

*NOV
FILM 2/94
ASTRO
STAR CITY*

**STAR CITY
TELECOMMUNICATIONS AND AUTOMATED DATA PROCESSING (ADP)
REQUIREMENTS**

1 TELEPHONE (VOICE)

1.1 Base Requirements

1.1.1 The Star City team must have access to a voice communications link 7 days per week, 24 hours per day between Star City and the following locations:

- U.S. embassy, Moscow
- NASA Headquarters
- Johnson Space Center

1.1.2 Personnel need to be able to contact each other within ?? minutes.

1.1.3 Service must be provided in both offices and living quarters. The specific distribution is as follows:

- Thagard living quarters (1)
- Dunbar living quarters (1)
- Ward/Barratt living quarters (1)
- Cameron living quarters (1)
- Flight surgeon office (1)
- DO office (1)

1.1.4 As the astronauts will be moving around to different locations, sometimes outside of Star City, portability and range of service are critical.

1.1.5 Voice mail is required. Personnel will need to be able to check messages remotely.

1.1.6 Voice teleconferencing capability is required. This is, potentially, a daily activity.

1.1.7 Connection to international calling service is required.

1.1.8 Standard telephones meeting above requirements.

1.2 Secure Communications

The Star City team must have access to a secure voice communications link to NASA Headquarters and the Johnson Space Center available on an as

needed basis. This capability may be available through the U.S. embassy in Moscow.

1.3 International Lines

Three (3) lines

- Thagard living quarters (1)
- Dunbar living quarters (1)
- Director of Operations (DO) office (1)

1.4 Local Lines

Six (6) lines

- Thagard living quarters (1)
- Dunbar living quarters (1)
- Ward/Barratt living quarters (1)
- Cameron living quarters (1)
- Flight surgeon office (1)
- DO office (1)

1.5 Equipment

1.5.1 Telephones (provided by PSCN under RFS 169099)

Six (6) single line telephones capable of operating on the Star City telephone system with voice mail and teleconferencing capability distributed as follows: *(additional specifications?)*

- Thagard living quarters (1)
- Dunbar living quarters (1)
- Ward/Barratt living quarters (1)
- Cameron living quarters (1)
- Flight surgeon office (1)
- DO office (1)

1.5.2 Satellite communications (provided by PSCN under RFS 169099)

Two (2) satellite communications (INMARSAT) capable telephones with fax and modem connections. These units will be used to provide backup voice, fax, and data (E-mail) connectivity. Procedures will need to be developed on their use. For example, a unit will need to be connected to a fax machine in order to receive incoming faxes - will this be on a dedicated basis, on a rotating schedule, or simply arranged on an as needed basis?

2 FAX

2.1 Base Requirements

- 2.1.1 The Star City team must have access to a fax communications link 7 days per week, 24 hours per day.
- 2.1.2 Service (*units?*) must be provided in team offices and the Director of Operations' living quarters.
- 2.1.3 No estimate on incoming or outgoing volume (50 pages per day?)

2.2 Secure Communications

The Star City team must have access to a secure fax communications link to NASA Headquarters and the Johnson Space Center available on an as needed basis. This capability may be available through the U.S. embassy in Moscow.

2.3 Data Lines

TBD

2.4 Equipment

- 2.4.1 Fax machines (provided by PSCN under RFS 169099)

Three (3) plain paper Pitney Bowes Model 9550 units with a minimum transmission speed of 9600 baud capable of operating on 220 Vac, 50 Hz current (*double check*).

- Flight surgeon office (1)
- DO office (1)
- DO living quarters (1)

- 2.4.2 Uninterruptable Power Supplies (UPS)/Surge Protection

Required for each fax machine. Must be capable of operating on 220 Vac, 50 Hz. To minimize the number of units required, the same units will also be used for any ADP equipment colocated with the fax machine.

2.4.3 Satellite communications (provided by PSCN under RFS 169099)

As mentioned above, the two (2) satellite communications (INMARSAT) capable telephones will be used for fax transmissions as well as voice and data.

3 ADP

3.1 Base Requirements

3.1.1 User Interface/Applications

In order to simplify training and remote support, a graphical user interface is mandatory. This interface, along with the individual applications, must be The applications required are as follows:

- Electronic mail (E-mail)
 - Provide access to HQ and JSC E-mail systems
 - Utilize store and forward design to reduce access time (connection is required only to upload outgoing mail to mail host and download incoming mail from it)
 - Provide ability to attach files created by other applications (e.g., word processing documents, spreadsheets) to mail messages
- Communications
 - Provide terminal emulation (VT100)
 - Provide TCP/IP connectivity for Internet access (required for access to SSPO applications downstream)
 - Provide fax send and receive capability with optical character recognition (OCR) to convert faxes from images to text file
- Word Processing
 - Basic word processing. No unique or special features.
- Spreadsheet
 - Basic electronic spreadsheet. No unique or special features.
- Presentation Graphics
 - Basic presentation capability with both hard copy and slide show display.
- Desktop/Laptop Data Transfer
 - The proposed approach to backing up critical data is to use the portable computers as backup for the desktop units. The desktop - laptop data transfer software and cable will allow rapid transfer in both directions. Critical files created on the laptop should also be duplicated on the desktop.

3.1.2 Computers

Two types of computers are required. Four (4) desktop units will need to be available in the following locations:

- DO office (1)
- Thagard living quarters (1)
- Dunbar living quarters (1)
- Cameron living quarters (1)

The desktop units must be standard JSC equipment with proven reliability record. This requirement stems from the need to support this equipment at such a remote location.

In addition to the desktop units, two laptop units will need to be available for shared use. Again, these must be standard JSC equipment with a proven reliability record.

The specific hardware requirements are based on the assumption that the PC-based Microsoft suite of office automation products will be the tools used by the Star City team. This includes Windows, Word for Windows, Excel, Powerpoint, and Mail Remote. Given these applications, the minimum requirements for the desktop units are as follows:

- 860386, 25 mHz processor or equivalent
- 8 MB RAM
- 300 MB hard drive
- Super VGA Color monitor, minimum diagonal measure of 13"
- Two (2) serial ports for mouse and modem
- One (1) parallel port for printer
- One (1) 5.25" diskette drive (1.2MB/360K)
- One (1) 3.5" diskette drive (1.44MB/720K)
- Mouse
- Ethernet adapter
- External 14.4 fax/modem with cable
- Capable of operating on 220 Vac, 50 Hz power

The minimum requirements for the laptop units are as follows:

- 860486, 25 mHz processor or equivalent
- 8 MB RAM
- 240 MB hard drive
- Active matrix color display, minimum diagonal measure of 9.5"
- One (1) parallel port for printer
- One (1) 3.5" diskette drive (1.44MB/720K)
- Trackball

- Internal 14.4 fax/modem
- Three (3) batteries each capable of 1.5 hours of operation
- Battery charger capable of operating on 220 Vac, 50 Hz power
- AC adapter capable of operating on 220 Vac, 50 Hz power

3.1.3 Printers

In order to minimize printing time and produce business quality documents, three (3) laser printers will be needed with the following minimum requirements:

- PostScript compatible
- 8 pages per minute
- 4 MB of RAM
- Parallel connection and cable

The laser printers will be distributed as follows

- DO office (1)
- Flight surgeon office (1)
- DO living quarters (1)

3.1.4 UPSs/Surge Protection

Specifications TBD, must be capable of operating on 220 Vac, 50 Hz power; distribution as follows (note - these devices will also be used to protect the fax machines at the same locations):

- DO office (1)
- Flight surgeon office (1)
- Thagard living quarters (1)
- Dunbar living quarters (1)
- DO living quarters (1)

3.2 Proposed Software

- Graphical User Interface: Microsoft Windows 3.1
- E-Mail: Microsoft Mail Remote
- Communications: *TBD*
- Word Processing: Microsoft Word
- Spreadsheet: Microsoft Excel
- Presentation Graphics: Microsoft PowerPoint
- Desktop - Laptop Data Transfer: *TBD*

3.3 Proposed Equipment

3.3.1 Computers

3.3.2 Printers

3.3.3 UPSs/Surge Protection

4 TESTING

Testing on all equipment being shipped to Russia will be completed at JSC prior to shipment.

5 TRAINING

5.1 Telephone

TBD

5.2 Fax

TBD

5.3 ADP

TBD

6 SUPPLIES

6.1 Fax

- Manuals
- Toner cartridges
- Paper

6.2 Computer

- Computer manuals
- Software manuals and installation diskettes
- Blank diskettes

6.3 Printers

- Manuals
- Toner cartridges

- Paper

7 SUPPORT

7.1 Problem Reporting and Basic Support

TBD

7.2 Hardware Service and Maintenance

7.2.1 Telephones

TBD

7.2.2 Fax

TBD

7.2.3 ADP

TBD

8 SERVICE PROVIDERS

8.1 Program Support Communications Network (PSCN)

Managed by the Office of Communications (Code O) at Headquarters, the PSCN provides a NASA-wide communications capability. The PSCN support organization, headquartered at MSFC, is responsible for providing voice, fax, and data communications links for the Star City team. A Request for Service (RFS) is required for any PSCN related work. RFS 169099 has been submitted covering the links to Star City. (*Need copy*) The PSCN will be providing the Star City team with the following:

- Satellite communications equipment (voice, fax, and data)
- Fax equipment
- Telephones (PSCN does not normally provide telephones, but will do so in this case to ensure uniformity and compatibility)

8.2 NASA Science Internet (NSI)

Managed by the Office of Space Science (Code S) at Headquarters, the NSI provides data communication for the scientific community. Currently, the NSI organization is working with the Russians to deploy Internet nodes in Russia (R-ISI). The main hub for R-ISI is located in Moscow (IKI). Eventually, it will be connected to eight locations in Russian including Star City.

8.3 Information Systems Division (ISD)

Located at the Johnson Space Center, ISD is responsible for providing baseline workstations, software, LANs, and peripherals in support of the Space Station Program. Upon completion of a Service Request (SR), ISD can provide the following:

- Desktop computers
- Laptop computers
- Software
- Printers
- Computer and printer supplies
- UPS/surge protectors
- Training
- Remote support ????

8.4 Space Station MIS Organization

9 OPEN ACTIONS

ID	DESCRIPTION	ASSIGNED	DUE	STATUS
CO 001	Provide copy of letter specifying astronaut communications requirements at Star City and the Operation and Integration Joint Working Group plan	Jim Nise	01/14/94	Copy of official request to PSCN, dated 12/16/93, provided (01/12/94)
CO 002	Provide copy of Service Request submitted to ISD and PSCN RFP	Jim Nise	01/14/94	PSCN RFP represents extent of communications planning to date

ID	DESCRIPTION	ASSIGNED	DUE	STATUS
CO 003	Prepare draft requirements for PSCN-provided communications equipment, including telephones and facsimile machines including: <ul style="list-style-type: none"> • Emergency communications link • Encoding and encryption • Cellular phones • Videoconferencing 	Bill Vantine	01/24/94	Per Kathy Hatley, PSCN will provide telephones although this is not SOP
CO 004	Prepare draft requirements for office telephone lines, including dedicated lines	Bill Vantine	01/24/94	
CO 005	Review RFP for PSCN contract and determine what requirements are <u>not</u> met by the RFP	Bill Vantine	01/24/94	
CO 006	Prepare draft requirements for computers, printers, networking equipment, and software	Bill Vantine	01/24/94	
CO 007	Prepare list of the required communications and computer equipment supplies (e.g., paper, toner, OPCs, etc.)	Bill Vantine	01/24/94	
CO 008	Determine what communications equipment licenses must be obtained and develop plan for obtaining them (<i>necessary Russian licenses are included in this action</i>)	Dan Jacobs	01/24/94	
CO 009	Prepare plan and schedule for acceptance testing of all equipment prior to deployment	Bill Vantine	01/24/94	
CO 010	Prepare plan and schedule for training on communications equipment, computers and software prior to deployment	Bill Vantine	01/24/94	
CO 011	Prepare list of communications equipment, computers, and supplies to be hand-carried in initial deployment	Bill Vantine	01/24/94	
CO 012	Prepare Service Request to be submitted to ISD for all ADP equipment and services (testing and training)	Bill Vantine	01/26/94	

ID	DESCRIPTION	ASSIGNED	DUE	STATUS
CO 013	Schedule testing and training activities	Bill Vantine	01/27/93	
CO 014	Determine what communications capabilities are available through the U.S. embassy.	?	?	