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HARDWARE SURVEY FOR THE AVIONICS TEST BED

Prepared By

Lockheed Engineering and Management Services Company, Inc.
Houston, Texas

Contract NAS 9-15800

For

AVIONICS SYSTEMS DIVISION

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HARDWARE SURVEY FOR THE AVIONICS TEST BED

Job Order 32-429

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For

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Engineering and Development Directorate

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16. Abstract

A survey of major hardware items that could possibly be used in the development of an Avionics Test Bed for Shuttle attached or autonomous large space structures was conducted in NASA JSC building 16. The results of the survey were organized to show the hardware by laboratory usage. Computer systems were emphasized by detailing each one on a standard form and placing the forms in appendices.

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CONTENTS

1. INTRODUCTION

A large space structures (LSS) avionics test bed (ATB) has been proposed for development at NASA JSC in building 16. The ATB will be used in the development of Shuttle attached or autonomous large space structures such as the proposed Space Operations Center (SOC). A comprehensive survey of hardware and computer software presently available in building 16 was required for the generation of an ATB development plan. The survey in this report covers the hardware in NASA JSC building 16 which could possibly be useful in the development of the ATB.

The survey is organized to show the hardware by laboratories. Most of the hardware in building 16 supports the Shuttle Avionics Integration Laboratory (SAIL); however, this hardware is contained in individual laboratories which, taken as a whole, make up the SAIL. In some cases, individual elements of SAIL are identified as Simulations which may contain more than one laboratory. These elements are fully identified down to the laboratory level. The hardware in building 16 which is not a part of SAIL is contained in identifiable working laboratories and is described in that manner.

Since computer systems are versatile tools which may be reconfigured to do different or additional tasks, they are listed separately for each laboratory on a special form. The computer systems as listed can only be assumed correct at the time of the survey. Changing laboratory requirements may cause equipment to be moved to different systems within the laboratory and, in some cases, to systems in another laboratory. This survey does not address the availability of this hardware for use in the ATB.

2. DATA SYSTEMS LABORATORY

The Data Systems Laboratory is used for the following functions:

- Investigation of Shuttle avionics systems problems
- Development and evaluation of breadboard hardware for Shuttle enhancements
- Support for SAIL testing

The major hardware elements in the Data Systems Laboratory are the ten (10) computer systems detailed on pages A-1 through A-10.

3. POWER DISTRIBUTION AND CONTROL LABORATORY (PDCL)

The PDCL is used to support tests involving the Shuttle Electrical Power Distribution and Control (EPDC) system and tests involving other spacecraft power systems such as the Power Extension Package (PEP). The PDCL supports the following test functions:

- Development testing
- Anomaly investigations
- Evaluation of proposed EPDC modifications
- Verification of engineering and mathematical calculations

The primary hardware elements in the PDCL are the Shuttle EPDC breadboard and the two computer systems detailed on pages A-11 and A-12.

4. INERTIAL SYSTEMS LABORATORY

The Inertial Systems Laboratory is used to support evaluations and tests involving spacecraft Inertial Measurement Units (IMUs), Star Trackers, and Rate Gyro Assemblies (RGAs). In addition to subsystem tests, this laboratory supports the system tests performed with the Shuttle Test Station (STS) in the SAIL. The primary hardware elements in the Inertial Systems Laboratory are the 3-axis Dynamics Motion Simulator (DMS), a 2-axis rate table, and the five computer systems detailed on pages A-13 through A-17.

5. INERTIAL COMPONENTS LABORATORY

The Inertial Components Laboratory is used to evaluate spacecraft inertial components. Its major hardware elements are three rate tables, three dividing heads, and a computer system detailed on page A-18.

6. FLIGHT CONTROLS LABORATORY

The Flight Controls Laboratory is used to evaluate spacecraft flight control hardware such as electromechanical actuators and Orbital Maneuvering System (OMS) actuators. The primary hardware element in this laboratory is the computer system detailed on page A-19.

7. SHUTTLE AVIONICS INTEGRATION LABORATORY (SAIL)

The SAIL is composed of three major systems - two Test Stations and their supporting laboratories and a Shuttle Engineering Simulator (SES). The two test stations are the Shuttle Test Station (STS) and the Guidance, Navigation and Control Test Station (GTS). Each of these Test Stations have dedicated support laboratories and share the use of some laboratories. The SES will be considered as one laboratory even though its equipment is located in two noncontiguous rooms and it shares a computer system with another laboratory in another room.

7.1 SHUTTLE TEST STATION (STS)

The STS contains the following hardware:

- A mockup of the fore and aft flight deck cockpit
- Qualifiable Shuttle avionics hardware
- Selected Shuttle avionics and non-avionics line replaceable units based on providing complete interface with flight software, flight deck display and control, and selected Launch Processing System application software
- A representative mockup of the Shuttle avionics bay and payload bay
- A Shuttle flight type wiring harness
- A standard payload interface
- SAIL Aerosurface Actuator Simulator (SAAS)
- Navigational Aids Test Set (NTS)

The laboratories listed below are used by the STS to support tests. All the laboratories are part of SAIL.

- Test Operation Center (TOC)
- Marshall Mated Element Simulator (MMES)
- Launch Processing System (LPS)

- Shuttle Avionics Test System (SATS)
- Payload Acceptance Test Station (PATS)
- Verification Test Station (VTS)
- Quick Look Station (QLS)
- Applications Verification Laboratory (AVL)
- Shuttle Dynamics Simulator (SDS)
- Electronic Visual Display (EVD)
- Software Development Laboratory

7.1.1 TEST OPERATIONS CENTER (TOC)

The Test Operations Center supports testing with the Shuttle Test Station. It provides such functions as test control, test interface control, data display and storage, and fault insertion. The TOC contains the following hardware:

- Video data monitors
- Close circuit television monitors
- Analog recorders
- Control stations containing four META 4 computer systems

7.1.2 MARSHALL MATED ELEMENTS SIMULATOR (MMES)

The MMES is used to support tests with the Shuttle Test Station and the Guidance, Navigation and Control Test Station. The MMES provides simulations of the Shuttle main engines, the Shuttle solid rocket booster (SRB) engines, the thrust vector control actuators, and other Shuttle hardware functions. The primary hardware element in the MMES is the XEROX 560 computer system detailed on page B-1. Other hardware elements include a test control console and a signal conditioning unit.

7.1.3 LAUNCH PROCESSING SYSTEM (LPS)

The LPS laboratory is used to support tests with the Shuttle Test Station and the Guidance, Navigation and Control Test Station. The LPS provides data recording, data display, and test control functions. The primary hardware in the LPS is six video monitor/control stations and the seven supporting computer systems detailed on pages B-2 through B-8.

7.1.4 SHUTTLE AVIONICS TEST SYSTEM (SATS)

The SATS is used to support tests with the Shuttle Test Station and the Guidance, Navigation and Control Test Station. It provides data recording and data reduction functions. The primary hardware elements in the SATS are the Data General NOVA 840 and the Data General Eclipse C350 computer systems detailed on pages B-9 and B-10.

7.1.5 PAYLOAD ACCEPTANCE TEST STATION (PATS)

The PATS supports testing with the Shuttle Test Station. The PATS can simulate the Shuttle flight system for testing payloads and payload interfaces, or it can simulate the payload interfaces to support flight system tests. The primary hardware element in the PATS is the SEL 32/75 computer system detailed on page B-11.

7.1.6 VERIFICATION TEST STATION (VTS)

The VTS is used for real time recording and near real time display of user selected SAIL downlist, simulation, and flight system parameters after a preselected event during a SAIL test sequence with the STS or GTS. Data may also be dumped on a printer immediately after capture to give test personnel a quick look at test parameters. The major hardware item in the VTS is the computer system detailed on page B-12.

7.1.7 QUICK LOOK STATION (QLS)

The Quick Look Station is used for non-real time SAIL activities such as maintenance of the SAIL data base for TOC, data reduction of data recorded

in other SAIL laboratories, Configuration Management Office (CMO) records and activities, and logic card wire list generation. The major hardware element in the QLS is the computer configuration detailed on page B-13.

7.1.8 APPLICATIONS VERIFICATION LABORATORY (AVL)

The AVL is used to develop system software for the Test Operations Center (TOC) and as a test bed to check out TOC META 4 computer system components. Major hardware elements in the AVL are a Display and Control Module (DCM), an Acquisition and Command Module (ACM) and the META 4 computer system detailed on page B-14.

7.1.9 SHUTTLE DYNAMICS SIMULATOR (SDS)

The Shuttle Dynamics Simulator is used to support testing with the Shuttle test Station. This simulator contains three laboratories - the Vehicle Dynamics Simulation (VDS), the Simulator Recorder Subsystem (SRS), and the Simulator Interface Subsystem (SIS). These laboratories will be described individually. In addition to these three laboratories, the SDS contains an RCS/OHMS Simulator (ROS) and an MMES Buffer, and it receives test support from the Electronic Visual Display (EVD) laboratory and the Software Development Laboratory. The EVD and Software Development Laboratory will be described as separate SAIL laboratories.

7.1.9.1 Vehicle Dynamics Simulation (VDS)

The VDS laboratory provides simulations of Shuttle aerodynamics, flight dynamics, sensors, navigational aids, IMUs, propulsive forces, moments, and remote manipulator systems. The major hardware elements in the VDS laboratory are the five computer systems detailed on pages B-15 through B-19.

7.1.9.2 Simulator Recorder Subsystem (SRS)

The SRS provides a real time magnetic tape recording capability for recording data from the VDS, SIS, and other SAIL/STS elements. The major hardware element in the SRS is the computer system detailed on page B-20.

7.1.9.3 Simulation Interface Subsystem (SIS)

The SIS provides the interface hardware between the Shuttle Test Station and the VDS and SRS. Its major hardware elements include the Signal Conditioning System, the Converter System, the Test and Monitor Unit, the Buffer Amplifier and Trunking System, and the Raytheon R704 computer system detailed on page B-21.

7.1.10 ELECTRONIC VISUAL DISPLAY (EVD)

The EVD laboratory supplies simulated out-the-window scenes and CCTV scenes in color for all three of the major SAIL systems - STS, GTS, and SES. In addition, it contains a graphics system with an electronic tablet for graphics projects. Its major hardware elements are an Evans and Sutherland Scene Generator, a General Electric Scene Generator, and five computer systems which are detailed on pages B-22 through B-26.

7.1.11 SOFTWARE DEVELOPMENT LABORATORY

The Software Development Laboratory is used by personnel in SDS, GDS, and SES to develop applications programs for the computers in those areas. The major hardware elements in the laboratory are the two computer systems detailed on pages B-27 and B-28, and two Intel microprocessor development systems (MDS 800 and MDS 230).

7.2 GUIDANCE, NAVIGATION AND CONTROL TEST STATION (GTS)

The GTS contains the following hardware:

- A mockup of the Shuttle forward cockpit
- Qualifiable/prototype Shuttle avionics hardware
- Selected Shuttle avionics and non-avionics line replaceable units to provide interface with flight software and flight deck display and control for Guidance, Navigation and Control functions
- Non-flight wire harness and LRU mounting racks

The laboratories listed below are used by the GTS to support tests. All the laboratories are part of SAIL. Four of the laboratories are used by more than one major SAIL system and have been described in paragraph 7.1. The GTS Dynamics Simulator is dedicated to the GTS and is described in the following paragraphs. These laboratories support GTS testing:

- Marshall Mated Element Simulator (MMES)
- Launch Processing System (LPS)
- Shuttle Avionics Test Set (SATS)
- Electronics Visual Display (EVD)
- GTS Dynamics Simulator (GDS)

7.2.1 GTS DYNAMICS SIMULATOR (GDS)

The GDS is used to support testing with the Guidance, Navigation and Control Test Station. This simulator contains three laboratories - the Flight Dynamics Simulation (FDS), the GTS Recording Device (GRD), and the GTS Simulation Interface (GSI). These laboratories will be described individually in the following paragraphs. In addition to these three laboratories, the GDS contains an RCS/OHMS Simulator (ROS), an MMES Buffer, and a Non-Avionics Simulator detailed on page B-29, and it receives support from the Electronic Visual Display (EVD) laboratory. The EVD was described in paragraph 7.1.10.

7.2.1.1 Flight Dynamics Simulation (FDS)

The FDS laboratory provides simulations of Shuttle aerodynamics, flight dynamics, sensors, navigational aids, IMUs, propulsive forces, moments, and remote manipulator systems. The major hardware elements in the FDS laboratory are the five computer systems detailed on pages B-30 through B-34.

7.2.1.2 GTS Recording Device (GRD)

The GRD provides a real time magnetic tape recording capability for recording data from the FDS, GSI, and other SAIL/GTS elements. The major hardware element in the GRD is the computer system detailed on page B-35.

7.2.1.3 GTS Simulation Interface (GSI)

The GSI provides the interface hardware between the Guidance, Navigation and Control Test Station and the FDS and GRD. Its major hardware elements include the Signal Conditioning System, the Converter System, the Test and Monitor Unit, the Buffer Amplifier and Trunking System, and the Raytheon 704 computer system detailed on page B-36.

7.3 SHUTTLE ENGINEERING SIMULATOR (SES)

The Shuttle Engineering Simulator provides the capability of performing Shuttle engineering simulations without any flight type hardware. There are mockups of the forward and aft cockpit crew stations for use in the simulations; however, none of the hardware is flight type hardware. In addition to the cockpits, the major hardware elements are the SES Cockpit Interface (SCI) and the 12 computer systems detailed on pages B-37 through B-48. The SES uses the EVD laboratory described in paragraph 7.1.10 for out-the-window scenes and CCTV displays.

APPENDIX A
COMPUTER SYSTEMS

NASA/JSC COMPUTER SURVEY

Computer Manufacturer: SEL Model: SEL 32/55

System Laboratory Use: Data Systems NASA Branch: EH4

MAIN MEMORY:

Word Size: 32 Bits

Memory Capacity: 128K Words

Cycle Time: 0.6 Microseconds

MASS MEMORY:

Magnetic Tape: 2 ea. 9T 75IPS units at 800 bpi

_____ units at _____ bpi

Hard Disk Capacity: 3 ea. 10M bytes

Floppy Disk: -- units

LOCATION OF COMPUTER:

Building 16A, Room 2012

Network Interface Type: --

GENERAL PERIPHERALS:

Line Printer(s): 1 ea. 600 LPM

Card Reader: 1 ea. 1000 CPM

Card Punch: --

CRT Terminals: 4 ea. Units

Graphic Terminals: -- Units

Color Graphic Terminals: 1 ea. RAMTEK 6200R Units

SPECIAL H/W ARITHMETIC:

Mul/Div: (Firmware)

Floating Point: (Firmware)

Array Processor: --

ADDITIONAL PERIPHERALS:

Silent 700 Printer/Keyboard; ASR35 Teletype

AVAILABLE SOFTWARE:

Operating Systems(s) Description: SEL Real Time Monitor 7.1

Compilers/Languages: Fortran, Basic

Application S/W: Cross assemblers for 6800, 68000, 8085, 6502 and 9900 microprocessors; automatic wirewrap program

NASA/JSC COMPUTER SURVEY

Computer Manufacturer: Data General Model: NOVA 4

System Laboratory Use: Data Systems NASA Branch: EH4

MAIN MEMORY:

Word Size: 16 Bits

Memory Capacity: 128K Words

Cycle Time: 0.4 Microseconds

MASS MEMORY:

Magnetic Tape: 2 ea. 9T 75IPS units at 800 bpi

1 ea. 9T 75IPS units at 800/1600 bpi

Hard Disk Capacity: 2 ea. 10M bytes

Floppy Disk: 2 ea. 8 inch units

LOCATION OF COMPUTER:

Building 16A, Room 2012

Network Interface Type: --

GENERAL PERIPHERALS:

Line Printer(s): 1 ea. 300 LPM

Card Reader: 1 ea. 600 CPM

Card Punch: --

CRT Terminals: 2 ea. Units

Graphic Terminals: 2 ea. (See below) Units

Color Graphic Terminals: -- Units

SPECIAL H/W ARITHMETIC:

Mul/Div: Yes

Floating Point: Yes

Array Processor: --

ADDITIONAL PERIPHERALS:

2 ea. 4002A graphic terminals, paper tape reader/punch

AVAILABLE SOFTWARE:

Operating Systems(s) Description: MRDOS

Compilers/Languages: Fortran IV, Fortran V, Algol 68, Basic

Application S/W: Cross assemblers for 8000 series Intel microprocessors, 9440 development

NASA/JSC COMPUTER SURVEY

Computer Manufacturer: Data General Model: NOVA 1200

System Laboratory Use: Data Systems NASA Branch: EH4

MAIN MEMORY:

Word Size: 16 Bits

Memory Capacity: 32K Words

Cycle Time: 1.2 Microseconds

MASS MEMORY:

Magnetic Tape: 1 ea. 9T 75IPS units at 800/1600 bpi

_____ units at _____ bpi

Hard Disk Capacity: 2 ea. 5M bytes

Floppy Disk: -- units

LOCATION OF COMPUTER:

Building 16A, Room 2012

Network Interface Type: --

GENERAL PERIPHERALS:

Line Printer(s): 1 ea. 300 LPM

Card Reader: 1 ea. 300 CPM

Card Punch: --

CRT Terminals: 1 ea. Units

Graphic Terminals: -- Units

Color Graphic Terminals: -- Units

SPECIAL H/W ARITHMETIC:

Mul/Div: Yes

Floating Point: Yes

Array Processor: No

ADDITIONAL PERIPHERALS:

Paper tape reader/punch, triple cassette unit, touch terminal

AVAILABLE SOFTWARE:

Operating Systems(s) Description:

Compilers/Languages: Fortran IV, Basic

Application S/W:

NASA/JSC COMPUTER SURVEY

Computer Manufacturer: Data General Model: NOVA 1200

System Laboratory Use: Data Systems NASA Branch: EH4

MAIN MEMORY:

Word Size: 16 Bits

Memory Capacity: 32K Words

Cycle Time: 1.2 Microseconds

MASS MEMORY:

Magnetic Tape: -- units at -- bpi

_____ units at _____ bpi

Hard Disk Capacity: -- bytes

Floppy Disk: 2 ea. units

LOCATION OF COMPUTER:

Building 16A, Room 2012

Network Interface Type: --

GENERAL PERIPHERALS:

Line Printer(s): -- LPM

Card Reader: -- CPM

Card Punch: --

CRT Terminals: 1 ea. Units

Graphic Terminals: -- Units

Color Graphic Terminals: -- Units

SPECIAL H/W ARITHMETIC:

Mul/Div: Yes

Floating Point: Yes

Array Processor: No

ADDITIONAL PERIPHERALS:

Teletype

AVAILABLE SOFTWARE:

Operating Systems(s) Description:

Compilers/Languages: Fortran IV, Basic

Application S/W:

NASA/JSC COMPUTER SURVEY

Computer Manufacturer: Data General Model: NOVA 1200

System Laboratory Use: Data Systems NASA Branch: EH4

MAIN MEMORY:

Word Size: 16 Bits

Memory Capacity: 28K Words

Cycle Time: 1.2 Microseconds

MASS MEMORY:

Magnetic Tape: -- units at _____ bpi

_____ units at _____ bpi

Hard Disk Capacity: -- bytes

Floppy Disk: -- units

LOCATION OF COMPUTER:

Building 16A, Room 2012

Network Interface Type: --

GENERAL PERIPHERALS:

Line Printer(s): -- LPM

Card Reader: -- CPM

Card Punch: --

CRT Terminals: -- Units

Graphic Terminals: -- Units

Color Graphic Terminals: -- Units

SPECIAL H/W ARITHMETIC:

Mul/Div: Yes

Floating Point: No

Array Processor: No

ADDITIONAL PERIPHERALS:

Teletype

AVAILABLE SOFTWARE:

Operating Systems(s) Description:

Compilers/Languages: Fortran IV, Basic

Application S/W:

NASA/JSC COMPUTER SURVEY

Computer Manufacturer: Data General Model: NOVA 1200

System Laboratory Use: Data Systems NASA Branch: EH4

MAIN MEMORY:

Word Size: 16 Bits

Memory Capacity: 32K Words

Cycle Time: 1.2 Microseconds

MASS MEMORY:

Magnetic Tape: -- units at _____ bpi

_____ units at _____ bpi

Hard Disk Capacity: -- bytes

Floppy Disk: -- units

LOCATION OF COMPUTER:

Building 16A, Room 2012

Network Interface Type: --

GENERAL PERIPHERALS:

Line Printer(s): -- LPM

Card Reader: -- CPM

Card Punch: --

CRT Terminals: -- Units

Graphic Terminals: -- Units

Color Graphic Terminals: -- Units

SPECIAL H/W ARITHMETIC:

Mul/Div: --

Floating Point: --

Array Processor: --

ADDITIONAL PERIPHERALS:

Paper tape punch, paper tape reader

AVAILABLE SOFTWARE:

Operating Systems(s) Description:

Compilers/Languages: Fortran IV, Basic

Application S/W:

NASA/JSC COMPUTER SURVEY

Computer Manufacturer: Data General Model: NOVA 1200

System Laboratory Use: Data Systems NASA Branch: EH4

MAIN MEMORY:

Word Size: 16 Bits

Memory Capacity: _____ Words

Cycle Time: 1.2 Microseconds

MASS MEMORY:

Magnetic Tape: -- units at _____ bpi

_____ units at _____ bpi

Hard Disk Capacity: -- bytes

Floppy Disk: -- units

LOCATION OF COMPUTER:

Building 16A, Room 2012

Network Interface Type: _____

GENERAL PERIPHERALS:

Line Printer(s): -- LPM

Card Reader: -- CPM

Card Punch: --

CRT Terminals: -- Units

Graphic Terminals: -- Units

Color Graphic Terminals: -- Units

SPECIAL H/W ARITHMETIC:

Mul/Div: Yes

Floating Point: Yes

Array Processor: No

ADDITIONAL PERIPHERALS:

_____

_____

AVAILABLE SOFTWARE:

Operating Systems(s) Description: _____

_____

Compilers/Languages: Fortran IV, Basic

_____

Application S/W: _____

_____

NASA/JSC COMPUTER SURVEY

Computer Manufacturer: Data General Model: NOVA 1200

System Laboratory Use: Data Systems NASA Branch: EH4

MAIN MEMORY:

Word Size: 16 Bits

Memory Capacity: 16K Words

Cycle Time: 1.2 Microseconds

MASS MEMORY:

Magnetic Tape: -- units at _____ bpi

_____ units at _____ bpi

Hard Disk Capacity: -- bytes

Floppy Disk: -- units

LOCATION OF COMPUTER:

Building 16A, Room 2012

Network Interface Type: --

GENERAL PERIPHERALS:

Line Printer(s): -- LPM

Card Reader: -- CPM

Card Punch: --

CRT Terminals: -- Units

Graphic Terminals: -- Units

Color Graphic Terminals: -- Units

SPECIAL H/W ARITHMETIC:

Mul/Div: --

Floating Point: --

Array Processor: --

ADDITIONAL PERIPHERALS:

AVAILABLE SOFTWARE:

Operating Systems(s) Description:

Compilers/Languages: Fortran IV, Basic

Application S/W:

NASA/JSC COMPUTER SURVEY

Computer Manufacturer: Data General Model: NOVA 1200

System Laboratory Use: Data Systems NASA Branch: EH4

MAIN MEMORY:

Word Size: 16 Bits

Memory Capacity: _____ Words

Cycle Time: 1.2 Microseconds

MASS MEMORY:

Magnetic Tape: -- units at _____ bpi

_____ units at _____ bpi

Hard Disk Capacity: -- bytes

Floppy Disk: -- units

LOCATION OF COMPUTER:

Building 16A, Room 2012

Network Interface Type: --

GENERAL PERIPHERALS:

Line Printer(s): -- LPM

Card Reader: -- CPM

Card Punch: --

CRT Terminals: -- Units

Graphic Terminals: -- Units

Color Graphic Terminals: -- Units

SPECIAL H/W ARITHMETIC:

Mul/Div: --

Floating Point: --

Array Processor: --

ADDITIONAL PERIPHERALS:

AVAILABLE SOFTWARE:

Operating Systems(s) Description:

Compilers/Languages: Fortran IV, Basic

Application S/W:

NASA/JSC COMPUTER SURVEY

Computer Manufacturer: Data General Model: NOVA 1200

System Laboratory Use: Data Systems NASA Branch: EH4

MAIN MEMORY:

Word Size: 16 Bits

Memory Capacity: 12K Words

Cycle Time: 1.2 Microseconds

MASS MEMORY:

Magnetic Tape: -- units at _____ bpi

_____ units at _____ bpi

Hard Disk Capacity: -- bytes

Floppy Disk: -- units

LOCATION OF COMPUTER:

Building 16A, Room 2012

Network Interface Type: --

GENERAL PERIPHERALS:

Line Printer(s): -- LPM

Card Reader: -- CPM

Card Punch: --

CRT Terminals: -- Units

Graphic Terminals: -- Units

Color Graphic Terminals: -- Units

SPECIAL H/W ARITHMETIC:

Mul/Div: --

Floating Point: --

Array Processor: --

ADDITIONAL PERIPHERALS:

AVAILABLE SOFTWARE:

Operating Systems(s) Description:

Compilers/Languages: Fortran IV, Basic

Application S/W:

NASA/JSC COMPUTER SURVEY

Computer Manufacturer: Data General Model: NOVA 4

System Laboratory Use: EPDC NASA Branch: EH5

MAIN MEMORY:

Word Size: 16 Bits

Memory Capacity: 128K Words

Cycle Time: 0.4 Microseconds

MASS MEMORY:

Magnetic Tape: 1 ea. 9T 75IPS units at 800 bpi

_____ units at _____ bpi

Hard Disk Capacity: 1 ea. 10M bytes

Floppy Disk: 1 ea. units

LOCATION OF COMPUTER:

Building 16, Room 185

Network Interface Type: --

GENERAL PERIPHERALS:

Line Printer(s): 600 LPM

Card Reader: 600 CPM

Card Punch: --

CRT Terminals: 3 ea. Units

Graphic Terminals: 1 ea. Units

Color Graphic Terminals: -- Units

SPECIAL H/W ARITHMETIC:

Mul/Div: Yes

Floating Point: Yes

Array Processor: --

ADDITIONAL PERIPHERALS:

Terminal/Printer, ULM5 Terminal Multiplexer

AVAILABLE SOFTWARE:

Operating Systems(s) Description: MRDOS

Compilers/Languages: Fortran IV, Fortran V, Algol 68, Basic

Application S/W: Graphics Plotting System, Laboratory Data Monitor and Acquisition System

NASA/JSC COMPUTER SURVEY

Computer Manufacturer: WANG Model: 2200T-8

System Laboratory Use: EPDC NASA Branch: EH5

MAIN MEMORY:

Word Size: 24 Bits

Memory Capacity: 32K Words

Cycle Time: 6.0 Microseconds

MASS MEMORY:

Magnetic Tape: -- units at _____ bpi

_____ units at _____ bpi

Hard Disk Capacity: -- bytes

Floppy Disk: 1 ea. units

LOCATION OF COMPUTER:

Building 16, Room 184

Network Interface Type: _____

GENERAL PERIPHERALS:

Line Printer(s): 90 LPM

Card Reader: -- CPM

Card Punch: --

CRT Terminals: 1 ea. Units

Graphic Terminals: -- Units

Color Graphic Terminals: -- Units

SPECIAL H/W ARITHMETIC:

Mul/Div: --

Floating Point: --

Array Processor: --

ADDITIONAL PERIPHERALS:

Data Acquisition System, Drum Plotter

AVAILABLE SOFTWARE:

Operating Systems(s) Description: _____

Compilers/Languages: Basic

Application S/W: Data Acquisition Operating Program

NASA/JSC COMPUTER SURVEY

Computer Manufacturer: Hewlett Packard Model: HP 21MX

System Laboratory Use: Inertial Systems Lab NASA Branch: EH6

MAIN MEMORY:

Word Size: 16 Bits

Memory Capacity: 32K Words

Cycle Time: 1.2 Microseconds

MASS MEMORY:

Magnetic Tape: 1 ea. 9T units at 800 bpi

_____ units at _____ bpi

Hard Disk Capacity: 5M bytes

Floppy Disk: -- units

LOCATION OF COMPUTER:

Building 16, Room 1054

Network Interface Type: --

GENERAL PERIPHERALS:

Line Printer(s): -- LPM

Card Reader: -- CPM

Card Punch: --

CRT Terminals: 1 ea. Units

Graphic Terminals: -- Units

Color Graphic Terminals: -- Units

SPECIAL H/W ARITHMETIC:

Mul/Div: Yes

Floating Point: Yes

Array Processor: No

ADDITIONAL PERIPHERALS:

HP 2635 Printer/Terminal

AVAILABLE SOFTWARE:

Operating Systems(s) Description: RTE II

Compilers/Languages: Fortran, Basic

Application S/W: IMU Calibration

NASA/JSC COMPUTER SURVEY

Computer Manufacturer: Hewlett Packard Model: HP 21MX

System Laboratory Use: Inertial Systems Lab NASA Branch: EH6

MAIN MEMORY:

Word Size: 16 Bits

Memory Capacity: 32K Words

Cycle Time: 1.2 Microseconds

MASS MEMORY:

Magnetic Tape: 1 ea. 9T units at 800 bpi

____ _____ units at _____ bpi

Hard Disk Capacity: 5M bytes

Floppy Disk: -- units

LOCATION OF COMPUTER:

Building 16, Room 1054

Network Interface Type: --

GENERAL PERIPHERALS:

Line Printer(s): -- LPM

Card Reader: -- CPM

Card Punch: --

CRT Terminals: 1 ea. Units

Graphic Terminals: -- Units

Color Graphic Terminals: -- Units

SPECIAL H/W ARITHMETIC:

Mul/Div: Yes

Floating Point: Yes

Array Processor: No

ADDITIONAL PERIPHERALS:

Paper Tape Reader, HP 2635 Terminal/Printer

AVAILABLE SOFTWARE:

Operating Systems(s) Description: RTE II

Compilers/Languages: Fortran, Basic

Application S/W: IMU Calibration

NASA/JSC COMPUTER SURVEY

Computer Manufacturer: Hewlett Packard Model: HP 2100

System Laboratory Use: Inertial Systems Lab NASA Branch: EH6

MAIN MEMORY:

Word Size: 16 Bits

Memory Capacity: 32K Words

Cycle Time: 1.2 Microseconds

MASS MEMORY:

Magnetic Tape: -- units at _____ bpi

_____ units at _____ bpi

Hard Disk Capacity: 2.5M bytes

Floppy Disk: -- units

LOCATION OF COMPUTER:

Building 16, Room 1054

Network Interface Type: --

GENERAL PERIPHERALS:

Line Printer(s): 1 ea. LPM

Card Reader: -- CPM

Card Punch: --

CRT Terminals: 1 ea. Units

Graphic Terminals: -- Units

Color Graphic Terminals: -- Units

SPECIAL H/W ARITHMETIC:

Mul/Div: Yes

Floating Point: Yes

Array Processor: No

ADDITIONAL PERIPHERALS:

Paper Tape Reader, Paper Tape Punch, Teletype

AVAILABLE SOFTWARE:

Operating Systems(s) Description: RTE II

Compilers/Languages: Fortran, Basic

Application S/W: IMU Calibration

NASA/JSC COMPUTER SURVEY

Computer Manufacturer: Hewlett Packard Model: HP 2100

System Laboratory Use: Inertial Systems Lab NASA Branch: EH6

MAIN MEMORY:

Word Size: 16 Bits

Memory Capacity: 32K Words

Cycle Time: 1.2 Microseconds

MASS MEMORY:

Magnetic Tape: -- units at ____ bpi

____ units at ____ bpi

Hard Disk Capacity: 2.5M bytes

Floppy Disk: -- units

LOCATION OF COMPUTER:

Building 16, Room 1054

Network Interface Type: --

GENERAL PERIPHERALS:

Line Printer(s): 1 ea. LPM

Card Reader: -- CPM

Card Punch: --

CRT Terminals: 1 ea. Units

Graphic Terminals: -- Units

Color Graphic Terminals: -- Units

SPECIAL H/W ARITHMETIC:

Mul/Div: Yes

Floating Point: Yes

Array Processor: No

ADDITIONAL PERIPHERALS:

Paper Tape Reader, Paper Tape Punch, Teletype

AVAILABLE SOFTWARE:

Operating Systems(s) Description: RTE II

Compilers/Languages: Fortran, Basic

Application S/W: IMU Calibration

NASA/JSC COMPUTER SURVEY

Computer Manufacturer: Hewlett Packard Model: HP 2100

System Laboratory Use: Inertial Systems Lab NASA Branch: EH6

MAIN MEMORY:

Word Size: 16 Bits

Memory Capacity: 32K Words

Cycle Time: 1.2 Microseconds

MASS MEMORY:

Magnetic Tape: -- units at _____ bpi

_____ units at _____ bpi

Hard Disk Capacity: 2.5M bytes

Floppy Disk: -- units

LOCATION OF COMPUTER:

Building 16, Room 1054

Network Interface Type: --

GENERAL PERIPHERALS:

Line Printer(s): 1 ea. LPM

Card Reader: -- CPM

Card Punch: --

CRT Terminals: 1 ea. Units

Graphic Terminals: 1 ea. Units

Color Graphic Terminals: -- Units

SPECIAL H/W ARITHMETIC:

Mul/Div: Yes

Floating Point: Yes

Array Processor: --

ADDITIONAL PERIPHERALS:

Paper Tape Reader, Paper Tape Punch, Teletype

AVAILABLE SOFTWARE:

Operating Systems(s) Description: RTE II

Compilers/Languages: Fortran, Basic

Application S/W: IMU Calibration

NASA/JSC COMPUTER SURVEY

Computer Manufacturer: Hewlett Packard Model: HP 1000

System Laboratory Use: Inertial Components NASA Branch: EH6

MAIN MEMORY:

Word Size: 16 Bits

Memory Capacity: 128K Words

Cycle Time: 0.5 Microseconds

MASS MEMORY:

Magnetic Tape: -- units at ____ bpi

____ units at ____ bpi

Hard Disk Capacity: -- bytes

Floppy Disk: 2 units

LOCATION OF COMPUTER:

Building 16A, Room 1043

Network Interface Type: IEEE 488

GENERAL PERIPHERALS:

Line Printer(s): 90 LPM

Card Reader: -- CPM

Card Punch: --

CRT Terminals: -- Units

Graphic Terminals: 1 Units

Color Graphic Terminals: -- Units

SPECIAL H/W ARITHMETIC:

Mul/Div: Yes

Floating Point: Yes

Array Processor: --

ADDITIONAL PERIPHERALS:

Analog Scanner-20 Channels

AVAILABLE SOFTWARE:

Operating Systems(s) Description: RTEM

Compilers/Languages: Fortran IV

Application S/W: Gyro Test Programs

NASA/JSC COMPUTER SURVEY

Computer Manufacturer: Hewlett Packard Model: HP1000

System Laboratory Use: Flight Controls Lab NASA Branch: EH6

MAIN MEMORY:

Word Size: 16 Bits

Memory Capacity: 256K Words

Cycle Time: 0.5 Microseconds

MASS MEMORY:

Magnetic Tape: -- units at ____ bpi

-- units at ____ bpi

Hard Disk Capacity: 20M bytes

Floppy Disk: -- units

LOCATION OF COMPUTER:

Building 16A, Room 1047

Network Interface Type: IEEE 488

GENERAL PERIPHERALS:

Line Printer(s): 1200 LPM

Card Reader: 300 CPM

Card Punch: --

CRT Terminals: 1 Units

Graphic Terminals: -- Units

Color Graphic Terminals: -- Units

SPECIAL H/W ARITHMETIC:

Mul/Div: Firmware

Floating Point: Firmware

Array Processor: --

ADDITIONAL PERIPHERALS:

Teletype ASR33, HP2635 Printing Terminal, Paper Tape Punch/Reader,
32 Channels of A/D, 20 Channels of D/A

AVAILABLE SOFTWARE:

Operating Systems(s) Description: RTE4 A

Compilers/Languages: Fortran, Basic

Application S/W: Dynamics System Simulation

APPENDIX B
SAIL COMPUTER SYSTEMS

NASA/JSC COMPUTER SURVEY

Computer Manufacturer: XEROX Model: 560

System Laboratory Use: MMES/SAIL NASA Branch: _____

MAIN MEMORY:

Word Size: 32 Bits

Memory Capacity: 200K Words

Cycle Time: _____ Microseconds

MASS MEMORY:

Magnetic Tape: 3 units at 1600 bpi

_____ units at _____ bpi

Hard Disk Capacity: _____ bytes

Floppy Disk: _____ units

LOCATION OF COMPUTER:

Building 16, Room 2046

Network Interface Type: N/A

GENERAL PERIPHERALS:

Line Printer(s): _____ LPM

Card Reader: _____ CPM

Card Punch: N/A

CRT Terminals: 3 Units

Graphic Terminals: 2 Units

Color Graphic Terminals: 1 Units

SPECIAL H/W ARITHMETIC:

Mul/Div: _____

Floating Point: _____

Array Processor: _____

ADDITIONAL PERIPHERALS:

Teletype

AVAILABLE SOFTWARE:

Operating Systems(s) Description: _____

Compilers/Languages: Fortran IV, Basic

Application S/W: Shuttle Mated Elements Simulations

NASA/JSC COMPUTER SURVEY

Computer Manufacturer: MODCOMP Model: _____

System Laboratory Use: LPS NASA Branch: _____

MAIN MEMORY:

Word Size: 16 Bits

Memory Capacity: _____ Words

Cycle Time: _____ Microseconds

MASS MEMORY:

Magnetic Tape: -- units at _____ bpi

_____ units at _____ bpi

Hard Disk Capacity: 2 ea. bytes

Floppy Disk: -- units

LOCATION OF COMPUTER:

Building 16, Room 194

Network Interface Type: _____

GENERAL PERIPHERALS:

Line Printer(s): _____ LPM

Card Reader: _____ CPM

Card Punch: _____

CRT Terminals: _____ Units

Graphic Terminals: _____ Units

Color Graphic Terminals: _____ Units

SPECIAL H/W ARITHMETIC:

Mul/Div: _____

Floating Point: _____

Array Processor: _____

ADDITIONAL PERIPHERALS:

_____

_____

AVAILABLE SOFTWARE:

Operating Systems(s) Description: _____

_____

Compilers/Languages: _____

_____

Application S/W: _____

_____

NASA/JSC COMPUTER SURVEY

Computer Manufacturer: MODCOMP Model: _____

System Laboratory Use: LPS NASA Branch: _____

MAIN MEMORY:

Word Size: 16 Bits

Memory Capacity: _____ Words

Cycle Time: _____ Microseconds

MASS MEMORY:

Magnetic Tape: -- units at _____ bpi

_____ units at _____ bpi

Hard Disk Capacity: 2 ea. _____ bytes

Floppy Disk: -- units

LOCATION OF COMPUTER:

Building 16, Room 194

Network Interface Type: _____

GENERAL PERIPHERALS:

Line Printer(s): 1 ea. LPM

Card Reader: 1 ea. CPM

Card Punch: --

CRT Terminals: _____ Units

Graphic Terminals: _____ Units

Color Graphic Terminals: _____ Units

SPECIAL H/W ARITHMETIC:

Mul/Div: _____

Floating Point: _____

Array Processor: _____

ADDITIONAL PERIPHERALS:

_____

_____

AVAILABLE SOFTWARE:

Operating Systems(s) Description: _____

_____

Compilers/Languages: _____

_____

Application S/W: _____

_____

NASA/JSC COMPUTER SURVEY

Computer Manufacturer: MODCOMP Model: _____

System Laboratory Use: LPS NASA Branch: _____

MAIN MEMORY:

Word Size: 16 Bits

Memory Capacity: _____ Words

Cycle Time: _____ Microseconds

MASS MEMORY:

Magnetic Tape: 3 ea. units at _____ bpi

_____ units at _____ bpi

Hard Disk Capacity: 2 ea. _____ bytes

Floppy Disk: _____ units

LOCATION OF COMPUTER:

Building 16, Room 194

Network Interface Type: _____

GENERAL PERIPHERALS:

Line Printer(s): _____ LPM

Card Reader: _____ CPM

Card Punch: _____

CRT Terminals: _____ Units

Graphic Terminals: _____ Units

Color Graphic Terminals: _____ Units

SPECIAL H/W ARITHMETIC:

Mul/Div: _____

Floating Point: _____

Array Processor: _____

ADDITIONAL PERIPHERALS:

_____

_____

AVAILABLE SOFTWARE:

Operating Systems(s) Description: _____

_____

Compilers/Languages: _____

_____

Application S/W: _____

_____

NASA/JSC COMPUTER SURVEY

Computer Manufacturer: MODCOMP Model: _____

System Laboratory Use: LPS NASA Branch: _____

MAIN MEMORY:

Word Size: 16 Bits

Memory Capacity: _____ Words

Cycle Time: _____ Microseconds

MASS MEMORY:

Magnetic Tape: _____ units at _____ bpi

_____ units at _____ bpi

Hard Disk Capacity: _____ bytes

Floppy Disk: _____ units

LOCATION OF COMPUTER:

Building 16, Room 194

Network Interface Type: _____

GENERAL PERIPHERALS:

Line Printer(s): _____ LPM

Card Reader: _____ CPM

Card Punch: _____

CRT Terminals: _____ Units

Graphic Terminals: _____ Units

Color Graphic Terminals: _____ Units

SPECIAL H/W ARITHMETIC:

Mul/Div: _____

Floating Point: _____

Array Processor: _____

ADDITIONAL PERIPHERALS:

_____

_____

AVAILABLE SOFTWARE:

Operating Systems(s) Description: _____

_____

Compilers/Languages: _____

_____

Application S/W: _____

_____

NASA/JSC COMPUTER SURVEY

Computer Manufacturer: MODCOMP Model: _____

System Laboratory Use: LPS NASA Branch: _____

MAIN MEMORY:

Word Size: 16 Bits

Memory Capacity: _____ Words

Cycle Time: _____ Microseconds

MASS MEMORY:

Magnetic Tape: _____ units at _____ bpi

_____ units at _____ bpi

Hard Disk Capacity: _____ bytes

Floppy Disk: _____ units

LOCATION OF COMPUTER:

Building 16, Room 194

Network Interface Type: _____

GENERAL PERIPHERALS:

Line Printer(s): _____ LPM

Card Reader: _____ CPM

Card Punch: _____

CRT Terminals: _____ Units

Graphic Terminals: _____ Units

Color Graphic Terminals: _____ Units

SPECIAL H/W ARITHMETIC:

Mul/Div: _____

Floating Point: _____

Array Processor: _____

ADDITIONAL PERIPHERALS:

_____

_____

AVAILABLE SOFTWARE:

Operating Systems(s) Description: _____

_____

Compilers/Languages: _____

_____

Application S/W: _____

_____

NASA/JSC COMPUTER SURVEY

Computer Manufacturer: MODCOMP Model: _____

System Laboratory Use: LPS NASA Branch: _____

MAIN MEMORY:

Word Size: 16 Bits

Memory Capacity: _____ Words

Cycle Time: _____ Microseconds

MASS MEMORY:

Magnetic Tape: _____ units at _____ bpi

_____ units at _____ bpi

Hard Disk Capacity: _____ bytes

Floppy Disk: _____ units

LOCATION OF COMPUTER:

Building 16, Room 194

Network Interface Type: _____

GENERAL PERIPHERALS:

Line Printer(s): _____ LPM

Card Reader: _____ CPM

Card Punch: _____

CRT Terminals: _____ Units

Graphic Terminals: _____ Units

Color Graphic Terminals: _____ Units

SPECIAL H/W ARITHMETIC:

Mul/Div: _____

Floating Point: _____

Array Processor: _____

ADDITIONAL PERIPHERALS:

_____

_____

AVAILABLE SOFTWARE:

Operating Systems(s) Description: _____

_____

Compilers/Languages: _____

_____

Application S/W: _____

_____

NASA/JSC COMPUTER SURVEY

Computer Manufacturer: MODCOMP Model: _____

System Laboratory Use: LPS NASA Branch: _____

MAIN MEMORY:

Word Size: 16 Bits

Memory Capacity: _____ Words

Cycle Time: _____ Microseconds

MASS MEMORY:

Magnetic Tape: _____ units at _____ bpi

_____ units at _____ bpi

Hard Disk Capacity: _____ bytes

Floppy Disk: _____ units

LOCATION OF COMPUTER:

Building 16, Room 194

Network Interface Type: _____

GENERAL PERIPHERALS:

Line Printer(s): _____ LPM

Card Reader: _____ CPM

Card Punch: _____

CRT Terminals: _____ Units

Graphic Terminals: _____ Units

Color Graphic Terminals: _____ Units

SPECIAL H/W ARITHMETIC:

Mul/Div: _____

Floating Point: _____

Array Processor: _____

ADDITIONAL PERIPHERALS:

_____

_____

AVAILABLE SOFTWARE:

Operating Systems(s) Description: _____

_____

Compilers/Languages: _____

_____

Application S/W: _____

_____

NASA/JSC COMPUTER SURVEY

Computer Manufacturer: Data General Model: NOVA 840

System Laboratory Use: SATS NASA Branch: _____

MAIN MEMORY:

Word Size: 16 Bits

Memory Capacity: _____ Words

Cycle Time: _____ Microseconds

MASS MEMORY:

Magnetic Tape: 2 ea. units at _____ bpi

_____ units at _____ bpi

Hard Disk Capacity: _____ bytes

Floppy Disk: _____ units

LOCATION OF COMPUTER:

Building 16, Room 194

Network Interface Type: _____

GENERAL PERIPHERALS:

Line Printer(s): _____ LPM

Card Reader: _____ CPM

Card Punch: _____

CRT Terminals: _____ Units

Graphic Terminals: _____ Units

Color Graphic Terminals: _____ Units

SPECIAL H/W ARITHMETIC:

Mul/Div: _____

Floating Point: _____

Array Processor: _____

ADDITIONAL PERIPHERALS:

_____

_____

AVAILABLE SOFTWARE:

Operating Systems(s) Description: _____

_____

Compilers/Languages: _____

_____

Application S/W: _____

_____

NASA/JSC COMPUTER SURVEY

Computer Manufacturer: Data General Model: Eclipse C350

System Laboratory Use: SATS NASA Branch: _____

MAIN MEMORY:

Word Size: 16 Bits

Memory Capacity: _____ Words

Cycle Time: _____ Microseconds

MASS MEMORY:

Magnetic Tape: 2 ea. units at _____ bpi

_____ units at _____ bpi

Hard Disk Capacity: _____ bytes

Floppy Disk: _____ units

LOCATION OF COMPUTER:

Building 16, Room 194

Network Interface Type: _____

GENERAL PERIPHERALS:

Line Printer(s): _____ LPM

Card Reader: _____ CPM

Card Punch: _____

CRT Terminals: _____ Units

Graphic Terminals: _____ Units

Color Graphic Terminals: _____ Units

SPECIAL H/W ARITHMETIC:

Mul/Div: _____

Floating Point: _____

Array Processor: _____

ADDITIONAL PERIPHERALS:

_____

_____

AVAILABLE SOFTWARE:

Operating Systems(s) Description: _____

_____

Compilers/Languages: _____

_____

Application S/W: _____

_____

NASA/JSC COMPUTER SURVEY

Computer Manufacturer: SEL Model: SEL 32/55

System Laboratory Use: PATS NASA Branch: _____

MAIN MEMORY:

Word Size: 32 Bits

Memory Capacity: 128K Words

Cycle Time: 0.6 Microseconds

MASS MEMORY:

Magnetic Tape: 2 ea. 9T 75IPS units at 800/1600 bpi

_____ units at _____ bpi

Hard Disk Capacity: 300 M bytes

Floppy Disk: -- units

LOCATION OF COMPUTER:

Building 16, Room 194

Network Interface Type: _____

GENERAL PERIPHERALS:

Line Printer(s): 1 ea. 900 LPM

Card Reader: 1 ea. 1000 CPM

Card Punch: --

CRT Terminals: 3 ea. Units

Graphic Terminals: -- Units

Color Graphic Terminals: -- Units

SPECIAL H/W ARITHMETIC:

Mul/Div: Firmware

Floating Point: Firmware

Array Processor: _____

ADDITIONAL PERIPHERALS:

_____

_____

AVAILABLE SOFTWARE:

Operating Systems(s) Description: SEL Real Time Monitor

_____

Compilers/Languages: Fortran

_____

Application S/W: _____

_____

NASA/JSC COMPUTER SURVEY

Computer Manufacturer: SEL Model: SEL 32/55

System Laboratory Use: VTS NASA Branch: _____

MAIN MEMORY:

Word Size: 32 Bits

Memory Capacity: 128K Words

Cycle Time: 0.6 Microseconds

MASS MEMORY:

Magnetic Tape: 3 ea. 9T 75IPS units at 800/1600 bpi

_____ units at _____ bpi

Hard Disk Capacity: 300 M and 10 M bytes

Floppy Disk: -- units

LOCATION OF COMPUTER:

Building 16, Room 287

Network Interface Type: _____

GENERAL PERIPHERALS:

Line Printer(s): 1 ea. 900 LPM

Card Reader: 1 ea. 300 CPM

Card Punch: --

CRT Terminals: 3 ea. Units

Graphic Terminals: 2 ea. Units

Color Graphic Terminals: -- Units

SPECIAL H/W ARITHMETIC:

Mul/Div: Firmware

Floating Point: Firmware

Array Processor: No

ADDITIONAL PERIPHERALS:

1 ea. model 43 Teletype

AVAILABLE SOFTWARE:

Operating Systems(s) Description: SEL Real Time Monitor 7.0

Compilers/Languages: Fortran IV

Application S/W: Data Recording and Display Programs

NASA/JSC COMPUTER SURVEY

Computer Manufacturer: SEL Model: SEL 32/55

System Laboratory Use: QLS NASA Branch:

MAIN MEMORY:

Word Size: 32 Bits

Memory Capacity: 128K Words

Cycle Time: 0.6 Microseconds

MASS MEMORY:

Magnetic Tape: 2 ea. 9T 75IPS units at 800/1600 bpi

2 ea. 7T 75IPS units at 556/800 bpi

Hard Disk Capacity: 300M bytes

Floppy Disk: -- units

LOCATION OF COMPUTER:

Building 16, Room 286

Network Interface Type: --

GENERAL PERIPHERALS:

Line Printer(s): 1 ea. 900 LPM

Card Reader: 1 ea. 1000 CPM

Card Punch: --

CRT Terminals: 2 ea. Units

Graphic Terminals: -- Units

Color Graphic Terminals: -- Units

SPECIAL H/W ARITHMETIC:

Mul/Div: Firmware

Floating Point: Firmware

Array Processor: No

ADDITIONAL PERIPHERALS:

1 ea. Paper Tape Reader, 1 ea. Model 43 Teletype

AVAILABLE SOFTWARE:

Operating Systems(s) Description: SEL Real Time Operating System

Compilers/Languages: Fortran

Application S/W: Data Reduction, Logic card wire list programs, Data Base Management

NASA/JSC COMPUTER SURVEY

Computer Manufacturer: Digital Scientific Model: META 4

System Laboratory Use: AVL NASA Branch: _____

MAIN MEMORY:

Word Size: 16 Bits

Memory Capacity: 48K Words

Cycle Time: 0.5 Microseconds

MASS MEMORY:

Magnetic Tape: 2 ea, units at _____ bpi

_____ units at _____ bpi

Hard Disk Capacity: 1 ea, _____ bytes

Floppy Disk: -- units

LOCATION OF COMPUTER:

Building 16, Room 286

Network Interface Type: --

GENERAL PERIPHERALS:

Line Printer(s): 1 ea. LPM

Card Reader: 1 ea. CPM

Card Punch: 1 ea.

CRT Terminals: -- Units

Graphic Terminals: -- Units

Color Graphic Terminals: -- Units

SPECIAL H/W ARITHMETIC:

Mul/Div: _____

Floating Point: _____

Array Processor: _____

ADDITIONAL PERIPHERALS:

Communications Controller

AVAILABLE SOFTWARE:

Operating Systems(s) Description: Unified Test Equipment (UTE) Language

Compilers/Languages: _____

Application S/W: Shuttle Test Articles Simulations

NASA/JSC COMPUTER SURVEY

Computer Manufacturer: SEL Model: SEL 32/55U

System Laboratory Use: VDS (VI) NASA Branch: EF3

MAIN MEMORY:

Word Size: 32 Bits

Memory Capacity: 64K Words

Cycle Time: 0.6 Microseconds

MASS MEMORY:

Magnetic Tape: 1 ea. 9T 75IPS units at 800/1600 bpi

_____ units at _____ bpi

Hard Disk Capacity: 10M bytes

Floppy Disk: -- units

LOCATION OF COMPUTER:

Building 16, Room 134

Network Interface Type: --

GENERAL PERIPHERALS:

Line Printer(s): 1 ea. Shared 900 LPM

Card Reader: 1 ea. 1000 CPM

Card Punch: --

CRT Terminals: 2 ea. Units

Graphic Terminals: -- Units

Color Graphic Terminals: -- Units

SPECIAL H/W ARITHMETIC:

Mul/Div: (Firmware)

Floating Point:

Array Processor: Yes - AD10

ADDITIONAL PERIPHERALS:

8K of 4-way Shared Memory

AVAILABLE SOFTWARE:

Operating Systems(s) Description: SEL Real Time Monitor 6.0

Compilers/Languages: Fortran IV

Application S/W: Simulation of Shuttle Aerodynamics

NASA/JSC COMPUTER SURVEY

Computer Manufacturer: SEL Model: SEL 32/55U

System Laboratory Use: VDS (V2) NASA Branch: EF3

MAIN MEMORY:

Word Size: 32 Bits

Memory Capacity: 40K Words

Cycle Time: 0.6 Microseconds

MASS MEMORY:

Magnetic Tape: 1 ea. 9T 75IPS units at 800/1600 bpi

_____ units at _____ bpi

Hard Disk Capacity: 10M bytes

Floppy Disk: -- units

LOCATION OF COMPUTER:

Building 16, Room 134

Network Interface Type: --

GENERAL PERIPHERALS:

Line Printer(s): 1 ea. shared 900 LPM

Card Reader: 1 ea. 1000 CPM

Card Punch: --

CRT Terminals: 1 ea. Units

Graphic Terminals: -- Units

Color Graphic Terminals: -- Units

SPECIAL H/W ARITHMETIC:

Mul/Div: (Firmware)

Floating Point:

Array Processor: No

ADDITIONAL PERIPHERALS:

AVAILABLE SOFTWARE:

Operating Systems(s) Description: SEL Real Time Monitor 6.0

Compilers/Languages: Fortran IV

Application S/W: Simulation of Shuttle Sensors and Navigational Aids

NASA/JSC COMPUTER SURVEY

Computer Manufacturer: SEL Model: SEL 32/55U

System Laboratory Use: VDS (V3) NASA Branch: EF3

MAIN MEMORY:

Word Size: 32 Bits

Memory Capacity: 64K Words

Cycle Time: 0.6 Microseconds

MASS MEMORY:

Magnetic Tape: 1 ea. 9T 75IPS units at 800/1600 bpi

_____ units at _____ bpi

Hard Disk Capacity: 10M bytes

Floppy Disk: -- units

LOCATION OF COMPUTER:

Building 16, Room 134

Network Interface Type: _____

GENERAL PERIPHERALS:

Line Printer(s): 1 ea. shared 900 LPM

Card Reader: 1 ea. 1000 CPM

Card Punch: --

CRT Terminals: 2 ea. Units

Graphic Terminals: -- Units

Color Graphic Terminals: -- Units

SPECIAL H/W ARITHMETIC:

Mul/Div: Firmware

Floating Point: _____

Array Processor: No

ADDITIONAL PERIPHERALS:

_____

_____

AVAILABLE SOFTWARE:

Operating Systems(s) Description: SEL Real Time Monitor 6.0

_____

Compilers/Languages: Fortran IV

_____

Application S/W: Simulation of Shuttle Flight Dynamics

_____

NASA/JSC COMPUTER SURVEY

Computer Manufacturer: SEL Model: SEL 32/55U

System Laboratory Use: VDS (V4) NASA Branch: EF3

MAIN MEMORY:

Word Size: 32 Bits

Memory Capacity: 48K Words

Cycle Time: 0.6 Microseconds

MASS MEMORY:

Magnetic Tape: 9T 75IPS 1 ea. units at 800/1600 bpi

_____ units at _____ bpi

Hard Disk Capacity: 10M bytes

Floppy Disk: -- units

LOCATION OF COMPUTER:

Building 16, Room 134

Network Interface Type: _____

GENERAL PERIPHERALS:

Line Printer(s): 1 ea. shared 900 LPM

Card Reader: 1 ea. 200 CPM

Card Punch: --

CRT Terminals: 1 Units

Graphic Terminals: -- Units

Color Graphic Terminals: -- Units

SPECIAL H/W ARITHMETIC:

Mul/Div: Firmware

Floating Point: _____

Array Processor: No

ADDITIONAL PERIPHERALS:

AVAILABLE SOFTWARE:

Operating Systems(s) Description: SEL Real Time Monitor 6.0

Compilers/Languages: Fortran

Application S/W: Simulation of IMU, Propulsive Forces and Moments for Shuttle

NASA/JSC COMPUTER SURVEY

Computer Manufacturer: SEL Model: SEL 32/75

System Laboratory Use: VDS (R1) NASA Branch: EF3

MAIN MEMORY:

Word Size: 32 Bits

Memory Capacity: 48K Words

Cycle Time: 0.6 Microseconds

MASS MEMORY:

Magnetic Tape: 1 ea. 9T 75IPS units at 800/1600 bpi

_____ units at _____ bpi

Hard Disk Capacity: 10M bytes

Floppy Disk: -- units

LOCATION OF COMPUTER:

Building 16, Room 134

Network Interface Type: --

GENERAL PERIPHERALS:

Line Printer(s): 1 ea. 900 LPM

Card Reader: 1 ea. 1000 CPM

Card Punch: 1 ea.

CRT Terminals: 1 Units

Graphic Terminals: -- Units

Color Graphic Terminals: -- Units

SPECIAL H/W ARITHMETIC:

Mul/Div: Firmware

Floating Point:

Array Processor: Yes - AD10

ADDITIONAL PERIPHERALS:

8K Memory Shared with V2

AVAILABLE SOFTWARE:

Operating Systems(s) Description: SEL Real Time Monitor 6.0

Compilers/Languages: Fortran IV

Application S/W: Shuttle RMS Simulations

NASA/JSC COMPUTER SURVEY

Computer Manufacturer: SEL Model: SEL 32/55

System Laboratory Use: VDS/SRS (D1) NASA Branch: EF3

MAIN MEMORY:

Word Size: 32 Bits

Memory Capacity: 48K Words

Cycle Time: 0.6 Microseconds

MASS MEMORY:

Magnetic Tape: 3 ea. 9T 75IPS units at 800/1600 bpi

_____ units at _____ bpi

Hard Disk Capacity: 10M bytes

Floppy Disk: -- units

LOCATION OF COMPUTER:

Building 16, Room 134

Network Interface Type: --

GENERAL PERIPHERALS:

Line Printer(s): 1 ea. 900 LPM

Card Reader: 1 ea. 1000 CPM

Card Punch: --

CRT Terminals: 1 ea. Units

Graphic Terminals: -- Units

Color Graphic Terminals: -- Units

SPECIAL H/W ARITHMETIC:

Mul/Div: Firmware

Floating Point:

Array Processor: No

ADDITIONAL PERIPHERALS:

AVAILABLE SOFTWARE:

Operating Systems(s) Description: SEL Real Time Monitor 6.0

Compilers/Languages: Fortran IV

Application S/W: Real Time Data Recording

NASA/JSC COMPUTER SURVEY

Computer Manufacturer: Raytheon Model: R704

System Laboratory Use: VDS/SIS NASA Branch: EF3

MAIN MEMORY:

Word Size: 16 Bits

Memory Capacity: 16K Words

Cycle Time: 1.0 Microseconds

MASS MEMORY:

Magnetic Tape: 1 ea. units at _____ bpi

_____ units at _____ bpi

Hard Disk Capacity: 3M bytes

Floppy Disk: -- units

LOCATION OF COMPUTER:

Building 16, Room 1055

Network Interface Type: --

GENERAL PERIPHERALS:

Line Printer(s): 1 ea. 900 LPM

Card Reader: 1 ea. 300 CPM

Card Punch: --

CRT Terminals: 1 ea. Units

Graphic Terminals: -- Units

Color Graphic Terminals: -- Units

SPECIAL H/W ARITHMETIC:

Mul/Div: No

Floating Point: No

Array Processor: No

ADDITIONAL PERIPHERALS:

1 ea. ASR35 Teletype

AVAILABLE SOFTWARE:

Operating Systems(s) Description:

Compilers/Languages:

Application S/W:

NASA/JSC COMPUTER SURVEY

Computer Manufacturer: SEL Model: SEL 32/55

System Laboratory Use: ESG 1-EVD (E1) NASA Branch: EF3

MAIN MEMORY:

Word Size: 32 Bits

Memory Capacity: _____ Words

Cycle Time: 0.6 Microseconds

MASS MEMORY:

Magnetic Tape: 1 ea. 9T 75IPS units at 800/1600 bpi

_____ units at _____ bpi

Hard Disk Capacity: 10M bytes

Floppy Disk: _____ units

LOCATION OF COMPUTER:

Building 16, Room 134

Network Interface Type: --

GENERAL PERIPHERALS:

Line Printer(s): 900 LPM

Card Reader: 1 ea. 1000 CPM

Card Punch: --

CRT Terminals: 1 ea. Units

Graphic Terminals: -- Units

Color Graphic Terminals: -- Units

SPECIAL H/W ARITHMETIC:

Mul/Div: Firmware

Floating Point: _____

Array Processor: No

ADDITIONAL PERIPHERALS:

General Electric Visual Spacecraft Simulator

AVAILABLE SOFTWARE:

Operating Systems(s) Description: SEL Real Time Monitor 6.0

Compilers/Languages: Fortran IV

Application S/W: Scene Generation

NASA/JSC COMPUTER SURVEY

Computer Manufacturer: DEC Model: PDP11

System Laboratory Use: Picture-EVD (2) NASA Branch: EF3

MAIN MEMORY:

Word Size: 16 Bits

Memory Capacity: _____ Words

Cycle Time: _____ Microseconds

MASS MEMORY:

Magnetic Tape: 1 ea. units at _____ bpi

_____ units at _____ bpi

Hard Disk Capacity: 2M bytes

Floppy Disk: _____ units

LOCATION OF COMPUTER:

Building 16, Room 134

Network Interface Type: _____

GENERAL PERIPHERALS:

Line Printer(s): -- LPM

Card Reader: -- CPM

Card Punch: --

CRT Terminals: -- Units

Graphic Terminals: 1 ea. Units

Color Graphic Terminals: -- Units

SPECIAL H/W ARITHMETIC:

Mul/Div: _____

Floating Point: _____

Array Processor: _____

ADDITIONAL PERIPHERALS:

Decwriter, Electronic Tablet

AVAILABLE SOFTWARE:

Operating Systems(s) Description: _____

Compilers/Languages: Fortran

Application S/W: Graphics

NASA/JSC COMPUTER SURVEY

Computer Manufacturer: DEC Model: PDP11/35

System Laboratory Use: ESG2-EVD (3) NASA Branch: EF3

MAIN MEMORY:

Word Size: 16 Bits

Memory Capacity: 32K Words

Cycle Time: _____ Microseconds

MASS MEMORY:

Magnetic Tape: 1 ea. units at _____ bpi

_____ units at _____ bpi

Hard Disk Capacity: 2M bytes

Floppy Disk: _____ units

LOCATION OF COMPUTER:

Building 16, Room 134

Network Interface Type: _____

GENERAL PERIPHERALS:

Line Printer(s): -- LPM

Card Reader: -- CPM

Card Punch: --

CRT Terminals: -- Units

Graphic Terminals: -- Units

Color Graphic Terminals: -- Units

SPECIAL H/W ARITHMETIC:

Mul/Div: _____

Floating Point: _____

Array Processor: _____

ADDITIONAL PERIPHERALS:

Decwriter, Evans and Sutherland Scene Generator

AVAILABLE SOFTWARE:

Operating Systems(s) Description: _____

Compilers/Languages: Fortran

Application S/W: Scene Generation

NASA/JSC COMPUTER SURVEY

Computer Manufacturer: DEC Model: PDP11/40

System Laboratory Use: ESG2-EVD (4) NASA Branch: EF3

MAIN MEMORY:

Word Size: 16 Bits

Memory Capacity: 32K Words

Cycle Time: _____ Microseconds

MASS MEMORY:

Magnetic Tape: 1 ea. units at _____ bpi

_____ units at _____ bpi

Hard Disk Capacity: 4M bytes

Floppy Disk: _____ units

LOCATION OF COMPUTER:

Building 16, Room 134

Network Interface Type: _____

GENERAL PERIPHERALS:

Line Printer(s): 900 LPM

Card Reader: -- CPM

Card Punch: --

CRT Terminals: -- Units

Graphic Terminals: -- Units

Color Graphic Terminals: -- Units

SPECIAL H/W ARITHMETIC:

Mul/Div: _____

Floating Point: _____

Array Processor: _____

ADDITIONAL PERIPHERALS:

Decwriter

AVAILABLE SOFTWARE:

Operating Systems(s) Description: _____

Compilers/Languages: Fortran

Application S/W: Scene Generation

NASA/JSC COMPUTER SURVEY

Computer Manufacturer: DEC Model: PDP11/45

System Laboratory Use: ESG2-EVD (5) NASA Branch: EF3

MAIN MEMORY:

Word Size: 16 Bits

Memory Capacity: 48K Words

Cycle Time: _____ Microseconds

MASS MEMORY:

Magnetic Tape: 1 ea. units at _____ bpi

_____ units at _____ bpi

Hard Disk Capacity: 1 ea. 2M bytes

Floppy Disk: _____ units

LOCATION OF COMPUTER:

Building 16, Room 134

Network Interface Type: _____

GENERAL PERIPHERALS:

Line Printer(s): -- LPM

Card Reader: 300 CPM

Card Punch: --

CRT Terminals: -- Units

Graphic Terminals: -- Units

Color Graphic Terminals: -- Units

SPECIAL H/W ARITHMETIC:

Mul/Div: _____

Floating Point: _____

Array Processor: _____

ADDITIONAL PERIPHERALS:

Decwriter

AVAILABLE SOFTWARE:

Operating System(s) Description: _____

Compilers/Languages: Fortran

Application S/W: Scene Generation Collision Avoidance Detection

NASA/JSC COMPUTER SURVEY

Computer Manufacturer: SEL Model: SEL 32/55

System Laboratory Use: SDL (M1) NASA Branch: EF3

MAIN MEMORY:

Word Size: 32 Bits

Memory Capacity: _____ Words

Cycle Time: 0.6 Microseconds

MASS MEMORY:

Magnetic Tape: 2 ea. 9T 75IPS units at 800/1600 bpi

_____ units at _____ bpi

Hard Disk Capacity: 10M, 80M, 300M bytes

Floppy Disk: _____ units

LOCATION OF COMPUTER:

Building 16, Room 295

Network Interface Type: _____

GENERAL PERIPHERALS:

Line Printer(s): 1 ea. 900 LPM

Card Reader: 1 ea. 1000 CPM

Card Punch: 1 ea.

CRT Terminals: 5 ea. Units

Graphic Terminals: -- Units

Color Graphic Terminals: -- Units

SPECIAL H/W ARITHMETIC:

Mul/Div: (Firmware)

Floating Point: _____

Array Processor: No

ADDITIONAL PERIPHERALS:

_____

_____

AVAILABLE SOFTWARE:

Operating Systems(s) Description: SEL Real Time Monitor

_____

Compilers/Languages: Fortran

_____

Application S/W: _____

_____

NASA/JSC COMPUTER SURVEY

Computer Manufacturer: Raytheon Model: R704

System Laboratory Use: SDL (4) NASA Branch: EF3

MAIN MEMORY:

Word Size: 16 Bits

Memory Capacity: 16K Words

Cycle Time: 1.0 Microseconds

MASS MEMORY:

Magnetic Tape: 2 ea, units at bpi

units at bpi

Hard Disk Capacity: 3M bytes

Floppy Disk: -- units

LOCATION OF COMPUTER:

Building 16, Room 295

Network Interface Type: --

GENERAL PERIPHERALS:

Line Printer(s): 1 ea, LPM

Card Reader: 1 ea, 200 CPM

Card Punch: --

CRT Terminals: 1 ea. Units

Graphic Terminals: -- Units

Color Graphic Terminals: -- Units

SPECIAL H/W ARITHMETIC:

Mul/Div: --

Floating Point: --

Array Processor: --

ADDITIONAL PERIPHERALS:

1 ea. Teletype

AVAILABLE SOFTWARE:

Operating Systems(s) Description:

Compilers/Languages:

Application S/W:

NASA/JSC COMPUTER SURVEY

Computer Manufacturer: MODCOMP Model: Classic

System Laboratory Use: SAIL/GTS NASA Branch: _____

MAIN MEMORY:

Word Size: 16 Bits

Memory Capacity: _____ Words

Cycle Time: _____ Microseconds

MASS MEMORY:

Magnetic Tape: 2 ea. units at _____ bpi

_____ units at _____ bpi

Hard Disk Capacity: 1 ea. _____ bytes

Floppy Disk: _____ units

LOCATION OF COMPUTER:

Building 16, Room 194

Network Interface Type: _____

GENERAL PERIPHERALS:

Line Printer(s): 1 ea. _____ LPM

Card Reader: 1 ea. 300 CPM

Card Punch: -- _____

CRT Terminals: 1 ea. _____ Units

Graphic Terminals: -- Units

Color Graphic Terminals: -- Units

SPECIAL H/W ARITHMETIC:

Mul/Div: _____

Floating Point: _____

Array Processor: _____

ADDITIONAL PERIPHERALS:

Silent 700 Terminal/Printer

AVAILABLE SOFTWARE:

Operating Systems(s) Description: _____

Compilers/Languages: _____

Application S/W: Non-Avionics Simulations

NASA/JSC COMPUTER SURVEY

Computer Manufacturer: SEL Model: SEL 32/55U

System Laboratory Use: FDS (F1) NASA Branch: EF3

MAIN MEMORY:

Word Size: 32 Bits

Memory Capacity: 64K Words

Cycle Time: 0.6 Microseconds

MASS MEMORY:

Magnetic Tape: 1 ea. 9T 75IPS units at 800/1600 bpi

_____ units at _____ bpi

Hard Disk Capacity: 10M bytes

Floppy Disk: -- units

LOCATION OF COMPUTER:

Building 16, Room 294

Network Interface Type: --

GENERAL PERIPHERALS:

Line Printer(s): 1 ea. shared 900 LPM

Card Reader: 1 ea. CPM

Card Punch: --

CRT Terminals: 1 ea. Units

Graphic Terminals: -- Units

Color Graphic Terminals: -- Units

SPECIAL H/W ARITHMETIC:

Mul/Div: (Firmware)

Floating Point:

Array Processor: Yes - AD10

ADDITIONAL PERIPHERALS:

8K Shared Memory with R2

8K Shared Memory with F2, F3, and F4

AVAILABLE SOFTWARE:

Operating Systems(s) Description: SEL Real Time Monitor 6.0

Compilers/Languages: Fortran IV

Application S/W: Shuttle Aerodynamics Simulation

NASA/JSC COMPUTER SURVEY

Computer Manufacturer: SEL Model: SEL 32/55U

System Laboratory Use: FDS (F2) NASA Branch: EF3

MAIN MEMORY:

Word Size: 32 Bits

Memory Capacity: 48K Words

Cycle Time: 0.6 Microseconds

MASS MEMORY:

Magnetic Tape: 1 ea. 9T 75IPS units at 800/1600 bpi

_____ units at _____ bpi

Hard Disk Capacity: 10M bytes

Floppy Disk: -- units

LOCATION OF COMPUTER:

Building 16, Room 294

Network Interface Type: --

GENERAL PERIPHERALS:

Line Printer(s): 1 ea. shared 900 LPM

Card Reader: 1 ea. CPM

Card Punch: --

CRT Terminals: 1 ea. Units

Graphic Terminals: -- Units

Color Graphic Terminals: -- Units

SPECIAL H/W ARITHMETIC:

Mul/Div: (Firmware)

Floating Point:

Array Processor: (No)

ADDITIONAL PERIPHERALS:

8K Shared Memory with F1, F3, and F4

AVAILABLE SOFTWARE:

Operating Systems(s) Description: SEL Real Time Monitor 6.0

Compilers/Languages: Fortran IV

Application S/W: Simulation of Shuttle Sensors and Navigation Aids

NASA/JSC COMPUTER SURVEY

Computer Manufacturer: SEL Model: SEL 32/55U

System Laboratory Use: FDS (F3) NASA Branch: EF3

MAIN MEMORY:

Word Size: 32 Bits

Memory Capacity: 64K Words

Cycle Time: 0.6 Microseconds

MASS MEMORY:

Magnetic Tape: 1 ea. 9T 75IPS units at 800/1600 bpi

_____ units at _____ bpi

Hard Disk Capacity: 10M bytes

Floppy Disk: -- units

LOCATION OF COMPUTER:

Building 16, Room 294

Network Interface Type: --

GENERAL PERIPHERALS:

Line Printer(s): 1 ea. Shared 900 LPM

Card Reader: 1 ea. CPM

Card Punch: --

CRT Terminals: 1 ea. Units

Graphic Terminals: -- Units

Color Graphic Terminals: -- Units

SPECIAL H/W ARITHMETIC:

Mul/Div: (Firmware)

Floating Point:

Array Processor: No

ADDITIONAL PERIPHERALS:

8K Shared Memory with F1, F2, and F4

AVAILABLE SOFTWARE:

Operating Systems(s) Description: SEL Real Time Monitor 6.0

Compilers/Languages: Fortran IV

Application S/W: Simulation of Shuttle Flight Dynamics

NASA/JSC COMPUTER SURVEY

Computer Manufacturer: SEL Model: SEL 32/55U

System Laboratory Use: FDS (F4) NASA Branch: EF3

MAIN MEMORY:

Word Size: 32 Bits

Memory Capacity: 48K Words

Cycle Time: 0.6 Microseconds

MASS MEMORY:

Magnetic Tape: 1 ea. 9T 75IPS units at 800/1600 bpi

units at bpi

Hard Disk Capacity: 10M bytes

Floppy Disk: -- units

LOCATION OF COMPUTER:

Building 16, Room 294

Network Interface Type: --

GENERAL PERIPHERALS:

Line Printer(s): 1 ea. Shared 900 LPM

Card Reader: 1 ea. CPM

Card Punch: --

CRT Terminals: 1 ea. Units

Graphic Terminals: -- Units

Color Graphic Terminals: -- Units

SPECIAL H/W ARITHMETIC:

Mul/Div: Firmware

Floating Point:

Array Processor: No

ADDITIONAL PERIPHERALS:

8K Shared Memory with F1, F2, and F3

AVAILABLE SOFTWARE:

Operating Systems(s) Description: SEL Real Time Monitor 6.0

Compilers/Languages: Fortran IV

Application S/W: Simulation of IMU, Propulsive Forces and Moments for Shuttle

NASA/JSC COMPUTER SURVEY

Computer Manufacturer: SEL Model: SEL 32/75

System Laboratory Use: EDS (R2) NASA Branch: EE3

MAIN MEMORY:

Word Size: 32 Bits

Memory Capacity: 48K Words

Cycle Time: 0.6 Microseconds

MASS MEMORY:

Magnetic Tape: 1 AT 75IPS units at 800/1600 bpi

units at bpi

Hard Disk Capacity: 10M bytes

Floppy Disk: -- units

LOCATION OF COMPUTER:

Building 16, Room 294

Network Interface Type:

GENERAL PERIPHERALS:

Line Printer(s): LPM

Card Reader: CPM

Card Punch:

CRT Terminals: 1 Units

Graphic Terminals: -- Units

Color Graphic Terminals: -- Units

SPECIAL H/W ARITHMETIC:

Mul/Div: (Firmware)

Floating Point:

Array Processor: No

ADDITIONAL PERIPHERALS:

AVAILABLE SOFTWARE:

Operating Systems(s) Description: SEL Real Time Monitor 6.0

Compilers/Languages: Fortran IV

Application S/W: Simulation of Shuttle RMS System

NASA/JSC COMPUTER SURVEY

Computer Manufacturer: SEL Model: SEL 32/55

System Laboratory Use: FDS/GRD (D2) NASA Branch: EF3

MAIN MEMORY:

Word Size: 32 Bits

Memory Capacity: 56K Words

Cycle Time: 0.6 Microseconds

MASS MEMORY:

Magnetic Tape: 3 ea. 9T 75IPS units at 800/1600 bpi

_____ units at _____ bpi

Hard Disk Capacity: 10M bytes

Floppy Disk: -- units

LOCATION OF COMPUTER:

Building 16, Room 295

Network Interface Type: _____

GENERAL PERIPHERALS:

Line Printer(s): 1 ea. 900 LPM

Card Reader: 1 ea. 1000 CPM

Card Punch: --

CRT Terminals: 1 ea. Units

Graphic Terminals: -- Units

Color Graphic Terminals: -- Units

SPECIAL H/W ARITHMETIC:

Mul/Div: (Firmware)

Floating Point: (Firmware)

Array Processor: No

ADDITIONAL PERIPHERALS:

AVAILABLE SOFTWARE:

Operating Systems(s) Description: SEL Real Time Monitor 6.0

Compilers/Languages: Fortran IV

Application S/W: Real Time Data Recording

NASA/JSC COMPUTER SURVEY

Computer Manufacturer: Raytheon Model: R704

System Laboratory Use: FDS/GSI (3) NASA Branch: EF3

MAIN MEMORY:

Word Size: 16 Bits

Memory Capacity: 16K Words

Cycle Time: 1.0 Microseconds

MASS MEMORY:

Magnetic Tape: 1 ea. units at _____ bpi

_____ units at _____ bpi

Hard Disk Capacity: 1 ea. 3M bytes

Floppy Disk: -- units

LOCATION OF COMPUTER:

Building 16, Room 1055

Network Interface Type: --

GENERAL PERIPHERALS:

Line Printer(s): 1 ea. LPM

Card Reader: 1 ea. 300 CPM

Card Punch: --

CRT Terminals: 1 ea. Units

Graphic Terminals: -- Units

Color Graphic Terminals: -- Units

SPECIAL H/W ARITHMETIC:

Mul/Div: No

Floating Point: No

Array Processor: No

ADDITIONAL PERIPHERALS:

AVAILABLE SOFTWARE:

Operating Systems(s) Description:

Compilers/Languages:

Application S/W:

NASA/JSC COMPUTER SURVEY

Computer Manufacturer: SEL Model: SEL 32/55U

System Laboratory Use: SES (S1) NASA Branch: EF3

MAIN MEMORY:

Word Size: 32 Bits

Memory Capacity: 48K Words

Cycle Time: 0.6 Microseconds

MASS MEMORY:

Magnetic Tape: 1 ea. 9T 75IPS units at 800/1600 bpi

_____ units at _____ bpi

Hard Disk Capacity: 1 ea. Shared 10M bytes

Floppy Disk: -- _____ units

LOCATION OF COMPUTER:

Building 16, Room 135

Network Interface Type: --

GENERAL PERIPHERALS:

Line Printer(s): 1 ea. Shared 900 LPM

Card Reader: 1 ea. 1000 CPM

Card Punch: --

CRT Terminals: 1 ea. Units

Graphic Terminals: -- Units

Color Graphic Terminals: -- Units

SPECIAL H/W ARITHMETIC:

Mul/Div: Firmware

Floating Point:

Array Processor: No

ADDITIONAL PERIPHERALS:

AVAILABLE SOFTWARE:

Operating Systems(s) Description: SEL Real Time Monitor 6.0

Compilers/Languages: Fortran IV

Application S/W:

Computer Manufacturer: SEL Model: SEL 32/55U

System Laboratory Use: SES (S2) NASA Branch: EF3

MAIN MEMORY:

Word Size: 32 Bits

Memory Capacity: 48K Words

Cycle Time: 0.6 Microseconds

MASS MEMORY:

Magnetic Tape: 1 ea. 9T 75IPS units at 800/1600 bpi

_____ units at _____ bpi

Hard Disk Capacity: 1 ea. Shared 10M bytes

Floppy Disk: -- units

LOCATION OF COMPUTER:

Building 16, Room 135

Network Interface Type: --

GENERAL PERIPHERALS:

Line Printer(s): 1 ea. Shared 900 LPM

Card Reader: 1 ea. 1000 CPM

Card Punch: --

CRT Terminals: 1 Units

Graphic Terminals: -- Units

Color Graphic Terminals: -- Units

SPECIAL H/W ARITHMETIC:

Mul/Div: Firmware

Floating Point:

Array Processor: No

ADDITIONAL PERIPHERALS:

AVAILABLE SOFTWARE:

Operating Systems(s) Description: SEL Real Time Monitor 6.0

Compilers/Languages: Fortran IV

Application S/W:

NASA/JSC COMPUTER SURVEY

Computer Manufacturer: SEL Model: SEL 32/55U

System Laboratory Use: SES (S3) NASA Branch: EF3

MAIN MEMORY:

Word Size: 32 Bits

Memory Capacity: 48K Words

Cycle Time: 0.6 Microseconds

MASS MEMORY:

Magnetic Tape: 1 ea. 9T 75 IPS units at 800/1600 bpi

_____ units at _____ bpi

Hard Disk Capacity: 10M bytes

Floppy Disk: -- units

LOCATION OF COMPUTER:

Building 16, Room 135

Network Interface Type: --

GENERAL PERIPHERALS:

Line Printer(s): 1 ea. 900 LPM

Card Reader: 1 ea. 300 CPM

Card Punch: --

CRT Terminals: 2 ea. Units

Graphic Terminals: -- Units

Color Graphic Terminals: -- Units

SPECIAL H/W ARITHMETIC:

Mul/Div: Firmware

Floating Point:

Array Processor: Yes, AD10

ADDITIONAL PERIPHERALS:

AVAILABLE SOFTWARE:

Operating Systems(s) Description: SEL Real Time Monitor 6.0

Compilers/Languages: Fortran IV

Application S/W:

NASA/JSC COMPUTER SURVEY

Computer Manufacturer: SEL Model: SEL 32/75

System Laboratory Use: SES (R3) NASA Branch: EF3

MAIN MEMORY:

Word Size: 32 Bits

Memory Capacity: 64K Words

Cycle Time: 0.6 Microseconds

MASS MEMORY:

Magnetic Tape: 1 ea. 9T 75IPS units at 800/1600 bpi

_____ units at _____ bpi

Hard Disk Capacity: 10M bytes

Floppy Disk: -- units

LOCATION OF COMPUTER:

Building 16, Room 135

Network Interface Type: --

GENERAL PERIPHERALS:

Line Printer(s): 1 ea. 900 LPM

Card Reader: 1 ea. 1000 CPM

Card Punch: --

CRT Terminals: 1 ea. Units

Graphic Terminals: -- Units

Color Graphic Terminals: -- Units

SPECIAL H/W ARITHMETIC:

Mul/Div: Firmware

Floating Point:

Array Processor: No

ADDITIONAL PERIPHERALS:

AVAILABLE SOFTWARE:

Operating Systems(s) Description: SEL Real Time Monitor 6.0

Compilers/Languages: Fortran IV

Application S/W: Remote Manipulator System Simulation

Computer Manufacturer: SEL Model: SEL 32/75

System Laboratory Use: SES (L1) NASA Branch: EF3

MAIN MEMORY:

Word Size: 32 Bits

Memory Capacity: _____ Words

Cycle Time: 0.6 Microseconds

MASS MEMORY:

Magnetic Tape: 1 ea. 9T 75IPS units at 800/1600 bpi

_____ units at _____ bpi

Hard Disk Capacity: 10M bytes

Floppy Disk: -- units

LOCATION OF COMPUTER:

Building 16, Room 135

Network Interface Type: --

GENERAL PERIPHERALS:

Line Printer(s): 1 ea. 900 LPM

Card Reader: 1 ea. 1000 CPM

Card Punch: --

CRT Terminals: 1 ea. Units

Graphic Terminals: -- Units

Color Graphic Terminals: -- Units

SPECIAL H/W ARITHMETIC:

Mul/Div: Firmware

Floating Point: _____

Array Processor: No

ADDITIONAL PERIPHERALS:

AVAILABLE SOFTWARE:

Operating Systems(s) Description: SEL Real Time Monitor

Compilers/Languages: Fortran IV

Application S/W: Simulation of Shuttle Payloads and Payload Interfaces

NASA/JSC COMPUTER SURVEY

Computer Manufacturer: SEL Model: SEL 32/75

System Laboratory Use: SES (G1) NASA Branch: EF3

MAIN MEMORY:

Word Size: 32 Bits

Memory Capacity: _____ Words

Cycle Time: 0.6 Microseconds

MASS MEMORY:

Magnetic Tape: 9T 75IPS units at 800/1600 bpi

_____ units at _____ bpi

Hard Disk Capacity: 10M bytes

Floppy Disk: -- units

LOCATION OF COMPUTER:

Building 16, Room 135

Network Interface Type: --

GENERAL PERIPHERALS:

Line Printer(s): 1 ea. 900 LPM

Card Reader: 1 ea. 1000 CPM

Card Punch: --

CRT Terminals: 1 ea. Units

Graphic Terminals: 1 ea. Units

Color Graphic Terminals: -- Units

SPECIAL H/W ARITHMETIC:

Mul/Div: Firmware

Floating Point: _____

Array Processor: No

ADDITIONAL PERIPHERALS:

AVAILABLE SOFTWARE:

Operating Systems(s) Description: SEL Real Time Monitor 6.0

Compilers/Languages: Fortran IV

Application S/W: Graphics

NASA/JSC COMPUTER SURVEY

Computer Manufacturer: SEL Model: SEL 32/55

System Laboratory Use: SES (D3) NASA Branch: EF3

MAIN MEMORY:

Word Size: 32 Bits

Memory Capacity: 64K Words

Cycle Time: 0.6 Microseconds

MASS MEMORY:

Magnetic Tape: 1 ea. 9T 75IPS units at 800/1600 bpi

_____ units at _____ bpi

Hard Disk Capacity: 10M bytes

Floppy Disk: -- units

LOCATION OF COMPUTER:

Building 16, Room 135

Network Interface Type: --

GENERAL PERIPHERALS:

Line Printer(s): 1 ea. Shared 900 LPM

Card Reader: 1 ea. 1000 CPM

Card Punch: --

CRT Terminals: 2 ea. Units

Graphic Terminals: -- Units

Color Graphic Terminals: -- Units

SPECIAL H/W ARITHMETIC:

Mul/Div: Firmware

Floating Point:

Array Processor: No

ADDITIONAL PERIPHERALS:

AVAILABLE SOFTWARE:

Operating Systems(s) Description: SEL Real Time Monitor

Compilers/Languages: Fortran IV

Application S/W: Data Recording

NASA/JSC COMPUTER SURVEY

Computer Manufacturer: SEL Model: SEL 32/55

System Laboratory Use: SES (DD) NASA Branch: EF3

MAIN MEMORY:

Word Size: 32 Bits

Memory Capacity: _____ Words

Cycle Time: 0.6 Microseconds

MASS MEMORY:

Magnetic Tape: 2 ea. 9T 75IPS units at 800/1600 bpi

_____ units at _____ bpi

Hard Disk Capacity: 300M & 10M bytes

Floppy Disk: -- units

LOCATION OF COMPUTER:

Building 16, Room 135

Network Interface Type: --

GENERAL PERIPHERALS:

Line Printer(s): 1 ea. 900 LPM

Card Reader: 1 ea. 1000 CPM

Card Punch: --

CRT Terminals: 2 ea. Units

Graphic Terminals: -- Units

Color Graphic Terminals: -- Units

SPECIAL H/W ARITHMETIC:

Mul/Div: Firmware

Floating Point:

Array Processor: No

ADDITIONAL PERIPHERALS:

AVAILABLE SOFTWARE:

Operating Systems(s) Description: SEL Real Time Monitor 6.0

Compilers/Languages: Fortran IV

Application S/W: Data Reduction

NASA/JSC COMPUTER SURVEY

Computer Manufacturer: XEROX Model: SIGMA 5

System Laboratory Use: SES NASA Branch: EF3

MAIN MEMORY:

Word Size: 32 Bits

Memory Capacity: 65K Words

Cycle Time: _____ Microseconds

MASS MEMORY:

Magnetic Tape: 2 9-Track units at _____ bpi

1 7-Track units at _____ bpi

Hard Disk Capacity: 2 ea. 3M bytes

Floppy Disk: -- units

LOCATION OF COMPUTER:

Building 16, Room 135

Network Interface Type: --

GENERAL PERIPHERALS:

Line Printer(s): 1 ea. LPM

Card Reader: 1 ea. CPM

Card Punch: 1 ea.

CRT Terminals: _____ Units

Graphic Terminals: -- Units

Color Graphic Terminals: -- Units

SPECIAL H/W ARITHMETIC:

Mul/Div: _____

Floating Point: _____

Array Processor: _____

ADDITIONAL PERIPHERALS:

AVAILABLE SOFTWARE:

Operating Systems(s) Description: _____

Compilers/Languages: Fortran

Application S/W: _____

NASA/JSC COMPUTER SURVEY

Computer Manufacturer: DEC Model: PDP 11/40

System Laboratory Use: SES (-1) NASA Branch: EF3

MAIN MEMORY:

Word Size: 16 Bits

Memory Capacity: 32K Words

Cycle Time: _____ Microseconds

MASS MEMORY:

Magnetic Tape: 1 ea. units at _____ bpi

_____ units at _____ bpi

Hard Disk Capacity: 3M bytes

Floppy Disk: -- units

LOCATION OF COMPUTER:

Building 16, Room 135

Network Interface Type: --

GENERAL PERIPHERALS:

Line Printer(s): -- LPM

Card Reader: -- CPM

Card Punch: --

CRT Terminals: -- Units

Graphic Terminals: 1 Units

Color Graphic Terminals: -- Units

SPECIAL H/W ARITHMETIC:

Mul/Div: _____

Floating Point: _____

Array Processor: _____

ADDITIONAL PERIPHERALS:

Decwriter

AVAILABLE SOFTWARE:

Operating Systems(s) Description: _____

Compilers/Languages: Fortran

Application S/W: Graphics

NASA/JSC COMPUTER SURVEY

Computer Manufacturer: DEC Model: PDP11/34

System Laboratory Use: SES (-6) NASA Branch: EF3

MAIN MEMORY:

Word Size: 16 Bits

Memory Capacity: 80K Words

Cycle Time: _____ Microseconds

MASS MEMORY:

Magnetic Tape: 1 ea. units at _____ bpi

_____ units at _____ bpi

Hard Disk Capacity: 2 ea. at 8M bytes each

Floppy Disk: -- units

LOCATION OF COMPUTER:

Building 16, Room 135

Network Interface Type: --

GENERAL PERIPHERALS:

Line Printer(s): 1 ea. 900 LPM

Card Reader: 1 ea. 300 CPM

Card Punch: --

CRT Terminals: 3 Units

Graphic Terminals: -- Units

Color Graphic Terminals: -- Units

SPECIAL H/W ARITHMETIC:

Mul/Div: _____

Floating Point: _____

Array Processor: Yes 2 each AD10

ADDITIONAL PERIPHERALS:

Decwriter, DEC Terminal

AVAILABLE SOFTWARE:

Operating Systems(s) Description: _____

Compilers/Languages: Fortran

Application S/W: Host Computer for AD10 Processors

NASA/JSC COMPUTER SURVEY

Computer Manufacturer: CDC Model: Cyber 74

System Laboratory Use: EF3/SES NASA Branch: EH2/EF3

MAIN MEMORY:

Word Size: 60 Bits

Memory Capacity: 131K Words

Cycle Time: 0.1/1.0 Microseconds

MASS MEMORY:

Magnetic Tape: 2 ea. 7T 150IPS units at 556/800 bpi

2 ea. 7T 150IPS units at 200/556/800 bpi

Hard Disk Capacity: 4 ea. 300M bytes

Floppy Disk: -- units

LOCATION OF COMPUTER:

Building 16, Room 134

Network Interface Type: --

GENERAL PERIPHERALS:

Line Printer(s): 1 ea. 1200 LPM

Card Reader: 1 ea. 500 CPM

Card Punch: --

CRT Terminals: 3 ea. Units

Graphic Terminals: -- Units

Color Graphic Terminals: -- Units

SPECIAL H/W ARITHMETIC:

Mul/Div: Yes

Floating Point: Yes

Array Processor: No

ADDITIONAL PERIPHERALS:

AVAILABLE SOFTWARE:

Operating Systems(s) Description:

Compilers/Languages: Fortran, Cobol, Compass (Assembly)

Application S/W: Space Shuttle Flight Simulations (SSFS)