

HONEYWELL

DPS 6

SNA REMOTE

JOB ENTRY

FACILITY

USER'S GUIDE

SOFTWARE

DPS 6

SNA REMOTE JOB ENTRY FACILITY USER'S GUIDE

SUBJECT

Operating Concepts and Procedures for the Systems Network Architecture
Remote Job Entry Facility

SOFTWARE SUPPORTED

SNA Remote Job Entry Facility Release 1.2.

SPECIAL INSTRUCTIONS

This manual supersedes the *DPS 6 SNA Remote Job Entry Facility User's Guide*, CR59-00, dated March 1982. This manual has been extensively revised and rewritten; therefore, change bars have not been used.

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Preface

This manual is written for operators of the Systems Network Architecture (SNA) Remote Job Entry (RJE) Facility.

The manual describes in detail the concepts of the RJE Facility, RJE Facility operating procedures, and RJE Facility operator commands. The appendixes include a sample RJE Facility use and error and informational messages.

In this manual, the term MOD 400 refers to the GCOS 6 MOD 400 Executive which executes on DPS 6 hardware. DPS 6 refers to DPS 6, disk-based microSystem 6/10, or microSystem 6/20 hardware, unless otherwise noted.

The following conventions are used to indicate the relative levels of topic headings used in this manual:

Level 1 (highest)	<u>ALL CAPITAL LETTERS, UNDERLINED</u>
Level 2	<u>Initial Capital Letters, Underlined</u>
Level 3	ALL CAPITAL LETTERS, NOT UNDERLINED
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SNA MANUALS

The following publications constitute the DPS 6/SNA manual set for Release 1.2 of SNA.

<u>Order Number</u>	<u>Manual Title</u>
CR56	IBM Distributed Data Processing Overview
CR57	DPS 6/SNA Administrator's Guide
CR58	SNA Interactive Terminal Facility User's Guide
CR59	SNA Remote Job Entry Facility User's Guide
CR60	SNA File Transfer Facility User's Guide
GR11	SNA Application Programmer's Guide
CZ74	GCOS 6 Data Base Augmented Real-Time Tracing System User's Guide
GB88	SNA Host System Programmer's Guide

SOFTWARE RELEASE BULLETIN

The SNA product is described in a Software Release Bulletin. Consult the Software Release Bulletin before using the software. The DPS 6/SNA Software Release Bulletin is:

<u>Order Number</u>	<u>SRB Title</u>
GR12	SNA Software Release Bulletin

Contact your Honeywell representative if a copy of the Software Release Bulletin is not available.

MOD 400 MANUALS

The MOD 400 manual set provides information prerequisite to using the SNA manual set. Honeywell software reference manuals are periodically updated to support enhancements and improvements to the software. Before ordering any manuals, refer to the Manual Directory of the MOD 400 Guide to Software Documentation to obtain information concerning the specific edition of the manual that supports the software currently in use at your installation. If you use the four-character base publication number to order a document, you will receive the latest edition of the manual. If you wish to order a specific edition of a document, you must use the seven- or eight-character publication number listed in the MOD 400 Guide to Software Documentation.

IBM MANUALS

Refer to these IBM documents for host programming, operating, application, and configuration information.

<u>Order Number</u>	<u>Manual Title</u>
SC27-0164	ACF/VTAM Messages and Codes
SC27-0449	ACF/VTAM Programming
SC27-0611	ACF/VTAM Planning and Installation Reference
SC30-3167	ACF/NCP Installation and Resource Definition
SC30-3168	ACF/NCP System Support Programs: Utilities
SC30-3169	ACF/NCP and Emulation Program: Messages and Codes
SC23-0046	JES2 Initialization and Tuning
SC33-0149	CICS Resource Definition Guide

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Section 1

INTRODUCTION

The Remote Job Entry (RJE) Facility enables a remote terminal operator to submit jobs for execution at an IBM host site and receive the output of the job at the remote terminal, where it can be directed to the appropriate output device(s). Figure 1-1 illustrates a DPS 6-to-IBM RJE Facility connection.

The RJE Facility allows a DPS 6 to emulate many of the functions of an IBM 3777 Model 3 Controller and its attached devices in a Systems Network Architecture (SNA) environment. Since the code for the RJE Facility is reentrant, one copy of RJE can support more than one invocation of the RJE Facility. Each invocation of RJE supports up to six logical units (LUs). Data can reside on any appropriate DPS 6 device; data can also be directed to any appropriate DPS 6 device. For a description of how to configure the RJE Facility in a DPS 6/SNA environment, see the DPS 6/SNA Administrator's Guide.

The RJE Facility can operate concurrently with other interactive and batch application program functions executing on the DPS 6. Communication is completed between DPS 6 devices and an IBM host system through the RJE Facility. The RJE Facility communicates with the IBM host via the SNA Transport Facility. Input is in the form of job control language and batched data streams sent to the host system. The host system output can either be directed immediately to an appropriate DPS 6 device, or stored on disk for later processing.

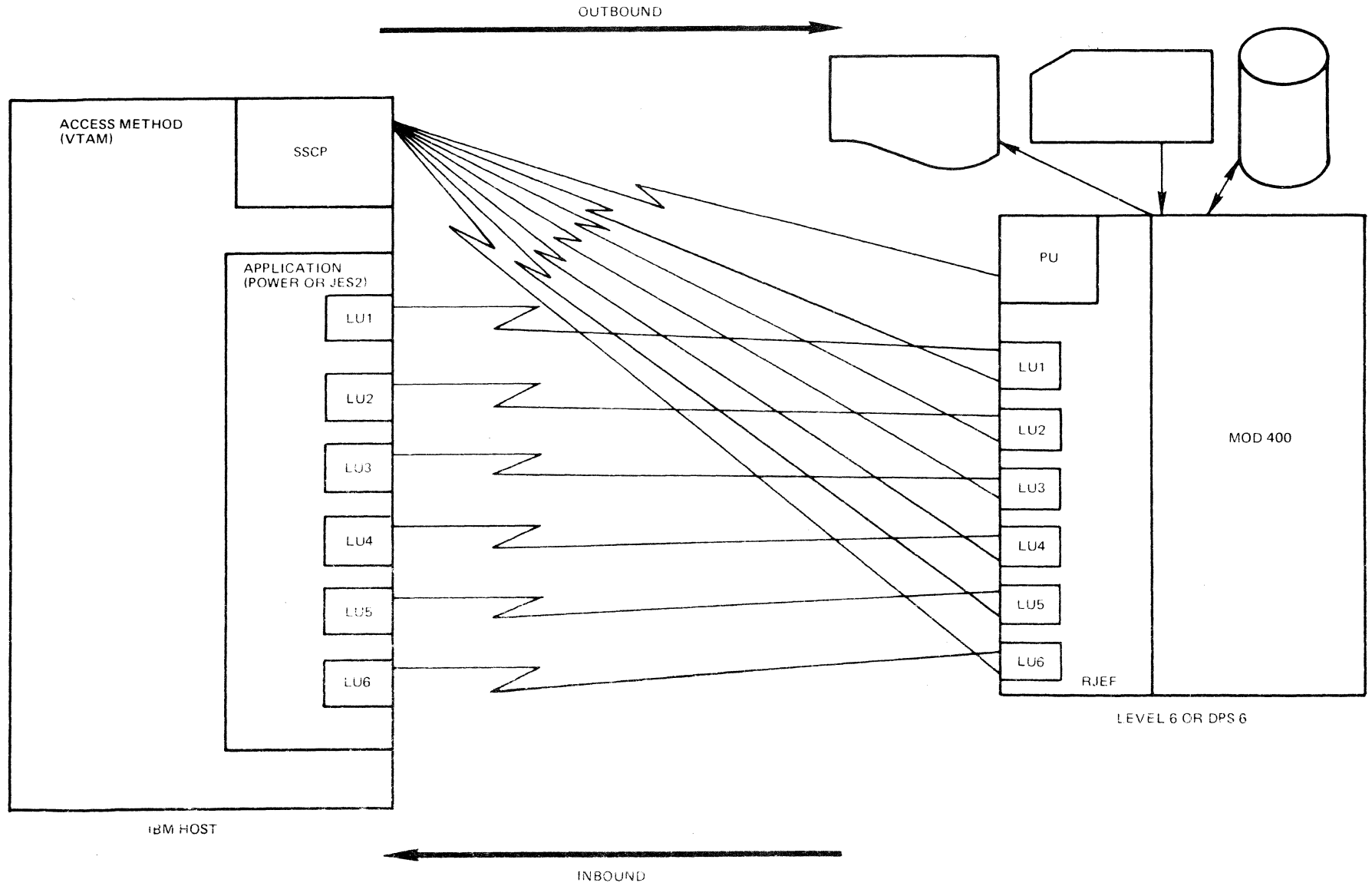


Figure 1-1. DPS 6 to IBM RJE Facility Connection

The RJE Facility is supported by the SNA Transport Facility, which uses standard DPS 6 system executive and communications functions to communicate with an IBM host system environment.

REMOTE JOB ENTRY FACILITY CAPABILITIES

The RJE Facility provides the following capabilities:

- Communication with an IBM host system, using the SNA Transport Facility's protocol support
- Support for up to six logical units per invocation of the RJE Facility
- Support of the ASCII character set on the DPS 6, and the EBCDIC character set on the data communications link
- Device independence
- A comprehensive set of local and remote operator commands for controlling sessions
- Error and message logging
- Dynamic file creation
- Transparency for card-medium data
- Support of one dynamic card reader per node
- Display of device and session status on request
- Support of the basic exchange medium for diskette
- Support of concatenated input data (input data from more than one device or file in one job stream)
- Support of data and space compression and expansion
- Support of data and space decompaction
- Support of Data Base Augmented Real-Time Tracing System (DARTS)
- Menu invocation of RJEF.

OPERATOR COMMAND CAPABILITIES

Use the operator commands described in Section 3 to transmit messages and data to the IBM host, and to control resources and other functions locally (on the DPS 6). In addition to these basic functions, some commands have other useful features. For example:

- Use the Escape (E) command to invoke the DPS 6 Editor to correct minor errors. If you submit a job with an error, you can easily correct it and save the time of finding a keypunch or machine to use to correct the data on their original medium. Most MOD 400 commands can be used via the E command.
- Use the Output (OUTP) command with the -A control argument to specify that a device remains available after its initial use. You need not enter redundant OUTP commands to use the same device in the same way. To explicitly detach the device or file, use the OUTP command to reassign the medium/subaddress to a new device or file, or use the OUTP command with the -D control argument to detach the device or file.
- Use the Status (STTS) command to examine the logical/physical relationship that the RJE Facility uses to keep track of relationships between LUs, medium/subaddresses, and physical and logical devices. These relationships are established with the Input (INPT) or OUTP commands.
- Use the Execute Command File (F) command to invoke frequently used series of commands from a disk file.

REMOTE JOB ENTRY FACILITY PROCESSING CONCEPTS

When you use the RJE Facility, you are working through an information network to connect your DPS 6 with an IBM host site. The network consists of LUs, Physical Units (PUs), and System Services Control Points (SSCPs) that work together to connect various remote sites with hosts.

Informational and error messages may refer to LUs and PU, so they are defined here; except for their use in error and informational messages, operators need not be concerned with these items. Operators communicate with SSCPs to log on or off the host application.

The LUs are ports through which devices assigned as data streams in the DPS 6 communicate with the LUs in the IBM host to form LU-to-LU sessions. Data is exchanged through these LU-to-LU sessions. There is one session per LU; both the session and its LU are referred to in the same way (with a one digit number between 1 and 6, inclusive).

The PUs manage and control resources common to their associated LUs. Thus a PU manages the LUs associated with it. One PU may manage more than one LU at a single remote site.

The SSCPs supervise the logical connection between the DPS 6 and the IBM host. An SSCP is part of the IBM host and controls access to the host through the LU-to-LU sessions. Much of its work is done automatically and need not concern the operator. The operator command send message to SSCP explains the operator's interaction with the SSCP.

REMOTE JOB ENTRY FACILITY PROCESSING

The IBM 3777 Model 3 Controller functionality is emulated by the RJE Facility software executing on a DPS 6. The RJE Facility receives, routes, stores, and transmits commands, messages, and data. It distributes these among the terminal operator, Input/Output (I/O) devices, and host processor.

The RJE Facility supports two types of operator commands to perform these functions:

1. Remote commands, which send messages to the SSCP or to host application programs such as JES2 or POWER or cause a modification in the flow of data and commands to and from the host.
2. Local commands, which control the activation and deactivation of resources and the flow of data within the DPS 6.

Detailed descriptions of the operator commands are given in Section 3.

Sessions

In the RJE Facility environment, logical channels of communication are called sessions. Transmission of jobs and data occur via LU-to-LU sessions. Up to six concurrent sessions can be invoked using the appropriate logon procedure (see Section 2). The number of active sessions is regulated by the operator (with the SSCP command, described in Section 3), the configuration file (see the DPS 6/SNA Administrator's Guide), or the IBM host system's activation.

Jobs can be submitted at any time to the remote host as long as a free session is available to transmit the data. Up to six sessions may be active simultaneously on one invocation of the RJE Facility.

Sessions can be interrupted so that important messages (both SSCP and application messages) can be sent. The interruption happens automatically when you or the host application send a message on a session already transmitting data.

In the various operator commands, the operator indicates the number of a particular session to control the flow of messages and data to and from the IBM host system.

Addressing Concepts: Medium/Subaddress

The IBM host system uses an addressing convention that represents the logical device addresses for each physical device or file used for data transmission and reception. This addressing convention is called medium/subaddress. Medium defines file or device characteristics. Medium in combination with subaddress gives a logical address used to reference the device or file. Medium/subaddress assignments to files or physical devices attached to the DPS 6 are made or altered using the OUTF operator command. The INPT operator command uses the medium/subaddress to logically refer to physical devices or files at the host. For a detailed description of the INPT and OUTF commands, see Section 3.

The medium/subaddress consists of an alphabetic character describing the medium of the physical or logical device, and a hexadecimal digit giving the subaddress. Valid characters for the medium are: C (card reader or punch), E (exchange), and P (printer). Not all media are valid for all operator commands. Consult the detailed descriptions in Section 3 for valid medium characters for each command requiring medium/subaddress. Valid subaddresses are any single hexadecimal digits: 0 to 9 and A to F.

Data from the host comes to a session with associated information specifying the data medium (print, card, or exchange) and subaddress. The RJE Facility maps the medium/subaddress into a physical output device or file, and uses that device or file as the destination of the host data. For example, a medium/subaddress of P0 indicates that the data received is suitable for printing. It may be associated with a disk file or a printer with a subaddress of 0. However, the subaddress could be any hexadecimal digit 0 to 9 or A to F, meaning that 16 logical printers can be addressed from applications at the host.

The command that associates a medium/subaddress for output with a physical device or file is the OUTF command. The OUTF command has the ability to leave a device or file attached for future use after the data have been transmitted.

You can have up to six concatenated physical files on the DPS 6 assigned to enter data, via one LU-to-LU session, to the host. Each file is assigned by a separate .F Input mode instruction. The INPT command associates one medium/subaddress with all the data being sent, concatenating the six files.

Remote Processing

Remote processing is done using the Remote commands (APPL, CNCL, INPT, SSCP) described in Section 3. All of these commands cause or modify a data transmission between the IBM host and the DPS 6.

Local Processing

In addition to submitting data for processing by the host application program, the terminal operator can also control the routing of data and messages within the DPS 6 and provide status information on data transmission and sessions. Local processing is done using the Local commands (E, F, OUTF, PRNT, QUIT, STTS) described in Section 3.

DATA MEDIA

The RJE Facility uses four types of data media: card, print, console, and exchange. Data can be compressed and expanded or decompacted. The rest of this section describes the data media and the techniques of compression/expansion and decompaction.

Card-Medium Data

Card-medium data can be used for input from a card reader or for input or output to or from a UFAS sequential disk file in card-medium format. When card-medium data is input or output to a UFAS sequential disk file in card-medium format, the file is a logical card reader or logical card punch. The only valid file organization for a logical card reader is a UFAS sequential disk file with a record size of 80. Card-medium data must have a record length of 80 characters. It can be sent transparently or not (see the description of the INPT command in Section 3 for more information on data transparency). Card-medium data must be used if the host application expects card-image data.

Card Medium Data File Creation

To create a file for transmission to the host via card-medium data, you might use the following series of MOD 400 commands:

```
CR DATAFL -LRSZ 80
ED -LL 80
I
.
.
.
job
.
.
.
!F
W DATAFL
Q
```

Use the Create File (CR) command to create a UFAS sequential disk file with a Record Length (LRSZ) of 80 and a pathname of "DATAFL". Invoke the Editor (ED) with a Line Length (LL) of 80, and enter Input mode with the Input (I) instruction. Enter the data into the file ("job"). Terminate Input mode (!F), Write the file (W) into pathname "DATAFL", and terminate the Editor (Q).

Print-Medium Data

Print-medium data can be used for output to a line or serial printer or to a UFAS sequential disk file in print-medium format. Print-medium data must have a record length of 133 characters. When output is sent to a UFAS sequential file in print-medium format, the file is a logical printer. The only valid file organization for a logical printer is UFAS sequential disk file with a record size of 134.

Print-medium data is formatted using an IBM-defined feature called SNA Character String (SCS) controls. SCS is described fully in the IBM manual Systems Network Architecture Logical Unit Types. The RJE Facility uses a subset of SCS to handle the carriage control characters. (RJE uses SCS for other purposes also, but these need not concern the operator.) The SCS characters reference a Vertical Format Unit (VFU) definition file. The VFU definition file must be created by the operator or administrator before the PRNT command is entered. (PRNT commands attach VFU files to print streams.) The VFU definition file consists of up to 14 lines, which set the page length, vertical margins, and (optionally) vertical tabs for the print-medium data stream.

Vertical Format Unit Definition File

To create a VFU definition file, use a DPS 6 editor. Create a file containing the lines shown as follows:

```
MPL mpl
TM tm
BM bm
[T2 t2
T3 t3
T4 t4
T5 t5
T6 t6
T7 t7
T8 t8
T9 t9
T10 t10
T11 t11
T12 t12]
```

where:

MPL mpl (Maximum Page Length)

The maximum number of lines to be printed on a page before the printer goes to the next page. The number (mpl) can be any integer between 1 and 120 inclusive. The default is 1.

TM tm (Top Margin)

The line number of the first line of text. The number (tm) must be less than the bottom margin. The default is 1.

BM bm (Bottom Margin)

The line number of the last line of text. The number (bm) must be less than or equal to the maximum page length. The default is the specified (or default) maximum page length.

[T2 t2 ...T12 t12] (Vertical Tabs)

The line number at which printing will resume if a vertical tab character occurs in the print-medium file. The top margin may be considered to be T1, the first vertical tab. The others, T2 through T12 inclusive, are optional. None or any of them may be specified, using any combination of the digits 2 through 12. The number (t2 through t12) specified must be greater than or equal to the top margin and less than or equal to the bottom margin. If a vertical tab that has not been specified is specifically referenced by an SCS Select Vertical Tab (SEL), a line feed is substituted for the unspecified tab in the output data.

If you do not specify a VFU definition file for a print-media file, the following default VFU file is used:

MPL 66
TM 1
BM 60

The IBM host may transmit its own VFU file using the SCS Set Vertical Format (SVF) character. Host-transmitted VFU files override those specified in PRNT commands (and the default).

Exchange-Medium Data

Exchange medium data can be used for input or output to or from a UFAS sequential disk file with a record length of 128 characters. Exchange-medium data can be sent or received in IBM Basic Exchange mode. However, it is stored on a DPS 6 as a UFAS sequential file. Basic Exchange mode is used to transmit diskette information. The MOD 400 Copy Data Exchange command converts Basic Exchange diskette data sets into UFAS sequential files and vice versa. For more information on IBM-formatted diskettes, see the Commands manual.

Console-Medium Data

Console-medium data can be used for input only to the IBM host from a UFAS sequential disk file. Output from the host appears as a series of messages at the operator terminal. The only valid file organization for console-medium data is UFAS sequential disk with a record size of 80 characters.

Data Compression/Expansion and Compaction/Decompaction

The RJE Facility uses various types of inbound and outbound data formatting techniques that identify and control data media, as described previously. Similar techniques are used to increase line utilization.

Line utilization is increased through the use of data compression and expansion in both inbound and outbound data streams. This feature is not operator-controllable. Data compression consists of inserting the String Control Byte (SCB) character in front of each string of data characters, or instead of repeated spaces or data characters. The SCB character identifies the type of data string and contains the count of the number of characters that follow, or the number of spaces or data characters to be inserted (repeated) by the receiver while doing the expansion.

Data compaction and decompaction also increase line utilization. Compaction is done at the host and is not operator-controllable. Data decompaction is provided by the RJE Facility. Compaction is a means of compressing certain contiguous non-duplicate characters into single 8-bit bytes for transmission, thereby increasing line utilization. Before compacted data can be processed by the RJE Facility, a compaction table, generated by the host, must be transmitted to the RJE Facility. Compacted data received by the RJE Facility and identified as a compacted data string in the SCB is decompacted according to this table.

Section 2

REMOTE JOB ENTRY FACILITY OPERATING PROCEDURES

This section describes the operating procedures for using the SNA RJE Facility to connect to an IBM host computer. Before you can connect to the IBM host, both the host and the DPS 6 must be properly configured and a configuration table must be created for the RJE Facility. (These processes are described in the DPS 6/SNA Administrator's Guide.) After the DPS 6 is properly prepared to use the RJE Facility, you can invoke the RJE Facility and log on to the host application to complete the connection to the host. Once you have connected to the IBM host application you wish to use, you can use the operator commands described in Section 3 to transmit data and messages to and from the host.

REQUIRED PROCEDURES BEFORE CONNECTING TO THE IBM HOST

Before you invoke the RJE Facility and log on to the IBM host application, be sure the following procedures have been done by you or the SNA administrator.

- Create a MOD 400 CLM file for the basic MOD 400 system supporting the RJE Facility. This is normally done by the SNA administrator. For more information, see the SNA Administrator's Guide.
- Create a configuration table for the RJE Facility. This is normally done by the SNA administrator. For more information, see the SNA Administrator's Guide.

- Find out the pathname of the configuration table or tables.
- Find out the logon command required to connect to the host application.

SUBSYSTEM SWITCHER/MOD 400 TASK GROUP FOR THE RJE FACILITY

Before using the RJE facility, you must determine if you are a registered user and if you will be executing under the subsystem switcher (menus). If you are a registered user, you will be communicating with the DPS 6 through the subsystem switcher by menus. To become familiar with using menus, see the MOD 400 Menu Management/Maintenance Guide. You can be registered on the system as an operator or as a user. Operators see all available selections (administrative and facilities) on a given menu and users see only facility selections. To use RJE with menus, see the instructions below on connecting to the host using MOD 400 menus.

The RJE Facility without the subsystem switcher executes within a MOD 400 task group with the standard MOD 400 files: Command-In, User-In, and Error-Out communicating with the RJE Facility operator terminal. Before using the RJE Facility under MOD 400, you must either spawn or create and request the MOD 400 task group within which the facility is to run. Use either the MOD 400 Spawn Group or the Create Group-Enter Group Request combination. Also, Listener may automatically spawn the group. For further information on creating task groups, see the MOD 400 System Concepts manual, the MOD 400 System User's Guide, and the Commands manual.

CONNECTING TO THE IBM HOST APPLICATION

Connecting to the IBM host application can be accomplished by using MOD 400 menus or GCOS 6 commands.

Connecting to the IBM Host Application Using MOD 400 Menus

To use MOD 400 menus, your system must be configured for that purpose and you must be a registered user. To connect to the IBM host using menus, start with the MOD 400 Master Menu (For information on MOD 400 menus see GCOS 6 MOD 400 Menu Management/Maintenance Guide). From the Master Menu on MOD 400, choose the Host terminal connection (HC) selection. The Host terminal connection selection brings up the Host Connect Menu from which the SNA (SN) selection is made. This will generate the SNA Facility Menu. This menu lists the different SNA facilities. To log on to the RJE facility, enter "RJ", which will bring up the RJE Login Menu. To abbreviate getting from the Master Menu to the RJE Login Menu by skipping over two screens, enter "HC SN RJ" on the Master Menu screen. This will bring you directly to the RJE Login Menu.

```
MASTER MENU
(CL) COMMAND LINE (ECL)
(MS) GENERAL MENU SYSTEM
(DE) DATA ENTRY (DEF-II)
(HC) HOST TERMINAL CONNECTION
(DO) DOCUMENTATION

SELECTION: HC SN RJ
```

This menu is the MOD 400 Master Menu with the abbreviated selections: HC (Host Connect menu), SN (SNA Menu) and RJ (RJE Facility menu). This series of selections will bring up the RJE Facility menu, skipping over the Host Connect and SNA menus.

```
RJEF LOGIN

NUMBER OF LOGICAL
RESOURCE NUMBERS: 050

NUMBER OF LOGICAL
FILE NUMBERS: 050
```

This is the RJEF Login screen. You may choose to leave the default values for logical resource numbers and logical file numbers or enter other values.

```
RJEF INVOCATION

ENTER LOGICAL NODE NAME:----
```

This is the RJEF Invocation screen. It is the final screen before logging on to the host. You must fill in your logical node name, which can be obtained from your system administrator.

Figure 2-1. Sample SNA Invocation Using Menus

The RJE menu consists of two requests for information that you can fill in, or accept the provided defaults for. The first request is for the number of logical resource numbers (the default value is "050"). The second request is for the number of logical file numbers (the default value is "050"). When this form is completed, the RJEF Invocation form is brought up and requests that the logical node name be entered. (You can obtain node names from your system administrator.) If the invocation is successful, activate PU and activate LU messages are sent from the host and you can use the send message to SSCP command (described in Section 3) to log on to host applications. See Figure 2-1 for an example of RJE invocation using menus.

Connecting to the IBM Host Application Using MOD 400 Commands

To connect by commands, first invoke the RJE Facility with an appropriate configuration file. Then after activate PU and activate LU commands are received from the host, use the send message to SSCP command (described in Section 3) to log on to host applications.

To invoke the RJE Facility, use the SNA?RJE command.

FORMAT:

SNA?RJE nodename

ARGUMENT:

nodename

The RJE nodename that is located in >>CCD>RJE

Example:

SNA?RJE RJELU36

where RJELU36 is the configuration table pathname.

NOTE

This command cannot be used from within the RJE Facility to invoke another RJE Facility.

It is recommended that the user utilize the SNA program termination sequence described under the Logging off the Host Application subsection, and/or use the MOD 400 'ABORT GROUP' command to ensure the proper release of all the SNA buffers and structures.

Logon Procedures

If the invocation is successful (either by MOD 400 menus or commands), the response from the host will look something like this (the host application may also send messages which are not shown):

```
(AA) SNARJEF- 2.1-03/09/2000
(AA) PU      5BB3  AN ACTIVATE PU HAS BEEN RECEIVED
(AA) LU 1   5BA7  AN ACTIVATE LU HAS BEEN RECEIVED
(AA) LU 2   5BA7  AN ACTIVATE LU HAS BEEN RECEIVED
(AA) LU 3   5BA7  AN ACTIVATE LU HAS BEEN RECEIVED
(AA) LU 4   5BA7  AN ACTIVATE LU HAS BEEN RECEIVED
(AA) LU 5   5BA7  AN ACTIVATE LU HAS BEEN RECEIVED
(AA) LU 6   5BA7  AN ACTIVATE LU HAS BEEN RECEIVED
(AA) ?
```

The RJE Facility issues the question mark (?) prompt to indicate that it is ready to accept commands. You may log on to each session separately using the SSCP command, or use "*" with the -S argument within the command line to log on to all available LUs (see SSCP command in Section 3). Below is an example of using the SSCP command to log on to all available LUs under the IBM host application JES2:

```
SSCP -S * -M "LOGON APPLID(JES2) LOGMODE(BATCH) DATA('RMT1')"
```

The following example shows individual logon lines for six LUs. Lines beginning with (AA) are system responses:

```
SSCP -S 1 -M "LOGON APPLID(JES2) LOGMODE(BATCH) DATA('RMT1')"
(AA) ?
SSCP -S 2 -M "LOGON APPLID(JES2) LOGMODE(BATCH) DATA('RMT1')"
(AA) LU 1   5BA5  AN ACCEPTABLE BIND HAS BEEN RECEIVED
(AA) LU 1   5BA4  AN SDT HAS BEEN RECEIVED
(AA) ?
(AA) LU 2   5BA5  AN ACCEPTABLE BIND HAS BEEN RECEIVED
(AA) LU 2   5BA4  AN SDT HAS BEEN RECEIVED
SSCP -S 3 -M "LOGON APPLID(JES2) LOGMODE(BATCH) DATA('RMT1')"
(AA) ?
SSCP -S 4 -M "LOGON APPLID(JES2) LOGMODE(BATCH) DATA('RMT1')"
(AA) LU 3   5BA5  AN ACCEPTABLE BIND HAS BEEN RECEIVED
(AA) LU 3   5BA4  AN SDT HAS BEEN RECEIVED
(AA) ?
(AA) LU 4   5BA5  AN ACCEPTABLE BIND HAS BEEN RECEIVED
SSCP -S 5 -M "LOGON APPLID(JES2) LOGMODE(BATCH) DATA('RMT1')"
(AA) LU 4   5BA4  AN SDT HAS BEEN RECEIVED
(AA) ?
SSCP -S 6 -M "LOGON APPLID(JES2) LOGMODE(BATCH) DATA('RMT1')"
(AA) LU 5   5BA5  AN ACCEPTABLE BIND HAS BEEN RECEIVED
(AA) LU 5   5BA4  AN SDT HAS BEEN RECEIVED
(AA) LU 6   5BA5  AN ACCEPTABLE BIND HAS BEEN RECEIVED
(AA) ?
(AA) LU 6   5BA4  AN SDT HAS BEEN RECEIVED
```

Responses to commands can come from the RJE Facility, the SNA Transport Facility, MOD 400, the host application, or the SSCP. Different hosts may respond with different messages. You can issue another operator command as soon as the RJE Facility gives the question mark (?) prompt without waiting for a response to the previous command.

In this sample, now that all six sessions have been logged on, you can begin using other operator commands to send messages and data to and from the host applications using any of the sessions (LUs). Once you receive a 5BA4 and a 5BA5 message from a session (LU), you can use that session to send and receive messages and data from the host. Section 3 describes the RJE Facility operator commands. Appendix A contains examples of RJE Facility Use.

LOGGING OFF THE HOST APPLICATION

When you have finished your work on the RJE Facility, you must log off every bound session with a command to the SSCP. You may log off each session individually or use the "*" argument to log off all sessions.

FORMAT:

```
SSCP -S sn -M message
```

ARGUMENTS:

-S sn

"sn" is the session number to be logged off or an "*" to log off all sessions.

-M message

"message" is the logoff message being sent to the host.

Example 1:

```
SSCP -S 1 -M LOGOFF  
($H)?  
SSCP -S * -M LOGOFF
```

This example shows a logoff command for session 1, a system prompt, and a logoff command for all remaining sessions.

After you have logged off the host application you can leave the RJE Facility by using the command QUIT.

Example:

```
?  
QUIT
```

Section 3

SNA REMOTE JOB ENTRY FACILITY COMMANDS

Using a series of commands, the RJE Facility operator can send or receive messages and data to and from the IBM host system as well as control local terminal operations. The operator terminal is used to enter both Remote and Local commands involved in remote and local processing, respectively.

The RJE Facility operator uses the commands described in this section to control the online (remote) and local (DPS 6) operations involving the RJE Facility. The RJE Facility issues a question mark prompt (?) when additional command information should be supplied. The RJE Facility issues an I? prompt when the operator terminal is in Input mode.

Commands can be entered in any order, regardless of whether they are Remote or Local commands, in response to a ? prompt. Input mode instructions can only be entered in response to an I? prompt. The arguments of a command can be specified in any order.

Appendix A contains examples illustrating many of these commands.

The following conventions are used in command format descriptions:

CONVENTION	DEFINITION
UPPERCASE CHARACTERS	Required word. Use as shown.
lowercase characters	Symbolic word. Replace with appropriate information.
[]	Brackets. Choose none or one of the enclosed optional items.
{ }	Braces. Select one of the enclosed items.
.	Ellipses. Possible additional or intervening commands or instructions exist.

NOTE

Any arguments following a command must be separated by one space. Spaces are represented visually in the command format descriptions.

Tables 3-1 and 3-2 summarize the commands by groups (Remote and Local) with detailed descriptions of each command, ordered alphabetically by mnemonic.

REMOTE COMMANDS

Remote commands cause or modify data transmission between the IBM host system and a terminal.

Table 3-1. Summary of RJE Facility Remote Commands

Command	Description
APPL	Send Application Request. Send a message to an IBM host application program.
CNCL	Cancel Data Transmission. Cancel transmission to or from specified medium/subaddress or transmission on specified session.
INPT	Input Data to IBM Host Application. Place the operator terminal in Input mode. Within Input mode use the .A (Abort), .F (File), or .Q (Quit) instructions.
SSCP	Send Message to System Services Control Point. Send a message to an IBM host system SSCP.

LOCAL COMMANDS

Local commands control the activation and deactivation of local (DPS 6) resources, the flow of data between the RJE Facility and local resources, and certain RJE Facility functions. Local commands do not directly involve data transmission.

Table 3-2. Summary of RJE Facility Local Commands

Command	Description
ASGN	Assign journal file pathname.
E	Escape to MOD 400. Leave normal RJE Facility command entry mode to issue a MOD 400 command.
F	Use Command File. Use a command file for entry of certain RJE Facility commands.
OUTP	Attach or Detach Output Stream. Attach or detach an output stream (medium/subaddress).
PRNT	Attach Print Vertical Format Unit Definition. Attach a VFU definition file.
QUIT	Quit the RJE Facility. Terminate the RJE Facility.
STTS	Display Status. Display status of an inbound or outbound data stream, status of the media pool, or general status.

APPL

APPL

Group: Remote Command

Send a message to the IBM host application (for example, JES2 or POWER).

FORMAT:

```
APPL -S sn -M "message"
```

ARGUMENTS:

-S sn

"sn" is the number of the session to be used for message transmission. "sn" may be a one-digit number between 1 and 6, inclusive, or "sn" may be an "*" to indicate any session currently available. If all sessions are active and the "*" argument is stated, an active session will be interrupted to send the message.

-M "message"

"message" is the message to be sent to the IBM host application. The maximum message length is 80 characters. If "message" contains embedded spaces or quotes, "message" must be enclosed in quotes (for example, "M I S S"). If "message" contains embedded quotation marks, use single quotation marks within "message" and double quotation marks to enclose it, or vice versa (for example, "SAY 'HELLO'" or 'SAY "HELLO"'). You may also use two double quotation marks to represent single quotation marks enclosed in double quotation marks (for example, "SAY ""HELLO""").

Example:

```
APPL -S 2 -M "$D ALL"
```

Request that the host system application (in this case JES2) display the host system's active job status on your terminal.

ASGN

Group: Local Command

Assign the journal file to a new pathname.

FORMAT:

ASGN [-PN pathname]

ARGUMENTS:

[-PN pathname]

"pathname" is the new pathname for the journal file. The default is to assign the journal file to its existing pathname after closing the file and reopening it in renew mode.

DESCRIPTION:

ASGN assigns the journal file to a new pathname, or reassigns it to its existing pathname after closing the file and reopening it in renew mode.

Example:

ASGN -PN >JOURNAL>JNL1024

Reassign the journal file to the file JNL1024 in the directory JOURNAL.

CNCL

CNCL

Group: Remote Command

Request that the host cancel data transmission.

FORMAT:

$$\text{CNCL} \left(\left\{ \begin{array}{l} \{-I\} \\ \{-O\} \end{array} \right\} -\text{MS medium/subaddress} \right)$$
$$\left(\begin{array}{l} -S \text{ sn} \end{array} \right)$$

ARGUMENTS:

-I

The transmission is inbound (to the IBM host).

-O

The transmission is outbound (from the IBM host).

-MS medium/subaddress

"medium/subaddress" identifies the physical device or file receiving or sending data whose transmission is to be cancelled.

"medium" specifies the data medium. Permissible values are: E (exchange), C (card reader or, for outbound transmissions only, punch), or P (print, for outbound transmissions only).

"subaddress" specifies a logical device address, having a hexadecimal range of from 0 to F, for one of the devices specified in the medium.

-S sn

"sn" is the number of the session whose data transmission is to be cancelled. "sn" must be a one-digit number between 1 and 6, inclusive.

DESCRIPTION:

CNCL requests that the host cancel the data transmission to or from the specified medium/subaddress or session. Once the

host cancels the transmission, all resources associated with the transmission are available for use with other transmissions. CNCL does not cancel the session. CNCL does not detach the association between medium/subaddress and a physical or logical device if -A was specified in the OUTFP command that set up the association. If you wish to cancel a transmission to or from a device that has gone offline, use the MOD 400 Cancel Mount Request (CMR) command. (See the Commands manual.) CMR automatically results in freeing the device and executing the equivalent of CNCL.

Example:

```
CNCL -O -MS P0
```

The host cancels the outbound data transmission directed to the RJE Facility printer or logical print-format disk file associated with the medium/subaddress P0.

E

E

Group: Local Command

Leave normal RJE Facility command entry mode to enter MOD 400 commands.

FORMAT:

E command

ARGUMENT:

command

"command" is any MOD 400 command. For a description of valid commands, see the Commands manual.

Example:

E LS -BF

Escape from the RJE Facility command entry mode and execute the MOD 400 List Names (LS) command, which lists information about the current MOD 400 working directory in brief (-BF) format.

F

Group: Local Command

Use a command (disk) file rather than the terminal to enter a series of RJE Facility commands.

FORMAT:

F pathname

ARGUMENT:

pathname

The pathname of the previously created command file.

DESCRIPTION:

Valid RJE Facility commands for input from a command file are any commands except another File command. No commands may be entered from the terminal until the requested file has been completely read.

Example:

```
F ^VOL2>WORK2>CMDFLE
?
```

Execute a series of any valid RJE Facility commands (except another File command) from a command file named CMDFLE, located on a directory named WORK2, both of which reside on volume VOL2. After CMDFLE is completely read, a ? prompt appears at the terminal. CMDFLE can contain any valid RJE Facility commands except Use Command File commands.

INPT

INPT

Group: Remote Command

Place the terminal in Input mode, allowing only input instructions to be entered.

FORMAT:

```
INPT -S sn -MS medium/subaddress [-TR] [-C]
```

ARGUMENTS:

-S sn

"sn" is the number of the session associated with the data stream to be sent to the IBM host application. "sn" may be a one-digit number from 1 to 6 inclusive, or "sn" may be an "*" to indicate any session that is currently available. If all sessions are active and the "*" argument is stated, an active session will be interrupted to send the message.

-MS medium/subaddress

"medium/subaddress" identifies a logical address at the IBM host to which the inbound data is sent.

"medium" specifies a data medium. Permissible assignments are E (exchange) and C (card).

"subaddress" specifies a logical device address, having a hexadecimal range from 0 to F, for one of the devices specified in the medium.

[-TR]

SCS TRN characters are used to indicate transparent inbound data. Transparent data does not require code conversion before transmission.

[-C]

The -C argument releases a dynamic card reader previously reserved for the host.

DESCRIPTION:

The INPT command and Input mode instructions define and control inbound data transmissions to the host application. You can specify that data from 1 to 6 devices and/or files be concatenated in one transmission.

Input mode instructions are used in conjunction with the INPT command. They are: .A (Abort), .F (File), and .Q (Quit). .F identifies the Input File to be used, while .A and .Q end Input mode. .A terminates Input mode without executing any preceding .F instructions or the INPT command itself. .Q terminates Input mode and executes the INPT command and any intervening .F instructions. The three Input mode instructions are described on the following pages.

Example 1:

```
?  
INPT -S 3 -MS CA  
I?
```

Place the terminal in Input mode allowing entry of Input mode instructions. CA identifies the logical address at the host to which the inbound data is sent. Session 3 is the session used to transmit the data stream.

Example 2:

```
?  
INPT -C  
?
```

Release a dynamic card reader previously reserved for the host.

INPT .A

INPT .A

Abort Input mode, including the INPT command and all Input mode instructions. The INPT command is not executed.

FORMAT:

.A

ARGUMENTS:

None.

Example:

```
?  
INPT -S 3 -MS C1  
I?  
.F -PN !CDR01  
I?  
.A  
?
```

Abort the INPT command, the .F Input mode instruction, and any intervening commands or instructions since the last INPT command. "I?" is the Input mode prompt.

INPT .F

Define an RJE Facility input file or device.

FORMAT:

```
.F -PN pathname [-H]
```

ARGUMENT:

-PN pathname

"pathname" is the pathname of the RJE Facility input file (disk or card) or device to be used.

[-H]

To be used with a card reader input file. This argument states that the card reader is a dynamic card reader available for use by the host. (Only one dynamic card reader may exist per node.) This argument, if included, must be last in the file.

DESCRIPTION:

Up to six input files can be defined with six individual .F instructions during one Input mode invocation.

Example:

```
?
INPT -S 3 -MS CA
I?
.F -PN !CDR01 -H
I?
```

Indicate with the .F instruction that the input file is a dynamic card reader, having the pathname !CDR01. The card deck contains a card-format data stream.

To release the dynamic card reader, enter another .F instruction using the same session name without the -H argument or use the INPT command with the -C argument (see INPT). "I?" is the Input mode prompt.

INPT .Q

INPT .Q

Quit (leave) Input mode, and begin execution of the input operation.

FORMAT:

.Q

ARGUMENTS:

None.

Example:

```
INPT -S 3 -MS C4
I?
.F -PN !CDR01
I?
.Q
?
```

Leave Input mode with the .Q instruction to begin execution of the input operation from the physical card reader, !CDR01. Any other intervening instructions between the INPT command and the .Q instruction would also be executed. "I?" is the Input mode prompt.

OUTP

Group: Local Command

Attach or detach an RJE Facility medium/subaddress (logical output stream), which will be received from the IBM host, to a local physical output device or file.

FORMAT:

```
OUTP { -PN pathname -MS medium/subaddress [-TR ] [-A] }
      { -MS medium/subaddress -D }
```

ARGUMENTS:

-PN pathname

"pathname" is the pathname of the local physical output device or file.

-MS medium/subaddress

"medium/subaddress" identifies the logical address at the DPS 6 to which outbound data will be sent from the IBM host.

"medium" specifies a data medium. Permissible assignments are: C (card punch), E (exchange), and P (print).

"subaddress" specifies a logical device address, having a range from 0 to F, for one of the devices specified in the medium.

[-TR]

This argument may be specified for card media only. Data identified by embedded SCS TRN characters in outbound card data does not undergo code conversion if you specify this argument. If you do not specify -TR, all code is converted.

[-A]

Indicates that the medium/subaddress remains associated with the physical output device or file until it is detached with an OOTP command that specifies the -D control argument, or until the medium/subaddress is reassigned by a subsequent OOTP command. Additional RJE Facility output data can be received by the same physical device without initiating other OOTP commands.

-D

Detach the physical output device or file from the medium/subaddress specified in the -MS control argument. This argument must be used in conjunction with a -MS argument.

Example 1:

```
OOTP -PN !LPT02 -MS PB
```

Associate the physical printer !LPT02 with medium/subaddress PB. Outbound data from the host destined for medium/subaddress PB is then printed on !LPT02.

Example 2:

```
OOTP -MS P0 -PN LISTOUT -A
```

Associate the print-media format file LISTOUT with medium/subaddress P0. The association remains active until it is explicitly disassociated (see Example 3).

Example 3:

```
OOTP -MS P0 -D
```

Detach the medium/subaddress P0 from the file LISTOUT. This command assumes that the command in Example 2 has already been executed. Note that a previous -A is not a prerequisite for use of -D.

Example 4:

```
OOTP -MS C0 -PN PUNCHOUT -TR
```

Associate the medium/subaddress C0 with the logical card punch PUNCHOUT (in the current working directory). Data identified by embedded SCS TRN characters will not undergo code conversion.

PRNT

Group: Local Command

Attach a VFU definition file to an outbound (from the IBM host) print stream, allowing correct translation of IBM vertical format characters used to control print output.

FORMAT:

PRNT -PN pathname -SB subaddress

ARGUMENTS:

-PN pathname

"pathname" is the pathname of the previously created VFU definition file to be attached to the print stream specified by -SB. For a description of VFU definition files, see Section 1.

-SB subaddress

"subaddress" is the address of the logical print output data stream, a hexadecimal number from 0 to F.

DESCRIPTION:

An OUTP command must always precede the PRNT command to attach a medium/subaddress to the output file used in the PRNT command. The medium must be P and the subaddress must match that of the following PRNT command. The VFU definition can be overridden by a Set Vertical Format sequence from the host, or by a subsequent PRNT command. Since there is a default VFU format, it is not necessary to follow every OUTP command for a printer with a PRNT.

Example:

PRNT -PN ^VOL1>WORK1>VFUFLE -SB E

The VFU definition file VFUFLE is located on the directory WORK1; both file and directory reside on the volume VOL1. The subaddress of hexadecimal E represents the logical print output data stream to which the VFU definition file VFUFLE is attached. The example assumes that a previous OUTP command attached medium/subaddress PE to the output file.

QUIT

QUIT

Group: Local Command

Immediately terminate the RJE Facility.

FORMAT:

QUIT

ARGUMENTS:

None.

DESCRIPTION:

The QUIT command closes files and detaches devices from the RJE Facility on the DPS 6. It sends no message or other data to the host or SSCP.

QUIT is normally used following a series of SSCP commands containing logoff messages for all active sessions. However, QUIT can be used in an emergency to terminate the RJE Facility without notifying either the host or the SSCP.

SSCP

Group: Remote Command

Send a message to the SSCP in the IBM host.

FORMAT:

```
SSCP -M "message" -S sn
```

ARGUMENTS:

-M message

"message" is the message to be sent to the SSCP residing on the IBM host. The message may be a logon message, a logoff message, or any other appropriate message. The maximum message length is 80 characters. If "message" contains embedded spaces or quotes, "message" must be enclosed in quotes (for example, "M I S S"). If "message" contains embedded quotation marks, use single quotation marks within "message" and double quotation marks to enclose it, or vice versa (for example, "SAY 'HELLO'" or 'SAY "HELLO"'). You may also use two double quotation marks to represent single quotation marks enclosed in double quotation marks (for example, "SAY ""HELLO""").

-S sn

"sn" is the number of the SSCP to LU session used to send the message to the IBM host system. "sn" may be a one-digit number from 1 to 6 inclusive, or "sn" may be an "*" to indicate all configured sessions.

Example:

```
SSCP -S 2 -M "LOGON APPLID(JES2) LOGMODE(BATCH) DATA('RMT1')"
```

Send a message via session 2 requesting a logon to MVS JES2 (an application program on the IBM host). If the logon is successful, a message acknowledging the successful logon is sent to the RJE Facility. Your host and application may require a different message.

STTS

STTS

Group: Local Command

Display the current status of an inbound or outbound data stream, a session, the media pool, or the general status of the RJE Facility.

FORMAT:

$$\text{STTS} \left(\begin{array}{l} -I \\ -O \\ -T \\ -S \left\{ \begin{array}{l} \text{sn} \\ * \end{array} \right\} \\ -P \end{array} \right)$$

ARGUMENTS:

-I

Display the current status of all inbound (transmission to the IBM host) data streams.

-O

Display the current status of all outbound (transmission from the IBM host) data streams.

-T

Display the terminal (RJE Facility) status.

-S sn

Display the status of session number "sn", where "sn" is a one-digit number between 1 and 6 inclusive.

-S *

Display the status of all active sessions.

-P

Display the status of the media pool (the table containing the logical medium/subaddress and physical device or file association as created with OUTP commands).

Example 1:

STTS -T

Display the status of the terminal (RJE Facility). The response is one of the following messages:

```
5BAF  MULT SIG INTERRUPT NOT IN USE;RJE IS UNATTENDED
5BAF  MULT SIG INTERRUPT NOT IN USE;RJE IS ATTENDED
```

Example 2:

STTS -P

Display the status of the media pool. A sample response might be:

RJE OUTPUT MEDIA POOL STATUS

SESSION	MS	PATHNAME
02	C0	^MINE>RJDATA>CARD1
XX	C9	^MINE>RJDATA>CARD9
XX	P0	^MINE>RJDATA>PRINT2

```
VFU - MPL 066  TM 001  BM 060  T2 005  T3  010  T4  015  T5  020
      T6 000  T7 000  T8 000  T9 000  T10 000  T11 000  T12 000
```

Entries with sessions shown as XX are currently not being used. MS is the medium/subaddress given to the device or file with the pathname shown. Each print-format file or device has its VFU definition file displayed. In this case, the only such file is ^MINE>RJDATA>PRINT2. For definitions of the contents of the VFU file, see "Vertical Format Unit Definition File" in Section 1. If there are no entries in the output media pool, the message

*** NO OUTPUT MEDIA POOL ENTRIES ***

appears below the horizontal line in the display.

Example 3:

STTS -O

Display the status of all outbound sessions. The response might be:

RJE OUTBOUND SESSION(S) STATUS

SESSION	MS	PATHNAME
02	C0	^MINE>RJDATA>C
RECORDS RECEIVED		00040

In this example, the only session receiving outbound (from the host) data is session 2. The pathname associated with medium/subaddress C0 of the file receiving data is "^MINE>RJDATA>C". Forty records have been received from the host. If there are no outbound sessions, the message

*** NO OUTBOUND SESSIONS ***

appears below the horizontal line in the display.

Example 4:

STTS -I

Display the status of all inbound sessions. The response might be:

RJE INBOUND SESSION(S) STATUS

SESSION	MS	PATHNAME
02	C0	^MINE>RJDATA>CD
RECORDS SENT		00009

In this example, only one session is sending data to the host. Session 2 is sending card-format data from the file "^MINE>RJDATA>CD" to the host. Nine records have been sent. If there are no inbound sessions, the message

*** NO INBOUND SESSIONS ***

appears below the horizontal line in the display.

Example 5:

STTS -S *

Display the status of all sessions. The response might be:

RJE SESSION(S) STATUS

SESSION 01	IS: ACTIVATED
	NOT BOUND
SESSION 02	IS: ACTIVATED
	NOT BOUND

In this example, there are two sessions, each of which is activated but not bound. Other possible states for sessions are BOUND, TRANSMITTING INBOUND DATA, and RECEIVING OUTBOUND DATA.

Example 6:

```
STTS -S 1
```

Display the status of session 1. The response might be:

```
RJE SESSION(S) STATUS
```

```
SESSION 01 IS: ACTIVATED  
                BOUND  
                RECEIVING OUTBOUND DATA
```

In this example, session 1 is activated, bound, and receiving outbound data.

Appendix A

SAMPLE RJE FACILITY

USE

This appendix illustrates using the RJE Facility connected to an IBM host. The host application is JES2 executing under MVS. This appendix illustrates the use of many of the RJE Facility commands and several MOD 400 commands. The RJE Facility commands are described in detail in Section 3 of this manual. The messages with message number starting with 5B are explained in Appendix B of this manual. Messages from the host are described in the appropriate IBM documentation. Messages to and from the host application are specific to this sample. (Not all host messages that may be received are listed here.)

LOGGING ON TO THE RJE FACILITY

Assume that you have successfully logged on to the RJE Facility by using MOD 400 menus or GCOS 6 commands. The RJE Facility responds with:

```
(S)SNARJEF- 2.1-03/26/1201  
(S)?
```

NOTE

If you logged on through the Subsystem Switcher using menus, the response from the RJE, SSCP and host application will be preceded by the ID of a task group spawned by the Listener (L0, L1, etc). If you logged on the RJE Facility using commands, the response from the RJE Facility, SSCP, and host application will be preceded by the ID of a task group spawned by MOD 400. For the following examples, the task group ID is the MOD 400 operator task group \$H.

The facility prints the following messages to indicate that the host has sent appropriate Activate commands for the PU and the two LUs:

```
($)$H PU      5BB3      AN ACTIVATE PU HAS BEEN RECEIVED
($)$H LU 1    5BA7      AN ACTIVATE LU HAS BEEN RECEIVED
($)$H LU 2    5BA7      AN ACTIVATE LU HAS BEEN RECEIVED
```

The host may transmit other information with these messages.

REQUESTING LOGON TO THE HOST APPLICATION

Once all the LUs are activated, you can log on to the host application with the SSCP command. You may log on with an SSCP command to each individual LU or use the "*" argument and log on to all configured LUs. Alternatively, you can store the SSCP commands in a file. In this example, the SSCP command with the "*" argument is used to log on to all (for this system, two) configured LUs:

```
($)SSCP -S * -M "LOGON APPLID(JES2) LOGMODE(BATCH) DATA('RMT1')"
```

The RJE Facility then issues messages 5BA5 and 5BA4 to indicate that the two sessions are bound and ready to be used.

```
($)$H LU 1    5BA5      AN ACCEPTABLE BIND HAS BEEN RECEIVED
($)$H LU 2    5BA5      AN ACCEPTABLE BIND HAS BEEN RECEIVED
($)$H LU 1    5BA4      AN SDT HAS BEEN RECEIVED
($)$H LU 2    5BA4      AN SDT HAS BEEN RECEIVED
```

Once you receive messages 5BA4 and 5BA5 and the appropriate responses from the host application, you can begin transmitting messages and data to the host application.

COMMUNICATING WITH THE HOST APPLICATION

Once you have been logged onto the host application (in this case, JES2), you can send and receive data and examine the queues that JES2 maintains at the host.

Displaying JES2 Queues

Use an APPL command to display the JES2 queues:

```
APPL -S 1 -M "$D ALL"  
($H)?
```

JES2 (the host application) responds with:

Modifying a Job with a MOD 400 Editor

Use a MOD 400 text editor (in this case, ED) to modify a short inbound job before transmitting it to the host. The following sequence of commands escapes from the RJE Facility to the editor. (The editor's prompt is "E?".) Once the editor is invoked, the file HIS is read in, the class is changed to A, the entire file is listed, the file is written, buffer status is checked, and the editor is exited. The RJE Facility responds with its prompt to request commands.

```
E ED -PT  
($H) EDIT 2.1-07/21/1441  
($H)E? R HIS  
($H)E? /CLASS=./S//CLASS=A/  
($H)E? 1,$!P  
($H) 1 //HNYPRINT JOB HIS,TESTER,  
($H) 2 // MSGLEVEL=(1,1),CLASS=A  
($H) 3 //A EXEC PGM=IEBGENER,REGION=64K  
($H) 4 //SYSPRINT DD SYSOUT=A  
($H) 5 //SYSIN DD DUMMY  
($H) 6 //SYSUT2 DD SYSOUT=A  
($H) 7 //SYSUT1 DD *  
($H)E? W  
($H)E? X  
($H) 7 -> (0) ^MINE>RJDATA>HIS  
($H)E? Q  
($H)?
```

Transmitting Inbound Card-Media Data

Use an INPT command to transmit HIS to the host via session 1 (which is logical unit 1). HIS is in card-medium format so the medium/subaddress C0 is used.

```
INPT -S 1 -MS C0
($H)I?
.F -PN HIS
($H)I?
.Q
($H)?
```

The RJE Facility displays messages 5BAA and 5BAB to report on job progress.

```
($H)$H LU 1 5BAA      INBOUND TRANSMISSION BEGINNING
($H)$H LU 1 5BAB      INBOUND TRANSMISSION ENDING
```

Use an APPL command to display active JES2 jobs:

```
APPL -S 1 -M "$D ALL"
($H)?
```

The host responds with:

```
11.48.30 JOB    95 $HASP608 DSCICS   EXECUTING A PRIO  6 4341
11.48.41 JOB   106 $HASP608 HIS      ON R1.PR1   PRIO  1 4341
```

Use another INPT command to transmit the card-media format file with pathname ^MINE>RJDATA>C on session 2.

```
INPT -MS CO -S 2
($H)I?
.F -PN C
($H)I?
.Q
($H)?
```

The RJE Facility responds with the informational message 5BAA.

```
($H)$H LU 2 5BAA      INBOUND TRANSMISSION BEGINNING
```

Now issue a Status command to check the status of inbound sessions.

STTS -I

The facility responds with:

```
(S)?  
(S)S  
(S)S SESSION MS PATHNAME RJE INBOUND SESSION(S) STATUS  
(S)S  
-----  
(S)S 02 C0 ^MINE>RJDATA>C  
(S)S RECORDS SENT 00009  
(S)?
```

Interrupting an Inbound Transmission

If you send a message to JES2 on session 2 before session 2 finishes transmitting an inbound job, the following dialogue might take place. First send a message to JES2 to display active jobs:

```
APPL -S 2 -M "$D ALL"  
(S)?
```

To transmit the message on session 2, the RJE Facility must temporarily suspend the inbound transmission. The following informational message is displayed:

```
(S)S LU 2 5BAD INBOUND TRANSMISSION SUSPENDING
```

Then the host starts to display the information requested from JES2:

```
11.48.30 JOB 95 $HASP608 DSCICS EXECUTING A PRIO 6 4341
```

The RJE Facility interrupts with an informational message.

```
(S)S LU 2 5BAE INBOUND TRANSMISSION RESUMING
```

Then the host continues to display active JES2 jobs:

```
11.48.41 JOB 106 $HASP608 HIS ON R1.PR1 PRIO 1 4341
```

When the inbound transmission finally ends, the RJE Facility displays:

```
(S)S LU 2 5BAB INBOUND TRANSMISSION ENDING
```


Requesting Outbound Card-Media Data

The following OOTP command attaches the file with pathname PUNCHOUT (in the current working directory) to medium/subaddress C0:

```
OOTP -MS C0 -PN PUNCHOUT
```

The RJE Facility responds with:

```
($H)?  
($H)$H  PU  5BA0      MEDIUM/SUBADDRESS C0 HAS BEEN ATTACHED TO  
                        AN OUTBOUND STREAM  
($H)$H LU 1  5BAA      OUTBOUND TRANSMISSION BEGINNING
```

When the transmission is complete, the RJE Facility reports that transmission has ended:

```
($H)$H LU 1  5BAB      OUTBOUND TRANSMISSION ENDING
```

Requesting Outbound Print-Media Data

The following commands and responses illustrate the use of print media, and the creation of VFU definition files.

First, issue an OOTP command to associate the file with pathname LISTOUT in the current working directory with medium/subaddress P0. This example command specifies that the association is to be active after use.

```
OOTP -MS P0 -PN LISTOUT -A  
($H)?
```

The RJE Facility responds with:

```
($H)$H  PU  5BA0      MEDIUM/SUBADDRESS P0 HAS BEEN ATTACHED TO  
                        AN OUTBOUND STREAM  
($H)?
```

The RJE Facility responds to this command as follows:

```
($H)$H LU 1  5BAA      OUTBOUND TRANSMISSION BEGINNING
```

Now issue an application request to the host to display active job status on the same session that was designated to receive data.

```
APPL -S 1 -M "$D ALL"  
($H)?
```

Since transmission is taking place on session 1, the RJE Facility issues the following messages:

```

($H)$H LU 1 5BB4      A D.F.C. SIGNAL HAS BEEN SENT
($H)$H LU 1 5BAD      OUTBOUND TRANSMISSION SUSPENDING
($H)$H LU 1 5BAE      OUTBOUND TRANSMISSION RESUMING

```

The last two messages (5BAD and 5BAE) indicate that the host agreed to change the direction of transmission (which was requested by the RJE Facility with a D.F.C. signal request).

The RJE Facility now issues the following messages:

```

($H)$H LU 1 5BAB      OUTBOUND TRANSMISSION ENDING
($H)$H LU 1 5BAA      OUTBOUND TRANSMISSION BEGINNING

```

The first message (5BAB) indicates that the first transmission ended; the second message (5BAE) indicates that the second transmission is starting. Since the -A argument was specified in the OUTF command, the second data transmission is concatenated to the first.

Next issue a STTS command to discover the status of outbound data transmissions:

```

STTS -O
($H)?

```

The facility responds with:

```

($H)$H                                RJE OUTBOUND SESSION(S) STATUS
($H)$H  SESSION      MS      PATHNAME
($H)$H -----
($H)$H      01        P0      ^MINE>RJDATA>LISTOUT
($H)$H  RECORDS RECEIVED      00070
($H)$H
($H)?

```

Cancelling Outbound Data Transmission

Suppose that you request the status of session 1:

```

STTS -S 1
($H)?

```

The facility responds with:

```

($H)$H                                RJE SESSION(S) STATUS
($H)$H -----
($H)$H                                SESSION 01 IS: ACTIVATED
($H)$H                                BOUND
($H)$H                                RECEIVING OUTBOUND DATA

```

Cancel the data transmission on session 1:

```
CNCL -S 1
($H)?
```

The RJE Facility responds to the Cancel command with:

```
($H)$H PU 5BBD CANCEL IS IN PROGRESS
($H)$H LU 1 5BBB A NEGATIVE RESPONSE WITH SENSE=081C0000
HAS BEEN SENT
($H)$H LU 1 5BB0 AWAITING PRIMARY RECOVERY
($H)$H LU 1 5BAC OUTBOUND TRANSMISSION ABORTING
```

This sequence of messages illustrates the RJE Facility response to a CNCL when the application at the host is JES2. If you now request the status of outbound sessions (STTS -0), the facility responds that there are no outbound sessions.

Cancelling Inbound Data Transmission

If session 1 is transmitting inbound card data and you issue the following command:

```
CNCL -I -MS C0
```

the response is:

```
($H)$H PU 5BBD CANCEL IS IN PROGRESS
($H)$H LU 1 5BB8 A D.F.C. CANCEL HAS BEEN SENT
($H)$H LU 1 5BAC INBOUND TRANSMISSION ABORTING
```

Attaching a VFU Definition File to a Print Stream

The following commands and messages illustrate attaching a VFU definition file to a print stream. You can either create the VFU definition file before you invoke the RJE Facility or during the execution of the facility using the E command. Suppose that the following VFU definition file has been created and stored in "^MINE>RJDATA>VFUFIL":

```
MPL 66
TM 01
BM 60
T2 5
T3 10
T4 15
T5 20
```

Use an OUTP command to attach the file with pathname PRINT2 (in the current working directory) to medium/subaddress P0:

```
OUTP -MS P0 -PN PRINT2
($H)?
```

The RJE Facility responds with:

```
($H)$H  PU  5BA0    MEDIUM/SUBADDRESS P0 HAS BEEN ATTACHED TO  
AN OUTBOUND STREAM
```

Use a PRNT command to attach the VFU definition file VFUFIL to the medium/subaddress P0 (this overrides the current default VFU file):

```
PRNT -PN VFUFIL -SB 0
```

The facility responds with:

```
($H)$H  PU  5BA0    MEDIUM/SUBADDRESS 0 HAS BEEN ATTACHED TO  
AN OUTBOUND STREAM
```

```
($H)?
```

To verify that the default VFU file has been overridden, issue a Status command:

```
STTS -P
```

The facility responds with:

```
($H)$H                                     RJE OUTPUT MEDIA POOL STATUS  
($H)$H  SESSION      MS  PATHNAME  
($H)$H  _____  
($H)$H    XX          P0  ^MINE>RJDATA>PRINT2  
($H)$H  VFU - MPL 066  TM 001  BM 060  T2 005  T3  010  T4  015  T5  
($H)$H           T6 000  T7 000  T8 000  T9 000  T10 000  T11 000  T12
```

LOGGING OFF JES2

You must log off every bound session. To do this, use the SSCP command for each LU, or the SSCP command with the "*" argument to log off all LUs. In this example an SSCP command was used for each session:

```
SSCP -S 1 -M LOGOFF
```

```
($H)?
```

```
SSCP -S 2 -M LOGOFF
```

The RJE Facility issues the following messages to indicate that the host is disconnecting:

```
($H)$H LU 1  5BA2    AN UNBIND HAS BEEN RECEIVED
```

```
($H)?
```

```
($H)$H LU 2  5BA2    AN UNBIND HAS BEEN RECEIVED
```

If you request status of sessions at this point (STTS -S *), the RJE Facility responds with:

```
(S)S          RJE SESSION(S) STATUS
(S)-----
(S)S  SESSION 01 IS: ACTIVATED
(S)S          NOT BOUND
(S)S  SESSION 02 IS: ACTIVATED
(S)S          NOT BOUND
(S)?
```

TERMINATING THE RJE FACILITY

Use the QUIT command to terminate the RJE Facility.

QUIT

After the RJE Facility terminates, MOD 400 responds with:

(S)RDY:

You can now perform any desired MOD 400 functions.

Appendix B

SNA REMOTE JOB FACILITY MESSAGES

The RJE Facility operator may receive three different kinds of messages: messages in the standard MOD 400 format, messages in the internal RJE Facility format, or messages from the IBM host computer. All RJE commands and messages are written to the SOPR journal and to the RJE journal (if one was configured), as well as to the RJE Facility user's terminal. This appendix is divided into three parts according to the three types of possible error messages.

MOD 400 FORMAT ERROR MESSAGES

Error messages in a format similar to the standard MOD 400 format can come from the RJE Facility, the SNA Transport Facility, or from the MOD 400 Executive and its components interacting with the RJE Facility. MOD 400 messages are described in the System Messages manual (5B designates messages reported or detected by SNA). Transport Facility messages are described in the DPS 6/SNA Administrator's Guide. This subsection describes the RJE Facility messages that appear at the operator terminal in a format similar to the standard MOD 400 format:

5B5B70 INVALID ACS ARGUMENT RECEIVED

Cause: This message indicates an RJE Facility error.

Effect: The RJE Facility is not operable.

Action: Contact your local customer service representative.

5B5B71 ERROR ENCOUNTERED CREATING LU TASK

Cause: This message indicates either an RJE Facility error or a MOD 400 configuration error.

Effect: The RJE Facility is not operable.

Action: First check that there are enough logical resource numbers for the group in which the RJE Facility is executing. Also check that there are enough priority levels available. If necessary, correct the MOD 400 CLM file and rebootstrap; otherwise, contact your local customer service representative.

5B5B72 LU FAILURE DETECTED

Cause: This message indicates an RJE Facility error or an RJE Facility configuration error.

Effect: The RJE Facility is not operable.

Action: Check the RJE configuration and make corrections, if necessary; otherwise, contact your local customer service representative.

5B5B73 FATAL ERROR

Cause: This message indicates an RJE Facility error.

Effect: The RJE Facility is not operable.

Action: Such an error should be treated as a program logic error. Take a dump of the appropriate group when such an error occurs. To shut down the RJE Facility task group, abort the RJE task group. If the fatal error occurs in a logical unit task, the resources of the LU are locked out to other LUs (for example, input and output files are seen as in use by the failed LUs). If the impact of the failed LU is not too severe, you can continue operations using the non-failed LUs. Contact your local customer service representative.

5B5B74 PROGRAM LOGIC ERROR ENCOUNTERED

Cause: This message indicates an RJE Facility error.

Effect: The RJE Facility is not operable.

Action: Take a dump whenever such an error occurs. Contact your local customer service representative.

5B5B75 INCONSISTENT DATA FORMAT

Cause: Invalid data has been received from the host.

Effect: The RJE Facility responds negatively to the host data and waits for correction from the host.

Action: For immediate transmission recovery, wait for further messages. More permanent recovery is performed at the host to correct the invalid data being received by the RJE Facility.

5B5B76 SESSION LOST DUE TO ERROR ENCOUNTERED IN PATH CONTROL

Cause: This message indicates a problem at the host.

Effect: The RJE Facility waits for correction from the host.

Action: Wait for further messages.

5B5B77 RECURSION IS NOT ALLOWED FOR FILE COMMAND

Cause: A file called by the F command contains an embedded F command.

Effect: The F command is not executed.

Action: Edit the file to remove the embedded F command.

5B5B79 HOT CARD READER IS NOW COLD

Cause: You have issued an INPT -C command, releasing a dynamic card reader previously reserved for the host.

Effect: The card reader is now available for DPS 6 use.

Action: None required.

INTERNAL RJE FACILITY FORMAT MESSAGES

Internal RJE Facility messages are sent by either a LU or a PU (see Section 1 for definitions of LUs and PUs). These messages are either error messages, requiring operator action, or informational messages, requiring no action. Messages 5B7A through 5B9D are error messages; messages 5B9E through 5BBF are informational messages. All internal RJE Facility messages have the following format:

5Bxx {LU n} message
 {PU }

where:

xxxx

The error message number, a four-digit hexadecimal number whose first two digits are 5B. The second two digits can range from 7A through BF.

{LU n}
{PU }

n is the LU number, a digit from 1 to 6 inclusive.

message

The message text.

Internal RJE Facility messages are either error messages, which require operator action, or informational messages, which do not require specific operator action.

Error Messages

Messages with message numbers 5B7A through 5B9E inclusive are error messages. These messages require operator action. All of these messages are in the internal RJE Facility format.

5B7A PU command IS AN INVALID RJE COMMAND

Cause: The command specified in the message in place of "command" is invalid.

Effect: The command is not executed.

Action: Enter a valid command. Valid commands are: APPL, CNCL, E, F, INPT, OUTP, PRNT, QUIT, SSCP, and STTS. See Section 3 for further information about commands.

5B7B PU THE ARGUMENT arg IS INVALID FOR THE command COMMAND

Cause: The argument specified in the message in place of "arg" is invalid for the "command" command.

Effect: The command specified in place of "command" is not executed.

Action: Reenter the command with valid arguments.

5B7C PU -MS IS A REQUIRED ARGUMENT FOR THE command COMMAND

Cause: The medium/subaddress argument was omitted from the command specified in place of "command". The argument is required.

Effect: The command is not executed.

Action: Reenter the command including the -MS argument.

5B7D PU MORE THAN ONE argument ARGUMENT HAS BEEN ENTERED

Cause: A duplicate argument was entered on a command line.

Effect: The command is not executed.

Action: Reenter the command with only one of each of the valid arguments for the command.

5B7E PU A -S ARGUMENT OUTSIDE THE RANGE 1-6 HAS BEEN ENTERED

Cause: An invalid value was entered for the session argument.

Effect: The command is not executed.

Action: Reenter the command specifying a valid value for the -S argument. Valid values are single digits from 1 to 6 inclusive; for the APPL, INPT, and SSCP commands, "*" is valid.

5B7F PU A -TR ARGUMENT HAS BEEN ENTERED WHEN MEDIUM WAS NOT CARD

Cause: A -TR argument was specified on a command line when the medium part of the medium/subaddress specified was not C for card-format.

Effect: The INPT or OUTP command is not executed.

Action: Reenter the INPT or OUTP command either without the -TR argument, or specifying a medium of C.

5B80 PU THE -MS OR -SB ARGUMENT IS INVALID

Cause: An invalid value was entered for either a medium/subaddress or a subaddress argument.

Effect: The CNCL, INPT, .OUTP, or PRNT command is not executed.

Action: Reenter the command correcting the invalid value. For CNCL, valid medium values are: C (card), E (exchange), and P (print). For INPT, valid medium values are C (card) and E (exchange). For .OUTP, valid medium values are: C (card), E (exchange), or P (print). Valid subaddress values are single hexadecimal digits 0 to 9 and A to F.

5B81 PU THE PATHNAME SPECIFIED FOR -PN WAS IN AN INVALID FORMAT

Cause: An invalid pathname was entered for either the .F Input mode instruction or the .OUTP, PRNT, or F command.

Effect: The instruction or command is not executed.

Action: Reenter the instruction or pathname using the standard MOD 400 pathname format.

5B82 PU THE FORMAT FOR THE MESSAGE FOLLOWING -M WAS INVALID

Cause: An invalid message format was entered with the APPL or SSCP command.

Effect: The command is not executed.

Action: Reenter the command with a valid message format. Valid message formats have a length of 80 characters or less and are enclosed in quotes if the message contains quotes or spaces.

5B84 PU THE -PN ARGUMENT IS REQUIRED FOR THE command COMMAND

Cause: A required -PN argument was omitted from the .F Input mode instruction or the .OUTP, PRNT, or F command.

Effect: The instruction or command is not executed.

Action: Reenter the command with a -PN argument.

5B85 PU A MOD 400 ERROR PREVENTED THE command COMMAND FROM EXECUTING

Cause: A MOD 400 error occurred preventing the command specified in place of "command" from executing. A MOD 400 message describing the error is also generated.

Effect: The command is not executed.

Action: Interpret the MOD 400 message and assess the impact of its corrective action. Perform appropriate recovery. If the message appears repeatedly, contact your local customer service representative.

5B86 PU THE FILE ORGANIZATION IS INVALID FOR THE SPECIFIED MEDIUM

Cause: The pathname argument of an OUTF or of a .F INPT mode command references a file with an invalid organization for the medium specified in the OUTF or INPT command. Valid file organizations are as follows:

<u>Medium</u>	<u>Valid File Organization</u>
Exchange (E)	UFAS sequential disk file with record size of 128
Card (C)	UFAS sequential disk file with record size of 80
Card punch (C)	UFAS sequential disk file with record size of 80
Print (P)	UFAS sequential disk file with record size of 134

For further information on file organizations, see the Data File Organizations and Formats manual.

Effect: The command is not executed.

Action: Reenter the command, referencing a file with the appropriate organization.

5B87 PU THE FILE OR MEDIUM/SUBADDRESS IS ALREADY IN USE

Cause: The file or medium/subaddress specified in either the OUTP or PRNT command is in use.

Effect: The command is not executed.

Action: Either reenter the command with the same medium/subaddress after the file is no longer in use, or reenter the command with an unused medium/subaddress, calling another file.

5B88 PU A SUBADDRESS IS REQUIRED FOR THE command COMMAND

Cause: The -SB (subaddress) argument was omitted from the specified command. It is required.

Effect: The command is not executed.

Action: Reenter the command with a valid -SB argument.

5B89 PU THE command COMMAND WAS NOT ACCEPTED AS THE LU IS NOT ACTIVE

Cause: The requested LU is not active.

Effect: The command is not executed.

Action: An Activate LU command must be received from the host followed by an operator logon before the command can be retried. The Activate LU command may require host operator action.

5B8A PU THE command COMMAND WAS NOT EXECUTED AS DATA TRAFFIC IS NOT ACTIVE

Cause: The requested session is currently not able to communicate with the host application.

Effect: The command is not executed.

Action: Wait for the host to recover the session. If no recovery occurs, log off the session and then log back on before retrying the command.

5B8B PU THE command COMMAND WAS NOT EXECUTED AS THE SESSION IS NOT BOUND

Cause: The requested session is not available.

Effect: The command is not executed.

Action: Log on using the SSCP command; then reenter the command.

5B8C PU THE SPECIFIED FILE IS NOT ATTACHED TO A MEDIUM/SUBADDRESS

Cause: The requested file is not associated with a medium/subaddress.

Effect: The command is not executed.

Action: Associate the file with a medium/subaddress. For example, you may have attempted to execute a PRNT command without a preceding OUTF command.

5B8D PU THE -M ARGUMENT IS REQUIRED FOR THE command COMMAND

Cause: A required message argument (-M) was omitted from the command specified in place of "command".

Effect: The command is not executed.

Action: Reenter the command with the -M argument.

5B8E PU TOO MANY INPUT FILES WERE SPECIFIED-MAXIMUM ALLOWED IS 6

Cause: More than the maximum six pathnames were specified through .F input mode instructions in one INPT command.

Effect: The INPT command and .F instructions are not executed.

Action: Reenter the INPT command with six or fewer .F input mode instructions. Use a series of INPT commands if necessary.

5B8F PU .F IS AN INVALID ENTRY AFTER -H HAS BEEN ENTERED

Cause: You entered .F after -H while in Input mode; -H must be associated with the last file concatenated for this INPT command.

Effect: The INPT command is ignored.

Action: Reenter the INPT command, omitting either .F or -H.

5B90 PU THE REQUESTED INPUT FILE IS UNAVAILABLE

Cause: The requested input file is unavailable.

Effect: The command is not executed.

Action: Provide the required input file and reenter the command.

5B91 PU .F MUST BE ENTERED BEFORE .Q IS ENCOUNTERED

Cause: A .Q Input mode instruction was entered immediately after the INPT command; that is, there are no .F Input mode instructions to process.

Effect: The INPT command is not executed.

Action: Reenter the INPT command including .F Input mode instructions.

5B93 PU THE -S ARGUMENT IS REQUIRED FOR THE APPL COMMAND

Cause: An APPL command was entered, omitting the required session argument.

Effect: The command is not executed.

Action: Reenter the command with the required -S argument.

5B94 LU n MULTIPLE APPL COMMANDS HAVE BEEN ENTERED

Cause: A previous APPL request is queued on the session because the request could not be transmitted immediately. This might happen because the session is receiving outbound data and the host has not yet given the session permission to send.

Effect: Since only one APPL request can be queued on a session for an extended period, the second APPL command is rejected.

Action: Either wait for the first command to execute before entering more APPL commands for the same session, or send the rejected request on a session that is not busy. If a session is initially not busy, you may send consecutive APPL requests on it without generating this message.

5B95 PU THE -S ARGUMENT IS REQUIRED FOR THE SSCP COMMAND

Cause: An SSCP command was entered, omitting the required session (-S) argument.

Effect: The command is not executed.

Action: Reenter the command with the required -S argument.

5B96 PU THE FORMAT OF THE VFU DEFINITION FILE IS INVALID

Cause: The format of the specified VFU definition file is invalid.

Effect: The command that called the VFU definition file is not executed.

Action: Edit the file and correct the format. Then reenter the command.

5B97 LU n AN INPUT FILE IS ALREADY ATTACHED TO THE SESSION

Cause: You are trying to execute an INPT command for a session that is currently transmitting inbound (to the host) data.

Effect: The INPT command is not executed.

Action: Either wait until the inbound transmission is complete or use a free session for the INPT command.

5B98 PU -S IS INCONSISTENT WITH -I OR -O

Cause: You entered a -S control argument in combination with a -O or a -I control argument in a CNCL command. -S and -O or -I are mutually exclusive.

Effect: The CNCL command is not executed.

Action: Retype the CNCL command using only one argument.

5B99 PU NO SESSION WAS FOUND USING SPECIFIED MEDIUM/SUBADDRESS

Cause: You specified a medium/subaddress in a CNCL command that is not currently being used by any session.

Effect: The command is not executed.

Action: Retype the CNCL command using the correct medium/subaddress.

5B9A PU THE INPT COMMAND IS DISALLOWED AS THE SESSION IS ALREADY BUSY

Cause: The session specified for the INPT command is currently busy receiving outbound data or transmitting inbound data.

Effect: The command is not executed.

Action: Either wait until the desired session is free, or select a session that is not busy for the INPT command.

5B9B PU CANCEL REQUEST IS INCONSISTENT

Cause: You entered a CNCL command using both the -I (inbound) and -O (outbound) arguments.

Effect: The CNCL command is ignored.

Action: Reenter the CNCL command using only -I or -O.

5B9C PU AN INCONSISTENT ARGUMENT HAS BEEN USED WITH -D

Cause: You entered an OUTF command that combined some argument other than -MS with -D.

Effect: The command is not executed.

Action: Retype the OUTF command combining -D with -MS or omitting -D.

5B9D PU AN INVALID FILE TYPE OR PATHNAME HAS BEEN SPECIFIED

Cause: You entered a pathname that indicates a non-sequential file or a non-existent file.

Effect: The command specifying the pathname is ignored.

Action: Reenter the command with a valid pathname.

5B9E PU A MEDIUM/SUBADDRESS IS REQUIRED WITH -D

Cause: You entered an OUTF command with the -D (detach) argument without specifying a medium/subaddress.

Effect: The command is ignored.

Action: Reenter the command, specifying a medium/subaddress.

Informational Messages

Messages with message numbers 5B9F through 5BBF inclusive are informational messages. These messages require no specific operator action, but inform the operator of RJE Facility progress. All of these messages are in the internal RJE Facility format.

5B9F PU MEDIUM/SUBADDRESS ms HAS BEEN DETACHED FROM ITS OUTPUT STREAM

Cause: The response to the successful execution of an OUTF command with the -D argument.

Effect: The medium/subaddress is now detached from the local physical output device or file.

Action: None.

5BA0 PU MEDIUM/SUBADDRESS ms HAS BEEN ATTACHED TO AN
OUTPUT STREAM

Cause: The response to a successful execution of the OUPP
command.

Effect: The OUPP command has been successfully initiated.

Action: None.

5BA1 LU n DEACTIVATE LU HAS BEEN RECEIVED

Cause: The session specified in place of "n" is now
deactivated.

Effect: No commands can be entered for the specified
session.

Action: None.

5BA2 LU n AN UNBIND HAS BEEN RECEIVED

Cause: The session specified in place of "n" cannot
transmit or receive data or messages to or from the
host application. This may be a response to a
command sent by the RJE Facility.

Effect: The specified session cannot be used.

Action: None.

5BA3 LU n A CLEAR HAS BEEN RECEIVED

Cause: The session specified in place of "n" cannot
transmit or receive data or messages to or from the
host application.

Effect: The specified session cannot be used.

Action: None.

5BA4 LU n AN SDT HAS BEEN RECEIVED

Cause: The session specified in place of "n" can transmit
and receive data or messages to or from the host
application if message 5BA5 is also received. This
message is received as the result of an SSCP logon.

Effect: The specified session can now be used if both
messages are received.

Action: None.

5BA5 LU n AN ACCEPTABLE BIND HAS BEEN RECEIVED

Cause: The session specified in place of "n" can transmit and receive data or messages to or from the host application if message 5BA4 is also received. This message is received as the result of an SSCP logon.

Effect: The specified session can now be used if both messages are received.

Action: None.

5BA6 LU n AN UNACCEPTABLE BIND HAS BEEN RECEIVED

Cause: The session specified in place of "n" cannot transmit or receive data or messages. This message informs you of a host misconfiguration.

Effect: The specified session cannot be used.

Action: Notify the SNA administrator to contact the host operator. For a list of acceptable binds, see the DPS 6/SNA Administrator's Guide.

5BA7 LU n AN ACTIVATE LU HAS BEEN RECEIVED

Cause: The session specified in place of "n" is now activated.

Effect: You can now proceed to log on to the host application using the SSCP command.

Action: None. (You can now log on.)

5BA8 LU n A NEGATIVE RESPONSE WITH SENSE= xxxxxxxx HAS BEEN
PU RECEIVED

Cause: Depends on the value of the sense code. The host application or access method may send messages describing the problem.

Effect: Variable, depending on sense code "xxxxxxx" and any other messages from the application or access method.

Action: If no more information comes from the host, look up the sense code and take appropriate action. For a list of sense codes and their meanings, see the DPS 6/SNA Administrator's Guide. If it is not clear how to proceed, notify your SNA administrator.

5BA9 LU n INPUT INSTRUCTION HAS BEEN ACCEPTED

Cause: The response to a successful INPT command.

Effect: The INPT command has been successfully initiated.

Action: None.

5BAA LU n direction TRANSMISSION BEGINNING

Cause: Transmission is beginning in the direction specified in place of "direction" (either inbound or outbound) for the session specified in place of "n".

Effect: Data transmission is under way.

Action: None.

5BAB LU n direction TRANSMISSION ENDING

Cause: Transmission is ending in the direction specified in place of "direction" (either inbound or outbound) for the session specified in place of "n".

Effect: Data transmission is completed.

Action: None.

5BAC LU n direction TRANSMISSION ABORTING

Cause: Transmission is terminating without completing in the direction specified in place of "direction" (that is, inbound or outbound) for the session specified in place of "n". This message may result from a CNCL command, as well as an error condition.

Effect: Data transmission has terminated without completing.

Action: If this message appears in response to a CNCL command, no action is necessary. If no CNCL was issued, other messages will appear to indicate the nature of the error. If there is an error condition, notify your SNA administrator.

5BAD LU n direction TRANSMISSION SUSPENDING

Cause: Transmission is being temporarily suspended (for example, for message transmission) in the direction specified in place of "direction" (either inbound or outbound) for the session specified in place of "n".

Effect: Data transmission is temporarily suspended.

Action: Wait for further messages.

5BAE LU n direction TRANSMISSION RESUMING

Cause: Transmission is resuming (after a suspension) in the direction specified in place of "direction" (that is, inbound or outbound) for the session specified in place of "n".

Effect: Data transmission has resumed after a suspension.

Action: None.

5BAF LU n message
PU

Cause: The response to the STTS -T command. Replacements for "message" are:

MULT SIG INTRUPT NOT IN USE;RJE IS UNATTENDED
MULT SIG INTRUPT IN USE;RJE IS ATTENDED
MULT SIG INTRUPT NOT IN USE; RJE IS ATTENDED
MULT SIG INTRUPT IN USE; RJE IS UNATTENDED

Effect: The STTS -T command has executed successfully.

Action: None.

5BB0 LU n AWAITING PRIMARY RECOVERY

Cause: A problem occurred on the session specified in place of "n".

Effect: The specified session cannot be used.

Action: Wait for further messages, some of which may require operator action.

5BB1 LU n OUTBOUND DATA HAS BEEN RECEIVED FOR UNATTACHED
M/S ms

Cause: The host is trying to transmit data to a medium/subaddress for which no OUTF command has been entered by the RJE operator. If the RJE Facility was configured as attended, message 5BB1 is preceded by four 5BBE messages, issued at 30-second intervals. If the operator does not respond to the 5BBE messages, this message is issued followed by a negative response sent to the host. If the RJE Facility was configured as unattended, the negative acknowledgement is sent immediately.

Effect: The data is not received.

Action: None.

5BB2 LU n OUTBOUND DATA HAS BEEN RECEIVED FOR M/S ms WHILE IT IS IN USE

Cause: The host is trying to transmit data on session "1." using medium/subaddress "ms", when "ms" is in use by another session. A negative response is sent to the host to indicate that "ms" cannot be used.

Effect: The host cannot transmit data using medium/subaddress "ms".

Action: None.

5BB3 PU AN ACTIVATE PU HAS BEEN RECEIVED

Cause: The host is now aware of the existence of the RJE Facility and is indicating that it is able to communicate with RJE. This message is normally followed by other messages.

Effect: Host is ready to communicate with the RJE Facility.

Action: None.

5BB4 LU n A D.F.C. SIGNAL HAS BEEN SENT

Cause: LU n, while receiving outbound data, has requested permission to send a short message (for example, an APPL message). The LU requests permission to send a message by issuing a Data Flow Control (D.F.C.) signal request.

Effect: The LU is requesting permission to send a message.

Action: None.

5BB5 LU n A D.F.C. SHUTDOWN COMPLETE HAS BEEN SENT

Cause: Host software initiated an orderly shutdown by issuing a D.F.C. shutdown request. The RJE Facility responds to such a request by issuing a shutdown complete request and displaying message 5BB5 on the operator terminal.

Effect: The session is shut down and cannot be used.

Action: None.

5BB6 LU n A D.F.C. SIGNAL HAS BEEN RECEIVED

Cause: A host LU has requested permission to send an urgent message to LU n, which is transmitting inbound data. The host LU requests such permission by transmitting a D.F.C. signal to the RJE Facility LU.

Effect: Host LU will now send message.

Action: None. Message from host LU should follow.

5BB7 LU n A D.F.C. SHUTDOWN HAS BEEN RECEIVED

Cause: Host software issued a D.F.C. shutdown request to initiate an orderly session shutdown. The RJE Facility will respond by issuing a shutdown complete request and displaying message 5BB5 on your terminal.

Effect: After message 5B5B appears, the session is shut down and can no longer be used.

Action: None.

5BB8 LU n A D.F.C. CANCEL HAS BEEN SENT

Cause: When an inbound data transmission is cancelled, either by a CNCL operator command or by an error in the input device, it is sometimes necessary to cancel the inbound transmission using a D.F.C. cancel request.

Effect: The data transmission on LU n has been cancelled.

Action: None.

5BB9 LU n A D.F.C. BID HAS BEEN RECEIVED

Cause: The host LU may request permission to transmit by issuing a D.F.C. bid request.

Effect: The host LU request permission to transmit.

Action: None. Host transmission should follow.

5BBA LU n A D.F.C. CHASE HAS BEEN RECEIVED

Cause: The host LU issues a D.F.C. chase request to enquire about the progress of the processing of outbound data.

Effect: The host is monitoring processing outbound data.

Action: None.

5BBB LU n A NEGATIVE RESPONSE WITH SENSE xxxxxxxx HAS BEEN
PU SENT

Cause: Depends on the value of the sense code.

Effect: Variable, depending on sense code "xxxxxxx" and any other messages from the application or access method. Nothing else may happen (bracket contention resolution) and processing can proceed normally. Host recovery may take place. The host may send further messages.

Action: If no more information comes from the host, look up the sense code and take appropriate action. For a list of sense codes and their meanings, see the DPS 6/SNA Administrator's Guide.

5BBD PU CANCEL IS IN PROGRESS

Cause: Your CNCL command was accepted and is being acted upon.

Effect: CNCL command is being processed.

Action: None.

5BBE PU ATTENTION-ATTACH M/S ms TO OUTPUT STREAM!!!

Cause: The host is trying to transmit data to a medium/subaddress for which no OUP command has been entered by the RJE operator. This message is repeated three times at 30 second intervals. Each time the message appears a bell sounds.

Effect: The host cannot send data until the operator issues an appropriate OUP command.

Action: Enter an OUP command for the specified medium/subaddress "ms". If you do not respond to this message, the RJE Facility sends a negative acknowledgement and displays message 5BB1 on your terminal.

5BBF PU A DEACTIVATE PU HAS BEEN RECEIVED

Cause: The host no longer wishes to communicate with the RJE Facility.

Effect: No communication with the host is possible until an ACTPU is received from the host.

Action: None possible. The host must restore communication with the DPS 6.

MOD 400 FORMAT OPERATOR-TERMINAL MESSAGES

The following SNA Transport Facility messages in MOD 400 format may also appear at the operator terminal. For descriptions of these messages, see the DPS 6/SNA Administrator's Guide.

5B5BE0 LOGICAL NODE ALREADY ATTACHED
5B5BE1 NO NODES ATTACHED OR NODE NOT FOUND
5B5BE2 SIGNALLED NODE NOT ATTACHED
5B5BE3 INVALID LU ID
5B5BE4 NO PATH FROM TSRB TO HSCB
5B5BE5 SNRM STILL PENDING WHEN DEACTIVATE ISSUED
5B5BE6 ATTEMPT TO DEACTIVATE AN LRN NOT ACTIVATED
5B5BE7 NO STATION AVAILABLE TO RESERVE
5B5BE8 ATTEMPT TO RELEASE A STATION NOT RESERVED
5B5BE9 TSRB PURGED
5B5BEA OUT OF INFORMATION TRANSFER STATE
5B5BEB TIME OUT
5B5BEC DATA TRAFFIC INACTIVE
5B5BED RH CATEGORY ERROR
5B5BEE EXPEDITED FLOW CONTROL ERROR
5B5BEF PACING QUEUE FULL
5B5BF0 RU SIZE TOO BIG
5B5BF1 NOT SC SUPPORTED COMMAND
5B5BF2 SC SEND STATE ERROR

HOST MESSAGES

You may also receive messages from the host application (for example, JES2 or POWER) or access method (VTAM). For more information on these messages, refer to the IBM manual appropriate to the application or access method to which you are connected.

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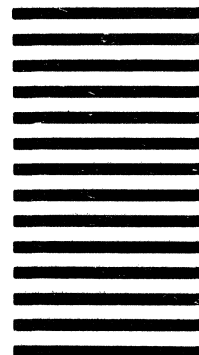
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