US-PATENT-CLASS-328-189
	US-PATENT-APPL-SN-243374		US-PATENT-CLASS-331-44
c32 N72-25877	NASA-CASE-LAR-10270-1		US-PATENT-3,670,241
	US-PATENT-APPL-SN-60881	c14 N72-27409	NASA-CASE-NPO-11201
	US-PATENT-CLASS-73-15.6		US-PATENT-APPL-SN-77220
	US-PATENT-CLASS-73-100		US-PATENT-CLASS-250-203R
	US-PATENT-3,665,751		US-PATENT-CLASS-250-225
c33 N72-25911	NASA-CASE-LEW-10359		US-PATENT-CLASS-350-147
	US-PATENT-APPL-SN-47063		US-PATENT-CLASS-356-141
	US-PATENT-CLASS-60-200A		US-PATENT-CLASS-356-152
	US-PATENT-CLASS-60-265		US-PATENT-3,670,168
	US-PATENT-CLASS-60-267	c14 N72-27410	NASA-CASE-XLE-05230
	US-PATENT-CLASS-62-467		US-PATENT-APPL-SN-877717
	US-PATENT-CLASS-102-105		US-PATENT-CLASS-136-233
	US-PATENT-3,656,317		US-PATENT-3,671,329
c33 N72-25913	NASA-CASE-IMS-09690	c14 N72-27411	NASA-CASE-MSC-12293-1
	US-PATENT-APPL-SN-853641		US-PATENT-APPL-SN-59956
	US-PATENT-CLASS-73-15R		US-PATENT-CLASS-250-205
	US-PATENT-3,665,750		US-PATENT-CLASS-315-151
c03 N72-26031	NASA-CASE-NPO-10753		US-PATENT-CLASS-315-156
	US-PATENT-APPL-SN-844355		US-PATENT-CLASS-315-158
	US-PATENT-CLASS-136-202		US-PATENT-CLASS-315-297
	US-PATENT-3,666,566		US-PATENT-CLASS-315-307
c15 N72-26371	NASA-CASE-NPO-10244		US-PATENT-CLASS-315-310
	US-PATENT-APPL-SN-43327		US-PATENT-CLASS-315-311
	US-PATENT-CLASS-73-136R		US-PATENT-3,670,202
	US-PATENT-CLASS-308-2A	c14 N72-27412	NASA-CASE-NFS-20523
	US-PATENT-3,664,185		US-PATENT-APPL-SN-77786
c03 N72-27053	NASA-CASE-GSC-10344-1		US-PATENT-CLASS-73-71.6
	US-PATENT-APPL-SN-785078		US-PATENT-CLASS-73-103
	US-PATENT-CLASS-136-89		US-PATENT-3,670,563
	US-PATENT-3,672,999	c15 N72-27484	NASA-CASE-NPO-10721
c05 N72-27102	NASA-CASE-LAR-10365-1		US-PATENT-APPL-SN-59968
	US-PATENT-APPL-SN-3151		US-PATENT-CLASS-248-188.4
	US-PATENT-CLASS-210-103		US-PATENT-3,669,393
	US-PATENT-CLASS-210-104	c15 N72-27485	NASA-CASE-ILA-09843
	US-PATENT-CLASS-210-110		US-PATENT-APPL-SN-60876
	US-PATENT-CLASS-210-137		US-PATENT-CLASS-83-8
	US-PATENT-3,670,890		US-PATENT-CLASS-83-522
c05 N72-27103	NASA-CASE-MSC-13648		US-PATENT-CLASS-83-562
	US-PATENT-APPL-SN-87222		US-PATENT-CLASS-83-563
	US-PATENT-CLASS-128-DIG.4		US-PATENT-CLASS-83-588
	US-PATENT-CLASS-128-2.1E		US-PATENT-3,668,956
	US-PATENT-CLASS-128-417	c15 N72-27486	NASA-CASE-LAR-10362-1
	US-PATENT-3,669,110		US-PATENT-APPL-SN-266772
c06 N72-27144	NASA-CASE-NPO-10768-2	c15 N72-27527	NASA-CASE-LAR-10416-1
	US-PATENT-APPL-SN-99524		US-PATENT-APPL-SN-251752
	US-PATENT-APPL-SN-770398	c23 N72-27728	NASA-CASE-ARC-10160-1



ACCESSION NUMBER INDEX

	US-PATENT-APPL-SN-867842	c26 N72-27784	NASA-CASE-LAR-10836-1
	US-PATENT-CLASS-178-DIG.20		US-PATENT-CLASS-350-161
	US-PATENT-CLASS-178-6.5		US-PATENT-3,671,105
	US-PATENT-CLASS-350-138		NASA-CASE-LAR-10800-1
	US-PATENT-3,670,097		US-PATENT-APPL-SN-154094
			US-PATENT-CLASS-73-35
			US-PATENT-3,670,559
			NASA-CASE-NPO-10633
			US-PATENT-APPL-SN-885521
			US-PATENT-CLASS-62-93
			US-PATENT-CLASS-165-3
			US-PATENT-CLASS-165-20
			US-PATENT-3,675,712
			NASA-CASE-NFS-20757
			US-PATENT-APPL-SN-136006
			US-PATENT-CLASS-339-75MP
			US-PATENT-CLASS-339-94M
			US-PATENT-CLASS-339-176MP
			US-PATENT-CLASS-339-218M
			US-PATENT-3,670,290
			NASA-CASE-ARC-10265-1
			US-PATENT-APPL-SN-64709
			US-PATENT-CLASS-324-41
			US-PATENT-CLASS-340-258
			US-PATENT-3,676,772
			NASA-CASE-GSC-10786-1
			US-PATENT-APPL-SN-773072
			US-PATENT-CLASS-330-29
			US-PATENT-3,533,006
			NASA-CASE-XLA-06683
			US-PATENT-APPL-SN-10827
			US-PATENT-CLASS-33-15A
			US-PATENT-CLASS-33-75R
			US-PATENT-3,675,332
			NASA-CASE-ERC-10081
			US-PATENT-APPL-SN-877990
			US-PATENT-CLASS-73-355
			US-PATENT-CLASS-325-363
			US-PATENT-CLASS-343-100MB
			US-PATENT-CLASS-343-112D
			US-PATENT-3,665,467
			NASA-CASE-XLA-04980-2
			US-PATENT-APPL-SN-577548
			US-PATENT-APPL-SN-763040
			US-PATENT-CLASS-148-187
			US-PATENT-3,549,435
			NASA-CASE-LEW-11072-2
			US-PATENT-APPL-SN-254323
			NASA-CASE-MPS-14405
			US-PATENT-APPL-SN-73283
			US-PATENT-CLASS-74-469
			US-PATENT-CLASS-214-1CM
			US-PATENT-3,631,737
			NASA-CASE-MPS-20433
			US-PATENT-APPL-SN-114847
			US-PATENT-CLASS-52-1
			US-PATENT-CLASS-52-573
			US-PATENT-3,675,376
			NASA-CASE-NPO-11437
			US-PATENT-APPL-SN-63144
			US-PATENT-CLASS-330-4
			US-PATENT-CLASS-331-94
			US-PATENT-3,676,787
			NASA-CASE-XLE-06461-2
			US-PATENT-APPL-SN-156778
			US-PATENT-APPL-SN-853855
			US-PATENT-CLASS-266-24
			US-PATENT-3,675,910
			NASA-CASE-XLE-03940-2
			US-PATENT-APPL-SN-539255
			US-PATENT-APPL-SN-793657
			US-PATENT-CLASS-29-182.5
			US-PATENT-3,676,084
			NASA-CASE-NPO-11106-2
			US-PATENT-APPL-SN-235225
			NASA-CASE-LEW-10518-2
			US-PATENT-APPL-SN-266927
			NASA-CASE-NPO-11775
			US-PATENT-APPL-SN-162230
			US-PATENT-CLASS-29-570
			US-PATENT-CLASS-317-230
			US-PATENT-CLASS-317-261
			US-PATENT-3,676,754
			NASA-CASE-LAR-10294-1
			US-PATENT-APPL-SN-796685
			US-PATENT-CLASS-29-25.42
			US-PATENT-CLASS-106-39
			US-PATENT-CLASS-106-46
			US-PATENT-CLASS-117-212
			US-PATENT-CLASS-117-217
			US-PATENT-3,649,353
			NASA-CASE-LAR-10511-1
			US-PATENT-APPL-SN-41345
			US-PATENT-CLASS-333-24R
			US-PATENT-CLASS-333-98P
			US-PATENT-CLASS-333-98R
			US-PATENT-3,676,809
			NASA-CASE-ARC-10017-1
			US-PATENT-APPL-SN-55536
			US-PATENT-CLASS-250-41.9D
			US-PATENT-CLASS-250-71.5R
			US-PATENT-CLASS-313-356
			US-PATENT-3,676,674
			NASA-CASE-XLE-10326-2
			US-PATENT-APPL-SN-54540
			US-PATENT-APPL-SN-723465
			US-PATENT-CLASS-277-25
			US-PATENT-CLASS-277-27
			US-PATENT-CLASS-277-74
			US-PATENT-3,675,935
			NASA-CASE-ARC-10519-1
			US-PATENT-APPL-SN-282738
			NASA-CASE-MSC-13335-1
			US-PATENT-APPL-SN-55806
			US-PATENT-CLASS-55-16
			US-PATENT-CLASS-55-55
			US-PATENT-3,678,654
			NASA-CASE-ARC-10308-1
			US-PATENT-APPL-SN-134568
			US-PATENT-CLASS-250-43.5R
			US-PATENT-CLASS-356-51
			US-PATENT-3,679,899
			NASA-CASE-ARC-10469-1
			US-PATENT-APPL-SN-281908
			NASA-CASE-NPO-11016
			US-PATENT-APPL-SN-889584
			US-PATENT-CLASS-235-92MT
			US-PATENT-CLASS-235-150.1
			US-PATENT-CLASS-235-151.1
			US-PATENT-CLASS-323-19
			US-PATENT-CLASS-340-347AD
			US-PATENT-3,681,581
			NASA-CASE-ERC-10214
			US-PATENT-APPL-SN-863914
			US-PATENT-CLASS-343-770
			US-PATENT-CLASS-343-771
			US-PATENT-CLASS-343-786
			US-PATENT-CLASS-343-797
			US-PATENT-CLASS-343-853
			US-PATENT-3,680,142
			NASA-CASE-KSC-10647-1
			US-PATENT-APPL-SN-774691
			US-PATENT-CLASS-178-7.5E
			US-PATENT-CLASS-315-22R
			US-PATENT-CLASS-315-30R
			US-PATENT-CLASS-330-27R
			US-PATENT-3,678,191
			NASA-CASE-ERC-10087-2
			US-PATENT-APPL-SN-91642
			US-PATENT-APPL-SN-738315
			US-PATENT-CLASS-29-588
			US-PATENT-CLASS-317-234D
			US-PATENT-CLASS-317-234G
			US-PATENT-CLASS-317-235M
			US-PATENT-CLASS-317-235R
			US-PATENT-3,686,542
			NASA-CASE-LAR-10061-1
			US-PATENT-APPL-SN-104047
			US-PATENT-CLASS-251-86
			US-PATENT-CLASS-251-331
			US-PATENT-3,680,830
			NASA-CASE-GSC-10945-1
			US-PATENT-APPL-SN-75431
			US-PATENT-CLASS-60-23
			US-PATENT-CLASS-60-26
			US-PATENT-3,678,685
			NASA-CASE-NPO-11361
			US-PATENT-APPL-SN-112988
			US-PATENT-CLASS-343-781
			US-PATENT-CLASS-343-837
			US-PATENT-CLASS-343-840
			US-PATENT-CLASS-343-915

ACCESSION NUMBER INDEX

c14 N72-32452 ..... US-PATENT-3,680,144  
 NASA-CASE-MFS-15162  
 US-PATENT-APPL-SN-100639  
 US-PATENT-CLASS-350-79  
 US-PATENT-CLASS-356-241  
 US-PATENT-3,694,094

c15 N72-32487 ..... NASA-CASE-LAR-10541-1  
 US-PATENT-APPL-SN-138229  
 US-PATENT-CLASS-118-49.1  
 US-PATENT-CLASS-204-298  
 US-PATENT-CLASS-219-121P  
 US-PATENT-CLASS-219-273  
 US-PATENT-3,690,291  
 NASA-CASE-MFS-20589

c25 N72-32688 ..... US-PATENT-APPL-SN-103077  
 US-PATENT-CLASS-313-231  
 US-PATENT-CLASS-315-111  
 US-PATENT-3,693,002  
 NASA-CASE-EBC-10338

c04 N72-33072 ..... US-PATENT-APPL-SN-50339  
 US-PATENT-CLASS-23-109  
 US-PATENT-3,679,360  
 NASA-CASE-MSC-13540-1

c05 N72-33096 ..... US-PATENT-APPL-SN-68023  
 US-PATENT-CLASS-99-80PS  
 US-PATENT-3,692,533  
 NASA-CASE-MSC-12259-2

c07 N72-33146 ..... US-PATENT-APPL-SN-61895  
 US-PATENT-APPL-SN-853763  
 US-PATENT-CLASS-325-373  
 US-PATENT-3,694,753  
 NASA-CASE-NPO-11630

c08 N72-33172 ..... US-PATENT-APPL-SN-143078  
 US-PATENT-CLASS-179-15.55R  
 US-PATENT-3,694,581  
 NASA-CASE-NPO-11129

c09 N72-33204 ..... US-PATENT-APPL-SN-883523  
 US-PATENT-CLASS-307-262  
 US-PATENT-CLASS-307-295  
 US-PATENT-CLASS-328-24  
 US-PATENT-CLASS-328-155  
 US-PATENT-3,621,406  
 NASA-CASE-GSC-10835-1

c09 N72-33205 ..... US-PATENT-APPL-SN-116778  
 US-PATENT-CLASS-317-101A  
 US-PATENT-CLASS-317-235  
 US-PATENT-CLASS-317-235A  
 US-PATENT-CLASS-317-235AJ  
 US-PATENT-3,694,700  
 NASA-CASE-GSC-11340-1

c10 N72-33230 ..... US-PATENT-APPL-SN-107379  
 US-PATENT-CLASS-330-12  
 US-PATENT-CLASS-331-115  
 US-PATENT-CLASS-331-116R  
 US-PATENT-CLASS-333-80T  
 US-PATENT-3,693,105  
 NASA-CASE-MFS-20760

c14 N72-33377 ..... US-PATENT-APPL-SN-99174  
 US-PATENT-CLASS-73-85  
 US-PATENT-CLASS-73-141AB  
 US-PATENT-3,693,418  
 NASA-CASE-IGS-07805

c15 N72-33476 ..... US-PATENT-APPL-SN-104884  
 US-PATENT-CLASS-308-10  
 US-PATENT-3,694,041  
 NASA-CASE-NPO-11340

c15 N72-33477 ..... US-PATENT-APPL-SN-147997  
 US-PATENT-CLASS-60-1  
 US-PATENT-CLASS-60-36  
 US-PATENT-CLASS-137-13  
 US-PATENT-CLASS-137-81.5  
 US-PATENT-3,693,346  
 NASA-CASE-LEW-10518-1

c24 N72-33601 ..... US-PATENT-APPL-SN-863280  
 US-PATENT-CLASS-176-11  
 US-PATENT-3,694,313  
 NASA-CASE-GSC-11291-1

c25 N72-33696 ..... US-PATENT-APPL-SN-102412  
 US-PATENT-CLASS-250-83.6R  
 US-PATENT-3,694,655  
 NASA-CASE-MSC-14065-1

c07 N73-10215 ..... US-PATENT-APPL-SN-297128  
 NASA-CASE-LEW-11696-1  
 US-PATENT-APPL-SN-298156

c15 N73-10502 ..... NASA-CASE-MSC-13530-2  
 US-PATENT-APPL-SN-178771

c06 N73-11107 ..... NASA-CASE-NPO-11406

c08 N73-12175 ..... US-PATENT-APPL-SN-95183  
 US-PATENT-CLASS-235-152

US-PATENT-CLASS-331-78

c08 N73-12176 ..... US-PATENT-CLASS-340-146.1AL  
 US-PATENT-3,700,869  
 NASA-CASE-KSC-10595  
 US-PATENT-APPL-SN-98772  
 US-PATENT-CLASS-235-155  
 US-PATENT-CLASS-340-347DD  
 US-PATENT-3,697,733

c08 N73-12177 ..... NASA-CASE-NPO-11371  
 US-PATENT-APPL-SN-117575  
 US-PATENT-CLASS-340-146.1AQ  
 US-PATENT-CLASS-340-146.1AV  
 US-PATENT-3,697,950  
 NASA-CASE-EBC-10412-1

c09 N73-12211 ..... US-PATENT-APPL-SN-72024  
 US-PATENT-CLASS-343-5DP  
 US-PATENT-CLASS-343-11R  
 US-PATENT-CLASS-343-11VB  
 US-PATENT-3,696,418  
 NASA-CASE-NPO-13091-1

c09 N73-12214 ..... US-PATENT-APPL-SN-290022  
 NASA-CASE-LAR-11084-1  
 US-PATENT-APPL-SN-308362

c09 N73-12216 ..... NASA-CASE-NPO-11631  
 US-PATENT-APPL-SN-123253  
 US-PATENT-CLASS-179-1P  
 US-PATENT-CLASS-325-473  
 US-PATENT-CLASS-325-480  
 US-PATENT-3,700,812

c10 N73-12244 ..... NASA-CASE-LAR-10348-1  
 US-PATENT-APPL-SN-70032  
 US-PATENT-CLASS-73-147  
 US-PATENT-3,695,101  
 NASA-CASE-NPO-10890

c11 N73-12264 ..... US-PATENT-APPL-SN-99903  
 US-PATENT-CLASS-52-171  
 US-PATENT-CLASS-137-559  
 US-PATENT-CLASS-219-203  
 US-PATENT-CLASS-219-522  
 US-PATENT-3,696,833

c11 N73-12265 ..... NASA-CASE-LAR-10799-1  
 US-PATENT-APPL-SN-301419  
 NASA-CASE-GSC-10903-1

c12 N73-12295 ..... US-PATENT-APPL-SN-114846  
 US-PATENT-CLASS-73-421.5  
 US-PATENT-CLASS-250-41.9G  
 US-PATENT-CLASS-250-41.9S  
 US-PATENT-3,700,893

c14 N73-12444 ..... NASA-CASE-LAR-10728-1  
 US-PATENT-APPL-SN-112998  
 US-PATENT-CLASS-250-83.3H  
 US-PATENT-CLASS-250-83.3R  
 US-PATENT-CLASS-250-83R  
 US-PATENT-3,700,897

c14 N73-12445 ..... NASA-CASE-NPO-11239  
 US-PATENT-APPL-SN-89211  
 US-PATENT-CLASS-356-106  
 US-PATENT-CLASS-356-114  
 US-PATENT-3,700,334

c14 N73-12446 ..... NASA-CASE-NPO-11493  
 US-PATENT-APPL-SN-151413  
 US-PATENT-CLASS-136-224  
 US-PATENT-3,700,503

c14 N73-12447 ..... NASA-CASE-KSC-10615  
 US-PATENT-APPL-SN-103078  
 US-PATENT-CLASS-62-7  
 US-PATENT-CLASS-62-45  
 US-PATENT-CLASS-244-1SB  
 US-PATENT-CLASS-244-135  
 US-PATENT-3,697,021

c15 N73-12486 ..... NASA-CASE-FRC-10019  
 US-PATENT-APPL-SN-880398  
 US-PATENT-CLASS-204-192  
 US-PATENT-3,700,575

c15 N73-12487 ..... NASA-CASE-ARC-10345-1  
 US-PATENT-APPL-SN-193671  
 US-PATENT-CLASS-74-5F  
 US-PATENT-CLASS-287-85R  
 US-PATENT-CLASS-308-2A  
 US-PATENT-3,700,291

c15 N73-12488 ..... NASA-CASE-MSC-12357  
 US-PATENT-APPL-SN-662763  
 US-PATENT-CLASS-264-28  
 US-PATENT-CLASS-264-36  
 US-PATENT-CLASS-264-40  
 US-PATENT-CLASS-264-102  
 US-PATENT-3,697,630

c15 N73-12489 ..... NASA-CASE-ILA-8914  
 US-PATENT-APPL-SN-810576

c15 N73-12492

ACCESSION NUMBER INDEX

c15 N73-12495	NASA-CASE-NPO-13086-1 US-PATENT-APPL-SN-292477	US-PATENT-CLASS-29-624 US-PATENT-CLASS-136-233
c15 N73-12496	NASA-CASE-LAR-10961-1 US-PATENT-APPL-SN-308363	US-PATENT-3,699,645
c17 N73-12547	NASA-CASE-LAR-10539-1 US-PATENT-APPL-SN-136085 US-PATENT-CLASS-23-230R US-PATENT-3,701,631	c14 N73-13418 NASA-CASE-NFS-14216 US-PATENT-APPL-SN-50208 US-PATENT-CLASS-92-49 US-PATENT-CLASS-137-81 US-PATENT-CLASS-137-487.5 US-PATENT-3,698,412
c18 N73-12604	NASA-CASE-NFS-20408 US-PATENT-APPL-SN-71048 US-PATENT-CLASS-161-93 US-PATENT-3,700,538	c14 N73-13420 NASA-CASE-NPO-11418-1 US-PATENT-APPL-SN-193947 US-PATENT-CLASS-333-81B US-PATENT-CLASS-333-98R US-PATENT-3,702,979
c22 N73-12702	NASA-CASE-NPO-13121-1 US-PATENT-APPL-SN-294727	c14 N73-13435 NASA-CASE-GSC-11533-1 US-PATENT-APPL-SN-305013
c30 N73-12884	NASA-CASE-HSC-12391 US-PATENT-APPL-SN-106465 US-PATENT-CLASS-244-155 US-PATENT-3,700,193	c15 N73-13462 NASA-CASE-NPO-11479 US-PATENT-APPL-SN-170440 US-PATENT-CLASS-137-81.5 US-PATENT-CLASS-137-608 US-PATENT-CLASS-138-45 US-PATENT-CLASS-251-122 US-PATENT-3,700,005
c02 N73-13008	NASA-CASE-GSC-11077-1 US-PATENT-APPL-SN-127618 US-PATENT-CLASS-244-32 US-PATENT-3,698,667	c15 N73-13463 NASA-CASE-NFS-20317 US-PATENT-APPL-SN-67730 US-PATENT-CLASS-72-447 US-PATENT-CLASS-72-476 US-PATENT-CLASS-173-131 US-PATENT-3,699,799
c02 N73-13023	NASA-CASE-LAR-10531-1 US-PATENT-APPL-SN-302720	c15 N73-13464 NASA-CASE-NPO-10812 US-PATENT-APPL-SN-129073 US-PATENT-CLASS-72-258 US-PATENT-CLASS-425-113 US-PATENT-CLASS-425-133 US-PATENT-CLASS-425-176 US-PATENT-3,698,848
c05 N73-13114	NASA-CASE-HSC-13604-1 US-PATENT-APPL-SN-78717 US-PATENT-CLASS-35-22R US-PATENT-CLASS-128-2N US-PATENT-CLASS-273-1E US-PATENT-3,698,385	c15 N73-13465 NASA-CASE-LEW-10805-1 US-PATENT-APPL-SN-29917 US-PATENT-CLASS-148-11.5R US-PATENT-3,702-791
c06 N73-13128	NASA-CASE-GSC-11214-1 US-PATENT-APPL-SN-115134 US-PATENT-CLASS-117-35R US-PATENT-3,702,775	c15 N73-13466 NASA-CASE-NFS-20944 US-PATENT-APPL-SN-148756 US-PATENT-CLASS-91-363A US-PATENT-CLASS-91-448 US-PATENT-3,702,575
c06 N73-13129	NASA-CASE-IMP-08124-2 US-PATENT-APPL-SN-97829 US-PATENT-CLASS-75-66 US-PATENT-3,702,762	c15 N73-13467 NASA-CASE-NPO-11369 US-PATENT-APPL-SN-129072 US-PATENT-CLASS-60-1 US-PATENT-CLASS-60-23 US-PATENT-CLASS-60-37 US-PATENT-3,702,532
c07 N73-13149	NASA-CASE-NPO-11302-1 US-PATENT-APPL-SN-70967 US-PATENT-CLASS-178-69.5 US-PATENT-CLASS-235-150.53 US-PATENT-CLASS-235-181 US-PATENT-CLASS-325-325 US-PATENT-CLASS-340-146.1 US-PATENT-3,701,894	c16 N73-13489 NASA-CASE-HQN-10654-1 US-PATENT-APPL-SN-182978 US-PATENT-CLASS-324-.5R US-PATENT-CLASS-331-94 US-PATENT-3,702,972
c08 N73-13187	NASA-CASE-GSC-10975-1 US-PATENT-APPL-SN-100996 US-PATENT-CLASS-340-172.5 US-PATENT-3,702,463	c18 N73-13562 NASA-CASE-ARC-10196-1 US-PATENT-APPL-SN-115082 US-PATENT-CLASS-260-2.5F US-PATENT-3,702,841
c09 N73-13208	NASA-CASE-LEW-11192-1 US-PATENT-APPL-SN-198285 US-PATENT-CLASS-315-3.5 US-PATENT-CLASS-315-5.38 US-PATENT-3,702,951	c21 N73-13643 NASA-CASE-HQN-10703 US-PATENT-APPL-SN-156724 US-PATENT-CLASS-340-27NA US-PATENT-CLASS-340-33 US-PATENT-CLASS-340-97 US-PATENT-CLASS-343-112CA US-PATENT-3,699,511
c09 N73-13209	NASA-CASE-XLA-05099 US-PATENT-APPL-SN-98798 US-PATENT-CLASS-235-152 US-PATENT-CLASS-307-207 US-PATENT-CLASS-307-215 US-PATENT-3,700,868	c21 N73-13644 NASA-CASE-NPO-11481 US-PATENT-APPL-SN-134571 US-PATENT-CLASS-74-5.22 US-PATENT-CLASS-179-100.2A US-PATENT-CLASS-340-174.1R US-PATENT-CLASS-346-74MD US-PATENT-CLASS-346-138 US-PATENT-3,697,968
c10 N73-13235	NASA-CASE-KSC-10003 US-PATENT-APPL-SN-60883 US-PATENT-CLASS-178-DIG.6 US-PATENT-CLASS-178-6 US-PATENT-CLASS-307-242 US-PATENT-CLASS-307-259 US-PATENT-CLASS-328-104 US-PATENT-CLASS-328-154 US-PATENT-3,702,898	c22 N73-13656 NASA-CASE-NPO-13114-1 US-PATENT-APPL-SN-294738
c11 N73-13257	NASA-CASE-LAR-10574-1 US-PATENT-APPL-SN-66206 US-PATENT-CLASS-244-155 US-PATENT-3,698,659	c23 N73-13660 NASA-CASE-NFS-20809 US-PATENT-APPL-SN-173185 US-PATENT-CLASS-315-169R US-PATENT-CLASS-315-169TV US-PATENT-CLASS-317-101A US-PATENT-3,700,961
c14 N73-13415	NASA-CASE-LAR-10855-1 US-PATENT-APPL-SN-166541 US-PATENT-CLASS-73-147 US-PATENT-CLASS-73-182 US-PATENT-CLASS-73-189 US-PATENT-CLASS-73-212 US-PATENT-3,699,811	c23 N73-13661 NASA-CASE-HSC-12404-1 US-PATENT-APPL-SN-142662 US-PATENT-CLASS-356-1065 US-PATENT-3,702,735
c14 N73-13416	NASA-CASE-GSC-11302-1 US-PATENT-APPL-SN-168650 US-PATENT-CLASS-73-71.6 US-PATENT-3,699,807	c23 N73-13662 NASA-CASE-NFS-20243 US-PATENT-APPL-SN-59894
c14 N73-13417	NASA-CASE-XLE-05230-2 US-PATENT-APPL-SN-147099 US-PATENT-APPL-SN-877717 US-PATENT-CLASS-29-573	

ACCESSION NUMBER INDEX

	US-PATENT-CLASS-250-51.5	c31 N73-14855	NASA-CASE-NPO-10680
	US-PATENT-CLASS-250-52		US-PATENT-APPL-SN-104048
	US-PATENT-3,702,933		US-PATENT-CLASS-74-2
c28 N73-13773	NASA-CASE-LEW-10374-1		US-PATENT-3,706,230
	US-PATENT-APPL-SN-107380	c01 N73-14981	NASA-CASE-LAR-10585-1
	US-PATENT-CLASS-60-211		US-PATENT-APPL-SN-197183
	US-PATENT-CLASS-60-240	c09 N73-15235	NASA-CASE-NPO-12106
	US-PATENT-CLASS-60-243		US-PATENT-APPL-SN-175881
	US-PATENT-CLASS-137-81.5		US-PATENT-CLASS-317-234V
	US-PATENT-3,702,536		US-PATENT-CLASS-317-235AG
c31 N73-13898	NASA-CASE-LAR-10549-1		US-PATENT-CLASS-317-235K
	US-PATENT-APPL-SN-108824		US-PATENT-CLASS-331-90
	US-PATENT-CLASS-60-291		US-PATENT-CLASS-331-107G
	US-PATENT-CLASS-244-139		US-PATENT-CLASS-331-177E
	US-PATENT-3,700,192		US-PATENT-3,694,771
c32 N73-13921	NASA-CASE-MSC-12233-2	c04 N73-16061	NASA-CASE-LAR-11069-1
	US-PATENT-APPL-SN-107298		US-PATENT-APPL-SN-326198
	US-PATENT-CLASS-52-284	c05 N73-16096	NASA-CASE-LAR-11074-1
	US-PATENT-CLASS-52-594		US-PATENT-APPL-SN-326364
	US-PATENT-CLASS-229-DIG.11	c06 N73-16106	NASA-CASE-LAR-10668-1
	US-PATENT-3,702,520		US-PATENT-APPL-SN-172459
c32 N73-13929	NASA-CASE-LAR-11052-1		US-PATENT-CLASS-23-232E
	US-PATENT-APPL-SN-310611		US-PATENT-CLASS-23-232E
c05 N73-14093	NASA-CASE-ARC-10583-1		US-PATENT-CLASS-23-254E
	US-PATENT-APPL-SN-301418		US-PATENT-CLASS-23-254E
c07 N73-14130	NASA-CASE-NPO-11661		US-PATENT-CLASS-250-71R
	US-PATENT-APPL-SN-200682		US-PATENT-CLASS-250-83.30V
	US-PATENT-CLASS-343-782		US-PATENT-3,709,663
	US-PATENT-CLASS-343-837	c07 N73-16121	NASA-CASE-NPO-11572
	US-PATENT-CLASS-343-915		US-PATENT-APPL-SN-125234
	US-PATENT-3,705,406		US-PATENT-CLASS-179-15AN
c09 N73-14214	NASA-CASE-ARC-10467-1		US-PATENT-CLASS-179-15BC
	US-PATENT-APPL-SN-212028		US-PATENT-CLASS-325-60
	US-PATENT-CLASS-250-205		US-PATENT-CLASS-343-200
	US-PATENT-CLASS-250-211J		US-PATENT-3,710,257
	US-PATENT-CLASS-250-217SS	c08 N73-16163	NASA-CASE-MSC-14082-1
	US-PATENT-CLASS-307-310		US-PATENT-APPL-SN-315070
	US-PATENT-CLASS-307-311	c10 N73-16205	NASA-CASE-NPO-11282
	US-PATENT-3,705,316		US-PATENT-APPL-SN-101354
c09 N73-14215	NASA-CASE-YKS-00348		US-PATENT-CLASS-325-346
	US-PATENT-APPL-SN-209802		US-PATENT-CLASS-325-419
	US-PATENT-CLASS-40-130		US-PATENT-3,710,261
	US-PATENT-3,137,082	c10 N73-16206	NASA-CASE-ERC-10285
c14 N73-14427	NASA-CASE-NPO-10758		US-PATENT-APPL-SN-55333
	US-PATENT-APPL-SN-81096		US-PATENT-CLASS-331-45
	US-PATENT-CLASS-95-12.5		US-PATENT-CLASS-343-100R
	US-PATENT-CLASS-95-59		US-PATENT-CLASS-343-100SA
	US-PATENT-CLASS-352-169		US-PATENT-CLASS-343-853
	US-PATENT-3,704,659		US-PATENT-3,710,329
c14 N73-14428	NASA-CASE-NPO-10764-1	c14 N73-16483	NASA-CASE-ERC-10226-1
	US-PATENT-APPL-SN-836280		US-PATENT-APPL-SN-124909
	US-PATENT-CLASS-252-408		US-PATENT-APPL-SN-808822
	US-PATENT-3,700,603		US-PATENT-CLASS-250-209
c14 N73-14429	NASA-CASE-NPO-11387		US-PATENT-CLASS-250-215
	US-PATENT-APPL-SN-142719		US-PATENT-CLASS-250-217
	US-PATENT-CLASS-73-57		US-PATENT-CLASS-315-153
	US-PATENT-CLASS-73-60		US-PATENT-CLASS-340-25
	US-PATENT-3,706,221		US-PATENT-CLASS-340-27E
c15 N73-14469	NASA-CASE-GSC-10791-1	c14 N73-16484	US-PATENT-3,708,671
	US-PATENT-APPL-SN-84289		NASA-CASE-LAR-10739-1
	US-PATENT-CLASS-29-589		US-PATENT-APPL-SN-134567
	US-PATENT-CLASS-29-591		US-PATENT-CLASS-250-217F
	US-PATENT-CLASS-174-525		US-PATENT-CLASS-340-228S
	US-PATENT-CLASS-317-234A		US-PATENT-CLASS-340-418
	US-PATENT-CLASS-317-234G		US-PATENT-3,708,674
	US-PATENT-3,705,255	c16 N73-16536	NASA-CASE-LAR-10311-1
c15 N73-14480	NASA-CASE-LAR-11211-1		US-PATENT-APPL-SN-31702
	US-PATENT-APPL-SN-302681		US-PATENT-CLASS-250-199
c18 N73-14584	NASA-CASE-LAR-10894-1		US-PATENT-CLASS-340-171
	US-PATENT-APPL-SN-189375		US-PATENT-CLASS-350-293
	US-PATENT-CLASS-106-39R		US-PATENT-3,710,122
	US-PATENT-CLASS-106-55	c18 N73-16577	NASA-CASE-MSC-12568-1
	US-PATENT-CLASS-106-58		US-PATENT-APPL-SN-325784
	US-PATENT-CLASS-106-63	c27 N73-16764	NASA-CASE-NPO-12015
	US-PATENT-CLASS-264-DIG.36		US-PATENT-APPL-SN-74862
	US-PATENT-CLASS-264-65		US-PATENT-CLASS-149-19
	US-PATENT-3,706,583		US-PATENT-CLASS-149-36
c21 N73-14692	NASA-CASE-ERC-10392		US-PATENT-3,708,359
	US-PATENT-APPL-SN-36534		NASA-CASE-MSC-15567-1
	US-PATENT-CLASS-340-27AT	c33 N73-16918	US-PATENT-APPL-SN-87551
	US-PATENT-3,706,970		US-PATENT-CLASS-204-324
c31 N73-14853	NASA-CASE-GSC-10590-1		US-PATENT-CLASS-204-325
	US-PATENT-APPL-SN-130353		US-PATENT-CLASS-204-328
	US-PATENT-CLASS-102-49.5		US-PATENT-3,708,419
	US-PATENT-3,706,281	c06 N73-17153	NASA-CASE-NPO-12115-1
c31 N73-14854	NASA-CASE-MSC-12433		US-PATENT-APPL-SN-327982
	US-PATENT-APPL-SN-103551	c14 N73-17563	NASA-CASE-MFS-20506-1
	US-PATENT-CLASS-244-155		US-PATENT-APPL-SN-328792
	US-PATENT-3,702,688	c05 N73-18139	NASA-CASE-LEW-11581-1

ACCESSION NUMBER INDEX

	US-PATENT-APPL-SN-327921	US-PATENT-CLASS-325-7
c09 N73-18225	NASA-CASE-NPO-13125-1	US-PATENT-CLASS-325-8
	US-PATENT-APPL-SN-319150	US-PATENT-CLASS-325-9
c14 N73-18444	NASA-CASE-MFS-21761-1	US-PATENT-CLASS-325-12
	US-PATENT-APPL-SN-337816	US-PATENT-CLASS-325-17
c15 N73-18474	NASA-CASE-LAR-11071-1	US-PATENT-CLASS-325-63
	US-PATENT-APPL-SN-334349	US-PATENT-CLASS-343-179
c16 N73-18508	NASA-CASE-NPO-13050-1	US-PATENT-3,715,663
	US-PATENT-APPL-SN-317567	NASA-CASE-KSC-10698
c02 N73-19004	NASA-CASE-ERC-10439	US-PATENT-APPL-SN-213949
	US-PATENT-APPL-SN-54271	US-PATENT-CLASS-73-170R
	US-PATENT-CLASS-244-17.13	US-PATENT-CLASS-324-72
	US-PATENT-CLASS-244-77D	US-PATENT-3,715,660
	US-PATENT-CLASS-318-489	NASA-CASE-KSC-10521
	US-PATENT-3,711,042	US-PATENT-APPL-SN-212921
c09 N73-19234	NASA-CASE-GSC-11013-1	US-PATENT-CLASS-340-146.1C
	US-PATENT-APPL-SN-200717	US-PATENT-CLASS-340-147R
	US-PATENT-CLASS-343-754	US-PATENT-CLASS-340-163
	US-PATENT-CLASS-343-839	US-PATENT-3,715,723
	US-PATENT-CLASS-343-854	c08 N73-20217
	US-PATENT-CLASS-343-895	NASA-CASE-LAR-10128-1
	US-PATENT-3,713,163	US-PATENT-APPL-SN-84002
c09 N73-19235	NASA-CASE-MFS-20407	US-PATENT-CLASS-235-92PQ
	US-PATENT-APPL-SN-116777	US-PATENT-CLASS-235-92R
	US-PATENT-CLASS-317-235AM	US-PATENT-CLASS-235-92T
	US-PATENT-CLASS-317-235N	US-PATENT-CLASS-340-347AD
	US-PATENT-CLASS-317-235R	US-PATENT-3,714,645
	US-PATENT-CLASS-317-235T	c09 N73-20231
	US-PATENT-CLASS-317-235UA	NASA-CASE-ARC-10264-1
	US-PATENT-3,714,526	US-PATENT-APPL-SN-80368
c14 N73-19419	NASA-CASE-LAR-10226-1	US-PATENT-CLASS-328-167
	US-PATENT-APPL-SN-98774	US-PATENT-CLASS-330-86
	US-PATENT-CLASS-95-11.5R	US-PATENT-CLASS-330-109
	US-PATENT-CLASS-95-11R	US-PATENT-3,714,588
	US-PATENT-CLASS-250-217R	c09 N73-20232
	US-PATENT-3,712,195	NASA-CASE-MFS-21433
c14 N73-19420	NASA-CASE-MFS-20774	US-PATENT-APPL-SN-236281
	US-PATENT-APPL-SN-161028	US-PATENT-CLASS-307-230
	US-PATENT-CLASS-73-84	US-PATENT-CLASS-307-304
	US-PATENT-3,712,121	US-PATENT-CLASS-330-20
c14 N73-19421	NASA-CASE-MFS-20242	US-PATENT-CLASS-330-22
	US-PATENT-APPL-SN-213004	US-PATENT-CLASS-330-30D
	US-PATENT-CLASS-73-71.6	US-PATENT-CLASS-330-35
	US-PATENT-3,712,120	US-PATENT-CLASS-330-40
c15 N73-19457	NASA-CASE-MFS-20698-2	US-PATENT-CLASS-330-80T
	US-PATENT-APPL-SN-3418	US-PATENT-3,715,693
	US-PATENT-APPL-SN-136086	c10 N73-20253
	US-PATENT-CLASS-423-446	NASA-CASE-LAR-10310-1
	US-PATENT-CLASS-423-625	US-PATENT-APPL-SN-147103
	US-PATENT-3,714,332	US-PATENT-CLASS-235-197
c15 N73-19458	NASA-CASE-LAR-10195-1	US-PATENT-3,714,405
	US-PATENT-APPL-SN-201782	c10 N73-20254
	US-PATENT-CLASS-259-4	NASA-CASE-NPO-11868
	US-PATENT-3,712,591	US-PATENT-APPL-SN-192101
c15 N73-19467	NASA-CASE-GSC-11577-1	US-PATENT-CLASS-307-221R
	US-PATENT-APPL-SN-322997	US-PATENT-CLASS-328-37
c21 N73-19630	NASA-CASE-GSC-11188-2	US-PATENT-CLASS-328-61
	US-PATENT-APPL-SN-244440	US-PATENT-CLASS-328-187
c28 N73-19793	NASA-CASE-LEW-11187-1	US-PATENT-3,718,863
	US-PATENT-APPL-SN-147922	c10 N73-20259
	US-PATENT-CLASS-60-39.28R	NASA-CASE-NPO-10764-2
	US-PATENT-3,713,290	US-PATENT-APPL-SN-836280
c28 N73-19819	NASA-CASE-LAR-10951-1	c11 N73-20267
	US-PATENT-APPL-SN-331759	NASA-CASE-MFS-21362
c02 N73-20008	NASA-CASE-LAR-11140-1	US-PATENT-APPL-SN-211411
	US-PATENT-APPL-SN-315068	US-PATENT-CLASS-73-432SD
c03 N73-20039	NASA-CASE-GSC-10814-1	US-PATENT-3,714,833
	US-PATENT-APPL-SN-41404	c14 N73-20474
	US-PATENT-CLASS-244-15A	NASA-CASE-ERC-10350
	US-PATENT-CLASS-244-15S	US-PATENT-APPL-SN-55535
	US-PATENT-3,715,092	US-PATENT-CLASS-340-27R
c03 N73-20040	NASA-CASE-NPO-11771	US-PATENT-3,714,624
	US-PATENT-APPL-SN-200762	c14 N73-20475
	US-PATENT-CLASS-60-26	NASA-CASE-LAR-10726-1
	US-PATENT-CLASS-244-1.55	US-PATENT-APPL-SN-146935
	US-PATENT-CLASS-250-212	US-PATENT-CLASS-250-83.3H
	US-PATENT-CLASS-250-234	US-PATENT-CLASS-250-231
	US-PATENT-3,715,600	US-PATENT-3,714,432
c05 N73-20137	NASA-CASE-LAR-10076-1	c14 N73-20476
	US-PATENT-APPL-SN-84290	NASA-CASE-MFS-20673
	US-PATENT-CLASS-62-259	US-PATENT-APPL-SN-94049
	US-PATENT-CLASS-165-46	US-PATENT-CLASS-73-90
	US-PATENT-CLASS-312-1	US-PATENT-CLASS-73-91
	US-PATENT-3,713,480	US-PATENT-3,714,821
c07 N73-20174	NASA-CASE-GSC-10087-4	c14 N73-20477
	US-PATENT-APPL-SN-47440	NASA-CASE-ARC-10443-1
	US-PATENT-APPL-SN-701679	US-PATENT-APPL-SN-128419
	US-PATENT-CLASS-325-4	US-PATENT-CLASS-250-83.3R
	US-PATENT-CLASS-325-5	US-PATENT-CLASS-250-83R
		US-PATENT-3,715,590
		c14 N73-20478
		NASA-CASE-NPO-10985
		US-PATENT-APPL-SN-74759
		US-PATENT-CLASS-73-194E
		US-PATENT-CLASS-324-30R
		US-PATENT-CLASS-324-65P
		US-PATENT-3,712,132
		c15 N73-20514
		NASA-CASE-NPO-11213
		US-PATENT-APPL-SN-78703
		US-PATENT-CLASS-195-127
		US-PATENT-3,713,987

ACCESSION NUMBER INDEX

c15 N73-20535	NASA-CASE-LAR-11072-1	US-PATENT-3,732,158
	US-PATENT-APPL-SN-280030	NASA-CASE-NPO-11880
c32 N73-20740	NASA-CASE-LAR-10765-1	US-PATENT-APPL-SN-209535
	US-PATENT-APPL-SN-138230	US-PATENT-CLASS-60-202
	US-PATENT-CLASS-73-88A	US-PATENT-CLASS-313-DIG.8
	US-PATENT-CLASS-356-32	US-PATENT-CLASS-313-63
	US-PATENT-3,715,915	US-PATENT-CLASS-313-231
c23 N73-20741	NASA-CASE-ARC-10194-1	US-PATENT-3,728,861
	US-PATENT-APPL-SN-107659	US-PATENT-313-204
	US-PATENT-CLASS-350-202	NASA-CASE-NPO-11559
	US-PATENT-3,715,152	US-PATENT-APPL-SN-147996
c24 N73-20763	NASA-CASE-LEW-11390-2	US-PATENT-CLASS-60-254
	US-PATENT-APPL-SN-340863	US-PATENT-CLASS-60-256
c31 N73-20880	NASA-CASE-LAR-10788-1	US-PATENT-CLASS-102-49.7
	US-PATENT-APPL-SN-340865	US-PATENT-CLASS-102-49.8
	NASA-CASE-MSC-14339-1	US-PATENT-3,729,935
c05 N73-21151	US-PATENT-APPL-SN-347953	NASA-CASE-NFS-20332-2
	NASA-CASE-ARC-10466-1	US-PATENT-APPL-SN-195061
c08 N73-21199	US-PATENT-APPL-SN-352382	US-PATENT-APPL-SN-869260
	NASA-CASE-MSC-14240-1	US-PATENT-CLASS-2-2.1A
c10 N73-21240	US-PATENT-APPL-SN-351929	US-PATENT-CLASS-128-142.5
	NASA-CASE-ARC-10637-1	US-PATENT-CLASS-137-538
c14 N73-21390	US-PATENT-APPL-SN-352383	US-PATENT-3,720,208
	NASA-CASE-MFS-22324-1	NASA-CASE-ARC-10097-2
c18 N73-21471	US-PATENT-APPL-SN-350250	US-PATENT-APPL-SN-115083
	NASA-CASE-MFS-21244-1	US-PATENT-APPL-SN-768662
c20 N73-21523	US-PATENT-APPL-SN-350249	US-PATENT-CLASS-325-45
	NASA-CASE-MSC-14180-1	US-PATENT-CLASS-325-61
c05 N73-22045	US-PATENT-APPL-SN-354406	US-PATENT-CLASS-325-113
	NASA-CASE-NPO-10166-1	US-PATENT-CLASS-325-139
c07 N73-22076	US-PATENT-APPL-SN-192803	US-PATENT-CLASS-340-207
	NASA-CASE-MSC-12531-1	US-PATENT-CLASS-340-258R
c14 N73-22386	US-PATENT-APPL-SN-354612	US-PATENT-3,719,891
	NASA-CASE-LAR-11173-1	NASA-CASE-NPO-11707
c14 N73-22387	US-PATENT-APPL-SN-354408	US-PATENT-APPL-SN-196399
	NASA-CASE-LEW-11484-1	US-PATENT-CLASS-343-6.5R
c15 N73-22415	US-PATENT-APPL-SN-356554	US-PATENT-CLASS-343-6.8R
	NASA-CASE-NFS-21606-1	US-PATENT-3,729,736
c15 N73-22417	US-PATENT-APPL-SN-356555	NASA-CASE-NPO-11497
	NASA-CASE-LEW-11179-1	US-PATENT-APPL-SN-155565
c17 N73-22474	US-PATENT-APPL-SN-357312	US-PATENT-CLASS-235-10.2
	NASA-CASE-MFS-21672-1	US-PATENT-CLASS-235-92CV
c23 N73-22630	US-PATENT-APPL-SN-354060	US-PATENT-CLASS-235-92DN
	NASA-CASE-NPO-10893	US-PATENT-CLASS-235-92EA
c27 N73-22710	US-PATENT-APPL-SN-845584	US-PATENT-CLASS-235-92EV
	US-PATENT-CLASS-260-94.8	US-PATENT-CLASS-235-92R
	US-PATENT-3,634,383	US-PATENT-CLASS-235-151.27
c28 N73-22721	NASA-CASE-LEW-11694-1	US-PATENT-3,729,129
	US-PATENT-APPL-SN-352381	NASA-CASE-MSC-12428-1
c09 N73-23290	NASA-CASE-KSC-10736-1	US-PATENT-APPL-SN-170681
	US-PATENT-APPL-SN-348787	US-PATENT-CLASS-179-1SA
c09 N73-23291	NASA-CASE-GSC-11744-1	US-PATENT-CLASS-235-151.31
	US-PATENT-APPL-SN-353162	US-PATENT-CLASS-324-77R
c14 N73-23526	NASA-CASE-MFS-21488-1	US-PATENT-CLASS-324-78J
	US-PATENT-APPL-SN-359156	US-PATENT-3,732,405
c14 N73-23527	NASA-CASE-KSC-10750-1	NASA-CASE-GSC-11239-1
	US-PATENT-APPL-SN-346372	US-PATENT-APPL-SN-180683
c15 N73-23553	NASA-CASE-KSC-10723-1	US-PATENT-CLASS-325-67
	US-PATENT-APPL-SN-347952	US-PATENT-CLASS-325-363
c18 N73-23629	NASA-CASE-NPO-13120-1	US-PATENT-3,737,781
	US-PATENT-APPL-SN-348422	NASA-CASE-MFS-21919-1
c26 N73-23770	NASA-CASE-MFS-20775-1	US-PATENT-APPL-SN-193456
	US-PATENT-APPL-SN-356664	US-PATENT-CLASS-317-100
c07 N73-24176	NASA-CASE-NPO-11751	US-PATENT-CLASS-317-101DB
	US-PATENT-APPL-SN-192141	US-PATENT-3,735,206
	US-PATENT-CLASS-343-DIG.2	NASA-CASE-LAR-10578-1
	US-PATENT-CLASS-343-915	US-PATENT-APPL-SN-233098
	US-PATENT-3,729,743	US-PATENT-CLASS-73-147
c07 N73-24187	NASA-CASE-GSC-11388-1	US-PATENT-3,731,528
	US-PATENT-APPL-SN-306980	NASA-CASE-MFS-20916
c09 N73-24236	NASA-CASE-MFS-22342-1	US-PATENT-APPL-SN-212165
	US-PATENT-APPL-SN-361666	US-PATENT-CLASS-73-189
c14 N73-24472	NASA-CASE-LEW-11072-1	US-PATENT-3,731,531
	US-PATENT-APPL-SN-104885	NASA-CASE-KSC-10108
	US-PATENT-CLASS-136-225	US-PATENT-APPL-SN-73922
	US-PATENT-3,729,343	US-PATENT-CLASS-343-6.8R
c14 N73-24473	NASA-CASE-MFS-20418	US-PATENT-CLASS-343-14
	US-PATENT-APPL-SN-162101	US-PATENT-CLASS-343-17.5
	US-PATENT-CLASS-128-206P	US-PATENT-3,732,567
	US-PATENT-CLASS-324-78E	NASA-CASE-NPO-11686
	US-PATENT-3,729,676	US-PATENT-APPL-SN-212900
c15 N73-24513	NASA-CASE-NPO-11417	US-PATENT-CLASS-250-83.3H
	US-PATENT-APPL-SN-120241	US-PATENT-CLASS-250-203H
	US-PATENT-CLASS-60-25	US-PATENT-CLASS-250-214
	US-PATENT-CLASS-417-391	US-PATENT-CLASS-250-214
	US-PATENT-3,732,040	US-PATENT-CLASS-356-152
c17 N73-24569	NASA-CASE-LEW-10920-1	US-PATENT-3,723,475
	US-PATENT-APPL-SN-106424	NASA-CASE-ARC-10278-1
	US-PATENT-CLASS-204-192	US-PATENT-APPL-SN-154933
c28 N73-24783		
c28 N73-24784		
c05 N73-25125		
c07 N73-25160		
c07 N73-25161		
c08 N73-25206		
c10 N73-25240		
c10 N73-25241		
c10 N73-25243		
c12 N73-25262		
c14 N73-25460		
c14 N73-25461		
c14 N73-25462		
c14 N73-25463		

ACCESSION NUMBER INDEX

	US-PATENT-CLASS-356-110				US-PATENT-3,737,912
	US-PATENT-3,729,260		c07 N73-26118	.....	NASA-CASE-NPO-11548
c15 N73-25512	.....	NASA-CASE-LAR-10129-1			US-PATENT-APPL-SN-151411
	US-PATENT-APPL-SN-99201				US-PATENT-CLASS-179-15A
	US-PATENT-CLASS-24-134R				US-PATENT-CLASS-179-15BH
	US-PATENT-CLASS-182-5				US-PATENT-CLASS-325-40
	US-PATENT-CLASS-188-65.1				US-PATENT-CLASS-343-204
	US-PATENT-CLASS-254-156				US-PATENT-3,737,776
	US-PATENT-3,729,068		c07 N73-26119	.....	NASA-CASE-NPO-11426
c15 N73-25513	.....	NASA-CASE-GSC-11205-1			US-PATENT-APPL-SN-89210
	US-PATENT-APPL-SN-107376				US-PATENT-CLASS-250-199
	US-PATENT-CLASS-188-266				US-PATENT-CLASS-331-94.5
	US-PATENT-CLASS-240-15A				US-PATENT-CLASS-332-7.51
	US-PATENT-3,737,118				US-PATENT-CLASS-356-4
c16 N73-25564	.....	NASA-CASE-LAR-11341-1			US-PATENT-CLASS-356-5
	US-PATENT-APPL-SN-367293				US-PATENT-3,737,231
c25 N73-25760	.....	NASA-CASE-LEW-11180-1	c07 N73-26144	.....	NASA-CASE-NPO-13217-1
	US-PATENT-APPL-SN-175852				US-PATENT-APPL-SN-362145
	US-PATENT-CLASS-60-202		c08 N73-26175	.....	NASA-CASE-NPO-11821-1
	US-PATENT-CLASS-313-161				US-PATENT-APPL-SN-236285
	US-PATENT-CLASS-313-231				US-PATENT-CLASS-235-152
	US-PATENT-3,735,591				US-PATENT-CLASS-235-164
c28 N73-25816	.....	NASA-CASE-LEW-11593-1			US-PATENT-CLASS-328-167
	US-PATENT-APPL-SN-363691		c08 N73-26176	.....	US-PATENT-3,732,409
c33 N73-25952	.....	NASA-CASE-LEW-10359-2			NASA-CASE-NPO-11456
	US-PATENT-APPL-SN-47063				US-PATENT-APPL-SN-153543
	US-PATENT-APPL-SN-150215				US-PATENT-CLASS-340-172.5
	US-PATENT-CLASS-60-200A				US-PATENT-3,740,725
	US-PATENT-CLASS-60-265		c09 N73-26195	.....	NASA-CASE-GSC-10990-1
	US-PATENT-CLASS-60-267				US-PATENT-APPL-SN-93329
	US-PATENT-CLASS-62-467				US-PATENT-CLASS-333-73R
	US-PATENT-CLASS-102-105				US-PATENT-CLASS-333-73S
	US-PATENT-CLASS-244-117A				US-PATENT-CLASS-333-82A
	US-PATENT-3,720,075				US-PATENT-CLASS-333-84H
c02 N73-26004	.....	NASA-CASE-LAR-10682-1	c09 N73-26197	.....	US-PATENT-3,737,815
	US-PATENT-APPL-SN-127915				NASA-CASE-MFS-22129-1
	US-PATENT-CLASS-244-75A				US-PATENT-APPL-SN-370255
	US-PATENT-CLASS-244-76C		c09 N73-26199	.....	NASA-CASE-MSC-14131-1
	US-PATENT-CLASS-244-77F				US-PATENT-APPL-SN-373588
	US-PATENT-CLASS-244-77G		c10 N73-26228	.....	NASA-CASE-ERC-10403-1
	US-PATENT-3,734,432				US-PATENT-APPL-SN-253405
c02 N73-26005	.....	NASA-CASE-ARC-10470-1			US-PATENT-CLASS-317-DIG.6
	US-PATENT-APPL-SN-206279				US-PATENT-CLASS-321-11
	US-PATENT-CLASS-244-13				US-PATENT-CLASS-321-45C
	US-PATENT-CLASS-244-46		c10 N73-26229	.....	US-PATENT-3,737,757
	US-PATENT-CLASS-244-55				NASA-CASE-NPO-11569
	US-PATENT-3,737,121				US-PATENT-APPL-SN-199957
c02 N73-26006	.....	NASA-CASE-MSC-12393-1			US-PATENT-CLASS-307-220
	US-PATENT-APPL-SN-203405				US-PATENT-CLASS-307-233
	US-PATENT-CLASS-9-2A				US-PATENT-3,737,676
	US-PATENT-CLASS-9-3		c10 N73-26230	.....	NASA-CASE-MSC-13907-1
	US-PATENT-CLASS-9-11A				US-PATENT-APPL-SN-254177
	US-PATENT-CLASS-114-122				US-PATENT-CLASS-235-186
	US-PATENT-3,736,607				US-PATENT-CLASS-235-194
c02 N73-26007	.....	NASA-CASE-LAR-11252-1			US-PATENT-CLASS-235-197
	US-PATENT-APPL-SN-367268				US-PATENT-3,737,639
c02 N73-26008	.....	NASA-CASE-LAR-11087-1	c10 N73-26231	.....	NASA-CASE-MSC-14129-1
	US-PATENT-APPL-SN-367267				US-PATENT-APPL-SN-362146
c03 N73-26047	.....	NASA-CASE-LAR-11174-1			NASA-CASE-NPO-11366
	US-PATENT-APPL-SN-372142		c11 N73-26238	.....	US-PATENT-APPL-SN-144139
c03 N73-26048	.....	NASA-CASE-LEW-11065-2			US-PATENT-CLASS-180-6.5
	US-PATENT-APPL-SN-371322				US-PATENT-CLASS-180-7R
c05 N73-26071	.....	NASA-CASE-ARC-10599-1			US-PATENT-CLASS-180-8A
	US-PATENT-APPL-SN-247481				US-PATENT-CLASS-180-9.2R
	US-PATENT-CLASS-2-2.1				US-PATENT-CLASS-180-9.5
	US-PATENT-CLASS-62-89				US-PATENT-CLASS-180-41
	US-PATENT-CLASS-62-176				US-PATENT-CLASS-305-358B
	US-PATENT-CLASS-62-207				US-PATENT-CLASS-305-39
	US-PATENT-CLASS-62-209				US-PATENT-3,730,287
	US-PATENT-CLASS-62-259		c14 N73-26430	.....	NASA-CASE-NPO-11304
	US-PATENT-CLASS-165-46				US-PATENT-APPL-SN-101214
	US-PATENT-3,736,764				US-PATENT-CLASS-219-50
c05 N73-26072	.....	NASA-CASE-ARC-10329-1			US-PATENT-CLASS-219-499
	US-PATENT-APPL-SN-159857				US-PATENT-3,733,463
	US-PATENT-CLASS-128-2.1R		c14 N73-26431	.....	NASA-CASE-MSC-12363-1
	US-PATENT-CLASS-351-23				US-PATENT-APPL-SN-125236
	US-PATENT-CLASS-351-30				US-PATENT-CLASS-95-1.1
	US-PATENT-CLASS-351-36				US-PATENT-3,736,849
	US-PATENT-3,737,217		c14 N73-26432	.....	NASA-CASE-ERC-10276
c06 N73-26100	.....	NASA-CASE-GSC-11358-1			US-PATENT-APPL-SN-24155
	US-PATENT-APPL-SN-226551				US-PATENT-CLASS-250-209
	US-PATENT-CLASS-260-46.5R				US-PATENT-CLASS-340-15.50C
	US-PATENT-3,733,350				US-PATENT-CLASS-343-100HE
c07 N73-26117	.....	NASA-CASE-KSC-10392			US-PATENT-3,737,905
	US-PATENT-APPL-SN-181024		c15 N73-26472	.....	NASA-CASE-KSC-10639
	US-PATENT-CLASS-343-880				US-PATENT-APPL-SN-181023
	US-PATENT-CLASS-343-883				US-PATENT-CLASS-137-397
	US-PATENT-CLASS-343-889				US-PATENT-CLASS-137-582
	US-PATENT-CLASS-343-895				US-PATENT-3,736,956

ACCESSION NUMBER INDEX

c15 N73-26474	NASA-CASE-NPO-13201-1	US-PATENT-CLASS-35-12C
	US-PATENT-APPL-SN-372149	US-PATENT-CLASS-272-73
c18 N73-26572	NASA-CASE-ARC-10304-1	US-PATENT-3,744,794
	US-PATENT-APPL-SN-140946	NASA-CASE-KSC-10626
	US-PATENT-CLASS-252-8.1	US-PATENT-APPL-SN-180963
	US-PATENT-3,730,891	US-PATENT-CLASS-222-414
c25 N73-26721	NASA-CASE-MFS-22145-1	US-PATENT-CLASS-244-1SS
	US-PATENT-APPL-SN-367606	US-PATENT-CLASS-244-135
	NASA-CASE-MFS-20675	US-PATENT-3,744,738
c26 N73-26751	US-PATENT-APPL-SN-200085	NASA-CASE-PRC-10060-1
	US-PATENT-CLASS-250-219TH	US-PATENT-APPL-SN-189290
	US-PATENT-CLASS-356-108	US-PATENT-CLASS-73-1DV
	US-PATENT-CLASS-356-161	US-PATENT-CLASS-179-175.1A
	US-PATENT-CLASS-356-202	US-PATENT-CLASS-340-5C
	US-PATENT-3,737,237	US-PATENT-3,744,294
c26 N73-26752	NASA-CASE-LEW-11726-1	NASA-CASE-MFS-20932-1
	US-PATENT-APPL-SN-280031	US-PATENT-APPL-SN-374441
	US-PATENT-CLASS-29-599	NASA-CASE-MFS-20855
	US-PATENT-CLASS-156-18	US-PATENT-APPL-SN-127647
	US-PATENT-CLASS-174-DIG.6	US-PATENT-CLASS-53-22A
	US-PATENT-CLASS-336-DIG.1	US-PATENT-CLASS-53-112A
	US-PATENT-CLASS-336-200	US-PATENT-CLASS-219-348
	US-PATENT-3,737,824	US-PATENT-3,745,739
c30 N73-26838	NASA-CASE-LAR-11059-1	NASA-CASE-NPO-11377
	US-PATENT-APPL-SN-367294	US-PATENT-APPL-SN-187262
c31 N73-26876	NASA-CASE-MFS-20863	US-PATENT-CLASS-137-1
	US-PATENT-APPL-SN-159966	US-PATENT-CLASS-137-154
	US-PATENT-CLASS-244-1SD	US-PATENT-CLASS-137-604
	US-PATENT-CLASS-244-137P	US-PATENT-3,744,510
	US-PATENT-3,737,117	NASA-CASE-KSC-10752-1
c31 N73-26879	NASA-CASE-MSC-12559-1	US-PATENT-APPL-SN-372143
	US-PATENT-APPL-SN-370582	NASA-CASE-NPO-13175-1
c32 N73-26910	NASA-CASE-LAR-10756-1	US-PATENT-APPL-SN-374423
	US-PATENT-APPL-SN-160859	NASA-CASE-LAR-10953-1
	US-PATENT-CLASS-73-67.3	US-PATENT-APPL-SN-163152
	US-PATENT-CLASS-73-88.5R	US-PATENT-CLASS-23-230R
	US-PATENT-CLASS-73-91	US-PATENT-3,744,972
	US-PATENT-CLASS-235-92MT	NASA-CASE-MSC-14331-1
	US-PATENT-3,733,424	US-PATENT-APPL-SN-374421
c33 N73-26558	NASA-CASE-NPO-11330	NASA-CASE-LEW-11071-1
	US-PATENT-APPL-SN-118269	US-PATENT-APPL-SN-370581
	US-PATENT-CLASS-285-DIG.21	NASA-CASE-XLE-10453-2
	US-PATENT-CLASS-285-316	US-PATENT-APPL-SN-180473
	US-PATENT-3,737,181	US-PATENT-APPL-SN-758540
c04 N73-27052	NASA-CASE-GSC-11092-2	US-PATENT-CLASS-60-202
	US-PATENT-APPL-SN-60950	US-PATENT-CLASS-313-63
	US-PATENT-APPL-SN-139250	US-PATENT-CLASS-313-217
	US-PATENT-CLASS-103.5R	US-PATENT-CLASS-313-218
	US-PATENT-3,745,090	US-PATENT-CLASS-313-230
c05 N73-27062	NASA-CASE-LRW-11669-1	US-PATENT-CLASS-313-355
	US-PATENT-APPL-SN-198885	US-PATENT-3,744,247
	US-PATENT-CLASS-32-28	NASA-CASE-LAR-10439-1
	US-PATENT-CLASS-32-58	US-PATENT-APPL-SN-182033
	US-PATENT-CLASS-128-2	US-PATENT-CLASS-73-86
	US-PATENT-CLASS-128-24A	US-PATENT-CLASS-73-339
	US-PATENT-CLASS-128-305	US-PATENT-CLASS-73-432R
	US-PATENT-3,736,938	US-PATENT-CLASS-356-72
c06 N73-27086	NASA-CASE-GSC-10225-1	US-PATENT-3,745,616
	US-PATENT-APPL-SN-710621	NASA-CASE-MFS-21109-1
	US-PATENT-CLASS-195-66R	US-PATENT-APPL-SN-202769
	US-PATENT-3,745,089	US-PATENT-CLASS-73-379
c07 N73-27106	NASA-CASE-NPO-13140-1	US-PATENT-CLASS-128-2.05R
	US-PATENT-APPL-SN-374422	US-PATENT-CLASS-128-2.06R
c07 N73-27107	NASA-CASE-GSC-11743-1	US-PATENT-CLASS-272-73
	US-PATENT-APPL-SN-370271	US-PATENT-3,744,480
c09 N73-27150	NASA-CASE-ERC-10224-2	NASA-CASE-LEW-11325-1
	US-PATENT-APPL-SN-221833	US-PATENT-APPL-SN-184960
	US-PATENT-APPL-SN-868775	US-PATENT-CLASS-117-161P
	US-PATENT-CLASS-29-580	US-PATENT-CLASS-117-161UN
	US-PATENT-CLASS-317-234G	US-PATENT-CLASS-117-228
	US-PATENT-CLASS-317-234L	US-PATENT-CLASS-161-214
	US-PATENT-CLASS-317-234M	US-PATENT-CLASS-161-227
	US-PATENT-CLASS-317-234N	US-PATENT-CLASS-260-30.2
	US-PATENT-CLASS-317-234R	US-PATENT-CLASS-260-30.8DS
	US-PATENT-3,742,316	US-PATENT-CLASS-260-32.6M
c10 N73-27171	NASA-CASE-NPO-11941-1	US-PATENT-CLASS-260-33.4R
	US-PATENT-APPL-SN-241614	US-PATENT-CLASS-260-33.6R
	US-PATENT-CLASS-330-70CR	US-PATENT-CLASS-260-47CP
	US-PATENT-CLASS-331-17	US-PATENT-CLASS-260-65
	US-PATENT-CLASS-331-25	US-PATENT-CLASS-260-78TF
	US-PATENT-3,740,671	US-PATENT-CLASS-260-78UA
c11 N73-27175	NASA-CASE-ARC-10710-1	US-PATENT-3,745,149
	US-PATENT-APPL-SN-379019	NASA-CASE-NPO-11593-1
c14 N73-27376	NASA-CASE-HQM-10037-1	US-PATENT-APPL-SN-172807
	US-PATENT-APPL-SN-235957	US-PATENT-CLASS-179-15FS
	US-PATENT-CLASS-73-28	US-PATENT-CLASS-325-419
	US-PATENT-3,741,001	US-PATENT-CLASS-329-122
c14 N73-27377	NASA-CASE-MFS-21046-1	US-PATENT-3,745,255
	US-PATENT-APPL-SN-156725	NASA-CASE-GSC-11046-1
c14 N73-27378		
c14 N73-27379		
c14 N73-27380		
c15 N73-27405		
c15 N73-27406		
c15 N73-27407		
c16 N73-27431		
c17 N73-27446		
c18 N73-27501		
c27 N73-27695		
c28 N73-27699		
c33 N73-27796		
c05 N73-27941		
c06 N73-27980		
c07 N73-28012		
c07 N73-28013		



ACCESSION NUMBER INDEX

	US-PATENT-APPL-SN-182399		US-PATENT-APPL-SN-327969
	US-PATENT-CLASS-343-725	c15 N73-29457	NASA-CASE-LEW-11274-1
	US-PATENT-CLASS-343-729		US-PATENT-APPL-SN-380630
	US-PATENT-CLASS-343-797	c05 N73-30078	NASA-CASE-MFS-21010-1
	US-PATENT-CLASS-343-803		US-PATENT-APPL-SN-251609
	US-PATENT-CLASS-343-893		US-PATENT-CLASS-73-379
	US-PATENT-3,747,111		US-PATENT-3,750,479
c08 N73-28045	NASA-CASE-XNP-00477	c05 N73-30090	NASA-CASE-MFS-20994-1
	US-PATENT-APPL-SN-175497		US-PATENT-APPL-SN-386789
	US-PATENT-CLASS-340-347	c06 N73-30097	NASA-CASE-LAR-10670-1
	US-PATENT-3,219,997		US-PATENT-APPL-SN-59892
c09 N73-28083	NASA-CASE-GSC-11215-1		US-PATENT-CLASS-60-215
	US-PATENT-APPL-SN-114873		US-PATENT-CLASS-149-1
	US-PATENT-CLASS-29-628		US-PATENT-CLASS-149-36
	US-PATENT-CLASS-29-629		US-PATENT-CLASS-252-301.4
	US-PATENT-CLASS-29-630		US-PATENT-CLASS-252-305
	US-PATENT-CLASS-29-630A		US-PATENT-3,751,913
	US-PATENT-3,744,128	c06 N73-30098	NASA-CASE-MFS-21040-1
c09 N73-28084	NASA-CASE-INP-03623		US-PATENT-APPL-SN-183240
	US-PATENT-APPL-SN-471154		US-PATENT-CLASS-260-485F
	US-PATENT-CLASS-178-69.5		US-PATENT-3,752,847
	US-PATENT-3,402,265	c06 N73-30099	NASA-CASE-MFS-10512
c11 N73-28128	NASA-CASE-LEW-11390-3		US-PATENT-APPL-SN-606027
	US-PATENT-APPL-SN-380046		US-PATENT-CLASS-260-77.5
c12 N73-28144	NASA-CASE-LAR-10612-1		US-PATENT-3,463,761
	US-PATENT-APPL-SN-233173	c06 N73-30100	NASA-CASE-MFS-10506
	US-PATENT-CLASS-73-147		US-PATENT-APPL-SN-606036
	US-PATENT-3,744,305		US-PATENT-CLASS-260-77.5
c12 N73-28179	NASA-CASE-HSC-14273-1		US-PATENT-3,463,762
	US-PATENT-APPL-SN-385522	c06 N73-30101	NASA-CASE-MFS-10507
	NASA-CASE-NPO-11749		US-PATENT-APPL-SN-605994
c14 N73-28486	US-PATENT-APPL-SN-175267		US-PATENT-CLASS-260-615
	US-PATENT-CLASS-73-15R		US-PATENT-3,452,103
	US-PATENT-CLASS-324-52	c06 N73-30102	NASA-CASE-MFS-11492
	US-PATENT-3,737,762		US-PATENT-APPL-SN-707440
c14 N73-28488	NASA-CASE-LEW-11159-1		US-PATENT-CLASS-260-2
	US-PATENT-APPL-SN-104346		US-PATENT-3,577,356
	US-PATENT-CLASS-250-336	c06 N73-30103	NASA-CASE-MFS-10509
	US-PATENT-CLASS-307-308		US-PATENT-APPL-SN-605964
	US-PATENT-3,745,357		US-PATENT-CLASS-260-77.5
c14 N73-28489	NASA-CASE-GSC-11074-1		US-PATENT-3,475,384
	US-PATENT-APPL-SN-198362	c07 N73-30113	NASA-CASE-NPO-11628-1
	US-PATENT-CLASS-34-155		US-PATENT-APPL-SN-207211
	US-PATENT-CLASS-34-160		US-PATENT-CLASS-325-420
	US-PATENT-CLASS-34-162		US-PATENT-CLASS-325-422
	US-PATENT-3,744,148		US-PATENT-CLASS-329-120
c14 N73-28490	NASA-CASE-GSC-11444-1		US-PATENT-3,746,998
	US-PATENT-APPL-SN-229128	c07 N73-30115	NASA-CASE-KSC-10654-1
	US-PATENT-CLASS-250-203R		US-PATENT-APPL-SN-250766
	US-PATENT-CLASS-250-209		US-PATENT-CLASS-178-DIG.23
	US-PATENT-CLASS-250-214R		US-PATENT-CLASS-178-6.6DD
	US-PATENT-CLASS-356-141		US-PATENT-CLASS-178-6.8
	US-PATENT-3,744,913		US-PATENT-CLASS-179-1585
c14 N73-28491	NASA-CASE-XNP-05231		US-PATENT-3,749,831
	US-PATENT-APPL-SN-524746	c08 N73-30135	NASA-CASE-NPO-10817-1
	US-PATENT-CLASS-250-51.5		US-PATENT-APPL-SN-82649
	US-PATENT-3,440,419		US-PATENT-CLASS-250-229
c14 N73-28495	NASA-CASE-NPO-13170-1		US-PATENT-CLASS-250-237R
	US-PATENT-APPL-SN-382261		US-PATENT-CLASS-250-239
c14 N73-28496	NASA-CASE-LAR-11207-1		US-PATENT-3,745,352
	US-PATENT-APPL-SN-385013	c09 N73-30181	NASA-CASE-MFS-21214-1
	NASA-CASE-GSC-11690-1		US-PATENT-APPL-SN-235269
	US-PATENT-APPL-SN-379290		US-PATENT-CLASS-313-161
c15 N73-28515	NASA-CASE-LEW-10533-1		US-PATENT-CLASS-315-248
	US-PATENT-APPL-SN-134658		US-PATENT-CLASS-315-324
	US-PATENT-CLASS-27-498		US-PATENT-3,745,410
	US-PATENT-CLASS-29-497.5	c09 N73-30185	NASA-CASE-NPO-11738-1
	US-PATENT-CLASS-219-62		US-PATENT-APPL-SN-235295
	US-PATENT-CLASS-219-107		US-PATENT-CLASS-335-296
	US-PATENT-3,745,300		US-PATENT-CLASS-335-297
c15 N73-28516	NASA-CASE-XNP-01187		US-PATENT-3,750,067
	US-PATENT-APPL-SN-155598	c10 N73-30205	NASA-CASE-NPO-11307-1
	US-PATENT-CLASS-317-158		US-PATENT-APPL-SN-169671
	US-PATENT-3,244,943		US-PATENT-CLASS-340-277
c17 N73-28573	NASA-CASE-XNP-08876		US-PATENT-CLASS-340-279
	US-PATENT-APPL-SN-527331		US-PATENT-3,750,131
	US-PATENT-CLASS-75-66	c14 N73-30386	NASA-CASE-MFS-20658-1
	US-PATENT-3,419,384		US-PATENT-APPL-SN-205675
c21 N73-28646	NASA-CASE-LAR-11051-1		US-PATENT-CLASS-324-79D
	US-PATENT-APPL-SN-384773		US-PATENT-CLASS-328-48
c22 N73-28660	NASA-CASE-LEW-11645-2		US-PATENT-CLASS-328-129
	US-PATENT-APPL-SN-376258		US-PATENT-CLASS-328-134
c26 N73-28710	NASA-CASE-XNP-01185		US-PATENT-3,745,475
	US-PATENT-APPL-SN-155595	c14 N73-30388	NASA-CASE-NPO-11291-1
	US-PATENT-CLASS-317-158		US-PATENT-APPL-SN-116790
	US-PATENT-3,198,994		US-PATENT-CLASS-324-29.5
c06 N73-29074	NASA-CASE-ARC-10643-1		US-PATENT-CLASS-324-57R
	US-PATENT-APPL-SN-313389		US-PATENT-CLASS-324-62R
c14 N73-29437	NASA-CASE-LEW-11632-2		US-PATENT-CLASS-324-95

ACCESSION NUMBER INDEX

c14 N73-30389	US-PATENT-3,750,016 NASA-CASE-HFS-20546-2 US-PATENT-APPL-SN-11220 US-PATENT-APPL-SN-51317 US-PATENT-CLASS-250-65R US-PATENT-CLASS-250-105 US-PATENT-3,749,911	US-PATENT-APPL-SN-192970 US-PATENT-CLASS-60-39.65 US-PATENT-CLASS-60-39.66 US-PATENT-CLASS-60-39.72 US-PATENT-CLASS-60-39.74R US-PATENT-CLASS-431-9 US-PATENT-CLASS-431-173 US-PATENT-3,748,853	
c14 N73-30390	NASA-CASE-IGS-07752 US-PATENT-APPL-SN-533659 US-PATENT-CLASS-73-4 US-PATENT-3,395,565	c23 N73-30666	NASA-CASE-GSC-11296-1 US-PATENT-APPL-SN-228190 US-PATENT-CLASS-350-55 US-PATENT-CLASS-350-162SF US-PATENT-3,752,564
c14 N73-30391	NASA-CASE-XLA-05087 US-PATENT-APPL-SN-459407 US-PATENT-CLASS-315-111 US-PATENT-3,394,286	c31 N73-30829	NASA-CASE-GSC-11018-1 US-PATENT-APPL-SN-244523 US-PATENT-CLASS-165-32 US-PATENT-CLASS-165-47 US-PATENT-CLASS-165-96 US-PATENT-CLASS-165-105 US-PATENT-CLASS-244-15S US-PATENT-3,749,156
c14 N73-30392	NASA-CASE-HFS-21441-1 US-PATENT-APPL-SN-231662 US-PATENT-CLASS-250-394 US-PATENT-CLASS-250-518 US-PATENT-3,752,986	c31 N73-30832	NASA-CASE-MSC-14245-1 US-PATENT-APPL-SN-389916 NASA-CASE-ARC-10456-1 US-PATENT-APPL-SN-237491
c14 N73-30393	NASA-CASE-GSC-11487-1 US-PATENT-APPL-SN-193814 US-PATENT-CLASS-250-203 US-PATENT-CLASS-350-55 US-PATENT-CLASS-350-199 US-PATENT-CLASS-350-204 US-PATENT-3,752,559	c02 N73-30938	NASA-CASE-NPO-11156-2 US-PATENT-APPL-SN-174684
c14 N73-30394	NASA-CASE-LAR-10000 US-PATENT-APPL-SN-613235 US-PATENT-CLASS-73-398 US-PATENT-3,446,075	c03 N73-30974	NASA-CASE-NPO-13224-1 US-PATENT-APPL-SN-390467 NASA-CASE-GSC-11623-1 US-PATENT-APPL-SN-389929
c14 N73-30395	NASA-CASE-LAR-10623-1 US-PATENT-APPL-SN-214086 US-PATENT-CLASS-15-415 US-PATENT-CLASS-73-421.5R US-PATENT-3,748,905	c05 N73-31011	NASA-CASE-NPO-17424-1 US-PATENT-APPL-SN-390467 NASA-CASE-GSC-11623-1 US-PATENT-APPL-SN-389929
c14 N73-30428	NASA-CASE-HFS-22039-1 US-PATENT-APPL-SN-386790 NASA-CASE-GSC-11149-1 US-PATENT-APPL-SN-152849 US-PATENT-CLASS-29-452 US-PATENT-CLASS-81-57.38 US-PATENT-CLASS-254-29A US-PATENT-3,749,362	c10 N73-31202	NASA-CASE-NPO-13131-1 US-PATENT-APPL-SN-390468 NASA-CASE-LAR-10782-2 US-PATENT-APPL-SN-379049
c15 N73-30457	NASA-CASE-LBW-11087-1 US-PATENT-APPL-SN-201904 US-PATENT-CLASS-308-188 US-PATENT-CLASS-308-193 US-PATENT-3,751,123	c15 N73-31438	NASA-CASE-NPO-13263-1 US-PATENT-APPL-SN-393523 NASA-CASE-LAR-10782-2 US-PATENT-APPL-SN-379049
c15 N73-30458	NASA-CASE-HSC-13587-1 US-PATENT-APPL-SN-206698 US-PATENT-CLASS-137-516.27 US-PATENT-CLASS-137-535 US-PATENT-3,749,123	c15 N73-31443	NASA-CASE-NPO-13263-1 US-PATENT-APPL-SN-393523 NASA-CASE-LAR-10782-2 US-PATENT-APPL-SN-379049
c15 N73-30459	NASA-CASE-HQN-10638-1 US-PATENT-APPL-SN-212977 US-PATENT-CLASS-188-1C US-PATENT-CLASS-297-386 US-PATENT-3,749,205	c15 N73-31444	NASA-CASE-LAR-10782-2 US-PATENT-APPL-SN-379049 NASA-CASE-NPO-13253-1 US-PATENT-APPL-SN-395687
c15 N73-30460	NASA-CASE-HFS-22283-1 US-PATENT-APPL-SN-387095 NASA-CASE-HFS-20823-1 US-PATENT-APPL-SN-175981 US-PATENT-CLASS-350-3.5 US-PATENT-CLASS-356-108 US-PATENT-CLASS-356-109 US-PATENT-3,744,912	c16 N73-31467	NASA-CASE-NPO-13131-1 US-PATENT-APPL-SN-390468 NASA-CASE-LAR-11310-1 US-PATENT-APPL-SN-394898 NASA-CASE-HSC-12396-1 US-PATENT-APPL-SN-258331
c16 N73-30476	NASA-CASE-HFS-21704-1 US-PATENT-APPL-SN-386793 NASA-CASE-ERC-10339-1 US-PATENT-APPL-SN-43883 US-PATENT-CLASS-156-285 US-PATENT-3,745,082	c28 N73-31699	NASA-CASE-LAR-11310-1 US-PATENT-APPL-SN-394898 NASA-CASE-HSC-12396-1 US-PATENT-APPL-SN-258331 US-PATENT-CLASS-307-18 US-PATENT-CLASS-307-28 US-PATENT-CLASS-307-29 US-PATENT-CLASS-307-38 US-PATENT-3,755,686
c18 N73-30532	NASA-CASE-LAR-10994-1 US-PATENT-APPL-SN-390466 NASA-CASE-GSC-10890-1 US-PATENT-APPL-SN-111998 US-PATENT-CLASS-244-15A US-PATENT-CLASS-250-203R US-PATENT-CLASS-250-209 US-PATENT-CLASS-250-236 US-PATENT-3,752,993	c03 N73-31988	US-PATENT-CLASS-307-28 US-PATENT-CLASS-307-29 US-PATENT-CLASS-307-38 US-PATENT-3,755,686 NASA-CASE-LEW-12051-1 US-PATENT-APPL-SN-397478 NASA-CASE-GSC-11169-2 US-PATENT-APPL-SN-60882 US-PATENT-APPL-SN-139094 US-PATENT-CLASS-195-127 US-PATENT-3,756,920
c21 N73-30640	NASA-CASE-LAR-10717-1 US-PATENT-APPL-SN-242028 US-PATENT-CLASS-343-6.5R US-PATENT-CLASS-343-112CA US-PATENT-3,750,168	c04 N73-32000	NASA-CASE-HSC-12609-1 US-PATENT-APPL-SN-750031 US-PATENT-CLASS-2-2.1A US-PATENT-CLASS-2-81 US-PATENT-CLASS-128-1A US-PATENT-3,751,727
c23 N73-30665	NASA-CASE-LEW-11326-1	c05 N73-32011	US-PATENT-CLASS-2-2.1A US-PATENT-CLASS-2-81 US-PATENT-CLASS-128-1A US-PATENT-3,751,727 NASA-CASE-HFS-16570-1 US-PATENT-APPL-SN-228150 US-PATENT-CLASS-3-1.1 US-PATENT-CLASS-3-2 US-PATENT-CLASS-3-6 US-PATENT-CLASS-3-12 US-PATENT-3,751,733
		c05 N73-32012	NASA-CASE-HSC-11561-1 US-PATENT-APPL-SN-146940 US-PATENT-CLASS-91-186 US-PATENT-CLASS-137-535 US-PATENT-CLASS-272-DIG.1 US-PATENT-CLASS-272-DIG.4 US-PATENT-CLASS-272-DIG.5 US-PATENT-CLASS-272-79C US-PATENT-3,758,112
		c05 N73-32013	NASA-CASE-HSC-13436-1 US-PATENT-APPL-SN-173190 US-PATENT-CLASS-73-194E US-PATENT-CLASS-73-194H US-PATENT-CLASS-128-2.07 US-PATENT-CLASS-128-2.08 US-PATENT-3,759,249
		c05 N73-32014	NASA-CASE-NPO-10998-1 NASA-CASE-NPO-10999-1 US-PATENT-APPL-SN-145027
		c05 N73-32015	
		c06 N73-32029	

ACCESSION NUMBER INDEX

	US-PATENT-CLASS-252-431N		US-PATENT-CLASS-313-104
	US-PATENT-CLASS-252-431R		US-PATENT-3,758,781
	US-PATENT-CLASS-260-47UP	c14 N73-32318	NASA-CASE-KSC-10730-1
	US-PATENT-CLASS-260-93.5A		US-PATENT-APPL-SN-248469
	US-PATENT-CLASS-260-93.5S		US-PATENT-CLASS-324-72
	US-PATENT-CLASS-260-94.2M		US-PATENT-3,760,268
	US-PATENT-CLASS-260-94.2R	c14 N73-32319	NASA-CASE-KSC-10728-1
	US-PATENT-CLASS-260-94.7R		US-PATENT-APPL-SN-292682
	US-PATENT-CLASS-260-567.6M		US-PATENT-CLASS-95-11
	US-PATENT-3,755,283		US-PATENT-CLASS-95-11.5
c06 N73-32030	NASA-CASE-MFS-20979-2	c14 N73-32320	US-PATENT-3,759,152
	US-PATENT-APPL-SN-100774		NASA-CASE-GSC-11188-1
	US-PATENT-APPL-SN-219590		US-PATENT-APPL-SN-80029
	US-PATENT-CLASS-260-448.2D		US-PATENT-APPL-SN-244440
	US-PATENT-3,763,204		US-PATENT-CLASS-29-195Y
c07 N73-32063	NASA-CASE-KSC-10782-1	c14 N73-32321	US-PATENT-3,759,672
	US-PATENT-APPL-SN-400467		NASA-CASE-INP-05530
	NASA-CASE-MSC-12458-1		NASA-CASE-INP-06933
c08 N73-32081	US-PATENT-APPL-SN-188927		US-PATENT-APPL-SN-488381
	US-PATENT-CLASS-235-152IE		US-PATENT-CLASS-73-81
	US-PATENT-CLASS-340-347DA	c14 N73-32322	US-PATENT-3,379,052
	US-PATENT-3,754,236		NASA-CASE-LAR-10319-1
c09 N73-32107	NASA-CASE-MFS-20207-1		US-PATENT-APPL-SN-197870
	US-PATENT-APPL-SN-239574		US-PATENT-CLASS-95-42
	US-PATENT-CLASS-318-254		US-PATENT-CLASS-346-110
	US-PATENT-CLASS-318-328	c14 N73-32323	US-PATENT-3,757,659
	US-PATENT-3,757,183		NASA-CASE-LAR-10440-1
c09 N73-32108	NASA-CASE-GSC-11368-1		US-PATENT-APPL-SN-229413
	US-PATENT-APPL-SN-237029		US-PATENT-CLASS-73-94
	US-PATENT-CLASS-136-24		US-PATENT-CLASS-73-103
	US-PATENT-3,759,746	c14 N73-32324	US-PATENT-3,757,568
c09 N73-32109	NASA-CASE-GSC-11394-1		NASA-CASE-LAR-02743
	US-PATENT-APPL-SN-292698		US-PATENT-APPL-SN-404212
	US-PATENT-CLASS-136-89		US-PATENT-CLASS-313-7
	US-PATENT-CLASS-250-212	c14 N73-32325	US-PATENT-3,310,699
	US-PATENT-CLASS-321-1.5		NASA-CASE-INP-04231
	US-PATENT-3,760,257		US-PATENT-APPL-SN-362261
c09 N73-32110	NASA-CASE-KSC-10729-1		US-PATENT-CLASS-250-41.9
	US-PATENT-APPL-SN-221714	c14 N73-32326	US-PATENT-3,334,225
	US-PATENT-CLASS-343-112R		NASA-CASE-ARC-10362-1
	US-PATENT-CLASS-343-113R		US-PATENT-APPL-SN-198289
	US-PATENT-3,754,263		US-PATENT-CLASS-73-194EN
c09 N73-32111	NASA-CASE-ARC-10463-1		US-PATENT-CLASS-128-2.05P
	US-PATENT-APPL-SN-241615	c14 N73-32327	US-PATENT-3,751,980
	US-PATENT-CLASS-331-94.5		NASA-CASE-LAR-10483-1
	US-PATENT-3,753,148		US-PATENT-APPL-SN-184090
c09 N73-32112	NASA-CASE-ARC-10330-1		US-PATENT-CLASS-73-12
	US-PATENT-APPL-SN-151412		US-PATENT-CLASS-73-170R
	US-PATENT-CLASS-317-235R	c14 N73-32344	US-PATENT-3,763,691
	US-PATENT-CLASS-317-235WW		NASA-CASE-LAR-11237-1
	US-PATENT-3,760,239	c14 N73-32348	US-PATENT-APPL-SN-402868
c09 N73-32114	NASA-CASE-GSC-11425-2		NASA-CASE-LAR-10629-1
	US-PATENT-APPL-SN-394206	c15 N73-32358	US-PATENT-APPL-SN-402867
c09 N73-32116	NASA-CASE-GSC-11760-1		NASA-CASE-LEW-11388-1
	NASA-CASE-GSC-11783-1		US-PATENT-APPL-SN-289033
	US-PATENT-APPL-SN-395868		US-PATENT-CLASS-29-497
c09 N73-32120	NASA-CASE-GSC-11582-1		US-PATENT-CLASS-219-91
	US-PATENT-APPL-SN-397477		US-PATENT-CLASS-219-117
c09 N73-32121	NASA-CASE-LAR-11389-1	c15 N73-32359	US-PATENT-3,758,741
	US-PATENT-APPL-SN-340862		NASA-CASE-LEW-11152-1
c10 N73-32143	NASA-CASE-MSC-13746-1		US-PATENT-APPL-SN-198379
	US-PATENT-APPL-SN-226476		US-PATENT-CLASS-308-9
	US-PATENT-CLASS-178-18	c15 N73-32360	US-PATENT-CLASS-308-35
	US-PATENT-3,758,718		US-PATENT-3,759,588
c10 N73-32144	NASA-CASE-NPO-11703-1		NASA-CASE-GSC-11163-1
	US-PATENT-APPL-SN-223560		US-PATENT-APPL-SN-205047
	US-PATENT-CLASS-340-166		US-PATENT-CLASS-29-527.2
	US-PATENT-CLASS-340-173		US-PATENT-CLASS-72-53
	US-PATENT-CLASS-340-223		US-PATENT-CLASS-117-66
	US-PATENT-CLASS-340-415		US-PATENT-CLASS-117-105
	US-PATENT-3,760,394		US-PATENT-CLASS-117-105.5
c10 N73-32145	NASA-CASE-MFS-21465-1		US-PATENT-CLASS-117-130R
	US-PATENT-APPL-SN-218965		US-PATENT-CLASS-117-138.8R
	US-PATENT-CLASS-307-271		US-PATENT-CLASS-117-151
	US-PATENT-CLASS-318-230		US-PATENT-CLASS-117-160R
	US-PATENT-CLASS-318-231		US-PATENT-3,754,976
	US-PATENT-CLASS-318-341	c15 N73-32361	NASA-CASE-XNP-01188
	US-PATENT-CLASS-331-135		US-PATENT-APPL-SN-155596
	US-PATENT-3,760,248		US-PATENT-CLASS-317-158
c11 N73-32152	NASA-CASE-MSC-13789-1		US-PATENT-3,262,025
	US-PATENT-APPL-SN-166487	c15 N73-32362	NASA-CASE-INP-07169
	US-PATENT-CLASS-89-8		US-PATENT-APPL-SN-486884
	US-PATENT-CLASS-102-95		US-PATENT-CLASS-175-26
	US-PATENT-CLASS-188-1C	c15 N73-32371	US-PATENT-3,375,885
	US-PATENT-3,763,740		NASA-CASE-LAR-10941-2
c14 N73-32317	NASA-CASE-NPO-12128-1		US-PATENT-APPL-SN-395493
	US-PATENT-APPL-SN-841845	c15 N73-32376	NASA-CASE-MFS-22649-1
	US-PATENT-CLASS-250-83.3R		US-PATENT-APPL-SN-398901
	US-PATENT-CLASS-250-207	c16 N73-32391	NASA-CASE-GSC-11222-1

ACCESSION NUMBER INDEX

	US-PATENT-APPL-SN-251621				US-PATENT-CLASS-355-18
	US-PATENT-CLASS-307-157				US-PATENT-3,764,209
	US-PATENT-CLASS-315-DIG.2	c15	N73-33383	.....	NASA-CASE-LEW-11026-1
	US-PATENT-CLASS-315-101				US-PATENT-APPL-SN-196970
	US-PATENT-CLASS-315-258				US-PATENT-CLASS-29-487
	US-PATENT-CLASS-315-356				US-PATENT-CLASS-29-494
	US-PATENT-CLASS-330-4.3				US-PATENT-CLASS-29-497.5
	US-PATENT-CLASS-331-94.5				US-PATENT-CLASS-29-498
	US-PATENT-3,758,877				US-PATENT-3,748,722
c16	N73-32398	.....			NASA-CASE-ARC-10444-1
	NASA-CASE-GSC-11746-1				US-PATENT-APPL-SN-167719
	US-PATENT-APPL-SN-393528				US-PATENT-CLASS-331-94.5A
c17	N73-32414	.....			US-PATENT-CLASS-350-285
	NASA-CASE-LEW-11267-1				US-PATENT-CLASS-356-138
	US-PATENT-APPL-SN-190316				US-PATENT-CLASS-356-148
	US-PATENT-CLASS-29-196.2				US-PATENT-CLASS-356-153
	US-PATENT-CLASS-29-196.6				US-PATENT-CLASS-356-172
	US-PATENT-CLASS-29-197				US-PATENT-3,764,220
	US-PATENT-3,762,884				NASA-CASE-LAR-10776-1
c17	N73-32415	.....			US-PATENT-APPL-SN-211332
	NASA-CASE-LEW-10436-1				US-PATENT-CLASS-244-145
	US-PATENT-APPL-SN-221093				US-PATENT-3,764,097
	US-PATENT-CLASS-73-170				NASA-CASE-MFS-22022-1
	US-PATENT-CLASS-75-171				US-PATENT-APPL-SN-405341
	US-PATENT-3,762,918				NASA-CASE-MFS-21611-1
c18	N73-32437	.....			US-PATENT-APPL-SN-403694
	NASA-CASE-MFS-20861-1				NASA-CASE-NPO-11302-2
	US-PATENT-APPL-SN-160860				US-PATENT-APPL-SN-70967
	US-PATENT-CLASS-75-135				US-PATENT-APPL-SN-266822
	US-PATENT-3,752,665				US-PATENT-CLASS-178-69.4R
c22	N73-32528	.....			US-PATENT-3,766,315
	NASA-CASE-XLB-00209				NASA-CASE-NPO-11962-1
	US-PATENT-APPL-SN-60276				US-PATENT-APPL-SN-292681
	US-PATENT-CLASS-176-169				US-PATENT-CLASS-331-1A
	US-PATENT-3,759,787				US-PATENT-CLASS-331-4
c23	N73-32538	.....			US-PATENT-CLASS-331-14
	NASA-CASE-LAR-10385-3				US-PATENT-CLASS-331-17
	US-PATENT-APPL-SN-370999				US-PATENT-CLASS-331-18
c23	N73-32542	.....			US-PATENT-CLASS-331-178
	NASA-CASE-ARC-10749-1				US-PATENT-3,764,933
	US-PATENT-APPL-SN-402866				NASA-CASE-LEW-11617-1
	NASA-CASE-LEW-11015				US-PATENT-APPL-SN-266832
	US-PATENT-APPL-SN-235266				US-PATENT-CLASS-315-5.35
	US-PATENT-CLASS-29-599				US-PATENT-CLASS-315-5.38
	US-PATENT-CLASS-174-DIG.6				US-PATENT-3,764,850
	US-PATENT-CLASS-174-126CP				NASA-CASE-GSC-11127-1
	US-PATENT-CLASS-335-216				US-PATENT-APPL-SN-401466
	US-PATENT-3,763,552				NASA-CASE-LAR-10730-1
c28	N73-32606	.....			US-PATENT-APPL-SN-239573
	NASA-CASE-NPO-12070-1				US-PATENT-CLASS-235-92CA
	US-PATENT-APPL-SN-153542				US-PATENT-CLASS-235-92DB
	US-PATENT-CLASS-60-267				US-PATENT-CLASS-235-150.3
	US-PATENT-CLASS-165-105				US-PATENT-CLASS-307-225R
	US-PATENT-CLASS-165-141				US-PATENT-CLASS-328-48
	US-PATENT-CLASS-165-185				US-PATENT-3,764,790
	US-PATENT-CLASS-239-127.1				NASA-CASE-MFS-20335-1
	US-PATENT-3,759,443				US-PATENT-APPL-SN-238263
c28	N73-32624	.....			US-PATENT-CLASS-73-67.85
	NASA-CASE-ARC-10754-1				US-PATENT-3,765,229
	US-PATENT-APPL-SN-398886				NASA-CASE-LAR-11213-1
	NASA-CASE-ERC-10365-1				US-PATENT-APPL-SN-406715
	US-PATENT-APPL-SN-99198				NASA-CASE-MFS-22189-1
	US-PATENT-CLASS-52-64				US-PATENT-APPL-SN-405342
	US-PATENT-CLASS-52-80				NASA-CASE-LAR-11354-1
	US-PATENT-CLASS-52-109				US-PATENT-APPL-SN-409990
	US-PATENT-CLASS-52-646				NASA-CASE-LEW-10326-3
	US-PATENT-CLASS-287-92				US-PATENT-APPL-SN-99901
	US-PATENT-3,757,476				US-PATENT-CLASS-277-25
c31	N73-32750	.....			US-PATENT-CLASS-277-27
	NASA-CASE-LEW-11101-1				US-PATENT-CLASS-277-96
	US-PATENT-APPL-SN-175983				US-PATENT-3,767,212
	US-PATENT-CLASS-47-1.4				NASA-CASE-LEW-11076-3
	US-PATENT-CLASS-47-17				US-PATENT-APPL-SN-405346
	US-PATENT-CLASS-244-15C				NASA-CASE-LEW-10518-3
	US-PATENT-CLASS-244-15S				US-PATENT-APPL-SN-394207
	US-PATENT-3,749,332				NASA-CASE-LEW-10805-3
c31	N73-32769	.....			US-PATENT-APPL-SN-29917
	NASA-CASE-GSC-11182-1				US-PATENT-APPL-SN-266928
	US-PATENT-APPL-SN-393527				US-PATENT-CLASS-29-420.5
c31	N73-32784	.....			US-PATENT-CLASS-75-200
	NASA-CASE-ARC-10716-1				US-PATENT-CLASS-75-226
	US-PATENT-APPL-SN-403695				US-PATENT-CLASS-148-126
c33	N73-32818	.....			US-PATENT-3,765,958
	NASA-CASE-NPO-11942-1				NASA-CASE-GSC-11786-1
	US-PATENT-APPL-SN-266866				US-PATENT-APPL-SN-401919
	US-PATENT-CLASS-165-32				NASA-CASE-MFS-02263
	US-PATENT-CLASS-165-96				US-PATENT-APPL-SN-78766
	US-PATENT-CLASS-165-106				US-PATENT-CLASS-D71-1
	US-PATENT-CLASS-244-15S				US-PATENT-DES-228,688
	US-PATENT-3,763,928				
c33	N73-32823	.....			
	NASA-CASE-MSC-14143-1				
	US-PATENT-APPL-SN-393526				
c33	N73-32828	.....			
	NASA-CASE-GSC-11619-1				
	US-PATENT-APPL-SN-397476				
c06	N73-33076	.....			
	NASA-CASE-NPO-10767-1				
	US-PATENT-APPL-SN-241061				
	US-PATENT-APPL-SN-770417				
	US-PATENT-CLASS-260-77.5AP				
	US-PATENT-3,755,265				
c14	N73-33361	.....			
	NASA-CASE-ARC-10468-1				
	US-PATENT-APPL-SN-288857				
	US-PATENT-CLASS-95-12				

ACCESSION NUMBER INDEX

c03 N74-10942	NASA-CASE-MSC-12394-1 US-PATENT-APPL-SN-341662 US-PATENT-CLASS-244-83 US-PATENT-CLASS-318-580 US-PATENT-CLASS-318-628 US-PATENT-3,771,037	US-PATENT-CLASS-222-309 US-PATENT-CLASS-222-340 US-PATENT-CLASS-222-387 US-PATENT-CLASS-222-514 US-PATENT-3,777,942
c05 N74-10575	NASA-CASE-MSC-13972-1 US-PATENT-APPL-SN-200040 US-PATENT-CLASS-73-149 US-PATENT-CLASS-128-2S US-PATENT-3,769,834	NASA-CASE-ARC-10464-1 US-PATENT-APPL-SN-198472 US-PATENT-CLASS-260-2.5AM US-PATENT-3,772,216
c07 N74-11000	NASA-CASE-NPO-13171-1 US-PATENT-APPL-SN-290915 US-PATENT-CLASS-343-781 US-PATENT-CLASS-343-909 US-PATENT-3,769,623	NASA-CASE-LAR-10551-1 US-PATENT-APPL-SN-191301 US-PATENT-CLASS-23-252R US-PATENT-CLASS-23-281 US-PATENT-CLASS-23-288F US-PATENT-CLASS-23-288J US-PATENT-CLASS-55-510 US-PATENT-CLASS-55-518 US-PATENT-CLASS-128-191R US-PATENT-CLASS-423-231 US-PATENT-3,771,959
c07 N74-11005	NASA-CASE-LAR-11379-1 US-PATENT-APPL-SN-412379	NASA-CASE-ARC-10180-1 US-PATENT-APPL-SN-136253 US-PATENT-CLASS-260-2.5L US-PATENT-3,772,220
c09 N74-11049	NASA-CASE-HQN-10792-1 US-PATENT-APPL-SN-245063 US-PATENT-CLASS-321-2 US-PATENT-CLASS-321-18 US-PATENT-CLASS-321-45S US-PATENT-CLASS-323-DIG.1 US-PATENT-CLASS-331-62 US-PATENT-CLASS-331-113A US-PATENT-3,771,040	c06 N74-12814
c09 N74-11050	NASA-CASE-LAR-10868-1 US-PATENT-APPL-SN-253249 US-PATENT-CLASS-137-819 US-PATENT-CLASS-137-833 US-PATENT-CLASS-137-840 US-PATENT-3,770,021	c07 N74-12843
c09 N74-11058	NASA-CASE-MFS-22073-1 US-PATENT-APPL-SN-409991	c08 N74-12887
c14 N74-11283	NASA-CASE-NPO-11659-1 US-PATENT-APPL-SN-228189 US-PATENT-CLASS-178-6.6DD US-PATENT-CLASS-179-100.2MD US-PATENT-CLASS-179-100.2T US-PATENT-CLASS-340-174.1L US-PATENT-3,770,903	c07 N74-12843
c14 N74-11284	NASA-CASE-NPO-11919-1 US-PATENT-APPL-SN-237694 US-PATENT-CLASS-250-343 US-PATENT-3,766,360	c08 N74-12887
c14 N74-11288	NASA-CASE-MFS-21045-1 US-PATENT-APPL-SN-411572	c08 N74-12888
c15 N74-11300	NASA-CASE-LEW-10533-2 US-PATENT-APPL-SN-247055 US-PATENT-CLASS-29-497.5 US-PATENT-CLASS-219-78 US-PATENT-CLASS-219-101 US-PATENT-CLASS-219-107 US-PATENT-3,770,933	c09 N74-12891
c15 N74-11301	NASA-CASE-LAR-10170-1 US-PATENT-APPL-SN-217213 US-PATENT-CLASS-29-460 US-PATENT-CLASS-29-498 US-PATENT-CLASS-29-503 US-PATENT-CLASS-29-527.2 US-PATENT-CLASS-117-105.2 US-PATENT-3,769,689	c09 N74-12912
c16 N74-11313	NASA-CASE-HQN-10790-1 US-PATENT-APPL-SN-235962 US-PATENT-CLASS-333-83R US-PATENT-CLASS-333-97R US-PATENT-3,771,074	c09 N74-12913
c18 N74-11366	NASA-CASE-ARC-10714-1 US-PATENT-APPL-SN-398885	c10 N74-12951
c05 N74-11900	NASA-CASE-ARC-10268-2 US-PATENT-APPL-SN-379048	c13 N74-13011
c05 N74-11901	NASA-CASE-ARC-10268-3 US-PATENT-APPL-SN-379018	c14 N74-13129
c06 N74-11926	NASA-CASE-ARC-10592-2 US-PATENT-APPL-SN-414003	c14 N74-13130
c14 N74-12190	NASA-CASE-ARC-10448-2 US-PATENT-APPL-SN-374424	c14 N74-13131
c14 N74-12191	NASA-CASE-ARC-10448-3 US-PATENT-APPL-SN-381848	c14 N74-13132
c05 N74-12778	NASA-CASE-MFS-20284-1 US-PATENT-APPL-SN-242027 US-PATENT-CLASS-128-2.05T US-PATENT-CLASS-128-2.06F US-PATENT-CLASS-324-78D US-PATENT-CLASS-324-186 US-PATENT-3,773,038	c14 N74-13146
c05 N74-12779	NASA-CASE-MFS-21115-1 US-PATENT-APPL-SN-266930	

ACCESSION NUMBER INDEX

	US-PATENT-APPL-SN-419831		US-PATENT-CLASS-219-477
c15 N74-13177	NASA-CASE-LAR-10547-1		US-PATENT-CLASS-219-539
	US-PATENT-APPL-SN-193980		US-PATENT-CLASS-338-320
	US-PATENT-CLASS-264-294		US-PATENT-3,732,397
	US-PATENT-3,772,418	c09 N74-14939	NASA-CASE-FRC-10072-1
c15 N74-13178	NASA-CASE-LAR-10544-1		US-PATENT-APPL-SN-162100
	US-PATENT-APPL-SN-188928		US-PATENT-CLASS-330-9
	US-PATENT-CLASS-222-193		US-PATENT-CLASS-330-10
	US-PATENT-3,776,432		US-PATENT-CLASS-330-35
c15 N74-13179	NASA-CASE-LEW-10805-2		US-PATENT-3,783,399
	US-PATENT-APPL-SN-29917	c09 N74-14941	NASA-CASE-ARC-10364-2(B)
	US-PATENT-APPL-SN-233743		US-PATENT-APPL-SN-433968
	US-PATENT-CLASS-29-182	c09 N74-14942	NASA-CASE-HSC-12593-1
	US-PATENT-CLASS-29-420.5		US-PATENT-APPL-SN-419747
	US-PATENT-CLASS-75-200	c10 N74-14956	NASA-CASE-HSC-17832-1
	US-PATENT-CLASS-75-213		US-PATENT-APPL-SN-293727
	US-PATENT-CLASS-75-214		US-PATENT-CLASS-307-127
	US-PATENT-CLASS-75-226		US-PATENT-CLASS-317-33SC
	US-PATENT-3,775,101		US-PATENT-CLASS-317-43
c15 N74-13199	NASA-CASE-LEW-11583-1		US-PATENT-CLASS-317-46
	US-PATENT-APPL-SN-414042		US-PATENT-CLASS-317-47
c16 N74-13205	NASA-CASE-NPO-11317-2		US-PATENT-CLASS-317-48
	US-PATENT-APPL-SN-34989		US-PATENT-3,783,354
	US-PATENT-APPL-SN-187143	c14 N74-15089	NASA-CASE-LAR-10586-1
	US-PATENT-CLASS-179-100.2CH		US-PATENT-APPL-SN-289049
	US-PATENT-CLASS-250-205		US-PATENT-CLASS-102-70.2R
	US-PATENT-CLASS-250-217		US-PATENT-CLASS-244-15A
	US-PATENT-CLASS-340-174.1M		US-PATENT-CLASS-244-3.16
	US-PATENT-CLASS-340-174XC		US-PATENT-CLASS-250-203R
	US-PATENT-CLASS-350-151		US-PATENT-CLASS-250-237R
	US-PATENT-3,778,791		US-PATENT-3,780,966
c18 N74-13270	NASA-CASE-LEW-11262-1	c14 N74-15090	NASA-CASE-NPO-11432-2
	US-PATENT-APPL-SN-136008		US-PATENT-APPL-SN-88435
	US-PATENT-CLASS-204-192		US-PATENT-APPL-SN-258152
	US-PATENT-3,772,174		US-PATENT-CLASS-250-211J
c21 N74-13420	NASA-CASE-FRC-10049-1		US-PATENT-CLASS-250-214
	US-PATENT-APPL-SN-232021		US-PATENT-CLASS-317-235N
	US-PATENT-CLASS-235-150.27		US-PATENT-3,781,549
	US-PATENT-CLASS-235-150.22	c14 N74-15091	NASA-CASE-LAR-11155-1
	US-PATENT-CLASS-235-150.26		US-PATENT-APPL-SN-313381
	US-PATENT-CLASS-244-77A		US-PATENT-CLASS-250-360
	US-PATENT-CLASS-244-77B		US-PATENT-CLASS-250-361
	US-PATENT-CLASS-343-108R		US-PATENT-CLASS-250-369
	US-PATENT-3,776,455		US-PATENT-CLASS-250-492
c23 N74-13436	NASA-CASE-LAR-10385-2		US-PATENT-3,781,562
	US-PATENT-APPL-SN-38816	c14 N74-15092	NASA-CASE-LAR-10862-1
	US-PATENT-APPL-SN-239803		US-PATENT-APPL-SN-271951
	US-PATENT-CLASS-117-33.3		US-PATENT-CLASS-73-4V
	US-PATENT-CLASS-117-106A		US-PATENT-3,780,563
	US-PATENT-3,779,788	c14 N74-15093	NASA-CASE-ARC-10442-1
c28 N74-13502	NASA-CASE-LEW-11058-1		US-PATENT-APPL-SN-280032
	US-PATENT-APPL-SN-233519		US-PATENT-CLASS-62-45
	US-PATENT-CLASS-60-258		US-PATENT-CLASS-165-2
	US-PATENT-CLASS-60-259		US-PATENT-CLASS-165-109
	US-PATENT-3,777,490		US-PATENT-CLASS-259-DIG.18
c04 N74-13807	NASA-CASE-ARC-10722-1		US-PATENT-CLASS-259-60
	US-PATENT-APPL-SN-428995		US-PATENT-3,782,698
c05 N74-13818	NASA-CASE-ARC-10753-1	c14 N74-15094	NASA-CASE-NPO-13044-1
	US-PATENT-APPL-SN-427395		US-PATENT-APPL-SN-305012
c09 N74-13894	NASA-CASE-MPS-22088-1		US-PATENT-CLASS-73-497
	US-PATENT-APPL-SN-426155		US-PATENT-CLASS-73-517B
c14 N74-14115	NASA-CASE-ARC-10755-1		US-PATENT-CLASS-74-5.6
	US-PATENT-APPL-SN-424013		US-PATENT-3,782,205
c15 N74-14133	NASA-CASE-LAR-10782-1	c14 N74-15095	NASA-CASE-HSC-14096-1
	US-PATENT-APPL-SN-197689		US-PATENT-APPL-SN-242662
	US-PATENT-CLASS-264-102		US-PATENT-CLASS-350-7
	US-PATENT-3,780,151		US-PATENT-CLASS-350-236
c15 N74-14141	NASA-CASE-LAR-10337-1		US-PATENT-CLASS-350-285
	US-PATENT-APPL-SN-424038		US-PATENT-CLASS-356-43
c18 N74-14230	NASA-CASE-ARC-10721-1		US-PATENT-CLASS-356-216
	US-PATENT-APPL-SN-427775		US-PATENT-3,782,835
c29 N74-14496	NASA-CASE-MPS-21628-1	c15 N74-15125	NASA-CASE-XLB-10326-4
	US-PATENT-APPL-SN-421702		US-PATENT-APPL-SN-54540
c03 N74-14784	NASA-CASE-LEW-11069-1		US-PATENT-APPL-SN-220251
	US-PATENT-APPL-SN-83816		US-PATENT-APPL-SN-723465
	US-PATENT-CLASS-29-572		US-PATENT-CLASS-277-27
	US-PATENT-CLASS-29-588		US-PATENT-CLASS-277-91
	US-PATENT-CLASS-136-89		US-PATENT-3,782,737
	US-PATENT-3,780,424	c15 N74-15126	NASA-CASE-ARC-10441-1
c05 N74-14845	NASA-CASE-LAR-10241-1		US-PATENT-APPL-SN-280029
	US-PATENT-APPL-SN-193672		US-PATENT-CLASS-259-98
	US-PATENT-CLASS-9-11A		US-PATENT-CLASS-417-470
	US-PATENT-3,781,933		US-PATENT-CLASS-417-471
c08 N74-14920	NASA-CASE-HSC-13932-1		US-PATENT-3,782,699
	US-PATENT-APPL-SN-229354	c15 N74-15127	NASA-CASE-NPO-11682-1
	US-PATENT-CLASS-235-153AR		US-PATENT-APPL-SN-187365
	US-PATENT-3,783,250		US-PATENT-CLASS-23-284
c09 N74-14935	NASA-CASE-MPS-21462-1		US-PATENT-3,782,904
	US-PATENT-APPL-SN-239576	c15 N74-15128	NASA-CASE-LEW-11087-2

ACCESSION NUMBER INDEX

	US-PATENT-APPL-SN-201904				US-PATENT-CLASS-224-444
	US-PATENT-APPL-SN-280390				US-PATENT-3,790,037
	US-PATENT-CLASS-29-148.4A	c05	N74-17858	.....	NASA-CASE-NPO-13313-1
	US-PATENT-CLASS-29-148.4B				US-PATENT-APPL-SN-449153
	US-PATENT-3,781,958	c07	N74-17885	.....	NASA-CASE-MSC-13855-1
c15	N74-15130	.....			US-PATENT-APPL-SN-196931
	NASA-CASE-MFS-20767-1				US-PATENT-CLASS-325-38B
	US-PATENT-APPL-SN-196898				US-PATENT-CLASS-332-11D
	US-PATENT-CLASS-73-67.8S				US-PATENT-CLASS-340-347AD
	US-PATENT-3,777,552				US-PATENT-3,795,900
c16	N74-15145	.....			NASA-CASE-MSC-14558-1
	NASA-CASE-NPO-11856-1				US-PATENT-APPL-SN-428994
	US-PATENT-APPL-SN-235268	c07	N74-17888	.....	NASA-CASE-NPO-13139-1
	US-PATENT-CLASS-250-217SS				US-PATENT-APPL-SN-393524
	US-PATENT-CLASS-331-94.5R	c08	N74-17911	.....	NASA-CASE-NPO-13138-1
	US-PATENT-CLASS-331-94.5S				US-PATENT-APPL-SN-335201
	US-PATENT-CLASS-350-6	c09	N74-17927	.....	US-PATENT-CLASS-328-155
	US-PATENT-CLASS-356-4				US-PATENT-CLASS-333-16
	US-PATENT-CLASS-356-5				US-PATENT-CLASS-333-18
	US-PATENT-CLASS-356-152				US-PATENT-3,790,906
	US-PATENT-3,781,111				NASA-CASE-NPO-11966-1
c16	N74-15146	.....			NASA-CASE-NPO-13159-1
	NASA-CASE-MFS-21455-1				US-PATENT-APPL-SN-284245
	US-PATENT-APPL-SN-281877				US-PATENT-CLASS-100-8
	US-PATENT-CLASS-73-71.3				US-PATENT-CLASS-336-210
	US-PATENT-CLASS-350-3.5				US-PATENT-3,792,399
	US-PATENT-CLASS-356-106				NASA-CASE-ARC-10197-1
	US-PATENT-3,782,825	c09	N74-17929	.....	US-PATENT-APPL-SN-310624
c18	N74-15213	.....			US-PATENT-CLASS-317-16
	NASA-CASE-MSC-14182-1				US-PATENT-CLASS-317-31
	US-PATENT-APPL-SN-419718				US-PATENT-3,795,840
	NASA-CASE-MFS-21233-1				NASA-CASE-NUC-10107-1
	US-PATENT-APPL-SN-246056				US-PATENT-APPL-SN-201700
	US-PATENT-CLASS-73-67.5R				US-PATENT-CLASS-324-102
	US-PATENT-CLASS-73-71.5U				US-PATENT-CLASS-324-118
	US-PATENT-CLASS-324-40	c09	N74-17930	.....	US-PATENT-CLASS-329-50
	US-PATENT-3,782,177				US-PATENT-3,795,862
c28	N74-15453	.....			NASA-CASE-NPO-13374-1
	NASA-CASE-LEW-11569-1				US-PATENT-APPL-SN-449118
	US-PATENT-APPL-SN-316618				NASA-CASE-LAR-10812-1
	US-PATENT-CLASS-181-43				US-PATENT-APPL-SN-263815
	US-PATENT-3,780,827				US-PATENT-CLASS-73-147
c33	N74-15652	.....			US-PATENT-3,791,207
	NASA-CASE-LAR-10105-1				NASA-CASE-LAR-11027-1
	US-PATENT-APPL-SN-170680				US-PATENT-APPL-SN-275118
	US-PATENT-CLASS-73-86				US-PATENT-CLASS-250-338
	US-PATENT-3,782,181				US-PATENT-CLASS-250-370
c04	N74-15778	.....			US-PATENT-CLASS-250-371
	NASA-CASE-ARC-10302-1				US-PATENT-3,790,795
	US-PATENT-APPL-SN-203271				NASA-CASE-LAR-10318-1
	US-PATENT-CLASS-119-51.5				US-PATENT-APPL-SN-224489
	US-PATENT-CLASS-119-51.13				US-PATENT-CLASS-156-245
	US-PATENT-CLASS-119-51R				US-PATENT-CLASS-156-247
	US-PATENT-CLASS-119-52AF				US-PATENT-CLASS-156-285
	US-PATENT-CLASS-119-54				US-PATENT-CLASS-156-309
	US-PATENT-CLASS-221-265				US-PATENT-3,793,109
	US-PATENT-3,782,334	c14	N74-18089	.....	NASA-CASE-NPO-13160-1
c07	N74-15831	.....			US-PATENT-APPL-SN-359157
	NASA-CASE-GSC-11553-1				US-PATENT-CLASS-321-8R
	US-PATENT-APPL-SN-177985				US-PATENT-CLASS-324-57R
	US-PATENT-CLASS-34-162				US-PATENT-3,795,858
	US-PATENT-CLASS-95-89R				NASA-CASE-NPO-13327-1
	US-PATENT-CLASS-178-6.7R				US-PATENT-APPL-SN-429437
	US-PATENT-CLASS-219-216				NASA-CASE-MFS-22128-2
	US-PATENT-CLASS-219-388				US-PATENT-APPL-SN-450536
	US-PATENT-CLASS-346-24				US-PATENT-APPL-SN-10642-1
	US-PATENT-CLASS-346-108				US-PATENT-APPL-SN-446562
	US-PATENT-CLASS-346-138				NASA-CASE-MFS-22208-1
	US-PATENT-3,781,902				US-PATENT-APPL-SN-448325
c07	N74-15838	.....			NASA-CASE-LEW-12078-1
	NASA-CASE-NPO-13292-1				US-PATENT-APPL-SN-447124
	US-PATENT-APPL-SN-416135				NASA-CASE-LAR-10634-1
c15	N74-16135	.....			US-PATENT-APPL-SN-214084
	NASA-CASE-LAR-10595-1				US-PATENT-CLASS-23-253PC
	US-PATENT-APPL-SN-273240				US-PATENT-CLASS-23-259
	US-PATENT-CLASS-340-5R				US-PATENT-CLASS-259-72
	US-PATENT-CLASS-340-8R				US-PATENT-CLASS-312-209
	US-PATENT-CLASS-340-12R				US-PATENT-CLASS-356-85
	US-PATENT-3,783,443				US-PATENT-CLASS-356-197
c15	N74-16139	.....			US-PATENT-3,790,347
	NASA-CASE-ABC-10756-1				NASA-CASE-LAR-10489-1
	US-PATENT-APPL-SN-436313				US-PATENT-APPL-SN-198763
c16	N74-16187	.....			US-PATENT-CLASS-264-102
	NASA-CASE-NPO-13449-1				US-PATENT-3,790,650
	US-PATENT-APPL-SN-420813				NASA-CASE-MFS-21309-1
	NASA-CASE-LAR-10805-1				US-PATENT-APPL-SN-244519
	US-PATENT-APPL-SN-428992				US-PATENT-CLASS-180-79.3
c18	N74-16246	.....			US-PATENT-CLASS-301-5P
	NASA-CASE-ABC-10813-1				US-PATENT-3,789,947
	US-PATENT-APPL-SN-437556				
c18	N74-16249	.....			
	NASA-CASE-MFS-21087-1				
	US-PATENT-APPL-SN-149283				
	US-PATENT-CLASS-350-3.5				
	US-PATENT-3,752,556				
c18	N74-17283	.....			
	NASA-CASE-MFS-20486-2				
	US-PATENT-APPL-SN-84212				
	US-PATENT-APPL-SN-292382				
	US-PATENT-CLASS-260-29.6S				
	US-PATENT-3,784,499				
c05	N74-17853	.....			
	NASA-CASE-MFS-21163-1				
	US-PATENT-APPL-SN-266925				
	US-PATENT-CLASS-222-324				

ACCESSION NUMBER INDEX

c15 N74-18126	NASA-CASE-MFS-21364-1 US-PATENT-APPL-SN-214006 US-PATENT-CLASS-156-331 US-PATENT-CLASS-161-42 US-PATENT-CLASS-161-43 US-PATENT-CLASS-161-93 US-PATENT-CLASS-161-182 US-PATENT-CLASS-161-192 US-PATENT-CLASS-260-2R US-PATENT-CLASS-264-135 US-PATENT-CLASS-264-136 US-PATENT-CLASS-264-257 US-PATENT-3,790,432		
c15 N74-18127	NASA-CASE-MFS-21481-1 US-PATENT-APPL-SN-266771 US-PATENT-CLASS-74-594.6 US-PATENT-CLASS-74-594.7 US-PATENT-CLASS-128-25R US-PATENT-CLASS-272-73 US-PATENT-CLASS-272-80 US-PATENT-3,788,163		
c15 N74-18128	NASA-CASE-LEW-11387-1 US-PATENT-APPL-SN-247090 US-PATENT-CLASS-29-482 US-PATENT-CLASS-29-488 US-PATENT-CLASS-29-497 US-PATENT-CLASS-29-498 US-PATENT-3,787,959		
c15 N74-18131	NASA-CASE-LEW-11169-1 US-PATENT-APPL-SN-446568		
c15 N74-18132	NASA-CASE-GSC-11551-1 US-PATENT-APPL-SN-440917		
c15 N74-18133	NASA-CASE-LEW-11925-1 US-PATENT-APPL-SN-450505		
c15 N74-18134	NASA-CASE-LEW-11076-4 US-PATENT-APPL-SN-445178		
c16 N74-18153	NASA-CASE-MFS-22409-1 US-PATENT-APPL-SN-445398		
c18 N74-18197	NASA-CASE-LEW-11696-2 US-PATENT-APPL-SN-436315		
c23 N74-18323	NASA-CASE-MFS-21136-1 US-PATENT-APPL-SN-262430 US-PATENT-CLASS-74-5.7 US-PATENT-CLASS-308-10 US-PATENT-3,763,708		
c33 N74-18551	NASA-CASE-LAR-11053-1 US-PATENT-APPL-SN-281875 US-PATENT-CLASS-73-15R US-PATENT-3,789,654		
c33 N74-18552	NASA-CASE-NPO-11120-1 US-PATENT-APPL-SN-39343 US-PATENT-CLASS-29-157.3R US-PATENT-CLASS-165-105 US-PATENT-CLASS-267-166 US-PATENT-3,789,920		
c03 N74-18726	NASA-CASE-MFS-22002-1 US-PATENT-APPL-SN-452769		
c05 N74-18805	NASA-CASE-ARC-10519-2 US-PATENT-APPL-SN-452767		
c09 N74-18869	NASA-CASE-NPO-13426-1 US-PATENT-APPL-SN-450503		
c11 N74-18891	NASA-CASE-MFS-22287-1 US-PATENT-APPL-SN-438147		
c14 N74-19093	NASA-CASE-NPO-13214-1 NASA-CASE-NPO-13215-1 US-PATENT-APPL-SN-394149		
c24 N74-19310	NASA-CASE-HQR-10740-1 US-PATENT-APPL-SN-266943 US-PATENT-CLASS-356-28 US-PATENT-CLASS-356-106R US-PATENT-CLASS-356-112 US-PATENT-3,795,448		
c32 N74-19528	NASA-CASE-LAR-10426-1 US-PATENT-APPL-SN-239575 US-PATENT-CLASS-73-15.6 US-PATENT-CLASS-73-91 US-PATENT-3,795,134		
c33 N74-19583	NASA-CASE-GSC-11752-1 US-PATENT-APPL-SN-446569		
c33 N74-19584	NASA-CASE-NPO-13391-1 US-PATENT-APPL-SN-446567		
c03 N74-19692	NASA-CASE-GSC-11367-1 US-PATENT-APPL-SN-236985 US-PATENT-CLASS-136-36 US-PATENT-3,759,747		
c03 N74-19693	NASA-CASE-NPO-11806-1 US-PATENT-APPL-SN-228163 US-PATENT-CLASS-136-20 US-PATENT-CLASS-136-30		
c03 N74-19700	US-PATENT-3,790,409 NASA-CASE-MFS-22562-1 US-PATENT-APPL-SN-458484		
c03 N74-19701	NASA-CASE-NPO-13303-1 US-PATENT-APPL-SN-457295		
c03 N74-19702	NASA-CASE-NPO-13308-1 US-PATENT-APPL-SN-455164		
c05 N74-19761	NASA-CASE-ARC-10329-2 US-PATENT-APPL-SN-452768		
c06 N74-19769	NASA-CASE-EBC-10073-1 US-PATENT-APPL-SN-856253 US-PATENT-CLASS-117-95 US-PATENT-3,796,592		
c06 N74-19772	NASA-CASE-LAR-11372-1 US-PATENT-APPL-SN-448321		
c06 N74-19776	NASA-CASE-HSC-14428-1 US-PATENT-APPL-SN-450500		
c07 N74-19788	NASA-CASE-NPO-11820-1 US-PATENT-APPL-SN-266912 US-PATENT-CLASS-307-237 US-PATENT-CLASS-328-160 US-PATENT-CLASS-328-168 US-PATENT-CLASS-328-172 US-PATENT-CLASS-333-14 US-PATENT-3,800,237		
c07 N74-19790	NASA-CASE-MFS-21540-1 US-PATENT-APPL-SN-333912 US-PATENT-CLASS-178-7.1 US-PATENT-CLASS-325-148 US-PATENT-3,800,224		
c07 N74-19806	NASA-CASE-NPO-13321-1 US-PATENT-APPL-SN-455163		
c09 N74-19852	NASA-CASE-GSC-11627-1 US-PATENT-APPL-SN-450501		
c09 N74-19853	NASA-CASE-GSC-11844-1 US-PATENT-APPL-SN-452761		
c09 N74-19854	NASA-CASE-LAR-11352-1 US-PATENT-APPL-SN-459736		
c10 N74-19870	NASA-CASE-MFS-21470-1 US-PATENT-APPL-SN-340871 US-PATENT-CLASS-325-62 US-PATENT-CLASS-333-17 US-PATENT-CLASS-343-7.5 US-PATENT-CLASS-343-17.7 US-PATENT-3,795,910		
c14 N74-20008	NASA-CASE-GSC-11188-3 US-PATENT-APPL-SN-80029 US-PATENT-APPL-SN-244566 US-PATENT-CLASS-117-45 US-PATENT-3,799,793		
c14 N74-20009	NASA-CASE-NPO-11861-1 US-PATENT-APPL-SN-266911 US-PATENT-CLASS-178-DIG.1 US-PATENT-CLASS-178-6 US-PATENT-CLASS-178-7.6 US-PATENT-3,800,074		
c14 N74-20019	NASA-CASE-LAR-11021-1 US-PATENT-APPL-SN-453115		
c14 N74-20020	NASA-CASE-LAR-11353-1 US-PATENT-APPL-SN-446561		
c14 N74-20021	NASA-CASE-ARC-10344-2 US-PATENT-APPL-SN-446564		
c14 N74-20022	NASA-CASE-NPO-13348-1 US-PATENT-APPL-SN-452770		
c15 N74-20063	NASA-CASE-LAR-10129-2 US-PATENT-APPL-SN-99201 US-PATENT-APPL-SN-319410 US-PATENT-CLASS-312-1 US-PATENT-3,796,473		
c15 N74-20071	NASA-CASE-HSC-14435-1 US-PATENT-APPL-SN-450504		
c15 N74-20072	NASA-CASE-LAR-11224-1 US-PATENT-APPL-SN-450502		
c15 N74-20073	NASA-CASE-NPO-13360-1 US-PATENT-APPL-SN-401920		
c16 N74-20118	NASA-CASE-HQR-10844-1 US-PATENT-APPL-SN-412080		
c18 N74-20152	NASA-CASE-LEW-11879-1 US-PATENT-APPL-SN-425362		
c24 N74-20329	NASA-CASE-GSC-11425-1 US-PATENT-APPL-SN-206266 US-PATENT-CLASS-148-1.5 US-PATENT-3,799,813		
c27 N74-20397	NASA-CASE-NPO-12122-1 US-PATENT-APPL-SN-401921		
c31 N74-20541	NASA-CASE-MFS-22734-1 US-PATENT-APPL-SN-453232		
c02 N74-20646	NASA-CASE-LEW-11188-1 US-PATENT-APPL-SN-152328		



ACCRSSION NUMBER INDEX

	US-PATENT-CLASS-137-15.1		US-PATENT-3,805,266
	US-PATENT-CLASS-137-15.2	c14 N74-21014	NASA-CASE-HQN-10832-1
	US-PATENT-CLASS-244-53B		US-PATENT-APPL-SN-301417
	US-PATENT-3,799,475		US-PATENT-CLASS-35-35A
c05 N74-20725	NASA-CASE-MFS-22102-1		US-PATENT-CLASS-178-DIG.32
	US-PATENT-APPL-SN-341621		US-PATENT-CLASS-178-5.8B
	US-PATENT-CLASS-4-10		US-PATENT-CLASS-178-7.2
	US-PATENT-CLASS-4-120		US-PATENT-CLASS-340-407
	US-PATENT-3,805,303		US-PATENT-3,800,082
c05 N74-20726	NASA-CASE-ARC-10597-1	c14 N74-21015	NASA-CASE-LAR-10626-1
	US-PATENT-APPL-SN-281876		US-PATENT-APPL-SN-202750
	US-PATENT-CLASS-73-67.9		US-PATENT-CLASS-33-1SA
	US-PATENT-CLASS-128-2V		US-PATENT-CLASS-33-46R
	US-PATENT-3,802,253		US-PATENT-3,798,778
c05 N74-20728	NASA-CASE-MFS-21415-1	c14 N74-21017	NASA-CASE-MFS-21660-1
	US-PATENT-APPL-SN-318152		US-PATENT-APPL-SN-310616
	US-PATENT-CLASS-73-23		US-PATENT-CLASS-324-83Q
	US-PATENT-CLASS-73-421.5R		US-PATENT-3,806,802
	US-PATENT-CLASS-128-2.07	c14 N74-21018	NASA-CASE-LEW-10981-1
	US-PATENT-CLASS-128-2.08		US-PATENT-APPL-SN-214089
	US-PATENT-3,799,149		US-PATENT-CLASS-73-194EM
c07 N74-20809	NASA-CASE-MSC-12462-1		US-PATENT-CLASS-310-11
	US-PATENT-APPL-SN-274360		US-PATENT-CLASS-324-34PL
	US-PATENT-CLASS-178-88		US-PATENT-3,802,262
	US-PATENT-CLASS-325-320	c14 N74-21019	NASA-CASE-GSC-11600-1
	US-PATENT-CLASS-325-423		US-PATENT-APPL-SN-318357
	US-PATENT-3,800,227		US-PATENT-CLASS-73-1F
c07 N74-20810	NASA-CASE-MSC-12494-1		US-PATENT-3,802,249
	US-PATENT-APPL-SN-304705	c15 N74-21055	NASA-CASE-LEW-11388-2
	US-PATENT-CLASS-325-321		US-PATENT-APPL-SN-289033
	US-PATENT-CLASS-325-419		US-PATENT-APPL-SN-293726
	US-PATENT-3,806,816		US-PATENT-CLASS-29-487
c07 N74-20811	NASA-CASE-NPO-13103-1		US-PATENT-CLASS-29-494
	US-PATENT-APPL-SN-338484		US-PATENT-CLASS-29-498
	US-PATENT-CLASS-325-320		US-PATENT-CLASS-29-504
	US-PATENT-CLASS-325-419		US-PATENT-3,798,748
	US-PATENT-CLASS-329-122	c15 N74-21056	NASA-CASE-LAR-10688-1
	US-PATENT-3,806,815		US-PATENT-APPL-SN-285705
c07 N74-20813	NASA-CASE-PRC-10071-1		US-PATENT-CLASS-235-92PE
	US-PATENT-APPL-SN-307727		US-PATENT-CLASS-235-92SB
	US-PATENT-CLASS-178-7.7		US-PATENT-CLASS-235-151
	US-PATENT-CLASS-315-18	c15 N74-21057	US-PATENT-3,800,253
	US-PATENT-CLASS-315-22		NASA-CASE-LAR-10941-1
	US-PATENT-3,803,445		US-PATENT-APPL-SN-289048
c08 N74-20836	NASA-CASE-ERC-10180-1		US-PATENT-CLASS-29-470.1
	US-PATENT-APPL-SN-838278		US-PATENT-3,797,098
	US-PATENT-CLASS-235-164	c15 N74-21058	NASA-CASE-MFS-22411-1
	US-PATENT-3,803,393		US-PATENT-APPL-SN-382262
c09 N74-20859	NASA-CASE-XLE-2529-3		US-PATENT-CLASS-260-448.2M
	US-PATENT-APPL-SN-288856		US-PATENT-3,801,617
	US-PATENT-APPL-SN-487929	c15 N74-21059	NASA-CASE-LAR-10409-1
	US-PATENT-APPL-SN-848403		US-PATENT-APPL-SN-340864
	US-PATENT-CLASS-315-211		US-PATENT-CLASS-29-423
	US-PATENT-CLASS-315-228		US-PATENT-3,798,741
	US-PATENT-CLASS-331-94.5D	c15 N74-21060	NASA-CASE-NPO-13105-1
	US-PATENT-CLASS-332-7.51		US-PATENT-APPL-SN-283502
	US-PATENT-3,806,835		US-PATENT-CLASS-60-25
c09 N74-20860	NASA-CASE-GSC-11446-1		US-PATENT-3,798,896
	US-PATENT-APPL-SN-263230	c15 N74-21061	NASA-CASE-LEW-11076-1
	US-PATENT-CLASS-343-DIG.2		US-PATENT-APPL-SN-238264
	US-PATENT-CLASS-343-100SA		US-PATENT-CLASS-308-73
	US-PATENT-CLASS-343-100ST		US-PATENT-3,804,472
	US-PATENT-CLASS-343-854	c15 N74-21062	NASA-CASE-LAR-10295-1
	US-PATENT-3,806,932		US-PATENT-APPL-SN-221685
c09 N74-20861	NASA-CASE-GSC-11560-1		US-PATENT-CLASS-73-12
	US-PATENT-APPL-SN-361906		US-PATENT-CLASS-73-432
	US-PATENT-CLASS-95-53EA		US-PATENT-3,805,622
	US-PATENT-CLASS-350-269	c15 N74-21063	NASA-CASE-LEW-10698-1
	US-PATENT-CLASS-354-234		US-PATENT-APPL-SN-30498
	US-PATENT-3,804,506		US-PATENT-CLASS-65-DIG.11
c09 N74-20862	NASA-CASE-GSC-11513-1		US-PATENT-CLASS-106-52
	US-PATENT-APPL-SN-315069		US-PATENT-CLASS-117-129
	US-PATENT-CLASS-331-108A		US-PATENT-CLASS-161-196
	US-PATENT-CLASS-331-115		US-PATENT-3,804,703
	US-PATENT-CLASS-331-116R	c15 N74-21064	NASA-CASE-LEW-11087-3
	US-PATENT-CLASS-331-159		US-PATENT-APPL-SN-201904
	US-PATENT-3,806,831		US-PATENT-APPL-SN-346361
c09 N74-20863	NASA-CASE-GSC-11317-3		US-PATENT-CLASS-308-188
	US-PATENT-APPL-SN-244158		US-PATENT-CLASS-308-191
	US-PATENT-CLASS-343-730		US-PATENT-3,802,753
	US-PATENT-CLASS-343-786	c15 N74-21065	NASA-CASE-NPO-11951-1
	US-PATENT-CLASS-343-797		US-PATENT-APPL-SN-287150
	US-PATENT-CLASS-343-853		US-PATENT-CLASS-137-62B
	US-PATENT-3,803,617		US-PATENT-CLASS-251-120
c09 N74-20864	NASA-CASE-GSC-11428-1		US-PATENT-CLASS-251-122
	US-PATENT-APPL-SN-292685		US-PATENT-CLASS-251-210
	US-PATENT-CLASS-343-708		US-PATENT-3,802,660
	US-PATENT-CLASS-343-769	c16 N74-21091	NASA-CASE-GSC-11262-1
	US-PATENT-CLASS-343-853		US-PATENT-APPL-SN-162380

ACCESSION NUMBER INDEX

	US-PATENT-CLASS-33-285		US-PATENT-APPL-SN-329958
	US-PATENT-CLASS-250-204		US-PATENT-CLASS-323-106
	US-PATENT-CLASS-356-141		US-PATENT-CLASS-323-122
	US-PATENT-CLASS-356-152		US-PATENT-CLASS-323-128
	US-PATENT-CLASS-356-172		US-PATENT-3,808,517
c18 N74-21156	US-PATENT-3,804,525	c14 N74-23039	NASA-CASE-GSC-11620-1
	NASA-CASE-ARC-10592-1		US-PATENT-APPL-SN-280305
	US-PATENT-APPL-SN-321179		US-PATENT-CLASS-126-270
	US-PATENT-CLASS-260.46.5E		US-PATENT-CLASS-244-31
	US-PATENT-3,803,090		US-PATENT-CLASS-244-127
c23 N74-21300	NASA-CASE-ARC-10516-1	c14 N74-23040	US-PATENT-3,807,384
	US-PATENT-APPL-SN-267768		NASA-CASE-NPO-11932-1
	US-PATENT-CLASS-350-270		NASA-CASE-NPO-13127-1
	US-PATENT-CLASS-354-234		US-PATENT-APPL-SN-311234
	US-PATENT-3,797,919		US-PATENT-CLASS-356-113
c23 N74-21304	NASA-CASE-GSC-11353-1		US-PATENT-CLASS-356-1065
	US-PATENT-APPL-SN-260241		US-PATENT-3,809,481
	US-PATENT-CLASS-250-231SE	c15 N74-23064	NASA-CASE-LAR-10900-1
	US-PATENT-CLASS-350-299		US-PATENT-APPL-SN-290021
	US-PATENT-CLASS-356-152		US-PATENT-CLASS-161-116
	US-PATENT-3,802,779		US-PATENT-3,809,601
c09 N74-21850	NASA-CASE-GSC-11602-1	c15 N74-23065	NASA-CASE-NPO-11758-1
	US-PATENT-APPL-SN-298157		US-PATENT-APPL-SN-266913
	US-PATENT-CLASS-315-10		US-PATENT-CLASS-204-222
	US-PATENT-CLASS-315-11		US-PATENT-3,810,829
	US-PATENT-CLASS-315-12	c15 N74-23066	NASA-CASE-LAR-10089-1
	US-PATENT-3,806,756		US-PATENT-APPL-SN-305638
c09 N74-21851	NASA-CASE-ARC-10596-1		US-PATENT-CLASS-240-47
	US-PATENT-APPL-SN-267862		US-PATENT-CLASS-353-54
	US-PATENT-CLASS-330-28		US-PATENT-CLASS-353-61
	US-PATENT-CLASS-330-59		US-PATENT-3,811,044
	US-PATENT-3,811,094	c15 N74-23068	NASA-CASE-XNP-10007-1
c09 N74-21858	NASA-CASE-MFS-21931-1		US-PATENT-APPL-SN-611414
	US-PATENT-APPL-SN-464721		US-PATENT-APPL-SN-768942
c09 N74-21859	NASA-CASE-MFS-21616-1		US-PATENT-CLASS-299-67
	US-PATENT-APPL-SN-464723		US-PATENT-3,606,470
c14 N74-22095	NASA-CASE-NPO-10617-1	c15 N74-23069	NASA-CASE-XNP-09755
	US-PATENT-APPL-SN-828920		US-PATENT-APPL-SN-611414
	US-PATENT-CLASS-73-190H		US-PATENT-APPL-SN-857241
	US-PATENT-3,648,516		US-PATENT-CLASS-51-283
c14 N74-22096	NASA-CASE-XLE-04791		US-PATENT-CLASS-125-1
	US-PATENT-APPL-SN-582213		US-PATENT-CLASS-125-3
	US-PATENT-CLASS-330-103		US-PATENT-CLASS-299-86
	US-PATENT-3,404,348		US-PATENT-3,612,030
c14 N74-22112	NASA-CASE-LAR-11434-1	c15 N74-23070	NASA-CASE-MFS-20645-1
	US-PATENT-APPL-SN-464722		US-PATENT-APPL-SN-103091
c14 N74-22113	NASA-CASE-KSC-10807-1		US-PATENT-CLASS-74-217R
	US-PATENT-APPL-SN-461073		US-PATENT-3,678,771
c15 N74-22136	NASA-CASE-MFS-20922-1	c15 N74-23071	NASA-CASE-NPO-13281-1
	US-PATENT-APPL-SN-220274		US-PATENT-APPL-SN-412079
	US-PATENT-CLASS-49-68	c18 N74-23125	NASA-CASE-LEW-10199-1
	US-PATENT-CLASS-61-83		US-PATENT-APPL-SN-651972
	US-PATENT-CLASS-244-1SS		US-PATENT-CLASS-117-126GR
	US-PATENT-3,807,656		US-PATENT-CLASS-117-132B
c15 N74-22145	NASA-CASE-MFS-19193-1		US-PATENT-CLASS-117-161UH
	US-PATENT-APPL-SN-461477		US-PATENT-CLASS-260-78TF
c15 N74-22146	NASA-CASE-MFS-22758-1		US-PATENT-3,647,529
	US-PATENT-APPL-SN-462706	c32 N74-23449	NASA-CASE-LAR-10073-1
c15 N74-22147	NASA-CASE-LEW-11694-2		US-PATENT-APPL-SN-436317
	US-PATENT-APPL-SN-462903	c12 N74-25805	NASA-CASE-LEW-11915-1
c05 N74-22771	NASA-CASE-ARC-10447-1		US-PATENT-APPL-SN-474744
	US-PATENT-APPL-SN-311175	c14 N74-25931	NASA-CASE-LAR-11263-1
	US-PATENT-CLASS-126-214E		US-PATENT-APPL-SN-472775
	US-PATENT-CLASS-235-151.3	c14 N74-25932	NASA-CASE-NPO-13231-1
	US-PATENT-3,809,871		US-PATENT-APPL-SN-428993
c07 N74-22814	NASA-CASE-NPO-13081-1	c15 N74-25968	NASA-CASE-MFS-21485-1
	US-PATENT-APPL-SN-345372		US-PATENT-APPL-SN-277436
	US-PATENT-CLASS-307-215		US-PATENT-CLASS-90-12.5
	US-PATENT-CLASS-307-243		US-PATENT-CLASS-408-80
	US-PATENT-CLASS-307-290		US-PATENT-CLASS-408-111
	US-PATENT-CLASS-328-154		US-PATENT-3,813,183
	US-PATENT-3,808,464	c15 N74-25971	NASA-CASE-NPO-13345-1
c07 N74-22827	NASA-CASE-GSC-11782-1		US-PATENT-APPL-SN-462705
	US-PATENT-APPL-SN-463925	c02 N74-26456	NASA-CASE-LAR-11645-1
c09 N74-22864	NASA-CASE-XER-11046-2		US-PATENT-APPL-SN-473973
	US-PATENT-APPL-SN-87597	c04 N74-26619	NASA-CASE-GSC-11917-1
	US-PATENT-APPL-SN-810579		US-PATENT-APPL-SN-475337
	US-PATENT-CLASS-321-45R	c05 N74-26625	NASA-CASE-NPO-13065-1
	US-PATENT-3,808,511		US-PATENT-APPL-SN-269073
c09 N74-22865	NASA-CASE-LAR-10168-1		US-PATENT-CLASS-128-2.1A
	US-PATENT-APPL-SN-354407		US-PATENT-CLASS-325-113
	US-PATENT-CLASS-174-DIG.8		US-PATENT-CLASS-325-141
	US-PATENT-CLASS-174-69		US-PATENT-CLASS-340-183
	US-PATENT-CLASS-174-70R		US-PATENT-CLASS-340-203
	US-PATENT-CLASS-244-151R		US-PATENT-CLASS-340-207R
	US-PATENT-3,809,800		US-PATENT-3,815,109
c09 N74-22873	NASA-CASE-GSC-11849-1	c05 N74-26626	NASA-CASE-HSC-13999-1
	US-PATENT-APPL-SN-470428		US-PATENT-APPL-SN-256317
c10 N74-22885	NASA-CASE-MFS-21671-1		US-PATENT-CLASS-128-2.05A

ACCESSION NUMBER INDEX

	US-PATENT-CLASS-128-2.055	c32	N74-27397	NASA-CASE-MFS-21680-1
	US-PATENT-3,814,083			NASA-CASE-MFS-21681-1
c07	N74-26654			US-PATENT-APPL-SN-343607
	NASA-CASE-MSC-14065-1			US-PATENT-CLASS-244-15S
	US-PATENT-APPL-SN-297128			US-PATENT-CLASS-248-16
	US-PATENT-CLASS-178-67			US-PATENT-CLASS-248-23
	US-PATENT-CLASS-325-30			US-PATENT-3,814,350
	US-PATENT-3,816,657			NASA-CASE-NPO-11743-1
c09	N74-26732		c33	N74-27425
	NASA-CASE-MFS-21698-1			US-PATENT-APPL-SN-277904
	US-PATENT-APPL-SN-37050			US-PATENT-CLASS-102-288B
	US-PATENT-CLASS-331-109			US-PATENT-CLASS-102-70.2A
	US-PATENT-CLASS-331-117R			US-PATENT-CLASS-102-70-2R
	US-PATENT-CLASS-331-183			US-PATENT-3,812,783
	US-PATENT-3,815,048			NASA-CASE-LEW-11286-1
c10	N74-26760		c02	N74-27490
	NASA-CASE-ARC-10364-3			US-PATENT-APPL-SN-339806
	US-PATENT-APPL-SN-462844			US-PATENT-CLASS-181-33HB
	NASA-CASE-NPO-13112-1			US-PATENT-CLASS-239-265.17
	US-PATENT-APPL-SN-267572			US-PATENT-3,820,630
	US-PATENT-CLASS-250-499			NASA-CASE-MFS-20761-1
	US-PATENT-CLASS-313-615			US-PATENT-APPL-SN-326327
	US-PATENT-3,816,785			US-PATENT-CLASS-136-182
c14	N74-26945			US-PATENT-CLASS-324-29.5
	NASA-CASE-MFS-21556-1			US-PATENT-CLASS-324-72.5
	US-PATENT-APPL-SN-340791			US-PATENT-3,818,325
	US-PATENT-CLASS-73-141A			NASA-CASE-GSC-11531-1
	US-PATENT-CLASS-177-200			US-PATENT-APPL-SN-291845
	US-PATENT-CLASS-177-211			US-PATENT-CLASS-73-398AR
	US-PATENT-CLASS-177-246			US-PATENT-CLASS-128-2.05E
	US-PATENT-3,812,924			US-PATENT-3,811,429
c14	N74-26946			NASA-CASE-MSC-14219-1
	NASA-CASE-MFS-22040-1			US-PATENT-APPL-SN-324029
	US-PATENT-APPL-SN-365644			US-PATENT-CLASS-117-2R
	US-PATENT-CLASS-96-38.3			US-PATENT-CLASS-156-94
	US-PATENT-CLASS-96-79			US-PATENT-CLASS-179-100.2A
	US-PATENT-CLASS-350-3.5			US-PATENT-CLASS-179-100.2B
	US-PATENT-3,815,969			US-PATENT-CLASS-264-36
c14	N74-26947			US-PATENT-3,819,440
	NASA-CASE-ARC-10633-1			NASA-CASE-ARC-10593-1
	US-PATENT-APPL-SN-354611			US-PATENT-APPL-SN-310193
	US-PATENT-CLASS-250-304			US-PATENT-CLASS-250-207
	US-PATENT-CLASS-250-343			US-PATENT-CLASS-307-252L
	US-PATENT-CLASS-250-373			US-PATENT-CLASS-307-252Q
	US-PATENT-3,814,939			US-PATENT-3,821,546
c14	N74-26948			NASA-CASE-LEW-10950-1
	NASA-CASE-MFS-21395-1			US-PATENT-APPL-SN-273222
	US-PATENT-APPL-SN-260093			US-PATENT-CLASS-174-15C
	US-PATENT-CLASS-204-180R			US-PATENT-CLASS-174-28
	US-PATENT-3,814,678			US-PATENT-CLASS-174-111
c14	N74-26949			US-PATENT-CLASS-310-4R
	NASA-CASE-GSC-11492-1			US-PATENT-3,821,462
	US-PATENT-APPL-SN-372148			NASA-CASE-NPO-13437-1
	US-PATENT-CLASS-250-374			US-PATENT-APPL-SN-478801
	US-PATENT-CLASS-250-385			NASA-CASE-NPO-13504-1
	US-PATENT-CLASS-313-93			US-PATENT-APPL-SN-483852
	US-PATENT-3,812,358			NASA-CASE-NPO-13506-1
c15	N74-26976			US-PATENT-APPL-SN-483851
	NASA-CASE-MFS-21846-1			NASA-CASE-MSC-14066-1
	US-PATENT-APPL-SN-359958			US-PATENT-APPL-SN-297127
	US-PATENT-CLASS-188-163			US-PATENT-CLASS-178-88
	US-PATENT-CLASS-188-171			US-PATENT-CLASS-325-320
	US-PATENT-3,812,936			US-PATENT-3,818,346
c15	N74-26977			NASA-CASE-MFS-21424-1
	NASA-CASE-MFS-22133-1			US-PATENT-APPL-SN-315048
	US-PATENT-APPL-SN-337467			US-PATENT-CLASS-73-3
	US-PATENT-CLASS-29-203HW			US-PATENT-CLASS-73-147
	US-PATENT-3,815,205			US-PATENT-3,817,082
c15	N74-26988			NASA-CASE-MFS-21394-1
	NASA-CASE-MFS-22323-1			US-PATENT-APPL-SN-258171
	US-PATENT-APPL-SN-474745			US-PATENT-CLASS-204-180R
	NASA-CASE-MFS-20607-1			US-PATENT-CLASS-204-299
	US-PATENT-APPL-SN-478800			US-PATENT-3,821,102
c15	N74-26989			NASA-CASE-GSC-11434-1
	NASA-CASE-XLA-11028-1			US-PATENT-APPL-SN-263498
	US-PATENT-APPL-SN-219435			US-PATENT-CLASS-73-190R
	US-PATENT-CLASS-156-285			US-PATENT-3,813,937
	US-PATENT-3,814,653			NASA-CASE-MSC-14081-1
c18	N74-27037			US-PATENT-APPL-SN-331760
	NASA-CASE-ARC-10304-2			US-PATENT-CLASS-250-576
	US-PATENT-APPL-SN-140946			US-PATENT-CLASS-356-180
	US-PATENT-APPL-SN-318358			US-PATENT-CLASS-356-246
	US-PATENT-CLASS-102-105			US-PATENT-3,817,627
	US-PATENT-CLASS-106-15PF			NASA-CASE-MFS-21108-1
	US-PATENT-CLASS-252-8.1			US-PATENT-APPL-SN-307728
	US-PATENT-CLASS-252-62			US-PATENT-CLASS-136-213
	US-PATENT-CLASS-260-DIG.24			US-PATENT-CLASS-136-230
	US-PATENT-CLASS-260-2.5PF			US-PATENT-CLASS-136-233
	US-PATENT-CLASS-260-2R			US-PATENT-3,819,419
	US-PATENT-CLASS-260-396N			NASA-CASE-KSC-10731-1
	US-PATENT-3,819,550			US-PATENT-APPL-SN-288847
c26	N74-27261			
	NASA-CASE-LAR-11144-1			
	US-PATENT-APPL-SN-426405			
c31	N74-27360			
	NASA-CASE-LAR-10670-2			
	US-PATENT-APPL-SN-59892			
	US-PATENT-APPL-SN-248761			
	US-PATENT-CLASS-60-39.46			
	US-PATENT-CLASS-60-214			
	US-PATENT-CLASS-60-215			
	US-PATENT-CLASS-102-90			
	US-PATENT-3,813,875			

ACCESSION NUMBER INDEX

	US-PATENT-CLASS-73-170R	c09 N74-29556	NASA-CASE-RSC-10769-1
	US-PATENT-CLASS-324-72		US-PATENT-APPL-SN-374583
	US-PATENT-CLASS-340-151		US-PATENT-CLASS-318-602
	US-PATENT-CLASS-340-182		US-PATENT-CLASS-318-603
	US-PATENT-CLASS-340-200		US-PATENT-CLASS-318-664
	US-PATENT-3,820,095		US-PATENT-3,826,964
c14 N74-27864	NASA-CASE-MFS-21049-1	c09 N74-29575	NASA-CASE-LAR-11112-1
	US-PATENT-APPL-SN-304430		US-PATENT-APPL-SN-491419
	US-PATENT-CLASS-73-88-5R	c09 N74-29577	NASA-CASE-ARC-10445-1
	US-PATENT-CLASS-128-2S		US-PATENT-APPL-SN-491418
	US-PATENT-CLASS-338-5	c12 N74-29652	NASA-CASE-LAR-11110-1
	US-PATENT-CLASS-338-114		US-PATENT-APPL-SN-420424
	US-PATENT-3,820,529	c14 N74-29772	NASA-CASE-ARC-10810-1
c14 N74-27865	NASA-CASE-MFS-21728-1		US-PATENT-APPL-SN-489009
	US-PATENT-APPL-SN-361907	c14 N74-29773	NASA-CASE-ARC-10711-1
	US-PATENT-CLASS-73-141A		US-PATENT-APPL-SN-493363
	US-PATENT-3,820,388	c18 N74-30001	NASA-CASE-LAR-10416-1
	NASA-CASE-MFS-21372-1		US-PATENT-APPL-SN-251752
c14 N74-27866	US-PATENT-APPL-SN-226477		US-PATENT-CLASS-156-94
	US-PATENT-CLASS-250-505		US-PATENT-3,814,645
	US-PATENT-CLASS-250-511	c18 N74-30004	NASA-CASE-RSC-14270-2
	US-PATENT-3,821,556		US-PATENT-APPL-SN-482105
c14 N74-27872	NASA-CASE-ARC-10806	c18 N74-30005	NASA-CASE-RSC-14270-1
	US-PATENT-APPL-SN-478802		US-PATENT-APPL-SN-482104
	NASA-CASE-ARC-10322-1	c23 N74-30118	NASA-CASE-LAR-11206-1
c14 N74-27875	US-PATENT-APPL-SN-484209		US-PATENT-APPL-SN-491413
	NASA-CASE-LAR-10841-1	c25 N74-30156	NASA-CASE-ARC-10598-1
c15 N74-27900	US-PATENT-APPL-SN-307729		US-PATENT-APPL-SN-318151
	US-PATENT-CLASS-13-31		US-PATENT-CLASS-356-43
	US-PATENT-CLASS-73-15R		US-PATENT-CLASS-356-73
	US-PATENT-3,817,084		US-PATENT-CLASS-356-85
c15 N74-27901	NASA-CASE-ARC-10462-1		US-PATENT-CLASS-356-87
	US-PATENT-APPL-SN-310615		US-PATENT-CLASS-356-201
	US-PATENT-CLASS-74-675		US-PATENT-3,817,622
	US-PATENT-CLASS-74-710	c31 N74-30311	NASA-CASE-MFS-21311-1
	US-PATENT-3,818,775		US-PATENT-APPL-SN-493359
c15 N74-27902	NASA-CASE-GSC-11445-1	c01 N74-30414	NASA-CASE-ARC-10470-3
	US-PATENT-APPL-SN-248471		US-PATENT-APPL-SN-496779
	US-PATENT-CLASS-98-39	c02 N74-30421	NASA-CASE-LAR-10753-1
	US-PATENT-CLASS-236-49		US-PATENT-APPL-SN-289018
	US-PATENT-3,818,814		US-PATENT-CLASS-244-90R
c15 N74-27903	NASA-CASE-RSC-12549-1		US-PATENT-CLASS-244-91
	US-PATENT-APPL-SN-301039		US-PATENT-CLASS-244-327
	US-PATENT-CLASS-244-1SD		US-PATENT-3,826,448
	US-PATENT-3,820,741	c03 N74-30448	NASA-CASE-NPO-13482-1
c15 N74-27904	NASA-CASE-LEW-11672-1		US-PATENT-APPL-SN-495021
	US-PATENT-APPL-SN-305639	c06 N74-30502	NASA-CASE-LEW-10906-1
	US-PATENT-CLASS-417-52		US-PATENT-APPL-SN-245279
	US-PATENT-3,819,299		US-PATENT-APPL-SN-876588
c15 N74-27905	NASA-CASE-LAR-10450-1		US-PATENT-CLASS-204-157.1H
	US-PATENT-APPL-SN-289017		US-PATENT-3,826,726
	US-PATENT-CLASS-51-97R	c07 N74-30523	NASA-CASE-NPO-11921-1
	US-PATENT-CLASS-51-225		US-PATENT-APPL-SN-359039
	US-PATENT-CLASS-51-234		US-PATENT-CLASS-179-158C
	US-PATENT-3,820,286		US-PATENT-CLASS-325-346
c17 N74-27963	NASA-CASE-LEW-11696-3		US-PATENT-3,828,138
	US-PATENT-APPL-SN-483853	c07 N74-30524	NASA-CASE-RSC-13912-1
c21 N74-28097	NASA-CASE-GSC-11479-1		US-PATENT-APPL-SN-310034
	US-PATENT-APPL-SN-293739		US-PATENT-CLASS-179-15AT
	US-PATENT-CLASS-74-5.5		US-PATENT-CLASS-179-15B1
	US-PATENT-CLASS-244-15A		US-PATENT-3,828,137
	US-PATENT-3,818,767	c07 N74-30532	NASA-CASE-GSC-11877-1
c23 N74-28134	NASA-CASE-NPO-13435-1		US-PATENT-APPL-SN-482953
	US-PATENT-APPL-SN-478803	c08 N74-30549	NASA-CASE-NPO-13428-1
c28 N74-28226	NASA-CASE-LEW-11402-1		NASA-CASE-NPO-13447-1
	US-PATENT-APPL-SN-219806		US-PATENT-APPL-SN-495022
	US-PATENT-CLASS-415-181	c11 N74-30597	NASA-CASE-LAR-10550-1
	US-PATENT-CLASS-416-223		US-PATENT-APPL-SN-261183
	US-PATENT-CLASS-416-237		US-PATENT-CLASS-35-12B
	US-PATENT-3,820,918		US-PATENT-3,824,707
c28 N74-28232	NASA-CASE-LEW-11118-2	c12 N74-30608	NASA-CASE-LAR-10194-1
	US-PATENT-APPL-SN-436316		US-PATENT-APPL-SN-169962
c28 N74-28233	NASA-CASE-LAR-11570-1		US-PATENT-CLASS-55-43
	US-PATENT-APPL-SN-482967		US-PATENT-CLASS-55-159
c14 N74-28932	NASA-CASE-MFS-22537-1		US-PATENT-CLASS-55-199
	US-PATENT-APPL-SN-387266		US-PATENT-3,828,524
c14 N74-28933	NASA-CASE-ARC-10802-1	c14 N74-30886	NASA-CASE-GSC-11569-1
	US-PATENT-APPL-SN-484208		US-PATENT-APPL-SN-293725
c03 N74-29410	NASA-CASE-MFS-21577-1		US-PATENT-CLASS-33-268
	US-PATENT-APPL-SN-343308		US-PATENT-CLASS-250-203R
	US-PATENT-CLASS-250-372		US-PATENT-CLASS-356-141
	US-PATENT-CLASS-250-394		US-PATENT-CLASS-356-147
	US-PATENT-3,825,760		US-PATENT-3,827,807
c03 N74-29416	NASA-CASE-LAR-11042-1	c14 N74-30894	NASA-CASE-LAR-10208-1
	US-PATENT-APPL-SN-440916		US-PATENT-APPL-SN-483858
c06 N74-29479	NASA-CASE-MFS-22356-1	c15 N74-30916	NASA-CASE-RSC-12615-1
	US-PATENT-APPL-SN-489008		US-PATENT-APPL-SN-491417
c06 N74-29480	NASA-CASE-MFS-22355	c23 N74-31148	NASA-CASE-NPO-11623-1
	US-PATENT-APPL-SN-487852		US-PATENT-APPL-SN-235338

ACCESSION NUMBER INDEX

	US-PATENT-CLASS-73-69		US-PATENT-CLASS-73-104
	US-PATENT-CLASS-73-71.5R		US-PATENT-3,830,094
	US-PATENT-CLASS-181.5R	c14 N74-32882	NASA-CASE-LAR-11458-1
	US-PATENT-3,827,288		US-PATENT-APPL-SN-504225
c28 N74-31269	NASA-CASE-LEW-11646-1	c14 N74-32883	NASA-CASE-MSC-13802-2
	US-PATENT-APPL-SN-292686		US-PATENT-APPL-SN-475338
	US-PATENT-CLASS-204-192	c14 N74-32884	NASA-CASE-MSC-12448-2
	US-PATENT-3,826,729		US-PATENT-APPL-SN-440918
c28 N74-31270	NASA-CASE-LAR-10642-1	c14 N74-32885	NASA-CASE-MSC-12423-1
	US-PATENT-APPL-SN-266820		US-PATENT-APPL-SN-448320
	US-PATENT-CLASS-137-15.1	c14 N74-32886	NASA-CASE-GSC-11829-1
	US-PATENT-CLASS-415-181		US-PATENT-APPL-SN-502136
	US-PATENT-3,829,237	c14 N74-32887	NASA-CASE-GSC-11889-1
c02 N74-32418	NASA-CASE-LAR-11141-1		US-PATENT-APPL-SN-502124
	US-PATENT-APPL-SN-359957	c14 N74-32888	NASA-CASE-GSC-11892-1
	US-PATENT-CLASS-181-33C		US-PATENT-APPL-SN-502135
	US-PATENT-CLASS-181-33F	c14 N74-32890	NASA-CASE-NPO-13479-1
	US-PATENT-CLASS-181-33H		US-PATENT-APPL-SN-500981
	US-PATENT-CLASS-181-33L	c15 N74-32917	NASA-CASE-NPO-13205-1
	US-PATENT-CLASS-181-42		US-PATENT-APPL-SN-393525
	US-PATENT-3,830,335		US-PATENT-CLASS-425-288
c02 N74-32428	NASA-CASE-ARC-10801-1		US-PATENT-CLASS-425-35
	US-PATENT-APPL-SN-506802		US-PATENT-3,833,322
c04 N74-32518	NASA-CASE-LAR-11326-1	c15 N74-32918	NASA-CASE-NPO-13157-1
	US-PATENT-APPL-SN-491416		US-PATENT-APPL-SN-370872
c05 N74-32546	NASA-CASE-MSC-11072		US-PATENT-CLASS-29-203H
	US-PATENT-APPL-SN-689455		US-PATENT-CLASS-29-268
	US-PATENT-CLASS-2-2.1A		US-PATENT-3,832,764
	US-PATENT-CLASS-2-82	c15 N74-32919	NASA-CASE-LEW-11118-1
	US-PATENT-CLASS-156-218		US-PATENT-APPL-SN-289050
	US-PATENT-3,832,735		US-PATENT-CLASS-204-9
c05 N74-32549	NASA-CASE-MSC-13601-2	c15 N74-32920	US-PATENT-3,832,290
	US-PATENT-APPL-SN-395495		NASA-CASE-LAR-10489-2
c05 N74-32552	NASA-CASE-NPO-13573-1		US-PATENT-APPL-SN-198763
	US-PATENT-APPL-SN-501014		US-PATENT-APPL-SN-350300
c07 N74-32598	NASA-CASE-MSC-14070-1		US-PATENT-CLASS-249-83
	US-PATENT-APPL-SN-266940		US-PATENT-CLASS-249-95
	US-PATENT-CLASS-340-146.1A		US-PATENT-CLASS-249-145
	US-PATENT-3,831,142		US-PATENT-CLASS-249-184
c07 N74-32601	NASA-CASE-MSC-12616-1		US-PATENT-CLASS-425-128
	US-PATENT-APPL-SN-493360		US-PATENT-CLASS-425-415
c08 N74-32646	NASA-CASE-NPO-13385-1		US-PATENT-3,830,609
	US-PATENT-APPL-SN-501011	c15 N74-32921	NASA-CASE-LEW-11076-2
c08 N74-32648	NASA-CASE-NPO-13451-1		US-PATENT-APPL-SN-238264
	US-PATENT-APPL-SN-501012		US-PATENT-APPL-SN-346483
c09 N74-32660	NASA-CASE-GSC-11617-1		US-PATENT-CLASS-308-121
	US-PATENT-APPL-SN-402865		US-PATENT-3,830,552
	US-PATENT-CLASS-330-4.9	c15 N74-32925	NASA-CASE-MSC-19095-1
	US-PATENT-CLASS-330-53		US-PATENT-APPL-SN-415486
	US-PATENT-3,833,857	c15 N74-32926	NASA-CASE-LAR-11465-1
c09 N74-32674	NASA-CASE-GSC-11862-1		US-PATENT-APPL-SN-502137
	US-PATENT-APPL-SN-500979	c16 N74-32937	NASA-CASE-NPO-13390-1
c09 N74-32675	NASA-CASE-NPO-13481-1		US-PATENT-APPL-SN-501013
	US-PATENT-APPL-SN-502139	c23 N74-33142	NASA-CASE-MSC-12611-1
c10 N74-32711	NASA-CASE-MSC-14130-1		US-PATENT-APPL-SN-446560
	US-PATENT-APPL-SN-373587	c27 N74-33209	NASA-CASE-NPO-11975-1
	US-PATENT-CLASS-307-267		US-PATENT-APPL-SN-329243
	US-PATENT-CLASS-328-58		US-PATENT-CLASS-149-17
	US-PATENT-3,831,098		US-PATENT-CLASS-149-60
c10 N74-32712	NASA-CASE-NPO-11948-1		US-PATENT-CLASS-149-76
	US-PATENT-APPL-SN-306652		US-PATENT-3,830,673
	US-PATENT-CLASS-307-230	c28 N74-33218	NASA-CASE-ARC-10712-1
	US-PATENT-CLASS-330-69		US-PATENT-APPL-SN-344410
	US-PATENT-CLASS-333-80R		US-PATENT-CLASS-181-33HC
	US-PATENT-3,831,117		US-PATENT-CLASS-239-265.11
c11 N74-32718	NASA-CASE-ARC-10808-1		US-PATENT-3,830,431
	US-PATENT-APPL-SN-505881	c28 N74-33220	NASA-CASE-LAR-11674-1
c11 N74-32719	NASA-CASE-LEW-11866-1		US-PATENT-APPL-SN-488616
	US-PATENT-APPL-SN-500980	c31 N74-33303	NASA-CASE-MSC-12561-1
c13 N74-32780	NASA-CASE-MSC-14472-1		US-PATENT-APPL-SN-448323
	US-PATENT-APPL-SN-502138	c33 N74-33378	NASA-CASE-MPS-21675-1
c14 N74-32877	NASA-CASE-LAR-10806-1		US-PATENT-APPL-SN-392823
	US-PATENT-APPL-SN-322998		US-PATENT-CLASS-23-277C
	US-PATENT-CLASS-33-1M		US-PATENT-CLASS-431-202
	US-PATENT-CLASS-33-23R		US-PATENT-3,833,336
	US-PATENT-CLASS-338-89	c33 N74-33379	NASA-CASE-ARC-10461-1
	US-PATENT-CLASS-340-347AD		US-PATENT-APPL-SN-336319
	US-PATENT-CLASS-346-33R		US-PATENT-CLASS-60-527
	US-PATENT-3,832,781		US-PATENT-3,830,060
c14 N74-32878	NASA-CASE-LAR-11139-1	c03 N74-33484	NASA-CASE-LEW-11549-1
	US-PATENT-APPL-SN-287149		US-PATENT-APPL-SN-510677
	US-PATENT-CLASS-73-182	c09 N74-33738	NASA-CASE-NPO-13413-1
	US-PATENT-CLASS-73-388		US-PATENT-APPL-SN-505880
	US-PATENT-3,832,903	c09 N74-33739	NASA-CASE-LEW-11582-1
c14 N74-32879	NASA-CASE-MSC-14187-1		US-PATENT-APPL-SN-510678
	US-PATENT-APPL-SN-326326	c09 N74-33740	NASA-CASE-LEW-12094-1
	US-PATENT-CLASS-23-230L		US-PATENT-APPL-SN-508784
	US-PATENT-CLASS-73-15.4	c14 N74-33943	NASA-CASE-MPS-22517-1
	US-PATENT-CLASS-73-40.7		US-PATENT-APPL-SN-506804

ACCESSION NUMBER INDEX

c14 N74-33944 ..... NASA-CASE-LEW-11632-3  
 US-PATENT-APPL-SN-424590  
 c15 N74-33997 ..... NASA-CASE-GSC-11895-1  
 US-PATENT-APPL-SN-511887  
 c15 N74-34002 ..... NASA-CASE-GSC-11577-2  
 US-PATENT-APPL-SN-506803  
 c16 N74-34010 ..... NASA-CASE-LEW-12164-1  
 US-PATENT-APPL-SN-511334  
 c16 N74-34012 ..... NASA-CASE-NPO-13448-1  
 US-PATENT-APPL-SN-511888  
 c02 N74-34475 ..... NASA-CASE-ARC-10807-1  
 US-PATENT-APPL-SN-513612  
 c06 N74-34579 ..... NASA-CASE-LEW-12053-1  
 US-PATENT-APPL-SN-513613  
 c09 N74-34638 ..... NASA-CASE-MFS-22343-1  
 US-PATENT-APPL-SN-329237  
 US-PATENT-CLASS-307-18  
 US-PATENT-CLASS-307-35  
 US-PATENT-CLASS-307-295  
 US-PATENT-CLASS-307-304  
 US-PATENT-3,840,829  
 c09 N74-34647 ..... NASA-CASE-MFS-16609-3  
 US-PATENT-APPL-SN-511894  
 c09 N74-34649 ..... NASA-CASE-GSC-11968-1  
 US-PATENT-APPL-SN-512825  
 c11 N74-34672 ..... NASA-CASE-LAR-10256-1  
 US-PATENT-APPL-SN-220785  
 US-PATENT-CLASS-104-2375  
 US-PATENT-CLASS-104-1388  
 US-PATENT-CLASS-238-134  
 c14 N74-34857 ..... US-PATENT-3,837,285  
 NASA-CASE-LAR-11428-1  
 US-PATENT-APPL-SN-188836  
 US-PATENT-APPL-SN-357126  
 US-PATENT-CLASS-250-281  
 US-PATENT-CLASS-250-295  
 US-PATENT-3,835,318  
 c14 N74-34860 ..... NASA-CASE-MFS-19218-1  
 US-PATENT-APPL-SN-508803  
 c14 N74-34861 ..... NASA-CASE-MFS-22749-1  
 US-PATENT-APPL-SN-483857  
 c14 N74-34864 ..... NASA-CASE-ARC-10631-1  
 US-PATENT-APPL-SN-514546  
 c15 N74-34881 ..... NASA-CASE-LAR-11522-1  
 US-PATENT-APPL-SN-513689  
 c15 N74-34882 ..... NASA-CASE-MFS-19194-1  
 US-PATENT-APPL-SN-483850  
 c21 N74-35096 ..... NASA-CASE-MFS-22787-1  
 US-PATENT-APPL-SN-511346  
 c25 N74-35145 ..... NASA-CASE-MFS-22145-2  
 US-PATENT-APPL-SN-500982

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