1.0 INTRODUCTION/METHODOLOGY

1.1 Contents

This literature search and review was prepared under NASA contract. The purpose of this process was to locate and analyze the most recent literature that was relevant to the contract research. This was done by cross-relating books, articles, monographs and journals that relate to the following topics:

**Experimental Systems:**
- Advanced Communications Technology Satellite (ACTS)

**ISDN and Advanced Communication Techniques:**
- ISDN and Satellites
- Integrated System Digital Network (ISDN) Standards
- Broadband ISDN
- Frame relay and switching
- Computer networks and Satellites
- Satellite Orbits and Technology
- Satellite Orbits
- Satellite Transmission Quality
- Networks
- Network Configuration

1.2 Search Methodology
The literature search was carried out by two methods. A computer search of technical databases was performed on a series of key words (and combinations of key words) and resulted in 1777 titles. These titles were examined and 288 relevant articles were chosen. Full citations and abstracts were obtained for these articles. The databases examined include:

- NTIS (Corp. 1990 NTIS)
- Aerospace (Corp. AIAA 1990)
- Inspec 2 (Corp. IEE 1990)
- Compendex Plus (Corp. Engineering Info Inc. 1990)
- Computer Database (Corp. Information Access Company 1990)
- ABI/Inform (Corp. UMI/Data Courier 1990)
- Supertech (Corp. R.R. Bowker Company 1990)

The second part of the search was a manual examination of a selection of journal and books. The journals examined include:

- Via Satellite
- Telecommunications Magazine
- Satellite Communication
- International Journal of Satellite Communication and Broadcast
- Network World
- Telephony
- Teleconnect
- Data Communication
- IEEE Documents
- CCITT Recommendations

Other articles and theses were obtained from the Center for Space and Geosciences Policy (University of Colorado at Boulder), the Interdisciplinary Telecommunications Program (University of Colorado at Boulder), The Institute for Telecommunications Science (ITS) and the National Institute for Standards and Technology (NTIA).
1.3 Description and User's Guide to the Advanced Satellite Research Project: SCAR Research Database

1.3.1 Content of the Database

The database contains the following information about each article from the literature search:

- Article title
- Author(s)
- Source (Journal, Thesis, Conference, etc.)
- Volume and Number
- Publication date
- Key words relating to the article content
- If the article or abstract is on file
- Index number of the article at the Interdisciplinary Telecommunications Program (ITP) at the University of Colorado at Boulder

1.3.2 Uses of the Database

The intended use of the database is to allow users to quickly extract bibliographic citations for articles dealing with a specific topic. In order to do this, the user follows the menu selections to select articles by key word. Once the key words have been chosen, the printer should be readied and then the citations will be printed by following the menu. The citations will be printed out in groups by key word.

The information found on each article will be printed out, including an index number for each article or abstract. This index number corresponds to physical article in a filing cabinet at the CU ITP library. These numbers have been chosen arbitrarily and have been assigned to articles as grouped by key word.

1.3.3 Limitations of the Database
The database is a very basic electronic file created through the above described literature search process. Bibliographical references are simply organized by key word in an effort to provide reasonable functionality at minimal cost.

More specifically, due to budgetary constraints, the references will not be sorted alphabetically or by author, source, title or date. There is no citation filtering, so articles may be printed multiple times in a multiple key word search if they fall into more than one key word category.

Additional sort features may be added at some future time but have not been included in this initial database file.

2.0 SCAR LITERATURE SEARCH ANALYSIS

2.1 The Advanced Communications Technology Satellite (ACTS)

ACTS is an experimental, rather than operational communications satellite featuring a number of advanced capabilities. These capabilities include:

- on-board processing
- dynamic bandwidth, power, and time slot allocation
- Ka Band frequency with 2.5 GHz of useable bandwidth
- hopping spot beams
- steerable antenna

Although ACTS itself is meant for experimental purposes, the advanced technologies involved show promise for future development and use in commercial communications satellites.

A majority of the ACTS literature is composed of technical descriptions of the satellite and its capabilities. There is limited literature on the implications of the satellite's capabilities or the nature of the communications experiments that will be performed with ACTS.

2.2 The Integrated System Digital Network (ISDN) and Satellites

2.2.1 Availability of information on satellites and ISDN

There doesn't appear to be a large body of articles on the subject of ISDN and satellites. From the results of our research one might estimate that articles on ISDN and terrestrial
communications are twenty times more numerous than ISDN and satellites. We also found more literature concerning policy than technical issues.

2.2.2 Compatibility Issues of ISDN with Satellites

Satellites are under current "I" series provisions are compatible with ISDN and will provide an important transmission link in a future worldwide ISDN network, as they already do in present international networks. The current joint CCIR/CCITT Committee on establishing full compatibility between satellite and ISDN is the most important part of the exercise at this time but these activities have not yet been reported in the literature.

2.2.3 ISDN Standards Issues for Satellites

There is perhaps twenty times more literature concerning ISDN as a fiber-based terrestrial transport standard than as a satellite standard. In order to assure that satellites are included in a future world wide network, transmission delay tolerances need to continue being oriented to the least common denominator, ie: the satellite transmission path of approximately 250 ms. The current 400ms recommendation of the CCITT (G.114) appears likely to stand for the present time (see Sec. 2.2.2 above).

2.2.4 The Place of Satellites in the Future Worldwide ISDN Network

Satellites are very strong in broadcast services and are considered to remain as the dominant video broadcast transmission medium for some time to come. A worldwide HDTV network and standard may prove unworkable without a satellite compatible BISDN standard. Satellites already play an important role in international network redundancy and can continue to provide such services within a global ISDN network. The role of satellites in backing up terrestrial networks is strongly represented in the literature we found. ISDN satellite services may remain the only cost effective means of connecting remote areas into the network.

2.2.5 Forces Working Against Satellite Compatible ISDN

Terrestrial networks often require more expensive equipment, more investment from the network user and therefore are frequently the focus of manufacturers' development thrusts. Satellites allow relatively inexpensive bypass of the terrestrial networks and as such represent a
threat to the profits of certain manufacturers and service providers; eg: fiber & switch manufacturing, public network and carrier services and in the U.S. Regional Bell Operating Companies (RBOCs).

2.3 Summary of SCAR Literature Search for topic of ISDN Standards:

2.3.1 Availability of Information on ISDN Standards

The complete and most recent CCITT recommendations are available in the University of Colorado Engineering library, and at Contel/GTE. Complete past and present recommendations are available at the NIST and ITS libraries at the Department of Commerce in Boulder. There is a small body of literature in journals analyzing the implications and developments concerning ISDN standards, but the official CCITT recommendations are the definitive source for this information.

2.3.2 The Importance of ISDN Standards

There is an industry-wide consensus that ISDN will not work unless world-wide standards are set immediately. The differences between the Synchronous Optical Network standard (SONET) in the United States and the Digital Synchronous Hierarchy (DSH) standard in Europe illustrate that full cooperation hasn't been achieved yet. The point of an ISDN is to encourage and facilitate integration which is impossible without a comprehensive body of agreed upon standards. The literature increasingly reflects a viewpoint that ISDN is too small a bandwidth and too slow a throughput to meet 21st century needs and that BISDN standards versus private networks using FDDI is the key element of discussing standards issues.

2.4 Summary of SCAR Literature Search for topic of BISDN:

2.4.1 Availability of information on BISDN

There are a number of articles available covering BISDN. Although there is a small percent of popularly oriented literature in the journals, they are generally confined to the journals specializing in current industry news. As would be expected, the most detailed technical articles were found in IEEE journals and colloquia or conference documentation.

2.4.2 Promise of BISDN
BISDN will is intended to be a worldwide standard for high capacity information exchange. The increasing use of video and graphics transmission and on-line interactive services are cited in some journals as providing the market pull needed to develop this technology. HDTV is seen as an important developing technology which will enhance the drive toward BISDN. Other developing technologies which will accompany BISDN are Asynchronous Transfer Mode (ATM) and fast packet switching.

2.4.3 Migration from ISDN to BISDN

As noted in 2.3.2, ISDN has an industry-wide reputation as being too little too late. The transmission speeds of ISDN are no longer competitive with other installed systems for data links such as Local Area Network (LAN) based FDDI. The services available via ISDN, especially at Basic Rate Interface (BRI; 144 Kilobits/sec) does not provide enough incentive to sell customers on the cost of this service.

BISDN, with SONET level speeds of 155.5 Megabit/sec and 622 Megabit/sec does suggest that ISDN could lead to a useful broadband service in the longer term. The BISDN channels are compatible with ISDN channels and will offer much greater bandwidth and flexibility to users. Services such as bandwidth on demand, videoconferencing and simultaneous voice and data will be supported.

2.4.4 Caveats about BISDN

Manufacturers are becoming impatient with the slow rate of standards making and are already producing non-standard ISDN-like services. If this trend continues with BISDN, the whole point of BISDN may also be lost.

2.5 Frame Relay and Switching

2.5.1 The Technical Concept Behind Frame Relay

Frame relay eliminates intermediate node processing for error correction and flow control which speeds up network throughput and efficiency. The inherently lower BER of fiber makes it possible to do these functions only at the network 'edges' without loss of transmission quality. A reduction in overhead results from fast packet switching. All of these aspects, however, tend to
create problems with satellite transmission delay. There is unfortunately virtually no literature addressing the problems of satellite compatibility with frame relay.

2.5.2 The Difference Between Frame Relay and Cell Relay.

Frame relay systems enclose variable-sized user packets (called frames) that add addressing and verification information. Frame length varies greatly in length up to a design limit. In cell relay incoming data is uniformly divided into fixed cell-sized increments. Cells may be full, empty, or partially filled.

2.5.3 Synchronous Versus Asynchronous Transfer Modes.

Time division multiplexing requires end to end synchronization for correct decoding and time slot allocation. Framing bits are used to identify the start and end of frames and bandwidth is allocated whether or not there is information to transmit. Asynchronous Transfer Mode (ATM) recognizes the usually bursty nature of traffic and constructs a packet of information with headers indicating routing and other network services. ATM is synchronous at the bit level within packets/cells but asynchronous at the channel level. No bandwidth is allocated in an ATM trunk to an idle channel, so that more channels are handled with the same trunk bandwidth. Again ATM creates problems for satellite transmission, because of delay, and this is little addressed in the literature.

2.5.4 Implementation of Fast Packet Switching Technology

Frame relay services have been implemented on a connection-oriented basis only while cell relay has also been specified for connectionless services. The shorter processing delays of fast packet switching makes it acceptable for voice transmission unlike traditional packet switching which is suited only for data. The combination of voice and data into one network takes advantage of the economy of network consolidation. Error correction techniques for satellite transmission is affected by fast packet switching technology.

2.5.5 Different Options Available in Switching Design

Among the many design factors and tradeoffs involved in fast packet switching are packet length and variability; priority classes and congestion management; error control; switch size;
standards; and, network management. These are all sensitive to satellite transmission characteristics.

2.5.6 International Standards Versus Proprietary Protocols

CCITT Study Group XVIII, which deals with ISDN issues, has recommended fixed length packets (cells) with five (5) byte headers and 48 byte 'payloads', and a header error control field of one of the five (5) header bytes. Many corporate networks use the proprietary protocols of a particular vendor which limits or complicates interconnectivity.

2.6 Computer Networks and Satellites:

2.6.1 The First Generation of Very Small Aperture Terminals (VSATs)

The key to computer networks using satellite connections are VSAT operations and on-board processing to allow MESH configuration networks. There have been three distinct stages of VSAT evolution. The first generation of receive-only terminals introduced around 1980 was concurrent with the higher powered C band satellites. They used spread spectrum modulation techniques, known as Code Division Multiple Access (CDMA) and refined contention access schemes and provided low-speed (less than 9.6 kbps) data services.

2.6.2 The Second Generation of Very Small Aperture Terminals

The second generation in 1983-1984 introduced the first two-way, interactive, and primarily low-speed systems at C and Ku bands. Data communications applications and network management techniques began to evolve. These networks are typically characterized as hardware defined multi-port, multi-protocol, multi-application systems. These typically use bi-Phase Shift Key (BPSK) operations rather than CDMA.

2.6.3 The Third Generation of Very Small Aperture Terminals

The third and current generation appeared in 1987 with the following key characteristics: switched networks, based on standardized architectures such as X.25; multi-port/multi-protocol systems; better bandwidth management which allows improved satellite access and increased capacity; compatibility with hybrid network configurations; a high degree of software definition; and, the beginning of application transparency.
2.6.4 Multiple Access Techniques for VSAT Networks

The efficiency of the access method used depends on the nature of the traffic being handled. The most flexible method is time division multiple access (TDMA). Each VSAT accesses the hub during its assigned time slot. More advanced sub-access methods are also used. Random Aloha is a pure contention method with the least timing demands and expense and is suited for very low traffic. Slotted Aloha has predefined time slot boundaries for VSAT access which reduces collisions by half and thus doubles traffic throughput. Reservation access is suited for long or widely varying message lengths or traffic rates providing demand-assigned capacity as needed on a priority basis. Dedicated stream access may be used for a steady flow of data or voice traffic or applications where response times justify less efficient capacity use. Adaptive techniques may be used to respond to changing traffic patterns: using slotted Aloha then going to reservation/stream access under heavy traffic.

2.6.5 The Plethora of VSAT Applications

These include two-way and NxN multi-switched video/audioconferencing; centrally hub-controlled data communication networks; mesh connectivity for direct access eliminating hubs; low burst rate TDMA with DS-1 formatted T1 carrier user interface; direct ISDN access to areas without basic telephone service; and, support of the HDLC protocol to exchange data with appropriate error and flow control.

2.6.6 VSATs, Data Networks and ACTS

The ability of ACTS to easily carry out on-board processing greatly enhances the ability to erect cost effective N X N or MESH networks. The literature little addresses this issue, however, ACTS tests should emphasize this new capability.

2.7 Satellite Orbits

2.7.1 Types of Orbits

There are three basic types of orbits used for satellite communications: low, medium, and geosynchronous earth orbit. Each of these orbits may have one or more of the following
characteristics: polar, inclined, or equatorial; circular or elliptical; and, geostationary, geosynchronous, or sun-synchronous.

2.7.2 Highly Inclined, Elliptical and Semi-synchronous (12-hour period) Orbits

These orbits such as the highly elliptical orbit of the Molniya satellite, are useful for coverage of latitudes exceeding +/- 75 degrees providing good visibility at high elevation angles for mobile satellite services. As the orbital period is increased, the apogee distance is also increased together with propagation delay and path attenuation. A variation on this concept is the "Loopus Orbit." In the apogee region of the HEO or Loopus Orbit, the satellite appears almost stationary for a substantial duration of its orbit. Nevertheless, the orbit requires considerable tracking capability.

2.7.3 Apogee at Constant time-of-day Equatorial (ACE) Orbit

This new type of orbit has been proposed recently by LORAL (Ford Aerospace)/NASA-Lewis Research Center avoiding the need for a coveted slot in the geostationary arc and which is capable of providing worldwide coverage at peak traffic periods with a single satellite. If the plane of the orbit lies in the plane of the earth's equator and the perigee and apogee are set so that the apsidal line rotates within the equatorial plane at 360 degrees per year, the orbit becomes sun synchronous. If the orbital period is sub-synchronous (i.e. a simple fraction of a day) the satellite reaches apogee at the same time every day. The optimum ACE orbit of 4.8 hours provides coverage every 72 degrees longitude for up to three hours at the same time of day. Free space loss is 7 Db lower and delay is less than half that of a geostationary orbit.

2.7.4 Inclined Orbit Operation in Geosynchronous Orbit

Comsat Labs have recently patented a modification of the geostationary orbit: the inclined orbit maneuver. This technique is used to extend the useful life of an aging satellite by halting its North-South station keeping and allowing it to decay slowly into an inclined orbit at a rate of about 0.85 degrees per year. Reverse inclination also may be applied at launch to double this effect. More fuel is used for North-South than is used for East-West station keeping and one month's supply of fuel for North-South station keeping is nearly equivalent to an additional year
of useful life for East-West station keeping. Inclined orbits require Az-El tracking because the satellite traces a figure-of-eight movement in the sky as seen by the earth observer.

2.7.5 Low Orbit Satellites with Inter-Satellite Links

The use of low circular orbit constellations has been studied for nearly thirty years as an alternate method of providing worldwide coverage compared to geostationary satellites which are not visible at the poles. Motorola recently proposed a 77-spacecraft constellation, using eleven satellites in seven polar orbits, at an altitude of 400-500 nautical miles, for a geographically independent global digital cellular communications network. The system would use L-band links to subscriber units, and Ka band satellite-to-gateway links and intersatellite cross-links with onboard processing. Very high levels of frequency reuse, up to 37 times, can be achieved by these satellites.

2.7.6 New Concepts in Satellite Positioning

The demands of 21st Century satellite operations are driven toward combining wideband, wide geographic coverage, high quality and N dimensional networks with near-zero second delay. The Motorola Iridium project may show new opportunity in all respects. Other concepts such as use of ground generated power to "fly" a satellite at 500 miles altitude, building upon the Canadian SHARP project is another new concept. The sparse literature available on such advanced concepts will be augmented over time.

2.8 Satellite Transmission Quality

Several types of signal impairments may affect satellite transmission quality. These may be caused by technical design limitations, atmospheric propagation effects, acts of nature, operational problems, satellite problems, earth station or feeder link difficulties among others. There are a variety of techniques that can be used to control, avoid, or minimize such impairments. There is a rich literature in this area and selections have been chosen as carefully as possible.

2.8.1 Technical Design Limitations
Design limitations can include cross-polarization interference in frequency reuse systems; co-channel interference due to over-deviation in FDM/FM systems; sidelobe radiation from parabolic antennas; associated or non-associated spurious emissions including swept radar; adjacent satellite interference; terrestrial microwave interference; and, digital intersymbol interference.

2.8.2 Propagation Impairments

These can include: atmospheric absorption; atmospheric rain attenuation; atmospheric and ionospheric scintillation; tropospheric multipath fading; land and sea multi-path fading; Faraday rotation; rain and ice depolarization; and, Doppler frequency shift and ranging.

2.8.3 Uncontrollable Acts of Nature

These include: sun-spot activity which occurs in eleven year cycles; sun transit outage when the satellite is between the sun and the earth; biannual eclipses at the equinoxes when the earth is between the sun and the satellite; severe Ku and Ka band weather degradation at low elevation angles due to the increased antenna noise temperature caused by heavy rainfall.

2.8.4 Operational Problems and Human Errors

Operational problems of all types may contribute to transmission impairments. These include: inadvertent channel carrier emissions (usually blocked off-hook) especially in SCPC systems; unauthorized carriers in FDMA systems; uplink polarization errors; antenna pointing inaccuracies; and, inadequate updata, repair or maintenance of earth station equipment.

2.8.5 Satellite Related Malfunctions

These may include: frequency and power variations in beacon signals which cause tracking problems; inadequate isolation of spatial beams and opposite polarizations; footprint contour uncertainty due to spacecraft instability; variations in transponder gain, sensitivity and output power; solar/DC power bus load variations; inoperative matrix switching for beam to receivers and TWTAs/SSPAs; and, catastrophic satellite failures which may require point-over restoration to in-orbit spare capacity if available.

2.8.6 The Use of ISDN on Satellites
This presents a unique challenge to meet media transparent specifications. Terrestrial based radio and line systems usually have shorter transmission delays and can also have less performance with regard to bit error rates, especially fiber optic systems. Non-synchronous satellites, especially Highly Elliptical Orbit Satellites, used for mobile applications, present the added challenge of Doppler frequency shift compensation. In the future, both inclined orbit and geosynchronous orbit satellites may require increased use of storage and of buffers in digital systems such as TDMA/SSTDMA and IDR/IBS to compensate for time differences due to range variations as other synchronization and BER problems.

2.9 Network Configuration

This is a rich area where seventy-four articles were selected to achieve reasonable balance and comprehensiveness. In fact, several hundred articles might have been selected because of the great number of contributions that have been made in the last five years in this area. This is both because it is such an important area, and even more so because there are at least a dozen sub-elements of this overall topic. Specific areas covered include:

(a) **Hybrid or Integrated Space/Terrestrial Networks:**

This is a key area frequently addressed in the literature with some eight articles specifically addressing this topic and many others touching upon it. Since ACTS hybrid space/terrestrial tests and demonstrations are intended, this should be of particular value.

(b) **Satellites vs. Fiber Optics:**

The relative merits and performance of satellites and fiber optics in different applications and network configurations is also addressed in several articles, but without definitive conclusions.

(c) **Network Architectures and Route Optimization:**

This is among the most carefully and precisely addressed topics with many articles providing precise analysis and recommended design or software concepts.

(d) **Survivability and Reliability:**
The issues of survivability, system availability and reliability is closely tied to network configuration and the characteristics of the traffic being carried through the network (e.g. burstiness, flow control, etc.). A number of good articles on these topics are included in the bibliography.

(e) **Defense and Tactical Communications:**

The issue of special defense and tactical communications are closely related to survivability and reliability and terrestrial vs. radio and satellite communications. Several key articles on this topic have been included.

(f) **Network Management and Network Reconfiguration:**

Key elements of network management and network configuration are addressed. These are largely software rather than hardware dependent.

(g) **Technology and Future Satellite Network Configurations:**

This is the area where the largest number of articles have been selected, because of their great relevance to the SCAR project and ACTS. The great bulk of articles address on-board switching, on-board processing and even CCIS/No.7 signalling issues.

(h) **Network Configuration and Services:**

A number of services and their relationship to network configuration is discussed. The implications for video services, ISDN, mobile satellite services, telephone, data and multi-media services are addressed in the various selected articles.

(i) **Network Configuration and VSATs:**

The implications of conventional vs. VSAT earth stations and star vs. MESH networks are among the key elements addressed in terms of satellite ground equipment.

(j) **Specific Network Architecture and Operations:**
The operation of specific networks such as BITNET and INTELNET are addressed in several articles indicating their operational approach and network strengths and weaknesses.

(k) National or Regional Networks:
A number of articles present in some detail national or regional systems. Selected articles cover Australia, Germany (Kopernicus), Europe, Japan and the U.S.

(i) Economic and Financial Evaluation of Network Configuration:
Although there are a limited number of good articles that address the economic or financial aspects of network configuration, there are still some valuable articles that address hybrid networks, satellite vs. fiber optic considerations, etc. These are included in the bibliography where identified, but far more work is needed in this area.

3.0 CONCLUSIONS

The Advanced Satellite Research Project; SCAR Research Database is seen as a resource that should grow and become more useful over time. New entries can be made and new and more sophisticated methods to access the database can be designed. As new areas of inquiry emerge, new fields can be added to the database as desired. The idea is make the database extremely portable so that it can be quickly installed as a d-BASE system on virtually any computer desired. The ITP at the CU/Boulder will undertake to update and expand the system as needed. Any inquiries regarding the database should be directed to:

Dr. Joseph Pelton
Director, Interdisciplinary Telecommunications Program
Campus Box 530
Engineering Center OT 2-41
University of Colorado
Boulder, CO 80309-0530
(303) 492-4769
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SCAR Data Base Handbook

The SCAR Technical Literature Data Base is intended to be straightforward and easy to operate. There should be a 3.5" disk included with this documentation which contains the following files:

- **SCAR.DBF** .............. The dBASE III Plus file containing all the article source listings collected from the literature search.
- **NAMES.NDX** ............ dBASE index file for support of the SOURCE data base program.
- **SOURCE.EXE** ............ This is a compiled dBASE III Plus program which will run on its own without dBASE III Plus on any MS-DOS compatible computer.
- **SOUT.OVL** .............. Support file for SOURCE.EXE.
- **SOUT.DBC** .............. Support file for SOURCE.EXE.

The above files must remain in the same directory together for the program to function. The SCAR.DBF file may be used with other dBASE III Plus programs to manipulate the data in different ways.

The SOURCE program is a very simple menu-driven program designed to create ASCII files of the article sources. The files can then be loaded into any text editor, word processor or desktop publisher to organize and print it.

In this documentation are all the listings in the data base grouped by keyword. Each of the groups is listed alphabetically by author. Note that articles may be listed in several keyword areas if the subject matter falls into the different categories.

Loading the program to a hard disk

The program will run faster if it is installed on a hard disk, and there should be no concern about disk space there either. To copy the files to the hard disk, put the disk in the B: drive and type the following commands:

```
C:
CD\MD SCAR
CD \SCAR
COPY B:\.\*.*
```

Now all the files on the floppy disk should be on the hard disk. Whether a hard disk is being used or not, the following instructions will apply to using the program.

How to operate the program:

Move to the directory containing the SOURCE.EXE program and type SOURCE. The entry screen for the program should display on the screen. From here one may either Print the sources or Quit the program. Type a P or a Q for the option desired.
If the Print option is selected the next screen will display the print options screen. All eleven categories for the articles are shown with a corresponding number next to them. In order to print a group of sources, enter the number which corresponds to that category. For example, enter 06 to print all the articles which are in the ACTS keyword category. Both numbers must be entered for the selection to be accepted.

Next an ASCII file will be created which contains all the sources. If it is desired, the file may be viewed on the screen. This is the same as using the TYPE MS-DOS command on any text file at the DOS prompt. To pause the display as the entries go by, press the CTRL-S key combination and any other key to resume the scrolling display.

In order to save the file, enter a Y when prompted. After this screen, the cycle starts over again from the beginning.

Note: Once the program has been run, there will be a SCRAP.TXT file created in the current directory. This will be a duplicate of the last keyword group which was selected for printing. It may be deleted with no harm to the system or program.

The rest of this documentation is a listing of the categories in the data base. Each of these groups can be recreated from the program as an ASCII file and then incorporated into any document or report.

Description of the data

The Title, Author, Source, Vol. and No. data entries are self explanatory.

The Date refers to the date of publication. In some cases the date on our resource was only precise to the year or month. In these cases the date was entered as the 1st of the month or year. (it is a requirement of the dBASE program for the date field format that the entire field be filled)

The Index# entry on each source listing corresponds to the place that article is stored in the ITP file cabinet. Researchers may contact the ITP and request files by this number.

Limitations of the program

This program was intended to be a "quick and dirty" data base program which will provide access to the sources contained in the data base. Ideally this program will help researchers find articles of interest and make locating them easier.

The data in the .DBF file may be used in other ways too, but the added time and cost of developing a more sophisticated program was not possible at this time. If further development is desired at some future date, the users may contact the ITP at their convenience.
ISDN and Satellites

Title: IEEE COLLOQUIUM ON THE ROLE OF SATELLITES IN TOMORROWS FIBER-OPTIC WORLD
Author: 
Source: IEEE CONFERENCE MAY 88
Date: 01/01/88 Vol.: No.: Index#: 00049-00

Title: THE INTEGRATED SERVICES DIGITAL NETWORK AND THE FIXED SATELLITE SERVICE
Author: 
Source: TELECOMMUNICATION JOURNAL
Date: 12/01/87 Vol.: 54 No.: 12 Index#: 00050-00

Title: SATELLITE BASED ISDN AND THE CRITICAL STANDARDS ISSUES
Author: 
Source: 
Date: / / Vol.: No.: Index#: 00051-00

Title: ISDN NOW/PROCEEDINGS
Author: 
Source: ISDN NOW CONFERENCE
Date: / / Vol.: No.: Index#: 00053-00

Title: THE EIGHTH NORTH AMERICAN ISDN USERS FORUM
Author: 
Source: 
Date: 05/04/90 Vol.: 8 No.: Index#: 00054-00

Title: NORTH AMERICAN ISDN USERS FORUM/WORKING AGREEMENTS FOR ISDN
Author: 
Source: PROCEEDINGS OF THE NIU-FORUM
Date: 06/11/90 Vol.: 1 No.: Index#: 00055-00

Title: SATELLITE NETWORKS IN THE ISDN ERA
Author: AMADESI, P. ET.AL.
Source: INTERNATIONAL JOURNAL OF SATELLITE COMMUNICATIONS
Date: 10/01/86 Vol.: 4 No.: Index#: 00001-00

Title: NASA AND THE CHALLENGE OF ISDN
Author: BEYERLY, R. ET.AL.
Source: REPORT NO. NAS 1.26:182749;NASA-CR-182749
Date: 05/25/88 Vol.: No.: Index#: 00002-00
Title: ISDN: CURRENT DEVELOPMENTS
Author: BODIN, P. ET AL.
Source: DOCUMENT SUPPLY SERVICE OF ATT LIBRARY NETWORK
Date: 01/01/89 Vol.: No.: Index#: 00002-20

Title: THE CONTROVERSIES SURROUNDING ISDN
Author: BOLGER, THOMAS E.
Source:
Date: / / Vol.: No.: Index#: 00104-10

Title: IMPLEMENTATION OF ISDN SERVICES ON DIGITAL CELLULAR SERVICES
Author: BRUNSGAARD, NIELS O.
Source: THESIS (MS) ITP-UNIVERSITY OF COLORADO/BOULDER
Date: 01/01/88 Vol.: No.: Index#: 00003-00

Title: CLOSE UP: ISDN IN THE USA
Author: BUSHAUS, DAVID
Source: COMMUNICATIONS WEEK
Date: 05/28/90 Vol.: No.: Index#: 00104-20

Title: NASA AND THE CHALLENGE OF ISDN; THE ROLE OF SATELLITES IN AN ISDN WORLD
Author: BYERLY, R.; BARNES, F.; CODDING, G.; HOFGARD, J.
Source: CENTER FOR SPACE AND GEOSCIENCES POLICY - CU/BOULDER
Date: 05/25/88 Vol.: No.: Index#: 00052-00

Title: PROPOSED SYSTEMS CONFIGURATIONS FOR A SATELLITE BASED ISDN
Author: CAPECE, M. ET AL.
Source: INTERNATIONAL CONFERENCE ON SATELLITE SYSTEMS FOR MOBILE COMMUNICATIONS AND NAVIGATION
Date: 01/01/88 Vol.: No.: Index#: 00004-00

Title: SCENARIOS OF INTEGRATION OF SATELLITE SYSTEMS IN THE ISDN
Author: CASAS, J. M.
Source: IEEE COLLOQUIUM ON THE ROLE OF SATELLITES IN TOMORROW'S FIBER-OPTIC WORLD MAY 88
Date: 01/01/88 Vol.: No.: Index#: 00006-00

Title: THE ROLE OF SATELLITES IN THE ISDN ERA
Author: CASAS, J. M. ET AL.
Source: INTERNATIONAL CONFERENCE OF NETWORKING TECHNOLOGY AND ARCHITECTURE JUNE 89
Date: 01/01/89 Vol.: No.: Index#:
Title: NETWORK ARCHITECTURES FOR SATELLITE ISDN  
Author: CHITRE D. M. ET. AL.  
Source: AIAA INTERNATIONAL COMMUNICATIONS SATELLITE SYSTEMS  
CONFERENCE MARCH 1990  
Date: 01/01/90 Vol.: No.: Index#: 00813-00

Title: ISDN AND SATELLITE COMMUNICATIONS  
Author: CHITRE, D. M.  
Source: COMSAT LABS, CONFERENCE SLIDES  
Date: 01/01/90 Vol.: No.: Index#: 00007-00

Title: ISDN PROTOCOLS AND SATELLITES  
Author: CHITRE, D. M. ET. AL.  
Source: ICC 86 CONFERENCE JUNE 86  
Date: 01/01/86 Vol.: No.: Index#: 00008-00

Title: EUROPEAN COMMUNICATIONS SATELLITE: INTEGRATION IN THE  
EUROPEAN NETWORK AND INTERFACING WITH THE ITALIAN PUBLIC  
TELEPHONE NETWORK  
Author: DE ROSA, D. ET. AL.  
Source: NOTE RECENSIONI E NOTIZIE  
Date: 01/01/88 Vol.: 37 No.: 1-2 Index#: 00815-00

Title: THE ROLE OF A DOMESTIC SS-TDMA SATELLITE SYSTEM IN THE NETWORK  
EVOLUTION STRATEGY TOWARDS THE ISDN  
Author: DEPADOVA, S.  
Source: GLOBECOM 85 CONFERENCE  
Date: 12/01/85 Vol.: No.: Index#: 00009-00

Title: ISDN SYMPOSIA: A HISTORICAL OVERVIEW  
Author: DEWITT, RUSSELL G.  
Source: IEEE COMMUNICATIONS MAGAZINE  
Date: 04/01/90 Vol.: 28 No.: 4 Index#: 00108-00

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Author: DICKS, J. L. ET. AL.  
Source: IEEE COLLOQUIUM MAY 89  
Date: 01/01/89 Vol.: No.: Index#: 00010-00

Title: DOCUMENT DELIVERY VIA/ISDN OR SATELLITE NETWORKS  
Author: DUNNING, ANTHONY J.  
Source: AGARD CONFERENCE  
Date: 03/01/90 Vol.: No.: Index#: 00011-00
Title: COMBINING SATELLITE AND FIBEROPTIC TECHNOLOGIES IMPROVES INTERNATIONAL SERVICES AND COSTS
Author: EDWARDS, M.
Source: COMMUNICATIONS NEWS
Date: 06/01/87 Vol.: 24 No.: 6 Index#: 00012-00

Title: FIBER OPTICS AND SATELLITES IN THE INTEGRATED SERVICES DIGITAL NETWORK
Author: FERRIS, PAUL E.
Source: THESIS (MS) ITP UNIVERSITY OF COLORADO/BOULDER
Date: 01/01/88 Vol.: No.: Index#: 00013-00

Title: BUSINESS COMMUNICATIONS AND THE ISDN
Author: FOQUES, M. ET.AL.
Source: DOCUMENT SUPPLY SERVICE OF ATT LIBRARY NETWORK
Date: / / Vol.: No.: Index#: 00013-50

Title: CONSIDERATIONS ON SIGNALLING FOR AN OBP SATELLITE SYSTEM OFFERING ISDN SERVICES
Author: FOURNON, F. M. ET.AL.
Source: IEEE COLLOQUIUM ON SATELLITES AND ISDN MAY 89
Date: 01/01/89 Vol.: No.: Index#: 00014-00

Title: WHITE PAPER TO MANAGEMENT: ISDN TAKES SHAPE
Author: GANTZ, JOHN
Source: NETWORK MANGEMENT
Date: 01/01/89 Vol.: 7 No.: 1 Index#: 00117-25

Title: SATELLITE-BASED ISDN
Author: GODWIN, J. P.
Source: ISDN 87 CONFERENCE-BROADBAND NETWORKS FOR THE FUTURE JUNE 87
Date: 01/01/87 Vol.: No.: Index#: 00015-00

Title: USAT TECHNOLOGY FOR TODAY AND FOR THE FUTURE PART 7
Author: GOLDING, LEN
Source: COMMUNICATIONS NEWS
Date: 04/01/88 Vol.: 25 No.: 4 Index#: 00016-00

Title: SMALL APERTURE EARTH STATION NETWORKS AND THEIR RELATIONSHIP TO ISDN
Author: GOLDING, LEONARD S.
Source: GLOBECOM 87 CONFERENCE
Date: 01/01/87 Vol.: No.: Index#: 00017-00
Title: USERS SHOULD BE DOING THEIR ADVANCE PLANNING TO TAKE ADVANTAGE OF THE ISDN TECHNOLOGIES
Author: HAHN, JAMES
Source: COMMUNICATIONS NEWS
Date: 01/01/87 Vol.: 24 No.: 1 Index#: 00118-50

Title: THE GLOBAL SATELLITE NETWORK AND ISDN
Author: HAMPTON, J.
Source: NETWORK PLANNING IN THE 1990'S - SYMPOSIUM SEPT. 89
Date: 01/01/89 Vol.: No.: Index#: 00018-00

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Author: HENDRICKX, M. P.
Source: ICAP 89 CONFERENCE
Date: 01/01/89 Vol.: No.: Index#: 00019-00

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Author: HOVORKA, DIRK S.
Source: ITP - UNIVERSITY OF COLORADO NASA (NAGW-1105)
Date: 01/01/90 Vol.: No.: Index#: 00020-00

Title: SYNCHRONIZATION OF REMOTE DIGITAL CLUSTERS VIA SATELLITE FOR ISDN
Author: JOHANNSEN, KLAUS G.
Source: INTERNATIONAL JOURNAL OF SATELLITE COMMUNICATIONS
Date: 07/01/87 Vol.: 5 No.: Index#: 00021-00

Title: ADVANCED SATELLITE SYSTEM ARCHITECTURE FOR VSATS WITH ISDN COMPATABILITY
Author: JORASCH, RONALD E. ET.AL.
Source: AIAA INTERNATIONAL COMMUNICATION SATELLITE SYSTEMS CONFERENCE MARCH 88
Date: 01/01/88 Vol.: No.: Index#: 00022-00

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Author: KAHL, PETER
Source: IEEE COMMUNICATIONS MAGAZINE
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Title: IT OFFERS MORE CAPACITY THAN ITS PRIMARY NEED, SO ISDN'S D CHANNEL COULD ADD OTHER USERS
Author: KEOGH, CAROLE
Title: INCLUDING SATELLITES IN ISDN
Author: KERVER, TOM
Source: SATELLITE COMMUNICATIONS
Date: 11/01/88 Vol.: 12 No.: 11 Index#: 00023-00

Title: AN OVERVIEW OF SATELLITE TRANSMISSION ISSUES AND THE ISDN
Author: KNIGHT, IVOR N. ET.AL.
Source: ICC 86 CONFERENCE JUNE 86
Date: 01/01/86 Vol.: No.: Index#: 00024-00

Title: APPLICABILITY OF ATM TECHNIQUES TO SATELLITE COMMUNICATIONS SYSTEMS
Author: KUHLEN, H. ET.AL.
Source: ICDSC-8 CONFERENCE APRIL 89
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Author: LEFRANCOIS, G.
Source: ELECTRICAL COMMUNICATION
Date: 01/01/88 Vol.: 62 No.: 1 Index#: 00026-00

Title: SATELLITES AND THE ISDN
Author: LEWIS, J.
Source: INTERNATIONAL JOURNAL OF SATELLITE COMMUNICATION
Date: 10/01/83 Vol.: 1 No.: Index#: 00027-00

Title: KU-BAND PAYLOAD TRADE-OFFS FOR ISDN SERVICES IN EUROPE
Author: LOPRIORE, M. ET.AL.
Source: AIAA INTERNATIONAL COMMUNICATION SATELLITE SYSTEMS CONFERENCE AND EXHIBIT
Date: 01/01/90 Vol.: No.: Index#: 00028-00

Title: DATA APPLICATIONS IN AN ISDN ENVIRONMENT
Author: MAIDEN, RICK
Source: THESIS (MS) ITP-UNIVERSITY OF COLORADO/BOULDER
Date: 01/01/89 Vol.: No.: Index#: 00129-00

Title: MULTI-SERVICE DEMAND ASSIGNMENT SYSTEM AIMING AT ISDN
Author: MATSUO, K. ET.AL.
Source: ICDSC-7 CONFERENCE MAY 86
Date: 01/01/86 Vol.: No.: Index#: 00029-00
Title: SATELLITE ISDN FOR DEVELOPING NATIONS  
Author: MCDOUGAL, P. J.  
Source: ISDN 87 CONFERENCE - BROADBAND NETWORKS FOR THE FUTURE JUNE 87  
Date: 01/01/87 Vol.: No.: Index#: 00030-00

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Author: MONTAGUE, M. R.  
Source: IEEE COLLOQUIUM ON SATELLITES AND ISDN MAY 89  
Date: 01/01/89 Vol.: No.: Index#: 00031-00

Title: ISDN AS AN ENabler FOR ENTERPRISE INTEGRATION  
Author: MORGAN, DAVID ET.AL.  
Source: IEEE COMMUNICATIONS MAGAZINE  
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Title: SATELLITE DIGITAL COMMUNICATION SERVICE (SDCS)  
Author: MORIHiro, Y. ET.AL.  
Source: REVIEW OF THE ELECTRICAL COMMUNICATION LABORATORIES  
Date: 03/01/87 Vol.: 35 No.: 2 Index#: 00032-00

Title: INTERNATIONAL EXTENSIONS OF ISDN AND TERMINAL IMPLICATIONS  
Author: PEEL, ERIC  
Source: IEEE COMPUTER COMMUNICATIONS  
Date: 08/01/88 Vol.: 11 No.: 4 Index#: 00032-80

Title: ISDN THE CASE FOR SATELLITES  
Author: PELTON, J. AND MCDOUGAL, P. J.  
Source: SPACE COMMUNICATION AND BROADCASTING  
Date: 05/01/87 Vol.: 5 No.: Index#: 00036-01

Title: ISDN SERVICES VIA SATELLITE AND TERRESTRIAL MEANS  
Author: PELTON, J. N.  
Source: TELECOMMUNICATIONS JOURNAL  
Date: 06/01/89 Vol.: 56 No.: 6 Index#: 00034-00

Title: ISDN: SATELLITES VERSUS CABLE  
Author: PELTON, J. N.  
Source: TELECOMMUNICATIONS  
Date: 06/01/88 Vol.: 22 No.: 6 Index#: 00035-00

Title: SATELLITES AND FIBER OPTICS IN AN ISDN WORLD  
Author: PELTON, JOSEPH N.
Title: SATELLITES AND FIBER OPTICS IN OUR ISDN WORLD
Author: PELTON, JOSEPH N.
Source: SPACE COMMUNICATIONS AND BROADCASTING
Date: 06/01/89 Vol.: 6 No.: 5 Index#: 00036-00

Title: ISDN MUST INCORPORATE SATELLITE TECHNOLOGY TO CLOSE POSSIBLE GAPS IN THE GLOBAL NET
Author: PELTON, JOSEPH N. ET.AL
Source: COMMUNICATIONS NEWS
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Title: A TST/SS-TDMA TELECOMMUNICATIONS SYSTEM - FROM CABLE TO SWITCHBOARD IN THE SKY
Author: PENNONI, G.
Source: ESA
Date: 01/01/84 Vol.: 8 No.: 2 Index#: 00307-03

Title: ASSESSMENT OF THE STATUS AND TRENDS IN SATELLITE COMMUNICATIONS 1986-88
Author: POLEY, W. A. ET.AL.
Source: NASA REPORT NAS 1.15:88867;E-3270;NASA-TM-88867
Date: 11/01/86 Vol.: No.: Index#: 00036-02

Title: ISDN AND SATELLITES
Author: POTTIS, JIM
Source: SATELLITE COMMUNICATIONS
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Title: ERROR PERFORMANCE OR SATELLITE ISDN CONNECTIONS
Author: PUGA, MARCOS W. ET.AL.
Source: GLOBECOM 87 CONFERENCE
Date: 01/01/87 Vol.: No.: Index#: 00038-00

Title: SATELLITE COMMUNICATION PROTOCOLS - A PERFORMANCE
Author: QUERNHEIM, U.
Source: AACHENER LUFORMATIK - BERICHTE, NO. 88-14
Date: 01/01/88 Vol.: No.: Index#: 00038-01

Title: THE VALUE OF ISDN FOR BANKING APPLICATIONS
Author: RICHARDS, DAVE ET.AL.
Source: IEEE COMMUNICATIONS MAGAZINE
Date: 04/01/90 Vol.: 28 No.: 4 Index#: 00140-00
Title: STILL TESTING ISDN
Author: STEPHENS, GUY M.
Source: SATELLITE COMMUNICATIONS
Date: 03/01/90 Vol.: 14 No.: 3 Index#: 00045-00

Title: ISDN: FIELD EXPERIENCE IN THE REAL WORLD
Author: SZEKERES, TIBOR G.
Source: BUSINESS COMMUNICATIONS REVIEW
Date: 06/01/90 Vol.: 20 No.: 6 Index#: 00149-50

Title: TRANSMISSION LINK FACILITIES FOR ISDN
Author: TANAKA, S. ET.AL.
Source: NEC RESEARCH AND DEVELOPMENT
Date: 01/01/87 Vol.: No.: Index#: 00046-00

Title: TRANSMISSION AND PERFORMANCE QUALITY STANDARDS FOR SATELLITE LINKS IN THE ISDN
Author: WEINREICH, D. E.
Source: ICC 86 CONFERENCE JUNE 86
Date: 01/01/86 Vol.: No.: Index#: 00047-00

Title: THE WONDERS OF ISDN BEGIN TO TURN INTO SOME REAL-WORLD BENEFITS AS USERS COME ON LINE
Author: WILEY, DON
Source: COMMUNICATIONS NEWS
Date: 01/01/87 Vol.: 24 No.: 1 Index#: 00047-00

Title: VALUES FOR ISDN ATTRIBUTES
Author: WU, WILLIAM W. ET.AL.
Source: GLOBECOM 87 CONFERENCE NOV. 87
Date: 01/01/87 Vol.: No.: Index#: 00048-00
ISDN Standards

Title: MISSING LINK: 2BIQ, A 4-LEVEL LINE CODE, WILL FINALLY DIGITIZE THE LOCAL LOOP
Author:
Source: COMMUNICATIONS NEWS
Date: 01/01/90 Vol.: 27 No.: 1 Index#: 00154-00

Title: PREAMBLE AND GENERAL STRUCTURE OF THE I-SERIES RECOMMENDATIONS FOR ISDN
Author:
Source: CCITT BLUE BOOK RECOMMENDATION I.110
Date: 11/01/88 Vol.: 3 No.: 3.7 Index#: 00155-00

Title: VOCABULARY OF TERMS FOR ISDN
Author:
Source: CCITT BLUE BOOK RECOMMENDATIONS I.112
Date: 11/01/88 Vol.: 3 No.: 3.7 Index#: 00156-00

Title: ISDN
Author:
Source: CCITT BLUE BOOK RECOMMENDATIONS I.120
Date: 11/01/88 Vol.: 3 No.: 3.7 Index#: 00158-00

Title: ISDN - NETWORK FUNCTIONAL PRINCIPLES
Author:
Source: CCITT BLUE BOOK RECOMMENDATIONS I.310
Date: 11/01/88 Vol.: 3 No.: 3.8 Index#: 00159-00

Title: ISDN PROTOCOL REFERENCE MODEL
Author:
Source: CCITT BLUE BOOK RECOMMENDATIONS I.320
Date: 11/01/88 Vol.: 3 No.: 3.8 Index#: 00160-00

Title: DEFINITIONS AND GENERAL PRINCIPLES FOR ISDN INTERNETWORKING
Author:
Source: CCITT BLUE BOOK RECOMMENDATIONS I.510
Date: 11/01/80 Vol.: 3 No.: 3.9 Index#: 00162-00

Title: GENERAL STRUCTURE OF THE ISDN INTERNETWORKING RECOMMENDATIONS
Author:
Source: CCITT BLUE BOOK RECOMMENDATIONS I.500
Title: ISDN RATE ADAPTATION  
Author: BEAN, JAMI  
Source: COMMUNICATIONS NEWS  
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Title: ISDN REAL ECONOMIES, REAL APPLICATIONS  
Author: BELITSOS, BYRON  
Source: COMPUTER DECISIONS  
Date: 06/01/88 Vol.: 20 No.: 6 Index#: 00102-00

Title: ISSUES IN ISDN IMPLEMENTATION  
Author: BHATT, ANIL  
Source: THESIS (MS) ITP - UNIVERSITY OF COLORADO/BOULDER  
Date: 01/01/90 Vol.: No.: Index#: 00103-00

Title: THE IMPACT OF TECHNOLOGY TRENDS ON THE TELECOMMUNICATION NETWORK  
Author: BIRING, D. S.  
Source: NORTHCOM 87 CONFERENCE SEPT. 1987  
Date: 01/01/87 Vol.: No.: Index#: 00806-00

Title: HOW TO PREPARE FOR ISDN  
Author: BODIN, MADELINE  
Source: TELECONNECT  
Date: 11/01/89 Vol.: 7 No.: 11 Index#: 00104-00

Title: ISDN STATUS AND OPPORTUNITIES FOR SATELLITE SYSTEMS  
Author: CASAS, J. M. ET. AL.  
Source: NASA REPORT NO. ESA-STR-220  
Date: 01/01/87 Vol.: No.: Index#: 00105-00

Title: IMPLEMENTATION OF SS7: STALTEL'S EXPERIENCE  
Author: CAZZANIGA, MAURIZIO ET. AL.  
Source: IEEE COMMUNICATIONS MAGAZINE  
Date: 07/01/90 Vol.: 28 No.: 7 Index#: 00106-00

Title: UPDATE ON ISDN  
Author: CERVENKA, DANA  
Source: COMMUNICATIONS  
Date: 07/01/90 Vol.: 27 No.: 7 Index#: 00107-00

Title: ISDN AND SATELLITE COMMUNICATIONS  
Author: CHITRE, D. M.  
Source: COMSAT LABS, CONFERENCE SLIDES
Title: THE BIG QUESTION IS, WHAT KIND OF AN IMPACT WILL ISDN HAVE ON YOUR CORPORATE NETWORK?
Author: DEWITT, RUSSELL
Source: COMMUNICATIONS NEWS
Date: 01/01/87 Vol.: 24 No.: 1 Index#: 00108-01

Title: ISDN: THE LATEST WEAPON IN THE BATTLE BETWEEN CENTREX AND PBX
Author: DUS, LARRY L.
Source: UNIVERSITY OF COLORADO - ITP THESIS (MS)
Date: 01/01/90 Vol.: No.: Index#: 00109-00

Title: T-1 MUX VENDORS PREPARE WARES FOR ADVENT OF ISDN
Author: ECKERSON, WAYNE
Source: NETWORK WORLD
Date: 02/13/89 Vol.: 6 No.: 6 Index#: 00110-00

Title: TRIAL OF OPEN SYSTEMS INTERCONNECTION PROTOCOLS OVER ISDN
Author: EDGAR, C. A.
Source: REPORT # NISTIR - 89/4160
Date: 08/01/89 Vol.: No.: Index#: 00111-00

Title: EUROPE PUSHES ISDN TO BACK SINGLE MARKET
Author: EDWARDS, MORRIS
Source: COMMUNICATIONS NEWS
Date: 06/01/89 Vol.: 26 No.: 6 Index#: 00112-00

Title: COMPETITORS MATCHING AT&T IN THE MIGRATION TO ISDN
Author: EDWARDS, MORRIS
Source: COMMUNICATIONS NEWS
Date: 05/01/86 Vol.: 73 No.: 5 Index#: 00113-00

Title: WITHOUT DEVELOPING NECESSARY TEST PROCEDURES, THE USE OF ISDN CAN NEVER BECOME REALITY
Author: EVENCHIK, LEONARD ET.AL.
Source: COMMUNICATIONS NEWS
Date: 05/01/87 Vol.: 24 No.: 5 Index#: 00114-00

Title: DATA NETWORKS IN THE 90'S
Author: FORSON, HENRY
Source: COMMUNICATION NEWS
Date: 12/01/88 Vol.: 25 No.: 12 Index#: 00115-00
Title: THE DEVELOPMENT OF PROPER STANDARDS IS THE KEY TO TURNING THE DREAM OF ISDN INTO THE REALITY
Author: FUNG, KIT ET AL.
Source: COMMUNICATIONS NEWS
Date: 01/01/87 Vol.: 24 No.: 1 Index#: 00116-00

Title: PROPOSAL AND IMPLEMENTATION OF OSI ORIENTED APPLICATION INTERFACE FOR ISDN
Author: FURUYA, N. ET AL.
Source: KDD TECHNICAL JOURNAL
Date: 07/01/89 Vol.: No.: 141 Index#: 00117-00

Title: RESOURCE MANAGEMENT OF DIMENSIONING IN ATM NETWORKS
Author: GALLASSI, G.; KIGOLIO, G.; VERRI, L.
Source: IEEE NETWORK
Date: 05/01/90 Vol.: 4 No.: 3 Index#: 00117-20

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Author: GILLIS, LESLEY
Source: COMMUNICATIONS NEWS
Date: 01/01/87 Vol.: 24 No.: 1 Index#: 00117-40

Title: A CASE FOR PRIVATE ISDN
Author: GUNN, HOWARD
Source: TELECOMMUNICATIONS
Date: 05/01/90 Vol.: 24 No.: 5 Index#: 00118-00

Title: COLOUR FACSIMILE APPARATUS IN ISDN
Author: HAMPEL, H.
Source: TELEMATICA 88 CONFERENCE
Date: 01/01/88 Vol.: No.: Index#: 00119-00

Title: ISDN: CATALYST TOWARD AN INFORMATION SOCIETY
Author: HARPEL, TODD C.
Source: THESIS (MS) ITP - UNIVERSITY OF COLORADO/BOULDER
Date: 01/01/88 Vol.: No.: Index#: 00120-00

Title: ISDN APPLICATIONS: THEIR IDENTIFICATION AND DEVELOPMENT
Author: IFFLAND, FREDERICK C. ET AL.
Source: IEEE NETWORK
Date: 09/01/89 Vol.: 3 No.: 5 Index#: 00120-50
Title: COMMON CHANNEL SIGNALING FOR INTERNATIONAL SERVICE APPLICATIONS
Author: LAWSEN, JOHN J. ET.AL.
Source: IEEE COMMUNICATIONS MAGAZINE
Date: 07/01/90 Vol.: 28 No.: 7 Index#: 00125-10

Title: STAND AND DELIVER: ISDN'S PROMISE TO THE PBX MARKET OF TOMORROW
Author: LEIBOWITZ, ED
Source: TELECONNECT
Date: 07/01/89 Vol.: 7 No.: 7 Index#: 00126-00

Title: WHAT EVER HAPPENED TO ISDN
Author: LEWIS, P. J.
Source: IEE REVIEW
Date: 10/01/90 Vol.: No.: Index#: 00126-10

Title: VISUAL TELEPHONY AS AN ISDN APPLICATION
Author: LIOU, MING L.
Source: IEEE COMMUNICATIONS MAGAZINE
Date: 02/01/90 Vol.: 28 No.: 2 Index#: 00127-00

Title: ISDN AND COMPUTER III
Author: LIPMAN, ANDREW D. ET.AL.
Source: SATELLITE COMMUNICATIONS
Date: 06/01/86 Vol.: 10 No.: 6 Index#: 00128-00

Title: INTERNETWORKING LANS VIA THE ISDN BEARER SERVICES
Author: MARSDEN, P. N.
Source: IEEE COLLOQUIUM ON INTERCONNECTION OF LANS MAY 90
Date: 01/01/90 Vol.: No.: Index#: 00130-00

Title: MULTI-SERVICE DEMAND ASSIGNMENT SYSTEM AIMING AT ISDN
Author: MATSUO, K. ET.AL.
Source: ICDSC-7 CONFERENCE MAY 86
Date: 01/01/86 Vol.: No.: Index#: 00029-00

Title: SCREEN BASED TELEPHONY
Author: MCNINCH, BOB
Source: IEEE COMMUNICATIONS MAGAZINE
Date: 04/01/90 Vol.: 28 No.: 4 Index#: 00131-00
Title: ISDN PROTOCOLE  
Author: MCROBERT, STEVE  
Source: COMMUNICATIONS NEWS  
Date: 12/01/88 Vol.: 25 No.: 12 Index#: 00132-00

Title: ISDN ADAPTERS MAKERS RACE TO SUPPORT NTI'S DMS-100  
Author: MESSMER, ELLEN  
Source: NETWORK WORLD  
Date: 09/03/90 Vol.: 7 No.: 36 Index#: 00133-00

Title: TOWARD AN INTERNATIONAL BROADBAND ISDN STANDARD  
Author: MINZER, S. E.  
Source: TELECOMMUNICATIONS  
Date: 10/01/87 Vol.: 21 No.: 10 Index#: 00133-10

Title: SIGNALING SYSTEM NO. 7: A TUTORIAL  
Author: MODARRESSI, ABDI R. ET.AL.  
Source:  
Date: / / Vol.: No.: Index#: 00134-00

Title: ISDN IS HERE, WILL SOON BE THERE, AND NOW THE QUESTION IS IF AND WHEN IT WILL BE EVERYWHERE  
Author: MORKEN, CAL  
Source: COMMUNICATIONS NEWS  
Date: 01/01/88 Vol.: 25 No.: 1 Index#: 00135-00

Title: INCEPTION OF INS EXPERIENCE MODEL SYSTEM SETS IN SERVICE (ISDN)  
Author: MURAKAMI, T.  
Source: JAPAN TELECOMMUNICATIONS REVIEW  
Date: 01/01/85 Vol.: 27 No.: 1 Index#: 00136-00

Title: ISDN IS COMING, SO NOW'S THE TIME TO PREPARE FOR REALITY BY BECOMING A BANDWIDTH MANAGER  
Author: NEVERS, DAVID  
Source: COMMUNICATIONS NEWS  
Date: 01/01/88 Vol.: 25 No.: 1 Index#: 00137-00

Title: ASSESSING THE ISDN REVOLUTION: IT'S ON ITS WAY AND IT WILL BE HERE SOONER THAN YOU MAY THINK  
Author: POPKO, JOHN  
Source: COMMUNICATIONS NEWS  
Date: 10/01/86 Vol.: 23 No.: 10 Index#: 00138-00
Title: ASPECTS OF CCS7 NETWORK CONFIGURATIONS
Author: PUSCH, H.
Source: TELECOMMUNICATIONS
Date: 10/01/87 Vol.: 21 No.: 10 Index#: 00139-00

Title: ISDN: OVERVIEW AND ARCHITECTURAL CONCEPTS
Author: SCHOT, J. ET.AL.
Source: REPORT NO. MEMO-INF-88-42; ISDN-9-03-650202-0
Date: 10/01/87 Vol.: No.: Index#: 00141-00

Title: EXAMINING THE POTENTIAL APPLICATIONS. POSSIBILITIES FOR BUSINESS MAKING USE OF ISDN FEATURES.
Author: SIMONSON, RICHARD
Source: COMMUNICATIONS NEWS
Date: 01/01/87 Vol.: 24 No.: 1 Index#: 00141-20

Title: ISDN AND THE DEVELOPING WORLD
Author: SINGH, I. B.
Source: TELEPHONE ENGINEER AND MANAGEMENT
Date: 12/01/88 Vol.: 92 No.: 23 Index#: 00042-00

Title: WHAT'S RIGHT WITH ISDN
Author: SIROTA, WARREN
Source: COMMUNICATIONS NEWS
Date: 01/01/90 Vol.: 27 No.: 1 Index#: 00142-00

Title: ADVANCED DATA AND ISDN SERVICES IN THE DFS SATELLITE COMMUNICATIONS SYSTEM
Author: SLABON, RUEDIGER W. ET.AL.
Source: ICDSC-7 CONFERENCE MAY 86
Date: 01/01/86 Vol.: No.: Index#: 00043-00

Title: THE PROMISE OF ISDN STANDARDS
Author: SMITH, GAIL
Source: COMMUNICATIONS NEWS
Date: 07/01/89 Vol.: 26 No.: 7 Index#: 00144-00

Title: POLICE DEPT.'S BRI LINES TO SUPPORT VOICE, DATA, IMAGES
Author: SMITH, TOM
Source: NETWORK WORLD
Date: 07/23/90 Vol.: 7 No.: 30 Index#: 00143-00

Title: ISDN; AN INTRODUCTION
Author: STALLINGS, WILLIAM
Title: ISDN: WHAT IS ITS PROMISE?
Author: STEPHENS, GUY M.
Source: SATELLITE COMMUNICATIONS
Date: 06/01/89 Vol.: 13 No.: 7 Index#: 00044-00

Title: SOUTHWESTERN BELL TELEPHONE'S ISDN EXPERIENCE
Author: STEPHENSON, RICHARD W.
Source: IEEE NETWORK
Date: 09/01/89 Vol.: 3 No.: 5 Index#: 00145-20

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Author: STEWART, ADAM
Source: COMMUNICATIONS NEWS
Date: 01/01/88 Vol.: 25 No.: 1 Index#: 00147-00

Title: ISDN 1989: POISED ON THE EDGE OF SUCCESS
Author: STEWART, ALAN
Source: COMMUNICATIONS NEWS
Date: 01/01/89 Vol.: 26 No.: 1 Index#: 00146-00

Title: CAN FEDS HANDLE ISDN?
Author: STEWART, ALAN
Source: COMMUNICATIONS NEWS
Date: 05/01/89 Vol.: 26 No.: 5 Index#: 00148-00

Title: ISDN INTERNET ENVIRONMENT AND STANDARDS ANALYSIS
Author: SU, J. ET. AL.
Source: GEORGIA INSTITUTE OF TECHNOLOGY REPORT NO. ASQBG-C-89-022
Date: 08/01/88 Vol.: No.: Index#: 00149-00

Title: SUCCESS OUT WEST
Author: TANZILLO, KEVIN
Source: COMMUNICATIONS NEWS
Date: 01/01/89 Vol.: 26 No.: 1 Index#: 00150-00

Title: A MAIL AND PROTOCOL CONVERSION NODE FOR ISDN FACSIMILIE APPLICATION
Author: TSUJI, HIROKUNI ET. AL.
Source: IEEE NETWORK
Date: 09/01/89 Vol.: 3 No.: 5 Index#: 00151-00
Title: DAVID SYSTEMS GETS $7M INVESTMENT FOR ISDN R AND D
Author: WALLACE, BOB
Source: NETWORK WORLD
Date: 01/30/89 Vol.: 6 No.: 4 Index#: 00152-00

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Author: WALLACE, BOB
Source: NETWORK WORLD
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Title: TACTICAL ISDN TECHNOLOGY PROGRAM
Author: WEINSTEIN, C. J. ET.AL.
Source: MIT FINAL REPORT SEPT. 89 NO. ESD-TR-90-010
Date: 09/30/89 Vol.: No.: Index#: 00153-20
B-ISDN

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Author:
Source: THIRD INTERNATIONAL INTEGRATED SERVICES DIGITAL NETWORKS EXPOSITION
Date: 06/01/87 Vol.: No.: Index#: 00285-00

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Author:
Source: CCITT BLUEBOOK RECOMMENDATION I.113
Date: 01/01/88 Vol.: 3 No.: 3.7 Index#: 00157-00

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Author: AAGESEN, F. A. ET.AL.
Source:
Date: 01/18/90 Vol.: No.: Index#: 00201-00

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Author: ANDRICH, W. ET.AL.
Source: ELECTRICAL COMMUNICATION
Date: 01/01/87 Vol.: 61 No.: 1 Index#: 00202-00

Title: PRESENT STATUS AND FUTURE TRENDS OF THE STUDY OF BROADBAND ISDN
Author: ASATANI, K. ET.AL.
Source: TRANSACTIONS OF THE INSTITUTE OF ELECTRONICS, INFORMATION AND COMMUNICATIONS ENGINEERS
Date: 11/11/89 Vol.: J72B-I No.: 11 Index#: 00203-00

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Author: BLACKBURN, J. F.
Source: OFFICE OF NAVAL RESEARCH
Date: 03/01/89 Vol.: No.: Index#: 00205-01

Title: A PERSPECTIVE ON FUTURE LARGE SCALE TELECOMMUNICATIONS ARCHITECTURES SUPPORTING BISDN SERVICES
Author: BLOOMFIELD, R. S. ET.AL.
Source: BROADBAND FOC/LAN EXPOSITION OCT. 1989
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Title: ASYNCHRONOUS TRANSFER MADE BROADBAND ISDN
Author: BOLT, RAYMOND
Title: BROADBAND ISDN: DYNAMIC FORCES IN EVOLUTION
Author: BROYLES III, SAMUEL K.
Source: THESIS (MS) ITP - UNIVERSITY OF COLORADO/BOULDER
Date: 01/01/89 Vol.: No.: Index#: 00206-00

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Author: BURGIN, J. L.
Source: AUSTRALIAN TELECOMMUNICATION RESEARCH
Date: 01/01/88 Vol.: 22 No.: 1 Index#: 00207-00

Title: ARCHITECTURES FOR FUTURE MULTIGIGABIT LIGHTWAVE NETWORKS
Author: BURR, W. E.
Source: NIST REPORT NO. NISTIR-90/4240
Date: 03/01/90 Vol.: No.: Index#: 00207-20

Title: A SECOND-GENERATION BISDN PROTOTYPE
Author: BUSSEY, H. E. ET.AL.
Source: INTERNATIONAL JOURNAL OF DIGITAL AND ANALOG CABLED SYSTEMS
Date: 10/01/88 Vol.: 1 No.: 4 Index#: 00208-00

Title: WORLD-WIDE STANDARDIZATION OF BROADBAND ISDN
Author: BYRNE, W. R. ET.AL.
Source: INTERNATIONAL JOURNAL OF DIGITAL AND ANALOG CABLED SYSTEMS
Date: 10/01/88 Vol.: 1 No.: 4 Index#: 00209-00

Title: BROADBAND ISDN TECHNOLOGY AND ARCHITECTURE
Author: BYRNE, WILLIAM R. ET.AL.
Source: IEEE NETWORK
Date: 01/01/89 Vol.: 3 No.: 1 Index#: 00210-00

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Author: BYRNE, WILLIAM R. ET.AL.
Source: IEEE NETWORK
Date: 01/01/89 Vol.: 3 No.: 1 Index#: 00211-00

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Author: CHAO, H. J. ET.AL.
Source: IEEE TRANSACTIONS AND CONSUMER ELECTRONICS
Date: 05/01/89 Vol.: 35 No.: 2 Index#: 00212-00
Title: ATM: A CONTRIBUTION TO THE DEBATE ON BROADBAND ISDN  
Author: COUDREUSE, J. P.  
Source: INTERNATIONAL JOURNAL OF DIGITAL AND ANALOG CABLED SYSTEMS  
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Author: DAY, A. ET AL.  
Source: TELECOMMUNICATION JOURNAL OF AUSTRALIA  
Date: 01/01/89 Vol.: 39 No.: 1 Index#: 00214-00

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Author: DE PRYCKER, M.  
Source: COMPUTER COMMUNICATIONS  
Date: 06/01/89 Vol.: 12 No.: 3 Index#: 00216-00

Title: RECENT DEVELOPMENTS IN BROADBAND - ISDN  
Author: DE STIGTER, J.  
Source: ISDN 88 CONFERENCE  
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Author: DEPRYEKER, M.  
Source: TELECOMMUNICATIONS (INTERNATIONAL ED.)  
Date: 06/01/89 Vol.: 23 No.: 6 Index#: 00215-00

Title: BISDN  
Author: DOMANN, G. H.  
Source: JOURNAL OF LIGHTWAVE TECHNOLOGY  
Date: 11/01/88 Vol.: 6 No.: 11 Index#: 00218-00

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Author: DOUGALL, CHARLES J.  
Source: IEEE COMMUNICATIONS MAGAZINE  
Date: 04/01/90 Vol.: 28 No.: 4 Index#: 00219-00

Title: USERS CAN'T WAIT FOR PROMISE OF BROADBAND  
Author: ECKERSON, WAYNE  
Source: NETWORK WORLD  
Date: 02/13/89 Vol.: 6 No.: 6 Index#: 00222-00

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Author: EIGEN, D. J.  
Source: IEEE COMMUNICATIONS MAGAZINE  
Date: 04/01/90 Vol.: 28 No.: 4 Index#: 00220-00
Title: THE POLITICS OF BROADBAND (NETWORKS)
Author: GILHOOLY, D.
Source: TELECOMMUNICATIONS (INTERNATIONAL EDITION)
Date: 06/01/88 Vol.: 22 No.: 6 Index#: 00231-00

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Author: GIORCELLI, S.
Source: CSELT TECHNICAL REPORTS
Date: 12/01/89 Vol.: 17 No.: 6 Index#: 00232-00

Title: SYNCHRONOUS OPTICAL NETWORKS AND BROADBAND ISDN PROTOCOLS
Author: HAC, A. ET.AL.
Source: COMPUTER
Date: 11/01/89 Vol.: 22 No.: 11 Index#: 00233-00

Title: ESTIMATION OF THE COST OF SUBSCRIBER - SUBSCRIBER CONNECTION IN BISDN
Author: HACKBARTH, K. D.
Source: FERNMELDE-INGENIEUR
Date: 03/01/89 Vol.: 43 No.: 3 Index#: 00235-00

Title: COSTS OF AN AVERAGE SUBSCRIBER RELATION IN THE BROADBAND ISDN
Author: HACKBARTH, K. D. ET.AL.
Source: FOURTH INTERNATIONAL PLANNING SYMPOSIUM
Date: 01/01/89 Vol.: No.: Index#: 00234-00

Title: BROADBAND INTEGRATED SERVICES DIGITAL NETWORKS
Author: HANDEL, R.
Source: TELECOMMUNICATIONS
Date: 04/01/87 Vol.: 21 No.: 4 Index#: 00236-00

Title: EVOLUTION OF ISDN TOWARDS BROADBAND ISDN
Author: HANDEL, R.
Source: IEEE NETWORK
Date: 01/01/89 Vol.: 3 No.: 1 Index#: 00237-00

Title: BROADBAND SWITCHING SYSTEM ARCHITECTURE
Author: HIRAIDE, K. ET.AL.
Source: IEEE JOURNAL ON SELECTED AREAS IN COMMUNICATIONS
Date: 10/01/87 Vol.: SAC-5 No.: 8 Index#: 00238-00
Title: AN ATM SELF-ROUTING SWITCH ARCHITECTURE
Author: HITOSHI, IMAGAWA ET.AL.
Source: INTERNATIONAL JOURNAL OF DIGITAL AND ANALOG CABLED SYSTEMS
Date: 10/01/88 Vol.: 1 No.: 4 Index#: 00239-00

Title: POSSIBLE APPLICATIONS IN BROADBAND NETWORKS (ISDN)
Author: JOBMAN, K. ET.AL.
Source: TELEMATICA CONFERENCE
Date: 01/01/88 Vol.: No.: Index#: 00240-00

Title: DEVELOPMENT OF THE BROADBAND ISDN (B-ISDN) NETWORK
Author: JUVONEN, R. ET.AL.
Source: SAEHKOE ELECTRICITY AND ELECTRONICS
Date: 04/01/90 Vol.: 63 No.: 4 Index#: 00241-00

Title: AN IXC'S LOOK AT GLOBAL ISDN
Author: KERO, T.
Source: TELEPHONY
Date: 04/23/90 Vol.: 218 No.: 17 Index#: 00242-00

Title: BROADBAND SWITCHING AND THROUGH SWITCHING IN THE PRELIMINARY BROADBAND NETWORK (ISDN)
Author: KOECK, K.
Source: TELEMATICA CONFERENCE
Date: 01/01/88 Vol.: No.: Index#: 00243-00

Title: BROADBAND ISDN - A GENERAL PURPOSE UNIVERSAL COMMUNICATIONS BUS?
Author: KUMAR, A.
Source: INTERNATIONAL CONFERENCE ON DATA COMMUNICATIONS
Date: 01/01/88 Vol.: No.: Index#: 00244-00

Title: THE METAMORPHOSIS OF THE NETWORK (BROADBAND ISDN)
Author: LAVIA, A.
Source: TELEPHONY
Date: 12/25/89 Vol.: 217 No.: 27 Index#: 00245-00

Title: PACKET-SWITCHED SERVICES FOR ISDN SUBSCRIBERS
Author: LECLERC, F. ET.AL.
Source: COMMUTATION AND TRANSMISSION
Date: 01/01/89 Vol.: 11 No.: 4 Index#: 00246-00

Title: A BROADBAND ISDN EXPERIMENTAL PROTOTYPE SYSTEM
Author: LINNELL, L. ET.AL.
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Author: LO, C. N.
Source: JOURNAL OF LIGHTWAVE TECHNOLOGY
Date: 11/01/89 Vol.: 7 No.: 11 Index#: 00248-00

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Author: LUTKOWITZ, M.
Source: TELEPHONE ENGINEER AND MANAGEMENT
Date: 02/15/90 Vol.: 94 No.: 4 Index#: 00249-00

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Author: MELEN, R.
Source: INTERNATIONAL JOURNAL OF DIGITAL AND ANALOG CABLED SYSTEMS
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Title: IMPLEMENTATION OF A BROADBAND INTEGRATED SERVICES HYBRID NETWORK
Author: MESIYA, M. F.
Source: IEEE COMMUNICATIONS MAGAZINE
Date: 01/01/88 Vol.: 26 No.: 1 Index#: 00251-00

Title: TOWARD AN INTERNATIONAL BROADBAND ISDN STANDARD
Author: MINZER, S. E.
Source: TELECOMMUNICATIONS
Date: 10/01/87 Vol.: 21 No.: 10 Index#: 00133-10

Title: NEW DIRECTIONS IN SIGNALING FOR BROADBAND ISDN
Author: MINZER, S. E. ET.AL.
Source: IEEE COMMUNICATIONS MAGAZINE
Date: 02/01/89 Vol.: 27 No.: 2 Index#: 00252-00

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Author: MURAKAMI, K. ET.AL.
Source: ELECTRONICS AND COMMUNICATIONS IN JAPAN, PART I
Date: 12/01/89 Vol.: 72 No.: 12 Index#: 00253-00

Title: TECHNOLOGIES TOWARDS BROADBAND ISDN
Author: MURANO, K. ET.AL.
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Author: MURANO, KAZUO ET.AL.  
Source: IEEE COMMUNICATIONS MAGAZINE  
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Author: NIAN-CHYI, HUANG  
Source: BROADBAND (FOC/LAN) 89 CONFERENCE  
Date: 01/01/89 Vol.: No.: Index#: 00256-00

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Author: OHNSORGE, H.  
Source: NACHRICHTENTECHNISCHE ZEITSCHRIFT  
Date: 12/01/84 Vol.: 37 No.: 12 Index#: 00257-00

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Author: PARASANNA, P. K. ET.AL.  
Source: IEEE TRANSACTIONS ON CONSUMER ELECTRONICS  
Date: 05/01/89 Vol.: 35 No.: 2 Index#: 00258-00

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Author: PAUWELS, B.  
Source: INTERNATIONAL JOURNAL OF DIGITAL AND ANALOG CABLED SYSTEMS  
Date: 01/01/89 Vol.: 2 No.: 1 Index#: 00259-00

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Author: POPESCU-SELETIN, R.  
Source: COMPUTER NETWORKS AND ISDN SYSTEMS  
Date: 11/24/89 Vol.: 18 No.: 1 Index#: 00260-00

Title: EVOLUTION OF ISDN TOWARDS BROADBAND ISDN  
Author: RAINER, HANDEL  
Source: IEEE NETWORK  
Date: 01/01/89 Vol.: 3 No.: 1 Index#: 00261-00

Title: BROADBAND ISDN AND THE SUBSCRIBER PREMISES NETWORK  
Author: RAO, S.  
Source: TELECOMMUNICATIONS (INTERNATIONAL EDITION)  
Date: 06/01/88 Vol.: 22 No.: 6 Index#: 00262-00

Title: ATM SWITCHES - BASIC ARCHITECTURES AND THEIR PERFORMANCE  
Author: RATHGEB, E. P. ET.AL.
Title: PROTOCOLS FOR ATM ACCESS NETWORKS
Author: RIDER, MICHAEL J.
Source: IEEE NETWORK
Date: 01/01/89 Vol.: 3 No.: 1 Index#: 00264-00

Title: STANDARDS GET BACKING.(SYNCHRONOUS OPTICAL NETWORK, OR SONET, AND ATM)
Author: ROCKWELL, MARK
Source: COMMUNICATIONS WEEK
Date: 10/23/89 Vol.: No. 271 Index#: 00265-00

Title: ISDN GETS GLOBAL EMBRACE
Author: SAGHAFI, MASSOUD M. ET.AL.
Source: TELEPHONY
Date: 04/23/90 Vol.: 218 No.: 17 Index#: 00266-00

Title: NETWORK ARCHITECTS PLAN BROADENING OF FUTURE ISDN
Author: SAZEGARI, STEVEN A.
Source: DATA COMMUNICATIONS
Date: 07/01/87 Vol.: No.: Index#: 00267-00

Title: EFFORTS FOR NATIONWIDE BROADBAND ISDN
Author: SHIMAMURA, K. ET.AL.
Source: JOURNAL OF THE INSTITUTE OF TELEVISION ENGINEERS OF JAPAN
Date: 03/01/89 Vol.: 43 No.: 3 Index#: 00268-00

Title: BRAODBAND STANDARDS PROGRESS AND FUTURE POSSIBILITIES
Author: SINHA, R.
Source: BROADBAND (FOC/LAN) 89 CONFERENCE
Date: 01/01/89 Vol.: No.: Index#: 00269-00

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Author: SOLOMON, R.J.
Source: ISDN: EVOLVING TO ISDN IN NORTH AMERICA CONFERENCE SEPT. 1987
Date: 01/01/87 Vol.: No.: Index#: 00270-00

Title: BROADBAND ISDN - SERVICE VISIONS AND TECHNOLOGICAL REALITIES
Author: SPEARS, D. R.
Source: INTERNATIONAL JOURNAL OF DIGITAL AND ANALOG CABLED SYSTEMS
Date: 01/01/88 Vol.: 1 No.: 1 Index#: 00271-00
Title: BROADBAND ISDN SWITCHING CAPABILITIES FROM A SERVICES PERSPECTIVE
Author: SPEARS, D.R.
Source: IEEE JOURNAL ON SELECTED AREAS IN COMMUNICATIONS
Date: 10/01/87 Vol.: 8 Index#: 00272-00

Title: ISDN; AN INTRODUCTION
Author: STALLINGS, WILLIAM
Source: MACMILLIN PUBLISHING COMPANY, NEW YORK
Date: 01/01/89 Vol.: No.: Index#: 00145-00

Title: CCITT STANDARDS FORESHADOW BROADBAND ISDN
Author: STALLINGS, WILLIAM
Source: TELECOMMUNICATIONS
Date: 03/01/90 Vol.: 24 No.: 3 Index#: 00273-00

Title: ISDN: FROM ITS CURRENT REALITY TO ITS BROADBAND FUTURE
Author: SUMMER, ERIC E.
Source: IEEE NETWORK
Date: 01/01/89 Vol.: 3 No.: 1 Index#: 00274-01

Title: TECHNOLOGY PERSPECTIVE
Author: SUMNER, ERIC E.
Source: IEEE NETWORK
Date: 01/01/89 Vol.: 3 No.: 1 Index#: 00274-00

Title: BROADBAND ISDN ATM LAYER MANAGEMENT: OPERATION, ADMINISTRATION AND MAINTENANCE CONSIDERATIONS
Author: SUSUMU, YONEDA
Source:
Date: 05/01/90 Vol.: 4 No.: 3 Index#: 00274-20

Title: PACKET-SATELLITE NETWORKS: UPDATING AND EXPANDING THE HYBRID CONCEPT
Author: TAFFEL, A. B.
Source: DATA COMMUNICATIONS
Date: 11/01/87 Vol.: 16 No.: 12 Index#: 00275-00

Title: UPGRADING STRATEGIES FOR BISDN SUBSCRIBER LOOPS
Author: TAKASAKI, Y.
Source: JOURNAL OF LIGHTWAVE TECHNOLOGY
Date: 11/01/89 Vol.: 7 No.: 11 Index#: 00277-00
Title: PRELIMINARY STUDIES FOR UPGRADEABLE BROADBAND ISDN PLANNING  
Author: TAKOSAKI, Y.  
Source: 1ST WORLD ELECTRONIC MEDIA SYMPOSIUM  
Date: 01/01/89 Vol.: No.: Index#: 00276-00

Title: MIGRATION TO BROADBAND ISDN  
Author: TODA, I.  
Source: IEEE COMMUNICATIONS MAGAZINE  
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Author: TODA, IWAO  
Source: IEEE COMMUNICATIONS MAGAZINE  
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Title: A BISDN CUSTOMER ACCESS ARCHITECTURE OPTIMIZED IN RELATION TO NETWORK IMPLEMENTATION TECHNOLOGY  
Author: TRONDOLI, A. ET.AL.  
Source: INTERNATIONAL JOURNAL OF DIGITAL AND ANALOG CABLED SYSTEMS  
Date: 07/01/89 Vol.: 2 No.: 3 Index#: 00280-00

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Author: WEINSTEIN, STEPHEN B.  
Source: IEEE SPECTRUM  
Date: 11/01/87 Vol.: No.: 0018-92 Index#: 00281-00

Title: COMPARISON OF ATM SWITCHING ARCHITECTURES  
Author: WULLEMAN, R. ET.AL.  
Source: INTERNATIONAL JOURNAL OF DIGITAL AND ANALOG CABLED SYSTEMS  
Date: 10/01/89 Vol.: 2 No.: 4 Index#: 00282-00

Title: INTRODUCING THE DISTRIBUTED HIGH-THROUGHPUT PACKET SWITHCING SYSTEMS INTO THE DDX-P NETWORK  
Author: YANO, A.  
Source: JAPAN TELECOMMUNICATIONS REVIEW  
Date: 04/01/87 Vol.: 29 No.: 2 Index#: 00284-00

Title: BROADBAND ISDN ATM LAYER MANAGEMENT: OPERATIONS ADMINISTRATION AND MAINTENANCE CONSIDERATIONS  
Author: YONEDA, S.  
Source: IEEE NETWORK  
Date: 05/01/90 Vol.: 4 No.: 3 Index#: 00283-00
Frame Relay or Switching

Title: STUDY OF SSIN PARALLEL PROCESSING INTERCONNECTION NETWORKS
Author: AGRAWAL, D. P.
Source: NORTH CAROLINA STATE UNIVERSITY AT RALEIGH
Date: / / Vol.: No.: Index#: 00311-00

Title: SS/TDMA SATELLITE SYSTEM WITH ON-BOARD TST SWITCHING STAGE
Author: ALARIA, G.B.; PENNONI, G.
Source: INTERNATIONAL CONFERENCE ON COMMUNICATIONS
Date: 06/01/84 Vol.: 12 No.: Index#: 00300-01

Title: USER'S GUIDE TO FRAME RELAY
Author: BHUSHAN, BRIJ
Source: TELECOMMUNICATIONS
Date: 07/01/90 Vol.: No.: Index#: 00300-00

Title: OVERLOAD CONTROL FOR SWITCHES OF COMMUNICATION SYSTEMS: A TWO-PHASE MODEL OR CALL REQUEST PROCESSING
Author: BOLL, R.K. ET.AL.
Source: NASA REPORT NO. CWI-OS-R8601, B8664684
Date: 01/01/86 Vol.: No.: Index#: 00312-00

Title: FRAME RELAY ISDN PACKET BEARER SERVICE
Author: CARSON, MARGARET E.P.
Source: THESIS (MS) ITP UNIVERSITY OF COLORADO/BOULDER
Date: 01/01/89 Vol.: No.: Index#: 00301-00

Title: A MULTIBEAM PACKET SATELLITE USING RANDOM ACCESS TECHNIQUES
Author: CHANG, J.F.
Source: IEEE TRANSACTIONS ON COMMUNICATIONS
Date: 10/01/83 Vol.: COM-31 No.: Index#: 00301-02

Title: ANALYSIS AND DESIGN OF A HIGHLY RELIABLE TRANSPORT ARCHITECTURE FOR ISDN FRAME RELAY NETWORKS
Author: CHEN, K.J. ET.AL.
Source: IEEE JOURNAL ON SELECTED AREAS OF COMMUNICATION
Date: 10/01/89 Vol.: 7 No.: 8 Index#: 00313-00

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Author: CRUZ, R.L.
Source: NATIONAL SCIENCE FOUNDATION REPORT # UILU-ENG-87-229 NSF/ENG-8708
Title: GEIS TO BOOST SNA NET WITH FRAME RELAY  
Author: DESMOND, PAUL  
Source: NETWORK WORLD  
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Author: DOSHI, B.T.  
Source: AT&T TECHNICAL JOURNAL  
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Author: FLEMING, STEPHEN  
Source: TELECOMMUNICATIONS  
Date: 10/01/90 Vol.: No.: Index#: 00302-00

Title: ON BOARD DEMAND SCHEDULING OF A SS/TDMA MULTIBEAM SATELLITE...  
Author: FRANK, A.J. AND STERN, T.E.  
Source: INTERNATIONAL CONFERENCE ON DIGITAL SATELLITE COMMUNICATIONS 6TH  
Date: 01/01/83 Vol.: No.: Index#: 00302-01

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Author: GOLDFEATHER, J.  
Source: IEEE COMPUTER GRAPHICS AND APPLICATIONS  
Date: 05/01/89 Vol.: 9 No.: 3 Index#: 00316-00

Title: MINIMIZING THE NUMBER OF SWITCHINGS IN AN SS/TDMA SYSTEM  
Author: GOPAL, I.; WONG, C.K.  
Source: SATELLITE AND COMPUTER COMMUNICATIONS; PROC. OF INTN'L SYMPOSIUM  
Date: 01/01/83 Vol.: No.: Index#: 00302-02

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Author: KIM, HYONG S.  
Source: IEEE JOURNAL ON SELECTED AREAS IN COMMUNICATIONS  
Date: 04/01/90 Vol.: 8 No.: 3 Index#: 00310-01

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Author: KITAWAKI, N. ET AL.  
Source: IEEE COMMUNICATIONS MAGAZINE  
Date: 01/01/90 Vol.: 28 No.: 1 Index#: 00303-00
Title: EVALUATING FRAME RELAY AS THE HIGH THROUGHPUT PACKET TECHNOLOGY FOR CORPS. OF THE 90'S
Author: KORPI, NANCY A.
Source: MS TELECOM THESIS FALL '90
Date: 10/01/90 Vol.: No.: Index#: 00304-00

Title: PACKET SWITCHING AND ISDN: HOW DOES IT WORK
Author: KUTREY, JOHN
Source: TELEPHONE ENGINEER AND MANAGEMENT
Date: 12/01/88 Vol.: No.: Index#: 00305-00

Title: PACKET MODE SERVICES
Author: LAI, WAI SUM
Source: COMPUTER COMMUNICATIONS
Date: 02/01/89 Vol.: 12 No.: 1 Index#: 00318-00

Title: SOME EXPERIENCE WITH LAN INTERCONNECTION VIA FRAME RELAYING
Author: LAMONT, JIM ET. AL.
Source: IEEE NETWORK
Date: 09/01/89 Vol.: 3 No.: 5 Index#: 00306-00

Title: IMPART OF CCITT MHS STRUCTURE ON PERFORMANCE
Author: LEE, PAUL
Source: IEEE COMMUNICATIONS MAGAZINE
Date: 09/01/90 Vol.: 28 No.: 9 Index#: 00307-00

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Author: MARCONICCHIO, F.
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Author: MCQUINLAN, J.
Source: BUSINESS COMMUNICATIONS REVIEW
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Author: MINE, H.; OHNO, K.; SHIOYANA, T.
Source: IEEE TRANSACTIONS ON COMMUNICATIONS
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Author: MOCCI, U.
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Author: MURATA, MASAYUKI
Source: IEEE JOURNAL ON SELECTED AREAS IN COMMUNICATIONS
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Author: OKADA, H.; IGARASHI, Y.; NAKANISHI, Y.
Source: ELECTRONICS AND COMMUNICATIONS IN JAPAN
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Author: PENNONI, G.
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Author: SCARCELLA, T.; AND ABBOT, R.V.
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Author: SUDA, T.; HASEGAWA, T.
Source: ELECTRONICS AND COMMUNICATIONS IN JAPAN
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Author: TOBAGI, FOUAD A.
Source: PROCEEDING OF THE IEEE
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Author: VITABI, ANDREW M.
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Author: WAI, SUM LAI
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Author: WALLACE, BOB
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Author: WOODRUFF, GILLIAN M.
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Author: ABRAMSON, NORMAN  
Source: TELECOMMUNICATION POLICY  
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Author: BLUM, STEPHEN A.  
Source: VIA SATELLITE  
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Author: CALDWELL, RICHARD  
Source: VIA SATELLITE  
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Author: CALDWELL, RICHARD  
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Author: CALDWELL, RICHARD H.  
Source: SATELLITE COMMUNICATIONS  
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Author: CARPER, RICHARD D. ET.AL.  
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Author: CHASE, SCOTT  
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Author: CHASE, SCOTT  
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Author: CHASE, SCOTT  
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Author: CHASE, SCOTT  
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Author: CHASE, SCOTT  
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Author: CLARK, AL ET AL.  
Source: COMMUNICATIONS NEWS (SPECIAL REPORT: SATELLITE COMMUNICATIONS)  
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Author: CROCKETT, BARTON  
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Author: DANNA, SAMMY  
Source: COMMUNICATIONS NEWS  
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Author: DEMAN, CRAIG  
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Title: VSAT NET GIVES MCKESSON COMPETITIVE EDGE, SAVINGS  
Author: DESMOND, PAUL  
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Author: EAGLE, BRYAN M.  
Source: VIA SATELLITE  
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Source: SATELLITE COMMUNICATIONS  
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Author: EDWARDS, MORRIS  
Source: COMMUNICATIONS NEWS  
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Author: EL KOUCH, RACHID  
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Author: FAINE, E. A.  
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Author: FLYNN, BRANWELL  
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Author: FRIEDMAN, DAVID
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Author: GARNER, WILLIAM
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Author: GOLDING, LEN
Source: COMMUNICATIONS NEWS
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Author: GROTHE, DAVID ET.AL.
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Author: HAWKINS, DON
Source: COMMUNICATIONS NEWS
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Source: AT&T LIBRARY NETWORK/IEEE
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Author: HOOKE, ADRIAN J.
Source: IEEE NETWORK
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Author: HOSSEIN, M.
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Author: HOUSE, JIM
Source: VIA SATELLITE
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Author: HOWES, KAREN J.P.
Source: VIA SATELLITE
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Author: HUANG, LARRY
Source: COMMUNICATIONS NEWS
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Author: JONES, LAWRENCE
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Author: KAMAL, CHERIN S.
Source: COMMUNICATIONS NEWS
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Author: KAWAI, M. AND NAKAYA, K.
Source: NTT RADIO/41ST CONGRESS OF INTERNATIONAL ASTRONAUTICAL FEDERATION
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Author: KERVER, TOM
Source: SATELLITE COMMUNICATIONS
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Author: KHADEM, RAMIN ET AL.
Source: PTC 1990 CONFERENCE
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Author: KOLODZIEJ, STAN
Source: COMPUTERWORLD
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Author: KOPINSKI, JOHN
Source: PTC 1990 CONFERENCE
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Author: KUHNS, MUHAMMAD ET AL.
Source: PTC 1990 CONFERENCE
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Author: LEE, S.M.C.
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Author: LEFRANCOIS, G.
Source: ELECTRICAL COMMUNICATION
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Author: LOCKWOOD, DONNA
Source: SATELLITE COMMUNICATIONS
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Author: MCBEATH, JOHN
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Author: MURAKAMI, T.
Source: JAPAN TELECOMMUNICATIONS REVIEW
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Author: NAKAMARV, K. ET.AL.  
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Author: NOCEDAL, F.  
Source: PROCEEDINGS OF THE IEEE  
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Author: NOWICK, STEVEN  
Source: SATELLITE COMMUNICATIONS  
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Author: OHTAKE, YASOU ET.AL.  
Source: PTC 1990 CONFERENCE  
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Author: PATEL, BASHIR  
Source: VIA SATELLITE  
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Author: QINGHUA, ZHAR  
Source: COMMUNICATIONS NEWS  
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Author: ROBERTS, ANNE MARIE  
Source: SATELLITE COMMUNICATIONS  
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Author: SALAMOFF, STEVEN  
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Author: SCOTT, WILLIAM
Source: COMMUNICATIONS NEWS (SPECIAL REPORT: SATELLITE COMMUNICATIONS)
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Author: SHAUM, MITTAE ET.AL.
Source: PTC 1990 CONFERENCE
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Author: SHIFF, MICHAEL
Source: COMMUNICATIONS NEWS
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Author: SHIMABUKURO, TOM
Source: COMMUNICATIONS NEWS
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Author: SIMO, ERNEST
Source: SATELLITE COMMUNICATIONS
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Author: SMITH, JOSEPH F. ET.AL.
Source: IEEE NETWORK
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Author: STAFF WRITER
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Author: STAFF WRITER

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Author: STEPHENS, GUY
Source: SATELLITE COMMUNICATIONS
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Author: STEPHENS, GUY M.
Source: SATELLITE COMMUNICATIONS
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Author: STEPHENS, GUY M.
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Author: STEPHENS, GUY M.
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Author: STEWART, ALAN
Source: COMMUNICATIONS NEWS
Date: 05/01/88 Vol.: No.: Index#: 00417-00

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Author: STEWART, NAU
Source: COMMUNICATIONS NEWS (SPECIAL REPORT: SATELLITE COMMUNICATIONS)
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Author: STODDARD, ROB
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Author: STRATIGOS, JIM
Source: VIA SATELLITE
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Author: WARFIELD, DONALD
Source: VIA SATELLITE
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Author: WILKERSON, DAVID
Source: COMMUNICATIONS NEWS
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Author: YATIM, NURDIN
Source: PTC 1990 CONFERENCE
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Author: YOUSSEFZADEH, EMIL
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Author: 
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Author: 
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Author: 
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Author: 
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Author: CASS, ROBERT D.
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Author: COSGROVE, JR., COLIN B.
Source: THESIS (MS) ITU UNIVERSITY OF COLORADO/BOULDER
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Author: HABEGGER, JAY AND BYERLY, R.
Source: CENTER FOR SPACE AND GEOSCIENCES POLICY - CU/BOULDER
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Title: SWITCHBOARD IN THE SKY
Author: HERBST, KRIS
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Author: MEYER, THOMAS AND BYERLY, R.  
Source: CENTER FOR SPACE AND GEOSCIENCES POLICY CU/BOULDER  
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Author: NADERI, FM; CAMPANELLA, S. JOSEPH  
Source: AIAA INTERNATIONAL COMMUNICATION SATELLITE SYSTEM CONFERENCE 12TH  
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Author: NEWS DEPARTMENT  
Source: SATELLITE COMMUNICATIONS  
Date: 12/01/89 Vol.: 13 No.: 13 Index#: 00507-00

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Author: OLMSTEAD, DEAN A. ET.AL.  
Source: VIA SATELLITE  
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Author: STODDARD, ROB  
Source: SATELLITE COMMUNICATION  
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Author: STODDARD, ROB  
Source: SATELLITE COMMUNICATIONS  
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Author: STODDARD, ROB  
Source: SATELLITE COMMUNICATIONS  
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Author: STODDARD, ROB  
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Author: AHMADI, H. ET.AL.
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Author: AI, W.
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Author: ANDERBERG, M; AND EDSTROM N.H.
Source: ERICSSON TECHNICS
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Author: ATIA, O.
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Author: BOCCALARO, E. AND GRILLO, D.
Source: REPORT #FUB-41-1978 (NIIS)
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Author: CANTAVELLA, G. P.
Source: INTERNATIONAL CONFERENCE ON COMMUNICATIONS 1973
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Author: DVESING, RICHARD W. AND KELINSKY, M. J.
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Author: HATSUDA, T. AND NAKAJMA, S.; MORIHIRO, Y.
Source: ELECTRICAL COMMUNICATIONS LABORATORIES, REVIEW
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Author: HUGHES, C. D.
Source: ELECTRICAL ENGINEERS CONFERENCE 10/70 IEEE CONFERENCE PUB #72
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Author: ITO, Y.; VRANO Y.; MURATANI, T.
Source: ELECTRONICS AND COMMUNICATIONS IN JAPAN
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Author: KOVAL, D.O. AND HUNGKWENG, KU
Source: PROCEEDINGS OF THE LASTED INTERNATIONAL SYMPOSIUM ON MODELLING AND SIMULATION
Date: 06/01/85 Vol.: No.: Index#: 00611-00

Title: COMPUTER MODELLING AND SIMULATION OF NETWORK OPERATIONAL PATHS
Author: KOVAL, D.O.; AND HUNGKWENG, KUA
Source: PROCEEDINGS OF THE IASED INTERNATIONAL SYMPOSIUM: APPLIED SIMULATION
Date: 01/01/85 Vol.: No.: Index#: 00612-00

Title: SPEECH POWER ESTIMATION WITHIN TRUNCATED NORMAL DISTRIBUTION
Author: LU, C. H.
Source: PROCEEDINGS: ICASSP '87 INTERNATIONAL CONFERENCE ON ACOUSTICS SPEECH AND SIGNAL
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Author: MANUCCI, G. AND TONIETTA, A.
Source: CENTVOSTUDI LABORATORI TELECOMUNICAZIONI/AIAA TECHNICAL LIBRARY
Date: 03/01/79 Vol.: No.: Index#: 00614-00

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Title: MODELS AND ALGORITHMS FOR OPTIMAL TRAFFIC ASSIGNMENT IN SSTDMA SWITCHING SYSTEMS  
Author: MINOUX, M.  
Source: INTERNATIONAL JOURNAL OF SATELLITE COMMUNICATIONS  
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Author: MIYAKE, K.  
Source: ELECTRONICS AND COMMUNICATIONS IN JAPAN, PART 1; AIAA TECHNICAL LIBRARY  
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Author: RAZ, GHULAM H.  
Source: GLOBECOM '87 - GLOBAL TELCOMMUNICATIONS CONFERENCE  
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Title: SIMULATION OF MARISAT OFFSHORE DATA TRANSFER (SATELLITE COMMUNICATION SYSTEM)  
Author: WEINREICH, D. E.  
Source: COMMUNICATIONS SATELLITE SYSTEMS CONFERENCE 7TH  
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Title: PERFORMANCE MODELING OF SIGNALING SYSTEM NO. 7  
Author: WILLMANN, GERT ET.AL.  
Source: IEEE COMMUNICATIONS MAGAZINE  
Date: 07/01/90 Vol.: 28 No.: 7 Index#: 00865-00
Satellite Orbits

Title: SATELLITES HAVE REVOLUTIONIZED COMMUNICATIONS WORLD SINCE SATCOMM...
Author: 
Source: COMMUNICATIONS NEWS
Date: 03/01/88 Vol.: 25 No.: 3 Index#: 00908-03

Title: SOME TECHNICAL FEATURES OF LOW ORBIT SATELLITES
Author: ARDVINI, C.; BOUNGIORA G.; PONZI, U.; RAVELLI, G.
Source: SERI - ITS ATTI DEL CENTRO RIC AEROSPAZIALE NO. 21
Date: 03/01/69 Vol.: No.: 21 Index#: 00700-00

Title: PACKET SWITCHING FOR MOBILE EARTH STATIONS VIA LOW-ORBIT SATELLITE
Author: BRAYER, K.
Source: IEEE PROCEEDING
Date: 11/01/84 Vol.: 72 No.: Index#: 00701-00

Title: ENGINEERING TEST SATELLITE VI
Author: BROCHURE
Source: NASDA - JAPAN
Date: 01/01/90 Vol.: No.: Index#: 00702-00

Title: HORIZON SENSOR FOR A LOW-ORBIT SATELLITE WITH THREE-AXIS ATTITUDE STABILIZATION
Author: DESVIGNES, F. ET.AL.
Source: FRENCH JOURNAL TRANSLATION / ACTA ELECTRONICA
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Title: CELLULAR PACKET COMMUNICATIONS
Author: GOODMAN, DAVID J.
Source: IEEE TRANSCRIPT ON COMMUNICATION
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Title: MOTOROLA BIDS TO RING THE WORLD
Author: GREEN-ARMATAGE, J.
Source: COMPUTER WEEKLY
Date: 07/05/90 Vol.: No.: 1221 Index#: 00819-00

Title: ORBIT/SPECTRUM UTILIZATION STUDY V.1
Author: JERUCHIM, M.C.; AND SAYER, T.C.
Source: GENERAL ELECTRIC COMPANY REPORT #69SD4270
Date: / / Vol.: 1 No.: Index#: 00704-01
Title: A NEW SATELLITE SYSTEM FOR HAND MOBILE COMMUNICATIONS AT EHF
Author: RUGGIERI, M. ET.AL.
Source: 41ST CONGRESS OF THE INTERNATIONAL ASTRONAUTICAL FEDERATION
Date: 10/06/90 Vol.: No.: IAF-90- Index#: 00716-00

Title: APPLICATION OF ELECTRON BEAMS IN SPACE FOR ENERGY STORAGE AND OPTICAL GENERATION
Author: SALTER, R. M.
Source: AIAA CONFERENCE PAPER
Date: 01/01/78 Vol.: No.: Index#: 00717-00

Title: THE PROBLEM OF HIGH ORBIT INCLINATION SATELLITES
Author: SCANIO, JR., THOMAS J.
Source: SATELLITE COMMUNICATIONS
Date: 04/01/90 Vol.: No.: Index#: 00718-00

Title: ORBITAL EFFICIENCY THROUGH SATELLITE DIGITAL SWITCHING
Author: SCARCELLA, T.; AND ABBOT, R.V.
Source: IEEE COMMUNICATIONS MAGAZINE
Date: 05/01/83 Vol.: 21 No.: Index#: 00722-00

Title: REDUCED DOMESTIC SATELLITE ORBITAL SPACING AT 4/G GHZ
Author: SHARP, G. L.
Source: OFFICE OF SCIENCE AND TECHNOLOGY NTIS HC A08/MF
Date: 05/01/83 Vol.: No.: Index#: 00719-00

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Author: WIGOTSKY, V.
Source: AEROSPACE AMERICA
Date: 06/01/84 Vol.: 22 No.: Index#: 00723-00

Title: GEOSTATIONARY ORBITAL CROWDING: AN ANALYSIS OF PROBLEMS AND SOLUTIONS
Author: WILKISON, JR., ROBERT M.
Source: THESIS (MS) ITP - UNIVERSITY OF COLORADO/BOULDER
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Network Configuration

Title: IEEE COLLOQUIUM ON THE ROLE OF SATELLITES IN TOMORROWS FIBER-OPTIC WORLD
Author:  
Source: IEEE CONFERENCE MAY 88  
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Title: UTILITY POLISHES PRIVATE NETWORK  
Author:  
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Date: 01/01/90 Vol.: 27 No.: 1 Index#: 00870-00

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Author:  
Source: GLOBECOM 85 DEC. 1985  
Date: 01/01/85 Vol.:  No.: Index#: 00871-00

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Author:  
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Title: COLLECTION OF NETWORKING ARTICLES  
Author:  
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Title: COLLECTION OF NETWORKING ARTICLES (11)  
Author:  
Source: AT&T TECHNICAL JOURNAL  
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Title: SATELLITE AND TERRESTRIAL NETWORKS FOR MULTI-MEDIA COMMUNICATIONS  
Author: ADAMS, C. J.  
Source: IN ESA, OLYMPUS UTILIZATION CONFERENCE (NTIS)  
Date: 05/01/89 Vol.:  No.: Index#: 00801-00

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Author: ADAMS, C. J.  
Source: SCIENCE AND ENGINEERING RESEARCH COUNCIL/OLYMPUS UTILIZATION CONFERENCE
Title: HOW WILL ISDN AFFECT NETWORK MANAGEMENT?
Author: BAKER, H. C.
Source: BUSINESS COMMUNICATIONS REVIEW
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Title: ROUTE OPTIMISATION, NETWORK GUIDANCE AND SYSTEM MINIMISATION AS...
Author: BASSLER, R.
Source: NACHRICHTEN TECHNIK ELEKTRONIK
Date: 01/01/86 Vol.: 36 No.: 12 Index#: 00804-00

Title: GORDON BELL CALLS FOR A US RESEARCH NETWORK
Author: BELL, GORDON C.
Source: IEEE SPECTRUM
Date: 02/01/88 Vol.: No.: Index#: 00805-00

Title: THE IMPACT OF TECHNOLOGY TRENDS ON THE TELECOMMUNICATION NETWORK
Author: BIRING, D. S.
Source: NORTHCOM 87 CONFERENCE SEPT. 1987
Date: 01/01/87 Vol.: No.: Index#: 00806-00

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Author: BLOOMFIELD, R. S. ET.AL.
Source: BROADBAND FOC/LAN EXPOSITION OCT. 1989
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Author: BOYLES, STEPHANIE M. ET.AL.
Source: IEEE COMMUNICATIONS MAGAZINE
Date: 07/01/90 Vol.: 28 No.: 7 Index#: 00807-00

Title: POISSON - PROCEDURE FOR THE OPTIMAL INSERTION OF A SWITCHING SATELLITE IN AN OPERATIVE NETWORK
Author: BUTTO, MILENA
Source: ALTA FREQUENZA
Date: 02/01/88 Vol.: 57 No.: 12 Index#: 00808-00

Title: ON-BOARD PROCESSING SATELLITES NETWORK ARCHITECTURE AND CONTROL STUDY
Author: CAMPANELLA, S.J.; PONTANO, B; CHALMERS, H.
Title: SUBJECTIVE EVALUATION OF DEDICATED MULTIPLE-HOP SATELLITE COMMUNICATION FOR GOVERNMENT AND MILITARY USERS  
Author: CAMPANOLLA, S. J.; ONUFRY M.; SUYDERHOUD, H. G.  
Source: IEEE TRANSACTIONS ON COMMUNICATION TECHNOLOGY  
Date: 10/01/70 Vol.: COM-18 No.: Index#: 00809-00

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Author: CAMPBELL, R. P.  
Source: TELECOMMUNICATIONS PRODUCTS PLUS TECHNOLOGY  
Date: 12/01/86 Vol.: 4 No.: 12 Index#: 00811-00

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Author: CASAS, J. M. ET.AL.  
Source: NASA REPORT NO. ESA-STR-220  
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Title: NETWORK ARCHITECTURES FOR SATELLITE ISDN  
Author: CHITRE D. M. ET.AL.  
Source: AIAA INTERNATIONAL COMMUNICATIONS SATELLITE SYSTEMS CONFERENCE MARCH 1990  
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Author: CHLAMTAC, I.; GANZ, A.  
Source: IEEE TRANSACTIONS ON COMMUNICATIONS  
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Author: DE ROSA, D. ET.AL.  
Source: NOTE RECENSIONI E NOTIZIE  
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Title: SPACE BASED SWITCHING SYSTEMS  
Author: DEAVES, C.  
Source: COMMUNICATIONS ENGINEERING INTERNATIONAL  
Date: 01/01/89 Vol.: 10 No.: 10 Index#: 00814-00
Title: THE BIG QUESTION IS, WHAT KIND OF AN IMPACT WILL ISDN HAVE ON YOUR CORPORATE NETWORK?
Author: DEWITT, RUSSELL
Source: COMMUNICATIONS NEWS
Date: 01/01/87 Vol.: 24 No.: 1 Index#: 00108-01

Title: SITE DWERS1TY: A POWERFUL ANTIFADING TECHNIQUE FOR SATELLITE COMMUNICATIONS IN 20/30 GHZ BAND
Author: DI ZENOBIO, D.; LOMBARDI, P.; MIGLIORINI, P.; AND RUSSO, E.
Source: OLYMPUS UTILISATION CONFERENCE PROCEEDINGS; ESA, PARIS, FRANCE
Date: 01/01/89 Vol.: No.: Index#: 00816-00

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Author: EDWARDS, M.
Source: COMMUNICATIONS NEWS
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Title: COMPETITORS MATCHING AT&T IN THE MIGRATION TO ISDN
Author: EDWARDS, MORRIS
Source: COMMUNICATIONS NEWS
Date: 05/01/86 Vol.: 73 No.: 5 Index#: 00113-00

Title: DATA NETWORKS IN THE 90'S
Author: FORSON, HENRY
Source: COMMUNICATION NEWS
Date: 12/01/88 Vol.: 25 No.: 12 Index#: 00115-00

Title: PROPOSAL AND IMPLEMENTATION OF OSI ORIENTED APPLICATION INTERFACE FOR ISDN
Author: FURUYA, N. ET.AL.
Source: KDD TECHNICAL JOURNAL
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Author: GLEN, D.V.
Source: NTIA REPORT NUMBER NTIA/86-191;NCS-TIB-86-2
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Author: GOLDBERG, RICHARD; AND SHRADER, DAVID
Title: MOTOROLA BIDS TO RING THE WORLD
Author: GREEN-ARMATAGE, J.
Source: COMPUTER WEEKLY
Date: 07/05/90 Vol.: No. 1221 Index#: 00819-00

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Author: GUNN, HOWARD
Source: TELECOMMUNICATIONS
Date: 05/01/90 Vol.: 24 No.: 5 Index#: 00118-00

Title: USERS SHOULD BE DOING THEIR ADVANCE PLANNING TO TAKE ADVANTAGE OF THE ISDN TECHNOLOGIES
Author: HAHN, JAMES
Source: COMMUNICATIONS NEWS
Date: 01/01/87 Vol.: 24 No.: 1 Index#: 00118-50

Title: SYNCHRONIZATION TECHNIQUES FOR DIGITAL NETWORKS
Author: HARTMANN, H.L.; STEINER, E.
Source: IEEE JOURNAL ON SELECTED AREAS IN COMMUNICATIONS
Date: 06/01/86 Vol.: SAC-4 No.: 4 Index#: 00820-00

Title: SATELLITE AND/OR GROUND BASED NETWORKS: USER CONCERNS
Author: HINE, M.G.N.
Source: IN ESA, OLYMPUS UTILIZATION CONFERENCE P167-171
Date: 05/01/89 Vol.: No. Index#: 00821-00

Title: PHOTONIC SWITCHING FABRICS
Author: HINTON, H. SCOTT
Source: IEEE COMMUNICATIONS MAGAZINE
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Title: AN ATM SELF-ROUTING SWITCH ARCHITECTURE
Author: HITOSHI, IMAGAWA ET.AL.
Source: INTERNATIONAL JOURNAL OF DIGITAL AND ANALOG CABLED SYSTEMS
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Title: 30/20 GHZ BAND SCPC SATELLITE COMMUNICATION USING SMALL EARCH STATIONS
Author: INOVE T.; NAKAJIWA, S.; MASAMURA, T.; KAITSUKE, T.; SATCHE, R.
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Author: JAKUBSON, J. E. ET.AL.
Source: TPT
Date: 02/01/89 Vol.: 7 No.: 2 Index#: 00824-00

Title: ISDN OVER THE PACIFIC
Author: KAWASAKI, TATSUMO
Source: TELECOMMUNICATIONS
Date: 08/01/90 Vol.: 24 No.: 8 Index#: 00122-00

Title: AN IXC'S LOOK AT GLOBAL ISDN
Author: KERO, T.
Source: TELEPHONY
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Title: CURRENT ROLE AND FUTURE EVOLUTION OF THE ISDN SIGNALING SYSTEM IN NTT'S NETWORK
Author: KITAMI, KENICHI ET.AL.
Source: IEEE COMMUNICATIONS MAGAZINE
Date: 07/01/90 Vol.: 28 No.: 7 Index#: 00826-00

Title: AN OVERVIEW OF SATELLITE TRANSMISSION ISSUES AND THE ISDN
Author: KNIGHT, IVOR N. ET.AL.
Source: ICC 86 CONFERENCE JUNE 86
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Title: DESIGN OF A DEMAND-ASSIGNMENT SATELLITE-SWITCHED SPACE DIVISION MULTIPLE ACCESS COMMUNICATIONS NETWORK
Author: KO, K. T. ET.AL.
Source: ATR/AUSTRALIAN TELECOMMUNICATION RESEARCH
Date: 01/01/82 Vol.: 16 No.: 2 Index#: 00825-00

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Author: KOVAL, D.O. AND HUNGKWENG, KU
Source: PROCEEDINGS OF THE IASTED INTERNATIONAL SYMPOSIUM ON MODELLING AND SIMULATION
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Author: KRIEDTE, W.; CANAVESIO, F.; DAL DEGAN, N.; PIRANI, G. ET.AL.
Source: ESA JOURNAL
Date: 01/01/84 Vol.: 8 No.: 3 Index#: 00827-00
Title: COMPUTER AIDED SYNTHESIS OF COMMUNICATION SATELLITE SYSTEMS  
Author: KRIEGL, W.; LOEHLE H.  
Source: SPACE COMMUNICATION AND BROADCASTING  
Date: 06/01/85 Vol.: 3 No.: Index#: 00828-00

Title: THE ISDN CHALLENGE IS MANAGEABLE IF THE USER IS ARMED WITH THE RIGHT NETWORK KNOWLEDGE  
Author: LANGFORD, GREG  
Source: COMMUNICATIONS NEWS  
Date: 01/01/88 Vol.: 25 No.: 1 Index#: 00124-00

Title: INTEGRATION OF A TERRESTRIAL COMMUNICATION NETWORK INTO A COMMUNICATION SATELLITE SYSTEM  
Author: LOEHLE, H.  
Source: DORNIER-WERKE GIMIBIH  
Date: 07/01/80 Vol.: No.: Index#: 00829-00

Title: INVESTIGATION OF THE INTEGRATION OF A TERRESTRIAL COMMUNICATION NETWORK WITHIN A SATELLITE SYSTEM  
Author: LOEHLE, H.  
Source: AIAA TECHNICAL LIBRARY  
Date: 07/01/80 Vol.: No.: Index#: 00830-00

Title: BROADCASTERS URGED TO TRY FIBER OPTICS AS ALTERNATIVE TO SATELLITE TRANSMISSION  
Author: LOPEZ, JULIE A.  
Source: WALL STREET JOURNAL  
Date: 02/27/90 Vol.: No.: Index#: 00831-00

Title: SIGNALING SYSTEM NO. 7 IN CORPORATE NETWORKS  
Author: MARR, FRANCIS K.  
Source: IEEE COMMUNICATIONS MAGAZINE  
Date: 07/01/90 Vol.: 28 No.: 7 Index#: 00832-00

Title: INTERNETWORKING LANS VIA THE ISDN BEARER SERVICES  
Author: MARSDEN, P. N.  
Source: IEEE COLLOQUIUM ON INTERCONNECTION OF LANS MAY 90  
Date: 01/01/90 Vol.: No.: Index#: 00130-00

Title: MULTI-SERVICE DEMAND ASSIGNMENT SYSTEM AIMING AT ISDN  
Author: MATSUO, K. ET.AL.  
Source: ICDSC-7 CONFERENCE MAY 86  
Date: 01/01/86 Vol.: No.: Index#: 00029-00
Title: NETWORK INFRASTRUCTURE: PAY NOW OR PAY LATER
Author: MCQUILLAN, JOHN
Source: BUSINESS COMMUNICATIONS REVIEW
Date: / / Vol.: No.: Index#: 00833-00

Title: THE USE OF SATELLITES IN MEETING THE TELECOMMUNICATION NEEDS OF DEVELOPING NATIONS
Author: MITCHELL, W. C.
Source: STANFORD UNIVERSITY PH.D DISSERTATION
Date: 01/01/75 Vol.: No.: Index#: 00934-00

Title: A SWITCH IN THE SKY
Author: MONTGOMERY, ROB R. ET.AL.
Source: CELLULAR BUSINESS
Date: 04/01/89 Vol.: 6 No.: 4 Index#: 00835-00

Title: IMPACT OF EMERGING SWITCHING-TRANSMISSION COST TRADEOFFS ON FUTURE TELECOMMUNICATIONS NETWORK ARCHITECTURES
Author: MOONDRA, S. L.
Source: IEEE JOURNAL ON SELECTED AREAS IN COMMUNICATIONS
Date: 10/01/89 Vol.: 7 No.: 8 Index#: 00836-00

Title: VSAT NETWORKING CONCEPTS AND NEW APPLICATIONS DEVELOPMENT
Author: MURTHY, K.M. SUNDARA; GORDON, KENNETH G.
Source: IEEE COMMUNICATIONS MAGAZINE
Date: 05/01/89 Vol.: 27 No.: Index#: 00837-00

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Author: MWANAKATWE, M. ET.AL.
Source: IEE COLLOQUIUM ON EXPERIEMENTS USING THE OLYMPUS SATELLITE
Date: 10/27/87 Vol.: No.: 81 Index#: 00838-00

Title: FUTURE ADVANCED SATELLITE COMMUNICATIONS SYSTEMS WITH INTEGRATED TRANPONDERS
Author: NAKAMURA, M. ET.AL.
Source: COMMUNICATIONS SATELLITE SYSTEMS CONFERENCE 9TH
Date: 01/01/82 Vol.: No.: Index#: 00839-00

Title: ISDN IS COMING, SO NOW'S THE TIME TO PREPARE FOR REALITY BY BECOMING A BANDWIDTH MANAGER
Author: NEVERS, DAVID
Source: COMMUNICATIONS NEWS
Date: 01/01/88 Vol.: 25 No.: 1 Index#: 00137-00
Title: DESIGN OF AN INTERNATIONAL BUSINESS SATELLITE COMMUNICATIONS NETWORK...
Author: NOHARA, M.; TAKEUCHI, Y.; YAMAZAKI, T.; TAKAHATA, F.; HIRATA, Y.
Source: TRANSACTIONS OF THE INSTITUTE OF ELECTRONICS AND COMMUNICATION ENGINEERS OF JAPAN
Date: / / Vol.: J69B No.: 11 Index#: 00840-00

Title: BITNET NETWORK: AN AID TO RESEARCH
Author: NTIS TECH NOTE
Source: NATIONAL INSTITUTES OF HEALTH, BETHESDA, MD
Date: / / Vol.: No.: Index#: 00841-00

Title: PLUGGING INTO THE SWITCHBOARD IN THE SKY
Author: PAYNE, M.
Source: NEW SCIENTIST
Date: 04/01/75 Vol.: 66 No.: Index#: 00841-01

Title: SYSTEM CONSIDERATIONS IN INTELSAT DOMESTIC NETWORK
Author: PEVILLAN, L. AND Eftekhavi, R.
Source: NTC '80; NATIONAL TELECOMMUNICATIONS CONFERENCE
Date: 12/04/80 Vol.: 2 No.: Index#: 00711-00

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Author: PULAT, S. ET. AL.
Source: MICROELECTRONICS AND RELIABILITY
Date: 01/01/89 Vol.: 29 No.: 1 Index#: 00842-00

Title: ATM SWITCHES - BASIC ARCHITECTURES AND THEIR PERFORMANCE
Author: RATHGEB, E. P. ET. AL.
Source: INTERNATIONAL JOURNAL OF DIGITAL AND ANALOG CABLED SYSTEMS
Date: 10/01/89 Vol.: 2 No.: 4 Index#: 00263-00

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Author: RAZ, GHULAM H.
Source: GLOBECOM '87 - GLOBAL TELECOMMUNICATIONS CONFERENCE
Date: 01/01/87 Vol.: 1 No.: Index#: 00616-00

Title: DOMSAT DOWN UNDER
Author: REINECKE, IAN
Source: TELEPHONY
Date: 01/21/80 Vol.: 198N3 No.: Index#: 00843-00

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Title: INVESTIGATIONS OF INTERLIBRARY RESOURCE-SHARING NETWORKS  
Author: REINTJES, J. FRANCIS  
Source: NATIONAL SCIENCE FOUNDATION REPORT NO. LIDS-R-1176  
Date: 03/01/82 Vol.: No.: Index#: 00844-00

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Author: REIS, J.  
Source: INFORMATION WEEK  
Date: 12/08/86 Vol.: No.: 95 Index#: 00845-00

Title: SELF-ORGANIZING COMMUNICATION NETWORKS  
Author: ROBERTAZZI, T.G.; SARACHIK, P.E.  
Source: IEEE COMMUNICATIONS MAGAZINE  
Date: 01/01/86 Vol.: 24 No.: 1 Index#: 00846-00

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Author: RUSTAD, JOHN ERIK ET.AL.  
Source: IEEE JOURNAL ON SELECTED AREAS IN COMMUNICATIONS  
Date: 06/01/90 Vol.: 8 No.: 5 Index#: 00847-00

Title: INTEGRATION OF SATELLITE CIRCUITS IN THE TERRESTRIAL TELECOMMUNICATIONS NETWORK  
Author: SATAGOPAN, S.  
Source: CNES SYMPHONIC SYMPOSIUM  
Date: 01/01/80 Vol.: No.: Index#: 00848-00

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Author: SCHAEVITZ, A. Y.  
Source: BUSINESS COMMUNICATIONS REVIEW  
Date: 11/01/88 Vol.: 18 No.: 6 Index#: 00849-00

Title: THE GERMAN TELECOMMUNICATIONS SATELLITE SYSTEM DFS KOPERNIKES  
Author: SCHUNELLER, O.  
Source: COMMUNICATION SATELLITE SYSTEMS CONFERENCE 11TH  
Date: 01/01/86 Vol.: No.: Index#: 00852-00

Title: RELIABILITY ALLOCATION METHODOLOGY FOR LARGE-SCALE COMMUNICATIONS NETWORKS  
Author: SELMAN, V.; CHAO, K.; MOWAFI, O.  
Source: PROCEEDINGS OF THE 1986 SUMMER COMPUTER SIMULATION CONFERENCE  
Date: 01/01/86 Vol.: No.: Index#: 00850-00
Title: CASADE BENES REARRANGEABLE MULTICONNECTION NONBLOCKING SWITCHING NETWORKS  
Author: SEZAKI, K.; TANAKA, Y.; AKIYAMA, M.  
Source: TRANSACTIONS OF THE INSTITUTE OF ELECTRONICS, INFORMATION AND COMMUNICATION ENGINEERS  
Date: / / Vol.: J71B No.: 8 Index#: 00851-00

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Author: SHARIFI, HOSSEIN M.  
Source: ICC '86 PROCEEDINGS OF THE INTERNATIONAL CONFERENCE ON COMMUNICATIONS, TORONTO  
Date: 01/01/86 Vol.: No.: 2 Index#: 00853-00

Title: A CENTRALIZED MULTIPLE SATELLITE NETWORK FOR REAL TIME GLOBAL SPACE, LAND AND MOBILE COMMUNICATION  
Author: SHARIFI, M. HOSSEIN AND AVOZULLAH, MAHAMMED  
Source: MILCOM '87 IEEE MILITARY COMMUNICATIONS CONFERENCE  
Date: 01/01/87 Vol.: 3 No.: Index#: 00854-00

Title: A MULTIFUNCTION SATELLITE NETWORK FOR TAIWAN  
Author: SIMHA, SESH AND ONG, CHONG  
Source: SATELLITE COMMUNICATIONS  
Date: 10/01/90 Vol.: 14 No.: 10 Index#: 00855-00

Title: POLICE DEPT.'S BRI LINES TO SUPPORT VOICE, DATA, IMAGES  
Author: SMITH, TOM  
Source: NETWORK WORLD  
Date: 07/23/90 Vol.: 7 No.: 30 Index#: 00143-00

Title: FUTURE FIBER ACCESS NEEDS AND SYSTEMS  
Author: SNELLING, RICHARD K. ET.AL.  
Source: IEEE COMMUNICATIONS MAGAZINE  
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Author: SNYDER, J. M.  
Source: COMPUTER COMMUNICATION REVIEW  
Date: 09/01/89 Vol.: 19 No.: 4 Index#: 00857-00

Title: SATELLITE COMMUNICATIONS: A PRACTICAL NETWORK ALTERNATIVE FOR TELECOM USERS  
Author: SOBCZAK, JAMES J.
Title: SOUTHWESTERN BELL TELEPHONE'S ISDN EXPERIENCE
Author: STEPHENSON, RICHARD W.
Source: IEEE NETWORK
Date: 09/01/89 Vol.: 3 No.: 5 Index#: 00145-00

Title: ISDN INTERNET ENVIRONMENT AND STANDARDS ANALYSIS
Author: SU, J. ET.AL.
Source: GEORGIA INSTITUTE OF TECHNOLOGY REPORT NO. ASQBG-C-89-022
Date: 08/01/88 Vol.: No.: Index#: 00149-00

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Author: SUGANO, M. ET.AL.
Source: TRANSACTIONS OF THE INSTITUTE OF ELECTRONICS, INFORMATION AND COMMUNICATIONS ENGINEERS
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Author: SUMNER, ERIC E.
Source: IEEE NETWORK
Date: 09/01/89 Vol.: 3 No.: 5 Index#: 00860-00

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Author: SUZUKI, R.; SAGA, R.; NAKANISH, M.
Source: JOURNAL OF THE INSTITUTE OF ELECTRONICS, INFORMATION AND COMMUNICATION ENGINEERS
Date: 11/01/89 Vol.: 72 No.: 11 Index#: 00861-00

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Author: TANZILLO, KEVIN
Source: COMMUNICATIONS NEWS
Date: 01/01/89 Vol.: 26 No.: 1 Index#: 00150-00

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Author: TESHIGAWARA, Y. ET.AL.
Source: NEC RESEARCH AND DEVELOPMENT
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Title: THE ITALSAT PEROPERATIONAL PROGRAMME
Author: TIRRO, S.
Title: COMBINING FDM AND CDM IN A HIGH CAPACITY OPTICAL NETWORK
Author: VANNUCCI, GIOVANNI
Source: IEEE NETWORK
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Title: DAVID SYSTEMS GETS $7M INVESTMENT FOR ISDN R AND D
Author: WALLACE, BOB
Source: NETWORK WORLD
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Author: WALLACE, BOB
Source: NETWORK WORLD
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Author: WEINSTEIN, C. J. ET.AL.
Source: MIT FINAL REPORT SEPT. 89 NO. ESD-TR-90-010
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Author: WULLEMAN, R. ET.AL.
Source: INTERNATIONAL JOURNAL OF DIGITAL AND ANALOG CABLED SYSTEMS
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Author: YAMAMOTO, M.; ET.AL.
Source: JOURNAL OF THE INSTITUTE OF ELECTRONIC, INFORMATION AND COMMUNICATION ENGINEERS
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Author: YASUDA, H.
Source: JOURNAL OF THE INSTITUTE OF TELEVISION ENGINEERS OF JAPAN
Date: 06/01/88 Vol.: 47 No.: 6 Index#: 00867-00

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Author: YASUI, T.
Source: CONFERENCE: 33RD INTERNATIONAL CONGRESS ON
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Author: YEH, Y.S.; REUDINK, D.O.
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Author: 
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Author: 
Source: GLOBECOM 85 DEC. 1985
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Author: 
Source: COMMUNICATIONS NEWS
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Title: DOWNLINK PERFORMANCE DEGRADATIONS CAUSED BY AN ON-BOARD BASEBAND SWITCHING MATRIX
Author: AMADESI, P. ET.AL.
Source: CSLET RAPPORTI TECNICI (ITALY)
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Author: ANANASSO, FULVIO ET.AL.
Source: IEEE COMMUNICATION MAGAZINE
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Title: INTEGRATION AND TESTING OF AN SS-TDMA 120 MBIT/S REGENERATIVE REPEATER...AT K-BAND
Author: ANANASSO, FULVIO; DELLACCINI, SERGIO
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Author: BAGWELL, JAMES
Source: PROCEEDINGS OF THE IEEE
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Author: BASTANI, M. H.
Source: NASA ENST-84 E013
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Title: MEASUREMENTS ON A 30 CHANNEL PCM SYSTEM
Author: BATES, R.J.S.
Source: CAMBRIDGE UNIVERSITY (UK) CUED/B-ELECT/TR-53-1978
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Author: BEHMANN, F.F. ET. AL.
Source: ANNUAL RELIABILITY AND MAINTAINABILITY SYMPOSIUM (AIAA)
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Author: BELL, TRUDY E.
Source: IEEE SPECTRUM
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Author: BERTONI, H. C. ET. AL.
Source: NASA GRAI 8815; STAR2612 (POLYTCH. INST. NY)
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Author: BIANCHI, F. ET. AL.
Source: NOTE RECENSIONI E NOTIZLE (ITALY)
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Author: BITTEL, R.H. ET. AL.
Source: PROCEEDINGS OF SPIE (INTL. SOC. OF OPT. ENG.)
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Author: BOUDREAW, GARY D. ET. AL.
Source: IEEE JOURNAL ON SELECTED AREAS ON COMMUNICATIONS
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Author: BRANDEL, DANIEL C. ET AL.
Source: PROCEEDINGS OF THE IEEE
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Author: BROSS, DAVID
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Author: BURCH, DEAN
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Author: CAMPANELL, S.J.
Source: IEEE SPECTRUM
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Author: CAMPANELLA, S.J.
Source: INTERNATIONAL JOURNAL OF SATELLITE COMMUNICATIONS
Date: 07/01/83 Vol.: 1 No.: JUL-SEP Index#: 00934-00

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Author: CAMPANELLA, S.J. ET AL.
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Author: CASS, ROBERT D.
Source: NTIA
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Title: SIDESTEPPING INTERFACE
Author: CORONDAN, WILLIAM
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Author: DIZENBIO, D.
Source: FONDAZIONE UGO BORDON: (ITALY)/NASA
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Author: DURRANI, SAJJAD H. ET.AL.
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Author: EDWARDS, M.
Source: COMMUNICATIONS NEWS
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Author: EILENBERG, G.
Source: STUTTGART UNIVERSITY (GERMANY); NASA REPORT NO. GN-87-90429
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Author: ENDO, K. ET.AL.
Source: FUJITSU
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Title: MEASURING PERFORMANCE OF COMMUNICATION SATELLITE SYSTEMS
Author: FEHRENBACK, H.
Source: TELECOMMUNICATIONS
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Author: FILIPPI, C. A.
Source: MYOSTRPTY-83-134
Date: 10/01/83 Vol.: No.: Index#: 00939-00
Title: ONBOARD DEMAND SCHEDULING OF A MULTIBEAM SS/TDMA SATELLITE WITH INTEGRATED CIRCUIT AND PACKET SWITCHING
Author: FRANK, A. J.
Source: COLUMBIA UNIVERSITY NEW YORK (THESIS)
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Author: GARNER, WILLIAM
Source: COMMUNICATIONS NEWS
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Author: GILHOUSE, KLEIN S. ET.AL.
Source: IEEE JOURNAL ON SELECTED AREAS IN COMMUNICATION
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Author: GRENIER, J.
Source: CONFERENCE: SUBMARINE TELECOMMUNICATION SYSTEMS; IEEE CONFERENCE
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Author: HARROLD, JOSEPH L. ET.AL.
Source: PROCEEDINGS OF THE IEEE
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Author: HENDRICKX, M. P.
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Author: HERRMAN, G. ET.AL.
Source: RUNDFUNKTECHNISCHE MITTEILUNGEN (GERMANY)
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Author: HOWES, KAREN J.P.
Source: VIA SATELLITE
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Author: INAGAKI, K.; HIVATA, Y.; OGAWA, A.
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Author: IRISH, D. ET.AL.
Source: AUSSAT PTY LTD, SYDNEY AUSTRALIA/NASA
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Author: ITO, Y. ET.AL.
Source: IEEE PROCEEDINGS
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Author: IZUMI, K.
Source: INTL CONFERENCE ON DIGITAL SATELLITE COMMUNICATIONS (3RD, KYOTO)
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Author: JOHNSON, JAMES W.
Source: PTC 1990 CONFERENCE
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Author: KATO, S.; SAMEJIMA, S.; YAMAMOTO, H.
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Author: KERRIDGE, M. L.
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Author: KNIGHT, IVOR N. ET.AL.
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Author: KUHLER, H. ET.AL.
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Author: MAHNER, H.
Source: COMMUNICATION SATELLITE SYSTEMS CONFERENCE/AIAA
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Author: MARCONICCHIO, F.
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Author: MARTINEZ, LARRY F.
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Author: MASUMOTO, SHUICHI ET.AL.
Source: PACIFIC TELECOM COUNCIL 1990 CONFERENCE
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Author: MAZOR, R. A. ET.AL.
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Author: MINE, H.; OHNO, K.; SHIOYAMA, T.
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Author: MINE, H.; OHNO, K.; SHIOYANA, T.
Source: IEEE TRANSACTIONS ON COMMUNICATIONS
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Author: MINOUX, M.
Source: INTERNATIONAL JOURNAL OF SATELLITE COMMUNICATIONS
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Author: NICOLICH, A.
Source: L'ANTENNA, ITALY
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Author: OLMSTEAD, DEAN ET.AL.
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Author: PELTON, JOSEPH N.
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Author: PRATT, T. ET.AL.  
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Author: PREUSS, R. D.  
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Author: PUGA, MARCOS W. ET.AL.  
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Author: RAMADANOVIC, LJUBOMIR  
Source: ALTA FREQUEUZA (ITALY)  
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Author: RESHEFF, SAMUEL ET.AL.  
Source: IEEE JOURNAL ON SELECTED AREAS IN COMMUNICATIONS  
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Author: SCHILLING, DONALD L.
Title: A PREDICTOR MODEL FOR EHF COMMUNICATION SATELLITE SYSTEM AVAILABILITIES IN THE PRESENCE OF RAIN
Author: SCHWAB, L. M. ET. AL.
Source: LINCOLN LAB, M.I.T., LEXINGTON, MA
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Author: SHIMADA, MASAKI
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Author: SPIEGLEMAN, A.
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Author: STAMMINGER, REINHARD ET. AL.
Source: SATELLITE COMMUNICATIONS
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Author: STELTER, N.R.
Source: ANNUAL RELIABILITY AND MAINTAINABILITY SYMPOSIUM, SAN FRANCISCO, CA
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Author: STEM, AC
Source: VIA SATELLITE
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Author: STEM, AL
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Author: SUYERHOOD, H. G. ET. AL.
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Author: THOMA, G.R.
Source: IEEE TRANSACTIONS ON AEROSPACE AND ELECTRONIC SYSTEMS
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Author: TIMOR, V.
Source: BELL SYSTEM TECHNICAL JOURNAL (AIAA TECHNICAL LIBRARY)
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Author: VITTOBI, ANDREW J.
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Author: WEINREICH, D. E.
Source: ICC 86 CONFERENCE JUNE 86
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Author:
Source: JOURNAL ANNOUNCEMENT: IAA 7920
Date: 01/01/79 Vol.: No.: Index#: 01028-00

Title: FIFTH INTERNATIONAL CONFERENCE ON MOBILE RADIO AND PERSONAL COMMUNICATION
Author: ANON (ED)
Source: IEE CONFERENCE PUBLICATION
Date: 01/01/89 Vol.: No.: 315 Index#: 01001-00

Title: DAWN OF A NEW ERA IN EDUCATION THROUGH THE USE OF ELECTRONIC MEDIA
Author: ASANO, M.
Source: 1ST WORLD ELECTRONIC MEDIA SYMPOSIUM; SPEAKERS PAPERS
Date: 01/01/89 Vol.: No.: Index#: 01002-00

Title: L-SAT EUROPE'S LARGE SATELLITE FOR THE EIGHTIES
Author: BIGGS, P.D.; BLONSTEIN, J.L.
Source: INTERNATIONAL ASTRONAUTICAL CONGRESS 31ST #IAF PAPER 80-F-169
Date: 09/01/80 Vol.: No.: Index#: 01003-00

Title: MICROWAVE POWER TRANSMISSION SYSTEM: SPACE FLIGHT EXPERIMENT PROGRAM
Author: CHANG, KAI ET.AL.
Source:
Date: 10/06/90 Vol.: No.: 90-216 Index#: 01005-00

Title: CANADIAN INTERESTS AND ACTIVITIES IN SPACE COMMUNICATION AND NAVIGATION
Author: CHAPMAN, J. H.
Source: AMERICAN ASTRONAUTICAL SOCIETY 19TH ANNUAL MEETING
Date: 06/01/73 Vol.: No.: Index#: 01004-00

Title: FREQUENCY RE-USE IN THE INTELSAL SYSTEM
Author: EATON, R. AND SMITH, AL
Source: INTERNATIONAL CONFERENCE ON SATELLITE COMMUNICATION SYSTEMS TECH.
Date: 01/01/75 Vol.: No.: 1AA7517 Index#: 01006-00
Title: POWER SUPPLY TECHNOLOGIES - KEYSTONE FOR SPACE AND TERRESTRIAL DEVELOPMENT
Author: FRITZSCHE, A. ET.AL.
Source: 41ST CONGRESS OF THE INTERNATIONAL ASTRONAUTICAL FEDERATION
Date: 10/06/90 Vol.: No.: IAF-90- Index#: 01007-00

Title: SATELLITE COMMUNICATIONS LASER SIGNALS IN SPACE
Author: HACKER, G.
Source: FUNKSCHAU
Date: / / Vol.: No.: 26 Index#: 01008-00

Title: COMMUNICATION MISSION AND SYSTEM ASPECTS OF EUROPEAN REGIONAL SATELLITE SYSTEM
Author: HOWELL, T. F.
Source: ESA JOURNAL
Date: 01/01/80 Vol.: 4 No.: 3 Index#: 01009-00

Title: IMAGE BANKS; DEFINITIONS AND TECHNOLOGIES
Author: HUDRISIER, H.
Source: INFORMATION ET GESTION
Date: 05/01/83 Vol.: No.: Index#: 01010-00

Title: MULTI-DESTINATION/CIRCULAR/TRANSMISSIONS IN SATELLITE COMMUNICATION SYSTEMS IN USSR
Author: KANTOR, L. IA
Source: INTERNATIONAL ASTRONAUTICAL FEDERATION 28TH CONGRESS
Date: 09/01/77 Vol.: No.: Index#: 01011-00

Title: MULTIBEAM SYSTEM APPLICATIONS AND IMPACT ON SATELLITE COMMUNICATIONS
Author: KAWAI, M. AND NAKAYA, K.
Source: NTT RADIO/41ST CONGRESS OF INTERNATIONAL ASTRONAUTICAL FEDERATION
Date: 10/06/90 Vol.: No.: IAF-90- Index#: 01012-00

Title: BREAK THROUGH/ CONTRACT BETWEEN SATELLITE SERVICE AND TWO BANKS
Author: KERVER, TOM
Source: SATELLITE COMMUNICATIONS
Date: 08/01/86 Vol.: No.: Index#: 01013-00

Title: DEREGULATION INDICATES A HEALTHY SATELLITE SERVICES FUTURE
Author: KIRK, BARRIE
Title: COMMUNICATIONS SATELLITE SYSTEM FOR AFRICA  
Author: KRIEGAL, W.; AND LAUFENBER, W.  
Source: DORNIER-WEIKE GIMIBILTI  
Date: 01/01/80 Vol.: No.: Index#: 01019-00

Title: SPACE COMMUNICATIONS SYSTEMS - COST ANALYSIS AND GENERAL ECONOMIC OPTIMIZATIONS METHODS  
Author: KRIEGL, W.; LOEHLE, H.; OTTO, D.  
Source: SPACE, SPACE TELECOMMUNICATIONS AND SATELLITE RADIO BROADCASTING CONFERENCE  
Date: 01/01/79 Vol.: No.: Index#: 01017-00

Title: THRESHOLD EXTENSION OF AN F.M. DEMODULATOR USING A DYNAMIC TRACKING FILTER  
Author: LOCKYER, K. S.  
Source: INSTITUTION OF ELECTRICAL ENGINEERS, PROCEEDINGS  
Date: 08/01/68 Vol.: 115 No.: Index#: 01018-00

Title: COMMUNICATION SATELLITES FOR SOUTH AMERICA  
Author: LOEHLE, H.; BRAUN, H.M.; SCHMIDBAUER, M.  
Source: DORNIER-WERKE GIMIBILTI  
Date: 12/01/79 Vol.: No.: Index#: 01016-00

Title: THE SYMPHONIE PROJECT  
Author: MADON, P.K. AND PFEIFFER, B.R.K.  
Source: CONSORTIUM FRANCO ALLEMAND POUR LE SATELLITE SYMPHONIE  
Date: 01/01/75 Vol.: No.: Index#: 01019-00

Title: ENGINEERING TEST SATELLITE IV AND FUTURE APPLICATIONS  
Author: NAKAMARV, K. ET.AL.  
Source: 41ST CONGRESS OF THE INTERNATIONAL ASTRONAUTICAL FEDERATION  
Date: 10/06/90 Vol.: No.: IAF-90- Index#: 01020-00

Title: SYSTEM ENGINEERING PROBLEMS/DEVELOPMENT/SATELLITE SYMPHONIE  
Author: PFEIFFER, B. R.  
Source: INTERNATIONAL SYMPOSIUM ON SPACE TECHNOLOGY AND SCIENCE 10TH  
Date: 01/01/73 Vol.: No.: Index#: 01021-00
Title: THE EUROPEAN COMMUNICATION SATELLITE AND DERIVATIVES
Author: RAFFT-BROWN, CI; HAIGH, A.
Source: BRITISH INTERPLANETARY SOCIETY JOURNAL
Date: 05/01/79 Vol.: 32 No.: Index#: 01022-00

Title: A SATELLITE SYSTEM FOR EDUCATIONAL TELEVISION
Author: ROSEN, H.
Source: ASTRONAUTICS AND AERONAUTICS
Date: 04/01/68 Vol.: 6 No.: Index#: 01023-00

Title: FREQUENCY SHAVING BY FIXED AND MOBILE USERS IN THE 4-28 MHZ RANGE
Author: SAILORS, D.B. AND BROWN R.P.
Source: NAVAL OCEAN SYSTEMS CENTER REPORT #NOSC/TR-230
Date: 03/28/78 Vol.: No.: Index#: 01024-00

Title: DBS, DEREGULATION SPUR INTERNATIONAL BROADCASTING
Author: SATELLITE COMMUNICATIONS STAFF
Source: SATELLITE COMMUNICATIONS
Date: 12/01/89 Vol.: No.: Index#: 01025-00

Title: DIGITAL-ANALOG AND ANALOG TO DIGITAL CONVERSION USING PULSE DURATION MOD.
Author: SCHLEIFER, W.
Source: TECHNISCHE UNIVERSITAT MUENCHEN (DOCTORIAL THESIS)
Date: 01/01/86 Vol.: No.: Index#: 01026-00

Title: MULTISTAGE DECODING OF FREQUENCY-HOPPED FSK SYSTEM
Author: TIMOR, V.
Source: BELL SYSTEM TECHNICAL JOURNAL (AIAA TECHNICAL LIBRARY)
Date: 04/01/81 Vol.: 60 No.: Index#: 00923-00

Title: KEGGING PLANT: 2002 AD-ROBOT OR MAN
Author: WILKINSON, J.
Source: THORN EMI ROBOTICS, UK/INTEL/ET AL ISATA 86 AUTOMOTIVE TECH
Date: 10/01/86 Vol.: 2 No.: 14 Index#: 01027-00

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**Report Documentation Page**

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<td>ISDN, satellite, traffic network simulation, ISDN standards, B-ISDN, frame relay, on-orbit switching, computer networks, satellite orbits, satellite transmission quality, network configuration</td>
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