Distributed Systems Network
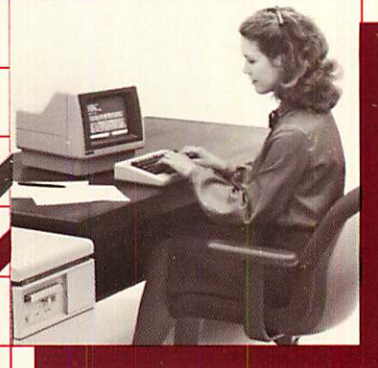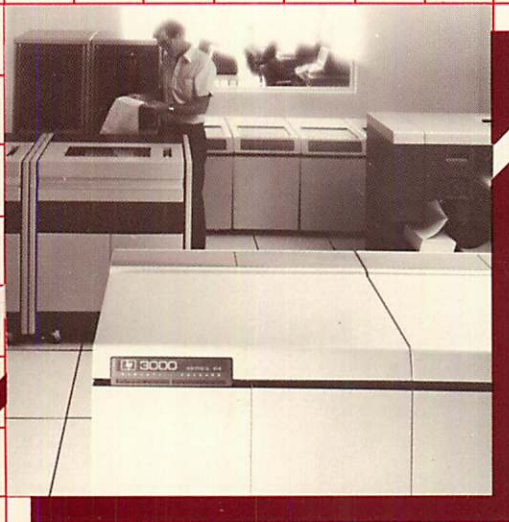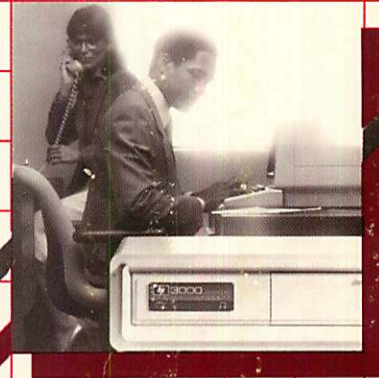
HEWLETT PACKARD

HP 32192A
Multileaving Remote Job Entry
(DSN/MRJE)
Reference Manual

HP 3000 Computer Systems

DSN/MRJE Multileaving Remote Job Entry

Reference Manual

HEWLETT PACKARD

19420 HOMESTEAD ROAD, CUPERTINO, CA 95014

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PRINTING HISTORY

This publication is the reference manual for Multileaving Remote Job Entry (DSN/MRJE). DSN/MRJE is a subsystem of the HP 3000 computer system, and it provides for the submission of multiple batch job streams to remotely-located host computers operating HASP, JES2, JES3, or ASP Job Entry Subsystems.

This manual addresses three types of readers:

DSN/MRJE Users:

>   Persons who access the DSN/MRJE subsystem, in either batch or session mode, to submit jobs for processing on a host system.

The DSN/MRJE Manager:

>   The person who plans DSN/MRJE use and enters DSN/MRJE Manager commands to build DSN/MRJE configuration files and to monitor the activity of the subsystem.

DSN/MRJE Console Operators:

>   The persons who operates the HP 3000 master console and I/O devices and any other person authorized to control the communication link(s) between the HP 3000 and remote host(s) from his or her terminal.

It is assumed that readers of this manual are already familiar with the pertinent operating characteristics of their host systems.

SECTION I of this manual is an introduction to the capabilities, structure and operation of the DSN/MRJE product.

SECTION II explains how to prepare job streams for entry to the host via DSN/MRJE and to prepare for output from the host.

SECTION III lists the DSN/MRJE commands available to the DSN/MRJE User and describes their function and syntax. User access to host console commands is also described.

SECTION IV discusses the management of DSN/MRJE, including the construction and maintenance of management files and DSN/MRJE Manager commands.

SECTION V explains the DSN/MRJE commands used to open, monitor, and close the HP 3000-host communications link at the HP 3000 end.

SECTION VI is a listing of error conditions and suggested recovery procedures.

The APPENDICES provide information on DSN/MRJE management file configuration, configuration of the HP 3000 and the host for communication with DSN/MRJE, and modem options and strappings.

The reader may wish to refer to the following manuals for supplemental information:

- MPE IV System Manager/System Supervisor Reference Manual (HP 30000-90014)

- Console Operator's Guide: Series II, III, 30, 33 and 44 (HP 32002-90004)

- HP 30055A Synchronous Single-Line Controller (SSLC) Installation and Service Manual (HP 30055-90001)

- HP 30010A Intelligent Network Processor (INP) Installation and Service Manual (HP 30010-90001)

- HP 30020A/B Intelligent Network Processor (INP) Installation and Service Manual (HP 30020-90001)

- Communications Handbook (HP 30000-90105)

- MPE Utilities Reference Manual (HP 30000-90044)

- MPE Commands Reference Manual (HP 30000-90009)

- Using Files (HP 30000-90102)

- IBM manuals relevant to the host operating system (for example, OS/MFT, OS/MVT, OS/VS2 (MVS and SVS)) and Job Entry Subsystem (HASP-II, JES2, JES3, OR ASP).

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CONTENTS (Continued)

COMMAND

All commands used in this manual are shown in upper case and are typed in their entirety.

Command names may be abbreviated to the minimum number of characters required to uniquely identify them and may be entered in upper or lower case.

parameters

Variable parameters which are replaced by user-supplied values are shown in lower case characters.

These parameters may be abbreviated to the minimum number of characters needed to uniquely identify them and may be entered in upper or lower case.

Example: H[OST] B[ETA]

delimiters

Commas are optional except within "joblist" or "itemlist". A slash (/) signifies a range of values beginning with the number to the left of the slash and ending with the number to the right.

Examples:		
	Valid	#DISPLAY JOB 25
		#DISPLAY,JOB,25
		#ALTER 5,6
	Invalid	#ALTER 5 6

[ ]

An element inside brackets is optional. Several elements stacked vertically inside brackets means one element may be selected, although none need be.

Example: [A]
[B]

User may select A or B or neither.

...

An ellipsis indicates that the previous element may be repeated, or that elements have been omitted.

{ }

Several elements stacked vertically within braces means the user must select one of the elements.

Example: { A }
            { B }
            { C }

User must select A or B or C.

joblist or
  itemlist

Some commands permit a list and/or range of parameters to be specified:

    job#   ,job#   /job#
                                           ...
    jobname   ,jobname   ,jobname

    item# [,item#][/item#] ...

In these commands the parameters may be repeated and job# and jobname intermixed.

Examples: ALTER 25
             ALTER 2/7,25,1,12/15

             CANCEL JOB 6
             CANCEL JOB 3/5, JOBXYZ,8 (Cancels
                jobs 3, 4, 5, 8, and JOBXYZ.)

blanks

Commands may be preceded by blanks; they need not start in column 1 of a card image. At least one blank (or a comma) is required to separate command parameters.

Examples: #DISPLAY C,9
                    Valid   #DISPLAY C, 9
                            #   DISPLAY C,9

                    Invalid   #DISPLAYC,9

Example 1

User/Manager input to the terminal is underlined to distinguish it from subsystem prompts.

return	Type the carriage return key.
card	The word "card" is interchangeable with "card image." Each represents an 80-character record of stored information.
actual file	A file resident on disc.
Console Operator (DSN/MRJE)	The person who operates the HP3000 system console and I/O devices and any other person authorized to control the communication link(s) between the HP3000 and remote host(s) from his or her terminal.
current host	The host to which all jobs and host console commands will be sent, until another host is selected by means of the HOST command. Unless the DSN/MRJE User issues the HOST command, the "current host" is always the same as the "default host".
default host	The host machine which is selected, by default, for DSN/MRJE job and host console command processing when the :MRJE command is issued. All jobs and commands will be sent to this host until another host is specified (via the HOST command). The "default host" is also the host whose communication line will be affected when the Console Operator issues an :MRJECONTROL command without specifying a host ID.
host	The mainframe machine on which jobs and host console commands submitted through DSN/MRJE are executed. It is not the HP 3000. Multiple hosts may be attached to a single HP 3000.
host ID	An alphanumeric name by which a host is identified. A user of DSN/MRJE uses a host's ID (or the first character of the ID) in the "hostid" parameter that is part of several DSN/MRJE commands. DSN/MRJE uses only the first character of the host ID (or no character at all, in the case of the default host) in its communication with DSN/MRJE Users and Managers.
host number	The number the host system assigns to a job at the time it receives that job. The user need not remember this number.

job number
: The number DSN/MRJE assigns a job when the job is submitted by a User. The number should be noted so it can be used in future commands that reference the job.

job name
: The User-assigned name by which a job is identified. It need not be unique. The DSN/MRJE User uses job names on host JOB cards in job input files and in the "jobname" parameter that is part of several DSN/MRJE commands.

MRJE Manager
: The person who plans DSN/MRJE use and enters DSN/MRJE manager commands to build DSN/MRJE configuration files and to monitor the activity of the subsystem.

MRJE User
: A person who accesses the DSN/MRJE subsystem, in either batch or session mode, to submit jobs for processing on a host system.

system file
: A system defined file designator indicating those files that MPE identifies for a job or session: $STDIN, $STDINX, $STDLIST, $NULL, $OLDPASS, and $NEWPASS.

user
: Anyone, Manager, User, or Console Operator who uses DSN/MRJE.

#
: This character is the DSN/MRJE subsystem prompt for terminal input. It is displayed at a user's terminal whenever DSN/MRJE is ready to accept a command.

The Distributed Systems Network/Multileaving Remote Job Entry (DSN/MRJE) subsystem of the HP 3000, runs under the control of the Multiprogramming Executive (MPE) operating system. DSN/MRJE gives multiple users of the HP 3000 access to any remotely-connected host computer system that is using the HASP-II (version 3.1 or subsequent), JES2, JES3, or ASP Job Entry Subsystem. Jobs may be submitted from the HP 3000 via the standard input devices (magnetic discs, magnetic tapes, card readers, and terminals); and output from the host may be routed to any of the standard HP 3000 output devices (printers, discs, tapes, card punches, and terminals). Jobs may be submitted during an interactive session with DSN/MRJE or by means of a batch (stream) job.

In addition to accommodating multiple users, DSN/MRJE provides for an DSN/MRJE Manager who can interactively monitor and control job activity. Host console commands can be entered by the Manager from any HP terminal. Users may also be given access to one or more host console commands by the Manager.

DSN/MRJE can handle up to seven logical print streams, seven logical punch streams, seven logical card reader streams, and a command console input/output stream, all transmitted over the same communications line.

DSN/MRJE can run on suitably-configured HP 3000's (Series II or later) which have at least one operational communications controller. Depending on the model of HP 3000, controllers may be Synchronous Single-line Line Controllers (SSLC's) and/or Intelligent Network Processors (INP's).

Multiple hosts and multiple communications lines to the same host are supported by DSN/MRJE. Communications with the host(s) are governed by multileaving protocol and may take place over dial-up (switched) and leased lines. Modem speeds of up to 9600 bits per second are supported on appropriate communication lines.

Figure 1-1 shows a generalized DSN/MRJE communications system.

DSN/MRJE FEATURES

The DSN/MRJE subsystem provides commands for DSN/MRJE Users to:

● Specify a particular host machine for job processing.

● Submit jobs for execution on a host system.

MODEM   LEASED LINE
OR
DIAL NETWORK   MODEM.

HP 3000
USER
TERMINALS

DSN/MRJE

HP 3000
SYSTEM

JOB ENTRY
SUBSYSTEM

HOST SYSTEM

HP 3000
SYSTEM CONSOLE

HOST SYSTEM CONSOLE

HP 3000
I/O DEVICES

HOST SYSTEM
I/O DEVICES
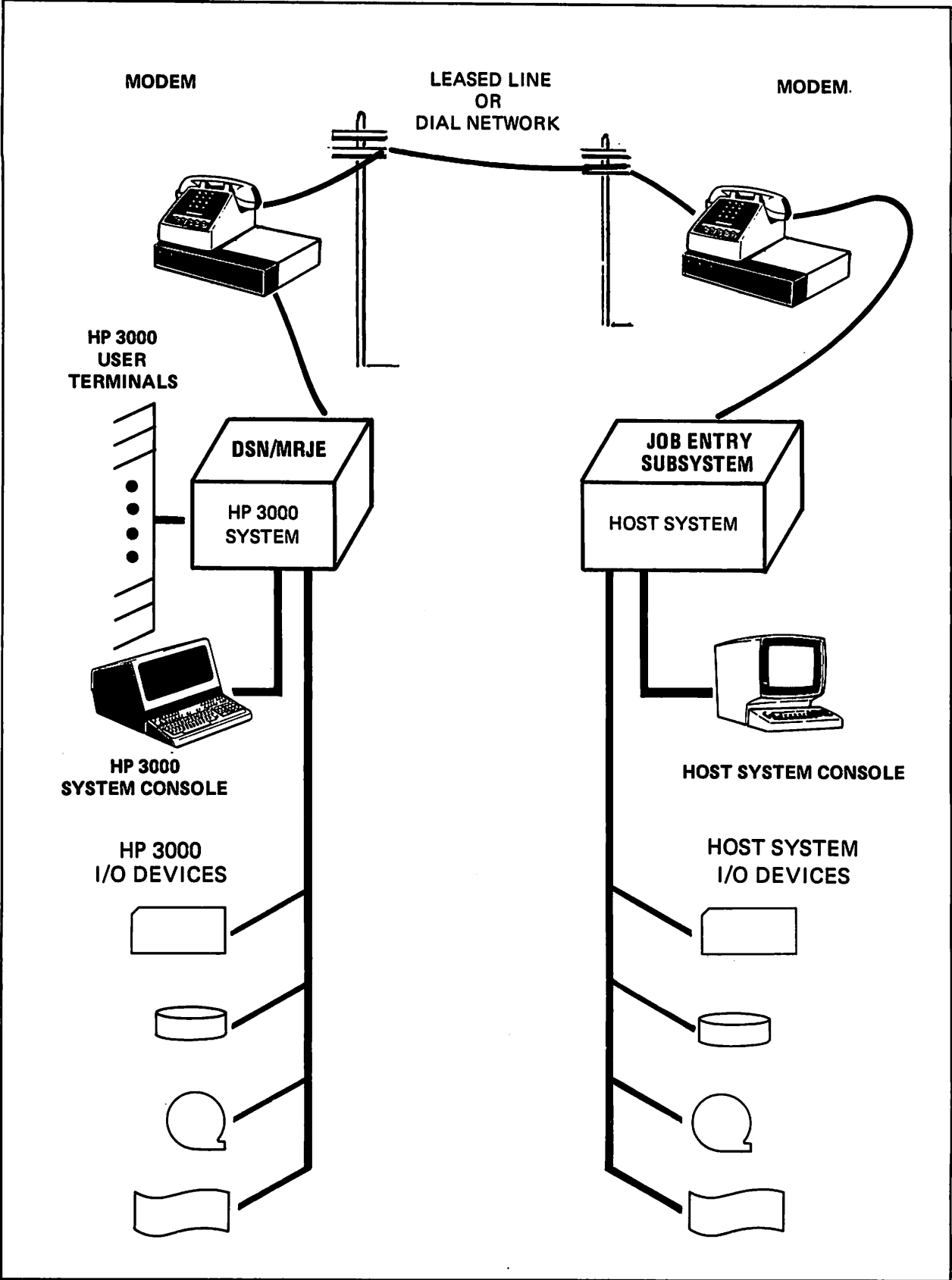
1471018-1

Figure 1-1.   Elements of a Data Communications System

- Specify job output disposition.

- Display the status of their jobs.

- Cancel their jobs.

- Exit DSN/MRJE.

In addition, any user with the MPE System Supervisor (OP) capability can manage DSN/MRJE resources. The user MANAGER.SYS should have OP capability. A DSN/MRJE Manager can:

- Configure the files for DSN/MRJE operation, both required and optional.

- Display job status for any job being handled by DSN/MRJE.

- Cancel any job being handled by DSN/MRJE.

- Alter the current DSN/MRJE configuration file.

- Maintain the DSN/MRJE job log file.

RUNNING DSN/MRJE

Your group and account must have a MAXPRI=CS or higher in order to use DSN/MRJE. To execute DSN/MRJE, log onto the HP 3000 system with the standard HELLO or JOB and then issue the MRJE command.   If the subsequent MRJE output (for example, listings produced by the DISPLAY command) is to be routed to a file as well as to $STDLIST, precede the command with a file equation as shown. (If the file has not already been built, use the FILE command parameters ",NEW;SAVE".)

        :FILE LISTING=filename [,NEW;SAVE]
        :MRJE

After the product identification is printed by DSN/MRJE, all users can submit jobs to DSN/MRJE, check job status, and cancel jobs. In addition, the Manager can monitor DSN/MRJE activity and perform other supervisory tasks. The Manager might, for example, define a new host machine by building or altering a configuration file, cancel users' jobs, or purge unwanted entries from the job log file.

PLANNING JOB INPUT AND OUTPUT

A job submitted to the host via DSN/MRJE may use the host application programs, utilities, and languages that are available to other remote users of the same host. Jobs are prepared by entering job control information, programs, and data into MPE files in card image format (as if they were being entered directly to the host on cards). DSN/MRJE builds job streams from the files and transmits the job streams to the host system(s). Users may create disc files that will receive job output. Preparation of input and output files is discussed further in Section II.

Submitting Jobs

Submission of jobs to the host is a two-step process. They must first be submitted to DSN/MRJE. DSN/MRJE then submits them to the host. If the communications link to the host is open, DSN/MRJE will transmit jobs as they are submitted (subject to MPE control). Otherwise, they will be spooled until communications between the host and DSN/MRJE have been established. Spooling of job input will occur only if a pseudo reader has been spooled.

The submission of jobs will be refused if the psuedo reader is not spooled and the host is offline or if the pseudo reader is busy.

Jobs are submitted to DSN/MRJE in files. DSN/MRJE assigns a number to each job and displays these number(s) at the submitter's terminal. The jobs may subsequently be referred to by this number.

Transmitting Jobs and Receiving Output

In order to transmit jobs to the host, the communications line between the HP 3000 and the host must be opened. This is done by issuing the distributed console command, :MRJECONTROL START, or its equivalent. (See Section V for further discussion of :MRJECONTROL commands.)

DSN/MRJE will then access the spooled input files (if any) that were created from input files specified in SUBMIT commands and transmit the jobs stored in the spooled files to the host system.

The host system will execute the jobs and return output to the HP 3000 system. The return of output depends on factors such as host system execution time and job turn-around time.

DSN/MRJE will receive the output, determine from DSN/MRJE job log and directory files where the output is to be sent (for example, to a disc file or to a line printer), and then route the output to the proper output device.

DSN/MRJE MANAGEMENT FILES

For each host machine configured into DSN/MRJE by the Manager, logged on as MANAGER.SYS, DSN/MRJE creates a set of three files in PUB.SYS:

● The configuration file (MRJECONh).

● The job log file (MRJEJOBh).

● The directory file (MRJEDIRh).

These files are accessed during DSN/MRJE execution.

MRJECON, MRJEJOB, and MRJEDIR are the names DSN/MRJE assigns to the set of files created for the default host machine. In multiple host environments, DSN/MRJE appends the first character of the host identification, 'h' above, to the ends of these names to create unique file names. The names can subsequently appear in messages to users.

The message catalog file, MRJECAT, is installed as part of the DSN/MRJE product in the group and account PUB.SYS. This file contains most of the messages used by the subsystem.

There are other files associated with DSN/MRJE. These may be created by the Manager, logged on as MANAGER.SYS, or by any user who can log on to the SYS account in the PUB group. These are

● The stream file (MRJESTRh).

● The message file (MRJEMSGh).

The stream file is <u>always</u> accessed when an MRJECONTROL START command is issued. The other files may be accessed during execution of the subsystem.

Configuration File

This file contains host machine configuration information. Entries exist for the host SIGNON card image, the default input/output devices for DSN/MRJE, line connect/disconnect times and other information. The DSN/MRJE Manager can alter specific items in this file, or rebuild the entire file, if changes occur in the host or HP 3000 system. The format and contents of a configuration file are described in Appendix A.

Job Log File

This file contains information about each job submitted to the host machine for which this file was created. The file includes the job number, the job name, the MPE logon ID of the User who submitted the job, the destination files specified for the job output (printer, punch, and/or special forms), the status of the job (if and when the job was transmitted or canceled), and, if the job was transmitted, the number assigned to it by the host. A job log file entry could look like this:

```
JOB#=4 JOBNAME=MYJOB3 USER=PAT.DCA,M
PRINT="LP" PUNCH="CLPUN" FORMS="BANKFORM"
TRANSMITTED TO HOST TUE, MAY 23, 1980, 4:06 PM HOST#=2354
```

Directory File

This file is an index to entries in the job log file. It is used by DSN/MRJE to find entries more quickly and is not accessible to users of DSN/MRJE.

The Message Catalog File

This file contains most of the messages the DSN/MRJE subsystem displays for the system operator, the DSN/MRJE manager, and the subsystem user. The message catalog file is created when the subsystem is installed. It may be useful to modify the message catalog file in those environments where users do not speak English.

| CAUTION |

If the message catalog is modified, remember to include any message parameters in the same sequence as was done in the original file.

The Stream File

The stream file is always used whenever an MRJECONTROL START command is issued. It should be created MANAGER.SYS, but may be created by any user with access to the PUB group of the SYS account. Security for this file should be restricted to MANAGER.SYS by using the MPE command ALTSEC, as described in the "MPE Commands Reference Manual" (30000-90009). The structure of

this file is the same as for any stream file. The contents of
the stream file, MRJESTRh, are such that an MPE session which
runs the monitor MRJEMON will be executed. A sample stream file
is included with the description of MRJECONTROL START in Section
5.

The Message File

The message file is used to receive host console messages, ouput
messages from the host system, and a performance measurement data
record which contains information about output data received.
The message file may be either an output system file, such as
$STDLIST, or an actual file. If the message file is an actual
file, MRJEMSGh.PUB.SYS, then it should be created by MANAGER.SYS,
and access to it should be limited to its creator. Use the
ALTSEC command, as described in the "MPE Commands Reference
Manual" (30000-90009). See Section 4. This file is optional.
If it is absent all messages intended for it are lost.

WHAT YOU CAN DO WITH DSN/MRJE ON
A HIGH SPEED COMMUNICATION LINE

DSN/MRJE can communicate with a host system at 56000 bits-per-second (56Kb). When an HP2680 laser printer is connected to an HP3000, such as in an HP2685 Model 40 Print Station, you can have a very cost-effective remote print station for an IBM plug-compatible host system that operates in a bisynchronous (BSC) network.

An HP3000 operating at 56Kb line speed must include

- A Bell DDS communication line configured at 56Kb

- An HP30020B Intelligent Network Processor (INP)

- An HP30221D (30221-60010) INP cable with a V.35 hood

- A Bell 500B Data Service Unit (DSU) modem or its equivalent, such as GTE L500A DSU as was used in testing.

- Multileaving buffers should be as large as possible to obtain performance benefits.

When operating at a high line speed you should consult with host system operations. Also, configure two printer streams for better subsystem performance at this speed.

When preparing jobs for submission to a host, the DSN/MRJE User must take into account certain host system characteristics (such as the type of Job Entry Subsystem, languages supported) and the HP 3000 resources configured for DSN/MRJE. Many host system characteristics are listed in the configuration file; for others the DSN/MRJE Manager or the host system manager must be consulted. The contents of the configuration file may be examined using the DSN/MRJE DISPLAY command. (See Section III for details on the use of the DISPLAY command. The format of the configuration file is described in Appendix A.)

JOB INPUT

Job input submitted to a host using a physical card reader normally consists of individual jobs composed of HASP, JES2, JES3, or ASP job control (JCL) cards, executable programs (also on cards), and data cards. The job control information, programs and data are concatenated to form a job stream.

Jobs submitted via DSN/MRJE must be constructed as they would be for direct submission to the host via a card reader. However, input through DSN/MRJE is in the form of "card-images" rather than physical cards. Each card image is a record that is 80 columns wide. The records are commonly combined into MPE files by the user; the files can then be submitted to DSN/MRJE for processing.

DSN/MRJE concatenates the files into a single job stream, identifies the individual jobs within that stream, and transmits the jobs to the host one by one. (They may be interleaved with jobs from other job streams as they are transmitted.) In the simplest case, a job stream is created from a single file; in more complicated cases, the stream is built from several files.

DSN/MRJE accepts input from up to three levels of card image files:

● Infiles

● Level-one FD files

● Level-two FD files

Infiles are specifically named in a SUBMIT command, while FD files are referenced indirectly by means of a card-image pointer from an Infile or another FD file. Only two levels of indirect file reference are permitted. A level-two FD file may not point to another file. See Section 3 for a description of the SUBMIT command.

Figure 2-1 illustrates the relationships among several card image files that have been merged into a single job stream. The names of the Infiles were indicated by the user when submitting the job. First-level FD files, RED and BLUE, were specified indirectly by means of records (card images) contained in Infile A. Two records within RED point to the two level-two files.

When DSN/MRJE processes a SUBMIT command, it opens each Infile named directly in the command, and each FD file as it is referenced. Those files specified by an actual file designator are opened with the MPE semi-exclusive and read-only file restrictions. All others are opened with the MPE read-only/exclusive restrictions. Each file remains open until all of its records have been processed, at which time it is immediately closed.

Infiles

Infiles may contain complete or partial jobs. Infiles may contain ##FD cards that point to level-one or level-two FD cards. It is possible for an Infile to consist solely of ##FD cards. An Infile and its FD files (if any) must form complete jobs. An Infile may be transmitted in transparent mode; however, DSN/MRJE Manager (OP) capability is required to do this. Its purpose is to allow transmission of host system JOB cards as data. This means that such jobs will not be entered into the job log file of the subsystem. An infile may also be transmitted without translation. (See SUBMIT command Section III for further discussion. Also, see Appendix B for sample input files.)

FD Files

FD files are similar to Infiles in that they may contain the same kind of information and are constructed in the same way. FD files may be transmitted transparently, as well as without translation. However, they are referenced directly by means of ##FD cards contained within the Infiles. (See figure 2-1.)

Files may not be nested to more than two levels. In other words, one file may reference another, which may itself reference another, but the third file may not reference any file. For example, file A in figure 2-1 contains an ##FD card pointing

to file RED; file RED has ##FD cards pointing to files WHITE and CLEAR. The second-level files, WHITE and CLEAR, do not reference any other files.

FD files may reference Infiles, but restrictions on levels of nesting still apply.
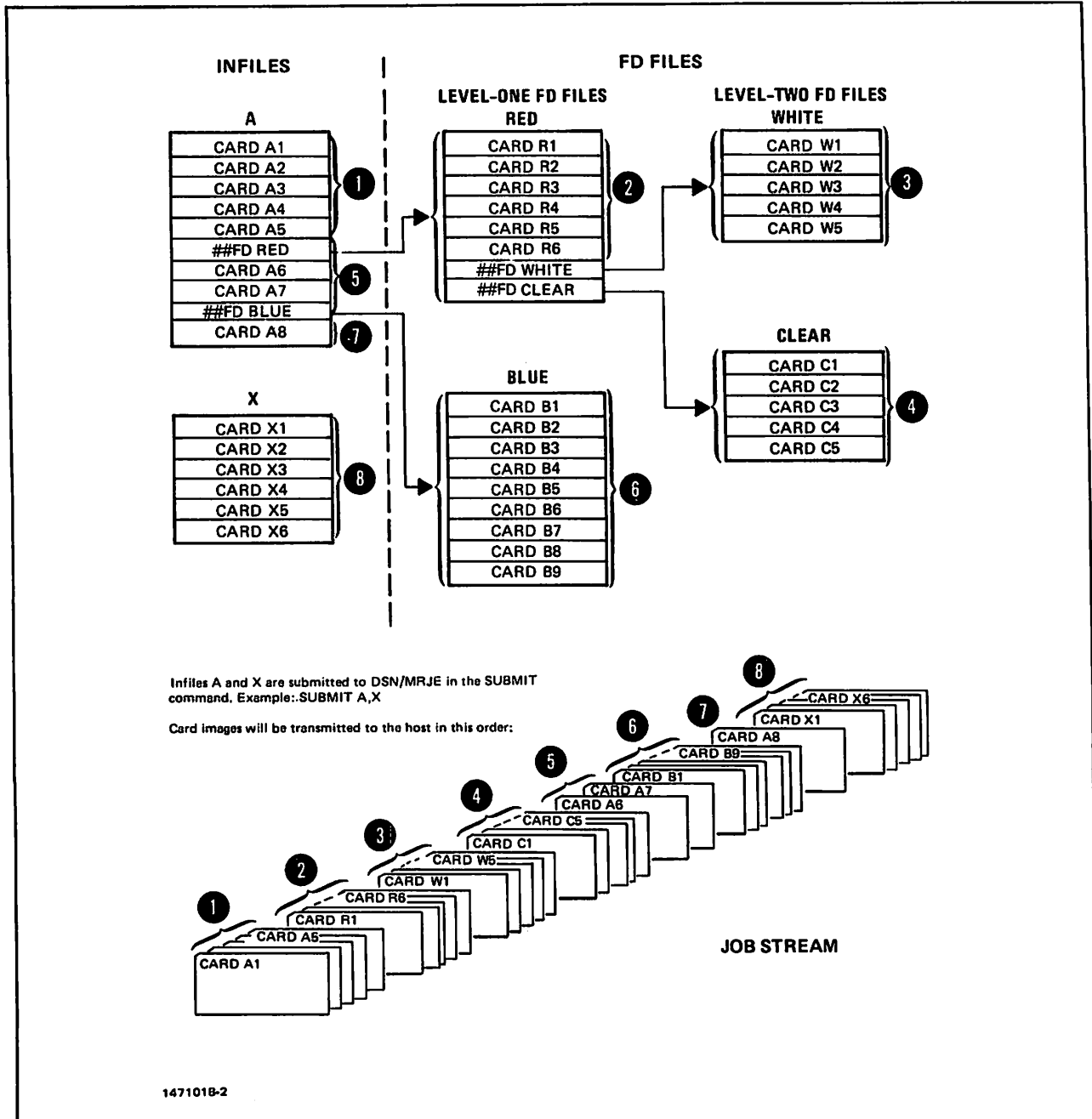
Figure 2-1. Relationships Among Files in a Job Stream

##FD cards have the format:

```
##FD filename [ (N[OTRANSLATE][,T[RANSPARENT]]) ] [comment]
             [ (T[RANSPARENT][,N[OTRANSLATE]]) ]
```

where

##FD (File Definition) must occupy columns 1 through 4.

NOTRANSLATE   No translation requests that the FD file be transmitted without translation. Refer to the SUBMIT command for more information about translation.

TRANSPARENT   Transparent transmission requests that all JOB cards in the FD file be passed to the host as data. As a result, all the JOB cards will be ignored by DSN/MRJE. If the (T) parameter is included, the proper JCL must still be included so the host will also treat the JOB cards as data. Use the proper DD card.

Examples:

    ##FD FILEB(T)   **Ignore JOB cards in FILEB**

    ##FD C (N,T)   **Do not translate C; ignore JOB cards**

If a file is built that requests input from $STDIN or $STDINX, the optional comment field on the ##FD card should be used to identify the type of input that is expected. Then, when the job input stream is constructed, the comment will be printed at the user's terminal ahead of the standard DSN/MRJE message: ENTER INPUT ENDING WITH "MRJEOD". For example, if the infile DATA1 contains the record

    ##FD $STDIN This input is for file DATA1.

the following will appear at the terminal:

    This input is for file DATA1.
    ENTER INPUT ENDING WITH "MRJEOD"
    >

147038-03
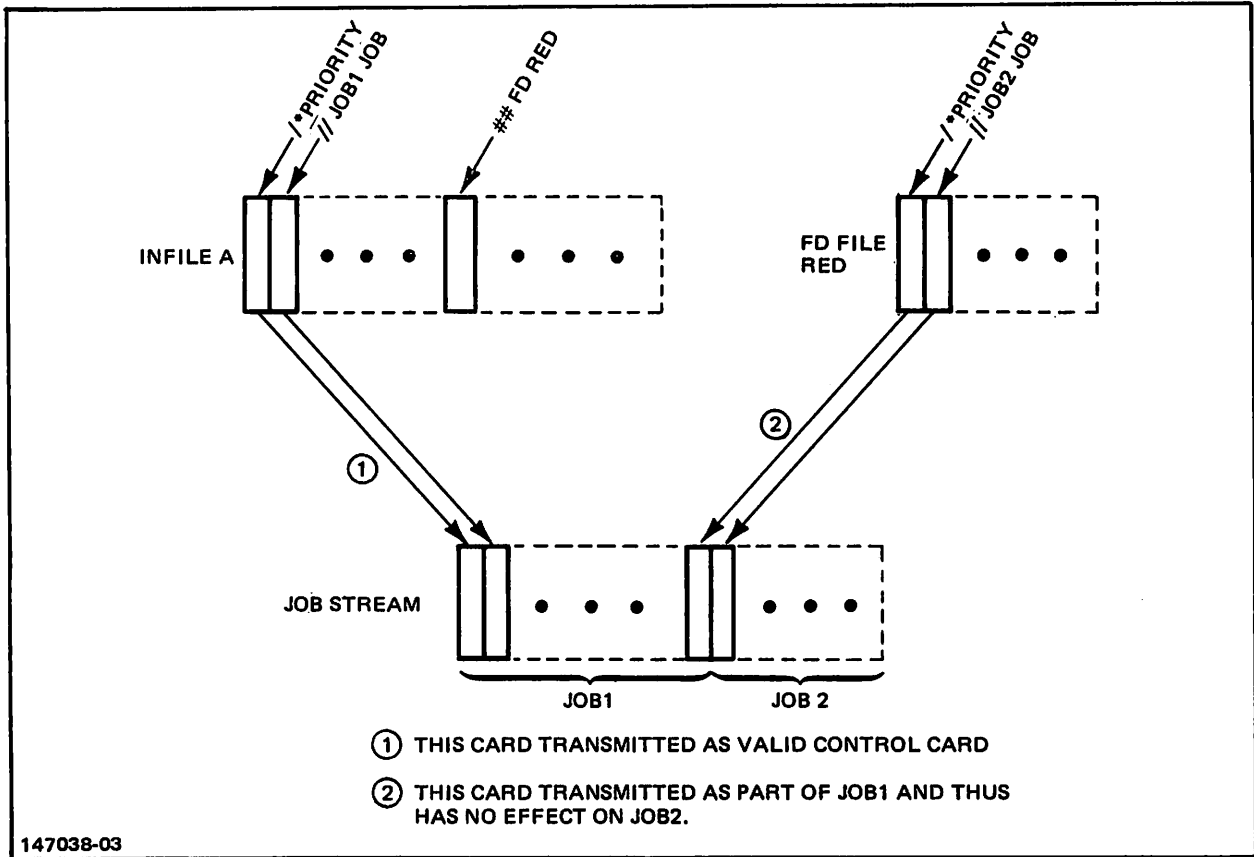
Figure 2-2.   Host Priority Card to Job Stream Relationship

Host System Job Control

DSN/MRJE does not check a job stream for conformity to host job stream criteria before transmitting it. It does, however, scan all input files for /*SIGNOFF. If a /*SIGNOFF card appears anywhere in the input files, a warning message is printed and the card is not transmitted to the host.

If the TRANSPARENT parameter (T) is omitted from an Infile reference, or from ##FD card image, DSN/MRJE will recognize all JOB cards contained in the referenced file as job delimiters, not data.

PRIORITY cards will have no effect on the host when associated with the second or subsequent job in a job stream. Figure 2-2 illustrates a situation in which two jobs are submitted to DSN/MRJE together. DSN/MRJE will merge Infile A with FD file RED. The first priority card will then have the desired effect on JOB1. The second priority card will be transmitted to the host as part of JOB1 and therefore will not influence JOB2.

When priorities are important, each job should be submitted to DSN/MRJE separately.

INPUT FILE LIBRARIES

The job streaming feature of DSN/MRJE allows users to construct jobs out of job control cards, programs, and data that already exist in disc files. This makes it possible to create libraries of job modules that can be assembled into a variety of different jobs.

It is up to the DSN/MRJE User to ensure that Infiles and FD files submitted together constitute a valid job (or jobs) according to host system requirements.

JOB OUTPUT

Job output can be routed to a disc file or to any output device by designating the output files in the SUBMIT command. Predefined output routing may take place to files designated whenever the DSN/MRJE monitor is started. All files can be formatted for print, punch, and special forms data. Record sizes should be specified as follows:

- REC=-132,,F,ASCII;CCTL--for print and special forms files.

- REC=-80,,F,ASCII--for punch files.

(Specification of output files is explained further in Section III under the SUBMIT command.)

```
┌─────────┐
│  NOTE   │
└─────────┘
```

If a SUBMIT command names a disc output file, the file must be built with sufficient extents allocated. DSN/MRJE does not allocate additional extents if the need for them arises, although it does notify the system operator when the limits of a file have been reached.

When DSN/MRJE receives job output from the host, the output file (or files) is opened with append-only access and the output is written to the file(s).

Output sent to spooled output devices is owned by the user and account of the submitter.

Sometimes output is not sent to the destination specified by the user, but ends up going to a destination for unsolicited output instead. If this happens, check with the HP 3000 system operator or the MRJE Manager; MRJE apparently may not be able to recognize that the output was for your job.

Carriage Control Translation

The host normally prefixes a carriage control character to records that are for output to a printer with standard paper or special forms. Output for card punch does not have carriage control information. DSN/MRJE translates host system carriage control information as shown in Table 2-1.

Table 2-1. Host System to HP 3000 Carriage Control Translation

HOST SYSTEM CONTROL	HP 3000 CONTROL CODE AND EXPLANATION

Skip n spaces immediately
    (n < 3)
	%101 (if necessary used
	     to indicate immed-
	     iate skip)
	%2nn (nn < 3)

Skip immediately to channel n
    (n < 13)
	%101 (if necessary used
	     to indicate immed-
	     iate skip)
	%61 (channel 1), or
	%3nn (channel nn, where
	     2 < nn < 12)

Skip n lines after printing
    (n < 3)
	%100 (if necessary used
	     to indicate immed-
	     iate skip)
	%2nn (nn < 3)

Skip to channel n after printing
    (n < 13)
	%100 (if necessary used
	     to indicate immed-
	     iate skip)
	%61 (channel 1), or
	%3nn (channel nn, where
	     2 < nn < 12)

Suppress space	%53
All other host system control codes	Single space

Special Forms Processing

The DSN/MRJE User can have job output printed on special forms by including the necessary host JCL Forms Control statements in the job stream. The output will then be routed to the disc file or I/O device that was specified when the job was submitted.

Whenever special forms output destined for printers is received from the host system, the HP 3000 console operator is prompted to mount the required special form on the printer. After the form has been mounted, MPE can write the output file to the printer. This is true for both spooled and unspooled ("hot") printers. Use 'hot' printers with caution, because data in transition may be lost.

When output is printed on an HP 2680A Laser Printer using an Environment File, the console operator is NOT prompted to mount special forms. The specifications in the Environment File will automatically be used to print the forms and to format the output. See "Printing Output on an HP 2680A Laser Printer", below.

CAUTION

DSN/MRJE only recognizes automatic special forms, that is, CLASS=A on a DD card (host JCL). It does not support special forms of any other class nor does it support special forms for punch output. This is because CLASS=A is the only one which sends a console message to identify the form to be mounted.

It is important to note that although several jobs may be submitted within one SUBMIT command and each job may generate several sets of data for different special forms, all data sets are routed to the single forms file or print file which was defined explicitly or by default in the SUBMIT command. This is explained further in Section III.

Printing Output on an HP 2680A Laser Printer

Output from DSN/MRJE jobs can be printed on HP 2680A Laser Printers. Data output can be printed with the use of Environment Files, if the user so wishes. Another method for doing this is described in the "Specific Routing of Job Output to Pre-Defined Files", which follows. The user may also define a primary and alternate character set for each job.

```
┌─────────────────┐
│      NOTE       │
└─────────────────┘
```

In order to route MRJE job output to an HP 2680A, the printer must be spooled and must have been configured with a device class of "LPS".

It is not necessary to use Environment Files when directing output to the HP 2680; some or all of the output data sets from a job may be printed without using Environment Files. If Environment Files are not used, output will be printed like on a standard printer.

Do the following to print output using Environment Files:

● Log on to the HP 3000 in the group and account which supports HP2680A environments. Sometimes :HELLO USER.SYS,ENV2680A will suffice. Check with your MRJE Manager or system manager for the user,group, and account names and passwords. Then, build your Environment Files.

```
┌─────────────────┐
│      NOTE       │
└─────────────────┘
```

The names of Environment Files to be referenced by DSN/MRJE as special forms must be four characters long, or less.

● Enter the name of the file in the "forms" subparameter of the SYSOUT parameter in your job's JCL. (The "forms" subparameter is third subparameter of the SYSOUT parameter in the DD statement.)

● Then, when your output is received from the host, DSN/MRJE will use the file named in "forms" to create the forms and print the output contained in the SYSOUT data set. If DSN/MRJE is unable to find the Environment File, a forms message for the data set will be sent to the console, asking the operator to mount special forms.

● Different data sets in the same job can specify different Environment Files (or no file at all).

If you are using alternate character sets, include the special codes needed to switch from one set to the other. The special codes may be "built into" each ASCII character in your data, or the ASCII Shift-In and Shift-Out characters may be embedded in the data to cause a shift from one set to the other. The special code is built into each character by turning the character's eighth bit on or off. When the bit is off, the character is printed from your primary character set; when the bit is on it is

printed from your secondary character set. As an alternative to
this method, you may embed the Shift-In and Shift-Out characters
in each data record wherever you want to switch between character
sets. The Shift-In character (octal 17) causes the characters
that follow to be from your primary set. Shift-Out (octal 16)
causes the subsequent characters to be from your secondary char-
acter set. Each Shift-In or Shift-Out remains in force until the
end of the record, or until another Shift-In or Shift-Out charac-
ter is encountered.

If no special codes are included in your data, all characters
will be printed from your primary character set.

Environment Files cannot be specified for JCL message output.

Example of the Use of Environment Files


```
    //EXAMPLE JOB (ACCOUNT),PROGRAMMER
    //STEP EXEC PGM=TEST2680
    //MAINOUT DD SYSOUT=(A,,F001)
    //SECOUT DD SYSOUT=(A,,F002)
```

In this example, the output for MAINOUT will be printed using
Environment File F001.ENV.HP2680. The output for SECOUT will be
printed using Environment File F002.ENV.HP2680. No forms-mount
messages will be displayed when the output is printed.

If DSN/MRJE is unable to find file F002.ENV.HP2680, a forms-
mount message for SECOUT will be displayed on the HP 3000 system
console.

Refer to "Interactive Formatting System Reference Guide", HP
36580-90001, for more information on the use of Environment
Files.

Specific Routing of Job Output to Pre-Defined Files

A user of the DSN/MRJE subsystem can route output to a configured
device class or logical device number, or to an actual disc file.
In addition, output from a job may be routed to a specific desti-
nation, such as a printer with an output priority below the out-
fence, or to an HP2680A Printer with a specific environment file,
or to a tape with a particular blocking factor. Specific routing
requires cooperation between the user who submits a job and the
administrator of the system.

Cooperation between the DSN/MRJE subsystem user and the administrator takes place when the specific files to be routed are identified. The administrator of the system, when issuing an MRJECONTROL START, will reference the MRJESTRh file. Within that stream file there may be FILE statements, each of which is identified by a formaldesignator. (This reference is in one process.) The user of DSN/MRJE subsystem must identify those files where specific routing is to occur. Each specific file reference takes place within the user process, in a SUBMIT command when the PRINT, FORMS, or PUNCH parameters are used. Each of those parameters may identify the formaldesignator previously specified by the system administrator. This is done by preceding the formaldesignator with an exclamation mark, "!".

In the following example, within the job stream associated with an MRJECONTROL START command, the following file equation has been specified,

    :FILE HOLDLP;DEV=LP,1

    :FILE ELITE;DEV=EPOC;ENV=ELITE.ENV2680A.SYS

The formaldesignator in the file statement should not exceed seven characters. Now, a user of DSN/MRJE in another job or session may specify the following

    #SUBMIT infile;PRINT=!HOLDLP;FORM=!ELITE

The effect of these coordinated statements is that a formaldesignator, HOLDLP, is available to all DSN/MRJE subsystem users as an output printer destination file whose destination device class is LP, and output priority is 1. In this instance, users of DSN/MRJE may list output spool files named HOLDLP associated with configured device class LP to their terminals by using the supported utility SPOOK, provided that the value of OUTFENCE is 0, and the output spool file is not active. Also, all special forms output will be routed to a formaldesignator "ELITE", a device in class "EPOC", most probably an HP 2680A Laser Printer, with a specified environment file ELITE.ENV2680A.SYS.

Routing Default Output to Unsolicited Output Devices

To route default output from a job to an unsolicited output device, set PRINT=0, PUNCH=0 or FORMS=0 in the SUBMIT command. This will supersede default output disposition, and route output to one of the unsolicited output disposition device classes or devices.

To submit a job with printer output to be sent to its default output device, use the command as follows:

#SUBMIT Infile

This identifies the printer output device from configuration output file item 20 as the printer output device.

To submit a job with printer output to be sent to the unsolicited printer output devices use command as follows:

#SUBMIT Infile;PRINT=0

This identifies configuration file items 21 through 27, unsolicited print disposition for printers 1 through 7, as the output devices for printer data streams 1 through 7. If FORMS=0 in a SUBMIT command, then unsolicited output will be sent to the destination identified in items 21 through 27 also.

If PUNCH=0 in a SUBMIT command, then unsolicited output will be sent to the destination identified in items 29 through 35 of the configuration file.

It is possible to alter configuration file items 20 and 28, default printer and punch output disposition, and to set these values to zero. Then all default output would be sent to the unsolicited output destination devices.

The customary use of unsolicited output devices continues to remain in force, so that unidentified job output will continue to be routed to unsolicited output devices.

CAUTION

Configuration file items 21-27 and 29-35, the unsolicited output devices should always be set to legitimate values such as output device classes, logical device numbers, or pre-defined files. These items should never be set to 0. If these values are set to 0 then job output for these devices will be lost.

Routing Unsolicited Output to DSN/MRJE Unsolicited Devices

Users may route output from jobs not submitted using DSN/MRJE to
unsolicited output devices. Use the JCL appropriate to the host
system. Specify an output class in either the MSGCLASS parameter
of a JOB card or the SYSOUT parameter of DD card associated with
a printer or punch stream. For example, if the output class for
printer 3 is "K", use the following:

        //REROUTE JOB ... MSGCLASS=K ...

    or

        //   DD   SYSOUT=K

This section describes the use of DSN/MRJE User commands for planning and submitting jobs.

DSN/MRJE user commands are summarized in Table 3-1. In addition to those listed, the User may enter one or more host system console commands, depending on how the configuration file for a given machine has been built. For more about console commands, refer to "HOST CONSOLE COMMANDS" at the end of this section.

DSN/MRJE USER COMMANDS

Before entering any User command, log onto the HP 3000 system and initiate DSN/MRJE execution with the :MRJE command.

Table 3-1. Summary of DSN/MRJE User Commands

COMMAND	FUNCTION	PAGE
C[ANCEL] [JOB]] job# jobname joblist	Cancels one or more of the User's jobs.	3-3
D[ISPLAY] H[OST] J[OBLOG] [,job# / ,jobname / ,joblist] S[TATUS] C[ONFIG] [,item# / ,itemlist]	Displays ID of current host, status of User's jobs, line status (open or closed), and information about host machine configuration.	3-6
E[XIT]	Terminates DSN/MRJE and returns control to MPE.	3-8
HELP [command name]	Provides a means for users and managers of DSN/MRJE to obtain brief instructions about how to use the subsystem commands.	3-9

Table 3-1. Summary of DSN/MRJE User Commands (continued)

COMMAND	FUNCTION	PAGE
H[OST] [hostid]	Specifies the host ma-chine that will be refer-enced by subsequent commands.	3-10
<host console command>	A HASP, JES2, JES3, or ASP command that will, in general, generate output on $STDLIST.	3-19
S[UBMIT] infile[(options)] & ... [infile[(options)]] & [;R[EADER]=pseudo reader] & [;PR[INT]=[!]printfile[(N)]] & [;PU[NCH]=[!]punchfile[(N)]] & [;FO[RMS]=[!]formfile[(N)]] options = [N[OTRANSLATE]][,T[RANSPARENT]] [T[RANSPARENT]][,N[OTRANSLATE]]	Enters a job for trans-mission to the current host.	3-12

Cancels one or more jobs.

```
                        job#
    C[ANCEL] [J[OBS]]   jobname
                        joblist
```

The CANCEL command is used to cancel jobs that have been submit-
ted for processing on the host. For jobs not yet transmitted to
the host, CANCEL deletes the specified job number, name, or list
from the reader spool file and marks the corresponding entry in
the job log file as cancelled. If the job has been transmitted
and the host is on-line when this command is issued, a cancel-
lation command is sent to the host and the job log file entry is
marked as cancelled. If the job has been transmitted but the
host is off-line, the job log file entry is marked as cancelled;
any output from the job that is received by DSN/MRJE when the
communications line is re-opened will then be discarded.

Parameters

JOBS   Optional parameter, provided for consistency with the
        DISPLAY command. Omitting JOBS has no effect.

job#   The number DSN/MRJE assigned to the User's job upon
        submission to DSN/MRJE.

jobname The name on a JOB card in the User's input files.

joblist A list of job names and/or job numbers. (See
        "Conventions", page xii.)

Using CANCEL

Since the CANCEL command always references the files that were
created for the current host machine, it is advisable to issue
the HOST command before issuing CANCEL. In this way, the User
can be certain the proper job log file will be accessed.

After the CANCEL command has been issued, DSN/MRJE displays the
status of each specified job and requests confirmation that each
job is to be cancelled. "YES" confirms the cancellation request,
while any other response (including "Y") causes the command to be
ignored.

CANCEL

Although a job may be referred to by its name or y its number, its number is preferable because it defines a unique job and results in a faster response. If a User specifies a job name for cancellation and more than one job with the same name has been submitted, DSN/MRJE will print:

jobname: DUPLICATE JOBNAMES IN JOBLOG. CANCEL REFUSED. A DISPLAY OF JOBS WITH THIS NAME WHICH YOU OWN (IF ANY) FOLLOWS:

The message is followed by a list of the User's jobs with the name and their assigned job numbers. No cancellation occurs even though all instances of the job belong to the User.

Examples

In the following example, two jobs are cancelled. The HOST command has been entered first to be certain all commands reference the correct set of files:

```
:MRJE
HP 32192A.01.02 MRJE/3000 (C)HEWLETT-PACKARD CO. 1977
USER CAPABILITY IN EFFECT
#HOST P
PLMS IS THE CURRENT HOST MACHINE
#CANCEL 2,4
--JOB#=2 JOBNAME=TEST2   USER=PAT.DCA,M
   PRINT="LP"   PUNCH="LP"   FORMS="LP"
   WAITING TRANSMISSION TO HOST
VERIFY CANCEL WITH "YES"
YES
SPOOL FILE DELETED
JOB#2 CANCELED
--JOB#=4 JOBNAME=TEST4   USER=PAT.DCA,M
   PRINT="LP"   PUNCH="LP"   FORMS="LP"
   WAITING TRANSMISSION TO HOST
VERIFY CANCEL WITH "YES"
YES
SPOOL FILE DELETED
JOB#4 CANCELED
```

The next example illustrates the execution of the CANCEL command when jobs exist with duplicate names:

```
#CANCEL JOB TEST
TEST: DUPLICATE JOBNAMES IN JOBLOG. CANCEL REFUSED. A DISPLAY
OF JOBS WITH THIS NAME WHICH YOU OWN (IF ANY) FOLLOWS:
--JOB#=11 JOBNAME=TEST   USER=PAT.DCA,M
  PRINT="LP"   PUNCH="LP"   FORMS="LP"
  WAITING TRANSMISSION TO HOST
--JOB#=20 JOBNAME=TEST   USER=PAT.DCA,M
  PRINT="LP"   PUNCH="LP"   FORMS="LP"
  WAITING TRANSMISSION TO HOST
```

This example shows the cancellation of a job already sent to the host. The communications link is currently open:

```
#CANCEL JOB 3
--JOB#=3 JOBNAME=MYJOB2   USER=PAT.DCA,M
  PRINT="LP"   PUNCH="LP"   FORMS="LP"
   TRANSMITTED TO HOST WED, OCT 19, 1977, 3:20 PM HOST#=2018
VERIFY CANCEL WITH "YES"
YES
$CJ2018, 2018 CANCEL COMMAND WILL BE SENT TO HOST
$15.35.40 JOB 2018 ON RM.PR2 PRIO 9 PURGE
```

The line above is a response from the host system.

DISPLAY

Displays job and system information.

```
                  H[OST]     ⎛⎡ ,job#    ⎤⎞
                  J[OBLOG]   ⎜⎢ ,jobname ⎥⎟
D[ISPLAY]                    ⎨⎣ ,joblist ⎦⎬
                  S[TATUS]   ⎜⎡ ,item#   ⎤⎟
                  C[ONFIG]   ⎝⎣ ,itemlist⎦⎠
```

The DISPLAY command is used to display the name of the current host, information about active and inactive jobs in the job log file, the status of the communications line to the host, or the contents of the configuration file for the current host.

Use Control-Y in a session to halt the display of jobs and configuration file entries.

Parameters

HOST   Lists the current host machine. This machine is referenced by any SUBMIT, DISPLAY, and CANCEL commands until the User ·issues the HOST command and selects another host machine.

JOBLOG Displays information about jobs that were submitted. One of the three parameters, "job#", "jobname" or "joblist" must be specified. Use "job#" if possible, because it identifies a specific job and using it results in faster processing.

STATUS Reports whether the communications line to the current host machine is open or closed.

CONFIG Lists the contents of the configuration file for the current host machine. If the User includes item numbers, only the entries identified by the numbers are displayed.

Item 4, Host Signon Card Image, is displayed only to MRJE Managers.

(Item numbers are the numbers assigned to entries in the configuration file. All entries are listed and explained in Appendix A.)

Using DISPLAY

The DISPLAY command always references the set of DSN/MRJE files
that were created for the current host system. To verify the
identity of the current host system, use a DISPLAY HOST command
before issuing any other commands which will affect any files.

A User may only display jobs owned by the user. If the User spe-
cifies a job name in the JOBLOG parameter and it is not a unique
name, only those instances of that job which belong to the User
will be displayed.

Examples

In this example, information is requested about the status of a
machine other than the default host machine:

    :MRJE
    HP 32192A.01.02 MRJE/3000 (C)HEWLETT-PACKARD CO. 1977
    USER CAPABILITY IN EFFECT
    #HOST P
    PLM2 IS THE CURRENT HOST MACHINE
    #DISPLAY STATUS
    PLM2 IS OFF LINE
    TIME LINE DEACTIVATED=TUE, SEP 22, 1981, 4:38 PM

In the next example the status of a series of jobs is checked:

    #DISPLAY JOB 5/7
    JOB#5 IS NOT YOUR JOB
    --JOB#=6 JOBNAME=TEST2   USER=PAT.DCA,M
      PRINT=USERPR NO TRANSLATION PUNCH="LP"   FORMS=USERFORM
      WAITING TRANSMISSION TO HOST
    JOB#7 IS NOT YOUR JOB

The communications link has been established in the next example.
The example shows the status of a single job:

    #DISPLAY JOB 2
    --JOB#=2 JOBNAME=TEST1   USER=PAT.DCA,U
      PRINT="LP" PUNCH="LP" FORMS="LP"
      TRANSMITTED TO HOST WED, FEB 18, 1981, 4:05 PM HOST#=3022
    $DJ3022   DISPLAY COMMAND WILL BE SENT TO HOST.
    $14.11.32 JOB 3022 TEST1 EXECUTING PRIO 6

            The line above is a response from the host system.

EXIT

Terminates DSN/MRJE and returns control to MPE.

```
E[XIT]
```

DSN/MRJE may be terminated at any time after its prompt
(#) has been displayed.

Provides a brief description of how to use a DSN/MRJE subsystem command.

```
HELP [command name]
```

The HELP command is used to obtain brief general information and instructions about how to use DSN/MRJE subsystem commands.

Use Control-Y in a session to halt the display from this command.

Parameters

command
name   This parameter is optional. If absent a list of valid DSN/MRJE commands is provided. If this parameter is present it may be any valid command name.

Example

In this example help is requested for the HOST command.

#HELP HOST

H[OST] [hostid]
Select a particular host machine to be the current host machine.

...

HOST

Selects a particular host machine as the current host machine.

```
H[OST] [hostid]
```

The system indentified by hostid in this command is referenced in all subsequent commands except for HELP and EXIT.

Parameters

hostid   The name of a host machine for which the DSN/MRJE Manager built a configuration file. The name can be spelled out or abbreviated to its first character. If this parameter is omitted, the default host system will be selected.

Using HOST

The HOST command need be used only if more than one host machine is connected to the HP 3000. In multi-host environments one host may be designated the "default host". A session is automatically associated with the default host when the :MRJE command is issued. A different host may be selected by using the HOST command. To return to the default host, the HOST command is issued without using "hostid". DSN/MRJE knows the default host only as "the default machine", and not by a host ID. Using a host ID in that situation may cause an error message to be sent to the User's terminal.

Examples

In the following examples, PLM is the name of the default host machine and COM2 is the name of a second host machine.

```
#HOST
DEFAULT HOST ASSUMED
PLM IS THE CURRENT HOST MACHINE

#HOST C
COM2 IS THE CURRENT HOST MACHINE
```

Submits one or more jobs to DSN/MRJE for transmission to host.

```
    S[UBMIT] infile[(options)] [,infile[(options)]] ... &
      [;R[EADER]=pseudo reader] &
      [;PR[INT]=[!]printfile[(N)]] &
      [;PU[NCH]=[!]punchfile[(N)]] &
      [;F[ORMS]=[!]formfile[(N)]]

        options =   N[OTRANSLATE] [,T[RANSPARENT] ]
                    T[RANSPARENT] [,N[OTRANSLATE] ]
```

The SUBMIT command is the User's mechanism for submitting jobs to DSN/MRJE. If the DSN/MRJE communications line to the host is open, the jobs are sent directly to the host; if the line is not open, and it has been configured with a spooled pseudo reader, the jobs are spooled until the line is brought up.

Output from all the jobs submitted in a single SUBMIT command can be sent to a card punch, a printer using standard paper or special forms, or an HP 2680A Laser Printer. However, the SUBMIT command does not permit specification of more than one punch, more than one standard printer, or more than one special forms printer at a time. For instance, it is not possible to send output explicitly specified in a single SUBMIT command to a punchfile to two or more punches.

The User must either take the default file for the output device category, or must specify a different file. The user may designate a printfile, punchfile, or formfile value to be a zero (0). With a zero value, output will be sent to the unsolicited output destinations, as indicated in the configuration file. Display configuration file entries 20 and 28 to see the default values.

Parameters

(N[OTRANSLATE])   "NOTRANSLATE" blocks translation of Infiles from ASCII to EBCDIC or EBCDIK or translation of output files from EBCDIC or EBCDIK to ASCII. Must be specified for each file that is not to be translated.

Default translations are ASCII to EBCDIC for input to the host and EBCDIC to ASCII for output.

(T[RANSPARENT])   Transparent transmission specifies that only
                    the first JOB card of an Infile is identified,
                    and that all subsequent ones from that Infile
                    will be ignored by DSN/MRJE. If the TRANSPAR-
                    ENT parameter is included, the proper JCL must
                    still be included so the host will also treat
                    the JOB cards as data. Use a proper DD card.
                    You must be a Manager to use this option in
                    with an Infile.

infile   A total of five Infiles may be specified. They
                    are transmitted in the order listed in the
                    SUBMIT command. Use of the TRANSPARENT option
                    is limited to Managers.

                    Each occurrence of the Infile parameter may be:

                    ● An actual file designator (must be qualified
                      if not owned by the logon group and
                      account).

                    ● A formal file designator which has been
                      equated with one of the following: an
                      actual file designator, a logical device
                      number, a device class name, $STDIN,
                      $STDINX, or $OLDPASS.

                    ● "$STDIN", "$STDINX", or "$OLDPASS".

                    ● The logical device number of a real MPE in-
                      put device. (This allows input from a
                      source other than a terminal or disc file.)

                    ● The device class name of a real MPE input
                      device enclosed in quotes (e.g. "TAPE").

                    Neither the "NOTRANSLATE" parameter, nor the
                    "TRANSPARENT" parameter may be specified for
                    $STDIN or $STDINX input files.

pseudo reader   Used to specify the particular DSN/MRJE pseudo
                    reader through which the jobs in the input
                    files will be submitted. The user may input:

                    ● The logical device number assigned an
                      DSN/MRJE pseudo reader.

- A pseudo reader device class name, enclosed in quotation marks. (This is acceptable only if the pseudo reader the user wants to use is the only reader configured with the device class name.)

If the "READER=pseudo reader" parameter is omitted, the default pseudo reader listed in the configuration file of the current host machine is used. Display entry 19 of the configuration file to see default reader value.

A pseudo reader can be used as an unspooled ("hot") input device, thereby bypassing MPE spooling. In order to use a "hot" pseudo reader, however, these conditions must be met: The pseudo reader must not be spooled; The pseudo reader must not be busy, but available; The communication line for the current host system must be open.

printfile

punchfile

formfile

Used to specify files that are to receive the results of job processing. One of each type of file can be specified by:

- The logical device number of an MPE output device.

- An MPE device class name, enclosed in quotation marks.

- An unqualified actual file designator. (The file must reside in the logon group and account.)

- An exclamation mark prefixing a seven character formaldesignator which conforms to the file name specifications of MPE, such as "!OUTFILE". See the examples, below.

- A zero (0) character.

The default output devices for print and punch files are given in the configuration file for the current host machine. (Display entry numbers 20 and 28 of the configuration file to see what the default output devices are.) The default for "formfile" is always identical to the "printfile" default.

Specific routing of job output to pre-defined files will occur when a printfile, punchfile, or formfile is identified with an exclamation mark followed by a legitimate seven character designation. This refers to a FILE statement in the MRJESTRh file. See the discussion on "Specific Routing of Job Output to Pre-Defined Files" in Section 2.

Whenever a printfile, punchfile, or formfile is a zero character, then output will be routed to the printer or punch device associated with the output stream. See the discussion on "Routing Default Output to Unsolicited Output Devices" in Section 2.

Output sent to spooled output devices will be owned by the user and account of the submitter.

Using SUBMIT

Jobs are always submitted to the current host machine. Unless the HOST command has been used to specify another host, the current host will always be the default host. It is a good practice to precede the SUBMIT command with the HOST command to make certain jobs go to the right host.

Actual and formal file designators used to specify Infiles can be qualified names. Actual file designators used for "printfile", "punchfile", and "formfile", may never be qualified names. If a printfile, punchfile, or formfile is an exclamation mark followed by a legitimate designation, then specific routing of job output may take place. See Section 2. If the printfile, punchfile, or formfile is a zero character, then default output will be routed to unsolicited output devices. See Section 2.

The parameter "PRINT=printfile" specifies the destination of print output generated by the jobs submitted in one SUBMIT command.

The parameter "PUNCH=punchfile" specifies the destination of punch output generated by the jobs submitted in one SUBMIT command.

The parameter "FORMS=formfile" specifies the destination of output requiring special forms that was gen ated by the jobs submitted in one SUBMIT command. This parameter ay be used only once in the SUBMIT command, regardless of the number of different forms called for in the host system job control language (JCL).

If the FORMS parameter is omitted but a job's JCL calls for spe-
cial forms, the output is sent to the default print device given
in the configuration file. If the default print device is a line
printer, the output is printed on that machine in the format of
the special form (i.e., as if the form had been mounted on the
printer).

The READER parameter can be used to select a pseudo reader other
than the DSN/MRJE default reader for job input. (Do not confuse
the pseudo reader with a physical card reader that is attached
peripherally to the HP 3000.) Normally the default reader is
spooled, so jobs can be submitted without concern for whether the
communications link with the host system has been established.
If the user wishes to submit jobs without spooling (i.e., 'hot'),
an unspooled pseudo reader must be used and the communications
line to the current host must be open. A reader other than the
default reader is specified in the SUBMIT command through the
READER parameter. (If the default reader is not spooled, the
parameter need not be used for "hot" job submission.)

Whenever jobs are submitted through an unspooled pseudo reader,
the communications line to the host must be open in order for the
SUBMIT command to execute successfully.

There are two options allowed for Infiles and FD files,
NOTRANSLATE and TRANSPARENT. When the NOTRANSLATE option is used
with an Infile or an FD file, the data to be sent to the host
system is not translated from ASCII to EBCDIC (or BCDIK), which
allows for the transmission of data already translated, or which
should not be translated. A good example of data which should
not be translated is packed decimal information. When the
TRANSPARENT option is used with an Infile only the first JOB card
in that Infile is identified, and all subsequent ones will be
ignored by DSN/MRJE. You must be a Manager to use the
TRANSPARENT option with an Infile. When the TRANSPARENT option
is specified with an FD card, then all JOB cards will be ignored
by DSN/MRJE. Proper JCL must always be included whenever the
TRANSPARENT option is for the host to treat the JOB cards as
data. Use a proper DD card. One reason for submitting a JOB to
a host as data is to enable a host system to engage in the condi-
tional execution of a job.

As DSN/MRJE processes a SUBMIT command, it checks all input files
and those FD files for which the transparency parameter (T) was
not included on the ##FD card. Each time the subsystem encoun-
ters a JOB card, it assigns a unique job number and enters the
number in the job log file for the current host machine. The job
numbers are returned to the User in $STDLIST so they can be noted
for future reference to individual jobs.

SUBMIT

When input originates from $STDIN or $STDINX, the end of every file must be marked with an MRJEOD record. This record must contain the characters "MRJEOD" in the first six columns; it will be read by DSN/MRJE, but will not be sent to the host.

The ampersand character (&) may be used in the SUBMIT command, as often as needed, as a line continuation character. If used, it must be placed after a file name (or after the "NOTRANSLATE"/ "TRANSPARENT" parameters, if these are specified for that file).

If output from one or more of your jobs is treated by MRJE as unsolicited when you had correctly specified an output destination, check with the MRJE Manager or the system operator. The Joblog file may have been re-initialized since the time your jobs were sent to the host.

Output directed to an HP 2680A Laser Printer may be printed with or without Environment Files. If Environment Files are used they must be named in the "forms" sub-parameter of the SYSOUT parameter of the DD statement in your job's JCL. Refer to Section II, "Printing Output on an HP2680 Laser Printer" and "Specific Routing of Job Output to Pre-Defined Files" for more information.

Examples

In the following example, two jobs are submitted to the default host machine:

```
#SUBMIT TEST1,TEST2
JOB#=5 JOBNAME=JOB1 RECORDS READ=7 RECORDS WRITTEN=7
DEFAULT IS OFF LINE
JOB#=6 JOBNAME=JOB2 RECORDS READ=15 RECORDS WRITTEN=14
DEFAULT IS OFF LINE
```

In the next example, output file specification is illustrated:

```
#SUBMIT TEST10(N),TEST11;PRINT=MGRPR;PUNCH=MG PUN;FORMS=FORM
JOB#=7 JOBNAME=JOB3 RECORDS READ=20 RECORDS WRITTEN=20
DEFAULT IS OFF LINE
JOB#=8 JOBNAME=JOB3 RECORDS READ=7 RECORDS WRITTEN=7
DEFAULT IS OFF LINE
#DISPLAY JOB 7,8
--JOB#=7 JOBNAME=JOB3 USER=JIM.DCA,WILLITS
  PRINT=MGRPR  PUNCH=MGRPUN  FORMS=FORM
  WAITING TRANSMISSION TO HOST
--JOB#=8 JOBNAME=JOB3 USER=JIM.DCA,WILLITS
  PRINT=MGRPR  PUNCH=MGRPUN  FORMS=FORM
  WAITING TRANSMISSION TO HOST
```

In the following example, specific routing of job output to pre-defined files is illustrated. Assume the job in execution with an MRJECONTROL START command in force.

```
!JOB MRJESTR,MANAGER.SYS
!COMMENT THIS JOB WILL ALLOW USERS TO ROUTE OUTPUT TO
!COMMENT AN HP2680 WITH A SPECIFIC ENVIRONMENT.
!FILE ELITE;DEV=LPS;ENV=ELITE.ENV2680A.SYS
!RUN MRJEMON;INFO=" "
!EOJ


:HELLO USER.ACCOUNT
:MRJE
HP 32192A.02.00 MRJE/3000 (C) HEWLETT-PACKARD CO. 1982
USER CAPABILITY IN EFFECT

#SUBMIT $STDIN;PRINT=!ELITE
      .
      .
      .
```

The following example illustrates routing of default output to unsolicited output devices:

```
#SUBMIT $STDIN;PRINTER=0
      .
      .
      .
```

The following example illustrates the use of MRJEOD:

```
!JOB NEWJOB,PLM.DOC     (Standard MPE job card.)
!MRJE                   (Calls DSN/MRJE.)
SUBMIT $STDIN           (Submits JOB1 to the default host
//JOB1 JOB                machine from a batch input device.)
      .
      .
      .
/*
MRJEOD                  (Specifies end-of-fil  to MRJE.)
DISPLAY JOB1            (Displays job status on the standard
                          list device, a line printer.)
EXIT                    (Exits MRJE.)
!EOJ                    (Terminates stream job.)
```

Note that if MRJEOD is put on an input disc or tape file, the image will not not transmitted, either.

SUBMIT

The following example illustrates the use of the TRANSPARENT option. Assume that a 'catalog' file is to be stored on the host system disc, and that it is to contain a job named "CATALOG". The user should submit a job as follows:

```
#SUBMIT INPUT(TRANSPARENT)        The contents of file "INPUT"
                                  follow:

//JOB1 JOB ( ... )                DSN/MRJE will recognize "JOB1".
   .
   .
   .
//SYSUT1 DD DATA,DLM=$$           This must precede other jobs.
//CATALOG JOB ( ... )             This job will not be
   .                              recognized.
   .
   .
$$                                Terminates data.
/*                                Terminates "JOB1"
MRJEOD                            Terminates input for SUBMIT.
```

A DSN/MRJE User can issue the host console commands that are allowed in the current DSN/MRJE configuration file. If the DSN/MRJE Manager has configured only a single character (for example, $), the User can enter commands beginning with that character. On the other hand, if a specific command is configured (for example, $DJ), only that console command is available to the User. The DSN/MRJE Manager can only give the DSN/MRJE User access to commands that remote consoles have access to. This means that the User may not be able to use all the commands that can be entered at the host system master console.

The User can display items 6 and 7 of the current configuration file (using the DSN/MRJE command DISPLAY) to see what console commands are available for use.

Host Console Commands:

● May be issued interactively while the communications line is active.

● May be issued as part of an IBM JCL deck.

● Must conform to the format and restrictions of the host system.

● Will be refused if any other User (including the Manager) is currently communicating with the host system.

The host console commands usually generate a listing or other response $STDLIST. Because the host console may communicate with only one terminal at a time, DSN/MRJE limits the User's listings to the configured host buffer size, regardless of the command entered. (This permits other terminal users to enter host console commands and receive responses as well.) Control-Y can be used to halt a listing and to obtain a DSN/MRJE prompt for input (#). Host console commands issued by DSN/MRJE Users may occasionally be refused due to heavy console message traffic from the host system, or because someone else is using the console.

Example

```
#$DJ3022
$14.11.32   JOB 3022   TEST1 EXECUTING PRIO 6
```

This section addresses the DSN/MRJE Manager, who plans data communication facilities, configures the DSN/MRJE subsystem, manages subsystem activities, and coordinates DSN/MRJE with the Users who have been authorized to use the distributed console command :MRJECONTROL or its equivalent.

The DSN/MRJE Manager must have MPE System Supervisor (OP) capabilities and must be able to log on to MANAGER.SYS. The NEW and PURGE ALL commands can only be issued by MANAGER.SYS. All other commands described in this section can be issued from any logon account and group by any user with OP capability.

DSN/MRJE HARDWARE

In addition to an HP 3000 computer, DSN/MRJE hardware includes:

- One or more communications line to one or more remote hosts. The lines may be switched or leased and require two compatible modems (one at each end of the line).

- One communications controller for each communications line to be used by DSN/MRJE at a given moment.

- Terminal(s), card reader(s), and/or tape drive(s) for communicating with DSN/MRJE and submitting jobs.

The Communications Controllers

DSN/MRJE operation requires the existence of a communications interface in your HP 3000 Computer. The interface can be an HP 30020A/B Intelligent Network Processor (Series 30/33/40/44/64/ INP) an HP 30010A Intelligent Network Processor (Series II/III INP), or an 30055A Synchronous Single-Line Controller (Series II/III SSLC). After the controllers have been installed by Hewlett-Packard, they must be configured into the MPE I/O system as described in Appendix D.

Modems

Modem recommendations and strapping specifications are given in Appendix C of this manual.

DSN/MRJE SOFTWARE

DSN/MRJE software supports two pseudo line monitors, a pseudo operator's console, and up to seven pseudo card readers, seven pseudo line printers, and seven pseudo card punches. They are configured into the MPE I/O System as described in Appendix D.

BUILDING THE DSN/MRJE MANAGEMENT FILES AND OTHER DSN/MRJE FILES

The DSN/MRJE management files are the config ration file, MRJECONh (where h is the first character of the host identification), the job log file, MRJEJOBh, and the directory file, MRJEDIRh. These are other files associated with the DSN/MRJE subsytem: the message catalog file, MRJECAT; the stream file, MRJESTRh; the message file, MRJEMSGh.

Once DSN/MRJE and the communications controller(s) have been configured into MPE, the DSN/MRJE management files and other DSN/MRJE files are built. The procedure is as follows:

1) Log onto the HP 3000 as MANAGER.SYS

2) Give MANAGER.SYS "OP" capability if it doesn't already have it. Log on again as MANAGER.SYS to alter both the account and the user.

3) Verify that the message catalog file, MRJECAT, exists and contains information and error messages for the DSN/MRJE subsystem. Either the EDITOR or FCOPY subsystem will provide a way to do this.

4) Build a stream file, MRJESTRh, for each configured host system. The stream file is used whenever an MRJECONTROL START command is issued. The contents of file MRJESTRh are such that the monitor process MRJEMON will. be executed. The stream file must contain the command RUN MRJEMON;INFO="h", where 'h' is the first letter of the host identification. In the case of a default host the character 'h' must be a blank. In addition, the stream file may contain FILE statements to which users of the DSN/MRJE subsystem may refer when specifically routing job output. See "Specific Routing of Job Output to Pre-Defined Files," in Section 2, as well as the description of the submit command in Section 3.

For example,

```
:EDITOR
HP32201A.7.10 EDIT/3000  FRI, FEB 19, 1982,  3:30 PM
(C) HEWLETT-PACKARD CO. 1981

/aq
!JOB MANAGER.SYS;HIPRI;RESTART;TIME=?
!COMMENT        THIS JOB WILL ALLOW USERS TO ROUTE OUTPUT TO
!COMMENT        AN HP2680 WITH A SPECIFIC ENVIRONMENT.
!COMMENT        ALSO, THE STACK DUMP FACILITY IS ARMED TO
!COMMENT        OPERATE WHEN AN MRJEMON PROBLEM OCCURS.
!FILE ELITE;DEV=LPS;ENV=ELITE.ENV2680A.SYS
!FILE HOLDLP;DEV=LP,1
!SETDUMP DB,ST
!RUN MRJEMON;INFO=" "
!EOJ
//
/keep mrjestr
/exit
: ...
```

5) This is optional. Create a message file, MRJEMSGh. The 'h' is the first letter of the host identification. This is not the message catalog file, described in step 4, above. The file MRJEMSGh receives host console messages, output messages from the host system, and a performance measurement data record on output data received. The message file may be a system file, or an actual file. If this file does not exist all messages are lost. The subsystem will continue operating.

These ways can be used to specify an MRJEMSGh file:

● Use a FILE equation with the process used to run the DSN/MRJE monitor. This is a sample for host id "X",

   :FILE MRJEMSGX=$STDLIST

   This statement should be in a stream job like step 4.

● Build a circular type of file. This is useful when the most recent set of messages from the host system need to be retained. The following is an example for host identification "B":

   :BUILD MRJEMSGB;REC=-80,16,F,ASCII;DISC=1024,8,8;CIR

   This message file can hold the 1024 most recent messages from host "B"; however, this file can not be read until communication with the host system has ceased, or it is not accessed by any process writing to it.

●   Build a "pipe" or "message" file. This is useful when it is desirable to read the oldest message while writing to the file. The following is an example for a default host:

    :BUILD MRJEMSG;REC=-80,,V,ASCII;DISC=2048,8,8;MSG

    These limitations apply:

    Messages are discarded if this type of message file is filled, and there are no active process reading it.

    Communication to the host will be suspended when this type of file is full, or until all processes reading this type of message file have closed the file.

    A record ceases to exist once it has been read. (One process may be reading from this file while another is writing to it.)

Initially the most desirable type of MRJEMSG file for use at an installation may be one equated to $STDLIST because these are output spooled records.

Both the MRJELOGR and MRJEOUT processes write to a MRJEMSG file. The file is opened with shared and append access. If this file is not accessible, then messages intended for it are lost, and DSN/MRJE operations continue normally.

6) Enter :MRJE, the MPE command to start execution of DSN/MRJE.

The subsystem will then display the DSN/MRJE banner, a message confirming that Manager capability is in effect, and the DSN/MRJE prompt for input. For example:

    :MRJE
    HP32192A.01.01 MRJE/3000 (C)HEWLETT-PACKARD CO. 1980
    MANAGER CAPABILITY IN EFFECT
    # ...

7) Next, build the DSN/MRJE management files using the NEW command.

When NEW executed, it requests the following information:

●   The number of jobs the job log file will be permitted to accommodate.

●   The name assigned to the host machine (host ID). None need be assigned when building management files for the default host.

- The type of host Job Entry Subsystem (HASP, JES2, JES3, or ASP).

- The signon card format.

- The logical device numbers that were assigned to the pseudo console device and to the pseudo line monitor during MPE configuration.

- The format of the host system console command (or commands) Users will be permitted to enter.

- If communications with the host will be over a switched line without auto-dialing then a telephone number will be displayed at the HP 3000 system console whenever a :MRJECONTROL START command is issued for this line. The telephone number is for the modem at the host system.

```
          NOTE
```

Communications may also take place over a switched line with auto-dialing, provided that an HP 30020B INP, and a Bell 801C auto-dialing unit, and an HP 30221G connecting cable are used. Telephone numbers may be supplied in the DSN/MRJE configuration file, as well as in the MPE configuration of the INP. The DSN/MRJE telephone number, if present, will take precedence over the configured telephone number. Under these circumstances no HP 3000 system operator message for dialing will be displayed.

After the Manager responds to the prompts, DSN/MRJE initializes the job log and directory files, and initializes part of the configuration file, using the information just provided by the Manager.

The remainder of the configuration items are initialized with DSN/MRJE default values which can be changed later with the ALTER command. Formats and default values for the configuration file are discussed in Appendix A.

Before any jobs are submitted to the host, you will need to examine some of the configuration file default values, particularly those pertaining to the host print and punch banners and to the host console "ON" message (Items 8-13 and 37, and Items 15-17, respectively). If the default values do not correctly describe what your host does, change them using the ALTER command.

If you do not know what your host's banners look like, alter
Items 8 and 9 to a value of "0". (Item 8 is the number of lines
to check for print banner; Item 9 is the number of cards to check
for punch banner.) Leave the destination for unsolicited print
and punch output (Items 21-27 and 29-35) configured as "LP". (If
the printers you will be using have been configured into your HP
3000's I/O system with a device class name other than "LP",
change Items 21-27 and 29-35 to the name used in the I/O configu-
ration.) Then submit a dummy job to the host for the creation of
punch and print output. The output will return as "unsolicited",
and the full banners will be printed. Using a ruler, you can
count columns to find values for Items 10-13. You will also see
from the output what values to enter for Items 8 and 9.

To find values for Items 15-17, it will be necessary to open com-
munications with the host and to go into Console Command Mode
(described later in this section under "HOST CONSOLE COMMANDS").
Then, from another terminal, submit a dummy job and capture the
"ON" message on your "Console Mode" terminal.

See "CAUSES AND CONTROL OF UNSOLICITED OUTPUT" at the end of this
section.

MAINTENANCE OF MANAGEMENT FILES

DSN/MRJE Configuration, Job Log, and Directory management files
are created with permanent and modifiable information. The modi-
fiable information in the configuration file may be changed using
the command ALTER; entries may be deleted from job log files by
using the PURGE command; the NEW command can be used to purge and
rebuild configuration files and their associated job log and
directory files.

```
+-------------+
|    NOTE     |
+-------------+
```

The Configuration, Job Log, and Directory files can not
be altered if they are in use. There are two situations
when management files are in use, when the associated
communications line is active, and when another user is
referencing one of these files.

The Message Catalog File, Message File, and Job Stream Files may
be maintained as described below.

4-6

Configuration File

When the MPE I/O system configuration is altered in a way that affects DSN/MRJE, its configuration files may have to be modified to reflect the change. Some items in the file can be modified using the ALTER command, while others are fixed when the file is initialized, thereby making it necessary to re-create the file in order to change the items. In table A-1 (refer to Appendix A), items that cannot be altered are indicated by Note 1.

If a NEW command specifies a host machine for which management files already exist, DSN/MRJE prints the name of the existing configuration file and asks if it is all right to recreate it. After a YES response, DSN/MRJE deletes the three DSN/MRJE management files currently associated with the host and creates three new ones.

The Job Log File

One job log file is associated with each DSN/MRJE configuration file. The job log file is used by DSN/MRJE to maintain a record of each job submitted to the subsystem for transmission to the host defined in the configuration file. The job log is built automatically when the Manager uses the NEW command to create the configuration file and is limited to a size specified by the Manager during execution of NEW.

The DSN/MRJE Manager can purge entries from a job log file using the PURGE command and can thus maintain space in the file for new jobs. When the file is full, DSN/MRJE will reject new jobs. PURGE ALL causes all entries to be deleted from the file; PURGE OLDJOBS deletes only those jobs that have been cancelled, have "timed-out", or were not transmitted successfully to the host.

It is not possible to expand the job log file once built. The only way to have a larger file is to build it over using the NEW command. (This means building a new configuration file, too.)

Directory File

This file requires no maintenance; it is used by DSN/MRJE as an index to the job log file.

The Message Catalog File

The Message Catalog File is an MPE catalog file used by DSN/MRJE for almost all of the messages sent to users and to the system operator. Any modification the Message Catalog File, MRJECAT.PUB.SYS, should be done according to MPE specifications. See Section 6.

The Message File

The Message File is used to receive host console messages, and other information. If the Message File is an actual file, such as MRJEMSGh.PUB.SYS, information may be read from it. Consideration must be given to the kind of file being used because information could be inadvertently destroyed or lost. See above, "BUILDING THE DSN/MRJE MANAGEMENT FILES AND OTHER DSN/MRJE FILES".

The Job Stream File

The Job Stream File, MRJESTRh.PUB.SYS, is used whenever an MRJECONTROL START command is issued. This file m st contain the command RUN MRJEMON;INFO="h", where 'h' is the first character of the host identification, or a blank character. Other commands may be included in a Job Stream File. Maintenance of this file may take place at any time except when a the job is being introduced, and the Job Stream File is busy. See "BUILDING THE DSN/MRJE MANAGEMENT FILES AND OTHER DSN/MRJE FILES", above, and the "MPE Commands Reference Manual" (30000-90009).

LISTING MRJE JOB OUTPUT ON THE HP 2680A LASER PRINTER

If MRJE users will be routing job output to an HP 2680A Laser printer, the printer must be configured into the MPE I/O system with a device class of "LPS" and must be spooled.

If MRJE users will be listing special forms output on the HP 2680A using Environment Files, the MRJE Manager will need to build the HP2680 account and the ENV group in the account; MRJE looks for Environment Files in ENV.HP2680. The account and group need default capabilities only. Users who wish to build their own Environment Files need write access to ENV.HP2680.

MANAGER COMMANDS

The DSN/MRJE Manager commands are summarized in table 4-1, below. These commands are used during an MRJE session to configure DSN/MRJE and to supervise its use. Refer to the page numbers indicated for more detailed descriptions of each command.

The DSN/MRJE Manager can use all the User commands and has access to all host console commands available to a remote console. See the discussion in Section 3, and "CONVENTIONS" on page xi.

Table 4-1.   Summary of DSN/MRJE Manager Commands

COMMAND	FUNCTION	PAGE
A[LTER] {item# / itemlist}	Specifies the items to be changed in the configuration file.	4-9
C[ANCEL] [J[OBS]] {job# / jobname / joblist}	Cancels one or more jobs.	4-11
D[ISPLAY] {H[OST] / J[OBLOG] [,job# / ,jobname / ,joblist] / O[LDJOBS] / S[TATUS] / C[ONFIG] [,item# / ,itemlist]}	Displays name of currently selected host machine, status of current and old jobs, line status (open or closed) and subsystem configuration information.	4-14
<host console command>	Transmits a HASP, JES2, JES3, or ASP command to the host system. Output may be received at $STDLIST.	4-24
N[EW] [hostid]	Used to build or rebuild an DSN/MRJE configuration file.	4-17
P[URGE] O[LDJOBS] A[LL]	Purges entries from the job log file.	4-20

ALTER

Used to modify entries in a configuration file.

```
A[LTER]  item#
         itemlist
```

Parameters

item#   The number assigned to an entry in the configuration
            file.   Some entries cannot be altered. These are
            indicated in Appendix A, Table A-1, by note 1.

itemlist   A list of item numbers.

Using ALTER

Configuration file entries and their corresponding item numbers
are shown in Appendix A.

The ALTER command always references the configuration file for
the current host machine.

If the number of an unmodifiable entry is entered, DSN/MRJE will
print an error message.

When the command executes, DSN/MRJE prints the description and
current value of a designated item and then prompts for a new
value. Enter a new value in the format shown in Appendix A, or
type a carriage return to retain the current value.

Examples

The following example shows changes in the logical device numbers for the default host machine after a change in MPE configuration. (Note that the HOST command was issued before ALTER to be certain the command would reference the correct set of files.)

```
:MRJE
HP 32192A.01.02 MRJE/3000 (C)HEWLETT-PACKARD CO. 1977
MANAGER CAPABILITY IN EFFECT
#HOST
DEFAULT HOST ASSUMED
PLM IS THE CURRENT HOST MACHINE
#ALTER 2,3
  2. PSEUDO CONSOLE DEVICE=042

NEW VALUE=
46
  3. PSEUDO LINE MONITOR DEVICE=040
NEW VALUE=
44
MRJECON SUCCESSFULLY ALTERED
```

In the next example, an attempt has been made to change the number of entries a job log file can accommodate. The attempt failed because the size of the job log file cannot be altered without rebuilding the configuration file:

```
#HOST C
COM2 IS THE CURRENT HOST MACHINE
#ALTER 18
  18. MAXIMUM NUMBER OF JOBLOG ENTRIES=150
THIS ITEM NOT DYNAMICALLY CONFIGURABLE
MRJECONC NOT ALTERED
```

Note that because COM2 is a machine other than the default host machine, the configuration file name is MRJECONC.

CANCEL

Cancels one or more jobs.

```
C[ANCEL]  [J[OBS]]   ⎧ job#    ⎫
                     ⎨ jobname ⎬
                     ⎩ joblist ⎭
```

The CANCEL command is used to cancel jobs that have been submit-
ted for processing on the host. For jobs not yet transmitted to
the host, CANCEL deletes the specified job number, name or list,
and marks the corresponding entry in the job log file as cancel-
led. If the job has been transmitted and the host is on-line when
this command is issued, a cancellation command is sent to the
host and the job log file entry is marked as cancelled. If the
job has been transmitted but the host is off-line, the job log
file entry is marked as cancelled; any output from the job that
is received by DSN/MRJE when the communications line is re-opened
will then be discarded.

Parameters

JOBS   Optional parameter, provided for consistency with the
            DISPLAY command. Omitting JOBS has no effect.

job#   The number DSN/MRJE assigned to a job at submission.

jobname   The name on a JOB card in an input file.

joblist   A list of job names and/or job numbers.

Using CANCEL

Since the CANCEL command always references the files that were
created for the current host machine, it is advisable to issue
the HOST command ahead of CANCEL to be certain the proper job log
file will be accessed.

Following a CANCEL command, DSN/MRJE displays the status of the
specified job(s) and asks for cancellation confirmation. A YES
response confirms the cancel request while any other response
(including Y) causes the command to be ignored.

Although either the number or the name of a job may be specified, the number is preferable because it defines a specific job and gives a faster response. If a job name is specified for cancellation and more than one job with the same name has been submitted, DSN/MRJE will print:

jobname: DUPLICATE JOBNAMES IN JOBLOG. CANCEL REFUSED. A DISPLAY OF JOBS WITH THIS NAME WHICH YOU OWN (IF ANY) FOLLOWS:

This is followed by a list of all jobs with the given name and their assigned job numbers. No cancellation occurs. Thus, in the case of duplicate job names, the CANCEL command should include the job number, which is unique, rather than the job name, which is not.

Examples

In the first example, job number 25 has been cancelled. (Note that the HOST command was issued first to be certain the command referenced the correct set of files):

```
:MRJE
HP 32192A.00.00 MRJE/3000 (C)HEWLETT-PACKARD CO. 1977
MANAGER CAPABILITY IN EFFECT
#HOST P
PLM2 IS THE CURRENT HOST MACHINE
#CANCEL 25
--JOB#=25 JOBNAME=TESTJOB2    USER=PAT.DCA,M
  PRINT="LP"   PUNCH="LP"   FORMS="LP"
  WAITING TRANSMISSION TO HOST
VERIFY CANCEL WITH "YES"
YES
SPOOL FILE DELETED
JOB#25 CANCELED
```

CANCEL

In the next example, three jobs have been cancelled with one command:

```
#HOST
DEFAULT HOST ASSUMED
PLM IS THE CURRENT HOST MACHINE
#CANCEL 22,3/4
--JOB#=22 JOBNAME=MYJOB   USER=PAT.DCA,M
  PRINT=USERPR NO TRANSLATION   PUNCH="LP"   FORMS=USERFORM
  WAITING TRANSMISSION TO HOST
VERIFY CANCEL WITH "YES"
YES
SPOOL FILE DELETED
JOB#22 CANCELED
--JOB#=3 JOBNAME=MYJOB2   USER=PAT.DCA,M
  PRINT="LP"   PUNCH="LP"   FORMS="LP"
  WAITING TRANSMISSION TO HOST
VERIFY CANCEL WITH "YES"
YES
SPOOL FILE DELETED
JOB#3 CANCELED
--JOB#=4 JOBNAME=MYJOB3   USER=PAT.DCA,M
  PRINT="LP"   PUNCH="LP"   FORMS="LP"
  TRANSMITTED TO HOST WED, OCT 19, 1977, 3:20 PM HOST#=2018
VERIFY CANCEL WITH "YES"
YES
$CJ2018, 2018 CANCEL COMMAND WILL BE SENT TO HOST.
$15.35.40 JOB 2018 ON RM31.PR2 PRIO 9 PURGE
```

Displays job and system information.
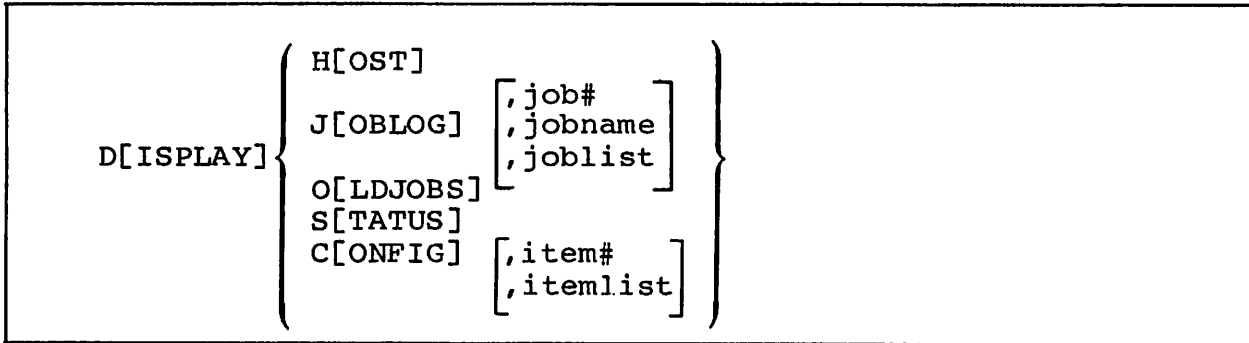
```
          ⎛ H[OST]                        ⎞
          ⎜              ⎡ ,job#     ⎤    ⎟
          ⎜ J[OBLOG]     ⎢ ,jobname  ⎥    ⎟
D[ISPLAY] ⎨              ⎢ ,joblist  ⎥    ⎬
          ⎜ O[LDJOBS]    ⎣           ⎦    ⎟
          ⎜ S[TATUS]                      ⎟
          ⎜ C[ONFIG]     ⎡ ,item#    ⎤    ⎟
          ⎝              ⎣ ,itemlist ⎦    ⎠
```

The DISPLAY command is used to display the name of the current host, information about active and inactive jobs in the job log file, the status of the communications line to the host, or the contents of the configuration file for the current host. Use Control-Y in a session to halt the display of jobs and configuration file entries.

Parameters

HOST   Lists the current host machine   This machine is referenced by the SUBMIT, DISPLAY, ALTER, PURGE, and CANCEL commands until the HOST command is issued to select another machine.

JOBLOG   Displays information about jobs. If neither "job#", "jobname", nor "joblist" is specified, the entire job log file for the current machine is displayed.

                 JOBLOG is the default parameter for the DISPLAY command.

OLDJOBS   Purges entries for cancelled jobs and jobs that have "timed-out". Timed-out jobs are jobs that have been in the job log file for a period of time, equal to or greater than the time limit configured in item 42 of the configuration file. The time limit is measured from the point of successful transmission to the host.

STATUS   Reports whether the communications line to the current host machine is open or closed.

CONFIG   Lists the contents of the configuration file for the current host machine. If item numbers are included, only the corresponding entries are displayed. (See Appendix A for descriptions of the configuration file entries.)

DISPLAY

Using DISPLAY

The DISPLAY command always references the set of files that were created for the current host machine.

If a generic job name is specified with the JOBLOG parameter, all instances of that job name are displayed, whether they belong to one or several users.

If the DISPLAY JOBLOG command is entered with "jobname", "job#", or "joblist" during an interactive session and while the communications link is connected, DSN/MRJE sends a display command to the host to obtain the status of jobs already transmitted.

To obtain a line printer listing of a configuration file, issue the following commands (In the order shown):

```
:FILE LISTING;DEV=LP
:MRJE
HP 32192A.01.02 MRJE/3000 (C)HEWLETT-PACKARD CO. 1977
MANAGER CAPABILITY IN EFFECT
#HOST C          This defines Host "C" to be the current host.
#DISPLAY C 1/43

        Configuration file items are displayed on $STDLIST also.

#EXIT
```

Examples

The first example displays the status of a single job. The communications link has been established:

```
:MRJE
HP 32192A.01.02 MRJE/3000 (C)HEWLETT-PACKARD CO. 1977
MANAGER CAPABILITY IN EFFECT
#DISPLAY JOB 4
--JOB#=4 JOBNAME=JOBQA31   USER=MANAGER.SYS,PUB
   PRINT=MGRPR   PUNCH=MGRPUN   FORMS=MGRFORM
   TRANSMITTED TO HOST WED, OCT 19, 1977,  3:20 PM HOST#=2018
$DJ2018        DISPLAY COMMAND WILL BE SENT TO HOST
$15.34.52  JOB 2018 JOBQA31 EXECUTING PRIO 6
```

This example displays line status for the current host machine:

#DISPLAY STATUS
HP IS OFF LINE
TIME LINE DEACTIVATED=TUE, SEP 20, 1977, 4:38 PM

This example displays items in the configuration file:

#DISPLAY CONFIG 6,7
  6. USER HOST COMMAND=$DA
  7. COMMAND CHARACTER=$

NEW

Creates or re-creates the configuration, job log, and directory files for a given host machine.

```
N[EW] [hostid]
```

The DSN/MRJE manager must be logged onto MANAGER.SYS in order to use this command.

In a single-host environment, "hostid" need not be specified. In a multi-host environment, a host ID should be assigned to each host. When a host ID is not assigned to a particular host, that host automatically becomes the "default host". Establishing a default host in a multi-host environmen may result in users erroneously sending jobs to the default host (because they failed to specify a host ID prior to using the SUBMIT command).

Parameters

hostid   Used primarily in multi-host environments. This par-
            ameter can consist of up to eight alphanumeric char-
            acters. If several host machines are defined, each
            hostid must have a unique first character.

Using NEW

The first step in DSN/MRJE operation is to create at least one set of DSN/MRJE management files for each communication line between the HP 3000 and each host. The NEW command is used to create these files.

When "hostid" is omitted from the NEW command, DSN/MRJE assumes files are being built for the default host machine. These files will be given the names MRJECON, MRJEJOB, and MRJEDIR, to indicate their association with the default machine.

If several communications lines are connected at least one set of management files must be built for each. Care should be taken to avoid using host ID's with identical first characters. DSN/MRJE appends the first character of each host ID to MRJECON, MRJEJOB, and MRJEDIR to form unique names for each set of files. For example, if hostid is PLM2, the files for that host machine will be named MRJECONP, MRJEJOBP, and MRJEDIRP.

When NEW executes, some items in the configuration file are initialized with the default values shown in Appendix A. Other items are initialized with information provided by the DSN/MRJE Manager.

After entering the NEW command, the Manager will receive the following prompts:

MAXIMUM NUMBER OF JOBLOG ENTRIES =
100 NEW VALUE =
    Enter a value, 25 to 1000. The job log file will be created to accommodate the number of specified entries. A carriage return retains the 100 value. Note that a large job log file increases search time, and therefore response time. On the other hand, a small job log file requires frequent purging.

HOST MACHINE =
    Enter an alphanumeric name up to eight characters in length. If "hostid" was included in the NEW command, enter that name. For the default host machine, enter any name.

PSEUDO CONSOLE DEVICE =
    Enter the logical device number that was assigned to the pseudo console during MPE configuration (Unit 2, driver IOMCONS0 -- see Appendix D.)

PSEUDO LINE MONITOR DEVICE =
    Enter the logical device number that was assigned to the first line monitor (Unit 0, driver IOMRJE0 -- see Appendix D).

SIGNON CARD IMAGE =
    The format of a signon card is determined by host system personnel. Enter the response exactly as they specify.

HOST SYSTEM =
    Respond HASP, JES2, JES3 or ASP, as appropriate.

USER HOST COMMAND =
    Users may send one or more host console commands to the current host machine while the line is active. The response to this prompt establishes which command(s). For example, if the manager enters $D, users will be permitted to enter all host console commands that begin with $D; if $DA is entered, users will be limited to only that command. Be sure to enter a valid response because DSN/MRJE does not check whether the entry is a valid one. If the Manager makes a mistake here, DSN/MRJE Users will receive an error message when they attempt to issue host console commands.

PHONE NUMBER IN MRJECONTROL START COMMAND =
   This number appears in a dial message on the HP 3000 terminal
   at which the :MRJECONTROL START command is entered. Unlike the
   previous prompts, a reply here is optional. To   not   enter   a
   phone number, press RETURN.

Control-Y may be used to terminate the NEW command at   any   point
in   the   dialogue.   However, if entered before the phone number
prompt, no new files are created and all information supplied   up
to that point is lost.

If the configuration, job log, and directory files for a given
host   machine   already exist when this command is used, they will
be purged and rebuilt.

```
┌──────────────┐
│     NOTE     │
└──────────────┘
```

   This command does not affect files MRJEMSGh, the message
   file, MRJESTRh, the stream file, or MRJECAT, the message
   catalog file.

Purges entries from a job log file.

```
P[URGE]  ⎧O[LDJOBS]⎫
         ⎨A[LL]    ⎬
         ⎩         ⎭
```

Parameters

OLDJOBS   Purges entries for cancelled jobs and jobs that have "timed-out". Timed-out jobs are jobs that have been in in the job log file for a period of time, equal to or greater than the time limit configured in item 42 of the configuration file. The time limit is measured from the point of successful transmission to the host.

           This parameter also causes entries for jobs that were transmitted to the host but were not acknowledged as having been received to be purged.

ALL   Purges all entries from a job log file. The manager can use this parameter only while logged on to MANAGER.SYS.

Using PURGE

ALL alters the file directory entry for the current host machine to reflect an empty job log file. If entries exist for jobs other than OLD JOBS, DSN/MRJE prints the warning message:

   n JOBS ARE IN THE JOBLOG. VERIFY PURGE WITH "YES"

The purge request must be confirmed with a YES response (Y is not enough). Any other response causes the PURGE command to be ignored.

PURGE

Examples

The first example shows the purging of all jobs, both active and inactive. (Note that the HOST command was issued before purging, to be sure the command would reference the correct set of files):

```
:MRJE
HP 32192A.01.02 MRJE/3000 (C)HEWLETT-PACKARD CO. 1977
MANAGER CAPABILITY IN EFFECT
#HOST PLM2
PLM2 IS THE CURRENT HOST MACHINE
#PURGE ALL
6 JOBS ARE IN THE JOBLOG. VERIFY PURGE WITH "YES"
YES
MRJEJOBP COMPLETELY PURGED.
```

In the second example, only old jobs are purged:

```
#HOST
DEFAULT HOST ASSUMED
PLM IS THE CURRENT HOST MACHINE
#PURGE OLDJOBS
MRJEJOB 10 JOBLOG ENTRIES CLEARED. 25 FREE ENTRIES NOW EXIST.
```

A TYPICAL MANAGER'S SESSION

In the following example, the DSN/MRJE Manag r builds a configuration file, submits a job, displays the job's status, exits DSN/MRJE, and exits MPE.

```
:HELLO MANAGER.SYS
HP3000 / MPE III B.00.00.  MON, MAY 8, 1978, 10:40 AM
:MRJE
HP 32192A.01.02 MRJE/3000 (C)HEWLETT-PACKARD CO. 1977
MANAGER CAPABILITY IN EFFECT
#NEW
DEFAULT HOST ASSUMED
MAXIMUM NUMBER OF JOBLOG ENTRIES=100
NEW VALUE=
1000
FOLLOWING MUST BE INITIALIZED IN CONFIGURATION FILE:
HOST MACHINE=
MFRM
PSEUDO CONSOLE DEVICE=
112
PSEUDO LINE MONITOR DEVICE=
110
SIGNON CARD IMAGE=
/*SIGNON          REMOTE31 PASSWORD
HOST SYSTEM=
JES2
USER HOST COMMAND=
$DA
PHONE NUMBER IN MRJE CONTROL START COMMAND=
767-1501
MFRM FILES CREATED
#SUBMIT IBMJOB1
JOB#=1 JOBNAME=RJEDEMO1 RECORDS READ=14 RECORDS WRITTEN=14
MFRM IS OFF LINE
#DISPLAY 1
--JOB#=1 JOBNAME=RJEDEMO1 USER=JIM.DCA,WILLITS
   PRINT="LP"  PUNCH="LP"  FORMS="LP"
   WAITING TRANSMISSION TO HOST
   .
   .
   .
```

Assume at this point the :MRJECONTROL START command is issued and the communications line to the default host (MFRM) is success-fully opened. The Manager displays Job 1 and then exits DSN/MRJE as shown below:

```
#DISPLAY 1
--JOB#=1 JOBNAME=RJEDEMO1 USER=JIM.DCA,WILLITS
  PRINT="LP"  PUNCH="LP"  FORMS="LP"
  TRANSMITTED TO HOST MON, MAY 8, 1978, 11:03 AM HOST#=4340
$DJ4340        HOST DISPLAY COMMAND SENT
$11.04.30 JOB 4340 RJEDEMO1 EXECUTING PRIO 6
#EXIT

:BYE

CPU=3. CONNECT=17. MON, MAY 8, 1978
```

The DSN/MRJE Manager has access to all host console commands that are available at remote host consoles. The DSN/MRJE Manager is responsible for determining which of the remote console commands to make available to all DSN/MRJE Users. By entering a specific symbol or symbols in the configuration file, the Manager defines which commands the DSN/MRJE User can employ.

Host console commands:

● May be issued interactively while the communications line is connected.

● May be issued as part of an IBM JCL deck.

● Must conform to the format and restrictions of the host system.

● Will be refused if any other DSN/MRJE User is currently communicating with the host system.

Once a DSN/MRJE Manager issues a host console command, that user is said to be in "console command mode." Also, that Manager will remain in console command mode. In this mode, no DSN/MRJE prompts are issued and anything entered is transmitted to the host as a console command. When the Manager is in Console Command Mode, MRJE will not transmit host console commands that are entered by any other user.

Output from the host console is unpredictable because it is dependent on host system activity. In most cases, however, a host console command generates a response at the Manager's terminal. If the terminal falls behind in printing this response, some host console output may be lost, unless DSN/MRJE console logging (see below) is in operation.

The Manager may exit console command mode at any time by entering Control-Y, which returns the session to DSN/MRJE command mode.

HOST CONSOLE COMMANDS

Example

In the following example, the MRJE Manager uses the $DA host con-
sole command (from JES2) to display those jobs that are currently
at the host. This initiates Console Command Mode.

```
#$DA
$15.33.04 JOB 388 JOB0A31 EXECUTING PRIO 6
$15.33.04 JOB 390 JOB0A32 EXECUTING PRIO 6
$15.33.04 JOB 392 JOB0A33 EXECUTING PRIO 6
CONTROL-Y is entered by the Manager.
#  ...
```

HOST CONSOLE MESSAGE LOGGING FACILITY

DSN/MRJE allows for the optional logging of all console messages
to a specified file. Logging does not interfere with normal con-
sole operation.

In order for logging to take place, the DSN/MRJE Manager must
build or define logging files in PUB.SYS. A separate file must
be built or defined for each host for which logging is to take
place.   The message file, which is optional, is the destination
for host console messages. It is named MRJEMSGh (where h is the
first letter of the host identification.) Message files are de-
scribed in "BUILDING THE DSN/MRJE MANAGEMENT FILES AND OTHER DSN/
MRJE FILES" in Section 4, at item 5.

PERFORMANCE MEASUREMENT

A limited performance measurement facility is provided through
the use of the host console message logging facility in the
MRJEMSGh file. The purpose of this facility is to measure the
turn around time for host job output rec ived by DSN/MRJE. In
addition, output from host jobs may be located by searching
through this file for the following record.

A record is written in the MRJEMSGh file for each job received. The format of the record is as follows:

Characters:	Description:
3-6	Job Number
9-16	Job Name
22-29	Start receiving time, hh:mm:ss.
35-42	End receiving time, hh:mm:ss.
49-54	Total time in seconds.
61-68	Number of characters received.
74-80	Number of records received.

CAUSES AND CONTROL OF UNSOLICITED OUTPUT

If DSN/MRJE ever receives output from the host that is not directed (is unsolicited), it could be because of one of the following:

1) The output has been directed to an unsolicited output device through the use of a submit command, for example:

    #SUBMIT TESTJOB;PRINT=0

2) The host or another remote station has unexpectedly routed data to your station.

3) DSN/MRJE was not able to interpret the print or punch banners because they are not "standard" (that is, they do not conform to the default configuration file parameters for banners). See Section IV, "BUILDING THE DSN/MRJE MANAGEMENT FILES" and Appendix A for information on DSN/MRJE recognition of banners.

4) DSN/MRJE can't read the host console "ON" message because

    a) Items 15-17 in the configuration file weren't configured to match the message, or

    b) the host does not send an "ON" message upon receipt of jobs.

5) There was a significant lag between the time the host received a job and the time the host returned output to DSN/MRJE. During this lag, the contents of the Joblog file (including output routing information for your job) were purged.

HOST CONSOLE COMMANDS

6) You have suppressed printing or punching of banners (in your JCL or by means of a host console command).

If the host is waiting to transmit output to DSN/MRJE and you know that output will be treated by DSN/MRJE as unsolicited, you may still direct it specific destination file. Here are some methods for doing this:

1 a) Raise Outfence on the MPE Spooler,
  b) receive output at the Spooler, and
  c) use the MPE utility SPOOK to "copy" the output data set to another disc file, or "output" the data set to tape.

2 a) Build a large disc file in PUB.SYS for print or punch output which could be an MSG file, depending on the type of output you expect, and
  b) specify the name of this file in Items 21-27 (unsolicited print disposition) or Items 29-35 (unsolicited punch disposition) in the configuration file.

 3a) Define deferred output spool files within the stream file MRJESTRh for each configured pseudo printer and punch before communication with the host system is initiated. For example, if the outfence value is 6 and there is only one printer, then include statements such as this

        :FILE UNSLPR1;DEV=LP,1

    in the stream file; then,

  b) Alter the unsolicited output items of the configuration file, items 21-27 for printers and 29-35 for punches, to refer to the files defined in step 3a, above. For example, alter item 21, unsolicited printer disposition for printer 1, to the value "!UNSLPR1"; then,

  c) Initiate communication with the host system using an MRJECONTROL START statement.

This section addresses the DSN/MRJE Console Operator.

The MRJE Console Operator is able to open and close the MRJE communications link with the host(s), to change the number of transmission error retries, to turn on the CS TRACE diagnostic and to check the version, update and fix levels of the MRJE software on the system.

Any DSN/MRJE User who has been authorized by the HP 3000 system console operator to use the MRJECONTROL commands can carry out the DSN/MRJE Console Operator functions. Use is authorized by means of the MPE :ALLOW command, as described in "Console Operator's Guide" (30090-90013). The format of ALLOW command is:

    :ALLOW user.acct;COMMANDS=MRJECONTROL

The :MRJECONTROL commands are summarized in Table 5-1.

Table 5-1.   MRJECONTROL Commands

COMMAND SYNTAX AND FUNCTION	PAGE
:MRJECONTROL START [,hostid] [;trace function] Used to open a communications link, initiate transmission over the link, turn on the CS TRACE facility.	5-3
:MRJECONTROL SIGNOFF [,hostid] Used to close the communications link in an orderly fashion, with a "SIGNOFF".	5-6
:MRJECONTROL KILL [,hostid] Used to close communications link immediately and in an unorderly fashion, without "SIGNOFF".	5-6
:MRJECONTROL RETRIES, [hostid], retrynum Used to set a limit on the number of times DSN/MRJE will request re-transmission of block of data not received successfully from host.	5-8

:MRJECONTROL TRACE, [hostid], ON [trace options]
            TRACE, [hostid], OFF
 	
   Used to activate the CS communications link trace facility.
	5-9

:MRJECONTROL CHECK Used to check the version, update and fix levels of the MRJE software currently on your system.	5-11

Use the :MRJECONTROL START command to open the communication line to a host and to initiate transmission over the line. The CS TRACE diagnostic may also be activated at this time. (For more information on CS TRACE, see "MRJECONTROL TRACE", in this section.) The syntax of the START command is

```
:MRJECONTROL START [,hostid] [;trace function]
```

where

START   Requests connection to default host machine.

START, hostid   Requests connection to machine identified by
                    "hostid".

trace function | TRACE, ON [trace options] |
                    | TRACE, OFF | See "MRJECONTROL
                                                     TRACE" in this
trace options   [,[ALL][,[mask][,[numentries]   section.
                    [,[WRAP][,filename]]]]]

Contact Hewlett-Packard to find out the most appropriate way to use the trace function.

Prior to issuing an MRJECONTROL START check to see if the stream file exists for the host identification to be started. The stream file is named MRJESTRh, where "h" is the host identification character. This is because an MRJECONTROL START command causes a corresponding MRJESTRh file to be streamed. Each host identification has its own stream file.

MRJECONTROL START

This is how to create such a stream file for a default host:

```
:HELLO MANAGER.SYS
HP3000 / MPE IV C.S2.08.  WED, FEB 3, 1982,  2:56 PM

:EDITOR
HP32201A.7.10 EDIT/3000  WED, FEB  3, 1982,  2:56 PM
(C) HEWLETT-PACKARD CO. 1981
/aq
!JOB MANAGER.SYS;HIPRI;RESTART;TIME=?
!COMMENT         THIS JOB WILL ALLOW USERS TO ROUTE OUTPUT TO
!COMMENT         AN HP2680 WITH A SPECIFIC ENVIRONMENT.
!COMMENT         ALSO, THE STACK DUMP FACILITY IS ARMED TO
!COMMENT         OPERATE WHEN AN MRJEMON PROBLEM OCCURS.
!FILE ELITE;DEV=LPS;ENV=ELITE.ENV2680A.SYS
!FILE HOLDLP;DEV=LP,1
!SETDUMP DB,ST
!RUN MRJEMON;INFO=" "
!EOJ
//
/keep mrjestr
/exit
: ...
```

Access to stream files like the one above should be limited to
their creator by using the MPE command ALTSEC, as described in
the "MPE Commands Reference Manual" (30000-90009).

If communications are on a private (leased) line, or a on
switched line with an auto-dial capability, connection occurs
shortly after the START command is issued, and the a message is
received at the HP 3000 master console like the following:

    10:51/24/MRJE: SIGNON COMPLETED

If the communication link is a switched line without auto dial-
ing, a message similar to the following will be printed at the
master terminal after MRJECONTROL START is issued:

    10:50/24/MRJE:DIAL REMOTE 767-1501

The telephone number printed in this message is item 39 of the
configuration file.

If the START command includes hostid, the first character of the
hostid is appended to MRJE. For example, if the host ID is
BRUNO, the START command will look like this:

    :MRJECONTROL START,B

and the console message for switched lines without autodialing will be similar to this:

    10:50/24/MRJEB:DIAL REMOTE 767-1501

Following display of this console message, the DSN/MRJE Console Operator should:

1) Place the call at the dial-up modem.

2) Listen for the answer tone.

3) Press the DATA button, if the modem so requires, when the answer tone becomes audible.

4) Check the system console terminal for a message similar to the following:

    10:51/24/MRJE: SIGNON COMPLETED

5) If the readers, printers, and punches for your remote station have been drained on the host, start the ones you will be need with host system console commands.

Once the communications link has been established:

● DSN/MRJE will automatically transmit jobs to the host and route output from the host to the designated HP 3000 output files.

● DSN/MRJE Users, working at their terminals, will be able to transmit host console commands and receive responses from the host.

● The DSN/MRJE Manager, if working at a terminal, will be able to monitor host system activity.

● The DSN/MRJE Console Operator if working at a terminal will be able to monitor for DSN/MRJE messages.

Each time the :MRJECONTROL START command is issued, MRJE checks whether the correct MRJE modules are installed. If revision levels do not match among modules, the following message is issued:

    INCOMPATIBLE MRJE MODULES

The :MRJECONTROL CHECK command should then be entered to identify the incorrect module.

MRJECONTROL SIGNOFF

Close a communications link in a systematic fashion with

```
:MRJECONTROL SIGNOFF [,hostid]
```

where

SIGNOFF   Initiates systematic closing of line to de-
                     fault host.

SIGNOFF,hostid   Initiates systematic closing of line to host
                     identified by "hostid".

After the command has been issued, HP systems may print the
following (whether they do or not depends on the host system
configuration):

         CS WARNING   103
                         or
         CS WARNING   207
                         or
         MRJE TERMINATING

Although the message can normally be ignored, the DSN/MRJE Man-
ager may occasionally ask for the warning number.

HP systems communicating with JES2 work stations print:

      MRJE TERMINATING

When the :MRJECONTROL SIGNOFF command is entered, any currently
active readers finish transmitting before the command takes
effect.

If the :MRJECONTROL SIGNOFF command is issued while a file is
being transmitted to or from the host, transmission will continue
until all of the file has been sent. Then the line will be dis-
connected. In this way no data will be lost.

Occasionally, an emergency may occur, a SIGNOFF command may fail to produce the "MRJE TERMINATING" message, or a dial-up line may be busy--making it necessary to terminate the subsystem abnormally with the KILL command. The syntax of the command is

```
:MRJECONTROL KILL [,hostid]
```

Where

KILL   Causes all communication with the default host to halt immediately.

KILL,hostid   Causes all communication with the host named by "hostid" to cease immediately.

The command :MRJECONTROL KILL should be used in emergencies only, because error free recovery from the command is not certain.

Following a KILL command, it may be necessary to enter the :MRJECONTROL START command several times. If repeated attempts to make the connection fail, consultation with the host system operator may be required.

MRJECONTROL RETRIES

It is possible to regulate the number of times DSN/MRJE will repeat its attempt to receive a block of data from the host when transmission errors are occurring (perhaps because of a "dirty" communications line). This is done by issuing the command :MRJECONTROL RETRIES. The command has the syntax

```
:MRJECONTROL RETRIES, [hostid], retrynum
```

where

hostid   Is the name by which the host is identified. If this parameter is not used, DSN/MRJE assumes the default host is intended.

retrynum   Is an integer between 1 and 255, inclusive.

This command may be issued anytime the line is active.

CAUTION

Since this command adjusts a communications driver retry counter, its use could affect processing speed and system performance.

The CS TRACE facility can be enabled via the :MRJECONTROL TRACE command (or via :MRJECONTROL START--see above). Contact Hewlett-Packard to find out the most appropriate way to use this command. This command can be entered any time the line is open. The command has the syntax

```
:MRJECONTROL    TRACE, [hostid], ON [trace options]
                TRACE, [hostid], OFF
```

where

hostid   Is the name by which the host is identified. If this parameter is omitted, DSN/MRJE will assume the default host is intended.

trace options   Has the format [,[ALL][,[mask][,numentries] [,[WRAP][,[filename]]]]]

ALL   Generates a record of all transmission activity. When omitted, trace records are written only when transmission errors occur.

mask   Is an octal number preceded by a percent symbol that specifies the type of events to trace. The default mask is %37.

Mask bit settings are defined as follows:

BIT	MEANING WHEN ON
0 (MSB)	(Not used for DSN/MRJE)
1	(Not used for DSN/MRJE)
2	PSTN entries (default=OFF)
3	POPR and PEDT entries (default=ON)
4	PRCT entries (default=ON)
5	PRTX entries (default=ON)
6	PSCT, PPOL, PSEL entries (default=ON)
7 (LSB)	PSTX entries (default=ON)

NOTE

INP interconnect entries should not be traced, except at Hewlett-Packard's request. This is because many entries are generated.

MRJECONTROL TRACE

numentries   Is the number of entries per record. (Default is
                  24. Maximum is 248.) For an INP use 24.

WRAP   Causes trace entries that overflow the trace
                  record (that exceed numentries) to overlay the
                  first entries written to that record. If omit-
                  ted, the overflow entries are discarded.

                  This parameter is applied to entries within
                  records, not records within files. If trace
                  records overflow a trace file, CS TRACE auto-
                  matically starts writing them over the first
                  records in the file.

filename   Is the name of the file where the trace records
                  are to be stored. If this parameter is omitted,
                  CS TRACE creates a file in PUB.SYS with the name
                  MRJETRCh, where "h" is the first character of
                  the host ID. If a file other than MRJETRCh is
                  to be used, it must be built before executing
                  :MRJECONTROL TRACE.

Listing Trace File Contents

The CS TRACE dump utility program CSDUMP.PUB.SYS can be used to
format and print the contents of trace files generated by the
trace facility. An example of the commands required to list the
files to a line printer is:

    :FILE CSTRACE=filename
    :FILE LIST;DEV=LP ("LP", or other designation for "printer")
    :RUN CSDUMP.PUB.SYS[,HEX]

where "filename" is the name of the file specified in the
:MRJECONTROL TRACE command; or if no file name was specified,
"filename" is MRJETRC[h], and "h" is the host identification.
The secondary entry point "HEX" in CSDUMP.PUB.SYS allows raw data
to be output in hexadecimal.

Contact Hewlett-Packard for assistance in interpreting trace file
contents.

The :MRJECONTROL CHECK command can be used to check the version, update and fix levels of each MRJE module. This can be particularly useful in verifying the correct installation of MRJE. The syntax of the command is

```
:MRJECONTROL CHECK
```

When the command is issued, a table showing each MRJE module and its levels of revision is printed at the user's terminal. The format of the table is as follows:

MODULE	VERSION (REVISION)
MRJEMISC1/2	V.UU.FF
MRJE	V.UU.FF
MRJEMON	V.UU.FF
MRJEOUT	V.UU.FF
MRJELOGR	V.UU.FF
IOMPNLP0	V.UU.FF
IOMCONS0	V.UU.FF
IOMRDR0	V.UU.FF
IOMRJE0	V.UU.FF
IOMRJE1	V.UU.FF

"V" stands for "version", "UU" for "update", and "FF" for "fix".

If a module is not present in the system, the following message is printed in place of V.UU.FF:

    UNABLE TO ACCESS MODULE

If a module is present but no revision levels can be determined, the following message is printed in place of V.UU.FF:

    NO VERSION LEVEL

Each time the MRJECONTROL START command is issued, MRJE checks whether the correct MRJE modules are installed. If revision levels do not match between modules, the following message is issued:

    INCOMPATIBLE MRJE MODULES

The MRJECONTROL CHECK command should then be issued to identify the incorrect module.
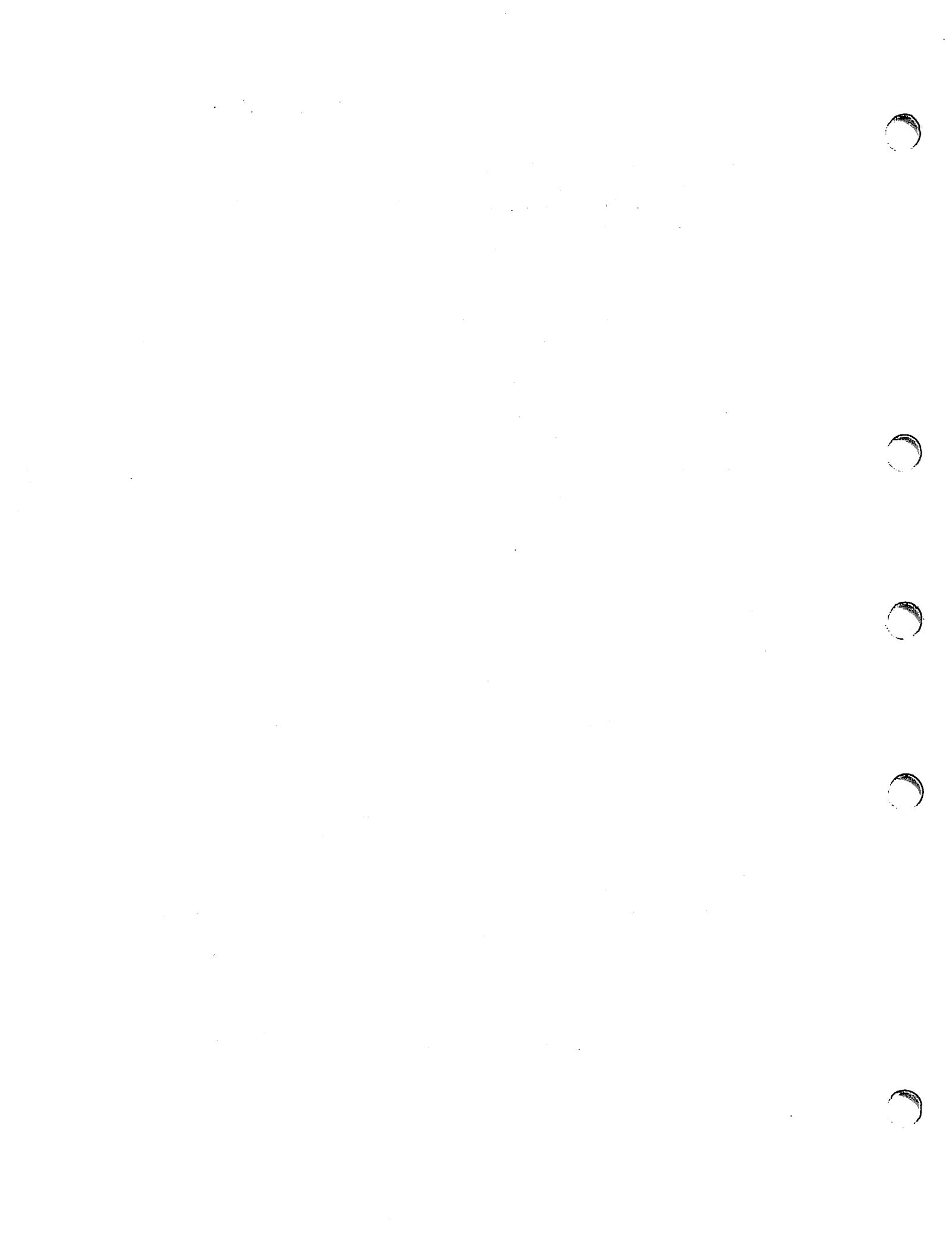
DSN/MRJE ERROR CONDITION AND INFORMATION MESSAGES

COMMAND ERRORS

DSN/MRJE command errors fall into four general categories:

- Syntax errors -- These include invalid commands as well as commands in improper format.

- Inaccessible files -- A job is refused if any file named in the SUBMIT command cannot be opened. A command is refused if it contains the name of a nonexistent job log or configuration file.

- Invalid user ID -- A command is refused if a DSN/MRJE User attempts to cancel or display a job that does not belong to him or her.

- Full job log file -- If a DSN/MRJE User attempts to submit a job and the job log file is full, the SUBMIT command is refused. The DSN/MRJE Manager can make space in the file by purging old jobs or by purging all jobs.

In each of the above cases, DSN/MRJE sends an appropriate message to the user's output device.

SYSTEM FAILURES

Operating failures fall into two categories:

- Local failure -- HP 3000 hardware or software failure.

- Remote failure -- Host system or communication line failure.

Local Failures

After an HP 3000 failure, jobs that were submitted to the MPE spooler and jobs that the spooler was actively writing to the host card reader are recovered if the system is restarted with a WARMSTART; however, any purged extents are lost. Jobs that were being submitted to a non-spooled host card reader are lost and must be resubmitted.

Line printer and punch output being received by the HP 3000 when a failure occurs is recovered during a WARMSTART. Output received by a non-shareable device before the failure is saved whether the device was spooled or non-spooled. Output in the process of being written to a disc file may be lost.

After a failure and subsequent restart, the DISPLAY command should be used to determine the status of suspect files and jobs. For example:

● A User submits a job but does not receive a job number or error message. To see whether the job has been submitted, the User should enter:

    DISPLAY J,jobname

● A User cancels a job but does not receive a "JOB CANCELED" message or an error message. To check if the job was canceled, the User should enter:

    DISPLAY J,job#

It may be desirable to check host system output queues.

● If the DSN/MRJE Manager is using the ALTER command to change the configuration file and does not receive a response after entering a new value, he or she should verify that the file has been updated by entering:

    DISPLAY C,item#

In most cases, an interrupted command must be re-entered. This is also true for a host console command if the host hasn't responded yet.

If the HP 3000 fails while the line to a host is open, the line will automatically be closed. After system restart, it will be necessary to issue the :MRJECONTROL START command again to re-open the line.

Remote Failures

Following a host system or communication line failure, DSN/MRJE automatically terminates the connection in an orderly manner. It sends a termination message to the HP 3000 system console, enters the termination time in the configuration file, and shuts down any spooled host card readers it is controlling. Spooled files are deferred.

After the host system has been restarted or the line problems solved, the Console Operator must issue the :MRJECONTROL START command to restart the subsytem. At the same time the Console Operator should assign the deferred spool files a higher priority.

After a failure, any jobs shown by the DISPLAY command to have been transmitted may not be necessarily completely transmitted. For this reason, it may be necessary to do a host console display command after the line is re-established to determine which jobs are on the host system.

DSN/MRJE MESSAGES

These types of messages relate to DSN/MRJE activity:

- User messages -- These are printed on a user's output device. They are listed alphabetically in Table 6-1.

- MRJECONTROL distributed console messages -- These are sent to the terminal of the user who issued the MRJECONTROL command that triggered the message. These messages are listed in Table 6-2 in numerical order (by Command Interpreter Error--CIERR-number).

- Console Operator messages -- These are sent to the system console. They are listed alphabetically in Table 6-3.

In these three tables, messages that report an error or failure also include the cause and instructions for corrective action. In cases where a message only imparts information (no error or failure occurred), only the message and its meaning are given.

CS ERRORS

Occasionally failures causing irrecoverable errors occur on a communication link. These CS I/O errors are reported on the system console by code number. The error codes are included within relevant error messages.

Table 6-4 contains the CS Irrecoverable Error codes, while Table 6-5 contains the CS Recoverable Error codes. An error is "irrecoverable" when the system is unable to recover from the error without human intervention. The system can recover from a Recoverable Error and no action is required by the user; a Recoverable Error code may follow an Irrecoverable Error code, thus informing the user that both types of errors have occurred.

Table 6-1. DSN/MRJE User Messages

```
* "ALL" OR "OLDJOBS" ARE ONLY VALID PURGE PARAMETERS.
        A  PURGE  parameter  other  than  ALL  or  OLDJOBS was
        entered.  Re-enter PURGE  command  with  no  parameter
        (for OLDJOBS) or with "ALL" or "OLDJOBS".

* "BS" OR "CS" OR "DS" REQUIRED.
        BS,  CS,  or  DS  are the only valid values for output
        process priority in the configuration file.

  jobname  CANCELED.
  job#
        Specified job has been canceled as requested.

* jobname  CAN'T BE CANCELED.
  job#
        Named job cannot be canceled because of  an  error  in
        writing  to or reading from a job log file.  Retry the
        CANCEL.

  $CJ host#,host#  CANCEL COMMAND WILL BE SENT TO HOST.
  $CJ host#,P
        When an interactive User/Manager cancels a  job  which
        has  been  transmitted  to  the  host  and the host is
        on-line, DSN/MRJE automatically sends the  appropriate
        host cancel command and prints the host response.

* COMMA OR NUMBER REQUIRED.
        Comma or number is required.

* COMMA OR SLASH REQUIRED TO SEPARATE PARAMETERS.
        Comma or slash  required  to  separate  parameters  in
        "joblist" or "itemlist".

* COMMA REQUIRED TO SEPARATE PARAMETERS.
        Comma is required to separate  positional  parameters,
        DAYS, HOURS, MINUTES.
```

```
NOTE
```

An asterisk (*) preceding a message indicates the error
causes program termination if DSN/MRJE is being run non-
interactively.

Table 6-1.   DSN/MRJE User Messages (continued)

---

* DEFAULT HOST CONFIGURATION FILE SET CANNOT BE ACCESSED.
  HOST hostname
  > Named host configuration file cannot be accessed because of an open or read error. Determine the reason for the I/O failure from the MPE file error number.

* CONTINUATION LINE EXPECTED.
  > When an ampersand (&) is entered at the end of a line in a SUBMIT command, DSN/MRJE expects the following line(s) to be a continuation of the command. Re-enter the entire SUBMIT command with continuation line(s) as required.

* CONTROL-Y IS THE ONLY VALID INPUT DURING HOST COMMAND
  PROCESSING.
  > A User may only enter Control-Y during host console command processing. (Control-Y halts output.) Any other input causes this error message and returns the # prompt.   If all output has not been received, re-enter the host console command.

* filename RECORD m CTRANSLATE FAILED.
  > An error occurred while translating a SUBMIT input file from ASCII to EBCDIC (or EBCDIK, depending on the translation type).   This is an internal software failure.   Contact Hewlett-Packard.

DAYS, HOURS, MINS CAN'T BE ZERO.
  > The maximum time a job remains in the job log file after transmission cannot be zero.

DEFAULT HOST ASSUMED.
  > If no host name is given in a HOST or NEW command, DSN/MRJE assumes the default host is desired.

* DIGIT OR SPECIAL CHARACTER REQUIRED.
  > Host system character must be a digit or a special character.   Re-enter command.

```
┌──────────┐
│   NOTE   │
└──────────┘
```

An asterisk (*) preceding a message indicates the error
causes program termination if DSN/MRJE is being run non-
interactively.

Table 6-1.   DSN/MRJE User Messages (continued)

---

* n DIGITS ARE THE MAX ALLOWED FOR THIS NUMBER.
     A number with too many digits has been entered.   Re-
     enter command with no more than n digits.

$DJ host# DISPLAY COMMAND WILL BE SENT TO HOST.
     When an interactive User/Manager displays a job that
     has been transmitted to the host and the host is on-
     line, DSN/MRJE automatically sends the appropriate
     host display command and prints the host response.

jobname: DUPLICATE JOBNAMES IN JOBLOG. CANCEL REFUSED. A
DISPLAY OF JOBS WITH THIS NAME WHICH YOU OWN (IF ANY)
FOLLOWS:
     A CANCEL by job name is refused if duplicate names
     exist in the job log file.   Re-enter the CANCEL
     command, specifying "job#" rather than "jobname".

* "EBCDIC" OR "EBCDIK" REQUIRED.
     EBCDIC and EBCDIK are the only valid translation
     types. Re-enter.

* EMBEDDED BLANKS NOT ALLOWED IN QUALIFIED NAME.
     A qualified actual file designator may not contain
     embedded blanks. Re-enter.

* END OF FILE ON $STDINX. FURTHER INPUT IMPOSSIBLE. FATAL
  ERROR!
     End-of-file on standard input device (for example, a
     user enters ":EOD" while submitting from $STDINX)
     makes further input impossible. MRJE terminates. Run
     the job again and do not use ":EOD" or ":EOF" in
     SUBMIT. Use "MRJEOD".

┌──────────┐
│   NOTE   │
└──────────┘

An asterisk (*) preceding a message indicates the error
causes program termination if DSN/MRJE is being run non-
interactively.

Table 6-1.   DSN/MRJE User Messages (continued)

ENTER INPUT ENDING WITH "MRJEOD".
>   This message followed by a prompt (>) requests input
>   from $STDIN/$STDINX during SUBMIT.   If $STDIN or
> $STDINX are FD files, any comment on the ##FD card
>   will appear ahead of this message.   For example,
>   assume infile DATA1 contains the record

>   ##FD $STDIN This input is for file DATA1.

>   When this ##FD card is read by DSN/MRJE, the following
>   appears on the terminal:

>   This input is for file DATA1.
>   ENTER INPUT ENDING WITH "MRJEOD"
>   >

* EXTRANEOUS INFORMATION AFTER VALID ITEM.
>   Some extra information has been included that DSN/MRJE
>   does not recognize. Re-enter with only the required
>   information.

* ##FD CARDS NOT PERMITTED IN LEVEL 2 FILE.
>   File Definition cards may be contained only in an
>   Infile (level 0) or a first-level FD file. Remove the
>   ##FD card from the named level 2 file, reconstruct
>   input files as required, and re-submit job(s).

  FILE ERROR #n, filename CAN'T BE CLOSED.
>   Named SUBMIT file (input or output) cannot be closed.
>   SUBMIT processing continues. Determine the reason for
>   the failure from MPE file system error number (#n).

* FILE ERROR #n, filename CAN'T BE CLOSED. FATAL ERROR!
>   Named file (configuration, directory, job log, or host
>   console device) cannot be closed.   DSN/MRJE termina-
>   ted.   Determine the reason for the failure from MPE
>   file system error number (#n).

┌─────────┐
│ NOTE   │
└─────────┘

An asterisk (*) preceding a message indicates the error
causes program termination if DSN/MRJE is being run non-
interactively.

Table 6-1.   DSN/MRJE User Messages (continued)

---

* FILE ERROR #n, filename CAN'T BE OPENED.
    Named file cannot be opened. Determine the reason for the failure from MPE file system error number (#n).

* FILE ERROR #n, filename CAN'T BE OPENED. FATAL ERROR!
    Named list file (if other than $STDLIST) cannot be opened. DSN/MRJE terminated. Determine the reason for the failure from MPE file system error number (#n).

* FILE ERROR #n, MRJEJOBh RECORD m CAN'T BE POSTED.
    Record m of job log MRJEJOBh cannot be physically transferred from the I/O buffer to the disc file. Determine the reason for the I/O failure from MPE file system error number (#n).

* FILE ERROR #n xxxx CAN'T BE READ.
    xxxx = "filename RECORD m", "HOST CONSOLE OUTPUT", or "STANDARD INPUT FILE". Determine the reason for I/O failure from MPE file system error number (#n).

* FILE ERROR #n, filename RECORD m CAN'T BE WRITTEN.
    Record m of the named file cannot be written.   Determine the reason for the I/O failure from the MPE file system error number (#n).

* FILE ERROR #n, filename RECORD m CAN'T BE WRITTEN.   FATAL ERROR!
    An output record cannot be written to the   named   list file. DSN/MRJE terminated. Determine the reason for the I/O failure from the MPE file system error   number (#n).

* FILE ERROR #n, xxxx CAN'T BE WRITTEN TO HOST READER.
    xxxx = "filename RECORD m" or "MONITOR CARD".   Record "m" of the SUBMIT input file, or the monitor card cannot be written to the host reader. (The latter associates a host job with a pseudo reader.) Determine the reason for the I/O failure from the   MPE   file   system error number (#n).

```
NOTE
```

An asterisk (*) preceding a message indicates the error causes program termination if DSN/MRJE is being run noninteractively.

Table 6-1.   DSN/MRJE User Messages (continued)

```
* FILE ERROR #n, CAN'T CLOSE $STDINX.  HOST CONSOLE COMMANDS
  CAN'T BE SENT.
          $STDINX (standard input device) must be  closed,  then
          re-opened  for  NOWAIT I/O, in order to send host con-
          sole commands.  Determine  the  reason  for  the  the
          failure from the MPE file system error number (#n).

  FILE ERROR #n, HOST BUSY.  CONSOLE COMMAND NOT SENT.
          Host pseudo console device has received more  messages
          from the host than it can handle. Determine the reason
          for the failure from the MPE file sytem error (#n).

* FILE ERROR #n, HOST CONSOLE CAN'T BE OPENED.
          Host pseudo console device specified in the configura-
          tion file cannot be opened.  Determine the reason  for
          the failure from MPE file system error number (#n).

* FILE ERROR #n, HOST CONSOLE COMMAND CAN'T BE WRITTEN.
          Host console command cannot be  written  to  the  host
          pseudo  console  device specified in the configuration
          file. Determine the reason for the  I/O  failure  from
          the MPE file system error number (#n).

* FILE NAME, DEVICE CLASS, OR LOGICAL DEVICE NUMBER REQUIRED.
          File name, device class, or logical device  number  is
          the only valid input.  Re-enter.

  hostname FILES CREATED.
          The configuration file set for the named host has been
          created as requested in the NEW command.

  FOLLOWING MUST BE INITIALIZED IN CONFIGURATION FILE:
          When creating a new configuration file, certain  items
          that do not have default values must be  initialized.

* FORMS SPECIFIED TWICE.
          "FORMS" file specified twice in SUBMIT  command.   Re-
          enter SUBMIT command, specifying FORMS only once.
```

+-----------+
| NOTE |
+-----------+

An asterisk (*) preceding a message indicates the error
causes program termination if DSN/MRJE is being run non-
interactively.

Table 6-1.   DSN/MRJE User Messages (continued)

---

* GET PRIVILEGED MODE FAILURE. FATAL ERROR!
        An error occurred in the GETPRIVMODE intrinsic.   This
        is an internal software failure. Contact Hewlett-
        Packard.

* GET USER MODE FAILURE. FATAL ERROR!
        An error occurred in the GETUSERMODE intrinsic. This
        is an internal software failure. Contact Hewlett-
        Packard.

* HOSTNAME MUST START WITH SAME CHAR AS HOSTID
        The first character of a host name must be the same as
        the first character of the host ID given in the NEW
        command. Re-enter.

* jobname IN DIRECTORY (ENTRY n) BUT NOT IN JOB LOG. FATAL
  ERROR!
        Named job has been found in directory entry n, but
        cannot be found in the job log. DSN/MRJE terminated.

        This is an internal software failure. Do not permit
        further jobs to be submitted to this job log. When
        all jobs in it have completed, use FCOPY to list the
        directory and job log as follows:

            :FILE L;DEV=LP
            :RUN FCOPY
            >FROM=MRJEJOBh;TO=*L;OCTAL;CHAR
            >FROM=MRJEDIRh;TO=*L;OCTAL;CHAR
            >EXIT

        ("h" is the host ID.)

        Show the listing to Hewlett-Packard. Use the PURGE ALL
        command to re-initialize the directory and job log
        files.

* INPUT FILE NAME(S) REQUIRED.
        SUBMIT requires at least one input filename. Re-enter
        the command.

```
NOTE
```

An asterisk (*) preceding a message indicates the error
causes program termination if DSN/MRJE is being run non-
interactively.

Table 6-1. DSN/MRJE User Messages (continued)

---

* INPUT MUST BE NUMERIC
        Numeric input required. Re-enter.

  INTERACTIVE TERMINAL REQUIRED FOR HOST CONSOLE COMMANDS.
        User/Manager must run DSN/MRJE interactively in order
        to   send   host   console   commands   from   a   terminal.
        (Console commands may also be sent as part of   an   IBM
        JCL deck, but they must be in batch format.)

* INVALID ACTUAL FILE DESIGNATOR.
        A fully qualified actual file designator has the form

        filename/lockword.groupname.accountname

        where names and   lockword have   a   maximum   of   eight
        alphanumeric   characters each, and the first character
        is alphabetic.   No   embedded   blanks   are   permitted.
        Re-enter.

* INVALID COMMAND.
        MRJE does not recognize the input as a command.   Enter
        a valid MRJE or host Job Entry Subsystem command.

* INVALID DEVICE CLASS SPECIFICATION.
        Valid device class has the form "name", where name can
        have   a   maximum   of   eight   alphanumeric   characters,
        starting   with   an alphabetic.   No embedded blanks are
        permitted and quotation marks are required.   Re-enter.

* INVALID FILE EQUATION SPECIFICATION
        Name must be less than or   equal   to   seven   characters.
        Consult your system administrator for more details.

* INVALID HOST SYSTEM.
        HASP, JES2, JES3, and ASP are the only valid host   Job
        Entry Subsystems.   Re-enter.

* INVALID HOSTID. MUST BE ALPHANUMERIC, <=8 CHARS.
        Valid host ID has   a   maximum   of   eight   alphanumeric
        characters. Re-enter.

```
┌──────────┐
│   NOTE   │
└──────────┘
```

An asterisk (*) preceding a message indicates the error
causes program termination if DSN/MRJE is being run non-
interactively.

Table 6-1. DSN/MRJE User Messages (continued)

---

* INVALID JOBNAME--TOO LONG.
> Eight characters is the maximum length for host job name. Re-enter.

* INVALID KEYWORD.
> Valid keywords are READER, PRINT, PUNCH, FORMS. Re-enter SUBMIT command.

* INVALID OCTAL NUMBER.
> Octal number cannot contain blanks or the digits 8 and 9. Re-enter.

* INVALID PARAMETER FOR DISPLAY COMMAND.
> Valid DISPLAY parameters are C[ONFIGURATION], D[IRECTORY], H[OST], J[OBLOG], O[LDJOBS], S[TATUS]. Re-enter DISPLAY command with correct parameter.

* INVALID SPECIAL CHARACTER.
> Re-enter using one of the following special characters only:
>
> , $ # @ / = " ( ) > % ; : & ! < ^ + - '

* INVALID SUBMIT PARAMETER.
> Valid SUBMIT parameters are "infile" "(N)" "(N,T)" "(T,N)" "(T)" and the keywords "READER", "PRINT", "PUNCH", and "FORMS". Reenter SUBMIT command.

* device IS AN INVALID PSEUDO LINE MONITOR DEVICE. FATAL ERROR!
> DSN/MRJE, in determining whether the host is on-line or off-line, has found that the pseudo line monitor logical device number in the configuration file is invalid. Ensure that the logical device number in the configuration file correctly indicates the pseudo line monitor device configured on the 3000.

* jobname IS NOT YOUR JOB.
> Requested job will not be canceled or displayed because the user's logon ID does not match that in the job log file entry. Re-enter CANCEL or DISPLAY with correct job name or job number.

```
+----------+
|   NOTE   |
+----------+
```

An asterisk (*) preceding a message indicates the error causes program termination if DSN/MRJE is being run non-interactively.

Table 6-1.   DSN/MRJE User Messages (continued)

hostname IS OFF-LINE.
        Named host is off-line.

hostname IS OFF-LINE. HOST CONSOLE COMMAND CAN'T BE SENT.
        Host console command cannot be sent because named host
        is off-line.   Re-enter command when host is on-line.

* hostname IS OFF-LINE. JOB CAN'T BE CANCELED AT HOST.
        Job to be canceled has been transmitted to host, but
        the host is now off-line, so a CANCEL command cannot
        be sent to host. However, the cancel flag in the job
        log entry is set so that any output from the job will
        be flushed.

hostname IS ON-LINE.
        Named host is on-line.

hostname IS THE CURRENT HOST MACHINE
        Named host is the host to which all succeeding
        commands will be directed.

* n IS THE MAX LEVEL OF NAMES IN THIS ACTUAL FILE DESIGNATOR.
        Lockword, groupname, and accountname are the only per-
        missible file name qualifications.

* n IS THE MAXIMUM NUMBER OF CHARACTERS FOR THIS PARAMETER.
        Certain inputs, such as phone number in the configura-
        tion file, cannot exceed a specified length. Reenter.

* command IS THE ONLY VALID CONSOLE COMMAND.
        The User is permitted to use only the host console
        command(s) designated by the Manager in the configura-
        tion file in Item 6. Re-enter.

* m TO n IS THE VALID RANGE FOR THIS PARAMETER.
        The number specified is not within valid range.
        Re-enter.

ITEM 4 ONLY DISPLAYED FOR MANAGER.
        Item 4 in the configuration file (host SIGNON image)
        is displayed only for the MRJE Manager.

NOTE

An asterisk (*) preceding a message indicates the error
causes program termination if DSN/MRJE is being run non-
interactively.

Table 6-1.   DSN/MRJE User Messages (continued)

ITEM NOT USED WITH THIS HOST SYSTEM.
   Items 11 and 17 in a configuration file are   not   used
   with a JES3 or ASP host.

* ITEM NUMBER REQUIRED.
   When altering a configuration   file,   item   number   is
   required.   Re-enter with an item number.

JOB ALREADY CANCELED.
   A CANCEL request has been entered for a job which   has
   already   been   canceled.   The   job   log   entry   is
   displayed.

JOB #n CAN'T BE CANCELED DUE TO A PREVIOUS SYSTEM FAILURE.
   Message occurs if the system is restarted between   the
   time   a job is submitted and the time a CANCEL request
   is issued.   System restart invalidates the spool   file
   numbers   that   would normally be used in a cancelation
   procedure.   Thus the CANCEL request fails.   After   re-
   ceiving all output for all jobs, purge all old jobs.

* JOB CAN'T BE CANCELED AT HOST FOR NON-INTERACTIVE USER.
   Job to be canceled has been transmitted to   the   host,
   but   since   the   User/Manager   is not running DSN/MRJE
   interactively the CANCEL command cannot be sent to the
   host.   However, the cancel flag in the job   log   entry
   is   set   so   that   any   output   from   the   job will be
   discarded.

JOB NOT CANCELED.
   When User/Manager requests that a job be canceled, the
   job log entry is displayed.   In an interactive session
   DSN/MRJE then asks for verification of the CANCEL.   If
   the response is anything other than "YES", the job   is
   not canceled.

```
┌───────────┐
│   NOTE    │
└───────────┘
```

An asterisk (*) preceding a message indicates the error
causes program termination if DSN/MRJE is being run non-
interactively.

Table 6-1. DSN/MRJE User Messages (continued)

---

n JOBS ARE IN THE JOBLOG. VERIFY PURGE WITH "YES".
>   When the Manager enters the PURGE ALL command DSN/MRJE
>   checks to see whether there are any jobs in the job
>   log. (These may or may not have completed.) If there
>   are remaining jobs and if the Manager is running
>   interactively he or she is asked to verify the PURGE
>   request by typing YES.

JOB#n NO JOBLOG ENTRY.
>   No job log entry exists for the job specified in a
>   CANCEL or DISPLAY command. Display by job name to
>   determine the correct job number.

* LOGICAL DEVICE NUMBER OR DEVICE CLASS REQUIRED.
>   A logical device number or device class is the only
>   valid input.   Back-references not permitted.
>   Re-enter.

MANAGER CAPABILITY IN EFFECT.
>   This user has "OP" capability.

* MANAGER CAPABILITY REQUIRED FOR THIS COMMAND
>   This command is not available to a user without "OP"
>   capability.

* MAXIMUM OF 5 INPUT FILES ALLOWED.
>   SUBMIT will accept a maximum of five explicit input
>   files. Re-enter the SUBMIT command.

* MISSING RIGHT PARENTHESIS.
>   Closing right parenthesis has been omitted from the
>   "(NOTRANSLATE)" or "(TRANSPARENT)" parameter.
>   Re-enter the SUBMIT command.

```
+------+
| NOTE |
+------+
```

An asterisk (*) preceding a message indicates the error
causes program termination if DSN/MRJE is being run non-
interactively.

Table 6-1.   DSN/MRJE User Messages (continued)

MRJECONh FILE ALREADY EXISTS. REPLY "YES" TO RECREATE.
  The host named in NEW command already has a set of
  configuration files.   In an interactive session the
  Manager is asked to verify that the existing files are
  to be deleted and new ones created.   Reply YES to
  delete the existing set of configuration files. Any
  other response will retain the existing files.

MRJECONh NOT ALTERED.
  No change has been made to the named configuration
  file because of an I/O error, invalid input, or no new
  value being entered when requested. If a change is
  required, re-enter the ALTER command.

MRJECONh SUCCESSFULLY ALTERED.
  The named configuration file has been successfully
  altered as requested.

MRJEJOBh COMPLETELY PURGED OF ALL JOB ENTRIES.
  Named job log has been completely purged as requested.

* MRJEJOBh DIRECTORY FULL. NO FURTHER JOBS CAN BE
  SUBMITTED.
  Directory of the named job log indicates that the job
  log is full. PURGE the named job log of old, inactive
  jobs.

* MRJEJOBh DIRECTORY/JOBLOG UPDATE CAN'T BE COMPLETED.
  FATAL ERROR!
  Some or all entries have been deleted from the job log
  during PURGE, but the job log or directory cannot be
  updated because of an I/O error. DSN/MRJE terminated.
  Rebuild the set of configuration files for this host
  using the NEW command.

MRJEJOBh END OF FILE.
  End-of-file has been reached in search of named job
  log.

┌─────────────┐
│   NOTE   │
└─────────────┘

An asterisk (*) preceding a message indicates the error
causes program termination if DSN/MRJE is being run non-
interactively.

Table 6-1.   DSN/MRJE User Messages (continued)

MRJEJOBh n JOBLOG ENTRIES CLEARED. m FREE ENTRIES NOW
EXIST.
> A PURGE command cleared n entries from the named job
> log file by:
> - deleting canceled jobs
> - deleting timed-out jobs
> - clearing directory entries that were reserved for
>   jobs that failed during SUBMIT.

MRJEJOBh JOBLOG IS EMPTY.
> Named job log is empty. This response may be given to
> a DISPLAY DIRECTORY, DISPLAY JOBLOG, or PURGE command.

MRJEJOB[x] NOT PURGED.
> The named job log has not been purged because the Man-
> ager negated his or her request, or an I/O error
> occurred.   If PURGE is required, determine the reason
> for failure from the MPE file error number given in
> the I/O error message and re-enter the PURGE command.

MRJEJOBh n OLD JOBS IN THIS FILE.
> The named job log contains n "old jobs" -- jobs which
> have timed-out or been canceled and are therefore sub-
> ject to purging.

MRJEJOBh n OLD JOBS PURGED THUS FAR.
> An error has occurred during PURGE processing which
> makes directory/job log update impossible. However, n
> old jobs have already been deleted from the job log.
> Rebuild the configuration files for this host using
> the NEW command.

* <current command char> MUST BE FIRST CHAR IN USER HOST CMD.
> The specified command character must be the first
> character entered in the user host command. For
> example, if the host system command character is a
> dollar sign ($), the User host command cannot be %DA.

* NO BLANKS ALLOWED IN FORMAL FILE DESIGNATOR
> Embedded blanks are not permitted within a back
> referenced file designator. Re-enter.

NOTE

An asterisk (*) preceding a message indicates the error
causes program termination if DSN/MRJE is being run non-
interactively.

Table 6-1.   DSN/MRJE User Messages (continued)

---

* NO CLOSING QUOTE ON DEVICE CLASS NAME.
> Valid device class must be enclosed in quotes. Re-enter.

* NO FILE DESIGNATOR ON ##FD CARD.
> A ##FD card with no file designator has been found in a SUBMIT input file.   Correct the ##FD card and re-submit.

* NO JOB CARD FOUND.
> DSN/MRJE has read and spooled or transmitted all SUBMIT input (Infiles and FD files) without finding a host JOB card with the form:

> //jobname JOB optional information

> Add a valid host job card and re-SUBMIT.

* NO NEW FILES CREATED.
> If an error occurs or the DSN/MRJE Manager enters Control-Y during NEW command processing, no new set of configuration files is created. If new files are required, determine the reason for failure from the MPE file error number given in the I/O error message and re-enter the NEW command.

* NO PARAMETERS ALLOWED.
> No parameters are allowed in this command.   Re-enter the command.

NO SPOOL FILE FOUND.
> Message occurs when a job is canceled and no spool file exists that contains information to be transmitted for the canceled job.

jobname NOT FOUND.
> The job named in a CANCEL or DISPLAY command is not in the job log. Ensure that job name is correct and re-enter the command.   The Manager may DISPLAY the entire job log to check job names.

| NOTE |

An asterisk (*) preceding a message indicates the error causes program termination if DSN/MRJE is being run non-interactively.

Table 6-1. DSN/MRJE User Messages (continued)

JOB NOT SUBMITTED.
jobname

>   The named job (or "JOB" if DSN/MRJE did not find a host card) was not submitted to the host. Make certain the job has a recognizable job card.

* NOTRANSLATE CAN'T BE SPECIFIED FOR $STDIN/$STDINX.

>   Input from the standard input file is always translated from ASCII to EBCDIC or EBCDIK, depending on translation type. Re-enter SUBMIT command, deleting the "(NOTRANSLATE)" parameter from $STDIN/$STDINX.

* "NOTRANSLATE" REQUIRED.

>   "(NOTRANSLATE)" or "(TRANSPARENT)" are the only parenthesized parameters allowed in the SUBMIT command. Re-enter command.

* NUMERIC PARAMETER EXPECTED.

>   Numeric input is expected after a comma. Re-enter.

* ONLY 3 PARAMETERS ARE ALLOWED.

>   Only three values (days, hours, minutes) can be given to specify maximum time a job remains in the job log after transmittal. Re-enter.

* outfile : OUTPUT FILE DOES NOT EXIST.

>   The named output file (PRINT, PUNCH, or FORMS file) has been given in a SUBMIT command, but has not yet been created. Build the named output file and resubmit.

* PARAMETERS REQUIRED.

>   The given command requires parameters. Re-enter the command.

* PRINT SPECIFIED TWICE.

>   PRINT file specified twice in SUBMIT command. Reenter command, specifying "PRINT" once only.

```
┌──────────┐
│   NOTE   │
└──────────┘
```

An asterisk (*) preceding a message indicates the error causes program termination if DSN/MRJE is being run non-interactively.

Table 6-1. DSN/MRJE User Messages (continued)

---

* PUNCH SPECIFIED TWICE
        PUNCH file specified twice in SUBMIT command. Reenter
        command, specifying "PUNCH" once only.

* reader READER CANNOT BE CLOSED.
        The named host pseudo reader cannot be closed. Deter-
        mine the reason for the failure from MPE file error
        number.

* READER SPECIFIED TWICE.
        READER file specified twice in SUBMIT command.
        Reenter command.

  SPOOL FILE DELETED.
        Message occurs when a job is canceled before it is
        transmitted to the host and the spool containing it is
        deleted.

  SPOOL FILE NOT IN READY STATE. UNABLE TO DELETE.
        Message occurs when a job is canceled while it is
        being transmitted to the host. The spool file is busy
        and cannot be deleted.

* STANDARD INPUT FILE CAN'T BE OPENED. FATAL ERROR!
        $STDINX cannot be opened. DSN/MRJE terminates.

* STANDARD INPUT FILE CAN'T BE OPENED FOR NOWAIT I/O.
        $STDINX must be opened for NOWAIT I/O in order to send
        host console commands.

* $STDIN, $STDINX, $OLDPASS ARE ONLY SYSTEM INPUT FILES
  ALLOWED.
        Only those system files named in the message can be
        used for Input or FD files. Other system files are
        prohibited. Re-enter SUBMIT with valid input files.

* THIS ITEM NOT DYNAMICALLY CONFIGURABLE.
        Items 1, 18, 40, and 41 in the configuration file
        cannot be altered after the file has been created. In
        order to change these items, use the NEW command to
        reconstruct the configuration file.

NOTE

An asterisk (*) preceding a message indicates the error
causes program termination if DSN/MRJE is being run non-
interactively.

Table 6-1. DSN/MRJE User Messages (continued)

USER CAPABILITY IN EFFECT.
          This user does not have "OP" capability, and cannot
          carry out DSN/MRJE Manager functions.

* VALID RESPONSE MUST BE GIVEN.
          When creating a new set of configuration files, items
          that do not have default values must be initialized.
          DSN/MRJE continues to ask for a valid response until
          one is given or until the Manager enters Control-Y, in
          which case no new files are created.

VERIFY CANCEL WITH "YES".
          When User/Manager requests that a job be canceled, the
          job log entry is displayed. In an interactive session
          DSN/MRJE then asks for verification of the CANCEL.
          Reply YES to verify cancellation.

WARNING: HOST COMMAND CARD FOUND IN INPUT-NOT TRANSMITTED.
          DSN/MRJE did not transmit the record to the host.
          SUBMIT processing continues.

WARNING: MRJEOD CARD FOUND IN INPUT-NOT TRANSMITTED.
          An MRJEOD card is only required when an input file
          (Infile or FD file) is $STDIN or $STDINX. If an
          MRJEOD card is found in any other input file it is not
          transmitted to the host. SUBMIT processing continues.

WARNING: SIGNOFF CARD FOUND IN INPUT-NOT TRANSMITTED.
          A signoff card has the form:

          /*SIGNOFF

          DSN/MRJE did not transmit this record to the host.
          SUBMIT processing continues.

* "YES" OR "NO" REQUIRED.
          YES or NO is the only valid response. Re-enter.

```
NOTE
```

An asterisk (*) preceding a message indicates the error
causes program termination if DSN/MRJE is being run non-
interactively.

Table 6-1.   DSN/MRJE User Messages (continued)

```
* YOU MUST LOG ON MANAGER.SYS TO CREATE/PURGE CONFIG FILES.
      The MRJE Manager must be logged on to  MANAGER.SYS,PUB
      to   create  a set of configuration files (NEW command)
      or to purge all entries from the job log (PURGE  ALL),
      since the files are in PUB.SYS.
```

```
NOTE
```

An asterisk (*) preceding a message indicates the error
causes program termination if DSN/MRJE is being run non-
interactively.

Table 6-2. MRJECONTROL Console Messages

The messages in this table can be received by DSN/MRJE users while using :MRJECONTROL commands.

CIERR(OR) NUMBER	MESSAGE, MEANING AND RECOVERY
4200	EXPECTED ONE OR MORE OF THE CONTROL FUNCTIONS: START, TRACE, RETRIES, SIGNOFF OR KILL. Entering "MRJECONTROL" alone is not OK. Enter "MRJECONTROL" plus one of the control commands listed in the message.
4201	EXCEEDED MAXIMUM NUMBER OF PARAMETERS. Look up syntax of DSN/MRJE command and reenter using no more than the maximum number of parameters allowed.
4202	START ALREADY REQUESTED. The :MRJECONTROL START command has already been issued, but the line is not fully open. Before the command can again be successfully issued, the :MRJECONTROL SIGNOFF or :MRJECONTROL KILL command must be executed.
4203	EXPECTED TWO PARAMETERS, HOSTID AND RETRYNUM. Re-enter command using both parameters.
4204	UNABLE TO OPEN CONFIGURATION FILE FOR THIS HOST. There are several possible reasons for this message: 1) The wrong host ID may have been used in command. 2) Someone may be altering or rebuilding the configuration file. 3) There may be no configuration file for this host.
4205	UNABLE TO ACCESS CONFIGURATION FILE FOR THIS HOST. An FWRITE to or FREAD from the file failed.
4206	INSUFFICIENT CAPABLITIES FOR MRJECONTROL COMMANDS. A user must be authorized to use MRJECONTROL commands through the MPE :ALLOW command.

Table 6-2.   MRJECONTROL Console Messages (continued)

CIERR(OR) NUMBER	MESSAGE, MEANING AND RECOVERY
4207	UNABLE TO CREATE MRJEMON. Do a LISTF on MRJEMON.PUB.SYS to see if file exists. If it doesn't, check MPE configuration.
4208	UNABLE TO ACTIVATE MRJEMON. Do a LISTF on MRJEMON.PUB.SYS to see if file exists. If it does, check MPE configuration.
4209	MRJE ALREADY ACTIVE. Line already open. Command is ignored.
4210	NUMBER OF RETRIES MUST BE IN RANGE 1 - 255. Re-enter command with "RETRIES" within range.
4211	SIGNOFF ALREADY REQUESTED. Command in process. If line won't close, it may be necessary to issue :MRJECONTROL KILL.
4212	KILL ALREADY REQUESTED. :MRJECONTROL KILL command already has been requested. If line won't close, it may be necessary to physically disconnect it.
4213	INVALID DEVICE FOR MRJE0. The logical device numbers for items 2 and 3 of the configuration file differ those in the MPE I/O system configuration. Alter the configuration file.
4214	EXPECTED AT LEAST ONE PARAMETER, "ON" OR "OFF". Issue TRACE with an "ON" or an "OFF".
4215	MRJE NOT ACTIVE. Start DSN/MRJE (:MRJECONTROL START) and then re-issue command.
4216	NO SYSTEM BUFFER AVAILABLE. COMMAND FAILED. Re-issue command until it succeeds. If problem persists, contact Hewlett-Packard.
4217	"TRACE" ONLY VALID COMMAND HERE.
4218	MRJEMON ADOPT FAILURE. Contact Hewlett-Packard.

Table 6-2.   MRJECONTROL Console Messages (continued)

CIERR(OR) NUMBER	MESSAGE, MEANING AND RECOVERY
4219	HOST ID MUST BE ALPHANUMERIC. Host ID may not contain a special character.
4220	SIGNOFF INVALID UNTIL HOST CONNECTION COMPLETED. :MRJECONTROL SIGNOFF cannot be executed until the communications line is open.

Table 6-3. DSN/MRJE Messages Sent to System Console

```
┌──────────────────────────────────────────────────────────────┐
│                      ┌──────────────┐                          │
│                      │     NOTE     │                          │
│                      └──────────────┘                          │
│                                                                │
│    A number of DSN/MRJE messages are  sent  to  the  system    │
│    console only.  The messages have the following format:      │
│                                                                │
│        time/pin/MRJEh message                                  │
│                                                                │
│                         or                                     │
│                                                                │
│        time/pin/MRJEh WARNING: message                         │
│                                                                │
│                         or                                     │
│                                                                │
│        time/pin/MRJEh ERROR: message                           │
│                                                                │
│    Message items are:                                          │
│                                                                │
│    time        The time of day the message was sent.           │
│                                                                │
│    pin         The MPE process identification number.          │
│                                                                │
│    MRJE        Indicates DSN/MRJE generated the message and that│
│                the message concerns the default host system.   │
│                                                                │
│    MRJEh       Indicates DSN/MRJE generated the message and     │
│                that the message concerns the host system whose  │
│                ID begins with the alphanumeric character h.     │
│                                                                │
│    message     The message itself.                             │
│                                                                │
│    WARNING:    This message reports a potential problem.        │
│                                                                │
│    ERROR:      This message reports a failure.                  │
├────────────────────────────────────────────────────────────────┤
│  ACTIVATE FAILURE ON MRJEMON.                                  │
│          Internal software error. Contact Hewlett-Packard.     │
│                                                                │
│  CONFIGURED BUFFER SIZE INVALID.                               │
│          Buffer size in the MRJE configuration file (Item  43) │
│          is  invalid.   The MRJE Manager must alter the item in│
│          the configuration file to agree with the host system's│
│          buffer size.                                          │
│                                                                │
│  CONSMRJE, OPEN FAILURE (nn) ON $NULL.                         │
│          File system error nn.  Contact Hewlett-Packard.       │
└────────────────────────────────────────────────────────────────┘
```

Table 6-3.   DSN/MRJE Messages Sent to System Console (continued)

CONSMRJE, OPEN FAILURE (nn) ON MRJECONh.
        The specified MRJE configuration file could not be
        opened; see if it exists. If it does, determine the
        cause of the the failure from the file system error
        number (nn) and take corrective action.

CONSMRJE, READ FAILURE (nn) ON MRJECONh.
        File system error nn.   If severe, contact Hewlett-
        Packard.

CONSMRJE, WRITE FAILURE (nn) ON MRJECONh.
        File system error nn.   If severe, contact Hewlett-
        Packard.

CREATE FAILURE ON MJOBLOGR.
        A job-logging process could not be created.   Ensure
        that MRJELOGR is present in PUB.SYS.

CREATE FAILURE ON MRJEMON.
        An DSN/MRJE monitor process could not be created.
        Ensure that MRJEMON is present in PUB.SYS.

CREATE FAILURE ON MRJEOUT.
        An DSN/MRJE output process could not be created.
        Ensure that MRJEOUT is present in PUB.SYS.

CS, OP AND SM REQUIRED TO RUN MRJEMON
        The MRJE Monitor process can only be run by a user
        whose capabilities include CS, OP, and SM.

DATA RECEIVED FOR INVALID UNIT #nn.
        The host system has sent data to an unconfigured
        pseudo device.
        1. Backspace the host unit (nn).
        2. Drain host unit (nn).
        3. As soon as convenient, reconfigure the DSN/MRJE
            pseudo I/O devices so that the host and the HP
            3000 system have the same configuration.

        DSN/MRJE pseudo devices should be configured with the
        following unit numbers:

                2   pseudo console
             3 thru 9   pseudo line printers 1 thru 7
            10 thru 16 pseudo punches 1 thru 7

Table 6-3. DSN/MRJE Messages Sent to System Console (continued)

DIAL REMOTE number.
> The communications link has been initially established. Dial the number shown in the message and complete the connection. This message is printed only if the INP or SSLC is configured for a switched (not a leased) line.

FINAL TERMINAL SIGNOFF
> The remote computer issued a sign off to MRJE.

HOST BLOCK SEQUENCE (nl,n2).
> A block sequence error occurred on the CS device. Block n2 was received when block nl was expected. Normally, MRJE will recover from this condition. If the problem recurs, contact Hewlett-Packard.

HOST BUFFER SIZE (nnnn) EXCEEDS MAXIMUM.
> The value specified in the MRJE configuration file for the host buffer size is greater than 2048. The MRJE Manager should alter Item 43 in the configuration file.

HOST ID IS TOO LONG
> When a RUN MRJEMON;INFO="h" was issued, the "h" was more than one character long.

HOST # NOT ENTERED FOR 3000 JOB #nnn.
> All output received from job nnn was sent to one of the unsolicited output device specified in MRJE configuration file.

INVALID BUFFER RECEIVED FROM HOST.
> The last buffer of data received from the host had contradictory or invalid control information. Contact Hewlett-Packard.

INVALID DEVICE FOR MRJE0.
> The logical device number configured in the MRJE configuration file for the pseudo line (Item 3) is not the same as the number configured into MPE for IOMRJE0. The MRJE Manager must alter the logical device number in the configuration file (#ALTER command).

INVALID LDEV NUMBER n
> Logical device number "n", referenced by MRJE, has not been configured within the system.

Table 6-3. DSN/MRJE Messages Sent to System Console (continued)

KILL ALREADY REQUESTED.
>   The :MRJECONTROL KILL message has already been issued,
>   but it was unsuccessful. Subsequent KILL commands for
>   the same host cause this message. If MRJE does not
>   disconnect the line, you may need to physically dis-
>   connect it. If MRJE repeatedly fails to close the
>   line   after the KILL command is issued, contact
>   Hewlett-Packard.

LOCKSEG FAILURE.
>   LOCKSEG Intrinsic failure. Internal software problem.
>   Contact Hewlett-Packard.

n1 BLOCK SEQUENCE RECOVERY.   EXPECTED BLOCK n2.
RECEIVED BLOCK n3.
>   While data was being transmitted to the host system,
>   block n3 was received when block n2 was to have been
>   sent. There were n1 blocks recovered. MRJE will nor-
>   mally recover from this condition.   If the problem
>   persists, contact Hewlett-Packard.

MRJELOGR, FINFO FAILURE (nn) ON MRJEDIRh.
>   File system error nn.   If severe, contact Hewlett-
>   Packard.

MRJELOGR, JOB TRANSMITTED TO WRONG HOST.
>   In HP 3000 systems configured with two or more MRJE
>   subsystems, jobs can be transmitted to the wrong host
>   if the same pseudo card reader is configured in more
>   than one MRJE configuration file.

MRJELOGR, OPEN FAILURE (nn) ON $NULL.
>   File system error nn.   If severe, contact Hewlett-
>   Packard.

MRJELOGR, OPEN FAILURE (nn) ON MRJECONh.
>   File system error nn.   If severe, contact Hewlett-
>   Packard.

MRJELOGR, OPEN FAILURE (nn) ON MRJEDIRh.
>   File system error nn.   If severe, contact Hewlett-
>   Packard.

MRJELOGR, OPEN FAILURE (nn) ON MRJEJOBh.
>   File system error nn.   If severe, contact Hewlett-
>   Packard.

Table 6-3.   DSN/MRJE Messages Sent to System Console (continued)

MRJELOGR, READ FAILURE (nn) ON MRJECONh.
   File system error nn.   If   severe,   contact   Hewlett-
   Packard.

MRJELOGR, READ FAILURE (nn) ON MRJEDIRh.
   File system error nn.   If   severe,   contact   Hewlett-
   Packard.

MRJELOGR, READ FAILURE (nn) ON MRJEJOBh.
   File system error nn.   If   severe,   contact   Hewlett-
   Packard.

MRJELOGR, WRITE FAILURE (nn) ON MRJEDIRh.
   File system error nn.   If   severe,   contact   Hewlett-
   Packard.

MRJELOGR, WRITE FAILURE (nn) ON MRJEJOBh.
   File system error nn.   If   severe,   contact   Hewlett-
   Packard.

MRJEMON, OPEN FAILURE (nn) ON CS DEVICE.
   The MRJE monitor could not   open   the   line.   The   CS
   error   number   (nn)   references   the   reason   for   the
   failure.   CS error codes are listed in Tables 6-4   and
   6-5.

MRJEMON, OPEN FAILURE (nn) ON $NULL.
   File system error nn.   If   severe,   contact   Hewlett-
   Packard.

MRJEMON, OPEN FAILURE (nn) ON MRJEO.
   The DSN/MRJE pseudo line monitor   file   could   not   be
   opened.   (nn) specifies the MPE file system error num-
   ber which identifies a reason for the failure.   If the
   problem is severe, contact Hewlett-Packard.

MRJEMON, OPEN FAILURE (nn) ON MRJECONh.
   File system error nn.   If   severe,   contact   Hewlett-
   Packard.

MRJEMON, READ FAILURE (nn) ON CS DEVICE.
   The communication link to the   host   failed.   The   CS
   error   number (nn) identifies the reason for the fail-
   ure.   CS errors are listed in Tables 6-4 and 6-5.   If
   the problem is severe, contact Hewlett-Packard.

MRJEMON, READ FAILURE (nn) ON MRJEO.
   File system error nn.   If   severe,   contact   Hewlett-
   Packard.

Table 6-3.   DSN/MRJE Messages Sent to System Console (continued)

MRJEMON,   READ FAILURE (nn) ON MRJECONh.
           File system error nn.   If severe, contact Hewlett-
           Packard.

MRJEMON,   WRITE FAILURE (nn) ON CS DEVICE.
           If this message appears as a WARNING, a communication
           problem developed and DSN/MRJE sent a SIGNOFF command
           prior to disconnecting the line.   The host system
           probably has accepted the command and is closing the
           communications link.

           If this message appears as an ERROR, the communica-
           tions link failed unexpectedly. Irrecoverable commun-
           ication error codes are listed in Table 6-4.   The CS
           error number references the reason for the failure.
           Contact Hewlett-Packard, if such errors persist.

MRJEMON,   WRITE FAILURE (nn) ON MRJEO.
           File system error nn.   If severe, contact Hewlett-
           Packard.

MRJEMON,   WRITE FAILURE (nn) ON MRJECONh.
           File system error nn.   If severe, contact Hewlett-
           Packard.

MRJEOUT,   CLOSE FAILURE (nn) ON MRJECONh.
           File system error nn.   If severe, contact Hewlett-
           Packard.

MRJEOUT,   FINFO FAILURE (nn) ON MRJE'PNLP.
           File system error nn.   If severe, contact Hewlett-
           Packard.

MRJEOUT,   FINFO FAILURE (nn) ON MRJEOUT.
           File system error nn.   If severe, contact Hewlett-
           Packard.

MRJEOUT,   OPEN FAILURE (nn) ON $NULL.
           File system error nn.   If severe, contact Hewlett-
           Packard.

MRJEOUT,   OPEN FAILURE (nn) ON MRJE'PNLP.
           File system error nn.   If severe, contact Hewlett-
           Packard.

MRJEOUT,   OPEN FAILURE (nn) ON MRJECONh.
           File system error nn.   If severe, contact Hewlett-
           Packard.

Table 6-3.   DSN/MRJE Messages Sent to System Console   (continued)

```
MRJEOUT,  OPEN FAILURE (nn) ON MRJEDIRh.
          File system error nn.   If  severe,  contact  Hewlett-
          Packard.

MRJEOUT,  OPEN FAILURE (nn) ON MRJEJOBh.
          File system error nn.   If  severe,  contact  Hewlett-
          Packard.

MRJEOUT,  OPEN FAILURE (nn) ON MRJEOUT.
          DSN/MRJE couldn't open a User's output  file.   Output
          destined  for  the file is irrecoverable.  Notify DSN/
          MRJE Users that output was lost.  This is file  system
          error nn.   If severe, contact Hewlett-Packard.

MRJEOUT,  READ FAILURE (nn) ON MRJE'PNLP.
          File system error nn.   If  severe,  contact  Hewlett-
          Packard.

MRJEOUT,  READ FAILURE (nn) ON MRJECONh.
          File system error nn.   If  severe,  contact  Hewlett-
          Packard.

MRJEOUT,  READ FAILURE (nn) ON MRJEDIRh.
          File system error nn.  Contact Hewlett-Packard.

MRJEOUT,  READ FAILURE (nn) ON MRJEJOBh.
          When nn=0, it indicates that unsolicited  output  that
          doesn't  belong  to  any entry in the job log file was
          received.  When nn does not equal  zero,  an  internal
          software error has occurred.  In the latter case, con-
          tact Hewlett-Packard.

MRJEOUT,  WRITE FAILURE (nn) ON MRJE'PNLP.
          This message should be ignored.

MRJEOUT,  WRITE FAILURE (nn) ON MRJEOUT.
          DSN/MRJE couldn't write to a user's file.  Output des-
          tined for the file is irrecoverable.  Notify  DSN/MRJE
          users that output was lost. Contact Hewlett-Packard.

MRJESTRh  FILE DOES NOT EXIST
          An  MRJECONTROL  START,h has been issued, but there is
          no stream file MRJESTRh for host  id  h.   The  stream
          file  is  used to initiate MRJE communication with the
          host system.
```

Table 6-3.   DSN/MRJE Messages Sent to System Console   (continued)

NO 3000# FOR HOST JOB# nnnn, jobname.
    Internal software problem. All output received for
    JOB# nnnn was sent to the unsolicited output devices
    specified in the DSN/MRJE configuration file. If the
    problem is severe, contact Hewlett-Packard.

NO SYSTEM BUFFER FOR SIGNOFF.
    An :MRJECONTROL SIGNOFF command failed because no HP
    3000 system buffers were available. Wait and try
    again. If this problem occurs frequently, contact
    Hewlett-Packard.

PHYSICAL BOUNDS OF OUTFILE EXCEEDED FOR IBM JOB nnnn PLEASE
RESPOND "RETRY" OR "FLUSH".
    The file specified to receive output for host job nnnn
    appears to be full. Writing to the file is suspended
    until the console operator responds to the message. A
    FLUSH response causes the remaining job output to be
    sent from the host, but the data is lost. Notify the
    owner of job nnnn that output was lost. A RETRY re-
    sponse causes the system to attempt to rewrite the
    lost record. Use RETRY only after attempting to iden-
    tify and rectify the cause of the message.   If the
    rewrite fails, this message is repeated until a retry
    is successful or until a FLUSH response is given.

PRINTER O TERMINATING.
    Internal software error. A printer or punch output
    process terminated, but DSN/MRJE cannot determine
    which one. Contact Hewlett-Packard.

PRINTER n TERMINATING.
    Internal software error. The DSN/MRJE output process
    corresponding to printer n terminated.
    1.   If no SIGNON COMPLETED message has been received,
         enter the :MRJECONTROL KILL [,hostid] command.
    2.   If a SIGNON COMPLETED message has been received,
         backspace host printer n to the beginning of the
         data set.
    3.   Drain all host printers and punches.
    4.   Enter the :MRJECONTROL SIGNOFF [,hostid] command.
    5.   In either case, contact Hewlett-Packard.

Table 6-3. DSN/MRJE Messages Sent to System Console (continued)

PUNCH n TERMINATING.
>Internal software error. The DSN/MRJE output process corresponding to punch n terminated.
>1. If no SIGNON COMPLETED message has been received, enter the :MRJECONTROL KILL [,hostid] command.
>2. If a SIGNON COMPLETED message has been received, backspace host punch n to the beginning of the data set.
>3. Drain all host printers and punches.
>4. Enter the :MRJECONTROL SIGNOFF [,hostid] command.
>5. In either case, contact Hewlett-Packard.

SIGNOFF ALREADY REQUESTED.
>The :MRJECONTROL SIGNOFF command has already been entered. (If the SIGNOFF command is issued while the host is transmitting, transmission continues until the current data set has been received; then the line is disconnected.)

SIGNON COMPLETED.
>The :MRJECONTROL START command has successfully executed and the communication link is now open. If jobs have been submitted, DSN/MRJE will automatically begin transmitting data and accepting output.

SYSTEM ALREADY ACTIVE.
>The :MRJECONTROL START command was issued for a host that is already connected.

SYSTEM NOT ACTIVE.
>The :MRJECONTROL SIGNOFF (or KILL) command was issued for a host that is not connected.

TERMINATING.
>The DSN/MRJE monitor process terminated. When printed alone (that is, without an accompanying ERROR or WARNING message), the termination was normal.

Table 6-3. DSN/MRJE Messages Sent to System Console (continued)

UNABLE TO OPEN UNSOLICITED OUTPUT FILE FOR IBM JOB nnnn
PLEASE RESPOND "RETRY" OR "FLUSH".

> The device or file specified to receive unsolicited output cannot be opened. The output procedure is suspended until the Console Operator responds to the message.   A FLUSH response restarts output from the host, but all data is lost. Notify the owner of job nnnn that output was lost. A RETRY response causes the system to try again to open the device or file. Use RETRY only after attempting to identify and rectify the cause of the message. If the specified device file still cannot be opened, this message is repeated until RETRY is successful or until a FLUSH response is given.

UNLOCKSEG FAILURE.

> The UNLOCKSEG intrinsic failed. Internal software error.
> 1. COOLSTART the system (to reclaim the line monitor's stack).
> 2. Contact Hewlett-Packard.

ZSIZE ERROR.

> The ZSIZE intrinsic failed. Internal software error. Contact Hewlett-Packard.

Table 6-4. CS Irrecoverable Error Codes

Irrecoverable Error codes are divided into the eight general categories listed at the beginning of this table. The individual codes and their meanings are listed in the second part of the table. Any which occur frequently should be reported to Hewlett-Packard.	

ERROR CODES	GENERAL DESCRIPTION
1 through 40	The communications software could not open the line (COPEN failed), possibly due to incorrect MPE I/O system configuration.
41 through 50	A CS Intrinsics error occurred perhaps associated with opening the line. Contact Hewlett-Packard.
51 through 81	A CS Intrinsics error occurred which did not involve opening the line (COPEN was not involved). Contact Hewlett-Packard.
84 through 109	A hardware error occurred or an INP self-test failed.
110 through 113	The INP trace process detected errors.
115 through 124	The mainframe interconnect (IC) detected an error.
151 through 200	An error or exceptional condition caused the line to be disconnected.
201 through 250	An error or exceptional condition occurred but the line was not disconnected.

ERROR CODE	DESCRIPTION
5	Not enough stack space to process the line opening.
6	Invalid driver name.
7	Driver not found.
8	Driver not compatible with the attributes of the communication line. Reconfigure the communications interface (refer to Appendix D).

Table 6-4. CS Irrecoverable Error Codes (continued)

ERROR CODE	DESCRIPTION
9	Driver not changeable. Reconfigure MPE and specify DRIVER CHANGEABLE? YES for the SSLC driver. (Note: the INP driver may not be configured as "changeable".)
10	Undefined device. Reconfigure MPE to include a communications controller.
11	Device not available. Device may be in use by another process, or the logical device for the communications controller has been brought down (:DOWN). In the latter case, the console operator should bring the device up again (use :UP command).
12	Not a CS device.
13	Line in use by another subsystem. The console operator must terminate the other subsystem before the line can be used for DSN/MRJE activity.
14	Invalid ID sequence length.
15	Invalid buffer size.
17	Invalid phone number length.
18	Illegal character in phone number.
19	The line configuration is not compatible with the physical line. Reconfigure MPE. (Refer to Appendix D.)
20	Invalid information type in MISCARRAY.
21	Invalid information value in MISCARRAY.
24	Could not open trace file.
25	Trace process unable to get/lock/freeze extra data segment.
26	Invalid user capability.
27	Invalid line designator.
28	No designator or device specified.

Table 6-4. CS Irrecoverable Error Codes (continued)

ERROR CODE	DESCRIPTION
29	Too many files/lines.
31	Insufficient memory space.
32	Driver failed to open line.
33	Local mode was control station, but SUPLIST parameter was not specified.
35	Down-load file error.
38	HP 3000 trace process not created/active.
39	Not enough INP buffer space.
48	No virtual memory available for trace and/or buffering.
49	DB not pointing at stack.
50	Need process handling capability to trace.
51	Invalid line number - no such line.
52	Invalid parameter value.
53	Trace process detected a read error.
54	Autodialer detected errors.
55	Buffer or count not specified.
56	Invalid buffer count parameter.
57	No answer to dial attempt.
58	No phone list for dial attempt.
59	Bad dial message. This is a system problem.
60	Invalid array length parameter.
61	Bad CCONTROL code.
63	No I/O in progress for abort.
64	Abort ignored.

Table 6-4.   CS Irrecoverable Error Codes (continued)

ERROR CODE	DESCRIPTION
70	Exceeds maximum writes allowed outstanding.
71	Exceeds maximum reads allowed outstanding.
73	Parameter bounds violation.
74	No CS buffers remaining.
76	Buffer parameter required but not specified.
77	Maximum number of I/O requests is already outstanding. Must first issue IOWAIT.
78	No I/O pending for any file/line.
79	No I/O pending for specified file/line.
80	Illegal operation on INP device.
81	File system error in INP dump.
84	INP USYNRT failure with DMA.
85	INP parity error.
86	INP RAM software error.
87	INP received bad self-test control character.
88	INP DMA self-test error.
89	INP microprocessor (MC2) failure.
90	INP ROM failure.
91	INP RAM failure.
92	INP USART transmitter overrun.
93	INP USART parity error.
94	INP USART self-test receive error.
95	INP USYNRT self-test transmitter underrun.

Table 6-4. CS Irrecoverable Error Codes (continued)

ERROR CODE	DESCRIPTION
96	INP USYNRT self-test receive error
97	INP USYNRT self-test receive overrun.
98	INP USYNRT self-test receive aborted.
99	INP USART self-test received no data.
101	Non-responding device.
102	Transfer error.
103	Data set not ready. Indicates remote system disconnected the line, or some sort of problem developed with the modem.
104	Carrier loss. The modem may have disconnected or the phone line has a problem.
105	Data overrun on the communications interface.
106	INP USYNRT received no data.
107	INP USART failure with DMA.
108	Timer failure.
109	INP RAM parity error.
110	INP has no memory for trace buffers.
111	Illegal number of trace buffers requested.
112	Illegal start/stop requests.
113	Illegal trace record size specified.
115	Power failure during down load.
116	Mainframe IC driver timed out.
117	Invalid interrupt.
118	Start/stop I/O program error.

Table 6-4. CS Irrecoverable Error Codes (continued)

ERROR CODE	DESCRIPTION
119	Power failure recovery error.
120	Internal driver error.
121	ROM self test error.
122	HPIB error.
123	GIC error.
124	Reset while in RAM.
151	Connect timeout. Line connection did not occur in the time set during MPE configuration.
153	Remote rejected the connection.
154	Power failure.
155	Local timeout.
156	An internal error was detected by the CS driver.
157	Remote terminal protocol error. The line disconnected.
158	Remote terminal sent shutdown sequence and disconnected.
159	Remote terminal sent shutdown sequence and discon-nected before I/O request was issued.
160	An internal error was detected by MPE.
161	Initialization timer expired.
201	Operation aborted.
202	Invalid user request.
203	Remote is not ready to accept line bid.
204	Remote rejected the line bid.
205	Remote primary station bid for the line while local user was also bidding.

Table 6-4.   CS Irrecoverable Error Codes (continued)

ERROR CODE	DESCRIPTION
206	Remote has requested to send (an RVI sequence was received).
207	Transmission retry count was exhausted. If this recurs, it may be necessary to set a higher retry limit (use :MRJECONTROL RETRIES).
208	Unexpected text was received from a terminal.
209	Receive timeout. An expected response from a terminal did not occur.
210	Remote terminal sent end-of-transmission.
211	Remote sent end-of-transmission sequence and disconnected before the I/O request was issued.
212	During the execution of a CWRITE conversational with output buffer specified to also be the input buffer, the remote requested a resend of the output buffer but the contents had been modified while receiving from the remote.
213	Remote sent an ACK sequence in response to local CREAD acknowledgement.
214	Remote sent a NAK sequence in response to a local CREAD acknowledgement.
215	Remote sent an RVI sequence in response to local CREAD acknowledgement.
216	Remote requested a download sequence be initiated.
217	No line bid was received from the remote causing a local timeout.
218	Remote sent a delay sequence instead of the expected text/response.
220	An EOT was received from the remote before the last block of a multiblock transmission was sent.
221	A terminal was requested to wait before transmitting text but ignored the request and sent text anyhow.

Table 6-4. CS Irrecoverable Error Codes (continued)

ERROR CODE	DESCRIPTION
223	Too much data was transmitted by the remote; part of the data was lost.

Table 6-5. CS Recoverable Error Codes

ERROR CODE	DESCRIPTION
0	No error occurred.
1	Invalid ID sequence received.
2	Received unintelligible sequence.
3	Block check character or field check sequence error.
4	Response timeout.
5	Received incorrect acknowledgement.
8	Received unintelligible sequence after sending text.
9	Received enquiry character after sending text.
10	Remote requested a resend of local's last response.
11	Remote requested resend of last text block.
12	Received end-of-transmission character while in control state.
13	Received text overflow.
14	Data overrun occurred on SIO multiplexer.
15	Transfer error occurred on the SIO multiplexer.
16	Data overrun on the INP interface board.
17	Data underrun on the INP interface board.

The message catalog file is used by DSN/MRJE for both error messages and information messages. The file MRJECAT.PUB.SYS is the message catalog for DSN/MRJE. The method of maintaining file MRJECAT.PUB.SYS is discussed in the "MPE Intrinsics Reference Manual" (HP 30000-90010) Section 4, in the discussion of the MPE Message System. The contents of file MRJECAT.PUB.SYS are shown in Table 6-6, "DSN/MRJE Message Catalog", which follows.

Table 6-6, DSN/MRJE Message Catalog

```
$ NOTE:  IF YOU PLAN TO CHANGE THE CONTENTS OF THE FILE, PLEASE
$          OBSERVE THE FOLLOWING:
$
$    1)   THE FILE MUST BE BUILT FROM A STANDARD NUMBERED EDITOR FI
$    2)   NO MESSAGE CAN BE LONGER THAN 1024 CHARACTERS
$    3)   NO LINE OF A MESSAGE CAN BE LONGER THAN 56, 66 AND 66 FOR
$          THE MASTER CONSOLE, SUBSYSTEM AND HELP FACILITY SETS.
$    4)   "\&" MUST BE PUT AT THE END OF A LINE OF A MESSAGE EXCEPT
$          FOR THE LAST, TO ACT AS A LINE DELIMITER.
$    5)   NEVER DELETE OR ADD ANY "!" CHARACTERS IN THE FILE.
$    6)   NEVER CHANGE ANY MESSAGE OR SET NUMBERS WITHIN THE FILE
$    7)   RUN MAKECAT.PUB.SYS TO REBUILD THE MRJECAT FILE.
$    8)   REFER TO THE MPE INTRINSIC MESSAGE SYSTEM.
```

Table 6-6, DSN/MRJE Message Catalog (continued)

```
$SET 1 MESSAGE 1 TO 62 FOR MASTER CONSOLE
1  MRJE  ! ERROR: CONFIGURED BUFFER SIZE INVALID
2  MRJE  ! ERROR: CREATE FAILURE ON ! PROCESS
3  MRJE  !: DIAL REMOTE !
4  MRJE  ! ERROR: LOGSEG FAILURE
5  MRJE  ! SIGNON COMPLETED
6  MRJE  ! ERROR: HOSTBUFFER SIZE (!) EXCEEDS MAXIMUM        \&
            CONFIGURATION
7  MRJE  ! WARNING: ! BLOCK SEQUENCE ERROR RECOVERY,         \&
            EXPECTED BLOCK !, RECEIVED BLOCK !
8  MRJE  ! ERROR: ZSIZE ERROR
9  MRJE  ! ERROR: UNLOCKSEG FAILURE
10 MRJE  ! ERROR: NO SYSTEM BUFFER FOR SIGNOFF
11 MRJE  ! MRJE TERMINATING. . .
12 MRJE  ! ERROR: INVALID DEVICE FOR MRJE0
13 MRJE  ! ERROR: MRJE ALREADY ACTIVE.
14 MRJE  ! ERROR: CREATE FAILURE ON MRJEMON
15 MRJE  ! ERROR: ACTIVATE FAILURE ON MRJEMON
16 MRJE  ! WARNING: SIGNOFF ALREADY REQUESTED
17 MRJE  ! WARNING: KILL ALREADY REQUESTED
18 MRJE  ! WARNING: SYSTEM NOT ACTIVE
19 MRJE  ! ERROR: HOST # NOT ENTERED FOR 3000 JOB# !
20 MRJE  ! ERROR: NO 3000# FOR HOST JOB# !,!
21 MRJE  ! ERROR: ! ! TERMINATING. . .
22 MRJE  ! ERROR: DATA RECEIVED FOR INVALID UNIT# !
23 MRJE  ! ERROR: INVALID BUFFER RECEIVED FROM HOST
24 MRJE  ! ERROR: (MRJELOGR) JOB TRANSMITTED TO WRONG HOST
25 MRJE  ! ERROR: SON PROCESS DEAD
26 MRJE  ! WARNING: MRJECONTROL KILL REQUESTED
27 MRJE  ! FINAL TERMINAL SIGNOFF
28 MRJE  ! ERROR: MRJESTR! DOES NOT EXIST
29 MRJE  ! ERROR: CS, SM AND OP REQUIRED TO RUN MRJEMON
30 MRJE  ! ERROR: HOST ID ! IS TOO LONG
31 MRJE  ! ERROR: INVALID LDEV NUMBER !
```

Table 6-6, DSN/MRJE Message Catalog (continued)

```
$SET 2 MESSAGE 1 TO 62 FOR MRJE SUBSYSTEM
1 MANAGER CAPABILITY IN EFFECT
2 USER CAPABILITY IN EFFECT
3 FILE ALREADY EXISTS REPLY "YES" TO RECREATE.
4 FOLLOWING MUST BE INITIALIZED IN CONFIGURATION FILE:
5 DEFAULT HOST ASSUMED
6  IS OFFLINE
7 VERIFY CANCEL WITH "YES".
8  IS CURRENT HOST MACHINE
9  WARNING: SIGNOFF CARD FOUND IN INPUT.  NOT TRANSMITTED.
10  FILES CREATED.
11  SUCCESSFULLY ALTERED
12  IS ON LINE
13 ENTER INPUT ENDING WITH "MRJEOD"
14  END OF FILE
15  WARNING: MRJEOD FOUND IN INPUT. CARD IS NOT TRANSMITTED.
16  CAN'T BE CLOSED
17  NOT FOUND
18  JOBLOG IS EMPTY
19 :DUPLICATE JOBNAMES IN JOBLOG. CANCEL REFUSED. A DISPLAY
20  OF JOBS WITH THIS NAME WHICH YOU OWN (IF ANY) FOLLOWS:
21  NOT SUBMITTED
22 JOB NOT CANCELED.
23  IS NOT YOUR JOB.
24  NOT PURGED.
25  NO JOBLOG ENTRY.
26 GET PRIVILEGED MODE FAILURE. FATAL ERROR.
27 GET USER MODE FAILURE. FATAL ERROR.
28 JOB ALREADY CANCELED.
29  CANCELED.
30 CANCEL COMMAND WILL BE SENT TO HOST.
31 INTERACTIVE TERMINAL REQUIRED FOR HOST CONSOLE COMMANDS.
32  WARNING: HOST COMMAND CARD FOUND IN INPUT-NOT TRANSMITTED.
33 ITEM 4 ONLY DISPLAYED FOR MANAGER.
34 DISPLAY COMMAND WILL BE SENT TO HOST.
35  FREE ENTRIES NOW EXIST.
36  OLD JOBS IN THIS FILE.
37  OLD JOBS PURGED THUS FAR.
38  JOBS ARE IN THE JOB LOG. VERIFY PURGE WITH "YES"
39  COMPLETELY PURGED OF ALL JOB ENTRIES.
40  IS OFFLINE. HOST CONSOLE COMMAND CAN'T BE SENT.
41  NOT ALTERED
42 NO SPOOL FILE FOUND.
43 SPOOL FILE DELETED.
44 SPOOL FILE NOT IN READY STATE. UNABLE TO DELETE.
45
46 MISSING RIGHT PARENTHESIS
47 MANAGER CAPABILITY REQUIRED FOR THIS COMMAND
48 "NOTRANSLATE" REQUIRED
```

Table 6-6, DSN/MRJE Message Catalog (continued)

```
49 READER SPECIFIED TWICE.
50 INVALID COMMAND
51 INVALID HOSTID. MUST BE ALPHANUMERIC, <=8 CHARS
52 PRINT SPECIFIED TWICE
53 PUNCH SPECIFIED TWICE
54 INVALID HOST SYSTEM
55 INPUT MUST BE NUMERIC
56 DIGITS ARE THE MAX ALLOWED FOR THIS NUMBER
57 FORMS SPECIFIED TWICE
58
59 DIGIT OR SPECIAL CHARACTER REQUIRED.
60 LOGICAL DEVICE NUMBER OR DEVICE CLASS REQUIRED
61 INVALID DEVICE CLASS SPECIFICATION
62 NO CLOSING QUOTE ON DEVICE CLASS NAME
63 INVALID FILE EQUATION SPECIFICATION. NAME MUST BE LESS THAN OR
EQUAL TO 7 CHARACTERS. PLEASE CONSULT YOUR SYSTEM ADMINISTRATOR
FOR MORE DETAIL.
64 INVALID SUBMIT PARAMETER
65 INVALID ACTUAL FILE DESIGNATOR
66  IS THE MAX LEVEL OF NAMES IN THIS ACTUAL FILE DESIGNATOR
67 EMBEDDED BLANKS NOT ALLOWED IN QUALIFIED NAME
68 IS THE VALID RANGE FOR THIS PARAMETER.
69 "ALL" OR "OLDJOBS" ARE ONLY VALID PURGE PARAMETERS.
70 "BS" OR "CS" OR "DS" REQUIRED.
71  (CURRENT CMD CHAR) MUST BE FIRST CHAR IN USER HOST CMD.
72 COMMA OR NUMBER REQUIRED
73 ONLY 3 PARAMETERS ARE ALLOWED
74 NUMERIC PARAMETER EXPECTED
75 DAYS, HOURS, MINS CAN'T ALL BE ZERO
76 HOSTNAME MUST START WITH SAME CHAR AS HOSTID
77
78 INVALID PARAMETER FOR DISPLAY COMMAND
79 "EBCDIC" OR "EBCDIK" REQUIRED
80 ITEM NUMBER REQUIRED
81 $STDIN,$STDINX,$OLDPASS ARE ONLY SYSTEM INPUT FILES ALLOWED
82 NOTRANSLATE CAN'T BE SPECIFIED FOR $STDIN/$STDINX
83 EXTRANEOUS INFORMATION AFTER VALID ITEM
84 INVALID JOBNAME--TOO LONG
85 INVALID SPECIAL CHARACTER
86 COMMA OR SLASH REQUIRED TO SEPARATE PARAMETERS.
87 FILE NAME, DEVICE CLASS, OR LOGICAL DEVICE NUMBER REQUIRED
88 INPUT FILE NAME(S) REQUIRED
89 NO BLANKS ALLOWED IN FORMAL FILE DESIGNATOR
90 MAXIMUM OF 5 INPUT FILES ALLOWED
91 INVALID KEYWORD
92 PARAMETERS REQUIRED
93 NO PARAMETERS ALLOWED
94 IS THE MAXIMUM NUMBER OF CHARACTERS FOR THIS PARAMETER.
95 INVALID OCTAL NUMBER
```

Table 6-6, DSN/MRJE Message Catalog (continued)

```
96  IS THE ONLY VALID CONSOLE COMMAND.
97 COMMA REQUIRED TO SEPARATE PARAMETERS
98 "YES" OR "NO" REQUIRED
99
100 IS AN INVALID PSEUDO LINE MONITOR DEVICE. FATAL ERROR.
101 THIS ITEM NOT DYNAMICALLY CONFIGURABLE",2;
102 STANDARD INPUT FILE CAN'T BE OPENED. FATAL ERROR.
103
104  CAN'T BE WRITTEN
105  CAN'T BE CLOSED. FATAL ERROR.
106 YOU MUST LOG ON MANAGER.SYS TO CREATE/PURGE CONFIG FILES.
107 VALID RESPONSE MUST BE GIVEN
108 CAN'T BE WRITTEN TO HOST READER
109  CAN'T BE READ
110  DIRECTORY FULL. NO FURTHER JOBS CAN BE SUBMITTED.
111 CONFIGURATION FILE SET CANNOT BE ACCESSED.
112  IS NOT YOUR JOB.
113 NO NEW FILES CREATED.
114 CONTINUATION LINE EXPECTED
115 : OUTPUT FILE DOES NOT EXIST
116 NO FILE DESIGNATOR ON ##FD CARD.
117  CTRANSLATE FAILED
118  CAN'T BE OPENED.
119  READER CANNOT BE CLOSED
120 NO JOB CARD FOUND.
121  CAN'T BE POSTED
122 END OF FILE ON $STDINX. FURTHER INPUT IMPOSSIBLE. FATAL ERROR
123  ##FD CARDS NOT PERMITTED IN LEVEL 2 FILE
124  NO JOBLOG ENTRY.
125  CAN'T BE CANCELED.
126  IS OFFLINE. JOB CAN'T BE CANCELED AT HOST.
127 HOST CONSOLE COMMAND CAN'T BE WRITTEN.
128 HOST CONSOLE CAN'T BE OPENED.
129 UNABLE TO CLOSE $STDINX. HOST CONSOLE COMMANDS CAN'T BE SENT.
130 STANDARD INPUT FILE CAN'T BE OPENED FOR NOWAIT I/O.
131 CONTROL-Y IS THE ONLY VALID INPUT DURING HOST COMMAND PROCESS
132
133  BUT NOT IN JOBLOG. FATAL ERROR.
134 JOB CAN'T BE CANCELED AT HOST FOR NON-INTERACTIVE USER.
135  NOT PURGED.
136 DIRECTORY/JOBLOG UPDATE CAN'T BE COMPLETED. FATAL ERROR.
137  CAN'T BE CANCELED DUE TO A PREVIOUS 3000 SYSTEM FAILURE
138 *** ITEM NOT USED WITH THIS HOST SYSTEM.
139  HOST BUSY. CONSOLE COMMAND NOT SENT
```

Table 6-6, DSN/MRJE Message Catalog (continued)

```
$SET 3    MESSEAGE 1 TO 62 FOR HELP FACILITY
1 S[UBMIT] infile1 [(N[,T])] .............. [, infile5 [(N[,T])]]
  [; R[eaderEADER]=pseudo reader]        [; PR[INT]=printfile [(N)]]
  [; PU[NCH]=punchfile [(N)]            [; F[ORMS]=formfile  [(N)]]
  Submit a job or several jobs for transmission.  Parameters are:
          (N) = NOTRANSLATION from ASCII to EBCDIC for infiles, or
                NOTRANSLATION from EBCDIC to ASCII for print file,
                punch file or formsfile.
          (T) = only first job card is recognized.
                MRJE manager capability required.
          Infile = 5 infiles may be specified.
          Print, punch or forms-file = may be either a device
          number device class, a unqualified actual file
          designator or a formal file designator. Note:the formal
          file designator must follow an exclamation mark and must
          be defined by a system administrator.
2 D[ISPLAY] {H[OST], J[OBLOG] {job#, jobname, joblist}, O[LDJOBS]
             S[TATUS], C[ONFIG] {item#, itemlist}    }
  Display job and system information
  DIRECTORY = list the contents of the job directory
  HOST      = list the current host machine
  JOBLOG    = information about jobs
  OLDJOBS   = display canceled or time-out jobs
  STATUS    = display the status of the current host line
  CONFIG    = list the contents of the configuration file
3 C[ANCEL] [J[OBS]] {job#, jobname, joblist}
  Cancel one or more jobs and note the event in the job log file
  JOBS    = optional parameter
  job#    = number MRJE/3000 assigned to a job at submission time
  jobname = the name on a JOB card in an input file
  joblist = list job names and/or job numbers
4 EXIT. COMMAND IS USED TO EXIT THE SUBSYSTEM.
5 A[LTER] {item#, itemlist}.
  You must be an MRJE/3000 manager to use this command.
  Specifies items in the configuration file are to be changed.
  item#   = number assigned an entry in the configuration file.
  itemlist = a list of item numbers.
6 P[URGE] {O[LDJOBS], A[LL]}.
  You must be an MRJE/3000 manager to use this command.
  Purges entries from a job log file.
  Oldjobs  = purge entries for cancelled and timed-out jobs ·
7 H[OST] [hostid].
  Select a particular host machine to be the current host machine
8 N[EW] [hostid].
  You must log on Manager.sys to use this command.
  Creates or recreates the configuration, joblog and directory
  files for a given host machine.
  hostid   = used in a multi environments. Hostid can have up to
             eight alphanumeric characters. If several machines
             are defined, each hostid has a unique first characte
9 Commands are: Alter, Cancel, Display, Host, New, Purge, Submit
```

Please type HELP <<command>> for the syntax of the <<command>>

CONFIGURATION FILE CONTENTS

This appendix describes the contents of the DSN/MRJE configuration file.

SUMMARY OF CONFIGURATION FILE ENTRIES

In Table A-1, the following information is provided for each configuration file entry:

● ENTRY NUMBER (or "Item Number") AND DESCRIPTION. DSN/MRJE accesses entries in the file by number.

● ENTRY/TYPE--the literal entry or the character type allowed for each entry.

  Literal entries appear in UPPER CASE letters

  n = numeric (acceptable range of values is shown in table)

  an = alphanumeric

  sp = special (non-alphanumeric)

  * = numeric value of LDN (Logical Device Number); or

    alphanumeric value, enclosed in quotes, of DC (Device Class); for example, "OUTFILE"; or

    alphanumeric characters and slashes or periods, indicating an AFD (Actual File Designator)

    an exclamation mark followed by an seven character alphanumeric formal file designator, indicating pre-defined routing.

● ASCII BYTES--the maximum number of characters that can be entered.

● DEFAULT VALUE provided by DSN/MRJE. When there is more than one value, the values are labeled as to Job Entry Subsystem.

● NOTES--

1 The ALTER command will not alter this entry. To change it, you have to re-build the configuration file (use NEW command).

2 This entry is not displayed to DSN/MRJE Users.

3 The first character of the User host console command must be identical to entry number 7. DSN/MRJE automatically alters this when entry number 7 is altered.

4 This entry will be automatically changed whenever Item 5--Job Entry Subsystem--is changed. The new value will be the default value for the new Subsystem.

Following Table A-1 is a textual description of each configuration file item.

Table A-1. DSN/MRJE Configuration File Entries

ENTRY NUMBER AND DESCRIPTION	ENTRY/ TYPE	ASCII BYTES	DEFAULT VALUE	NOTES
1. Host machine ID	an	8	(none)	1
2. Pseudo console (logical device number)	n 0-999	3	(none)	
3. Pseudo line monitor (logical device number)	n 0-999	3	(none)	
4. Signon card image	an, sp	80	(none)	2
5. Job Entry Subsystem on host	HASP, JES2, JES3 or ASP	4	(none)	
6. User host console command(s)	an	10	(none)	3
7. Host console command character	n or sp	1	$ (HASP) $ (JES2) * (JES3) * (ASP)	4
8. Number of lines to check for print banner	n 0-999	3	10 (HASP) 60 (JES2) 60 (JES3) 60 (ASP)	4
9. Number of cards to check for punch banner	n 0-999	3	1	4
10. For HASP and JES2--column where host-assigned job number begins in the print banner	n 6-129	3	33 (HASP) 19 (JES2)	4
For JES3 and ASP--width of a block letter in the print banner	n 6-129	3	13 (JES3) 13 (ASP)	4

Table A-1. DSN/MRJE Configuration File Entries (continued)

ENTRY NUMBER AND DESCRIPTION	ENTRY/ TYPE	ASCII BYTES	DEFAULT VALUE	NOTES
11. Column where job name begins in print banner (Not used by JES3 or ASP)	n 0-124	3	79 (HASP) 25 (JES2)	4,5
12. Column where host-assigned job number begins in the punch banner	n 1-76	2	44 (HASP) 44 (JES2) 21 (JES3) 21 (ASP)	4
13. Column where job name begins in punch banner	n 0-72	2	0 (HASP) 0 (JES2) 35 (ASP)	4,6
14. For HASP and JES2--column where "SETUP" or "LOAD" begins in special forms console message	n 1-120	3	10 (HASP) 21 (JES2)	4
For JES3--column where "JOB NAME" begins in special forms console message	n 1-120	3	18 (JES3)	
For ASP--column where "JOB" begins in special forms console message	n 1-120	3	16 (ASP)	
15. Column where "JOB" begins in console "job received" message	n 1-99	2	11 (HASP) 10 (JES2) 18 (JES3) 16 (ASP)	4
16. Column where job name begins in console "job received" message	n 1-99	2	35 (HASP) 28 (JES2) 30 (JES3) 28 (ASP)	4
17. Column where "ON" begins in console "job received" message (not used by JES3 or ASP)	n 1-99	2	20 (HASP) 37 (JES2)	4
18. Maximum number of job log file entries	n 25-1000	4	100	1
19. Default device for input to DSN/MRJE (LDN or DC)	*	10	"MRDR1"	

Table A-1. DSN/MRJE Configuration File Entries (continued)

ENTRY NUMBER AND DESCRIPTION	ENTRY/ TYPE	ASCII BYTES	DEFAULT VALUE	NOTES
20. Default device for printer output from DSN/MRJE (LDN, DC, or AFD)	*	10	"LP"	
21. Unsolicited print disposition, printer 1 (LDN, DC, or AFD)	*	26	"LP"	
22. Unsolicited print disposition, printer 2 (LDN, DC, or AFD)	*	26	"LP"	
23. Unsolicited print disposition, printer 3 (LDN, DC, or AFD)	*	26	"LP"	
24. Unsolicited print disposition, printer 4 (LDN, DC, or AFD)	*	26	"LP"	
25. Unsolicited print disposition, printer 5 (LDN, DC, or AFD)	*	26	"LP"	
26. Unsolicited print disposition, printer 6 (LDN, DC, or AFD)	*	26	"LP"	
27. Unsolicited print disposition, printer 7 (LDN, DC, or AFD)	*	26	"LP"	
28. Default device for punch output from DSN/MRJE (LDN, DC, or AFD)	*	10	"LP"	
29. Unsolicited punch disposition, punch 1 (LDN, DC, or AFD)	*	26	"LP"	
30. Unsolicited punch disposition, punch 2 (LDN, DC, or AFD)	*	26	"LP"	
31. Unsolicited punch disposition, punch 3 (LDN, DC, or AFD)	*	26	"LP"	

Table A-1. DSN/MRJE Configuration File Entries (continued)

ENTRY NUMBER AND DESCRIPTION	ENTRY/ TYPE	ASCII BYTES	DEFAULT VALUE	NOTES
32. Unsolicited punch dis-position, punch 4 (LDN, DC, or AFD)	*	26	"LP"	
33. Unsolicited punch dis-position, punch 5 (LDN, DC, or AFD)	*	26	"LP"	
34. Unsolicited punch dis-position, punch 6 (LDN, DC, or AFD)	*	26	"LP"	
35. Unsolicited punch dis-position, punch 7 (LDN, DC, or AFD)	*	26	"LP"	
36. DSN/MRJE output process priority	BS, CS DS, or ES	1	CS	
37. Number of characters to test in job name	n 0-8	1	8	
38. Translation type	EBCDIC or EBCDIK	1	EBCDIC or EBCDIK	
39. Host system phone number	n	16	(none)	
40. Time communications line opened (set by DSN/MRJE when MRJECONTROL START executes)	(no user input)	6	(none)	1
41. Time communications line closed (set by DSN/MRJE when :MRJECONTROL SIGNOFF or KILL executes)	(no user input)	7	(none)	1
42. Maximum time job remains active in job log after transmittal (days,hrs,min)	n	6	1/0/0	
43. Host buffer size (bytes)	n 100-2000	5	400	

TEXTUAL DESCRIPTION OF CONFIGURATION FILE ENTRIES

1. Host machine ID: This name identifies the host for which this configuration file is being built. DSN/MRJE users will access the host machine through DSN/MRJE by using this name or the first character of this name.

2. Pseudo console: The logical device number of the DSN/MRJE pseudo console. (See "Configuring MPE to Include DSN/MRJE", in Appendix D.)

3. Pseudo line monitor: The logical device number of the first line monitor configured in MPE for this communications line. (See "Configuring MPE to Include DSN/MRJE", page D-11.)

4. Signon card image: An exact image of the card sent from the DSN/MRJE workstation to the remote host system to identify the workstation. The format of this card is specified by remote system personnel and typically begins with "/*SIGNON" or "LOGON".

5. Job Entry Subsystem on host: Specifies the name of the job Entry Subsystem in use at the remote host site. This entry implicitly defines the format of the host cancel and display commands, the format of the signoff card image, and the format of the a host console commands that can be sent through a job stream. The format definitions are as follows:

	HASP	JES2	JES3/ASP
cancel	$CJnnnn,nnnn	$CJnnnn,P	*F,J=(nnnn),C
display	$DJnnnn	$DJnnnn	*I,J=(nnnn)
signoff	/*SIGNOFF	/*SIGNOFF	/*SIGNOFF
command	/*$	/*$	/**

This entry also implicitly defines defaults for entries 7 through 17 in the configuration file.

Note that entry 6, User host console command, is not affected by this entry.

6. User host console command: This entry specifies the characters that can be typed by a User and transmitted to the host system as a host system console command. If the host Job Entry Subsystem is either HASP or JES2 and a dollar sign ($) is entered here, any command beginning with "$" may be issued by the User. For ASP and JES3, if an asterisk is entered here, the User may issue any command beginning with "*".

7. Host console command character: This is the first character
   of all host console commands. If it is altered, item 6 is
   automatically changed so that the new command character is
   inserted in the User's host command. Also changed are the
   host cancel and display commands and the host command image
   (e.g. /*$).

8. Number of lines to check for print banner: When print output
   is returned to DSN/MRJE from a host system, DSN/MRJE must
   identify the data set and route it to the appropriate output
   device or file.   Each output data set is separated from
   others by a banner page. This entry specifies how many lines
   to scan for the print banner or separator page.   Scanning
   begins at the first line following the end of the previous
   data set.

9. Number of cards to check for punch banner: When punch output
   is returned to DSN/MRJE from a host system, DSN/MRJE must
   identify the data set and route it to the appropriate output
   device or file.   Each output data set is separated from
   others by a banner. This entry specifies how many cards to
   scan for the punch banner or separator card(s). Scanning
   begins with the first card following the end of the previous
   data set.

10. For HASP and JES2--column where host-asigned job number
    begins in print banner: This entry specifies the column in a
    print banner in which printed of the number assigned to a job
    by the host is to begin. DSN/MRJE expects the host-assigned
    job number to follow the word "JOB" with one blank between
    "JOB" and the job number and with at least one nonalphanu-
    meric character following the job number.

    For JES3 and ASP--width of a block letter in the print
    banner: The block character usually is 12 or 13 characters
    wide. All letters are expected to be 12 characters tall.

11. Column where job name begins in print banner: This entry
    specifies the column number in which the job name begins in a
    banner page. MRJE expects at least one blank following the
    job name. If you enter a zero, MRJE will not look for a job
    name. (Not used by JES3 or ASP.)

12. Column where host-assigned job number begins in punch ban-
    ner: This item is identical to item 10 except it appears at
    the beginning of a host punch data set.

13. Column where job name begins in punch banner: This item is
    identical to Item 11 except it appears at the beginning of a
    host punch data set. Also, if you enter a zero, MRJE will
    not look for a job name and will expect the job number to be
    in special code; non-zero indicates standard punch code.
    The following table shows the special codes and MRJE's
    interpretation of them.

special code (hex)	special code (graphic)	MRJE interpretation
6A	|	Blank
70		0
91	j	1
92	k	2
93	l	3
94	m	4
95	n	5
96	o	6
97	p	7
98	q	8
99	r	9

14. For HASP and JES2--column where "SETUP" or "LOAD" begins in in a print record at the beginning of the data set: When the host system sends a "forms mount" message to a printer, DSN/MRJE extracts the job number and special forms name from the message, beginning in the column where the word "SETUP" or "LOAD" appears. "Forms mount" messages with the word "LOAD" are used in HASP II, Version 3.1; "forms mount" messages with the word "SETUP" are used in HASP II, Version 4 (and later versions), and in JES2.

For JES3--column where "JOB NAME" begins in special forms console message: DSN/MRJE locates the job name in the "forms mount" message and searches from there to the end for keywords associated with the form name and for remote device identification.

ASP--column where "JOB" appears in special forms console message: DSN/MRJE locates the word "JOB" in the "forms mount" message and searches from there to the end for keywords associated with the form name and for remote device identification.

15. Column where "JOB" begins in console "job received" message: When a job is submitted to a host system, DSN/MRJE is sent a console message indicating the host-assigned job number. This entry specifies the column in which the word "JOB" begins in the message. DSN/MRJE expects the host-assigned job number to follow "JOB " and for at least one blank to follow the job number.

16. Column where job name begins in console "job received" message: This entry refers to the same message as entry 15, but specifies the column where the job name begins. DSN/MRJE expects at least one blank to follow the job name.

17. Column where "ON" begins in console "job received" message: This entry refers to the same message as items 15 and 16, but specifies the column where the word "ON" begins. DSN/MRJE expects at least one blank to follow the word "ON". (This entry is not used by JES3 or ASP.)

18. Maximum number of job log file entries: A number in the range from 25 to 1000 that specifies the number of entries the job log file can accommodate. (See the NEW command in Section IV.)

19. Default input device: The logical device number or device class name of the device DSN/MRJE will use, by default, to send jobs to the host system. (This is the spooled pseudo card reader refered to in Appendix D, "Part 3 -- DSN/MRJE Pseudo Device Configuration Dialog".)

20. Default print output device: The logical device number, device class name, actual file designator, or pre-defined output routing designator (!fileid) identifying the file or device that print output will be routed to if the user does not specify an output destination in the SUBMIT command.

21. Unsolicited print disposition, printer 1: The logical device number, device class name, actual file designator, or pre-defined output routing designator (!fileid) identifying the device or file that print output on print stream 1 will be routed to if DSN/MRJE cannot recognize where the output should be sent.

22-27. Unsolicited print disposition, printers 2-7: Same as entry 21, except apply to output on print streams 2-7.

28. Default punch output device: The logical device number, device class name, actual file designator, or pre-defined output routing designator (!fileid) identifying the file or device that print output will be routed to if the user does not specify an output destination in the SUBMIT command.

29. Unsolicited punch disposition, punch 1: The logical device number, device class name, actual file designator, or pre-defined output routing designator (!fileid) identifying the file or device that punch output will be routed to if DSN/MRJE cannot recognize where the output should be sent.

30-35. Unsolicited punch disposition, punches 2-7: Same as 29, except apply to output on punch streams 2-7.

36. DSN/MRJE output process priority: The output processes of DSN/MRJE handle all data sets received from the host. A DSN/MRJE Manager may declare their collective output priority on the HP 3000 to be in the BS, CS, DS, or ES subqueue. (The MPE System Manager/System Supervisor Reference Manual discusses processing priority.) A lower priority output processes loads MPE less than a higher one. The ES subqueue is recommended for 56Kb line speeds.

37. Number of characters to test in job name: Whenever DSN/MRJE receives a message or an output data set from the host system, it checks the job name in the message or data set against the entries in the job log file. The number of characters to be checked is set in this entry. Since some host installations append a job number to the job name, the DSN/MRJE Manager should be certain that the value entered here does not allow DSN/MRJE to read beyond the end of the job name.

38. Translation type: Specifies whether the host job entry subsystem expects data and job control information to be in EBCDIC or EBCDIK. DSN/MRJE will translate job input from ASCII before transmission to the host, and will translate job output from the host to ASCII.

39. Host system phone number: The phone number specified here will be displayed to the MPE console operator after the :MRJECONTROL START command has been issued. If the communications line is a permanent connection, or auto-dialing is configured on an HP 30020B with a telephone number, no number need be entered here.

40. Time communications line opened: If a time is shown, the line was last opened at that time (though not necessarily open now). This entry is automatically updated by DSN/MRJE, and the DSN/MRJE Manager cannot modify it.

41. Time communications line closed: If a communications line was opened and subsequently closed, the time of closure is shown in this entry. This entry is automatically set by DSN/MRJE and cannot be altered by the DSN/MRJE Manager.

42. Maximum time job remains active in job log after transmittal: The time specified (days,hours,minutes) determines how long it will be after a job was transmitted to the host before the job is reclassified as an "old job". (Refer to the discussion of the PURGE command in Section IV for a definition of "old jobs".)

43. Host buffer size: The size of the host transmission buffer, in bytes. The buffer size is specified by host system personnel. (Refer to Appendix E for discussion of host system configuration for DSN/MRJE.)
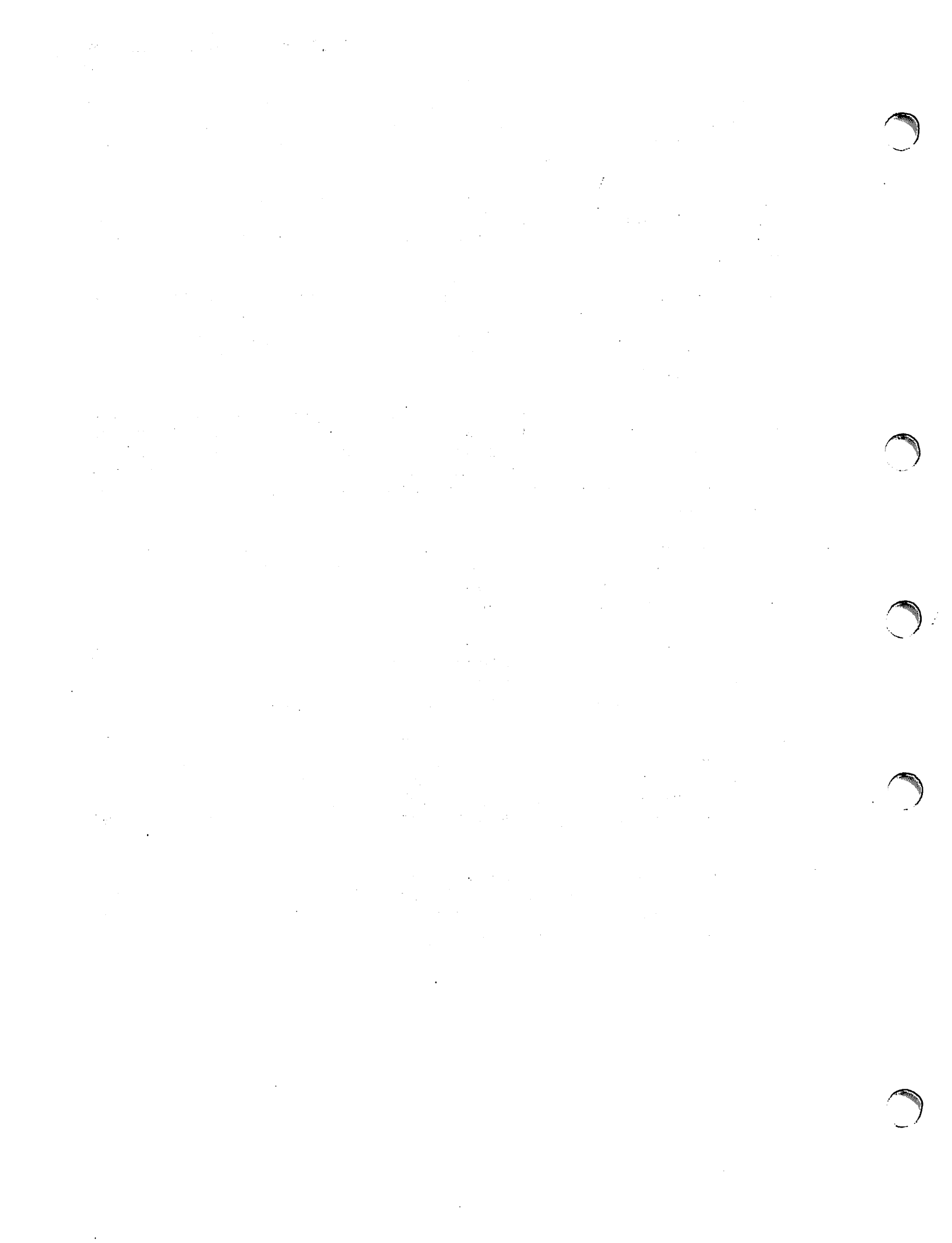
INSTALLING DSN/MRJE

The following procedure for installing DSN/MRJE is a suggested procedure, only. You may modify it to suit your needs.

1) Obtain an Installation Tape (IT).

2) Make certain that the necessary hardware has been installed and is operational. The hardware includes communications line controllers (INP's and/or SSLC's) and modems.

3) Make certain that "CS" is configured into the system. If it isn't, then, during the configuration process described in step 5), add the necessary segments to the system Segmented Library (SL). Refer to Appendix D, Part 4, beginning at "SYSTEM SL CHANGES?" for the procedure.

4) Restore the following files to group and account PUB.SYS with the MPE command RESTORE.

MRJE	MRJEMON	MRJECAT
MRJEOUT	MRJELOGR	
IOMRJE0	IOMRJE1	
IOMCONS0	IOMPNLP0	
IOMRDR0		

To run MRJE with an INP also restore IOINP0, and one of the following download files:

      for an HP 30010A restore CSDMRJE0;
      for an HP 30020A restore CSDMRJE1;
      for an HP 30020B restore CSDMRJE2.

To run MRJE with an SSLC also restore CSSBSC0 and CSSMRJE0.

5) Configure DSN/MRJE into the MPE I/O system:

```
:FILE L;DEV=LP
:FILE T;DEV=TAPE
:SYSDUMP *T,*L
```

Remember the   Communications Controller (INP or SSLC)
                       Download file for an INP:
                                for an HP 30010A the file is CSDMRJE0;
                                for an HP 30020A the file is CSDMRJE1;
                                for an HP 30020B the file is CSDMRJE2.
                       An Additional Driver for the SSLC, CSSMRJE0.
                       The MRJE Drivers and their Pseudo Devices:

IOMRJE0	First line monitor;
IOMRJE1	Second line monitor;
IOMCONS0	Pseudo Console;
IOMPNLP0	One for each pseudo printer and pseudo punch. Configure only as many as you expect to need;
IOMRDR0	One for each pseudo reader.

Dump the new configuration to tape with all files from the group and account PUB.SYS.

6) Cold load (use COLDSTART) the system using the tape created in Step 5).

7) Update (UPDATE command) the tape described in Step 1). This completes the installation of DSN/MRJE.

8) Issue the :MRJECONTROL CHECK command to make certain all the necessary DSN/MRJE software modules have been correctly installed.

If an 'UPDATE' has preceded the system a useable cold load tape has been created.

Follow this sequence for trouble-free installation:

     First: BACK UP THE ENTIRE SYSTEM.

     Then: Restore files from an IT, mentioned in Step 1.

                  Update the system from the IT, mentioned in Step 1.

                  SYSDUMP with a new configuration.

     Finally: Coldstart the system from the tape created.

BUILDING DSN/MRJE CONFIGURATION FILES

A separate configuration file must be built for each host machine.

1) Refer to Appendix A for a description of the contents of the DSN/MRJE configuration file.

2) Refer to the discussion of the DSN/MRJE NEW command in Section IV. You will use the NEW command to build your configuration files. Before issuing the command, examine the list of prompts associated with the command; get the information you will need to answer the prompts.

3) Log on the HP 3000 as MANAGER.SYS

4) Enter the :MRJE command.

5) Enter the NEW command and respond to the prompts.

6) Enter DISPLAY CONFIG and check the configuration. Pay particular attention to Items 7-17, 37, 38, 42 and 43. DSN/MRJE assigns default values for these items. If any of the values is not correct for your system, you may change it by using the DSN/MRJE ALTER command. The command is described in Section IV.

BUILDING MRJE STREAM FILES

A separate stream file must be built for each host system. The stream file is used whenever an MRJECONTROL START command is issued. The stream file must be named MRJESTRh, where h is the first letter of the host identification, and must be located in the PUB group of the SYS account. It may be created by any user with access to the PUB group of the SYS account. The structure of this file is the same as for any stream file. The contents of the stream file, MRJESTRh, are such that the monitor process will be executed.

The stream file must contain the command RUN MRJEMON;INFO="h", where h is the first letter of the host identification, as the command preceding an EOJ. The stream file may contain other commands, such as for the specification of files for pre-defined output routing. The following is an example how to create a stream file:

```
:HELLO MANAGER.SYS
HP3000 / MPE IV C.S2.08.   WED, FEB  3, 1982, 2:56 PM

:EDITOR
HP32201A.7.10 EDIT/3000  WED, MAR  3, 1982,  2:56 PM
(C) HEWLETT-PACKARD CO. 1981
/aq
!JOB MANAGER.SYS;HPRI;RESTART;TIME=?
!COMMENT        THIS JOB WILL ALLOW USERS TO ROUTE OUTPUT TO
!COMMENT        AN HP2680 WITH A SPECIFIC ENVIRONMENT.
!COMMENT        ALSO, THE STACK DUMP FACILITY IS ARMED TO
!COMMENT        OPERATE WHEN AN MRJEMON PROBLEM OCCURS.
!FILE ELITE;DEV=LPS;ENV=ELITE.ENV2680A.SYS
!FILE HOLDLP;DEV=LP,1
!SETDUMP DB,ST
!RUN MRJEMON;INFO=" "
!EOJ
//
/keep mrjestr
/exit
: ...
```

Access to a stream file, such as the one created in the example above, should be limited to the creator through the use of the MPE command ALTSEC. This command is described in the "MPE Commands Reference Manual" (30000-90009).

BUILDING HOST CONSOLE MESSAGE LOGGING FILES

If you intend to log the console messages sent by the host, you will need to build a log file. Build a separate file for each host whose messages you want to log.

Logging file records must contain fixed-length ASCII records at least 80 bytes long. The files must be named MRJEMSGh, where "h" is the first character of the host ID. For the default host, the name is MRJEMSG. Logging files must reside in PUB.SYS. Access to host console message logging files should be limited to their creator, MANAGER.SYS. Access may be limited through the use of the MPE command ALTSEC. This command is described in the "MPE Commands Reference Manual" (30000-90009).

Refer to "Host Console Message Logging Facility" in Section IV for further information.

VERIFYING MRJE INSTALLATION

A verification test is included in the DSN/MRJE software. The test activates DSN/MRJE and submits two jobs that produce printer, punch, and special form (C001) output.

The verification test uses three files:

- T00T192A

- T01T192A

- T02T192A

T00T192A, when streamed, activates DSN/MRJE and submits the two jobs contained in the files T01T192A and T02T192A. Figure B-1 lists the contents of the three files. These files were built for submission to a HASP system. They will probably have to be modified to suit individual host installations. The T00T192A file was constructed so that it can be streamed by a user with read access to all files in the group and account HP32192.SUPPORT. To activate the test from another logon group and account, it will be necessary to modify this file, too.

To run the verification test:

1) Configure DSN/MRJE into the MPE system according to the instructions given above or in Appendix D of this manual.

2) Use EDIT/3000, if necessary, to modify the test files identified above. KEEP the files unnumbered.

3) Use the NEW command to create the configuration, directory and job log files.

4) Use the MPE :STREAM command to stream T00T192A.

5) Issue the :MRJECONTROL START command and make connection with the host system.

The jobs will now be transmitted, processed by the host, and their output returned through DSN/MRJE. If these steps do not complete successfully, recheck T00T192A and T01T192A. If the files appear correct, recheck the configuration.

- T00T192A:

```
!JOB T00T192A,FIELD.SUPPORT,HP32192;RESTART
!MRJE
SUBMIT T01T192A
D J
E
!EOJ
```

- T01T192A:

```
//MRJEDEM5 JOB (1548,HPA),SAF,CLASS=X
//S1      EXEC PGM=IEBGENER
//SYSPRINT  DD SYSOUT=A
//SYSUT1   DD *
//SYSUT2   DD SYSOUT=A
//SYSIN DD DUMMY
##FD T02T192A
```

- T02T192A:

```
//MRJEDEM2   JOB (1548,HPA),SFA,CLASS=X
//FORT EXEC FORTGCLG
//FORT.SYSPUNCH DD DUMMY
//FORT.SYSIN DD *
      DO 100 I=1,5
      DO 100 J=111111,1111110,111111
      K=J-111111
  100 WRITE(6,1000) K,K,K,K,K,K,K,K,K,K,K,K,K,K,K,K,K,K,K,K
 1000 FORMAT (1H ,20I6)
      STOP
      END
/*
//GO.FT06F001 DD SYSOUT=(A,,C001)
//
```

Figure B-1.   DSN/MRJE Verification Jobs

The tables on the following pages present Bell System and Hewlett-Packard modems that are compatible with DSN/MRJE. Included in the tables are recommended options (strappings) for the modems. New options have been added to Bell Model 201C; the modem is sold with these options as Model 201C-L1D. If 201C modems are to be used, the local phone company should be consulted for local option requirements. It may also be necessary to contact the phone company regarding circuit standards, if HP shorthaul modems are going to be used.

Modems that can be used for full-duplex transmission are Bell System Models 201C-L1D, 201C, 208A and 209A, and HP Model 37230A. Bell 201C and 208B, and HP 37230A can operate with DSN/MRJE in half-duplex mode.

Table C-1.   Bell 201C-L1D Options and Recommendations

Type of Modem:	Bell System Type 201C-L1D Data Set
Type of Line:	Public telephone network (switched) Private leased line
	Full-duplex operation
Transmission Rate:	2400 bits per second

OPTION NUMBER	DESCRIPTION	DESIG-NATION	RECOMMENDATION
A1	Transmitter timing internal.	YC	A1
A2	Customer selected timing 1. External timing. 2. Slave (201C-L1D only).	YD WI	
B3	Without new sync.	YA	B3
B4	With new sync.	YB	
C5	Switched carrier operation 1. 4-wire, 7 msec clear-to-send delay. 2. 4-wire, 0 msec clear-to-send delay.	XA XE	
C6	Continuous carrier operation 1. 4-wire, 7 msec clear-to-send delay. 2. 4-wire, 0 msec clear-to-send delay.	XB XC	C6: XC
D7	Continuous receiver Bit clock - IN.	YO	
D8	Continuous receiver Bit clock - OUT.	YP	D8
E9	EIA interface pin 18 initiates local analog loopback.	YS	
E10	EIA interface pin 18 provides receive symbol clock.	YT	E10

Table C-1   Bell 201C-L1D Options and Recommendations (cont.)

OPTION NUMBER	DESCRIPTION	DESIG- NATION	RECOMMENDATION
F11	Factory furnished EIA inter-face and ground options.		
F12	Customer selected EIA inter-face and ground options.		F12: YM and YK
	A1 Status of data set ready during local analog loopback - ON.	YM	
	A2 Status of data set ready during local analog loopback - OFF.	YN	
	B1 Frame ground connected to signal ground.	YK	
	B2 Frame ground not connected to signal ground.	YL	

Table C-2.   Bell 201C Options and Recommendations

Type of Modem:	Bell System Type 201C Data Set (also called DATAPHONE 2400)
Type of Line:	Public telephone network (switched) Private leased line
Transmission Rate:	2400 bits per second

OPTION NUMBER	DESCRIPTION	RECOMMENDATION
A1	Transmitter internally timed.	A1 (required)
A2	Transmitter externally timed.	
B3	Without 801 Automatic Calling Unit.	B3
B4	With 801 Automatic Calling Unit.	
C5	EIA interface.	C5 (required)
C6	Contact interface.	
D7	Without automatic answer.	
D8	With automatic answer.	D8
E9	Automatic answer permanently wired.	Either*
E10	Automatic answer key-controlled.	

* If option D7 is selected, the E options have no meaning and should be ignored.

Table C-3. Bell 208A Options and Recommendations

Type of Modem:	Bell System Type 208A Data Set (also called DATAPHONE 4800)
Type of Line:	Private leased line
Transmission Rate:	4800 bits per second

OPTION NUMBER	DESCRIPTION	RECOMMENDATION
A1	Transmitter internally timed.	A1 (required)
A2	Transmitter externally timed.	
B3	Continuous carrier.	B3
B4	Switched carrier.	
C5	Switched REQUEST TO SEND.	
C6	Continuous REQUEST TO SEND.	C6
D7	One-second holdover used.	D7
D8	One-second holdover not used.	
E9	With new sync.	
E10	Without new sync.	E10 (required)
F11	CC ON when analog loop is present.	F11
F12	CC OFF when analog loop is present.	

Table C-4.   Bell 208B Options and Recommendations

Type of Modem:	Bell System Type 208B Data Set (also called DATAPHONE 4800)
Type of Line:	Public telephone network (switched)
Transmission Rate:	4800 bits per second

OPTION NUMBER	DESCRIPTION	RECOMMENDATION
A1	Transmission internally timed.	A1 (required)
A2	Transmission externally timed.	
B3	Without 801 Automatic Calling Unit.	B3
B4	With 801 Automatic Calling Unit	
C5	CC OFF when analog loop is present.	
C6	CC ON when analog loop is present.	C6
D7	Without automatic answer.	
D8	With automatic answer.	D8
E9	Desk mounting.	Either
E10	Rack or cabinet mounting.	

Table C-5.   Bell 209A Options and Recommendations (1)

Type of Modem:	Bell System Type 209A Data Set (also called DATAPHONE 9600)
Type of Line:	Private leased line (3002-type, 4-wire) with D1-type conditioning
Transmission Rate:	9600 bits per second

OPTION	DESCRIPTION	RECOMMENDATION
A1	Transmitter internally timed.	A1 (required)
A2	Transmitter externally timed.	
B3	Data Set Ready interface lead ON for analog loopback mode.	B3
B4	Data Set Ready interface lead OFF for analog loopback mode.	
C5	Transmitter timing slaved by receiver.	
C6	Transmitter timing not slaved by receiver.	C6
D7	Elastic store option enabled (IN).	
D8	Elastic store option disabled (OUT).	D8
E9	Continuous carrier.	E9
E10	Switched carrier.	
F11	Switched REQUEST TO SEND.	
F12	Continuous REQUEST TO SEND.	F12 (2)
	Protective ground to signal ground.	AA to BB
	With alternate voice. Without alternate voice.	Either (3)

(1)   If the 209A modem will be used in multiplexing applications the options shown do not apply.   In   this   case,   refer   to Bell   System   Data Communications Technical Reference, Data Set 209A Interface Specifications (publication 41213).

(2)   If option E10 is selected, the F options   have   no   meaning and should be ignored.

(3)   The data set normally is supplied without a hand set.

Table C-6. HP 37230A Strappings

Type of Modem: Hewlett-Packard 37230A Short-haul

Type of Line: 2- or 4-wire metallic. If leased from Bell, must conform to standards for intra-exchange lines in Bell System Technical Reference 41301.

Transmission Rates: 9600, 4800, 2400 bits per second

STRAP(S)	2-WIRE	4-WIRE
Data Rate (A)		
2400 bps	a	a
4800 bps	b	b
9600 bps	c	c
Test Links (B)	b	b
(C)	a	a
(N)	a	a
Clock (D)	b	b
(E)	b	b
(S)	b	b
Duplex (F)	b (half)	a (full)
Carrier Select (H)	b	a
Transmit Level (J)	a	a
For conformity to BSTR 41301		
at: 2400 bps	a	a
4800 bps	b	b
9600 bps	c	c
Receive Impedance (K)	c	a
Transmit Impedance, non-transmitting (L)	a	a
Transmit Impedance, transmitting (M)	a	a
Receive Level (P)		
2400 bps	a	a
4800 bps	b	b
9600 bps	c	c
Signal Ground (Q)	b	b
Remote Control of Digital Loopback		
(R)	b	a
(X5)	out	in

Table C-7.   Bell Dataphone II 2024A Modem Recommendation

Type of Modem: Bell System Type DPII 2024A Data Set

Type of Line: Private Leased Line; Public Telephone Network (Dial Back-Up)

Transmission Rate: 2400 bits-per-second

For Dataphone II Modems:

- o Only one control on each line.
- o C is usually the control computer site.
- o T is usually the remote computer, host, or terminal site.
- o C and T are for diagnostic purpose only.

Transmission Rates: 2400 bits per second

OPTION NUMBER	DESCRIPTION	RECOMMENDATION COMPUTER	TERMINAL
A1	Point-to-point control	X	
A2	Point-to-point tributary, or extended point-to-point tributary		X
B1	Internal timing (default)	X	X
C5	Continuous Carrier (Continuous RTS)	X	X
E5	Maximum Address - 16	X	
SA	RS-232 Rise Time	X	X
* Local Address		101	011
Network Address		65	01

* If rack mount level II, or level III, contact TELCO marketing for addressing assistance.

Table C-8. Bell Dataphone II 2048A Modem Recommendation

Type of Modem: Bell System Type DPII 2048A Data Set

Type of Line: Private Leased Line; Public Telephone Network (Dial Back-Up)

Transmission Rate: 4800 bits-per-second

OPTION NUMBER	DESCRIPTION	RECOMMENDATION COMPUTER	TERMINAL
A1	Point-to-point control	X	
A2	Point-to-point tributary		X
B1	Internal timing (default)	X	X
C5	Continuous Carrier (Continuous RTS)	X	X
E5	Maximum Address - 16	X	
SA	RS-232 Rise Time	X	X
* Local Address		101	011
Network Address		65	01

* If rack mount level II, or level III, contact TELCO marketing for addressing assistance.

Table C-9.   Bell Dataphone II 2096A Modem Recommendation

Type of Modem: Bell System Type DPII 2096A Data Set

Type of Line: Private Leased Line; Public Telephone Network (Dial
              Back-Up)

Transmission Rate: 9600 bits-per-second

OPTION NUMBER	DESCRIPTION	RECOMMENDATION COMPUTER	TERMINAL
A1	Point-to-point control	X	
A2	Point-to-point tributary		X
B1	Internal timing (default)	X	X
C5	Continuous Carrier (Continuous RTS)	X	X
E5	Maximum Address - 16	X	
SA	RS-232 Rise Time	X	X
* Local Address		101	011
Network Address		65	01

* If rack mount level II, or level III, contact TELCO marketing
for addressing assistance.

Table C-10. Bell Dataphone Digital Service (DDS),
Data Service Unit (DSU)

Type of Modem: Bell System 500B Type Data Service Unit (DSU)

Type of Line: Bell Dataphone Digital Service (DDS) Channel

Transmission Rate: 500B L1/2 2400 bits-per-second
                    500B L1/3 4800 bits-per-second
                    500B L1/4 9600 bits-per-second
                    500B L1/5 56000 bits-per-second (56Kb)

OPTION NUMBER	DESCRIPTION	RECOMMENDATION COMPUTER	TERMINAL
A1	Continuous Request-to-send (Default Option)	X	X
A2	Switched Request-to-send		
B3	Signal Ground to Frame Ground (Default Option)	X	X
C5	Loop-Back Switch and Indicator Lamps on Front (Default) Loop-Back Switch and Indicator Lamps on Rear	Customer Choice	
D7	Circuit Assurance Installed	X	X

NOTE

You must use a 30221D (30221-60010) High Speed Synchronous Modem Cable
(V.35) at 56Kb.

CONFIGURING MPE
TO INCLUDE DSN/MRJE

This appendix describes how to configure DSN/MRJE into the MPE I/O system.

CONFIGURATION REQUIREMENTS

Each DSN/MRJE communications line to a host must be configured separately into the MPE I/O system; the configurations must be compatible with the corresponding host system configurations.

One communications controller must be configured into the MPE I/O system for each of the DSN/MRJE communications lines to be operated concurrently. Before configuration can begin, the controller(s) should be installed as described in their respective installation manuals. (See the Preface for a list of manuals.) During installation, note the hardware DRT setting for each controller, as the DRT numbers will be requested during MPE configuration.

Listed below are the specifications for the devices that are configured into MPE for each DSN/MRJE communications line. Some of the devices are required for each line; others are optional.

● ONE COMMUNICATIONS CONTROLLER -- REQUIRED

| SSLC | -OR- | INP |

Device type: 18
Unit number: 0
Driver: CSSBSC0
Driver changeable: YES
 The secondary driver
 is CSSMRJE0.

Device type: 17
Unit number: 0
Driver: IOINP0
Driver changeable: NO
 The download file for an
 HP 30010A is CSDMRJE0, for
 HP 30020A it is CSDMRJE1, and
 for HP 30020B it is CSDMRJE2.

Each communications controller can be configured for use by other HP 3000 communications subsystems (such as DSN/DS) when it is not being used by DSN/MRJE.

Guidelines for configuring multiple data communications subsystems appear in Table D-1 at the end of this appendix.

Complete details of the configuration process are contained in
the HP 3000 System Manager/System Supervisor Reference Manual.

● TWO PSEUDO LINE MONITORS -- TWO REQUIRED
  Device type: 22
  Device subtype: 0·
  Unit number: 0 for driver IOMRJE0, 1 for IOMRJE1

● ONE PSEUDO CONSOLE -- REQUIRED
  Device type: 22
  Device subtype: 0
  Unit number: 2
  Driver: IOMCONS0

● UP TO SEVEN PSEUDO LINE PRINTERS -- ONE REQUIRED
  Device type: 22
  Device subtype: 0
  Unit numbers: 3 through 9; use "3" for first pseudo printer
                 and don't skip numbers
  Driver: IOMPNLP0
  None of printers is spooled.

● UP TO SEVEN PSEUDO CARD PUNCHES -- NONE REQUIRED
  Device type: 22
  Device subtype: 0
  Unit numbers: 10 through 16; use "10" for the first Pseudo
                 punch and don't skip numbers
  Driver: IOMPNLP0
  None of the pseudo punches is spooled.

● UP TO SEVEN PSEUDO CARD READERS -- ONE REQUIRED
  Device type: 22
  Device subtype: 0
  Unit numbers: 17 through 23; use "17" for first pseudo reader
                 and don't skip numbers
  Driver: IOMRDR0
  Only one pseudo card reader should initially be spooled.

● ONE ADDITIONAL DRIVER -- REQUIRED FOR EACH SSLC ONLY
  Driver: CSSMRJE0
  This driver is configured without logical device number or DRT
  number.

CAUTION

> Although DSN/MRJE provides for up to seven pseudo print-
> ers and seven pseudo punches, the number that can ac-
> tually be configured is limited to the number of print-
> ers and punches configured on the host. Furthermore,
> configuring a large number of printers and/or punches
> causes more overhead for the HP 3000 system. CONFIGURE
> ONLY AS MANY PRINTERS AND PUNCHES AS YOU NEED.

Since the DSN/MRJE pseudo devices are not really physical
devices, they do not have hardware DRT numbers. When prompted
for their DRT number during the configuration dialog, respond
with a pound sign '#' followed by the ldev number of the control-
ler for this line. This pound sign convention is illustrated in
Figure D-1: SSLC1 is configured with logical device number "13";
the associated pseudo devices have all been configured with DRT
numbers of "#13".

If more than one communications controller is to be configured
for use by DSN/MRJE, each controller must have a unique logical
device number and its associated pseudo devices must have that
number as their DRT number.

LOG DEV #	DRT #	U N I T	C H A N	T Y P E	SUB TYPE	TERM TYPE	TERM SPEED	REC WIDTH	OUTPUT DEV	MODE	DRIVER NAME	DEVICE CLASSES
1	4	0	0	0	6			128	0		*IOMDISC1	SPOOL DISC
2	5	1	0	0	8			128	0		*IOMDISC1	SPOOL DISC
5	13	0	0	8	0			40	LP	JA	IOCDCD0	CARD
6	14	0	0	32	2			66	0	S	IOLPRT0	LP
7	6	0	0	24	0			128	0		IOTAPE0	TAPE
8	6	1	0	24	0			128	0		IOTAPE0	TAPE
9	6	2	0	24	0			40	LP	JA	IOTAPE0	JOBTAPE
13	18	0	0	17	0			0	0		IOINP0	INP1
20	7	0	0	16	0	10	??	40	20	JAID	IOTERM0	TERM
21	7	1	0	16	0	10	??	40	21	JAID	IOTERM0	TERM
22	7	2	0	16	0	10	??	40	22	JAID	IOTERM0	TERM
40	#13	0	0	22	0			40	0		IOMRJE0	MRJE1
41	#13	1	0	22	0			40	0		IOMRJE1	MRJE2
42	#13	2	0	22	0			67	0		IOMCONS0	MCONS
43	#13	3	0	22	0			67	0		IOMPNLP0	MLP1
44	#13	4	0	22	0			67	0		IOMPNLP0	MLP2
45	#13	5	0	22	0			67	0		IOMPNLP0	MLP3
46	#13	6	0	22	0			67	0		IOMPNLP0	MLP4
47	#13	7	0	22	0			67	0		IOMPNLP0	MLP5
48	#13	8	0	22	0			67	0		IOMPNLP0	MLP6
49	#13	9	0	22	0			67	0		IOMPNLP0	MLP7
50	#13	10	0	22	0			40	0		IOMPNLP0	MPNCH1
51	#13	11	0	22	0			40	0		IOMPNLP0	MPNCH2
52	#13	12	0	22	0			40	0		IOMPNLP0	MPNCH3
53	#13	13	0	22	0			40	0		IOMPNLP0	MPNCH4
54	#13	14	0	22	0			40	0		IOMPNLP0	MPNCH5
55	#13	15	0	22	0			40	0		IOMPNLP0	MPNCH6
56	#13	16	0	22	0			40	0		IOMPNLP0	MPNCH7
57	#13	17	0	22	0			40	0	S	IOMRDR0	MRDR1
58	#13	18	0	22	0			40	0		IOMRDR0	MRDR2
59	#13	19	0	22	0			40	0		IOMRDR0	MRDR3
60	#13	20	0	22	0			40	0		IOMRDR0	MRDR4
61	#13	21	0	22	0			40	0		IOMRDR0	MRDR5
62	#13	22	0	22	0			40	0		IOMRDR0	MRDR6
63	#13	23	0	22	0			40	0		IOMRDR0	MRDR7

LDN	PM	PRT	LCL MOD	TC	RCV TMOUT	LCL TMOUT	CON TMOUT	MODE	TRANSMIT SPEED	TM	BUFFER SIZE	D C	DRIVER OPTIONS
13	0	1	1	1	20	60	900	OIA	600	1	1024	Y	0

LDN	CTRL LEN	PHONE NUMBER LIST	LOCAL ID SEQUENCE REMOTE ID SEQUENCE
13	0		

ADDITIONAL CS DRIVERS

047038-04

Figure D-1. Example of MRJE Fully Configured into MPE I/O System. The communications interface is an INP. Configure only as many pseudo printers, punches, and readers as you will actually need; these pseudo devices consume system resources.

THE CONFIGURATION DIALOG

The configuration dialog shown on the following pages has been edited to only those steps that pertain to DSN/MRJE. If the communication controllers are to be used by multiple communications subsystems, it will be necessary to refer also to Table D-1, SSLC and INP Configuration Summary, which appears at the end of this appendix.

The configuration dialog below is divided into four parts. Parts 1 and 4 apply whether an SSLC, INP, or DSN/MRJE pseudo device is being configured; the dialog is common to all three. Part 2 describes the portion of the dialog that applies only to the SSLC and INP, while part 3 describes the dialog that applies only to DSN/MRJE pseudo devices.

Where the word "return" appears in the dialog below, the user may press the RETURN key in response to the prompt. All user responses are underlined to distinguish them from HP 3000 prompts. Some responses are shown as "YES" or "NO"; "Y" or "N" can be typed instead.

Follow the steps stated in this section in "Installing DSN/MRJE". Then, to begin the configuration process, log onto the system, define the output device files, and initiate a SYSDUMP thus:

```
:HELLO MANAGER.SYS
HP3000 / MPE IV C.S2.08.  WED, FEB  3, 1982,  2:56 PM

:FILE T;DEV=TAPE
:FILE L;DEV=LP
:SYSDUMP *T,*L
...
```

```
┌─────────┐
│  NOTE   │
└─────────┘
```

The file equations entered in conjunction with "SYSDUMP" must reflect the tape and line printer device class names actually configured on the HP 3000 system. (They might not be "TAPE" and "LP"!)

Part 1 -- Dialog Common to All Devices

Step   Dialog
  No.

1   ANY CHANGES? YES

2   SYSTEM ID = HP 32002A.v.uu.ff.? return

3   MEMORY SIZE = xxx.? return

4   I/O CONFIGURATION CHANGES? YES

5   LIST I/O DEVICES? YES

        All I/O devices currently configured on the system are
        listed with the following column headings:

        LOG DEV   Logical device number
        DRT #   Hardware device address
        UNIT #   Number of the device on its controller
        CHAN   Always 0 for DSN/MRJE devices
        TYPE   Device type:
                                 Always 17 for INP
                                 Always 18 for SSLC
                                 Always 22 for MRJE pseudo devices
        SUBTYPE   Device subtype
                                 Always 0 for DSN/MRJE pseudo devices
        TERM TYPE   Terminal type
        REC WIDTH   Record width, decimal words
        OUTPUT DEV   Device class name or device number
        MODE   J = Accept jobs
                             A = Accept data
                             I = Interactive device
                             D = Duplicative device
                             S = Spooled device
        DRIVER NAME   Driver name
        DEVICE CLASSES   Class names assigned to the device

6   LIST CS DEVICES? YES

        This prompt appears only if a communications device is
        currently configured in the system. The list is printed
        with the following column headings:

        LDN   Logical device number
        PM   Port mask
                                 Always 0 for DSN/MRJE devices
        PRT   Protocol
        LCL MOD   Local mode
        TC   Transmission code
        RCV TMOUT   Receive timeout

```
        LCL TMOUT          Local timeout
        CON TMOUT          Connect timeout
        MODE               O = Dial out
                           I = Manual answer
                           A = Automatic answer
                           D = Dual speed
                           H = Half speed
                           C = Speed changeable
        TRANSMIT SPEED     Transmission speed (characters/second)
        TM                 Transmission mode
        BUFFER SIZE        Default buffer capacity, in words
        DC                 Driver changeable or not changeable
        DRIVER OPTIONS     Driver options
```

If the MPE system currently has a switched device, such
as those that are connected through a dial-up telephone
line, then additional information is printed in the
following columns:

LDN

CTRL LEN

PHONE NUMBER LIST

LOCAL ID SEQUENCE

REMOTE ID SEQUENCE

7   HIGHEST DRT = xx.?   <u>return</u> or <u>nn</u> > xx.

xx denotes the current highest hardware device number
that can be assigned. Enter return if the number dis-
played is large enough to include the devices that are
being added. Otherwise, enter a higher DRT number.

If an SSLC or INP is being configured, continue on to "Part 2
-- SSLC and INP Dialog". If configuring a pseudo device, proceed
to "Part 3 -- DSN/MRJE Pseudo Device Configuration Dialog".

Part 2 -- SSLC and INP Dialog

Step No.   Dialog

8   LOGICAL DEVICE #?

       Enter a unique number within the range 1 to maximum allowed by
       MPE. All devices are recognized by this number. This prompt
       is repeated later in the dialog to allow for configuration of
       more than one SSLC or INP.

9   DRT #?

       Enter the hardware DRT number of the SSLC or INP.
       Enter "0" to cancel response to the previous prompt.

10   UNIT #? 0

       An SSLC or INP should always be assigned unit number 0
       on its controller.

11   SOFTWARE CHANNEL #? 0
       DSN/MRJE pseudo devices do not use software channels.

12   TYPE? 17   Always 17 for the INP.
              18   Always 18 for the SSLC.

13   SUBTYPE? 0 or 1

        0   Synchronous switched line with modem (telephone
             dial network). A subtype of zero enables "Data
             Terminal Ready" (DTR).

        1   Synchronous nonswitched line with modem (leased
             line).

If an INP is being configured, the dialog will skip to 20.

17   PROTOCOL?
            Enter an integer 1 to 255.

18   LOCAL MODE?   Enter any value within
            Enter an integer 1 to 15. the indicated ranges.
                                       DSN/MRJE will not use
19   TRANSMISSION CODE?   response.
            Enter an integer 1 to 63.

20   RECEIVE TIMEOUT? <u>return</u>

                                    DSN/MRJE will ignore response.

21   LOCAL TIMEOUT? <u>return</u>

                                    DSN/MRJE will ignore response.

22   CONNECT TIMEOUT? <u>return</u>

If the SSLC or INP was configured as subtype 0 in Step 13 (because it is connected to a switched telephone line), the dialog will continue with the next prompt. If the SSLC or INP was configured as subtype 1 in Step 13 (because it is connected with a non-switched leased line), the dialog will skip to Step 29

23   DIAL FACILITY? <u>return</u> or <u>ldev</u>

Enter <u>ldev</u> if an HP 30030B, connecting to a Bell 801C auto-dialing unit and using a special auto-dialing cable (HP30221G), is installed, then calls will be dialed automatically.

```
┌──────────┐
│   NOTE   │
└──────────┘
```

The <u>ldev</u>, the same value as entered in Step 8, must be entered here to indicate that automatic dialing of calls may occur. This feature is supported for an INP 30020B connected to a Bell 801C Automatic Calling unit with an HP 30221G cable.

24   ANSWER FACILITY? <u>YES</u> or <u>return</u>

                            Reply <u>YES</u> if <u>ldev</u> is specified in Step 23 and an HP 30020B is configured, and will be used for auto-dialing. Otherwise, reply <u>return</u>.

25   AUTOMATIC ANSWER? <u>YES</u> or <u>return</u>

                            Reply <u>YES</u> if <u>ldev</u> is specified in Step 23 and an HP 30020B is configured, and will be used for auto-dialing. Otherwise, reply <u>return</u>.

26   DUAL SPEED?

               <u>YES</u> Local modem is dual speed (European models only).
               <u>NO</u> Local modem is single speed.

After a "NO" response to Step 26, the dialog skips the next step.

27   HALF SPEED?   (For European models only)

      YES Modem operates at half speed.
      NO   Modem operates at full speed.

      After a response to this prompt, the dialog skips the next step.

28   SPEED CHANGEABLE?

      Enter YES or NO. However, the response is ignored for modems that provide internal clocking signals.

29   TRANSMISSION SPEED?

      Enter the line transmission speed, expressed as characters per second.

Bits per second	Characters per Second
2000	250
2400	300
4800	600
7200	900
9600	1200
56000	7000

Specified transmission speed is ignored for modems with internal clocking signals. So, modems of different speeds may be used without reconfiguring the MPE. You must use a 30221D (30221-60010) cable at 56Kb, 7000 cps. See also Appendix C.

30   TRANSMISSION MODE?

      0 Full Duplex
      1 Half Duplex

Configure the SSLC or INP to operate in Full Duplex (0) if communications will take place over one of the following:

● A leased four-wire point-to-point line.
● A dial network with two lines (four-wire).
● A dial network with Wide Band Service.

Configure the SSLC or INP to operate in Half Duplex (1) if communications are over a dial network with a single-line (two-wire).

31   PREFERRED BUFFER SIZE? <u>1024</u>   )
                                DSN/MRJE ignores the response.

32   DRIVER CHANGEABLE? <u>YES</u>   SSLC only.
                          <u>NO</u>   INP only.

33   DRIVER OPTIONS? <u>0</u>

34   DRIVER NAME? <u>IOINPO</u>   INP
                   <u>CSSBSCO</u>   SSLC

                              NOTE

    For autodial support on an HP30020B the download file is
    CSDBSC2.

Steps 44 through 47 apply to SSLC's or INP's that use a synchron-
ous switched telephone line (type 17, subtype 0 for INP; type 18,
subtype 0 for SSLC). For SSLC's or INP's configured as subtype 1
(synchronous nonswitched leased line), the dialog skips to Step
48.

44   PHONELIST? <u>return</u>, <u>YES</u>, or <u>NO</u>
          A YES will cause the next Step 45 to be executed.

45   PHONE NUMBER?
          A string of numbers and hyphens not to exceed 20
          characters.

46   LOCAL ID SEQUENCE? <u>return</u>
                                DSN/MRJE ignores the response.

47   REMOTE ID SEQUENCE? <u>return</u>
                                DSN/MRJE ignores the response.

48   DEVICE CLASSES? <u>return</u>
                                DSN/MRJE ignores the response.

The dialog returns to Step 8 to allow configuration of another
SSLC or INP or configuration of the pseudo devices. If all de-
vices have been defined, press RETURN in response to the LOGICAL
DEVICE#?   prompt and proceed to "Part 4 -- Dialog Common to All
Devices".

Part 3 -- DSN/MRJE Pseudo Device Configuration Dialog

8   LOGICAL DEVICE #?

       Enter a unique number within the range 1 to maximum allowed by
       MPE. All devices are recognized by this number. This prompt
       is repeated later in the dialog to allow for configuration of
       more than one SSLC or INP.

9   DRT #?

       Enter a pound symbol (#) followed by a number identical
       to the logical device number of the INP or SSLC for
       which this pseudo device is being configured. (Refer
       to "CONFIGURATION REQUIREMENTS" at the beginning of
       this appendix.)

10   UNIT#?

       Pseudo device unit numbers must be assigned as follows:

UNIT NUMBER	DRIVER NAME	PSEUDO DEVICES
0 (1)	IOMRJE0	First line monitor.
1 (1)	IOMRJE1	Second line monitor.
2 (1)	IOMCONS0	Pseudo console.
3 (1)	IOMPNLP0	First pseudo printer.
4 - 9 (2)	IOMPNLP0	Additional pseudo printers.
10 - 16 (2)	IOMPNLP0	Pseudo punches.
17 (1)	IOMRDR0	First pseudo reader.
18 - 23 (2)	IOMRDR0	Additional pseudo punches.

(1) = Device required.
(2) = Must use unit numbers in ascending order (lowest first).

11   SOFTWARE CHANNEL #? 0
                 DSN/MRJE devices do not use software channels.

12   TYPE? 22   All pseudo devices are type 22.

13   SUBTYPE? 0   All pseudo devices are subtype 0.

34   RECORD WIDTH?

       40 Pseudo line monitor, card reader, card punch.
       67 Pseudo line printer and pseudo console.

35   OUTPUT DEVICE? <u>0</u>

36   ACCEPT JOBS/SESSIONS? <u>NO</u>

37   ACCEPT DATA? <u>NO</u>

38   INTERACTIVE? <u>NO</u>

39   DUPLICATIVE? <u>NO</u>

41   INITIALLY SPOOLED? <u>YES</u> or <u>NO</u>

      Spool first pseudo card reader, unit 17, as an output device.   All   other   pseudo   devices   should   not   be spooled.

```
┌─────────┐
│  NOTE   │
└─────────┘
```

Although the pseudo line printers should never be spooled, at least one actual MPE line printer should be spooled to handle DSN/MRJE output. The spooled printer should be specified as the default output device in entry number 20 of the DSN/MRJE configuration file that corresponds to this configuration.

42   INPUT OR OUTPUT? <u>OUTPUT</u>

      This question is asked only if the response to the pre- ceding prompt was "YES". Note that even though the pseudo card reader is configured as an MPE spooled out- put device (because it is used to send data from MPE to another system), it should be specified as the default input device in entry number 19 of the DSN/MRJE config- uration file (because it is used for input to the host).

43   DRIVER NAME?

                    See the Unit Number in Step 10, above.

<u>IOMRJE0</u>	First pseudo line monitor, unit 0.
<u>IOMRJE1</u>	Second pseudo line monitor, unit 1.
<u>IOMCONS0</u>	Pseudo console, unit 2.
<u>IOMPNLP0</u>	Pseudo line printers and card punches, 4-16.
<u>IOMRDR0</u>	Pseudo card readers, units 18-23.

48   DEVICE CLASSES?

    <u>return</u>   DSN/MRJE does not use names for either line monitor, for the pseudo line printers, pseudo console, or pseudo punches. Names may be provided, however, for documentation within MPE. If names are used, they must be unique.

    <u>name or</u>   Pseudo card readers: A unique name of up to
    <u>return</u>   eight alphanumeric characters in length, or return.

    name   For the SPOOLED pseudo card reader only, the following applies: The default class name of an DSN/MRJE spooled pseudo reader is "MRDR1". If another name is entered here, it will be necessary to alter (use ALTER command) entry number 19 of the DSN/MRJE configuration file corresponding to this configuration.

The dialog now returns to Step 8 to allow configuration of additional devices.   If all I/O devices have been configured, press the RETURN key in response to the LOGICAL DEVICE#?   prompt and continue with "Part 4 -- Dialog Common to All Devices".

Part 4 -- Dialog Common to All Devices

51   MAX # OF OPEN SPOOLFILES = xx.? <u>return</u>

52   LIST I/O DEVICES? <u>YES</u>

53   LIST CS DEVICES? <u>YES</u>

54   CLASS CHANGES? <u>return</u>

66   LIST I/O DEVICES? <u>return</u>

The prompt in Step 67 will be issued only if a communications device is currently configured in the system, or if additional drivers exist.

67   ADDITIONAL DRIVER CHANGES? <u>YES</u> for SSLC, <u>NO</u> for INP.

68   LIST ADDITIONAL DRIVERS? <u>return</u>

69   DELETE DRIVERS? <u>return</u>

71   ADD DRIVERS? <u>YES</u> for SSLC only.

72   DRIVER NAME? <u>CSSMRJE0</u> for SSLC only.

72   DRIVER NAME? <u>return</u>

73   LIST ADDITIONAL DRIVERS? <u>YES</u>

4   I/O CONFIGURATION CHANGES? <u>return</u>

74   SYSTEM TABLE CHANGES? <u>return</u>

        The IOQ and ICS may need to be increased. Contact Hewlett-Packard.

92   MISC CONFIGURATION CHANGES? <u>return</u>

108   LOGGING CHANGES? <u>return</u>

115   DISC ALLOCATION CHANGES? <u>return</u>

129   SCHEDULING CHANGES? <u>return</u>

130   SEGMENT LIMIT CHANGES? <u>return</u>

137   SYSTEM PROGRAM CHANGES? <u>return</u>

139   SYSTEM SL CHANGES? <u>YES</u> or <u>return</u>

A "YES" response assumes this is the first communications controller to be configured into the system. If the system already has an SSLC or INP configured, respond "NO" and skip to step 12.

140   LIST LIBRARY? <u>NO</u>

141   DELETE SEGMENT? <u>NO</u>

143   REPLACE SEGMENT? <u>NO</u>

145   ADD SEGMENT? <u>NO</u>

146   ENTER SEGMENT NAME, USLFILE NAME [,S/C/P]?

?<u>COMSYS1,U00U131A.HP30131.SUPPORT,S</u>
?<u>COMSYS2,U00U131A.HP30131.SUPPORT,S</u>
?<u>COMSYS3,U00U131A.HP30131.SUPPORT,S</u>
?<u>COMSYS4,U00U131A.HP30131.SUPPORT,S</u>
?<u>COMSYS5,U00U131A.HP30131.SUPPORT,S</u>
?<u>CSUTILTY,U01U131A.HP30131.SUPPORT,S</u>
?<u>BSCLCM,U03U131A.HP30131.SUPPORT,S</u>
?<u>BSCSLCP0,U04U131A.HP30131.SUPPORT,S</u>
?<u>DVRSSLC,U05U131A.HP30131.SUPPORT,S</u>
?<u>return</u>

148   ENTER DUMP DATE?

0   Copies the entire system: MPE, the current accounting structure, and all files. This is appropriate with files @.PUB.SYS, as indicated in Step 149.

<u>return</u>   Copies the modified MPE. When this copy is used to COLDSTART the system, the accounting structure and all files remain intact.

<u>mm/dd/yy</u>   Where <u>mm/dd/yy</u> is some date in the <u>future</u>. Copies the modified MPE and the current accounting, but no files.

<u>mm/dd/yy</u>   Where <u>mm/dd/yy</u> is usually the date of the most recent system backup. Copies the modified MPE, the current accounting structure, and any files that were changed on or since the specified date.

                0   Copies the entire system (MPE, the current
                                accounting structure, and all files).

149   ENTER DUMP FILE SUBSETS?

        Enter return, a file name, or a series of file names (for
        example, @.PUB.SYS). Return is equivalent of @.@.@.

150   LIST FILES DUMPED? NO

151   The system operator must now use the =REPLY command to
        assign the magnetic tape device the SYSDUMP files will be
        dumped to.

After the SYSDUMP is complete, the tape produced should be used
to COLDSTART the system. During COLDSTART, the old I/O device
configuration is replaced with the new one from the SYSDUMP tape.

Table D-1.   INP and SSLC Configuration Summary

If several subsystems will use the INP or SSLC, it must be configured so as to be compatible for all. This table summarizes the configuration choices available for each subsystem when it is the SOLE user of the INP or SSLC. The user will need to select the choices that will permit his or her particular set of subsystems to use the INP or SSLC.	

Step No.	MPE Prompt and the Recommended Response for Each Data Communications Subsystem
10	UNIT #? <u>0</u>
11	SOFTWARE CHANNEL #? <u>0</u>
12	TYPE? <u>17</u> INP <u>18</u> SSLC
13	SUBTYPE? <u>0</u> Synchronous, switched line with a modem <u>1</u> Synchronous, nonswitched line with a modem <u>3</u> Synchronous hardwired line <u>7</u> Asynchronous hardwired line <u>0</u> or <u>1</u> DSN/DS, DSN/RJE, DSN/MRJE <u>0</u>, <u>1</u>, <u>3</u> or 7 DSN/MTS <u>1</u> (DSN/IMF)
17	PROTOCOL? <u>1</u>
18	LOCAL MODE? <u>1</u> Local is multipoint control station or primary contention station. <u>2</u> Local is secondary contention station. <u>1</u> or <u>2</u> DSN/DS, DSN/RJE <u>1</u> DSN/MTS and DSN/IMF DSN/MRJE overrides this option

Table D-1. INP and SSLC Configuration Summary (continued)

Step No.	MPE Prompt and the Recommended Response for Each Data Communications Subsystem
19	TRANSMISSION CODE? 1 Automatic code sensing 2 ASCII 3 EBCDIC 1, 2, or 3 DSN/DS or DSN/RJE DSN/MRJE, DSN/MTS, and DSN/IMF override the response.
20	RECEIVE TIMEOUT? (default = 20) 0 - 32000 DSN/DS, DSN/RJE, DSN/MTS, and or return DSN/IMF DSN/MRJE overrides response.
21	LOCAL TIMEOUT? (default = 60) 0 - 32000 DSN/DS, DSN/RJE, DSN/MTS, and or return DSN/IMF DSN/MRJE overrides response.
22	CONNECT TIMEOUT? (default=900) 300 Recommended for DSN/DS, DSN/RJE, DSN/MTS. 900+ Recommended for DSN/IMF. DSN/MRJE overrides response.
23	DIAL FACILITY? YES, NO, ldev, or return. DSN/DS, DSN/RJE, and DSN/MTS use response. DSN/MRJE with auto-dial uses the ldev response. DSN/MRJE without auto-dial and DSN/IMF don't use response.

> **NOTE**
>
> The ldev, the same value as entered in Step 8, must be entered here to indicate that automatic dialing of calls may occur. This feature is supported for an INP 30020B connected to a Bell 801C Automatic Calling unit, with an HP 30221G cable.

Table D-1. INP and SSLC Configuration Summary (continued)

Step No.	MPE Prompt and the Recommended Response for Each Data Communications Subsystem
24	ANSWER FACILITY? <u>YES</u>, or <u>return</u> DSN/DS, DSN/RJE, and DSN/MTS use response. DSN/MRJE uses this if an <u>ldev</u> isin Step 23, and only when an auto-dialer is connected to an HP 30020B INP with an HP 30221G cable. DSN/IMF does not use response.
25	AUTOMATIC ANSWER? <u>YES</u> or <u>return</u> Reply YES if <u>ldev</u> is specified in Step 23 and an HP 30020B is configured, and will be used for autodialing. Otherwise, reply <u>return</u>.

26	DUAL SPEED?
	
	<u>YES</u> or <u>NO</u> DSN/DS, DSN/RJE, DSN/MRJE -
	         YES for European modems, only.
	<u>NO</u> DSN/MTS
	         DSN/IMF doesn't use response.

27	HALF-SPEED? <u>YES</u> or <u>NO</u> DSN/DS, DSN/RJE, DSN/MRJE use response. DSN/MTS AND DSN/IMF don't use response.
28	SPEED CHANGEABLE? <u>YES</u> or <u>NO</u> Response overridden for modems with internal clocking.
29	TRANSMISSION SPEED? Line transmission speed in characters per second: <u>250</u>, <u>300</u>, <u>600</u>, <u>900</u>, <u>1200</u>, <u>7000</u> See Note. NOTE You must use a DDS Modem and a 30221D (30221-60010) cable with a V.35 hood at a speed of 7000 characters per second. See also Appendix C. DSN/IMF overrides response.
30	TRANSMISSION MODE? <u>0</u> Full duplex <u>1</u> Half duplex

Table D-1.   INP and SSLC Configuration Summary (continued)

Step No.	MPE Prompt and the Recommended Response for Each Data Communications Subsystem
31	PREFERRED BUFFER SIZE? <u>0</u> - <u>4095</u> 1024 words maximum for INP, 4095 maximum for SSLC. <u>1024</u> Recommended for DSN/DS. <u>500</u> Recommended for DSN/MTS. DSN/MRJE, DSN/RJE and DSN/IMF override response.
32	DRIVER CHANGEABLE? <u>YES</u> DSN/MRJE with SSLC, DSN/MTS with SSLC. <u>NO</u> All other subsystems and configurations.
33	DRIVER OPTIONS? <u>0</u>
43	DRIVER NAME? <u>CSSBSC0</u> SSLC <u>IOINP0</u> INP
44	PHONE LIST? <u>YES</u> or <u>NO</u> DSN/DS, DSN/RJE, and DSN/MTS use response. DSN/MRJE without auto-dialing and DSN/IMF override response. A phonelist is used only for auto-dialing and when connected to an HP 30020B INP. The telephone number in item 39 of a DSN/MRJE configuration file (MRJECONh) always over-rides the phonelist. When autodialing is specified for an HP 30020B, and when there is no telephone number in item 39 of the configuration file, the phonelist is used. (In all other situations the phonelist will not be used for DSN/MRJE.) DSN/MRJE will read only the first number in the phonelist. That number will be the DSN/MRJE default number. An HP 30020B must be connected with a Bell 801C auto-dialing unit using a special HP 30221G cable. A <u>NO</u> response causes the next step to be skipped.
46	LOCAL ID SEQUENCE? <u>id character string</u> or <u>return</u> DSN/DS uses response. DSN/MTS, DSN/RJE, DSN/MRJE, and DSN/IMF do not use response.

Table D-1. INP and SSLC Configuration Summary (continued)

Step No.	MPE Prompt and the Recommended Response for Each Data Communications Subsystem
47	REMOTE ID SEQUENCE? <u>id character string</u> or <u>return</u> DSN/DS uses response. DSN/MTS, DSN/RJE, DSN/MRJE, and DSN/IMF do not use response.
48	DEVICE CLASSES? <u>classname</u> or <u>return</u> DSN/DS, DSN/MRJE, DSN/MTS, DSN/IMF. <u>RJLINE</u> DSN/RJE. Additional names are optional; see DSN/RJE Reference manual, Section III for discussion of #RJLINE subsystem command.

> **CAUTION**
>
> The same class name may not be used for both the INP and the SSLC.

67	ADDITIONAL DRIVER CHANGES? <u>YES</u> DSN/MRJE with SSLC and DSN/MTS with SSLC only. <u>NO</u> All other subsystems and configurations.
71	ADD DRIVERS? <u>YES</u> or <u>NO</u>
72	DRIVER NAME? <u>CSSMRJE0</u> DSN/MRJE with SSLC. <u>CSSBSC1</u> DSN/MTS with SSLC.

Follow the guidelines in this appendix when configuring the host system for communication with DSN/MRJE.

CONFIGURING A HASP SYSTEM

For a HASP system, specify:

- Terminal type: System/360, model 25 or higher.

- Line printer width: 132 characters or less.

- Console support: YES

- Transparency: YES

- Communications line:
  a. Full or half duplex
  b. Speed: less than or equal to 9600 bits per second for communication through an SSLC. Less than or equal to 56000 bits per second for communication through an INP.
  c. EBCDIC and transparent.

- Multileaving buffer size: Not to exceed 2000 characters. A large buffer size will give you better performance when the communication line operates at 56Kb.

- A standard forms name of "STD." in the standard forms parameter, or use "STD." as the name of standard forms for both printers and punches.

- All other generation parameters should be specified consistent with practices at the host site.

Make note of the value being configured for the number of print lines per page. This value should be used as entry number 8 in the DSN/MRJE configuration file for this host.

NOTES

Consult with host system operations when your communications line is configured at 56Kb. Also, configure two printer streams for better subsystem performance at this speed.

CONFIGURING A JES2 SYSTEM

For a JES2 system, specify:
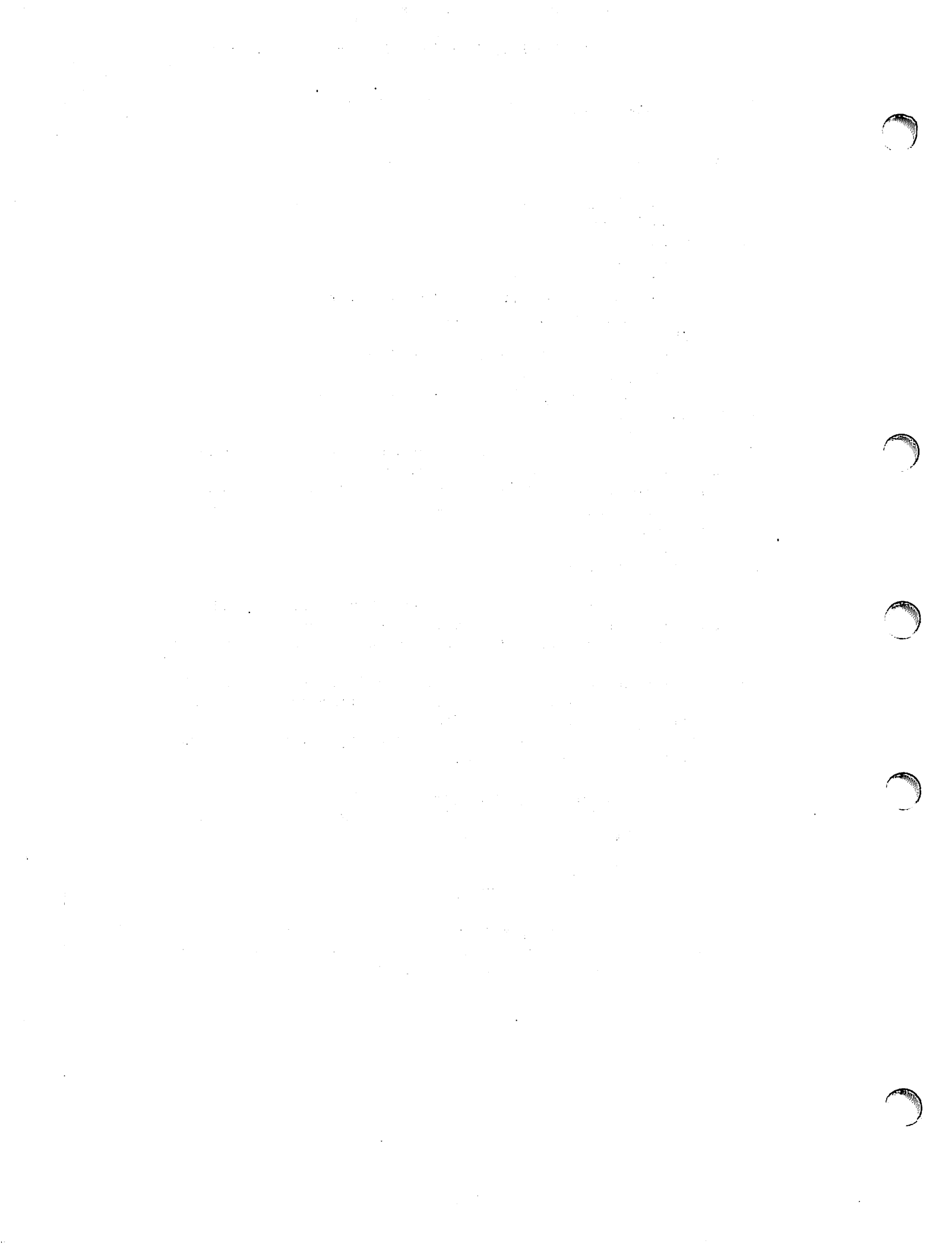
- Remote terminal type: S/360.
- The terminal should have:
  a. A console.
  b. A multileaving interface.
  c. The text transparency feature.
- For each remote printer configured at a remote terminal:
  a. Automatic forms mode.
  b. Automatically started printer.
  c. No FCB support.
  d. Separator pages.
  e. Printer width: 132 characters or less.
- For each remote card punch configured at a remote terminal:
  a. Automatic forms mode.
  b. Automatically started punch.
  c. Separator cards.
- For each remote card reader configured at a remote terminal:
  Automatically started (hot) card reader.
- A standard forms name of "STD." in the standard forms parameter or use "STD." as the name of standard forms for both printers and punches.
- Communication line:
  a. Full or half duplex
  b. Speed: less than or equal to 9600 bits per second for communication through an SSLC. Less than or equal to 56000 bits per second for communicaton through an INP.
  c. EBCDIC and transparent.
- Multileaving buffer size: Not to exceed 2000 characters. A large buffer size will give you better performance when the communication line operates at 56Kb.
- All other generation parameters should be specified consistent with practices at the host site.

Make note of the value being configured for the number of print lines per page. This value should be used as entry number 8 in the DSN/MRJE configuration file for this host.

NOTES

Consult with host system operations when your communications line is configured at 56Kb. Also, configure two printer streams for better subsystem performance at this speed.

CONFIGURING A JES3 OR ASP SYSTEM

For a JES3 or ASP system, specify the following:

- Remote terminal type: S/360
- The terminal should have:
  a. A console.
  b. A multileaving interface.
  c. The text transparency feature.
- For each remote printer configured at a remote terminal:
  a. Automatically started printer.
  b. No FCB support.
  c. Printer width of 132 characters or less.
  d. Separator pages.
- For each remote card punch configured at a remote terminal:
  a. Automatically started punch.
  b. Separator cards.
- For each remote card reader configured at a remote terminal:
  Automatically started (hot) card reader.
- A standard forms name of "STD." in the standard forms parameter, or use "STD." as the name of standard forms for both printers and punches.
- Communication line:
  a. Full or half duplex

  b. Speed: less than or equal to 9600 bits per second for communication through an SSLC. Less than or equal to 56000 bits per second for communication through an INP.
  c. EBCDIC and transparent.
- Multileaving buffer size: Not to exceed 2000 characters. A large buffer size will give you better performance when the communication line operates at 56Kb.
- All other generation parameters should be specified consistent with practices at the host site.

Make note of the value being configured for the number of print lines per page. This value should be used as entry number 8 in the DSN/MRJE configuration file for this host.

NOTES

Consult with host system operations when your communications line is configured at 56Kb. Also, configure two printer streams for better subsystem performance at this speed.

Table F-1. ASCII Character Set

ASCII Character	First Character Octal Equivalent	Second Character Octal Equivalent	ASCII Character	First Character Octal Equivalent	Second Character Octal Equivalent
A	040400	000101	ACK	003000	000006
B	041000	000102	BEL	003400	000007
C	041400	000103	BS	004000	000010
D	042000	000104	HT	004400	000011
E	042400	000105	LF	005000	000012
F	043000	000106	VT	005400	000013
G	043400	000107	FF	006000	000014
H	044000	000110	CR	006400	000015
I	044400	000111	SO	007000	000016
J	045000	000112	SI	007400	000017
K	045400	000113	DLE	010000	000020
L	046000	000114	DC1	010400	000021
M	046400	000115	DC2	011000	000022
N	047000	000116	DC3	011400	000023
O	047400	000117	DC4	012000	000024
P	050000	000120	NAK	012400	000025
Q	050400	000121	SYN	013000	000026
R	051000	000122	ETB	013400	000027
S	051400	000123	CAN	014000	000030
T	052000	000124	EM	014400	000031
U	052400	000125	SUB	015000	000032
V	053000	000126	ESC	015400	000033
W	053400	000127	FS	016000	000034
X	054000	000130	GS	016400	000035
Y	054400	000131	RS	017000	000036
Z	055000	000132	US	017400	000037
			SPACE	020000	000040
a	060400	000141	!	020400	000041
b	061000	000142	"	021000	000042
c	061400	000143	#	021400	000043
d	062000	000144	$	022000	000044
e	062400	000145	%	022400	000045
f	063000	000146	&	023000	000046
g	063400	000147	'	023400	000047
h	064000	000150	(	024000	000050
i	064400	000151	)	024400	000051
j	065000	000152	*	025000	000052
k	065400	000153	+	025400	000053
l	066000	000154	,	026000	000054
m	066400	000155	-	026400	000055
n	067000	000156	.	027000	000056
o	067400	000157	/	027400	000057
p	070000	000160	:	035000	000072
q	070400	000161	;	035400	000073
r	071000	000162	<	036000	000074
s	071400	000163	=	036400	000075
t	072000	000164	>	037000	000076
u	072400	000165	?	037400	000077
v	073000	000166	@	040000	000100
w	073400	000167	[	055400	000133
x	074000	000170	\	056000	000134
y	074400	000171	]	056400	000135
z	075000	000172	∆	057000	000136
			-	057400	000137
0	030000	000060	`	060000	000140
1	030400	000061	{	075400	000173
2	031000	000062	|	076000	000174
3	031400	000063	}	076400	000175
4	032000	000064	~	077000	000176
5	032400	000065	DEL	077400	000177
6	033000	000066			
7	033400	000067			
8	034000	000070			
9	034400	000071			
NUL	000000	000000			
SOH	000400	000001			
STX	001000	000002			
ETX	001400	000003			
EOT	002000	000004			
ENQ	002400	000005			

First Character — Second Character

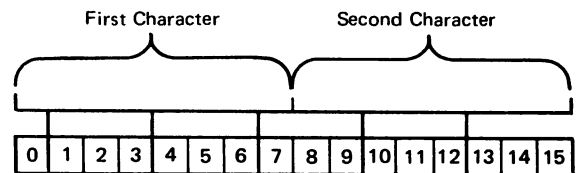| 0 | 1 | 2 | 3 | 4 | 5 | 6 | 7 | 8 | 9 | 10 | 11 | 12 | 13 | 14 | 15 |

Table F-2. ASCII-EBCDIC-Hollerith Conversions

HOW TO USE THIS TABLE

- The table is sorted by character code, each code being represented by its decimal, octal, and hexadecimal equivalent.

- Each row of the table gives the ASCII and EBCDIC meaning of the character code, the ASCII◄►EBCDIC conversion code, and the Hollerith representation (punched card code) for the ASCII character.

The following examples describe several ways of using the table:

Example 1: Suppose you want to determine the ASCII code for the $ character. Scan down the ASCII graphic column until you locate $, then look left on that row to find the character code — 36 (dec), 044 (oct), and 24 (hex). This is the code used by an ASCII device (terminal, printer, computer, etc.) to represent the $ character. Its Hollerith punched card code is 11-3-8.

Example 2: The character code 5B (hex) is the EBCDIC code for what character? Also, when 5B is converted to ASCII (for example, by FCOPY with the EBCDICIN option), what is the octal character code? First, locate 5B in the hex character code column and move right on that row to the EBCDIC graphic which is $. The next column to the right gives the conversion to ASCII, 044. As a check, find 044 (oct) in the character code column, look right to the ASCII graphic column and note that $ converted to EBCDIC is 133 (oct) which equals 5B (hex).

| CHAR CODE | | | ASCII | | | EBCDIC | |
Dec	Oct	Hex	Cntl/ Gph	to EBCDIC (Oct)	Hollerith	Cntl/ Gph	to ASCII (Oct)
0	000	00	NUL	000	12-0-1-8-9	NUL	000
1	001	01	SOH	001	12-1-9	SOH	001
2	002	02	STX	002	12-2-9	STX	002
3	003	03	ETX	003	12-3-9	ETX	003
4	004	04	EOT	067	7-9	PF	234
5	005	05	ENQ	055	0-5-8-9	HT	011
6	006	06	ACK	056	0-6-8-9	LC	206
7	007	07	BEL	057	0-7-8-9	DEL	177
8	010	08	BS	026	11-6-9		227
9	011	09	HT	005	12-5-9		215
10	012	0A	LF	045	0-5-9	SMM	216
11	013	0B	VT	013	12-3-8-9	VT	013
12	014	0C	FF	014	12-4-8-9	FF	014
13	015	0D	CR	015	12-5-8-9	CR	015
14	016	0E	SO	016	12-6-8-9	SO	016
15	017	0F	SI	017	12-7-8-9	SI	017
16	020	10	DLE	020	12-11-1-8-9	DLE	020
17	021	11	DC1	021	11-1-9	DC1	021
18	022	12	DC2	022	11-2-9	DC2	022
19	023	13	DC3	023	11-3-9	TM	023
20	024	14	DC4	074	4-8-9	RES	235
21	025	15	NAK	075	5-8-9	NL	205
22	026	16	SYN	062	2-9	BS	010
23	027	17	ETB	046	0-6-9	IL	207
24	030	18	CAN	030	11-8-9	CAN	030
25	031	19	EM	031	11-1-8-9	EM	031
26	032	1A	SUB	077	7-8-9	CC	222
27	033	1B	ESC	047	0-7-9	CU1	217
28	034	1C	FS	034	11-4-8-9	IFS	034
29	035	1D	GS	035	11-5-8-9	IGS	035
30	036	1E	RS	036	11-6-8-9	IRS	036
31	037	1F	US	037	11-7-8-9	IUS	037
32	040	20	SP	100	Blank	DS	200
33	041	21	!	117	12-7-8	SOS	201
34	042	22	"	177	7-8	FS	202
35	043	23	#	173	3-8		203
36	044	24	$	133	11-3-8	BYP	204
37	045	25	%	154	0-4-8	LF	012
38	046	26	&	120	12	ETB	027
39	047	27	'	175	5-8	ESC	033
40	050	28	(	115	12-5-8		210
41	051	29	)	135	11-5-8		211
42	052	2A	*	134	11-4-8	SM	212
43	053	2B	+	116	12-6-8	CU2	213
44	054	2C	,	153	0-3-8		214
45	055	2D	-	140	11	ENQ	005
46	056	2E	.	113	12-3-8	ACK	006
47	057	2F	/	141	0-1	BEL	007

| CHAR CODE | | | ASCII | | | EBCDIC | |
Dec	Oct	Hex	Cntl/ Gph	to EBCDIC (Oct)	Hollerith	Cntl/ Gph	to ASCII (Oct)
48	060	30	0	360	0		220
49	061	31	1	361	1		221
50	062	32	2	362	2	SYN	026
51	063	33	3	363	3		223
52	064	34	4	364	4	PN	224
53	065	35	5	365	5	RS	225
54	066	36	6	366	6	UC	226
55	067	37	7	367	7	EOT	004
56	070	38	8	370	8		230
57	071	39	9	371	9		231
58	072	3A	:	172	2-8		232
59	073	3B	;	136	11-6-8	CU3	233
60	074	3C	<	114	12-4-8	DC4	024
61	075	3D	=	176	6-8	NAK	025
62	076	3E	>	156	0-6-8		236
63	077	3F	?	157	0-7-8	SUB	032
64	100	40	@	174	4-8	SP	040
65	101	41	A	301	12-1		240
66	102	42	B	302	12-2		241
67	103	43	C	303	12-3		242
68	104	44	D	304	12-4		243
69	105	45	E	305	12-5		244
70	106	46	F	306	12-6		245
71	107	47	G	307	12-7		246
72	110	48	H	310	12-8		247
73	111	49	I	311	12-9		250
74	112	4A	J	321	11-1	¢	133
75	113	4B	K	322	11-2	.	056
76	114	4C	L	323	11-3	<	074
77	115	4D	M	324	11-4	(	050
78	116	4E	N	325	11-5	+	053
79	117	4F	O	326	11-6	|	041
80	120	50	P	327	11-7	&	046
81	121	51	Q	330	11-8		251
82	122	52	R	331	11-9		252
83	123	53	S	342	0-2		253
84	124	54	T	343	0-3		254
85	125	55	U	344	0-4		255
86	126	56	V	345	0-5		256
87	127	57	W	346	0-6		257
88	130	58	X	347	0-7		260
89	131	59	Y	350	0-8		261
90	132	5A	Z	351	0-9	!	135
91	133	5B	[	112	12-2-8	$	044
92	134	5C	\	340	0-2-8	*	052
93	135	5D	]	132	11-2-8	)	051
94	136	5E	^	137	11-7-8	;	073
95	137	5F	_	155	0-5-8	¬	136

Dec	Oct	Hex	ASCII Cntl/Gph	ASCII to EBCDIC (Oct)	ASCII Hollerith	EBCDIC Cntl/Gph	EBCDIC to ASCII (Oct)
96	140	60	`	171	1-8	–	055
97	141	61	a	201	12-0-1	/	057
98	142	62	b	202	12-0-2		262
99	143	63	c	203	12-0-3		263
100	144	64	d	204	12-0-4		264
101	145	65	e	205	12-0-5		265
102	146	66	f	206	12-0-6		266
103	147	67	g	207	12-0-7		267
104	150	68	h	210	12-0-8		270
105	151	69	i	211	12-0-9		271
106	152	6A	j	221	12-11-1	¦	174
107	153	6B	k	222	12-11-2	,	054
108	154	6C	l	223	12-11-3	%	045
109	155	6D	m	224	12-11-4	_	137
110	156	6E	n	225	12-11-5	>	076
111	157	6F	o	226	12-11-6	?	077
112	160	70	p	227	12-11-7		272
113	161	71	q	230	12-11-8		273
114	162	72	r	231	12-11-9		274
115	163	73	s	242	11-0-2		275
116	164	74	t	243	11-0-3		276
117	165	75	u	244	11-0-4		277
118	166	76	v	245	11-0-5		300
119	167	77	w	246	11-0-6		301
120	170	78	x	247	11-0-7		302
121	171	79	y	250	11-0-8	`	140
122	172	7A	z	251	11-0-9	:	072
123	173	7B	{	300	12-0	#	043
124	174	7C	|	152	12-11	@	100
125	175	7D	}	320	11-0	'	047
126	176	7E	~	241	11-0-1	=	075
127	177	7F	DEL	007	12-7-9	"	042
128	200	80		040	11-0-1-8-9		303
129	201	81		041	0-1-9	a	141
130	202	82		042	0-2-9	b	142
131	203	83		043	0-3-9	c	143
132	204	84		044	0-4-9	d	144
133	205	85		025	11-5-9	e	145
134	206	86		006	12-6-9	f	146
135	207	87		027	11-7-9	g	147
136	210	88		050	0-8-9	h	150
137	211	89		051	0-1-8-9	i	151
138	212	8A		052	0-2-8-9		304
139	213	8B		053	0-3-8-9		305
140	214	8C		054	0-4-8-9		306
141	215	8D		011	12-1-8-9		307
142	216	8E		012	12-2-8-9		310
143	217	8F		033	11-3-8-9		311
144	220	90		060	12-11-0-1-8-9		312
145	221	91		061	1-9	j	152
146	222	92		032	11-2-8-9	k	153
147	223	93		063	3-9	l	154
148	224	94		064	4-9	m	155
149	225	95		065	5-9	n	156
150	226	96		066	6-9	o	157
151	227	97		010	12-8-9	p	160
152	230	98		070	8-9	q	161
153	231	99		071	1-8-9	r	162
154	232	9A		072	2-8-9		313
155	233	9B		073	3-8-9		314
156	234	9C		004	12-4-9		315
157	235	9D		024	11-4-9		316
158	236	9E		076	6-8-9		317
159	237	9F		341	11-0-1-9		320
160	240	A0		101	12-0-1-9		321
161	241	A1		102	12-0-2-9	~	176
162	242	A2		103	12-0-3-9	s	163
163	243	A3		104	12-0-4-9	t	164
164	244	A4		105	12-0-5-9	u	165
165	245	A5		106	12-0-6-9	v	166
166	246	A6		107	12-0-7-9	w	167
167	247	A7		110	12-0-8-9	x	170
168	250	A8		111	12-1-8	y	171
169	251	A9		121	12-11-1-9	z	172
170	252	AA		122	12-11-2-9		322
171	253	AB		123	12-11-3-9		323
172	254	AC		124	12-11-4-9		324
173	255	AD		125	12-11-5-9		325
174	256	AE		126	12-11-6-9		326
175	257	AF		127	12-11-7-9		327

Dec	Oct	Hex	ASCII Cntl/Gph	ASCII to EBCDIC (Oct)	ASCII Hollerith	EBCDIC Cntl/Gph	EBCDIC to ASCII (Oct)
176	260	B0		130	12-11-8-9		330
177	261	B1		131	11-1-8		331
178	262	B2		142	11-0-2-9		332
179	263	B3		143	11-0-3-9		333
180	264	B4		144	11-0-4-9		334
181	265	B5		145	11-0-5-9		335
182	266	B6		146	11-0-6-9		336
183	267	B7		147	11-0-7-9		337
184	270	B8		150	11-0-8-9		340
185	271	B9		151	0-1-8		341
186	272	BA		160	12-11-0		342
187	273	BB		161	12-11-0-1-9		343
188	274	BC		162	12-11-0-2-9		344
189	275	BD		163	12-11-0-3-9		345
190	276	BE		164	12-11-0-4-9		346
191	277	BF		165	12-11-0-5-9		347
192	300	C0		166	12-11-0-6-9	{	173
193	301	C1		167	12-11-0-7-9	A	101
194	302	C2		170	12-11-0-8-9	B	102
195	303	C3		200	12-0-1-8	C	103
196	304	C4		212	12-0-2-8	D	104
197	305	C5		213	12-0-3-8	E	105
198	306	C6		214	12-0-4-8	F	106
199	307	C7		215	12-0-5-8	G	107
200	310	C8		216	12-0-6-8	H	110
201	311	C9		217	12-0-7-8	I	111
202	312	CA		220	12-11-1-8		350
203	313	CB		232	12-11-2-8		351
204	314	CC		233	12-11-3-8	∫	352
205	315	CD		234	12-11-4-8		353
206	316	CE		235	12-11-5-8	⌐	354
207	317	CF		236	12-11-6-8		355
208	320	D0		237	12-11-7-8	}	175
209	321	D1		240	11-0-1-8	J	112
210	322	D2		252	11-0-2-8	K	113
211	323	D3		253	11-0-3-8	L	114
212	324	D4		254	11-0-4-8	M	115
213	325	D5		255	11-0-5-8	N	116
214	326	D6		256	11-0-6-8	O	117
215	327	D7		257	11-0-7-8	P	120
216	330	D8		260	12-11-0-1-8	Q	121
217	331	D9		261	12-11-0-1	R	122
218	332	DA		262	12-11-0-2		356
219	333	DB		263	12-11-0-3		357
220	334	DC		264	12-11-0-4		360
221	335	DD		265	12-11-0-5		361
222	336	DE		266	12-11-0-6		362
223	337	DF		267	12-11-0-7		363
224	340	E0		270	12-11-0-8	\	134
225	341	E1		271	12-11-0-9		237
226	342	E2		272	12-11-0-2-8	S	123
227	343	E3		273	12-11-0-3-8	T	124
228	344	E4		274	12-11-0-4-8	U	125
229	345	E5		275	12-11-0-5-8	V	126
230	346	E6		276	12-11-0-6-8	W	127
231	347	E7		277	12-11-0-7-8	X	130
232	350	E8		312	12-0-2-8-9	Y	131
233	351	E9		313	12-0-3-8-9	Z	132
234	352	EA		314	12-0-4-8-9		364
235	353	EB		315	12-0-5-8-9		365
236	354	EC		316	12-0-6-8-9	⊢	366
237	355	ED		317	12-0-7-8-9		367
238	356	EE		332	12-11-2-8-9		370
239	357	EF		333	12-11-3-8-9		371
240	360	F0		334	12-11-4-8-9	0	060
241	361	F1		335	12-11-5-8-9	1	061
242	362	F2		336	12-11-6-8-9	2	062
243	363	F3		337	12-11-7-8-9	3	063
244	364	F4		352	11-0-2-8-9	4	064
245	365	F5		353	11-0-3-8-9	5	065
246	366	F6		354	11-0-4-8-9	6	066
247	367	F7		355	11-0-5-8-9	7	067
248	370	F8		356	11-0-6-8-9	8	070
249	371	F9		357	11-0-7-8-9	9	071
250	372	FA		372	12-11-0-2-8-9	|	372
251	373	FB		373	12-11-0-3-8-9		373
252	374	FC		374	12-11-0-4-8-9		374
253	375	FD		375	12-11-0-5-8-9		375
254	376	FE		376	12-11-0-6-8-9		376
255	377	FF		377	12-11-0-7-8-9	EO	377
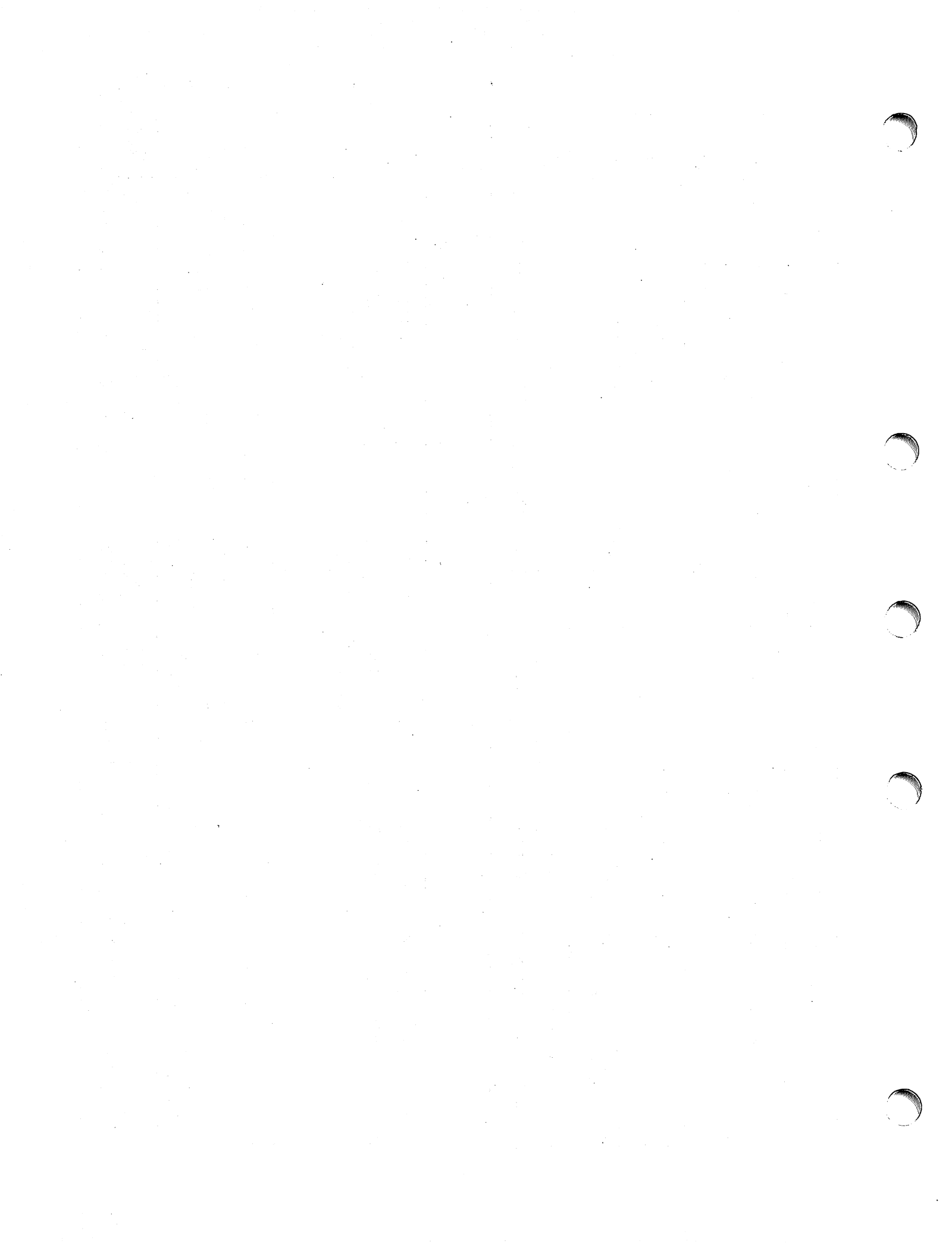
DSN/MRJE, MULTILEAVING REMOTE JOB ENTRY ....

APPENDIX

G

DSN/MRJE Product Number HP32192A

Capability Requirements	DSN/MRJE User	Manager
Account	default	OP *
Group	default	default
User	default	OP *

* The user and account must be MANAGER.SYS to use both the NEW and the PURGE ALL commands.

:MRJE

Initiates the subsystem.

For listing $STDLIST to an optional file, precede the command with a file equation whose formal designator is LISTING:

           :FILE LISTING;DEV=LP
           :MRJE

With the use of the FILE statement above, all commands and most output generated by them will be sent to $STDLIST and to device class LP.

#Alter {item number}
       {item list}

You must be a DSN/MRJE Manager to use this command. It specifies the items in the configuration file to be changed.

item number   The number assigned an entry in the configuration file. Range is 1 through 43.

item list   A comma-separated list of item numbers.

#Cancel [Jobs] {job number}
               {job name}
               {job list}

Cancels one or more jobs and notes the event in the joblog file. The DSN/MRJE manager can cancel any job, regardless of who submits it. As a DSN/MRJE user you may cancel only those jobs you have submitted.

Jobs   Optional parameter.

job number   The number DSN/MRJE assigns to a job when
                        submitted.

job name   The name on a JOB card in an input file.

job list   A comma-separated list of job names and/or job
                        numbers.

    #Display   Host

    #Display   Joblog   [,job number]
                                    [,job name]
                                    [,job list]

    #Display   Oldjobs

    #Display   Status

    #Display   Config   [,item number]
                                    [,item list]

Displays job and system information.

Host   Lists the current host system The host is referenced by
            SUBMIT, DISPLAY, ALTER, PURGE, and CANCEL commands until
            a HOST command selects another system.

Joblog   Displays information about jobs.   If   neither   the   job
            numeber, job name, nor a job lsit is specified, displays
            the entire job log file for   the   current   host   system.
            This is the default.   A DSN/MRJE manager may display any
            job; users may display only those jobs they have
            submitted.

Oldjobs   Displays canceled or timed-out jobs.   A   timed-out   job
            has been in the job log file longer than the limit
            established by item 42 of the configuration file.

Config   Lists the contents of the   configuration   file.   If   an
            item list is included, only those items are displayed.
            A DSN/MRJE manager may display the entire   configuration
            file; users may display only selected items.

    #Exit

Terminates DSN/MRJE and returns control to MPE.

#New [host identification]

Creates or re-creates the configuration, job log, and directory files for the host identification specified. You will be prompted to give information. You must log on as MANAGER.SYS to use this command.

In a single-host environment, the host identification parameter need not be specified.

Host ident-   Needed only for multi-host environments. The host
fication   identification may contain eight alphanumeric
               characters. In a multi-host environment, the first
               character must be unique.

After using this command you may ALTER items in the configuration file.

#Purge   {Oldjobs}
            {All   }

Purges entries from the job log file.

Oldjobs   Purges entries for cancelled and timed out jobs. See
          item 42 of the configuration file. You must be a DSN/
          MRJE manager to use this command.

#Host   [host identification]

Selects a particular host system to be the current host system. The host identified by this command is referenced by all subsequent commands of the subsystem.

Host   The name of a host machine that was configured by the
ident-   DSN/MRJE manager. This may be abbreviated to its first
ifica-   character. Omit this parameter to select the default
tion   host system.

#<host system console command>

Whenever a communications line is active, host system console commands may be issued interactively. They must begin with the character specified in item 7 of the configuration file. DSN/MRJE managers may issue only those host system console commands allowed to the remote station. DSN/MRJE users are additionally restricted to host system console commands beginning with the string in item 6 of the configuration file. A host system console command will be refused if any other DSN/MRJE user or manager is already communicating interactively with the host sys-

tem; however, host console commands may be submitted as job
input.   An DSN/MRJE manager will retain interactive use of the
host system console until a CONTROL-Y is issued. A DSN/MRJE user
may enter only one host system console command at a time.   See
also the JES2 commands in Section D of the Data Communications
Handbook.


```
        #Submit Infilel[(N[,T])] [ ... , Infile5[(N[,T])] ]
                [;Reader=pseudo reader logical device number ]
                [;PRint = print file [ (N)                   ]
                [;PUnch = punch file [ (N)                   ]
                [;Forms = forms file [ (N)                   ]
```

N   The Notranslate parameter requests no translation for a file
      when its contents are transmitted or received. The default
      is to translate ASCII to EBCDIC for input files, and EBCDIC
      to ASCII for output files.

T   The Transparent transmission parameter requests that the
      first JOB card of an Infile be recognized, and that all
      subsequent JOB cards within that Infile be passed to the host
      system as data. DSN/MRJE Manager capability is required to
      use this option in the SUBMIT command.

Infile   Five   infiles   may   be   specified.   They   are
           transmitted in the sequence in which they appear in the
           SUBMIT command. An infile can be:

           ●   An optionally qualified actual file designator.
           ●   A formal file designator equated to an actual file
                 designator, a logical device number, a device
                 class name, or one of these system files: $STDIN,
                 $STDINX, or $OLDPASS.
           ●   A device class name of a real MPE input device,
                 enclosed in quotation marks, for example "TAPE".
           ●   One of these system files: $STDIN, $STDINX, or
                 $OLDPASS.
           ●   A logical device number of a real MPE input
                 device.

pseudo   Specifies a particular DSN/MRJE pseudo reader on which
reader   the jobs in the input file will be submitted. Pseudo
           reader can be:

           ●   The logical device number assigned to a DSN/MRJE
                 pseudo reader.
           ●   A pseudo reader device class name enclosed in quo-
                 tation marks.   The pseudo reader should have a
                 unique device class name.

If READER=parameter is omitted, then the default pseudo
reader is identified in configuration file item 19.

print   These parameters specify where the results of processing
  file   of a submitted job are to go. One of each can be speci-
           fied by:
punch
  file   ●   The logical device number of an MPE output device.
           ●   An MPE device class name enclosed in quotation
forms   marks.
  file   ●   An unqualified actual file designator.
           ●   An exclamation mark, followed by a seven character
                  file name, to indicate predefined routing.
           ●   A zero device, to indicate unsolicited output de-
                  vice routing.

           The default output devices for print and punch files are
           in configuration file items 20 and 28. The default form
           file is the default print file.

HP 3000 CONSOLE OPERATOR COMMAND SUMMARY

   :MRJECONTROL START[,host id][;TRACE,ON,trace options]

Used to open a communications line, initiate transmission over
the line, and turn on the CS TRACE facility. Contact Hewlett-
Packard to find out the most appropriate way to use the trace
options.

   :MRJECONTROL SIGNOFF[,host id]

Used to close the communications line in an orderly fashion.

   :MRJECONTROL KILL[,host id]

Used to close the communications line immediately and in an un-
orderly fashion.

:MRJECONTROL RETRIES,[host id],retry number

Used to set a limit on the number of times DSN/MRJE will request re-transmission of a block of data not received successfully from the host.

:MRJECONTROL {TRACE,[host id],ON[trace options]}
                {TRACE,[host id],OFF   }

Used to activate and de-activate the CS TRACE facility. Contact Hewlett-Packard to find out the most appropriate way to use this command.

trace options   [,[ALL][,[mask][,[numentries][,[WRAP][,file]]]]]

file   The name of a file where trace records are to be stored. This file must be built prior to execution of the command. If this parameter is omitted, then its name will be MRJETRCh.PUB.SYS, where h is the first character of the host id.

LISTING TRACE FILE CONTENTS

The CS TRACE dump utility program CSDUMP.PUB.SYS can be used to format and print the contents of trace files generated by the trace facility. An example of the commands required to list the files to a line printer is:

    :FILE CSTRACE=file name
    :FILE LIST;DEV=LP   Device class "LP" must be configured.
    :RUN CSDUMP.PUB.SYS[,HEX]

where "file name" is the name of the file specified in the command :MRJECONTROL TRACE (or, if no file name was specified, MRJETRCEh). The secondary entry point "HEX" may be used to produce uninterpreted data in hexadecimal instead of octal based numbers.

JOB INPUT

A job stream is composed of MPE job control cards; HASP, JES2, JES3 or ASP job control cards; executable programs; and data.

80-column card images are stored in one or more HP 3000 files. One card image constitutes one record in a file.

Files that are merged to form a job stream can contain any number of separate jobs.

Three levels of input files are permitted:

- Infiles   Named in a SUBMIT command
- Level-one FD files. Named on ##FD card images in infiles.
- Level-two FD files. Named on ##FD card images in level-one infiles.

No "looping" between any input files is permitted. Infiles and FD files must constitute a valid job stream according to the host system requirements.

FD files and infiles may contain they same kind of information and may be constructed in the same way.

Five infiles are permitted in a SUBMIT command. An infile name may be:

- actual file designator, qualified or unqualified
- formal file designator
- device class name
- logical device number
- system file names: $STDIN, $STDINX, or $OLDPASS

     ##FD file name [(N[,T]) [comment]]
                 [(T[,N])   ]

File definition cards may appear in infiles and in level-one FD files to reference additional files. The ##FD card images are not transmitted. The "##FD" must occur in the first four characters of the card image.

file name   The file designator can be:

- Actual file designator, qualified or unqualified.
- Formal file designator.

- Device class name.
- Logical device number.
- System file name: $STDIN, $STDINX, or $OLDPASS.

N   No translation requests that the FD file be submitted without translation. Refer to the SUBMIT command.

T   Transparent transmission requests that all JOB cards be passed to the host system as data. Refer to the submit command.

comment   Optional. If file name is either $STDIN or $STDINX the comment will be printed at your terminal before the DSN/MRJE message: ENTER INPUT ENDING WITH MRJEOD. It may always be used to identify the type of input expected.

MRJEOD

For infiles or FD files orginating from $STDIN or $STDINX, an "MRJEOD" in characters 1 through 6 acts as an end sentinel for data, and an end of file. This record is never transmitted.

JOB OUTPUT

Output can be routed to a disc file or to an output device by naming the output files in the SUBMIT command, or by specifying them in user defined routing and referencing them in the SUBMIT command. File record sizes are:

    Print file: 132 characters per record with CCTL
    Forms file: 132 characters per record with CCTL
    Punch file: 80 characters per record

If a SUBMIT command names a disc file, build the file with sufficient extents allocated because DSN/MRJE will not allocate additional ones as the need arises. The subsystem does inform the system operator when the file limits are exceeded.

In the SUBMIT command, specify output files using one of the following:

- An unqualified actual file designator.
- The logical device number of an MPE output device.
- An MPE device class name.
- An exclamation mark, followed by an seven character file name, to indicate user predefined output routing.

● A zero character, to indicate unsolicited output

Both print and special forms files must have 132 character re-
cords with carriage control character specified, CCTL;REC=-132
characteristics.

CARRIAGE CONTROL

When output is written to a disc file, a carriage control charac-
ter prefixes line printer and special forms reords. DSN/MRJE
translates the characters as follows:

HOST SYSTEM CONTROL	HP3000 CONTROL CODE
Skip immediately n spaces, n<3.	%101 (if necessary) %2nn (nn<3)
Skip immediately to channel n, n<13.	%101 (if necessary) %3nn (2<nn<12) or %61, for channel 1.
Space n lines after print, n<3.	%100 (if necessary) %2nn (nn<3)
Skip to channel n after print, n<13.	%100 (if necessary) %3nn (2<nn<12) or %61, for channel 1
Suppress space	%53
All other host system control codes.	Single space

SUMMARY OF CONFIGURATION FILE ENTRIES

The following information is provided for each con-
figuration file entry:

- ENTRY NUMBER (alternatively referred to as "Item Number") AND
  DESCRIPTION. DSN/MRJE accesses entries in the file by
  number.

- ENTRY/TYPE--the literal entry or the character type allowed
  for each entry.

  Literal entries appear in UPPER CASE letters

  n = numeric (acceptable range of values is shown in table)

  an = alphanumeric

  sp = special (non-alphanumeric)

  * = numeric value of LDN (Logical Device Number); or

       alphanumeric value, enclosed in quotes, of DC (Device
       Class); for example, "OUTFILE"; or

       alphanumeric characters and slashes or periods, indi-
       cating an AFD (Actual File Designator)

       an exclamation mark followed by an seven character
       alphanumeric formal file designator, indicating pre-
       defined routing.

- ASCII BYTES--the maximum number of characters that can be
  entered.

- DEFAULT VALUE provided by DSN/MRJE. When there is more than
  one value, the values are labeled as to Job Entry Subsystem.

- NOTES--

  1 The ALTER command will not alter this entry. To change
     it, you have to re-build the configuration file (use NEW
     command).

  2 This entry is not displayed to DSN/MRJE Users.

  3 The first character of the User host console command
     must be identical to entry number 7. DSN/MRJE automat-
     ically alters the character when entry number 7 is
     altered.

4 This entry will be automatically changed whenever Item 5--Job Entry Subsystem--is changed. The new value will be the default value for the new Subsystem.

DSN/MRJE Configuration File Entries

ENTRY NUMBER AND DESCRIPTION	ENTRY/ TYPE	ASCII BYTES	DEFAULT VALUE	NOTES
1. Host machine ID	an	8	(none)	1
2. Pseudo console (logical device number)	n 0-999	3	(none)	
3. Pseudo line monitor (logical device number)	n 0-999	3	(none)	
4. Signon card image	an, sp	80	(none)	2
5. Job Entry Subsystem on host	HASP, JES2, JES3 or ASP	4	(none)	
6. User host console command(s)	an	10	(none)	3
7. Host console command character	n or sp	1	$ (HASP) $ (JES2) * (JES3) * (ASP)	4
8. Number of lines to check for print banner	n 0-999	3	10 (HASP) 60 (JES2) 60 (JES3) 60 (ASP)	4
9. Number of cards to check for punch banner	n 0-999	3	1	4

DSN/MRJE Configuration File Entries (continued)

ENTRY NUMBER AND DESCRIPTION	ENTRY/ TYPE	ASCII BYTES	DEFAULT VALUE	NOTES
10. For HASP and JES2--column where host-assigned job number begins in the print banner	n 6-129	3	33 (HASP) 19 (JES2)	4
For JES3 and ASP--width of a block letter in the print banner	n 6-129	3	13 (JES3) 13 (ASP)	4
11. Column where job name begins in print banner (Not used by JES3 or ASP)	n 0-124	3	79 (HASP) 25 (JES2)	4, 5
12. Column where host-assigned job number begins in the punch banner	n 1-76	2	44 (HASP) 44 (JES2) 21 (JES3) 21 (ASP)	4
13. Column where job name begins in punch banner	n 0-72	2	0 (HASP) 0 (JES2) 35 (ASP)	4, 6
14. For HASP and JES2--column where "SETUP" or "LOAD" begins in special forms console message	n 1-120	3	10 (HASP) 21 (JES2)	4
For JES3--column where "JOB NAME" begins in special forms console message	n 1-120	3	18 (JES3)	
For ASP--column where "JOB" begins in special forms console message	n 1-120	3	16 (ASP)	
15. Column where "JOB" begins in console "job received" message	n 1-99	2	11 (HASP) 10 (JES2) 18 (JES3) 16 (ASP)	4
16. Column where job name begins in console "job received" message	n 1-99	2	35 (HASP) 28 (JES2) 30 (JES3)	4

DSN/MRJE Configuration File Entries (continued)

ENTRY NUMBER AND DESCRIPTION	ENTRY/ TYPE	ASCII BYTES	DEFAULT VALUE	NOTES
17. Column where "ON" begins in console "job received" message (not used by JES3 or ASP)	n 1-99	2	20 (HASP) 37 (JES2)	4
18. Maximum number of job log file entries	n 25-1000	4	100	1
19. Default device for input to DSN/MRJE (LDN or DC)	*	10	"MRDR1"	
20. Default device for printer output from DSN/MRJE (LDN, DC, or AFD)	*	10	"LP"	
21. Unsolicited print disposition, printer 1 (LDN, DC, or AFD)	*	26	"LP"	
22. Unsolicited print disposition, printer 2 (LDN, DC, or AFD)	*	26	"LP"	
23. Unsolicited print disposition, printer 3 (LDN, DC, or AFD)	*	26	"LP"	
24. Unsolicited print disposition, printer 4 (LDN, DC, or AFD)	*	26	"LP"	
25. Unsolicited print disposition, printer 5 (LDN, DC, or AFD)	*	26	"LP"	
26. Unsolicited print disposition, printer 6 (LDN, DC, or AFD)	*	26	"LP"	
27. Unsolicited print disposition, printer 7 (LDN, DC, or AFD)	*	26	"LP"	

DSN/MRJE Configuration File Entries (continued)

ENTRY NUMBER AND DESCRIPTION	ENTRY/ TYPE	ASCII BYTES	DEFAULT VALUE	NOTES
28. Default device for punch output from DSN/MRJE (LDN, DC, or AFD)	*	10	"LP"	
29. Unsolicited punch disposition, punch 1 (LDN, DC, or AFD)	*	26	"LP"	
30. Unsolicited punch disposition, punch 2 (LDN, DC, or AFD)	*	26	"LP"	
31. Unsolicited punch disposition, punch 3 (LDN, DC, or AFD)	*	26	"LP"	
32. Unsolicited punch disposition, punch 4 (LDN, DC, or AFD)	*	26	"LP"	
33. Unsolicited punch disposition, punch 5 (LDN, DC, or AFD)	*	26	"LP"	
34. Unsolicited punch disposition, punch 6 (LDN, DC, or AFD)	*	26	"LP"	
35. Unsolicited punch disposition, punch 7 (LDN, DC, or AFD)	*	26	"LP"	
36. DSN/MRJE output process priority	BS, CS DS, or ES	1	CS	
37. Number of characters to test in job name	n 0-8	1	8	
38. Translation type	EBCDIC or EBCDIK	1	EBCDIC or EBCDIK	
39. Host system phone number	n	16	(none)	

DSN/MRJE Configuration File Entries (continued)

ENTRY NUMBER AND DESCRIPTION	ENTRY/ TYPE	ASCII BYTES	DEFAULT VALUE	NOTES
40. Time communications line opened (set by DSN/MRJE when MRJECONTROL START executes)	(no user input)	6	(none)	1
41. Time communications line closed (set by DSN/MRJE when :MRJECONTROL SIGNOFF or KILL executes)	(no user input)	7	(none)	1
42. Maximum time job remains active in job log after transmittal (days,hrs,min)	n	6	1/0/0	
43. Host buffer size (bytes)	n 100-2000	5	400	

CONFIGURING A HASP SYSTEM

For a HASP system, specify:

- Terminal type: System/360, model 25 or higher.
- Line printer width: 132 characters or less.
- Console support: YES
- Transparency: YES
- Communications line:
  a. Full or half duplex
  b. Speed: less than or equal to 9600 bits per second for communication through an SSLC. Less than or equal to 56000 bits per second for communication through an INP. <u>Consult with host system operations.</u>
  c. EBCDIC and transparent.
- Multileaving buffer size: Not to exceed 2000 characters. A large buffer size will give you better performance when the communication line operates at 56Kb.
- Configuring two printer streams improves subsystem performance at 56Kb.
- A standard forms name of "STD." in the standard forms parameter, or use "STD." as the name of standard forms for both printers and punches.

- All other generation parameters should be specified consistent with practices at the host site.

Note the number of lines per page. This value should be used as entry number 8 in the MRJE/3000 configuration file for this host.

CONFIGURING A JES2 SYSTEM

For a JES2 system, specify:

- Remote terminal type: S/360.

- The terminal should have:
  a. A console.
  b. A multileaving interface.
  c. The text transparency feature.

- For each remote printer configured at a remote terminal:
  a. Automatic forms mode.
  b. Automatically started printer.
  c. No FCB support.
  d. Separator pages.
  e. Printer width: 132 characters or less.

- For each remote card punch configured at a remote terminal:
  a. Automatic forms mode.
  b. Automatically started punch.
  c. Separator cards.

- For each remote card reader configured at a remote terminal:
  a. Automatically started (hot) card reader.

- A standard forms name of "STD." in the standard forms parameter or use "STD." as the name of standard forms for both printers and punches.

- Communication line:
  a. Full or half duplex
  b. Speed: less than or equal to 9600 bits per second for communication through an SSLC. Less than or equal to 56000 bits per second for communicaton through an INP. <u>Consult with host system operations on 56Kb speed.</u>
  c. EBCDIC and transparent.

- Multileaving buffer size: Not to exceed 2000 characters. A large buffer size will give you better performance at 56Kb.
- Configuring two printer streams improves subsystem performance at 56Kb.

- All other generation parameters should be specified consistent with practices at the host site.

Make note of the value being configured for the number of print lines per page. This value should be used as entry number 8 in the MRJE/3000 configuration file for this host.

CONFIGURING A JES3 OR ASP SYSTEM

For a JES3 or ASP system, specify the following:

- Remote terminal type: S/360

- The terminal should have:
  a. A console.
  b. A multileaving interface.
  c. The text transparency feature.

- For each remote printer configured at a remote terminal:
  a. Automatically started printer.
  b. No FCB support.
  c. Printer width of 132 characters or less.
  d. Separator pages.

- For each remote card punch configured at a remote terminal:
  a. Automatically started punch.
  b. Separator cards.

- For each remote card reader configured at a remote terminal:
  a. Automatically started (hot) card reader.

- A standard forms name of "STD." in the standard forms parameter, or use "STD." as the name of standard forms for both printers and punches.

- Communication line:
  a. Full or half duplex

  b. Speed: less than or equal to 9600 bits per second for communication through an SSLC. Less than or equal to 56000 bits per second for communication through an INP. Consult with host system operations on 56Kb speed.
  c. EBCDIC and transparent.

● Multileaving buffer size not to exceed 2000 characters. A large buffer size will give you better performance when the communication line operates at 56Kb.

● Configuring two printer streams improves susbsystem performance at 56Kb.

● All other generation parameters should be specified consistent with practices at the host site.

Make note of the value being configured for the number of print lines per page. This value should be used as entry number 8 in the MRJE/3000 configuration file for this host.

DSN/MRJE MESSAGES

These messages are unique to DSN/MRJE activity:

- User messages -- These are printed on a user's output device. These are listed alphabetically, starting on G-21.

- MRJECONTROL distributed console messages -- These are sent to the terminal of the user who issued the MRJECONTROL command. These are listed by Command Interpreter Error (CIERR) number, starting on G-40.

- Console operator messages -- These are sent to the system console. These are listed alphabetically, starting on G-43.

In these messages, those that report an error or a failure also include the cause and instructions for corrective action. In cases where a message gives information only, and no error or failure occured, only the message and its meaning are given.

DSN/MRJE User Messages

* "ALL" OR "OLDJOBS" ARE ONLY VALID PURGE PARAMETERS.
        A PURGE parameter other than ALL or OLDJOBS was
        entered. Re-enter PURGE command with no parameter
        (for OLDJOBS) or with "ALL" or "OLDJOBS".

* "BS" OR "CS" OR "DS" REQUIRED.
        BS, CS, or DS are the only valid values for output
        process priority in the configuration file.

  jobname   CANCELED.
  job#
        Specified job has been canceled as requested.

* jobname   CAN'T BE CANCELED.
  job#
        Named job cannot be canceled because of an   error   in
        writing to or reading from a job log file.   Retry the
        CANCEL.

  $CJ host#,host#   CANCEL COMMAND WILL BE SENT TO HOST.
  $CJ host#,P
        When an interactive User/Manager cancels a job which
        has been transmitted to the host and the host is
        on-line, DSN/MRJE automatically sends the appropriate
        host cancel command and prints the host response.

* COMMA OR NUMBER REQUIRED.
        Comma or number is required.

* COMMA OR SLASH REQUIRED TO SEPARATE PARAMETERS.
        Comma or slash required to separate parameters in
        "joblist" or "itemlist".

* COMMA REQUIRED TO SEPARATE PARAMETERS.
        Comma is required to separate positional parameters,
        DAYS, HOURS, MINUTES.

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┌─────────┐
│  NOTE   │
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An asterisk (*) preceding a message indicates the error
causes program termination if DSN/MRJE is being run non-
interactively.

DSN/MRJE User Messages (continued)

* DEFAULT HOST   CONFIGURATION FILE SET CANNOT BE ACCESSED.
  HOST hostname
        Named host configuration file cannot be accessed
        because of an open or read error. Determine the
        reason for the I/O failure from the MPE file error
        number.

* CONTINUATION LINE EXPECTED.
        When an ampersand (&) is entered at the end of a line
        in a SUBMIT command, DSN/MRJE expects the following
        line(s) to be a continuation of the command. Re-enter
        the entire SUBMIT command with continuation line(s) as
        required.

* CONTROL-Y IS THE ONLY VALID INPUT DURING HOST COMMAND
  PROCESSING.
        A User may only enter Control-Y during host console
        command processing.   (Control-Y halts output.) Any
        other input causes this error message and returns the
        # prompt. If all output has not been received,
        re-enter the host console command.

* filename RECORD m CTRANSLATE FAILED.
        An error occurred while translating a SUBMIT input
        file from ASCII to EBCDIC (or EBCDIK, depending on the
        translation type). This is an internal software
        failure. Contact Hewlett-Packard.

  DAYS, HOURS, MINS CAN'T BE ZERO.
        The maximum time a job remains in the job log file
        after transmission cannot be zero.

  DEFAULT HOST ASSUMED.
        If no host name is given in a HOST or NEW command,
        DSN/MRJE assumes the default host is desired.

* DIGIT OR SPECIAL CHARACTER REQUIRED.
        Host system character must be a digit or a special
        character. Re-enter command.

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│  NOTE   │
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An asterisk (*) preceding a message indicates the error
causes program termination if DSN/MRJE is being run non-
interactively.

DSN/MRJE User Messages (continued)

* n DIGITS ARE THE MAX ALLOWED FOR THIS NUMBER.
> A number with too many digits has been entered.
> Re-enter command with no more than n digits.

$DJ host# DISPLAY COMMAND WILL BE SENT TO HOST.
> When an interactive User/Manager displays a job that
> has been transmitted to the host and the host is
> online, DSN/MRJE automatically sends the appropriate
> host display command and prints the host response.

jobname: DUPLICATE JOBNAMES IN JOBLOG. CANCEL REFUSED. A
DISPLAY OF JOBS WITH THIS NAME WHICH YOU OWN (IF ANY)
FOLLOWS:
> A CANCEL by job name is refused if duplicate names
> exist in the job log file. Re-enter the CANCEL
> command, specifying "job#" rather than "jobname".

* "EBCDIC" OR "EBCDIK" REQUIRED.
> EBCDIC and EBCDIK are the only valid translation
> types. Re-enter.

* EMBEDDED BLANKS NOT ALLOWED IN QUALIFIED NAME.
> A qualified actual file designator may not contain
> embedded blanks. Re-enter.

* END OF FILE ON $STDINX. FURTHER INPUT IMPOSSIBLE. FATAL
ERROR!
> End-of-file on standard input device (for example, a
> user enters ":EOD" while submitting from $STDINX)
> makes further input impossible. MRJE terminates. Run
> the job again and do not use ":EOD" or ":EOF" in
> SUBMIT. Use "MRJEOD".

NOTE

An asterisk (*) preceding a message indicates the error
causes program termination if DSN/MRJE is being run non-
interactively.

DSN/MRJE User Messages (continued)

ENTER INPUT ENDING WITH "MRJEOD".
This message followed by a prompt (>) requests input from $STDIN/$STDINX during SUBMIT. If $STDIN or $STDINX are FD files, any comment on the ##FD card will appear ahead of this message. For example, assume infile DATA1 contains the record

##FD $STDIN   This input is for file DATA1.

When this ##FD card is read by DSN/MRJE, the following appears on the terminal:

This input is for file DATA1.
ENTER INPUT ENDING WITH "MRJEOD"
>

* EXTRANEOUS INFORMATION AFTER VALID ITEM.
Some extra information has been included that DSN/MRJE does not recognize. Re-enter with only the required information.

* ##FD CARDS NOT PERMITTED IN LEVEL 2 FILE.
File Definition cards may be contained only in an Infile (level 0) or a first-level FD file. Remove the ##FD card from the named level 2 file, reconstruct input files as required, and re-submit job(s).

FILE ERROR #n, filename CAN'T BE CLOSED.
Named SUBMIT file (input or output) cannot be closed. SUBMIT processing continues. Determine the reason for the failure from MPE file system error number (#n).

* FILE ERROR #n, filename CAN'T BE CLOSED. FATAL ERROR!
Named file (configuration, directory, job log, or host console device) cannot be closed. DSN/MRJE terminated. Determine the reason for the failure from MPE file system error number (#n).

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│    NOTE     │
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An asterisk (*) preceding a message indicates the error causes program termination if DSN/MRJE is being run non-interactively.

DSN/MRJE User Messages (continued)

* FILE ERROR #n, filename CAN'T BE OPENED.
        Named file cannot be opened. Determine the reason for
        the failure from MPE file system error number (#n).

* FILE ERROR #n, filename CAN'T BE OPENED. FATAL ERROR!
        Named list file (if other than $STDLIST) cannot be
        opened. DSN/MRJE terminated. Determine the reason for
        the failure from MPE file system error number (#n).

* FILE ERROR #n, MRJEJOBh RECORD m CAN'T BE POSTED.
        Record m of job log MRJEJOBh cannot be physically
        transferred from the I/O buffer to the disc file.
        Determine the reason for the I/O failure from MPE file
        system error number (#n).

                        filename RECORD m
* FILE ERROR #n   HOST CONSOLE OUTPUT CAN'T BE READ.
                        STANDARD INPUT FILE
        Named file (record m) cannot be read.   Determine the
        reason for the I/O failure from the MPE file system
        error number (#n).

* FILE ERROR #n, filename RECORD m CAN'T BE WRITTEN.
        Record   m of the named file cannot be written.
        Determine the reason for the I/O failure   from the
        MPE file system error number (#n).

* FILE ERROR #n, filename RECORD m CAN'T BE WRITTEN.   FATAL
  ERROR!
        An output record cannot be written to the named list
        file. DSN/MRJE terminated. Determine the reason for
        the I/O failure from the MPE file system error
        number (#n).

* FILE ERROR #n, xxxx CAN'T BE WRITTEN TO HOST READER.
        xxxx = "filename RECORD m" or "MONITOR CARD".   Record
        "m" of the SUBMIT input file, or the monitor card can-
        not be written to the host reader. (The latter asso-
        ciates a host job with a pseudo reader.) Determine the
        reason for the I/O failure from the MPE file system
        error number (#n).

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│  NOTE   │
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An asterisk (*) preceding a message indicates the error
causes program termination if DSN/MRJE is being run non-
interactively.

DSN/MRJE User Messages (continued)

* FILE ERROR #n, CAN'T CLOSE $STDINX.   HOST CONSOLE COMMANDS
  CAN'T BE SENT.
        $STDINX (standard input device) must be   closed,   then
        re-opened for NOWAIT I/O, in order to send   host   con-
        sole   commands.   Determine   the reason for   the   the
        failure from the MPE file system error number (#n).

  FILE ERROR #n, HOST BUSY.   CONSOLE COMMAND NOT SENT.
        Host   pseudo console device has received more messages
        from the host than it can handle. Determine the reason
        for the failure from the MPE file sytem error (#n).

* FILE ERROR #n, HOST CONSOLE CAN'T BE OPENED.
        Host   pseudo   console device specified in the configu-
        ration file cannot be opened.   Determine   the   reason
        for   the   failure   from   MPE   file system error number
        (#n).

* FILE ERROR #n, HOST CONSOLE COMMAND CAN'T BE WRITTEN.
        Host   console   command   cannot   be written to the host
        pseudo console device specified in   the   configuration
        file. Determine the reason for the   I/O   failure   from
        the MPE file system error number (#n).

* FILE NAME, DEVICE CLASS, OR LOGICAL DEVICE NUMBER REQUIRED.
        File name, device class, or logical   device   number is
        the only valid input.   Re-enter.

  hostname FILES CREATED.
        The configuration file set for the named host has been
        created as requested in the NEW command.

  FOLLOWING MUST BE INITIALIZED IN CONFIGURATION FILE:
        When creating a new configuration file, certain   items
        that do not have default values must be initialized.

* FORMS SPECIFIED TWICE.
        "FORMS" file specified twice in SUBMIT   command.   Re-
        enter SUBMIT command, specifying FORMS only once.

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│    NOTE     │
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An asterisk (*) preceding a message indicates the   error
causes program termination if DSN/MRJE is being run non-
interactively.

DSN/MRJE User Messages (continued)

* GET PRIVILEGED MODE FAILURE. FATAL ERROR!
        An error occurred in the GETPRIVMODE intrinsic. This
        is an internal software failure. Contact Hewlett-
        Packard.

* GET USER MODE FAILURE. FATAL ERROR!
        An error occurred in the GETUSERMODE intrinsic. This
        is an internal software failure. Contact Hewlett-
        Packard.

* HOSTNAME MUST START WITH SAME CHAR AS HOSTID
        The first character of a host name must be the same as
        the first character of the host ID given in the NEW
        command. Re-enter.

* jobname IN DIRECTORY (ENTRY n) BUT NOT IN JOB LOG. FATAL
  ERROR!
        Named job has been found in directory entry n, but
        cannot be found in the job log. DSN/MRJE terminated.

        This is an internal software failure. Do not permit
        further jobs to be submitted to this job log. When
        all jobs in it have completed, use FCOPY to list the
        directory and job log as follows:

            :FILE L;DEV=LP
            :RUN FCOPY
            >FROM=MRJEJOBh;TO=*L
            >FROM=MRJEDIRh;TO=*L
            >EXIT

        ("h" is the host ID.)

        Show the listing to Hewlett-Packard. Use the PURGE ALL
        command to re-initialize the directory and job log
        files.

* INPUT FILE NAME(S) REQUIRED.
        SUBMIT requires at least one input filename. Re-enter.

> **NOTE**

An asterisk (*) preceding a message indicates the error
causes program termination if DSN/MRJE is being run non-
interactively.

DSN/MRJE User Messages (continued)

* INPUT MUST BE NUMERIC
        Numeric input required. Re-enter.

  INTERACTIVE TERMINAL REQUIRED FOR HOST CONSOLE COMMANDS.
        User/Manager must run DSN/MRJE interactively in order
        to send host console commands from a terminal.
        (Console commands may also be sent as part of an IBM
        JCL deck, but they must be in batch format.)

* INVALID ACTUAL FILE DESIGNATOR.
        A fully qualified actual file designator has the form

        filename/lockword.groupname.accountname

        where names and lockword have a maximum of eight
        alphanumeric characters each, and the first character
        is alphabetic. No embedded blanks are permitted.
        Re-enter.

* INVALID COMMAND.
        MRJE does not recognize the input as a command. Enter
        a valid MRJE or host Job Entry Subsystem command.

* INVALID DEVICE CLASS SPECIFICATION.
        Valid device class has the form

        "name"

        where name can have a maximum of eight alphanumeric
        characters, starting with an alphabetic. No embedded
        blanks are permitted and quotation marks are required.
        Re-enter.

* INVALID HOST SYSTEM.
        HASP, JES2, JES3, and ASP are the only valid host Job
        Entry Subsystems. Re-enter.

* INVALID HOSTID. MUST BE ALPHANUMERIC, <=8 CHARS.
        Valid host ID has a maximum of eight alphanumeric
        characters. Re-enter.

┌──────────┐
│   NOTE   │
└──────────┘

An asterisk (*) preceding a message indicates the error
causes program termination if DSN/MRJE is being run non-
interactively.

DSN/MRJE User Messages (continued)

* INVALID JOBNAME--TOO LONG.
      Eight characters is the maximum length for host job
      name. Re-enter.

* INVALID KEYWORD.
      Valid keywords are READER, PRINT, PUNCH, FORMS. Re-
      enter SUBMIT command.

* INVALID OCTAL NUMBER.
      Octal number cannot contain blanks or the digits 8 and
      9. Re-enter.

* INVALID PARAMETER FOR DISPLAY COMMAND.
      Valid DISPLAY parameters are CONFIGURATION,
      DIRECTORY, HOST, JOBLOG, OLDJOBS, STATUS. Re-enter
      DISPLAY command with correct parameter.

* INVALID SPECIAL CHARACTER.
      Re-enter using one of the following special characters
      only: , $ # @ / = " ( ) > % ; : & ! < ^ + - '

* INVALID SUBMIT PARAMETER.
      Valid SUBMIT parameters are "infile" "(N)" and the
      keywords "READER", "PRINT", "PUNCH", and "FORMS". Re-
      enter SUBMIT command.

* device IS AN INVALID PSEUDO LINE MONITOR DEVICE. FATAL
  ERROR!
      DSN/MRJE, in determining whether the host is on-line
      or off-line, has found that the pseudo line monitor
      logical device number in the configuration file is
      invalid. Ensure that the logical device number in the
      configuration file correctly indicates the pseudo line
      monitor device configured on the 3000.

* jobname IS NOT YOUR JOB.
      Requested job will not be canceled or displayed
      because the user's logon ID does not match that in the
      job log file entry. Re-enter CANCEL or DISPLAY with
      correct job name or job number.

```
┌──────────┐
│   NOTE   │
└──────────┘
```

An asterisk (*) preceding a message indicates the error
causes program termination if DSN/MRJE is being run non-
interactively.

DSN/MRJE User Messages (continued)

hostname IS OFF-LINE.
      Named host is off-line.

hostname IS OFF-LINE. HOST CONSOLE COMMAND CAN'T BE SENT.
      Host console command cannot be sent because named host
      is off-line. Re-enter command when host is on-line.

* hostname IS OFF-LINE. JOB CAN'T BE CANCELED AT HOST.
      Job to be canceled has been transmitted to host, but
      the host is now off-line, so a CANCEL command cannot
      be sent to host. However, the cancel flag in the job
      log entry is set so that any output from the job will
      be flushed.

hostname IS ON-LINE.
      Named host is on-line.

hostname IS THE CURRENT HOST MACHINE
      Named host is the host to which all succeeding com-
      mands will be directed.

* n IS THE MAX LEVEL OF NAMES IN THIS ACTUAL FILE DESIGNATOR.
      Lockword, groupname, and accountname are the only
      permissible file name qualifications.

* n IS THE MAXIMUM NUMBER OF CHARACTERS FOR THIS PARAMETER.
      Certain inputs, such as phone number in the configur-
      ation file, cannot exceed a specified length. Reenter.

* command IS THE ONLY VALID CONSOLE COMMAND.
      The User is permitted to use only the host console
      command(s) designated by the Manager in the configu-
      ration file in Item 6. Re-enter.

* m TO n IS THE VALID RANGE FOR THIS PARAMETER.
      The number specified is not within valid range.   Re-
      enter.

ITEM 4 ONLY DISPLAYED FOR MANAGER.
      Item 4 in the configuration file (host SIGNON image)
      is displayed only for the MRJE Manager.

+-----------+
| NOTE |
+-----------+

An asterisk (*) preceding a message indicates the error
causes program termination if DSN/MRJE is being run non-
interactively.

DSN/MRJE User Messages (continued)

ITEM NOT USED WITH THIS HOST SYSTEM.
    Items 11 and 17 in a configuration file are not used
    with a JES3 or ASP host.

* ITEM NUMBER REQUIRED.
    When altering a configuration file, item number is
    required. Re-enter with an item number.

JOB ALREADY CANCELED.
    A CANCEL request has been entered for a job which has
    already been canceled.   The job log entry is dis-
    played.

JOB #n CAN'T BE CANCELED DUE TO A PREVIOUS SYSTEM FAILURE.
    Message occurs if the system is restarted between the
    time a job is submitted and the time a CANCEL request
    is issued. System restart invalidates the spool file
    numbers that would normally be used in a cancelation
    procedure. Thus the CANCEL request fails. After
    receiving all output for all jobs, purge all old jobs.

* JOB CAN'T BE CANCELED AT HOST FOR NON-INTERACTIVE USER.
    Job to be canceled has been transmitted to the host,
    but since the User/Manager is not running DSN/MRJE
    interactively the CANCEL command cannot be sent to
    the host.   However, the cancel flag in the job log
    entry is set so that any output from the job will be
    discarded.

JOB NOT CANCELED.
    When User/Manager requests that a job be canceled,
    the job log entry is displayed. In an interactive
    session DSN/MRJE then asks for verification of the
    CANCEL.   If the response is anything other than
    "YES", the job is not canceled.

┌─────────────┐
│   NOTE   │
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An asterisk (*) preceding a message indicates the error
causes program termination if DSN/MRJE is being run non-
interactively.

DSN/MRJE User Messages (continued)

n JOBS ARE IN THE JOBLOG. VERIFY PURGE WITH "YES".
When the Manager enters the PURGE ALL command
DSN/MRJE checks to see whether there are any jobs in
the job log. (These may or may not have completed.)
If there are remaining jobs and if the Manager is run-
ning interactively he or she is asked to verify the
PURGE request by typing YES.

JOB#n NO JOBLOG ENTRY.
No job log entry exists for the job specified in a
CANCEL or DISPLAY command. Display by job name to
determine the correct job number.

* LOGICAL DEVICE NUMBER OR DEVICE CLASS REQUIRED.
A logical device number or device class is the only
valid input. Back-references not permitted.
Re-enter.

MANAGER CAPABILITY IN EFFECT.
This user has "OP" capability.

* MANAGER CAPABILITY REQUIRED FOR THIS COMMAND
This command is not available to a user without "OP"
capability.

* MAXIMUM OF 5 INPUT FILES ALLOWED.
SUBMIT will accept a maximum of five explicit input
files. Re-enter the SUBMIT command.

* MISSING RIGHT PARENTHESIS.
Closing right parenthesis has been omitted from the
"(NOTRANSLATE)" parameter. Re-enter the SUBMIT com-
mand.

```
┌─────────┐
│  NOTE   │
└─────────┘
```

An asterisk (*) preceding a message indicates the error
causes program termination if DSN/MRJE is being run non-
interactively.

DSN/MRJE User Messages (continued)

MRJECONh FILE ALREADY EXISTS. REPLY "YES" TO RECREATE.
> The host named in NEW command already has a set of
> configuration files. In an interactive session the
> Manager is asked to verify that the existing files are
> to be deleted and new ones created. Reply YES to
> delete the existing set of configuration files. Any
> other response will retain the existing files.

MRJECONh NOT ALTERED.
> No change has been made to the named configuration
> file because of an I/O error, invalid input, or no new
> value being entered when requested. If a change is
> required, re-enter the ALTER command.

MRJECONh SUCCESSFULLY ALTERED.
> The named configuration file has been successfully
> altered as requested.

MRJEJOBh COMPLETELY PURGED OF ALL JOB ENTRIES.
> Named job log has been completely purged as requested.

* MRJEJOBh DIRECTORY FULL. NO FURTHER JOBS CAN BE
SUBMITTED.
> Directory of the named job log indicates that the job
> log is full. PURGE the named job log of old, inactive
> jobs.

* MRJEJOBh DIRECTORY/JOBLOG UPDATE CAN'T BE COMPLETED.
FATAL ERROR!
> Some or all entries have been deleted from the job log
> during PURGE, but the job log or directory cannot be
> updated because of an I/O error. DSN/MRJE terminated.
> Rebuild the set of configuration files for this host
> using the NEW command.

MRJEJOBh END OF FILE.
> End-of-file has been reached in search of named job
> log.

```
NOTE
```

An asterisk (*) preceding a message indicates the error
causes program termination if DSN/MRJE is being run non-
interactively.

DSN/MRJE User Messages (continued)

MRJEJOBh n JOBLOG ENTRIES CLEARED. m FREE ENTRIES NOW
EXIST.
       A PURGE command cleared n entries from the named job
       log file by:
       ● deleting canceled jobs
       ● deleting timed-out jobs
       ● clearing directory entries that were reserved for
         jobs that failed during SUBMIT.

MRJEJOBh JOBLOG IS EMPTY.
       Named job log is empty. This response may be given to
       a DISPLAY DIRECTORY, DISPLAY JOBLOG, or PURGE command.

MRJEJOBh NOT PURGED.
       The named job log has not been purged because the Man-
       ager negated his or her request, or an I/O error
       occurred. If PURGE is required, determine the reason
       for failure from the MPE file error number given in
       the I/O error message and re-enter the PURGE command.

MRJEJOBh n OLD JOBS IN THIS FILE.
       The named job log contains n "old jobs" -- jobs which
       have timed-out or been canceled and are therefore sub-
       ject to purging.

MRJEJOBh n OLD JOBS PURGED THUS FAR.
       An error has occurred during PURGE processing which
       makes directory/job log update impossible. However, n
       old jobs have already been deleted from the job log.
       Rebuild the configuration files for this host using
       the NEW command.

* (current command char) MUST BE FIRST CHAR IN USER HOST CMD.
       The specified command character must be the first
       character entered in the user host command. For
       example, if the host system command character is a
       dollar sign ($), the User host command cannot be %DA.

* NO BLANKS ALLOWED IN FORMAL FILE DESIGNATOR
       Embedded blanks are not permitted within a back ref-
       erenced file designator. Re-enter.

NOTE

An asterisk (*) preceding a message indicates the error
causes program termination if DSN/MRJE is being run non-
interactively.

DSN/MRJE User Messages (continued)

* NO CLOSING QUOTE ON DEVICE CLASS NAME.
    Valid device class must be enclosed in quotes.
    Re-enter.

* NO FILE DESIGNATOR ON ##FD CARD.
    A ##FD card with no file designator has been found
    in a SUBMIT input file. Correct the ##FD card and
    re-submit.

* NO JOB CARD FOUND.
    DSN/MRJE has read and spooled or transmitted all
    SUBMIT input (Infiles and FD files) without finding a
    host JOB card with the form:

    //jobname JOB optional information

    Add a valid host job card and re-SUBMIT.

* NO NEW FILES CREATED.
    If an error occurs or the DSN/MRJE Manager enters
    Control-Y during NEW command processing, no new set of
    configuration files is created. If new files are
    required, determine the reason for failure from the
    MPE file error number given in the I/O error message
    and re-enter the NEW command.

* NO PARAMETERS ALLOWED.
    No parameters are allowed in this command. Re-enter
    the command.

NO SPOOL FILE FOUND.
    Message occurs when a job is canceled and no spool
    file exists that contains information to be trans-
    mitted for the canceled job.

jobname NOT FOUND.
    The job named in a CANCEL or DISPLAY command is not
    in the job log. Ensure that job name is correct and
    re-enter the command. The Manager may DISPLAY the
    entire job log to check job names.

NOTE

An asterisk (*) preceding a message indicates the error
causes program termination if DSN/MRJE is being run non-
interactively.

DSN/MRJE User Messages (continued)

JOB   NOT SUBMITTED.
jobname

> The named job (or "JOB" if DSN/MRJE did not find a host card) was not submitted to the host. Make certain the job has a recognizable job card.

* NOTRANSLATE CAN'T BE SPECIFIED FOR $STDIN/$STDINX.
> Input from the standard input file is always translated from ASCII to EBCDIC or EBCDIK, depending on translation type. Re-enter SUBMIT command, deleting the "(NOTRANSLATE)" parameter from $STDIN/$STDINX.

* "NOTRANSLATE" REQUIRED.
> "(NOTRANSLATE)" is the only parenthesized parameter allowed in the SUBMIT command. Re-enter command.

* NUMERIC PARAMETER EXPECTED.
> Numeric input is expected after a comma. Re-enter.

* ONLY 3 PARAMETERS ARE ALLOWED.
> Only three values (days, hours, minutes) can be given to specify maximum time a job remains in the job log after transmittal. Re-enter.

* outfile : OUTPUT FILE DOES NOT EXIST.
> The named output file (PRINT, PUNCH, or FORMS file) has been given in a SUBMIT command, but has not yet been created. Build the named output file and re-submit.

* PARAMETERS REQUIRED.
> The given command requires parameters. Re-enter the command.

* PRINT SPECIFIED TWICE.
> PRINT file specified twice in SUBMIT command. Re-enter command, specifying "PRINT" once only.

┌──────────┐
│   NOTE   │
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An asterisk (*) preceding a message indicates the error causes program termination if DSN/MRJE is being run non-interactively.

DSN/MRJE User Messages (continued)

* PUNCH SPECIFIED TWICE
        PUNCH file specified twice in SUBMIT command. Re-
        enter command, specifying "PUNCH" once only.

* reader READER CANNOT BE CLOSED.
        The named host pseudo reader cannot be closed. Deter-
        mine the reason for the failure from MPE file error
        number.

* READER SPECIFIED TWICE.
        READER file specified twice in SUBMIT command. Re-
        enter command.

  SPOOL FILE DELETED.
        Message occurs when a job is canceled before it is
        transmitted to the host and the spool containing it
        is deleted.

  SPOOL FILE NOT IN READY STATE. UNABLE TO DELETE.
        Message occurs when a job is canceled while it is
        being transmitted to the host. The spool file is
        busy and cannot be deleted.

* STANDARD INPUT FILE CAN'T BE OPENED. FATAL ERROR!
        $STDINX cannot be opened. DSN/MRJE terminates.

* STANDARD INPUT FILE CAN'T BE OPENED FOR NOWAIT I/O.
        $STDINX must be opened for NOWAIT I/O in order to send
        host console commands.

* $STDIN, $STDINX, $OLDPASS ARE ONLY SYSTEM INPUT FILES
  ALLOWED.
        Only those system files named in the message can be
        used for Input or FD files. Other system files are
        prohibited. Re-enter SUBMIT with valid input files.

* THIS ITEM NOT DYNAMICALLY CONFIGURABLE.
        Items 1, 18, 40, and 41 in the configuration file can-
        not be altered after the file has been created. In
        order to change these items, use the NEW command to
        reconstruct the configuration file.

```
+-------------+
|    NOTE     |
+-------------+
```

An asterisk (*) preceding a message indicates the error
causes program termination if DSN/MRJE is being run non-
interactively.

DSN/MRJE User Messages (continued)

USER CAPABILITY IN EFFECT.
> This user does not have "OP" capability, and cannot carry out DSN/MRJE Manager functions.

* VALID RESPONSE MUST BE GIVEN.
> When creating a new set of configuration files, items that do not have default values must be initialized. DSN/MRJE continues to ask for a valid response until one is given or until the Manager enters Control-Y, in which case no new files are created.

VERIFY CANCEL WITH "YES".
> When User/Manager requests that a job be canceled, the job log entry is displayed. In an interactive session DSN/MRJE then asks for verification of the CANCEL. Reply YES to verify cancellation.

WARNING: HOST COMMAND CARD FOUND IN INPUT-NOT TRANSMITTED.
> DSN/MRJE did not transmit the record to the host. SUBMIT processing continues.

WARNING: MRJEOD CARD FOUND IN INPUT-NOT TRANSMITTED.
> An MRJEOD card is only required when an input file (Infile or FD file) is $STDIN or $STDINX. If an MRJEOD card is found in any other input file it is not transmitted to the host. SUBMIT processing continues.

WARNING: SIGNOFF CARD FOUND IN INPUT-NOT TRANSMITTED.
> A signoff card has the form:

> /*SIGNOFF

> DSN/MRJE did not transmit this record to the host. SUBMIT processing continues.

* "YES" OR "NO" REQUIRED.
> YES or NO is the only valid response. Re-enter.

```
┌─────────────┐
│    NOTE     │
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An asterisk (*) preceding a message indicates the error causes program termination if DSN/MRJE is being run non-interactively.

DSN/MRJE User Messages (continued)

* YOU MUST LOG ON MANAGER.SYS TO CREATE/PURGE CONFIG FILES.
          The MRJE Manager must be logged on to MANAGER.SYS,PUB
          to create a set of configuration files (NEW command)
          or to purge all entries from the job log (PURGE ALL),
          since the files are in PUB.SYS.

```
┌─────────────┐
│    NOTE     │
└─────────────┘
```

An asterisk (*) preceding a message indicates the error
causes program termination if DSN/MRJE is being run non-
interactively.

MRJECONTROL Console Messages

The messages in this table can be received by DSN/MRJE users while using :MRJECONTROL commands.

CIERR(OR) NUMBER	MESSAGE, MEANING AND RECOVERY
4200	EXPECTED ONE OR MORE OF THE CONTROL FUNCTIONS: START, TRACE, RETRIES, SIGNOFF OR KILL. Entering "MRJECONTROL" alone is not OK. Enter "MRJECONTROL" plus one of the control commands listed in the message.
4201	EXCEEDED MAXIMUM NUMBER OF PARAMETERS. Look up syntax of DSN/MRJE command and re-enter using no more than the maximum number of paramters allowed.
4202	START ALREADY REQUESTED. The :MRJECONTROL START command has already been issued, but the line is not fully open. Before the command can again be successfully issued, the :MRJECONTROL SIGNOFF or :MRJECONTROL KILL command must be executed.
4203	EXPECTED TWO PARAMETERS, HOSTID AND RETRYNUM. Re-enter command using both parameters.
4204	UNABLE TO OPEN CONFIGURATION FILE FOR THIS HOST. There are several possible reasons for this message: 1) The wrong host ID may have been used in command. 2) Someone may be altering or rebuilding the configuration file. 3) There may be no configuration file for this host.
4205	UNABLE TO ACCESS CONFIGURATION FILE FOR THIS HOST. An FWRITE to or FREAD from the file failed.
4206	INSUFFICIENT CAPABLITIES FOR MRJECONTROL COMMANDS. A user must be authorized to use MRJECONTROL commands through the MPE :ALLOW command.

MRJECONTROL Console Messages (continued)

CIERR(OR) NUMBER	MESSAGE, MEANING AND RECOVERY
4207	UNABLE TO CREATE MRJEMON. Do a LISTF on MRJEMON.PUB.SYS to see if file exists. If it doesn't, check MPE configuration.
4208	UNABLE TO ACTIVATE MRJEMON. Do a LISTF on MRJEMON.PUB.SYS to see if file exists. If it does, check MPE configuration.
4209	MRJE ALREADY ACTIVE. Line already open. Command is ignored.
4210	NUMBER OF RETRIES MUST BE IN RANGE 1 - 255. Re-enter command with "RETRIES" within range.
4211	SIGNOFF ALREADY REQUESTED. Command in process. If line won't close, it may be necessary to issue :MRJECONTROL KILL.
4212	KILL ALREADY REQUESTED. :MRJECONTROL KILL command already has been requested. If line won't close, it may be necessary to physically disconnect it.
4213	INVALID DEVICE FOR MRJEO. The logical device numbers entered for items two and three of configuration file are different from logical device numbers used in MPE I/O system configuration. Alter configuration file entries.
4214	EXPECTED AT LEAST ONE PARAMETER, "ON" OR "OFF". The TRACE command must be issued with either "ON" or "OFF" specified.
4215	MRJE NOT ACTIVE. Start DSN/MRJE (:MRJECONTROL START) and then re-issue command.
4216	NO SYSTEM BUFFER AVAILABLE. COMMAND FAILED. Re-issue command until it succeeds. If problem persists, contact Hewlett-Packard.

MRJECONTROL Console Messages (continued)

CIERR(OR) NUMBER	MESSAGE, MEANING AND RECOVERY
4217	"TRACE" ONLY VALID COMMAND HERE.
4218	MRJEMON ADOPT FAILURE. Contact Hewlett-Packard.
4219	HOST ID MUST BE ALPHANUMERIC. Host ID may not contain a special character.
4220	SIGNOFF INVALID UNTIL HOST CONNECTION COMPLETED. :MRJECONTROL SIGNOFF cannot be executed until the communications line is open.

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│    NOTE     │
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A number of DSN/MRJE messages are sent to the   system   console only. The messages have the following format:

```
                 MRJE           message
      time/pin/  MRJEh          WARNING: message
                                ERROR: message
```

Message items are:

time   The time of day the message was sent.

pin   The MPE process identification number.

MRJE   Indicates DSN/MRJE generated the message and   that the message concerns the default host system.

MRJEh   Indicates DSN/MRJE generated the message   and that the message concerns the host system whose ID begins with "h".

message   The message itself.

WARNING: This message reports a potential problem.

ERROR: This message reports a failure.

ACTIVATE FAILURE ON MRJEMON.
        Internal software error. Contact Hewlett-Packard.

CONFIGURED BUFFER SIZE INVALID.
        Buffer size in the MRJE configuration file (Item   43)
        is invalid.   The MRJE Manager must alter the item in
        the configuration file to agree with the host system's
        buffer size.

CONSMRJE, OPEN FAILURE (nn) ON $NULL.
        File system error nn.   Contact Hewlett-Packard.

CONSMRJE, OPEN FAILURE (nn) ON MRJECONh.
        The specified MRJE configuration file could   not   be
        opened; see if it exists. If it does, determine the
        cause of the the failure from the file system error
        number (nn) and take corrective action.

DSN/MRJE Messages Sent to System Console (continued)

CONSMRJE, READ FAILURE (nn) ON MRJECONh.
        File system error nn. If severe, contact Hewlett-
        Packard.

CONSMRJE, WRITE FAILURE (nn) ON MRJECONh.
        File system error nn. If severe, contact Hewlett-
        Packard.

CREATE FAILURE ON MJOBLOGR.
        A job-logging process could not be created. Ensure
        that MRJELOGR is present in PUB.SYS.

CREATE FAILURE ON MRJEMON.
        An DSN/MRJE monitor process could not be created.
        Ensure that MRJEMON is present in PUB.SYS.

CREATE FAILURE ON MRJEOUT.
        An DSN/MRJE output process could not be created.
        Ensure that MRJEOUT is present in PUB.SYS.

DATA RECEIVED FOR INVALID UNIT #nn.
        The host system has sent data to an unconfigured
        pseudo device.
        1. Backspace the host unit (nn).
        2. Drain host unit (nn),
        3. As soon as convenient, reconfigure the DSN/MRJE
            pseudo I/O devices so that the host and the HP
            3000 system have the same configuration.

        DSN/MRJE pseudo devices should be configured with the
        following unit numbers:

                2   pseudo console
                3 thru 9   pseudo line printers 1 thru 7
               10 thru 16   pseudo punches 1 thru 7

DIAL REMOTE number.
        The communications link has been initially estab-
        lished.   Dial the number shown in the message and
        complete the connection. This message is printed
        only if the SSLC or INP is configured for a switched
        (not a leased) line.

DSN/MRJE System Console Messages (continued)

HOST BLOCK SEQUENCE (n1,n2).
    A block sequence error occurred on the CS device.
    Block n2 was received when block n1 was expected.
    Normally, MRJE will recover from this condition. If
    the problem recurs, contact Hewlett-Packard.

HOST BUFFER SIZE (nnnn) EXCEEDS MAXIMUM.
    The value specified in the MRJE configuration file for
    the host buffer size exceeds 2048. The MRJE Manager
    should alter Item 43 in the configuration file.

HOST # NOT ENTERED FOR 3000 JOB #nnn.
    All output received from job nnn was sent to one of
    the unsolicited output device specified in MRJE con-
    figuration file.

INVALID BUFFER RECEIVED FROM HOST.
    The last buffer of data received from the host had
    contradictory or invalid control information. Contact
    Hewlett-Packard.

INVALID DEVICE FOR MRJE0.
    The logical device number configured in the MRJE con-
    figuration file for the pseudo line (Item 3) is not
    the same as the number configured into MPE for
    IOMRJE0. The MRJE Manager must alter the logical
    device number in the configuration file (#ALTER
    command).

KILL ALREADY REQUESTED.
    The :MRJECONTROL KILL message has already been issued,
    but unsuccessfully. Subsequent KILL commands for the
    same host cause this message. If MRJE does not dis-
    connect the line, you may need to physically dis-
    connect it.   If MRJE repeatedly fails to close the
    line after a KILL is issued, contact Hewlett-Packard.

LOCKSEG FAILURE.
    LOCKSEG Intrinsic failure. Internal software problem.
    Contact Hewlett-Packard.

n1 BLOCK SEQUENCE RECOVERY. EXPECTED BLOCK n2.
RECEIVED BLOCK n3.
    While data was being transmitted to the host system,
    block n3 was received when block n2 was to have been
    sent. There were n1 blocks recovered. MRJE will nor-
    mally recover from this condition. If the problem
    persists, contact Hewlett-Packard.

DSN/MRJE System Console Messages (continued)

MRJELOGR, FINFO FAILURE (nn) ON MRJEDIRh.
File system error nn. If severe, contact Hewlett-Packard.

MRJELOGR, JOB TRANSMITTED TO WRONG HOST.
In HP 3000 systems configured with two or more MRJE subsystems, jobs can be transmitted to the wrong host if the same pseudo card reader is configured in more than one MRJE configuration file.

MRJELOGR, OPEN FAILURE (nn) ON $NULL.
File system error nn. If severe, contact Hewlett-Packard.

MRJELOGR, OPEN FAILURE (nn) ON MRJECONh.
File system error nn. If severe, contact HP.

MRJELOGR, OPEN FAILURE (nn) ON MRJEDIRh.
File system error nn. If severe, contact Hewlett-Packard.

MRJELOGR, OPEN FAILURE (nn) ON MRJEJOBh.
File system error nn. If severe, contact Hewlett-Packard.

MRJELOGR, READ FAILURE (nn) ON MRJECONh.
File system error nn. If severe, contact Hewlett-Packard.

MRJELOGR, READ FAILURE (nn) ON MRJEDIRh.
File system error nn. If severe, contact Hewlett-Packard.

MRJELOGR, READ FAILURE (nn) ON MRJEJOBh.
File system error nn. If severe, contact Hewlett-Packard.

MRJELOGR, WRITE FAILURE (nn) ON MRJEDIRh.
File system error nn. If severe, contact Hewlett-Packard.

MRJELOGR, WRITE FAILURE (nn) ON MRJEJOBh.
File system error nn. If severe, contact Hewlett-Packard.

DSN/MRJE System Console Messages (continued)

MRJEMON, OPEN FAILURE (nn) ON CS DEVICE.
The MRJE monitor could not open the line. The CS
error number (nn) references the reason for the
failure. CS error codes are listed in the Data
Communications Handbook Section I.

MRJEMON, OPEN FAILURE (nn) ON $NULL.
File system error nn. If severe, contact Hewlett-
Packard.

MRJEMON, OPEN FAILURE (nn) ON MRJEO.
The DSN/MRJE pseudo line monitor file could not be
opened. (nn) specifies the MPE file system error
number which identifies a reason for the failure. If
the problem is severe, contact Hewlett-Packard.

MRJEMON, OPEN FAILURE (nn) ON MRJECONh.
File system error nn. If severe, contact Hewlett-
Packard.

MRJEMON, READ FAILURE (nn) ON CS DEVICE.
The communication link to the host failed. The CS
error number (nn) identifies the reason for the
failure. CS errors are in Handbook Section I.
If the problem is severe, contact Hewlett-Packard.
DSN/MRJE System Console Messages (continued)

MRJEMON, READ FAILURE (nn) ON MRJEO.
File system error nn. If severe, contact Hewlett-
Packard.

MRJEMON, READ FAILURE (nn) ON MRJECONh.
File system error nn. If severe, contact Hewlett-
Packard.

MRJEMON, WRITE FAILURE (nn) ON CS DEVICE.
If this message appears as a WARNING, a communica-
tion problem developed and DSN/MRJE sent a SIGNOFF
command prior to disconnecting the line. The host
system probably has accepted the command and is
closing the communications link.

If this message appears as an ERROR, the communica-
tions link failed unexpectedly. Irrecoverable com-
munication error codes are in Handbook Section I. The
CS error number references the reason for the failure.
Contact Hewlett-Packard, if such errors persist.

DSN/MRJE System Console Messages (continued)

MRJEMON, WRITE FAILURE (nn) ON MRJE0.
File system error nn. If severe, contact Hewlett-Packard.

MRJEMON, WRITE FAILURE (nn) ON MRJECONh.
File system error nn. If severe, contact Hewlett-Packard.

MRJEOUT, CLOSE FAILURE (nn) ON MRJECONh.
File system error nn. If severe, contact Hewlett-Packard.

MRJEOUT, FINFO FAILURE (nn) ON MRJE'PNLP.
File system error nn. If severe, contact Hewlett-Packard.

MRJEOUT, FINFO FAILURE (nn) ON MRJEOUT.
File system error nn. If severe, contact Hewlett-Packard.

MRJEOUT, OPEN FAILURE (nn) ON $NULL.
File system error nn. If severe, contact Hewlett-Packard.

MRJEOUT, OPEN FAILURE (nn) ON MRJE'PNLP.
File system error nn. If severe, contact Hewlett-Packard.

MRJEOUT, OPEN FAILURE (nn) ON MRJECONh.
File system error nn. If severe, contact Hewlett-Packard.

MRJEOUT, OPEN FAILURE (nn) ON MRJEDIRh.
File system error nn. If severe, contact Hewlett-Packard.

MRJEOUT, OPEN FAILURE (nn) ON MRJEJOBh.
File system error nn. If severe, contact Hewlett-Packard.

MRJEOUT, OPEN FAILURE (nn) ON MRJEOUT.
DSN/MRJE couldn't open a User's output file. Output destined for the file is irrecoverable. Notify DSN/MRJE Users that output was lost. This is file system error nn. If severe, contact Hewlett-Packard.

DSN/MRJE System Console Messages (continued)

MRJEOUT, READ FAILURE (nn) ON MRJE'PNLP.
File system error nn. If severe, contact Hewlett-Packard.

MRJEOUT, READ FAILURE (nn) ON MRJECONh.
File system error nn. If severe, contact Hewlett-Packard.

MRJEOUT, READ FAILURE (nn) ON MRJEDIRh.
File system error nn. Contact Hewlett-Packard.

MRJEOUT, READ FAILURE (nn) ON MRJEJOBh.
When nn=0, it indicates that unsolicited output that doesn't belong to any entry in the job log file was received. When nn does not equal zero, an internal software error has occurred. In the latter case, contact Hewlett-Packard.

MRJEOUT, WRITE FAILURE (nn) ON MRJE'PNLP.
This message should be ignored.

MRJEOUT, WRITE FAILURE (nn) ON MRJEOUT.
DSN/MRJE couldn't write to a user's file. Output destined for the file is irrecoverable. Notify DSN/MRJE users that output was lost. Contact Hewlett-Packard.

NO 3000# FOR HOST JOB# nnnn, jobname.
Internal software problem. All output received for JOB# nnnn was sent to the unsolicited output devices specified in the DSN/MRJE configuration file. If the problem is severe, contact Hewlett-Packard.

NO SYSTEM BUFFER FOR SIGNOFF.
An :MRJECONTROL SIGNOFF command failed because no HP 3000 system buffers were available. Wait and try again. If this problem occurs frequently, contact Hewlett-Packard.

DSN/MRJE System Console Messages (continued)

PHYSICAL BOUNDS OF OUTFILE EXCEEDED FOR IBM JOB nnnn PLEASE
RESPOND "RETRY" OR "FLUSH".
>   The file specified to receive output for host job nnnn
>   appears to be full. Writing to the file is suspended
>   until the console operator responds to the message. A
>   FLUSH response causes the remaining job output to be
>   sent from the host, but the data is lost. Notify the
>   owner of job nnnn that output was lost. A RETRY re-
>   sponse causes the system to attempt to rewrite the
>   lost record. Use RETRY only after attempting to
>   identify and rectify the cause of the message. If the
>   rewrite fails, this message is repeated until a retry
>   is successful or until a FLUSH response is given.

PRINTER 0 TERMINATING.
>   Internal software error. A printer or punch output
>   process terminated, but DSN/MRJE cannot determine
>   which one. Contact Hewlett-Packard.

PRINTER n TERMINATING.
>   Internal software error. The DSN/MRJE output process
>   corresponding to printer n terminated.
>   1.   If no SIGNON COMPLETED message has been received,
>   enter the :MRJECONTROL KILL [,hostid] command.
>   2.   If a SIGNON COMPLETED message was received, back-
>   space host printer n to the start of the data set.
>   3.   Drain all host printers and punches.
>   4.   Enter the :MRJECONTROL SIGNOFF [,hostid] command.
>   5.   In either case, contact Hewlett-Packard.

PUNCH n TERMINATING.
>   Internal software error. The DSN/MRJE output process
>   corresponding to punch n terminated.
>   1.   If no SIGNON COMPLETED message has been received,
>   enter the :MRJECONTROL KILL [,hostid] command.
>   2.   If a SIGNON COMPLETED message was received, back-
>   space host punch n to the start of the data set.
>   3.   Drain all host printers and punches.
>   4.   Enter the :MRJECONTROL SIGNOFF [,hostid] command.
>   5.   In either case, contact Hewlett-Packard.

SIGNOFF ALREADY REQUESTED.
>   The :MRJECONTROL SIGNOFF command has already been
>   entered.   (If the SIGNOFF command is issued while the
>   host is transmitting, transmission continues until the
>   current data set has been received; then the line is
>   disconnected.)

DSN/MRJE System Console Messages (continued)

SIGNON COMPLETED.
> The :MRJECONTROL START command has successfully executed and the communication link is now open. If jobs have been submitted, DSN/MRJE will automatically begin transmitting data and accepting output.

SYSTEM ALREADY ACTIVE.
> The :MRJECONTROL START command was issued for a host that is already connected.

SYSTEM NOT ACTIVE.
> The :MRJECONTROL SIGNOFF (or KILL) command was issued for a host that is not connected.

TERMINATING.
> The DSN/MRJE monitor process terminated. When printed alone (that is, without an accompanying ERROR or WARNING message), the termination was normal.

UNABLE TO OPEN UNSOLICITED OUTPUT FILE FOR IBM JOB nnnn
PLEASE RESPOND "RETRY" OR "FLUSH".
> The device or file specified to receive unsolicited output cannot be opened. The output procedure is suspended until the Console Operator responds to the message. A FLUSH response restarts output from the host, but all data is lost. Notify the owner of job nnnn that output was lost. A RETRY response causes the system to try again to open the device or file. Use RETRY only after attempting to identify and rectify the cause of the message. If the specified device file still cannot be opened, this message is repeated until RETRY is successful or until a FLUSH response is given.

UNLOCKSEG FAILURE.
> The UNLOCKSEG intrinsic failed. Internal software error.
> 1. COOLSTART the system (to reclaim the line monitor's stack).
> 2. Contact Hewlett-Packard.

ZSIZE ERROR.
> The ZSIZE intrinsic failed. Internal software error. Contact Hewlett-Packard.

Transparent Text Block Used by DSN/RJE

BINARY SYNCHRONOUS COMMUNICATIONS (BSC) MULTILEAVING BLOCK
STRUCTURE IN BYTES:

Character: Description:

DLE   BSC leader (%020, !10)
STX   BSC start of text (%002, !02)
BCB   *   Block Control Byte
FCS1   *   Function Control Sequence Byte 1 of 2
FCS2   *   Function Control Sequence Byte 2 of 2
RCB   *   Record Control Byte, first record
SRCB   *   Sub-Record Control Byte, first record

SCB   *   String Control Byte, first record
text   character string, first record
...   repeat SCB-text sequence until SCB=0

...   repeat RCB-SRCB-SCB-text sequence as needed.

RCB   *   Transmission block terminator is RCB=0

DLE   BSC leader (%020, !10)
ETB   BSC ending sequence (%046, !26)

BCC1   Block Check Character 1 of 2
BCC2   Block Check Character 2 of 2

        * = Description of this byte follows.

Reference: OS/VS2 JES2 Logic Reference Manual, Appendix B, (IBM
SY28-0622)

BCB (Block Control Byte): Transmit block status and sequence
count.

                        0 1 2 3 4 5 6 7
                        o x x x c c c c

o = 1   must always be on.
x = 000   normal block
    001   bypass sequence count validation
    010   reset expected block sequence to c value
    011   reserved, not supported
    100   reserved, not supported
    101   available for user modification, not supported
    110   available for user modification, not supported
    111   reserved for expansion, not supported
c = modulo 16 block sequence count

FCS (Function Control Sequence): Controls the flow of individual function streams.

```
                      <----FCS 1----> <----FCS 2----->
                      0 1 2 3 4 5 6 7 0 1 2 3 4 5 6 7
Device number,        o s r r a b c d o t r r w x y z
       RD or PR:              1 2 3 4         5 6 7
            PU:              7 6 5         4 3 2 1
```

o = 1   must always be on to be valid in both bytes
r   reserved in both bytes
s = 1   normal state
    0   wait a bit. Receiver is to suspend all transmission.
t = 0   suspend remote console stream transmission.
    1   continue remote console stream transmission.
a - d = 0   suspend device transmission.
w - z   For example, a = 0 means suspend RD1 or PR1.

a - d = 1   continue device transmission
w - z   For example, b = 1 means continue RD2, PR2 or PU7.

RCB (Record Control Byte): Identifies record type. Uniquely identifies data streams among identical record types.

```
                      0 1 2 3 4 5 6 7
                      o i i i t t t t
```

o = 0   end of transmission. RCB=0.
    1   normal state.

t = 0000   control record. See the values of i, below.
    0001   operator message display request, host to system
    0010   operator command, system to host
    0011   normal input record. See note 1, following.
    0100   printer record. See note 1, following.
    0101   punch record. See note 1, following.
    0110   data set record. Unsupported.
    0111   terminal message routing record. Unsupported.
    1000-1100   reserved for expansion. Unsupported.
    1101-1111   reserved for local modification. Unsupported.

Transparent Text Block Used by DSN/RJE

Settings for control record, where t = 0000:

i = 000   reserved for future expansion
    001   request to initiate function transmission. See
           note 2, following.
    010   permission to initiate function transmission. See
           note 2, following.
    011   reserved. Unsupported.
    100   reserved. Unsupported.
    101   available for local modification. Unsupported.
    110   error in block check sequence. SRCB contains
           value.
    111   general control record. SRCB contains the type.

Note 1: In this instance the value of the i field identifies the
         stream number of the data for a reader, a printer, or a
         punch.
Note 2: In this instance the SRCB must contain the prototype
         RCB. This identifies the device which is the object of
         the request to intiate function transmission, and the
         permission to initiate function transmission.

SRCB (Sub-Record Control Byte): Provides supplementary
information about a record.

                   0 1 2 3 4 5 6 7
                   o s s s s s s

o = 1   must always be on
s   additional information according to the record
           type.

SRCB (Sub-Record Control Byte) for a general control record,
where the i field of an RCB=7. Identifies type.

s = A   initial terminal signon
    B   final terminal signoff
    C   print initialization record. Not supported.
    D   punch intiialization record. Not supported.
    E   input initialization record. Not supported.
    F   data set transmission record. Not supported.
    G   system configuration status. Not supported.
    H   diagnostic control record. Not supported.
    I-R   reserved. Not supported.
    S-Z   available for local modification. Not supported.

SRCB (Sub-Record Control Byte) for print records. Provides carriage control information.

```
0 1 2 3 4 5 6 7
o m c c c c c c
```

o = 1   must always be on
m = 0   normal carriage control
  1   reserved for future user. Unsupported.

c = 000000 suppress space
  0000xx space xx lines after print
  01xxxx skip to channel xxxx after print
  1000xx space immediately xx lines
  11xxxx skip immediately to channel xxxx

SRCB (Sub-Record Control Byte) for punch records. Provides additional information.

```
0 1 2 3 4 5 6 7
o m m b r r s s
```

o = 1   must always be on
m = 00   SCB character count unit = 1
  01   SCB character count unit = 2. Unsupported.
  10   SCB character count unit = 4. Unsupported.
  11   reserved. Unsupported.
b = 0   normal EBCDIC card image
  1   column binary card image. Unsupported.
r   reserved. Unsupported.
s   punch stacker selection number.

SRCB (Sub-record Control Byte) for input records. Provides additional information.

```
0 1 2 3 4 5 6 7
o m m b r r r r
```

o = 1   must always be on
m = 00   SCB character count units = 1
  01   SCB character count units = 2. Unsupported.
  10   SCB character count units = 4. Unsupported.
  11   reserved. Unsupported.
b = 0   normal EBCDIC card image.
  1   column binary card image. Unsupported.
r   reserved. Unsupported.

Transparent Text Block Used by DSN/RJE

SRCB (Sub-Record Control Byte) for terminal message routing
records. Indicates destination. Not supported at all.

```
                    0 1 2 3 4 5 6 7
                    o t t t t t t
```

o = 1   must always be on
t = 0   broadcast to all systems. Unsupported.
    1-99   remote system number. Unsupported.
    100-127   remote system group. Unsupported.

SCB (String Control Byte) identifies type and length of a
character string.

```
                    0 1 2 3 4 5 6 7
                    o k i j j j j j
```

o = 0   end of a record. SCB = 0
    1   all other SCB values.

k = 0   duplicate character string:
    i = 0   duplicate character is a blank. The next
               character is another SCB.
    i = 1   duplicate character is not a blank. The next
               character is duplicated.
    j   This is the duplication count. The maximum
               value is 31.

k = 1   non-duplicate character string. Text characters
           follow this SCB.
    ij   This is the text string length. The maximum
               value is 63.

DSN/MRJE Communication Line Specifications

Parameter	Setting	Comment
formaldesig	empty	prevents use of CLINE
device	SSLC	configured value
coptions	reference parameter	communications options. See coptions below, and Section I of the Data Communications Handbook.
aoptions	value parameter	access options. See aoptions, below, and Section I of the Data Communications Handbook.
doptions	value parameter	driver options. See doptions, below and Section I of the Data Communications Handbook.
numbuffers	0	no buffering to be done
buffsize	empty	not applicable. See numbuffers.
iolist	empty	received id sequences ignored
suplist	empty	multipoint use only
pollist	empty	multipoint use only
dwnldfile	empty	for INP
yyy	empty	reserved for future use
phonelist	empty	not used
inspeed	empty	not used
outspeed	empty	not used
miscarray	specified	8,0,20,1,60,2,0,5,255 See Section I of the Data Communications Handbook.
drivername	CSSMRJE0	string value set
ctraceinfo	empty	not used

```
 0 1 2 3 4 5 6 7 8 9 0 1 2 3 4 5          coptions = %050203
 0:1 0 1:0 0 0:0 1 0:0 0 0:0 1 1
 | | | | |   |       | transmission code is EBCDIC
 | | | | |   | local is secondary contention station
 | | | | | use configured default speed setting
 | | | | prohibit use of :CLINE command.
 | | | do not invoke CS trace facility
 | | inhibit use of ID sequences
 | allow timeouts
```

```
0 1 2 3 4 5 6 7 8 9 0 1 2 3 4 5      . aoptions
0:0 0 0:0 0 1:0 0 0:1 1 1:0 0 1       %001071 (with autodialing)
0:0 0 0:0 0 1:0 0 0:1 1 1:1 0 1       %001075 (without).
|                   |       | |    | | perform all I/O using CIO
|                   |       | |    | allow CLINE buffer override.
|                   |       | |    10 = dial on write and read connect
|                   |       | |    11 = answer on write connect; answer
|                   |       | |    on read connect.
|                   |       | inhibit CS hardware error messages at
|                   |       | console
|                   | reserved: 1
| use conversation BSC protocol
```

```
0 1 2 3 4 5 6 7 8 9 0 1 2 3 4 5           doptions = %000020
0:0 0 0:0 0 0:0 0 0:0 0 0:0 1 0
| | | | |   |   | | | |   | | send four leading SYN characters
| | | | |   |   | | | |   | reserved for future use
| | | | |   |   | | | | MFW placed into and expected in text
| | | | |   |   | | | no ITB expected from remote
| | | | |   |   | | automatic generation of TTD
| | | | |   |   | automatic generation of WACK
| | | | |   | BCC is VRC/LRC for non-transparent or transparent
| | | | |   | with heading and CRC16 for transparent without
| | | | |   | heading
| | | | | ending sequence is BSC default: EOT for non-switched,
| | | | | DLE EOT for switched lines
| | | | control state listen mode between user requests ignores
| | | | control sequences
| | | poll termination: transmit RVI to return line to control
| | | mode
| | delay sequence: wait on received WACK/TTD sequences
| reserved for future use
```

DSN/MRJE Pseudo Device Configuration

LDEV	DRT	UNIT	CH	TERM TYPE	S	T	REC WIDTH	DEV	M	DRIVER NAME	CLASS	Pseudo Device	
___	#___	0	0	22	0		40	0		IOMRJE0		Monitor 1	*
___	#___	1	0	22	0		40	0		IOMRJE1		Monitor 2	*
___	#___	2	0	22	0		67	0		IOMCONS0		CON	*
___	#___	3	0	22	0		67	0		IOMPNLP0		PR1	*
___	#___	4	0	22	0		67	0		IOMPNLP0		PR2	
___	#___	5	0	22	0		67	0		IOMPNLP0		PR3	
___	#___	6	0	22	0		67	0		IOMPNLP0		PR4	
___	#___	7	0	22	0		67	0		IOMPNLP0		PR5	
___	#___	8	0	22	0		67	0		IOMPNLP0		PR6	
___	#___	9	0	22	0		67	0		IOMPNLP0		PR7	
___	#___	10	0	22	0		40	0		IOMPNLP0		PU1	
___	#___	11	0	22	0		40	0		IOMPNLP0		PU2	
___	#___	12	0	22	0		40	0		IOMPNLP0		PU3	
___	#___	13	0	22	0		40	0		IOMPNLP0		PU4	
___	#___	14	0	22	0		40	0		IOMPNLP0		PU5	
___	#___	15	0	22	0		40	0		IOMPNLP0		PU6	
___	#___	16	0	22	0		40	0		IOMPNLP0		PU7	
___	#___	17	0	22	0		40	0	S	IOMRDR0	MRDR1	RD1	*
___	#___	18	0	22	0		40	0		IOMRDR0		RD2	
___	#___	19	0	22	0		40	0		IOMRDR0		RD3	
___	#___	20	0	22	0		40	0		IOMRDR0		RD4	
___	#___	21	0	22	0		40	0		IOMRDR0		RD5	
___	#___	22	0	22	0		40	0		IOMRDR0		RD6	
___	#___	23	0	22	0		40	0		IOMRDR0		RD7	

S = spooled   Required = *

An SSLC, device type 18, must be configured with the driver, CSSMRJE0, as changeable.   An INP, device type 17 is not to be configured with a changeable driver. The download files for an INP are:

    CSDMRJE0 for an HP 30010A;
    CSDMRJE1 for an HP 30020A;
    CSDMRJE2 for an HP 30020B.
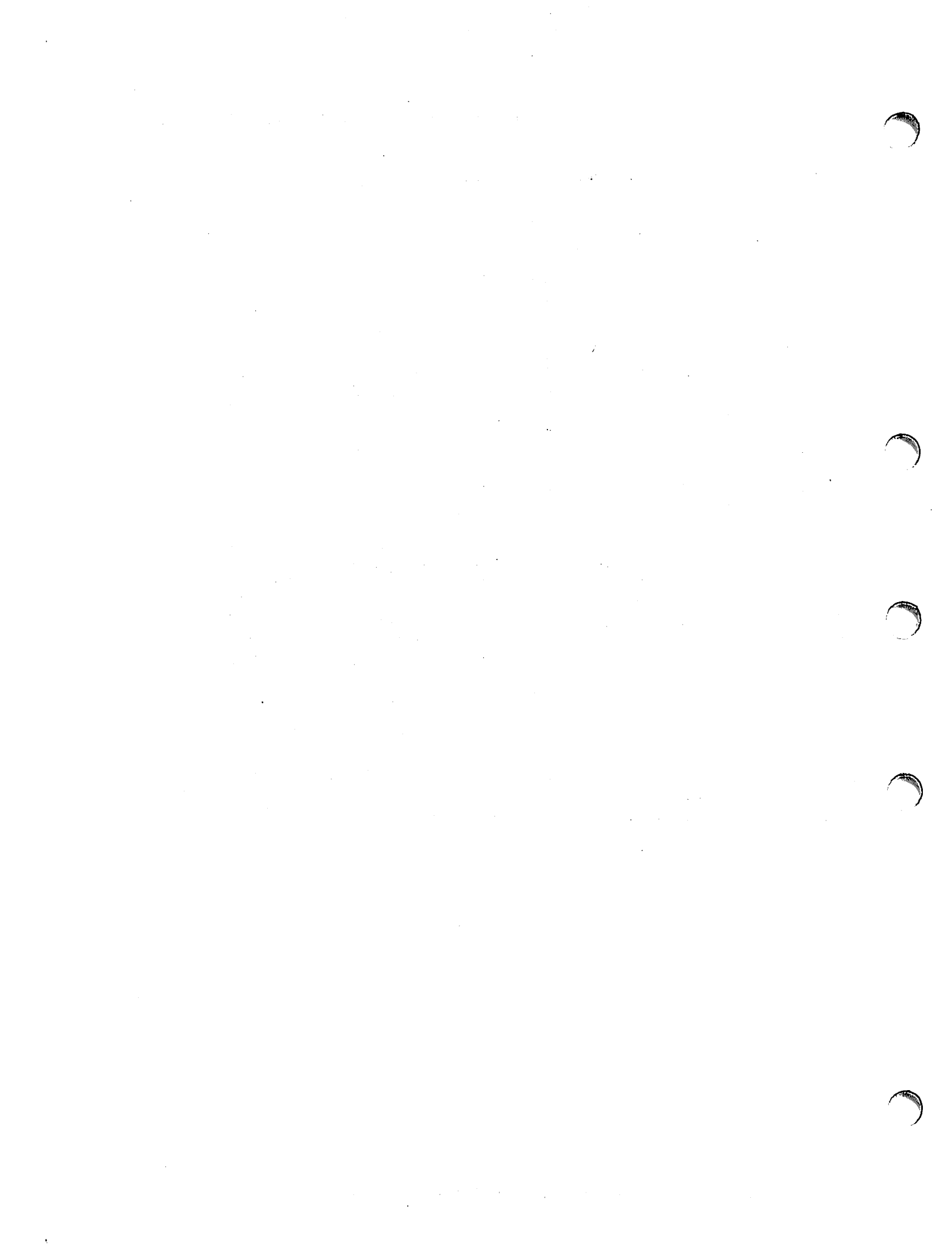
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