

# MRX/OS Operating Procedures

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This edition is a major revision and obsoletes all previous editions. It documents the operating procedures at their level in MRX/OS Release 2.

Technical changes are marked with a bar in the outer margin. Changes due to subsequent releases will be documented in future publications bulletins or revisions.

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## **PREFACE**

This manual provides the operating information necessary for processing jobs on the MRX/40 and 50 Systems, including system start-up, alteration of operating parameters, operator queries to the system, and error handling.

The reader should be familiar with the hardware manuals for the various devices in his configuration. Software manuals which will be helpful are the **MRX/OS Control Language Services – Extended Reference** manual and the **MRX/OS Utilities Reference** manual.



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# 1. INTRODUCTION

The Memorex Operating System consists of a group of programs that control the flow of jobs through the computer system, and another group of associated programs, such as language processors, utility programs, and system service programs. While the actual processing of programs is generally under the control of the operating system, the operator has certain responsibilities and elements of control over the system. The operator is usually responsible for system startup and restart, setting up jobs to be run on the system, issuing commands (directives and queries) through the operator's console, and interpreting error messages.

## JOB AND STEP IDENTIFICATION

The operator is basically concerned with guiding the flow of jobs through the computer. To the operating system, the execution of a single program is a *step*, and a *job* can be made up of one or more steps. These jobs and steps are defined to the operating system by Control Language cards.

A job always begins with a //JOB card and ends with an //EOJ card. A step is the execution of a single program; it begins with an //EXEC (or //EX) card and ends either with an //IF card, another //EXEC, or an //EOJ card. The operation system reads these cards, stores them on disc storage, and enters them into a queue for processing. Therefore several jobs may be placed in the card reader hopper at the same time.

Since the system queues jobs, it sends a message to the operator's console each time the system is started or restarted, asking whether the job queue should be saved. The operator determines whether or not all jobs have been processed and answers accordingly.

## DIRECTIVES AND QUERIES

Through the use of system *directives*, the operator can:

- Control the assignment of peripheral devices
- Declare disc drives to be shared or not shared
- Delete jobs from the job queue
- Abort active jobs
- Change the priority of queued jobs
- Hold queued jobs from execution and release them for execution
- Change the size of main storage user partitions

- Shut down and restart job queuing or initiation
- Send messages to the output spooler for a variety of reasons

By entering *queries* to the system, the operator can:

- Display a summary of the job queue
- Determine the status of a particular job
- Obtain the status of devices known to the system
- Display the identifiers of currently mounted disc packs
- Display console messages to which replies have not been sent

These queries can be helpful in determining the progress of jobs in the system and can indicate, for example, when the priority of a job should be changed to enable it to be executed before other jobs.

## **ERROR MESSAGES**

The operating system and its associated programs send messages to the operator's console to keep the operator informed of the progress of jobs, to request parameters, to request operator action and response, and to inform the operator of errors. These messages are listed in this manual, divided according to the source of the message. Where operator action and/or response is required, the appropriate action and response is shown. Certain utilities produce messages requesting parameters from the console — these messages are described in the **MRX/OS Utilities Reference** manual.

## **RELATED MANUALS**

For further information about the system, the reader may wish to consult other manuals. Among the manuals which the operator may find especially helpful are the following:

1. **MRX/OS Control Language Services — Extended Reference**  
(describes Control Language cards in detail)
2. **MRX/OS Utilities Reference** (describes operator interaction with the utility programs)
3. **MRX/OS Control Program and Data Management — Basic Reference**  
(describes file and data management concepts)

Machine descriptions and operating principles are found in the hardware manuals for the devices.

## 2. SYSTEM START-UP AND RESTART PROCEDURES

### INTRODUCTION

All operator communication with the MRX Operating System is conducted through the system's MEMOREX<sup>®</sup> 1240 Console, which from now on will be referred to as the operator's console. The only time that the operator will need to use the System Control Panel will be for:

- System start-up and restart
- Running stand-alone utility programs

The following text discusses system start-up and restart procedures. Complete operator information for the stand-alone utility programs is covered in the **MRX/OS Utility Programs Reference** manual.

### SYSTEM START-UP

The following procedure, using the System Control Panel, should be used for a normal system start-up from a power-off condition:

- STEP 1 Mount the system disc pack on a disc drive.
- STEP 2 Switch the disc drive power switch on and set the disc mode switches to ENABLE and READ/WRITE. To save time later, other disc packs to be used in the operation may be mounted and their drives readied at this point. A recommended practice is to insert the unit number plugs in the disc drives after pressing the POWER ON pushbutton (Step 6).
- STEP 3 On the operator's console, ensure that the mode toggle switches are set to COMM and HALF DUPLEX.
- STEP 4 Switch on and ready all input/output devices.
- STEP 5 On the System Control Panel, ensure that:
- the MAINTENANCE MODE light is off
  - the PROGRAM MODE light is off
  - the LOCAL/REMOTE switch is in the LOCAL position
  - the LOAD SELECT switch is in the PRIMARY or DISC position.

STEP 6 Press the POWER ON pushbutton.

STEP 7 Wait until the POWER OFF light is extinguished, then press the RESET/LOAD pushbutton.

An automatic sequence of events will now take place involving the execution of hardware integrity tests, loading of control storage, and loading of the operating system itself. The whole process will take about 10 seconds and on completion the following message will be typed out on the operator's console:

SYSTEM LOADED – VERSION x.x

This will be followed immediately by another message. This message informs the operator that now would be an appropriate time to enter the current time and date:

P1 I ENTER TIME AND DATE

Informative message

Message came from a temporary partition 1, set up by the IPL program.

The operator may now, or at any later time, enter time and date by using the TIME directive (described in Section 2). If no time and date are entered, a default time and date will be used.

Following the "ENTER TIME AND DATE" message, if the Spooler option has been included in the system, the following message will appear on the console:

1 P1 D START SPOOLER?

Directive message (requires a response)

Message came from partition 1

Message number; must be used when replying to this message

At this point, the operator must press **INT** and respond with one of the following replies:

\*1 { WARM } **ETX**

{ COLD }

{ NO }

At least one space or other character (applies to all responses to numbered messages)

Reply refers to message number 1

System typed this asterisk in response to **INT**

The reply WARM results in continuation of all active spooled print/punch files from the last checkpoint (top of current form for print files and 1 to 25 cards back for punch files).

The reply COLD removes all print/punch files from the Spooler's print/punch queue and, if the previous run did not specify saving them, purges the print/punch files. This reply should not be used if any spooled print/punch files remain that had not been printed or punched in the previous run.

The reply NO specifies that the Spooler task will not be activated and that the resident areas normally occupied by the Spooler will be returned to the partition pool. Any spooled files in the queue will remain in the queue.

When the operator replies NO to this message, the following message will be displayed on the console:

1 P1 D SHOULD PRINT/PUNCH FILES BE SPOOLED?

The operator must respond to this message by pressing  and entering:

\*1 { YES }   
    { NO }

A YES reply queues print/punch files so that they can be printed or punched during a later run after another autoload with an active Spooler. A NO reply results in no queuing of these files.

Following the Spooler messages, or if no Spooler has been included at system generation, following the "ENTER TIME AND DATE" message, a directive message will be typed out asking whether the job queue from the previous run is to be saved:

1 P1 D RETAIN JOB QUE?

At this point, before replying to the above message, the operator may, if he wishes, enter directives\* to modify the operation of the system. Before the system can proceed after these directives, if any, have been entered, the operator must reply to this message by first pressing  and then entering:

\*1 { YES }   
    { Y }  
    { NO }  
    { N }  
    { PURGE }

If the job queue is saved (the operator types Y), operation will begin with submission of the job which had been next in line when the system went down; this is known as a "warm start." Otherwise, if the operator types N, operation will begin with an empty job queue; this is a "cold start."

\*See Section 3.

The normal cold start response N will cause purging of any scratch and temporary files that are chained to jobs which were in the job queue.

The special cold start response PURGE will cause the same empty job queue as an N response, but all scratch and temporary files found in the central catalog will be purged, not only those chained to queued jobs. For either response, the names of the purged files are displayed on the console. If the purge is attempted but fails because the pack containing a file is not mounted, a message to that effect is displayed on the console.

After the reply to the "RETAIN JOB QUE?" message has been entered and processed, the following message will be displayed on the console.

```
P1 I INITIATE MRX/OS, VERSION nnn
```

The system will immediately begin to read jobs from the system card reader and enter them into the job queue. At the same time, if the job queue had been saved from the previous run, the first job on the queue will immediately go into execution and reading of jobs from the card reader will continue until either the card reader is empty or the job queue is full.

If, on the other hand, the job queue had not been saved from the previous run, the first job read from the card reader will immediately go into execution and once again the rest of the jobs will continue to be read from the card reader and entered into the job queue.

## SYSTEM RESTART

There are two ways in which the system may be restarted: either through the operator's console (described in Section 3), or through the System Control Panel (described here). The console method will be used following a controlled shutdown and the System Control Panel method will be used either following an uncontrolled shutdown (fatal system error) or whenever it is desired to make a new start from scratch without powering down. The System Control Panel method is really nothing more than a power-on start-up and is effected simply by pressing the RESET/LOAD pushbutton\* on the System Control Panel. The system will respond, just as it does following a power-off start-up, by typing the following messages:

```
SYSTEM LOADED – VERSION x.x
```

```
          P1      1      ENTER TIME AND DATE
1        P1      D      START SPOOLER?
1        P1      D      SHOULD PRINT/PUNCH FILES BE SPOOLED?
                          (optional)
1        P1      D      RETAIN JOB que?
```

The operator should now proceed as described under System Start-Up after a response is made to RETAIN JOB QUE?

\*Pressing the AUTOLOAD pushbutton will generally have the same effect. The only difference is that AUTOLOAD does not load the microcode into control storage whereas RESET/LOAD does. In most cases, however, control storage will already contain the correct code; one exception is following a total main storage dump (see Appendix A).

## LOADING CONTROL STORAGE FROM CARD READER

Control storage (CS) can usually be loaded from the system disc pack, following the system start-up procedure described previously. However, if the microcode on the system pack is destroyed, or for some other reason you prefer to load CS from cards, one of the procedures described under *Loading Procedures* in following text may be used. If the operating system is to be loaded after loading CS from cards, the system pack must be mounted on a disc drive as described under *System Start-Up*. After the last step of each of the following procedures, press the AUTOLOAD pushbutton on the Control Panel. The message SYSTEM LOADED – VERSION x.x will appear on the console. After this message appears, the procedures described under *System Start-Up* should be followed.

### LOADING PROCEDURES

Loading control storage (CS) from cards can be performed in one of two ways: from a power on condition or by using the RESET/LOAD pushbutton. Essentially, the power-on condition loads CS when power is initially applied to the system (pressing the POWER ON pushbutton); using the RESET/LOAD pushbutton loads CS in the same manner as pressing the POWER ON pushbutton but it is after power is already on. Each of the two ways depends on the operating mode selection on the panel: operator mode or program mode. Generally, the operator mode provides the maximum amount of internal hardware control with the least amount of operator intervention. In contrast, the program mode requires a greater amount of operator intervention but offers a greater amount of flexibility in using the panel controls.

#### PROCEDURE 1 POWER ON CONDITION

##### Operator Mode

- STEP 1 Set the LOAD SELECT switch to the up position (either ALTERNATE or CR).
- STEP 2 Press the POWER ON pushbutton.
- STEP 3 Set the PROGRAM MODE pushbutton to the off position. Make sure that the MAINTENANCE MODE pushbutton light is also out.
- STEP 4 Place the microprogram card deck in the card reader and press the START pushbutton on the card reader. Card data will be loaded into CS in sequential locations starting at address 0000<sub>16</sub>.

### **Program Mode**

- STEP 1 Set the LOAD SELECT switch to the up position (either ALTERNATE or CR).
- STEP 2 Press the POWER ON pushbutton.
- STEP 3 Set the PROGRAM MODE pushbutton to the ON position. If the pushbutton will not light, check that the MAINTENANCE MODE pushbutton is not lit and try again.
- STEP 4 Set the CONSOLE MODE SELECT rotary switch to OFF and the CONSOLE DATA REGISTER SELECT rotary switch to DATA.
- STEP 5 Place the microprogram card deck in the card reader and press the START pushbutton on the card reader. Card data will be loaded into CS in sequential locations starting at address 0000<sub>16</sub>.

### **PROCEDURE 2 RESET/LOAD CONDITION**

#### **Operator Mode**

- STEP 1 Set the PROGRAM MODE pushbutton to the OFF position. Make sure that the MAINTENANCE MODE pushbutton is not lit.
- STEP 2 Set the LOAD SELECT switch to the up position (either ALTERNATE or CR).
- STEP 3 Place the microprogram card deck in the card reader and press the START pushbutton on the card reader.
- STEP 4 Press the RESET/LOAD pushbutton. Card data will be loaded into CS in sequential locations starting at address 0000<sub>16</sub>.

#### **Program Mode**

- STEP 1 Set the PROGRAM MODE pushbutton to the ON position. If the pushbutton will not light, check that the MAINTENANCE MODE pushbutton is not lit and try again.
- STEP 2 Set the CONSOLE MODE SELECT rotary switch to OFF and the CONSOLE DATA REGISTER SELECT rotary switch to DATA.
- STEP 3 Set the LOAD SELECT switch to the up position (either ALTERNATE or CR).
- STEP 4 Place the microprogram card deck in the card reader and press the START pushbutton on the card reader.
- STEP 5 Press the RESET/LOAD pushbutton. Card data will be loaded into CS in sequential locations starting at address 0000<sub>16</sub>.



### 3. OPERATOR DIRECTIVES AND QUERIES

#### INTRODUCTION

Before entering a directive or query, the operator must first gain the system's attention by pressing the **(INT)** control key. The system will respond by typing an asterisk in column one to indicate that it is ready for input. The operator's directive or query must commence in column two, directly following the asterisk.

In the following definitions of system directives and queries, all items which are fixed and must be entered literally, such as the commands themselves, are shown in upper case letters. On the other hand, operands which are variable and are represented by symbols are shown in lower case letters. However, the operator may enter all input text in lower case since the system makes no distinction between upper and lower case for input. All optional operands are shown enclosed in square brackets. Multiple choice operands are vertically stacked within braces. The **(ETX)** shown at the end of each command may be replaced by a carriage return. Either control character is acceptable.

#### COMMAND FORMAT – DIRECTIVES AND QUERIES

All directives and queries are composed of two fields, a command field and an operand field. The command field must immediately follow the asterisk and is terminated by a blank. The operand field immediately follows the command field and is terminated by any control character or carriage return. The operand field may be divided into subfields separated by commas. It may not contain any blanks.

The general format of a command is:

\*command operand1, operand2, operand3. . . **(ETX)**

When a directive has been accepted and properly executed, the message <<< COMMAND ACCEPTED will be displayed unless the command results in the display of an equivalent but more specific message. If any console input cannot be recognized as a valid command or reply, the message <<< INVALID {COMMAND  
REPLY} will be displayed. If an operand is found

to be illegal, unidentifiable, or missing, the message <<< INVALID OPERAND will be displayed.

#### SYSTEM DIRECTIVES

All system directive commands, with the exception of "SIZE", "SHARE" and "UNSHARE", may be entered at any time during system operation. The "SIZE" command, which alters partition sizes, may only be entered during system start-up parameterization, immediately following the display of <sup>R</sup>but before answering the "RETAIN JOB QUE?" message. The "SHARE" and "UNSHARE" commands, which alter disc unit status, may be entered only at the following times:

- during system start-up parameterization, immediately following the "RETAIN JOB QUE?" message
- when the system is in a shutdown condition (following a SHUTDOWN initiation command)

If the SHARE or UNSHARE command is entered while the unit is assigned, the message <<< INVALID COMMAND appears on the console.

The following is a description of the format and function of each system directive command. The asterisk preceding each command format is the system asterisk indicating a ready-for-input status, necessary before any directive may be entered.

### TIME DIRECTIVE

The TIME directive enables the operator to enter the time and date. The values entered will be the system's time and date until either a new TIME directive is entered or the system is shut down. In the latter case, time and date will revert to a default value. (On system start-up, the default value for time and date will be used until a TIME directive is entered to override it.)

The format is as follows:

\*TIME [hhmm[ss]], mmddyy (ETX)

hhmm[ss] is the time in hours, minutes, and (optionally) seconds. mmddyy is the date (month, day, year). The time operand is optional; if omitted, the system time remains unchanged. The format for omission is \*TIME , mmddyy (ETX)

### DISABLE DIRECTIVE

The DISABLE directive enables the operator to mark an I/O device as unassignable. If the device is currently assigned, this command will not deallocate the device, but merely flag the unit table to prevent reassignment by the system.

Format:

\*DISABLE aaa (ETX)

aaa is the three-digit hexadecimal device-address designation for the unit.

This directive will set the availability of the device, as displayed with the DISPLAY DEVICES command, to NO (AVAL=NO) and will result in the status being set to DOWN (STAT=DOWN) as soon as the step initiator program attempts device allocation.

## ENABLE DIRECTIVE

The ENABLE directive enables the operator to mark an I/O device as assignable.

Format:

\*ENABLE aaa (ETX)

aaa is the three-digit hexadecimal device-address designation for the unit.

## SHARE DIRECTIVE

The SHARE directive allows the operator to modify the designation of shared units established at SYSGEN time. It also provides a declaration of the volume identifier of the disc pack currently mounted on the shared device.

Format:

\*SHARE u,vvvvvv (ETX)

u is a disc drive number (1 through 7) of a unit to be shared. vvvvvv is the six character volume identifier of the volume declared to be mounted on this drive.

In processing this command, the actual volume identifiers are read from the pack labels. If any do not correspond to those entered in the command, the message " <<< VOLUME ID'S DON'T MATCH, vvvvvv IS ON UNIT" will be displayed. If nothing is mounted on a declared unit, the message " <<< UNIT 30u=NOT MOUNTED" will be displayed. If a hardware error is encountered while attempting to read the volume label, the message " <<< UNIT 30u CODE ssss" will be displayed; ssss is the disc hardware status code.

## UNSHARE DIRECTIVE

The UNSHARE directive allows the operator to declare that a disc unit previously defined as shared is to be designated not shared.

Format:

\*UNSHARE u[,vvvvvv] (ETX)

u is the disc drive unit number (1 through 7). vvvvvv is an optional six-character volume identifier of the volume declared to be mounted on the drive; it should be entered only when the operator wishes to verify the currently mounted volume.

In processing this command, if a volume identifier is supplied, the actual volume identifier is read from the pack label. If it does not correspond to that entered in the command, the message " <<< VOLUME ID'S DON'T MATCH, vvvvvv IS ON UNIT" will be displayed. If nothing is mounted on a declared unit or if a hardware error is encountered while attempting to read the volume label, the message " <<< UNIT 30u CODE ssss" will be displayed. ssss is the disc hardware status code.

## ASSIGN DIRECTIVE

The ASSIGN directive enables the operator to assign or to reassign the system input device, which must be a card reader or card reader/punch.

Format:

\*ASSIGN aaa (ETX)

aaa is the three-digit hexadecimal device-address designation for the unit.

This directive should be given during system start-up parameterization. If it is entered during system operation, it will not take effect until the Input Reader module of Control Language Services is reloaded in the partition. The operator can change the assignment during system operation and ensure its taking effect at the proper time by inserting a small stack of blank cards after the last //EOJ card in the hopper of the previously assigned device. This scheme will cause the Input Reader to search for a //JOB card until the hopper is empty, at which time the Input Reader becomes idle. When it is reloaded to start reading again, the change of assignment takes effect and reading occurs from the new device.

## DELETE DIRECTIVE

The DELETE directive enables the operator to remove a specific job from the job queue.

Format:

\*DELETE jobname (ETX)

jobname is the name of the job as it appears on the Control Language //JOB card.

If Control Language Services (job monitor) is using the job queue when this directive is entered, the message " RESUBMIT COMMAND" will appear. The DELETE directive will always be accepted when the job monitor is idle or when all partitions are executing job steps, as indicated by a console message.

## CANCEL DIRECTIVE

The CANCEL directive enables the operator to abort an active job and optionally to call for a dump of the partition in which the job is running.

Format:

\*CANCEL { jobname } [,DUMP] (ETX)  
n

jobname is the name of the job as it appears on the Control Language //JOB card.

n is the number of the partition in which the job to be canceled is running (one digit). This may be used instead of jobname.

The CANCEL command can be accepted at any time, but will not become effective until a step is executed or, if in execution, will not take effect while a step is in any wait state.

The presence or absence of the DUMP parameter determines whether or not a dump of the partition will be taken, regardless of what was coded on the Control Language //EXECUTE card.

### CHANGE DIRECTIVE

The CHANGE directive enables the operator to change the priority of a job in the job queue.

Format:

\*CHANGE jobname,p

ETX

jobname is the name of the job as it appears on the Control Language //JOB card.

p is the new priority which the job is to have.

If Control Language Services (job monitor) is using the job queue when this directive is entered, the message " <<< RESUBMIT COMMAND" will appear. The CHANGE directive will always be accepted when the job monitor is idle or when all partitions are executing job steps, as indicated by a console message.

### HOLD DIRECTIVE

The HOLD directive enables the operator to put a named job in the job queue into a nonschedulable status. Note that jobs placed in this condition are not lost, but will not be scheduled for execution until they are released by the RELEASE directive.

Format:

\*HOLD jobname

ETX

jobname is the name of the job as it appears on the Control Language //JOB card.

If Control Language Services (job monitor) is using the job queue when this directive is entered, the message " <<< RESUBMIT COMMAND" will appear. The HOLD directive will always be accepted when the job monitor is idle or when all partitions are executing job steps, as indicated by a console message.

### RELEASE DIRECTIVE

The RELEASE directive enables jobs which had previously been placed in a non-schedulable status to be restored to an active (schedulable) status.

Format:

\*RELEASE jobname

ETX

jobname is the name of the job as it appears on the Control Language //JOB card.

If Control Language Services (job monitor) is using the job queue when this directive is entered, the message " <<<RESUBMIT COMMAND" will appear. The RELEASE directive will always be accepted when the job monitor is idle or when all partitions are executing job steps, as indicated by a console message.

## SIZE DIRECTIVE

The SIZE directive allows the operator to change the sizes of the user partitions. This may be done only at system start-up time before a reply to the "RETAIN JOB QUE?" message has been entered. In a two-partition system, only the size of partition number 1 may be established: partition number 2 will then automatically be set to occupy all the remaining space. The minimum size of either partition is 8192 bytes. Thus:

- SIZE directives specifying less than this will result in a partition of 8192 bytes being created.
- Unless there are at least 8192 bytes remaining after partition number 1 has been established, no partition number 2 will be created.

If the size specification exceeds available memory, the message " <<< NOT ENOUGH SPACE" will be returned.

Format:

| \*SIZE [nnK,] 1, ssss

⊙ ETX

| nn is an optional 1 or 2 digit decimal specification in K bytes (K=1024) of main storage size (the value declared at SYSGEN time may be modified).

| ssss is the decimal size specification (up to five digits) in bytes of main storage for partition 1. This number will be rounded up to an exact multiple of 256 bytes.

## NOTE

The directive "SIZE 1,0" will create a single partition occupying all available space.

## SHUTDOWN DIRECTIVE

The SHUTDOWN directive enables the operator to terminate either job queuing or job initiation in selected partitions.

Format:

| \*SHUTDOWN { Q  
| I  
| Qn  
| In }

⊙ ETX

Q specifies terminate job queuing for all partitions.

I specifies terminate job initiation in all partitions.

Qn specifies terminate job queuing for partition n.

In specifies terminate job initiation in partition n.

### RESTART DIRECTIVE

The RESTART directive enables the operator to restart job queuing or job initiation following a SHUTDOWN directive.

Format:

\*RESTART  $\left\{ \begin{array}{l} Q \\ I \\ Q_n \\ I_n \end{array} \right\} \text{ (ETX)}$

Q specifies restart of job queuing for all partitions.

I specifies restart job initiation in all partitions.

Qn specifies restart job queuing for partition n.

In specifies restart job initiation in partition n.

### CONSOLE DIRECTIVE

The CONSOLE directive enables the operator to select the operator's console as the job entry device. By means of this directive, the operator may submit one or more jobs for processing by entering Control Language statements directly through the console input/output interface.

Format:

\*CONSOLE (ETX)

When Control Language Services (CLS) recognizes the CONSOLE command, it issues the following messages:

JMJ10120 time CONSOLE JOB ENTRY ACTIVATED  
JMJI0190 time RESPOND "NO" TO END CJE  
n Px JMJI0050 time ENTER STATEMENT

n is the message number

x is the partition number from which CLS sent the message

To enter control statements, the operator must press **INT**, enter the message number, one space, and an initial //JOB statement, and press **ETX** or a carriage return. When CLS receives the //JOB statement, it reissues the ENTER STATEMENT message. The operator then enters the next control statement. This sequence continues until the operator replies NO to the ENTER STATEMENT message, indicating there are no more control statements to enter. After NO has been entered, no more control statements will be accepted until another CONSOLE command is issued. The operator may enter any Control Language statements, including the //DATA statement, and any user data that would be acceptable through the card reader. The only limitation is the character set available on the console. More than one job may be entered with one CONSOLE directive, simply by entering another //JOB statement after the //EOJ for the preceding job.

## SYSTEM QUERIES

System query commands allow the operator to interrogate the system. They may be entered at any time during system operation. The following paragraphs describe the format and functions available through the DISPLAY command. The asterisk preceding each command format is the system asterisk indicating a ready-for-input status, necessary before any query may be entered.

### JOB QUEUE SUMMARY

\*DISPLAY JOBS

**ETX**

This requests a summary of the job queue. Displayed information includes the name, type, and priority of each job in the system.

### JOB STATUS

\*DISPLAY NAME, jobname

**ETX**

This requests information regarding the status of a particular job. The information displayed will include the jobname, the job type, the priority, and the position within priority.

jobname is the name of the job as it appears on the //JOB card.

### DEVICE STATUS

\*DISPLAY DEVICES

**ETX**

This command requests a summary of the status of the devices in the unit table.



The following is an example of a summary produced by this command.

\*display devices

P/A	DT	USAGE	AVAL	STAT	ATTN	ERR
302	70		YES	UP	NO	NO
301	70		YES	UP	NO	NO
300	70	SHARED	YES	UP	NO	NO
281	60		YES	UP	NO	NO
280	60		YES	UP	NO	NO
20E	59		NO	UP	NO	NO
21E	51	P1	YES	UP	YES	NO
20C	11		YES	UP	NO	NO
204	23		YES	UP	NO	NO
000	80		YES	UP	NO	NO

P/A Physical address of the device; recommended and default physical addresses appear in the **MRX/OS System Generation Reference** manual

DT Device type (see Appendix C).

USAGE For disc drives, shared or unshared; for other devices, partition to which device is assigned.

AVAL Availability for assignment. If YES, device is assignable; if NO, device has been disabled.

STAT Status of device, UP or DOWN.

ATTN Attention bit status; if YES, bit is set.

ERR If YES, device is in error recovery processing.

#### PARTITION STATUS

\*DISPLAY PARTS

ETX

This requests a display of the partition boundaries and the names of the jobs in the partitions.

#### UNANSWERED MESSAGE

\*DISPLAY REPLIES

ETX

This requests a list of the outstanding console messages to which replies have not been sent. The message prefix and the message will be indented 5 spaces to indicate that this is not a new message, but rather a response to the display request.

If the message text in the program has been changed since the original request, erroneous information may be displayed.

### VOLUME IDENTIFIERS

\*DISPLAY PACKS

ETX

This requests a list of the volume identifiers currently mounted on each disc unit. Each unit number is preceded by an "S" if it has been declared as a shared unit.

### TELECOMMUNICATIONS STATUS DIRECTIVE

The status of telecommunications lines and terminals can be requested by the operator by entering the following message on the console:

\*T STATUS { ALL  
ALLL  
ALLT  
line number  
terminal name } ETX

Any combination of the parameters is acceptable, provided that they are separated by commas and the entire input string including the initial T does not exceed 52 characters.

Following is a description of the parameters.

<u>Parameter</u>	<u>Description</u>
ALL	Display the status of all lines, and all terminals being used by Logical TCOM.
ALLL	Display the status of all lines.
ALLT	Display the status of all terminals being used by Logical TCOM.
line number	Display the status of the specified line; one hexadecimal digit, 1 through F.
terminal name	Display the status of the specified terminal being used by Logical TCOM. If the terminal name is ALLL or A through F, the parameters ALL or ALLT must be used to obtain the status. Similarly, if the terminal name is ALL or ALLT, the status of the terminal cannot be obtained individually but will be included in a list of all terminals.

The end of the parameter list is determined by one of the following, whichever occurs first:

- The first blank encountered after the first parameter
- A full line (52 characters including the T STATUS)
- An **ETX** or carriage return

Status of lines and terminals is displayed in one of the following messages:

```
## I TPST0000 LNE=aa,UNASSIGNED
## I TPST0000 LNE=aa,TYPE=dt,PID=p,ENBL=Y,N,CMD=cc,TERM=name
                                LOG ENBL
## I TPST0000 TERM=name,EQP TYPE=e,PHY ENBL,PID=p,LNE=aa,CMD=cc
                                NOT ENBL
## I TPST0000 LOG TCOMM IDLE
```

<u>Legend</u>	<u>Explanation</u>
##	No partition is assigned to the program returning status.
I	Informative message; no action required.
TPST	Indicates a status message from Telecommunications.

<u>Legend</u>	<u>Explanation</u>
0000	Message is informative containing status information.
LNE=aa	aa is the physical line address; it appears in the terminal message only if the terminal is physically enabled and is the line address to which the terminal is connected.
UNASSIGNED	Line is not assigned to a partition.
TYPE=dt	dt is the hexadecimal hardware device type (see Appendix C).
PID=p	p is the partition to which the line is assigned or with which the terminal is associated.
ENBL= <sup>Y</sup> <sub>N</sub>	Y indicates that the line is enabled; N indicates that it is not.
CMD=cc	cc is the opcode of the command in progress on the line, or zeros if no command is in progress; this information is included in the terminal message only if the terminal is physically enabled.
TERM=name	name is the terminal name; it appears in the line message if the line is physically enabled, and represents the terminal associated with the line.
EQP TYPE=e	e is one of the following, representing the corresponding type of terminal: <ul style="list-style-type: none"> <li>1 Memorex terminal, read/write</li> <li>2 TTY 33 ASR or KSR TTY 35 ASR or KSR TTY 37 ASR or KSR TTY 38 ASR or KSR</li> <li>3 Synchronous terminal</li> <li>5 Memorex terminal, write only</li> </ul>
LOG ENBL	The terminal is logically enabled.
PHY ENBL	The terminal is physically enabled.
NOT ENBL	The terminal is not enabled.
LOG TCOMM IDLE	This message is issued when logical TCOM is inactive. No terminal messages are typed.

Input parameter errors, consisting of nonexistent line numbers or terminal names, are noted in the following message:

```
## I TPST 0018. . .parameters in error. . .
```

## SPOOLER DIRECTIVES

A number of directives to the Output Spooler enable the operator to display the status of spooled print/punch files, change the priority of the files, delete files from the print/punch queue, hold files in the queue, release them from the hold state, alter the number of copies to be printed or punched, and control the activity and assignment of devices to the Spooler. The directives are divided into two categories: job and file oriented and device oriented directives.

All directives require pressing **INT** on the console, then entering the character S and a space after the asterisk, then the directive. Only one directive will be accepted at a time; completion of a directive is displayed on the console by the message END DIRECTIVE or by an error message.

## JOB AND FILE DIRECTIVES

Job and file oriented directives display the status and control the activity of print/punch files. In all the following directives, jobname is the name of a job as it appears on a //JOB card and filename is the name of a file as it appears on a //DEF card or a //RTE card.

### DISPLAY DIRECTIVE

The DISPLAY command lists the status of current print/punch files on the console.

Format:

```
*S DISPLAY [ { jobname } ] (ETX)  
          [ { filename,F } ]
```

DISPLAY jobname lists the status of the named job's print/punch files on the console.

DISPLAY filename lists the status of the named print/punch file.

When neither jobname nor filename are entered, the status of all print/punch files is listed.

The status includes the job name, filename, priority, copy count remaining (including the one in process if the file is in active status), device (PRT, PUN, or device address), name of the universal character set selected (if the line printer has a UCS buffer), form type, and status (ACT for active, HOLD, or blank). A sample listing follows.

##I	JOB	FILE NAME	PRI	STAT	DEVICE	UCS	FORM	COPIES
##I	DEEPFAT	SPOOLQTESTFILE02	7		PRT		STD	01
##I	MYJOB	MYFILE007	9	HOLD	PUN		5492	01
##I	TSTJOB01	TSTJOBFIL02	8	ACT	20E	PCHN	2177	02

#### CHANGE DIRECTIVE

The CHANGE directive enables the operator to change the priority of a specified print/punch file or all of a job's print/punch files.

Format:

\*S CHANGE { jobname,,n } (ETX)  
                   { filename,F,n }

n is a single decimal digit from 1 to 9 to which the priority is changed. When a file is currently being printed or punched, the priority will not be changed. If jobname was specified, only the job's files which are not active will be changed.

#### DELETE DIRECTIVE

The DELETE directive removes from the print/punch queue or stops current output of a named print/punch file or all of a named job's print/punch files.

Format:

\*S DELETE { jobname } (ETX)  
                   { filename,F }

#### HOLD DIRECTIVE

The HOLD directive enables the operator to place print/punch files in a hold state. A single file, all of a job's files, or all spooled print/punch files in the system can be specified to be held. Files so specified will not be printed or punched until they are released by a RELEASE directive.

Format:

\*S HOLD [ { jobname } ] (ETX)  
                   [ { filename,F } ]

If neither jobname nor filename are specified, all spooled print/punch files in the system will be placed in a hold state. A file currently being printed or punched will not be held.

## RELEASE DIRECTIVE

The RELEASE directive releases the specified print/punch files for printing or punching. A single file, all of a job's print/punch files, or all print/punch files in the system can be released with one directive. Files that were held through the HOLD directive or by control card or macro specification can all be released with this directive.

Format:

\*S RELEASE [ { jobname }  
                  { filename,F } ] (ETX)

If neither jobname nor filename are specified, all spooled print/punch files in the system will be released from the hold state.

## ALTER DIRECTIVE

The ALTER directive enables the operator to change the copy count (number of copies to be printed or punched) of a named file or a job's print/punch files.

Format:

\*S ALTER { jobname,,nn }  
                  { filename,F,nn } (ETX)

nn is a one or two digit decimal number specifying the value to be inserted into the copy count.

## DEVICE DIRECTIVES

Device-oriented directives control the operation or assignment of specific devices. In all the following directives, xxx represents the physical address of the device.

## BACKSPACE DIRECTIVE

The BACKSPACE directive restarts printing of the current file on the designated device a specified number of pages back from the current page. If the number of pages specified is greater than the current page, printing is restarted from the beginning of the file. This directive is valid only if the device is an active printer.

Format:

\*S BACKSPACE xxx,nnn (ETX)

nnn is a decimal number from 1 to 999 specifying the number of pages to backspace the designated line printer.

### SUSPEND DIRECTIVE

The SUSPEND directive suspends output of the file currently being printed or punched on the specified device and starts processing of the next print/punch file. The suspended file is queued in the hold state. When the file is released from the hold state, printing or punching is resumed from the last checkpoint; that is, the current top of page, or 1 to 25 cards back. This directive is valid only if the device is active.

Format:

\*S SUSPEND xxx

ETX

### SPOOL DIRECTIVE

The SPOOL directive assigns the designated device to the Output Spooler. The device must be currently on-line and must be unassigned by the system. The number of devices assigned to the Spooler must not exceed the number specified when the system was generated.

Format:

\*S SPOOL xxx

ETX

### UNSPPOOL DIRECTIVE

The UNSPOOL directive returns the specified device to the system upon termination of processing of the file currently being produced on the device or immediately if the device is inactive. The device will not be available to the Spooler until a subsequent SPOOL directive is processed.

Format:

\*S UNSPOOL xxx

ETX

### NOTE

Queued print/punch files assigned explicitly to the device will not be initiated until a SPOOL or REASSIGN directive for the device is processed.

### RESTART DIRECTIVE

The RESTART directive stops printing or punching of the file currently being processed by the specified device and requests a copy of the output from the beginning of the current file. RESTART is valid only if the device is active.



Format:

\*S RESTART xxx

ETX

#### REASSIGN DIRECTIVE

The REASSIGN directive transfers files that have been explicitly routed to one device, via control card or system macro, to another device, if the new device is spooled.

Format:

\*S REASSIGN xxx,yyy

ETX

xxx is the address of the original device

yyy is the address of the device to which the files are being transferred

The reassignment does not become effective until the current output, if any, on device xxx is complete. Assignment of files which were not explicitly routed is not affected by the command.

#### RESET ACCT DIRECTIVE

This directive enables the operator to suspend the initiation of files by the Output Spooler in order to list the job accounting file, named \$OSSPLJA. When the Spooler again begins initiation of files, the job accounting file is reset to block two.

Format:

\*S RESET ACCT

ETX

Upon receipt of this directive, the Spooler issues the following message to the console.

n ## D OSPL 01D0 IS JOB ACCOUNTING LIST COMPLETE?

The operator should submit a job to list the accounting file and, when a console message indicates normal completion of the job, should enter:

\*n

ETX

In the message and reply above, n is the message number assigned by the system. Upon receipt of the ETX, the Spooler is reinitiated.

If no job accounting file exists in the system, this directive will be rejected as invalid.

## DIRECTIVE ERROR CONDITIONS

The following messages for the associated directive error conditions will be displayed on the console.

<u>Message</u>	<u>Error Condition</u>
OSPL01A0 INVALID DIRECTIVE	An invalid directive was entered.
OSPL0110 INVALID DEVICE xxx	An invalid device address was supplied or the directive cannot be processed on the device.
OSPL0100 INVALID OPERAND	An invalid operand was entered.
OSPL0140 JOB NAME NOT FND	The Spooler could not locate the named job.
OSPL0150 FILE NAME NOT FND	The Spooler could not locate the named file.
OSPL0130 RESUBMIT DIRECTIVE	The directive could not be completed at the present time.

No response to these messages is required, but the directive should be corrected and retyped on the console.

# 4. SYSTEM CONSOLE MESSAGES

## INTRODUCTION

System console messages\* fall into two major categories, informative messages and directive messages. Informative messages provide information about the status of the system or progress of job processing which might be of interest to the operator but which does not require any response from the operator. Directive messages, on the other hand, all require some kind of response from the operator before the system is able to proceed normally. All directive messages require a reply to be typed on the console, but some may first require the operator to attend to a peripheral device in some way such as clearing a card feed error or mounting a specific disc volume on a disc drive.

Informative messages take the following general forms:

## I Message text (from a system task)

P1 I Message text (from partition 1)

P2 I Message text (from partition 2)

Directive messages, which always require a reply, appear in the following forms:

n ## D Message text

n P1 D Message text

n P2 D Message text

↑  
Message number: to be used when entering a reply

The format of the message text is as follows:

Source-code	Message-code	Message-level	Message
-------------	--------------	---------------	---------

Source-code is a four-letter code consisting of two letters describing the module which issued the message and two supplementary qualifying letters; for example, JMJI is "Job Monitor Job Initiator" and ER PR is "Error Recovery: Printer".

\* Messages appearing on the line printer (SYSOUT messages) are described in the **MRX/OS Messages** manual.

Message-code is a three-digit hexadecimal code identifying the particular message within the source code group.

Message-level is a one-digit code signifying the severity of the message:

- 8 = fatal: job aborts or system goes down
- 4 = serious: job unable to be executed due to unavailability of resources
- 2 = warning: job or system temporarily held up due to transient problem such as card read error
- 0 = informative; no problem

Message is the actual message text: this may be verbal or numerical or both, depending on the module which issued it.

In this section messages are presented in groups for each program and within each group the messages are arranged numerically by message code. Reply formats are given for all messages requiring them.

In this section messages are presented in groups for each program and within each group the messages are arranged numerically by message code. Reply formats are given for all messages requiring them. The following is an alphabetical listing of the first four letters of the error codes and the page numbers in this section on which they start. Four programs do not produce error codes with their messages; they are the Initial Program Load, found on page 4-3, the Disc Initialization utility, on page 4-44, the Stand-Alone Disc-to-Tape Dump, on page 4-54, the Tape-to-Disc Restore, on page 4-61 and the Stand-Alone Disc-to-Disc Copy, on page 4-48.

<u>Code</u>	<u>Page</u>	<u>Code</u>	<u>Page</u>
CRCP	4-41	IRCP	4-74
CRRS	4-41	IRMT	4-73
DFCU	4-68	JMDF	4-21
DMCL	4-25	JMIR	4-23
DMCV	4-25	JMIS	4-23
DMOP	4-25	JMJI	4-11
ER CR	4-28	JMJT	4-18
ER DC	4-31	JMSI	4-7
ER MT	4-35	JMSO	4-21
ER PR	4-30	JMST	4-9
ER RP	4-33	OSPL	4-78
ER TP	4-71	OSSG	4-40
EUCM	4-39	RGRT	4-75
EUDS	4-39	UTEM	4-43
EULD	4-40	UTSS	4-45

## INITIAL PROGRAM LOAD MESSAGES

These messages are produced by the initial program load procedure. The general format of the message is as follows:

n P1  $\left\{ \begin{array}{l} I \\ D \end{array} \right\}$  message

n            The message number (appears with directive message only)

P1            Indicates the message is from partition 1

$\left\{ \begin{array}{l} I \\ D \end{array} \right\}$         Indicates whether the message is informative or directive

message      The text of the message

The messages are listed here in three groups: irrecoverable conditions, where the system cannot proceed; non-fatal error conditions, where the system can proceed without action by the operator; and conditions where operator action is required.

### IRRECOVERABLE CONDITIONS

- I JOB QUE ALLOCATE FAILED
- I UNABLE TO OPEN JOB QUE
- I \$OUTSPLO ALLOCATE FAILED
- I UNABLE TO CLOSE JOB QUE
- I JOB QUE WRITE ERROR
- I JM DATA ALLOCATE FAILED
- I JM DATA WRITE FAILED
- I JM DATA CLOSE FAILED
- I ERROR LOG CLOSE FAILED
- I ERROR LOG READ FAILED
- I ERROR LOG WRITE FAILED
- I READ ERROR ON PCAT

I BAD STATUS ON UNIT nn, STATUS=xxxx

nn is the unit number

xxxx is the hardware status

This message results from a read error while doing a physical read of volume identifiers.

I DUPLICATE VOL IDS

Disc packs with duplicate volume identifiers are mounted on drives.

**NOTE**

All the preceding messages except the last may indicate system failure. If a system restart results in the same or similar messages, contact your field support representative or system engineer.

**NON-FATAL ERRORS**

I ERROR LOG OPEN FAILED

Error log processing is bypassed.

I ERROR LOG OVER 75% FULL

This message indicates that the error log is nearing its capacity. Contact your field support representative or customer engineer to dump the error log. If the error log is not dumped before it is full, logging of errors will wrap back to the beginning of the error log file.

I JMDATA OPEN FAILED

JMDATA file processing is deferred for recovery to CLS modules

I filename PURGED

The file identified by filename has been purged.

I filename PURGE FAILED

The purge of the file identified by filename has failed

I filename PURGE FAILED (VOL NOT MOUNTED)

The purge of the file identified by filename has failed because the volume on which it resides is not mounted.

I filename NOT FOUND IN \$PCAT

The file identified by filename has not been found in the system pack catalog.

I UNABLE TO LOAD PRINTER BUFFER

This message applies to 1403 printer only.

I SPACE POINTER NOT FOUND IN \$PCAT

No space pointer was found in the system pack catalog.

**MESSAGES REQUIRING RESPONSE**

D SHARED DRIVE nn NOT OPERATIONAL

Drive nn must be made operational or must be marked as unshared by using the UNSHARE directive. In either case, the action must be followed by typing (INT) , the message number, and either (ETX) or a carriage return.

## CONTROL LANGUAGE SERVICES (JOB MONITOR) MESSAGES

With few exceptions, the CLS messages printed on the console do not require an operator response. They are messages designed to help the systems analyst determine why job processing failed — that is why no operator response is shown for most of the console messages. All console messages except those originating from the step programs have the format shown below:

ERROR CODE	TIME OF DAY	MESSAGE TEXT
pp ss eee t	hhmmss	text

The step programs use the same format with the exception that Time of Day entry is not used. The fields of the error code have the following meanings:

pp Always JM, meaning Job Monitor, which is the internal name of the Control Language Services program.

ss The subproduct identifier that specifies the modules within the program where the error occurred:

- SI = Step Initiator
- ST = Step Terminator
- SO = SYSOUT Printer
- JI = Job Initiator
- JT = Job Terminator
- DF = Data File
- IR = Input Reader
- IS = Input Spooler

eee A three-digit error number specifying the error within the subproject.

t The message type where:

- 0 = Informative message
- 2 = Warning error
- 4 = Error; processing may or may not continue, depending on previous occurrences
- 8 = Disastrous error; program aborts

The fields of the time of day field have the following meanings:

hh Hour of the day in the 24-hour clock when the error occurred.

mm Minute within the hour when the error occurred.

ss Second within the minute when the error occurred.

The text of messages which describe input/output or Data Management failures includes a packet status in the form PS nn. The meaning of the particular packet status may be found in Appendix B under the indicated macro name.



ERROR CODE	TIME OF DAY	MESSAGE TEXT
JMSI0018		PID NOT IN JMS. The partition identifier is missing from the job monitor control block.
JMSI0028		HALTING. The job monitor program is executing an instruction that branches to itself due to a nonrecoverable condition described in a previous message.
JMSI0048		PKT STATUS ERR xx FOR y. In this message xx is a 2-digit hexadecimal number that corresponds to the two rightmost digits in the completion code field of the service request packet, and y is the name of the packet wherein the error was encountered. Packet names are: ALLOCATE, EXPAND, PURGE, OPEN, CLOSE, READ, and WRITE. Refer to Appendix B for an explanation of the error code.
JMSI0060		DEVICE x NOW DISABLED. In this message x is the name of the device that has been shut down.
JMSI0088		JOB x ABORTED. The jobname specified by x has been aborted by the Control Language Services programs.
JMSI0090		BEGIN PGM x. A request has been made to the loader to load program x.
JMSI0110		REPLY STOP OR GO. The operator response to a //TELL statement having PAUSE=YES can only be "STOP" or "GO". This message is printed when some other response is typed.
JMSI0158		IS STEP RETRY DESIRED? Processing of the preceding //DEF statement was unsuccessful for the reason described by the preceding message. Answer "Y" or "N" to the retry question.
JMSI0208		USAGE FIL PID ERR. The partition identifier of this partition is missing on a usage file entry.

ERROR CODE	TIME OF DAY	MESSAGE TEXT
JMSI0214		FILE USAGE CONFLICT.
JMSI0260		TCOM DEV x ASSIGNED. In this message x is the name of the TCOM device that has been assigned.
JMSI0270		READER/PUNCH DEVICE x ASSIGNED.
JMSI0280		PRINTER DEVICE x ASSIGNED.
JMSI0290		READER DEVICE x ASSIGNED.
JMSI0360		SHORTAGE OF DEVICES.
JMSI0374		DEV/VOL x IN USE. A requested device or volume in a //DEF statement is not available. The device or volume is specified by x.
JMSI0384		DEVICE DISABLED. Requested device is not functioning so it cannot be used.
JMSI0394		DEVICE x IS NEEDED. IS DISABLE STILL REQUESTED? A response of "Y" causes the job to be aborted and the device shutdown will take place. A response of "N" cancels the shutdown request and the device is assigned for use.
JMSI0408		USAGE FILE OVERFLOW.
JMSI0410		MOUNT x ON y. Mount the volume specified by x on the unit specified by y.
JMSI0420		MOUNTED? Type in "Y" for yes or "N" for no.
JMSI0430		WRONG VOL MOUNTED. Dismount the incorrect volume and mount the correct one.
JMSI0452		JOB x WAITING -z. In this message x is the job name and z is the reason you are waiting.

ERROR CODE	TIME OF DAY	MESSAGE TEXT
JMSI0470		<p>SYSTEM READER ASSIGNED.</p> <p>The system card reader has been assigned for the user program to read cards directly from the reader rather than from a spooled input file.</p>
JMSI0480		<p>NO //DATA FOR DEV=SYSCRD REQUEST.</p> <p>A request was made for the system card reader via a DEV=SYSCRD on a //DEF statement but no corresponding //DATA statement exists.</p>
JMSI0500		<p>MOUNT FORM x ON y.</p> <p>Put paper form x on the printer specified by y.</p>
JMSI0530		<p>MOUNT UCS x ON y.</p> <p>Put UCS print chain x on the printer specified by y.</p>
JMSI0540		<p>UCS LOAD VERIFIED?</p> <p>The two lines on the printer should be compared with the lines of characters for the corresponding printer arrangement specified in message JMSI0530 and shown in Appendix E of this manual.</p>
JMST0018		<p>x LEFT OPEN.</p> <p>x corresponds to the ID=x keyword on the //DEF statement.</p>
JMST0028		<p>PACKET ERR y FOR x.</p> <p>In this message x refers to a service request macro, and y is the error status. Depending on the macro name returned, refer to either the Input/Output or Data Management packet status codes in Appendix B for an explanation of the error status.</p>
JMST0038		<p>PID NOT IN JMS.</p> <p>The partition identifier is missing from the job monitor control block.</p>
JMST0040		<p>CLOSE PKT ERR y FOR x.</p> <p>In this message x refers to the name supplied for the ID= parameter on the //DEF statement, and y is the error code.</p>
JMST0058		<p>HALTING.</p> <p>See JMSI0028</p>

ERROR CODE	TIME OF DAY	MESSAGE TEXT
JMST0060		END PROGRAM x. This message announces that the step terminator has been brought into execution and program x has been terminated.
JMST0078		PKT ERR xx FOR y. In this message xx is a 2-digit hexadecimal status completion code and y is the name of the macro. Refer to Appendix B for an explanation of packet codes.
JMST0088		PID NOT IN JMS. The partition identifier is not in the job monitor control block.
JMST0090		MOUNT x ON y. In this message x is the volume ID and y is the drive number.
JMST0100		MOUNTED? Type in "Y" for yes or "N" for no.
JMST0120		WRONG VOL MOUNTED. Dismount wrong volume and mount correct one.
JMST0138		HALTING. See JMSI0028
JMST0148		ABNORMAL COMPLETION x. The step has completed abnormally with a completion code specified by x.
JMST0270		IS IMMEDIATE RESTART DESIRED? Answer 'Y' to initiate the restart procedure. Answer 'N' to omit the restart procedure. If checkpoints are taken during the job and a deferred restart is required, change the PGM operand on the //EXEC statement to PGM=\$RESTART and add the parameter RESTART=nn, where nn is the last checkpoint taken as shown on the console listing. The job can then be resubmitted.
JMST0282		SPOOLING QUEUE I/O ERROR. An attempt was made to queue a job, but the job cannot be queued. A probable disc error caused spooler shutdown.

ERROR CODE	TIME OF DAY	MESSAGE TEXT
JMST0290		SPOOLING QUEUE FULL.
JMST0302		FILE x JOB y NOT QUEUED. In this message x is a 1-17 character file name and y is a 1-8 character job name.
JMJ10018	hhmmss	PSnn ERROR ENCOUNTERED WHILE READING SYSIN FILE. An error has been encountered on an attempt to read the SYSIN file. This is a fatal error that causes the job to abort.*
JMJ10028	hhmmss	PSnn BAD STATUS ON SYSIN TABLE WRITE. An error has been encountered on an attempt to write the SYSIN file. This is a fatal error that causes the job to abort.*
JMJ10038	hhmmss	//PAR PRECEDES FIRST //EXECUTE. A //PAR statement precedes the first //EXEC statement and is presumed to be out of sequence. The job is aborted.
JMJ10048	hhmmss	PSnn SYSIN ALLOCATE FAILED. The attempted allocation of the SYSIN file for the job currently being processed has failed. The job is aborted.**
JMJ10058	hhmmss	PSnn SYSOUT ALLOCATE FAILED. The attempted allocation of the SYSOUT file for the job currently being processed has failed. The job is aborted and the associated SYSIN is purged.**
JMJ10068	hhmmss	PSnn SYSIN OPEN FAILED. The previously allocated SYSIN file for this job cannot be opened due to OPEN error nn. The job is aborted.**
JMJ10078	hhmmss	PSnn SYSOUT OPEN FAILED. The previously allocated SYSOUT file for this job cannot be opened. The job is aborted.**

\*Refer to the Input/Output packet status code in Appendix B for an explanation of the hexadecimal status completion codes that are supplied with this message.

\*\*Refer to the Data Management (ALLOCATE, PURGE, OPEN, CLOSE) packet status codes in Appendix B for the explanation of the hexadecimal status completion codes that are supplied with this message.

ERROR CODE	TIME OF DAY	MESSAGE TEXT
JMJ10088	hhmmss	<p>SYSTEM ERROR.</p> <p>An error in the operation of the system was encountered. The current job will be aborted but this does not mean that there was necessarily anything wrong with the job itself. Sometimes a re-run of the job will proceed without a recurrence of the problem.</p>
JMJ10098	hhmmss	<p>PSnn SYSIN SOURCE !IMAGE WRITE ERROR.</p> <p>Refer to Appendix B, Input/Output codes, for an interpretation of the hexadecimal status completion code returned to this message.</p>
JMJ10104	hhmmss	<p>//IF DISCARDED – PRECEDES FIRST //EXEC.</p> <p>An //IF statement is encountered in the job stream before the first //EXEC statement. This is not a fatal error; processing of this job will continue.</p>
JMJ10118	hhmmss	<p>PSnn SYSOUT WRITE FAILED.</p> <p>An attempted write to the SYSOUT file for this job has failed due to BIO error nn.*</p>
JMJ10120	hhmmss	<p>CONSOLE JOB ENTRY ACTIVATED.</p> <p>This message appears as a result of entry of the CONSOLE directive.</p>
JMJ10130	hhmmss	<p>SKIPPING FOR //JOB CARD.</p> <p>The input reader is scanning the Control Language statements in the card reader looking for a valid job card. All statements preceding //JOB are rejected. Typically, this situation occurs when a job is aborted before its entire input deck has been read and the system is looking for the next job deck in the reader.</p>
JMJ10148	hhmmss	<p>JOB ABORTED BY 'N' RESPONSE TO CARD READER ERROR.</p>
JMJ10158	hhmmss	<p>PSnn JMDATA READ FAILED.</p> <p>This is potentially a catastrophic error. The read failed on an internal Control Language Service file called JMDATA. The current job is aborted. The system attempts to continue, but the error may be repeated. System integrity is in doubt.*</p>

\*Refer to the Input/Output packet status code in Appendix B for an explanation of the hexadecimal status completion codes that are supplied with this message.

ERROR CODE	TIME OF DAY	MESSAGE TEXT
JMJ10164	hhmmss	PS08 ON //DATA ALLOCATE ATTEMPT – FILE REUSED. There are either two //DATA cards in a job with the same file name or else a //DATA card has been encountered whose file name and job name qualifier duplicate one already in existence.
JMJ10178	hhmmss	PSnn SYSIN PURGE FAILED. Attempted purge of SYSIN file after failure to allocate SYSOUT file has proved unsuccessful due to PURGE error nn.**
JMJ10198	hhmmss	//DEF OR //RTE DOES NOT FOLLOW //EXEC. A //DEF statement or a //RTE statement precedes the first //EXEC statement in the job stream.
JMJ10208	hhmmss	NO EXECUTE FOUND IN JOB. Each job must contain an //EXEC statement. None was found in this job.
JMJ10218	hhmmss	NO FILENAME ON //DATA. No filename found on the //DATA statement.
JMJ10228	hhmmss	PSnn //DATA FILE ALLOCATE FAILED. The system was unable to allocate space for a //DATA file.**
JMJ10238	hhmmss	PSnn //DATA FILE OPEN FAILED. The system was unable to open a //DATA file.**
JMJ10248	hhmmss	PSnn //DATA FILE WRITE FAILED. The system was unable to write to a //DATA file.*
JMJ10258	hhmmss	PSnn //DATA FILE CLOSE FAILED. The system was unable to close a //DATA file.**
JMJ10268	hhmmss	PSnn PRINT FAILED. A printer error has occurred while running an 80-80 list via Control Language Services.* The list is aborted. Correct the problem before retrying the list.

\*Refer to the Input/Output packet status code in Appendix B for an explanation of the hexadecimal status completion codes that are supplied with this message.

\*\*Refer to the Data Management (ALLOCATE, PURGE, OPEN, CLOSE) packet status codes in Appendix B for the explanation of the hexadecimal status completion codes that are supplied with this message.

ERROR CODE	TIME OF DAY	MESSAGE TEXT
JMJIO278	hhmmiss	JOB MONITOR IDLE. The Control Language Services program, whose common name is Job Monitor, is idle.
JMJIO288	hhmmss	PSnn SYSTEM QUEUE I/O FAILURE. Catastrophic error. The system stops. The operator should take a panic dump; Disc Print for file SYSQUE (normally Cyl 3, Track 0). Send dumps, console sheet, and 80-80 list of Control Language statements to nearest system engineer.*
JMJIO298	hhmmss	PSnn SYSIN CLOSE FAILED. The system was unable to close a SYSIN file.**
JMJIO308	hhmmss	PSnn SYSOUT CLOSE FAILED. The system was unable to close a SYSOUT file.**
JMJIO310	hhmmss	NONE OF QUEUED JOBS RUN IN THIS PARTITION. All jobs currently in the system queue are either on hold, have been specified to run in the other partition, or are too large for the partition.
JMJIO320	hhmmss	QUEUE FULL. No more jobs can be entered into the job queue because it is full. The current job is processed.
JMJIO338	hhmmss	PSnn JMDATA WRITE FAILED. This is a potentially catastrophic error. An attempt was made to write to the internal Control Language Services file JMDATA. The current job aborts.*
JMJIO348	hhmmss	PRINTER NOT AVAIL – 80-80 LIST ABORTED. The high-speed printer is not currently available; the requested 80-80 list will not take place. The cards are flushed from reader.
JMJIO350	hhmmss	INITIATION HALTED DUE TO FULL SYSOUT PRINT STACK. The printer has been unavailable for an extended period of time and initiation of new jobs is temporarily halted until some SYSOUT files have been printed.

\*Refer to the Input/Output packet status code in Appendix B for an explanation of the hexadecimal status completion codes that are supplied with this message.

\*\*Refer to the Data Management (ALLOCATE, PURGE, OPEN, CLOSE) packet status codes in Appendix B for the explanation of the hexadecimal status completion codes that are supplied with this message.



ERROR CODE	TIME OF DAY	MESSAGE TEXT
JMJ10360	hhmmss	80-80 LIST. Because the system has encountered //JOB card with the reserved name of \$LIST, it is commencing an 80-80 listing of the cards in the reader on the system printer.
JMJ10370	hhmmss	INITIATION SUSPENDED FOR THIS PARTITION BY OPERATOR. This message follows a "SHUTDOWN In" command entered by the operator. A "RESTART In" is necessary to resume job initiation in the partition. Note that the current job will run to completion and processing will continue normally in the other partition (if there is one).
JMJ10388	hhmmss	PSnn PROC LIBRARY OPEN FAILED. An error occurred while opening a procedure library.**
JMJ10408	hhmmss	PSnn PROC LIBRARY SEARCH FAILED. An error occurred while searching a procedure library. Refer to the Librarian SYSOUT messages in the MRX/OS Messages manual for an explanation of nn.
JMJ10418	hhmmss	PSnn PROC LIBRARY READ FAILED. An error occurred while attempting to read a procedure library.*
JMJ10428	hhmmss	TOO MANY PROC VARIABLES. The allowed number of procedure variables has been exceeded.
JMJ10438	hhmmss	INTERNAL PROC BUFFER EXCEEDED.
JMJ10444	hhmmss	PSnn PROC LIBRARY CLOSE FAILED. An error occurred while attempting to close a procedure library.**
JMJ10458	hhmmss	ERROR ON //JOB CARD OR CONTINUATION ATTEMPTED. A card whose first 6 columns were //JOB has been found to be unacceptable due to a missing name, bad keyword, bad variable, etc.

\*Refer to the Input/Output packet status codes in Appendix B for an explanation of the hexadecimal status completion codes that are supplied with this message.

\*\*Refer to the Data Management packet status codes in Appendix B for an explanation of the hexadecimal status completion codes that are supplied with this message.

ERROR CODE	TIME OF DAY	MESSAGE TEXT
JMJI0468	hhmmss	PSnn PROC LIBRARY STATUS MACRO FAILED. An error occurred while attempting to obtain the status of a procedure library.*
JMJI0478	hhmmss	PROC LIBRARY BLK SIZE EXCEEDS 128.
JMJI0480	hhmmss	INITIATOR IDLE. Job Initiator, in a partition between 4K and 8K bytes in size, has found no jobs in the queue that are capable of being initiated in that partition.
JMJI0490	hhmmss	RESPOND "NO" TO END CJE. This message immediately follows message JMJI0120. No action is required.
JMJI0500	hhmmss	ENTER STATEMENT. This message immediately follows message JMJI0490 and appears after each statement entered in CJE mode. The operator may now enter Control Language statements as described under the CONSOLE directive in Section 3.
JMJI0868	hhmmss	//CALL PROC=xxxxxxx NOT FOUND. The procedure named on a //CALL statement could not be found on a library.
JMJI0878	hhmmss	NO RIGHT PAREN ON xxxxxxxx FOR PROC=yyyyyyyyy. In this message xxxxxxxx is either a //CALL or //DECLARE statement and yyyyyyyy is the PROC name.
JMJI0880	hhmmss	//DATA FILE filename SPOOLED FOR JOB jobname. When this message is printed, the filename will be supplied along with the jobname to specify which file has been spooled for which job.
JMJI0898	hhmmss	BAD //DATA STATEMENT FOR JOB y – NOT PROCESSED. In this message, y is the name of the job containing the erroneous //DATA statement.

\*Refer to the Input/Output packet status codes in Appendix B for an explanation of the hexadecimal status completion codes that are supplied with this message.

ERROR CODE	TIME OF DAY	MESSAGE TEXT
JMJI0908	hhmmss	<p>PREVIOUS JOB y IS WAITING FOR SYSOUT PRINT.</p> <p>In this message, y is the name of the job that is waiting for the SYSOUT printer. The error occurs because you have submitted a new job with the same name as y. (This is a duplicate jobname message.)</p>
JMJI0918	hhmmss	<p>JOB y IS IN OTHER PARTITION.</p> <p>In this message y is the name of the job and is currently executing in another partition. The error occurs because you have submitted a new job with the same name as y.</p>
JMJI0930	hhmmss	<p>JOB y IS ON HOLD.</p> <p>In this message, y is the name of the job being held as specified by the HOLD=YES parameter on the //JOB statement or because the operator has typed in HOLD to hold the job.</p>
JMJI0948	hhmmss	<p>JOB y DELETED BY OPERATOR.</p> <p>In this message, y is the name of the job that the operator has deleted.</p>
JMJI0958	hhmmss	<p>SYSTEM READER DEDICATED TO JOB y.</p> <p>The system reader will not be available for use by the system until job y is completed.</p>
JMJI0960	hhmmss	<p>JOB y QUEUED.</p> <p>In this message y is the name of the job that has been entered in the job queue.</p>
JMJI0978	hhmmss	<p>JOB y IS PRESENTLY IN SYSTEM QUEUE.</p> <p>In this message, y is the name of the job that the Control Language Services program has tried to enter into the system queue and found a job already in the system queue having the same name. (This is a duplicate jobname message.)</p>
JMJI0980	hhmmss	<p>JOB y INITIATED.</p> <p>In this message, y is the name of the job that has just been initiated.</p>
JMJI0998	hhmmss	<p>JOB y ABORTED.</p> <p>In this message, y is the name of the job that has been aborted. Examine the SYSOUT file for details of the situation causing the abort.</p>

ERROR CODE	TIME OF DAY	MESSAGE TEXT
JMJT0018	hhmmss	PSnn SYSOUT READ FAILED. An attempt to read the SYSOUT file for the current job has resulted in an error.*
JMJT0028	hhmmss	PSnn SYSOUT PRINT FAILED. A printer error has occurred while printing the SYSOUT file. Correct the problem if possible and respond to the message.*
JMJT0038	hhmmss	PSnn SYSOUT WRITE FAILED. An attempt to write on the SYSOUT file has resulted in an error.*
JMJT0048	hhmmss	SYSTEM ERROR. An error in the operation of the system was encountered. The current job will be aborted but this does not necessarily mean that there was anything wrong with the job itself. Sometimes a re-run of the job will proceed without a recurrence of the problem.
JMJT0058	hhmmss	PSnn SYSOUT CLOSE FAILED. CLOSE error nn resulted when an attempt was made to close the SYSOUT file for the current job.**
JMJT0068	hhmmss	PSnn SYSOUT PURGE FAILED. PURGE error nn resulted when an attempt was made to purge the SYSOUT file for the current job.**
JMJT0070	hhmmss	PRINTER NOT AVAIL – SYSOUT SPOOLED FOR JOB name. The SYSOUT file for this job will be printed at a later time. No printer is available at this time.
JMJT0088	hhmmss	PSnn JMDATA I/O FAILED. An operation on file JMDATA has resulted in an error. This error is potentially catastrophic.*
JMJT0108	hhmmss	PSnn PKT ERR FOR DISC LBL READ. An unsuccessful attempt has been made to read the volume ID on one of the system disc drives.*

\*Refer to the Input/Output packet status codes in Appendix B for an explanation of the hexadecimal status completion codes that are supplied with this message.

\*\*Refer to the Data Management macro packet status codes in Appendix B for an explanation of the hexadecimal status completion codes that are supplied with this message.

ERROR CODE	TIME OF DAY	MESSAGE TEXT
JMJT0118	hhmmss	PSnn PKT ERR FOR PURGE OF FILE filename. A PURGE error has occurred while attempting to purge the scratch or temporary file identified by filename for the current job.**
JMJT0128	hhmmss	PSnn PKT ERR FOR CCAT READ. This is a potentially catastrophic error. It may indicate a serious problem in the central catalog.*
JMJT0130	hhmmss	MOUNT VOL x ON DEVICE y. In the message, x is the name of the volume and y is the device number.
JMJT0140	hhmmss	INVALID REPLY. The operator has typed in an invalid response to the preceding question. Refer back to the question and reply that comes before this message on the console sheet and type in a valid response.
JMJT0158	hhmmss	PSnn PKT ERR FOR SYSOUT WRITE. An error has occurred on an attempt to write to the SYSOUT file for this job.*
JMJT0164	hhmmss	WRONG VOL MOUNTED. Operator should dismount the incorrect volume and mount the correct one.
JMJT0178	hhmmss	PSnn SYSIN CLOSE FAILED. CLOSE error nn resulted when an attempt was made to close the SYSIN file for the current job.**
JMJT0188	hhmmss	PSnn SYSIN PURGE FAILED. PURGE error nn resulted when an attempt was made to purge the SYSIN file for the current job.**
JMJT0190	hhmmss	OUTPUT SPOOLING QUEUE FULL.
JMJT0200	hhmmss	I/O ERROR ON SPOOLING QUEUE. An irrecoverable I/O error occurred on the spooling queue.

\*Refer to the Input/Output packet status codes in Appendix B for an explanation of the hexadecimal status completion codes that are supplied with this message.

\*\*Refer to the Data Management macro packet status codes in Appendix B for an explanation of the hexadecimal status completion codes that are supplied with this message.

ERROR CODE	TIME OF DAY	MESSAGE TEXT
JMJT0218	hhmmss	FILE filename JOB jobname NOT QUEUED. The file identified by filename for the job identified by jobname was not queued because either the queue file was full or an I/O error occurred on the spooling queue.
JMJT0308	hhmmss	REC IN \$CCAT BLOCK NOT FOUND. The specified record cannot be located in the central catalog.
JMJT0318	hhmmss	SYSIN FILE NOT FOUND IN \$CCAT. An entry for the SYSIN file for current job cannot be found in central catalog.
JMJT0328	hhmmss	VOL NOT AVAIL FOR RELEASE. A volume necessary for the purging of a temporary file is assigned to another partition.
JMJT0338	hhmmss	DEV NOT AVAIL FOR VOL MOUNT. A volume necessary for the purging of a temporary file cannot be mounted because no devices are available.
JMJT0340	hhmmss	PURGED filename. In this message, filename is the name of the file purged by the Control Language Services program. This message is printed every time a temporary or a scratch file is purged from the system.
JMJT0350	hhmmss	MOUNTED? The operator must key-in "Y" for a yes response or "N" for a no response. Any other typed in response will cause the message INVALID RESPONSE to be printed on the console, in which case the operator must again respond to the preceding question. If all the correct volumes are not mounted, or if an incorrect volume is mounted, the message WRONG VOL MOUNTED will appear on the console if the operator has responded "Y" to this question.

ERROR CODE	TIME OF DAY	MESSAGE TEXT
None of these messages require operator response or action.		
JMSO0018	hhmmss	PSnn SYSOUT READ FAILED. An attempt to read the SYSOUT file for the current job has resulted in an error.*
JMSO0028	hhmmss	PSnn SYSOUT PRINT FAILED. A printer error has occurred while printing the SYSOUT file. Correct the problem if possible and respond to the message.*
JMSO0038	hhmmss	PSnn SYSOUT WRITE FAILED. An attempt to write on the SYSOUT file has resulted in an error.*
JMSO0048	hhmmss	SYSTEM ERROR. An error in the operation of the system was encountered. The current job will be aborted but this does not mean that there was necessarily anything wrong with the job itself. Sometimes a re-run of the job will proceed without a recurrence of the error.
JMSO0058	hhmmss	PSnn SYSOUT CLOSE FAILED. CLOSE error nn resulted when an attempt was made to close the SYSOUT file for the current job.**
JMSO0068	hhmmss	PSnn SYSOUT PURGE FAILED. PURGE error nn resulted when an attempt was made to purge the SYSOUT file for the current job.**
JMSO0070	hhmmss	PRINTING SPOOLED SYSOUT FOR JOB name. The SYSOUT file previously spooled by the Job Terminator program is now being printed.
JMDF0000	hhmmss	PSnn JMDATA ALLOCATE FAILED. An attempt to allocate file JMDATA has failed due to ALLOCATE error nn.**
JMDF0000	hhmmss	PSnn JMDATA OPEN FAILED. An attempt to open file JMDATA has failed due to OPEN error nn.**

\*Refer to the Input/Output packet status code in Appendix B for an explanation of the hexadecimal status completion codes that are supplied with this message.

\*\*Refer to the Data Management packet status codes in Appendix B for an explanation of the hexadecimal status completion codes that are supplied with this message.

ERROR CODE	TIME OF DAY	MESSAGE TEXT
JMDF0000	hhmmss	PSnn JMDATA WRITE FAILED. An attempt to write to file JMDATA has failed due to error nn.*
JMDF0000	hhmmss	SYSTEM ERROR. An error in the operation of the system was encountered. The current job will be aborted but this does not mean that there was necessarily anything wrong with the job itself. Sometimes a re-run of the job will proceed with a recurrence of the error.
JMDF0000	hhmmss	BUILDING JMDATA FILE. The program has started to build the Control Language Services data file.
JMDF0000	hhmmss	JMDATA FILE COMPLETED. The creation of the Control Language Services data file has been successfully completed.
JMDF0000	hhmmss	BUILDING SYSTEM QUEUE. The program has started to build the system queue.
JMDF0000	hhmmss	SYSTEM QUEUE INITIALIZED. Initialization of the system queue has been successfully completed.
JMDF0000	hhmmss	PSnn SYSTEM QUEUE ALLOCATE FAILED. An attempt to allocate file SYSQUE has failed due to ALLOCATE error nn.**
JMDF0000	hhmmss	PSnn SYSTEM QUEUE OPEN FAILED. An attempt to open file SYSQUE has failed due to OPEN error nn.**
JMDF0000	hhmmss	PSnn SYSTEM QUEUE WRITE FAILED. An attempt to write to file SYSQUE has failed due to error nn.*
JMDF0000	hhmmss	PSnn SYSTEM QUEUE CLOSE FAILED. An attempt to close the file SYSQUE has failed due to CLOSE error nn.**

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\*Refer to the Input/Output packet status codes in Appendix B for an explanation of the hexadecimal status completion codes that are supplied with this message.

\*\*Refer to the Data Management macro packet status codes in Appendix B for an explanation of the hexadecimal status completion codes that are supplied with this message.



ERROR CODE	TIME OF DAY	MESSAGE TEXT
JMIR0018	hhmmss	PSnn JMDATA WRITE FAILED – USAGE TABLE RESET.
JMIR0028	hhmmss	UNABLE TO LOCATE DRIVE ZERO IN UNIT TABLE.
JMIS0118	hhmmss	PSnn SYSOUT WRITE FAILED. An attempted write to the SYSOUT file for this job has failed due to BIO error nn.*
JMIS0148	hhmmss	JOB ABORTED BY 'N' RESPONSE TO CARD READ ERROR.
JMIS0248	hhmmss	PSnn //DATA FILE WRITE FAILED. The system was unable to write to a //DATA file.*
JMIS0258	hhmmss	PSnn //DATA FILE CLOSE FAILED. The system was unable to close a //DATA file.**
JMIS0500	hhmmss	ENTER STATEMENT. This message is produced by the input spooler whenever a //DATA statement is recognized in console job entry mode and appears after each statement entered after the //DATA statement until a /* statement is recognized.

\*Refer to the Input/Output packet status codes in Appendix B for an explanation of the hexadecimal status completion codes that are supplied with this message.

\*\*Refer to the Data Management macro packet status codes in Appendix B for an explanation of the hexadecimal status completion codes that are supplied with this message.

## DATA MANAGEMENT MESSAGES

The Data Management system issues operator console messages preceded by an eight-character code that has the following format:

pp ss eee t

pp Always DM meaning Data Management error.

ss One of the following subprogram errors:

OP = OPEN  
CL = CLOSE  
CV = CLOVE

eee A three-digit error number specifying the error within the Data Management subproduct.

t A one-digit number specifying the following type of error:

0 Informative message  
4 Serious error  
8 Fatal error

Within the text of the message the following variables occur.

xxxxxx Volume identifier  
yyy Channel and unit number  
zz Owner identification  
nnnnnn Number

ERROR CODE	MESSAGE TEXT
DMOP0010	MOUNT xxxxxx ON yyy. Mount volume xxxxxx on unit yyy and reply RETRY or reply ABORT and an error code will be returned from the OPEN macro.
DMOP0020	xxxxxx ON yyy UNEXPIRED. A standard labeled (SL) volume contains a file whose expiration date has not been reached. Reply ACCEPT to continue with this volume or mount another volume and reply RETRY.

ERROR CODE	MESSAGE TEXT
DMOP0030	NO VOLUME LABEL ON yyy. For SL output, this volume does not have a SL VOL1 record. Mount another volume and reply RETRY or type the new VOLID and owner identification using the format: xxxxxx,zz. . .
DMOP0040	HDR LBL WRITE ERROR ON VOLUME xxxxxx ON yyy. An error occurred while attempting to write a standard label set. Mount another volume and reply RETRY.
DMOP0050	SL VOL xxxxxx NOW UL A standard labeled tape has been used for unlabeled output. No action.
DMCL0014	VOLUME xxxxxx BLK CNT IN LABEL = nnnnnn FDT = nnnnnn. A standard trailer label block count did not match the count in the FDT. No action.
DMCL0024	VOLUME xxxxxx NO TRLR LABEL FOUND. No trailer label found on a standard labeled tape. No action.
DMCV0010	REMOVE xxxxxx ON yyy. Remove the volume xxxxxx. No other action.
DMCV0020	MOUNT xxxxxx ON yyy. Mount volume xxxxxx and reply YES or reply ABORT. ABORT returns an error from the CLOVE macro.
DMCV0034	VOLUME xxxxxx BLK CNT IN LABEL – nnnnnn FDT = nnnnnn. A standard trailer label block count did not match the count in the FDT. No action.
DMCV0044	VOLUME xxxxxx NO TRLR LABEL FOUND. No trailer label found on a standard labeled tape. No action.
DMCV0050	MOUNT xxxxxx-nn ON yyy. Mount volume xxxxxx on unit yyy and reply RETRY or reply ABORT and an error code will be returned from the OPEN macro.
DMCV0060	xxxxxx ON yyy UNEXPIRED. A SL volume contains a file whose expiration date has not been reached. Reply ACCEPT to continue with this volume or mount another volume and reply RETRY.
DMCV0070	NO VOLUME LABEL ON yyy. For SL output, this volume does not have a SL VOL1 record. Mount another volume and reply RETRY or type the new VOLID and owner identification using the format: xxxxxx,zz. . .

ERROR CODE	MESSAGE TEXT
DMCV0084	<p>HDR LBL WRITE ERROR ON VOLUME xxxxxx ON yyy.            An error occurred while attempting to write a standard label set.            Mount another volume and reply RETRY.</p>
DMCV0090	<p>ANY MORE VOLUMES FOR xxxxxx ON yyy?            If more volumes reply YES. If no more volumes reply NO.</p>
DMCV0100	<p>MOUNT VOLUME xxxxxx-nn ON yyy.            Mount volume xxxxxx on unit yyy and reply RETRY or reply            ABORT and an error code will be returned from the OPEN macro.</p>
DMCV0110	<p>SL VOL xxxxxx NOW UL.            A standard labeled tape has been used for unlabeled output. No            action.</p>



## **CARD READER**

### **ER CR 070**

Catastrophic system error. Directive. Take a total main storage dump (refer to Appendix A for procedure) and then restart the system from scratch by pressing RESET/LOAD in OPERATOR mode. Alternatively, to ignore this error, enter N on the console.

### **ER CR 071**

Command reject. Informative. No operator action required.

### **ER CR 072**

Intervention required. Directive. Correct the condition (hopper empty, stacker full, or stop button depressed) and enter Y on the console to retry the operation. To ignore the error, simply enter N.

### **ER CR 073**

Unit busy. Informative. No operator action required.

### **ER CR 074**

Card feed check or jam. Directive. A feed check occurs when a card is unable to feed into the card reader; a card jam occurs when one or more cards jam in the card reader.

For a feed check condition, follow the procedure below.

1. Remove the deck of cards from the hopper.
2. Repunch the card which did not feed.
3. Place the repunched card as first card to be fed.
4. Insert deck of cards into hopper.
5. Place the card reader in the ready mode.
6. Enter Y to retry the operation, or if problem cannot be corrected, enter N to ignore the error.

For a card jam condition, perform the following procedure:

1. Remove the damaged cards – in sequence if possible.
2. Repunch damaged cards.
3. Remove the deck of cards from the hopper.

4. Place the repunched last card processed as first card to be fed.
5. Place other repunched cards, if any, in the stacker.
6. Insert deck of cards into hopper.
7. Place the card reader into ready mode.
8. Enter Y to retry the operation, or if problem cannot be corrected, enter N to ignore the error.

#### ER CR 075

Read check. Directive. Follow the procedure below.

1. Remove the deck of cards from the hopper.
2. Examine the last card stacked and repunch if it necessary.
3. Place the last card stacked or the repunched card in the hopper as the first card to be fed.
4. Insert the deck of cards into hopper.
5. Place the card reader into the ready mode.
6. Reply Y to retry the operation, or if problem cannot be corrected, reply N to ignore the error.

#### ER CR 076

Data check. Directive. A card has been read which contained an illegal character or was mutilated. Re-punch the defective card, replace as the first card in the hopper, press START and enter Y to retry. To ignore the error, simply enter N.

#### ER CR 077

Timeout. Informative. No operator action required.

#### ER CR 078

Unsolicited attention. Informative. This message will appear whenever the reader is returned to the on-line condition after having been off line.

#### ER CR 079

Initial selection error. Informative. No operator action required.

## **LINE PRINTER**

### **ER PR 061**

Operation timed out. Directive. The input/output operation did not complete because the present time allowed for it by the system expired. To retry the operation, enter Y. To ignore the error, enter N.

### **ER PR 062**

Unsolicited attention. Informative. This message will appear whenever the operator places the printer off line in the middle of a printing operation and then returns it to the on-line condition. The purpose is simply to provide a record of operator intervention in the middle of a printout.

### **ER PR 065**

I/O channel error. Directive. An error occurred in the input/output channel. To retry, enter Y. To ignore the error, enter N.

### **ER PR 067**

Intervention required. Directive. Correct the condition causing the error (not ready, stop button depressed, blown fuse, carriage control tape reader open, drum gate open, torn paper, end of paper, or forms runaway) and type Y to retry, or type N to bypass error and return control to program.

### **ER PR 069**

Bus out check. Directive. To retry the operation, enter Y on the console. To bypass the operation, type N.

### **ER PR 06A**

Catastrophic error. Directive. Take a total main storage dump (Appendix A) and then restart the system from scratch by pressing RESET/LOAD in OPERATOR mode. Alternatively, to ignore this error, enter N on the console.



## **DISC**

### **ER DC 041**

Operation timed out. Informative. The disc I/O did not complete in the time allotted by the driver.

### **ER DC 042**

Command rejected. Informative. This indicates that an illegal command code was passed to microcode and rejected.

### **ER DC 043**

Disc write current. Informative. Disc write current is set when the disc is writing data on the pack. If this bit is set during a status request, an unrecoverable hardware malfunction exists.

### **ER DC 044**

Seek incomplete. Informative. A seek was initiated and the drive did not respond within 100 milliseconds.

### **ER DC 045**

Unit not on line. Directive. Place the unit on line (refer to pertinent hardware manual) and then enter Y to retry. To ignore the error, simply enter N.

### **ER DC 046**

File unsafe. Informative. An irrecoverable hardware malfunction has occurred on the drive. Refer to pertinent hardware manual for method of resetting this condition.

### **ER DC 046**

File unsafe. Informative. Refer to pertinent hardware manual for method of resetting this condition.

### **ER DC 047**

Pack change. Informative. This message will appear whenever a disc drive is powered up (for example after a pack change) or when the drive number plug is inserted.

### **ER DC 048**

Status not valid. Informative.

#### ER DC 049

Command early. Informative. This condition occurs when an I/O command is issued before the IFA has completed the previous command.

#### ER DC 04A

Unsolicited attention. Informative. This message appears whenever a drive is returned to on-line condition after having been off-line.

#### ER DC 04B

Catastrophic system error. Directive. Take a total main storage dump (refer to Appendix A for procedure) and then restart the system from scratch by pressing RESET/LOAD in OPERATOR mode. Alternatively, to ignore this error, enter N on the console.

#### ER DC 04C

Missed window. Informative. A Read or Write Data Field command was given without being preceded by a Read, Write or Search command.

#### ER DC 04D

IFA window. Informative. Two processors (0, 1 and/or 2) are in privileged mode which could prevent processor 3 from obtaining cycles.

#### ER DC 04E

Track boundary. Informative. Track boundary occurs when data is being transferred and the end of the track is encountered.

#### ER DC 04F

Read/Write terminate. Informative. The disc IFA counters and microcode counters are out of sync or a buffer address is not a word boundary.

#### ER DC 050

Burst check. Informative. The IFA cyclic check code generated during a read operation does not equal the cyclic check code written on the disc unit.

#### ER DC 051

Lost data. Informative. Microcode did not supply or receive data from the IFA within the hardware time limit.

#### ER DC 052

No sync compare. Informative. The bit ring sync for which microcode is searching is not on the selected head and cylinder.

ER DC 053

A write command was issued to a drive in READ ONLY mode. Directive. Switch the drive to READ/WRITE mode and enter Y to retry. To ignore the error, simply enter N.

ER DC 054

End of cylinder. Informative. Selected head number is greater than 19<sub>10</sub> and seek address is valid.

ER DC 055

Busy. Informative. This condition indicates that an I/O request is being processed, the arm is moving due to either a Seek or Restore operation, or the drive is in the process of powering up.

ER DC 056

Invalid seek address. Informative. Selected head number is greater than 19<sub>10</sub> and seek address is invalid.

ER DC 058

Search failed (arm mispositioned). Informative.

ER DC 059

Search failed (no record found). Informative.

ER DC 05A

Illegal Command program after EOF record. Informative.

ER DC 05B

Command program does not begin with a Seek. Informative.

## **CARD READER/PUNCH**

ER RP 080

Catastrophic system error. Directive. Take a total main storage dump (refer to Appendix A for procedure) and then restart the system from scratch by pressing RESET/LOAD in OPERATOR mode. Alternatively, to ignore this error, enter N on the console.

ER RP 081

Command reject. Informative. No operator action required.

#### ER RP 082

Intervention required. Directive. Correct the condition (full stacker, empty hopper, full chip box, stop switch depressed, raised cover, punch inhibit switch set when a punch command is issued) if possible, and enter Y to retry the operation. To bypass the operation, enter N.

#### ER RP 083

Unit busy. Informative. No operator action required.

#### ER RP 084

Card feed check or jam. Directive. When a feed check occurs, correct the problem with the following procedure:

1. Remove cards from hopper.
2. Correct card that misfed.
3. Place cards back into hopper with corrected card as first card to feed.
4. Ready the device.
5. Reply to console message with Y to retry or N to ignore error if the problem cannot be corrected.

When a card jam occurs while using prepunched cards, follow the steps listed below.

1. Remove the damaged cards – in sequence, if possible.
2. Repunch the damaged cards.
3. Remove the deck of cards from the hopper.
4. Place the repunched cards in the hopper as the first cards to feed.
5. Replace the rest of the card deck in the hopper.
6. Ready the device.
7. Reply to the message with Y to retry the operation or N to ignore the error if the problem cannot be corrected.

#### NOTE

To ensure that satisfactory results are obtained, it may be best to abort the job and resubmit it.

ER RP 085

Data check. Directive. A card has been read which contained an illegal character or was mutilated. Run the cards out of the reader/punch, correct the defective card, replace as the first card in the hopper, press START and enter Y to retry. To bypass the operation, simply enter N.

ER RP 086

Read check. Directive. Run the cards out of the transport, then feed them back into it and enter Y to retry. To bypass the operation, enter N.

ER RP 087

Timeout. Informative. No action required.

ER RP 088

Unsolicited attention. Informative. This message will appear whenever the reader/punch is returned to the on-line condition after having been off-line.

ER RP 089

Initial selection error. Informative. No action required.

ER RP 08A

Punch check. Directive. If prepunched cards are not used, remove the offset card from the stacker, and enter Y to retry the operation. If prepunched cards are being used, run the cards out of the reader/punch, correct the offset card, place it into the hopper as the first card to be fed, followed by remaining cards, then enter Y to retry the operation. To bypass the operation, enter N.

## MAGNETIC TAPE

The error recovery program retries most operations at least 10 times in attempting to recover from errors. Therefore, unless the operator can correct the problem causing the error, a reply of Y to initiate error recovery again will probably result in the message again being issued. In some instances, the operator has the option of retrying the operation but the recommended practice is job termination by replying N to the message.

ER MT 002

Unit down. Informative.

ER MT 0A1

Command reject (protected tape). Informative. No operator action required.

ER MT 0A2

Intervention required (without equipment check). Directive. The tape unit is not ready. If the tape is positioned at beginning of tape, and other conditions are normal, ready the device and reply Y to retry the operation. If the tape is not positioned at beginning of tape, a reply of N to abort the job is recommended.

ER MT 0A3

Intervention required (with equipment check). Informative.

ER MT 0A4

Bus out check (on command). Directive. To retry the operation, reply Y. To abort the job, enter N.

ER MT 0A5

Bus out check (on data transfer). Directive. To retry the operation, enter Y. To abort the job, enter N.

ER MT 0A6

Equipment check (read-write register). Directive. To retry the operation\*, enter Y. To abort the job, enter N.

ER MT 0A7

Equipment check (write counter). Directive. To retry the operation\*, enter Y. to abort the job, enter N.

ER MT 0A8

Equipment check (read counter). Directive. To retry the operation\*, enter Y. To abort the job, enter N.

ER MT 0A9

Equipment check (delay counter). Directive. To retry the operation\*, enter Y. To abort the job, enter N.

ER MT 0AA

Data check (write). Directive. To retry the operation, enter Y. To abort the job, enter N.

---

\*A reply of N is recommended for equipment check errors, since the tape position may not be correct for a retry of the operation.

ER MT 0AB

Data check (write file mark). Directive. To retry the operation, enter Y. To abort the job, enter N.

ER MT 0AC

Data check (multiple track error on read). Directive. To retry the operation, enter Y. To abort the job, enter N.

ER MT 0AD

Data check (single track error on read). Directive. To retry the operation, enter Y. To abort the job, enter N.

ER MT 0AE

Data check (erase). Directive. A reply of N and use of a different tape when the job is rerun is recommended. A reply of Y to retry the operation is valid, but not recommended.

ER MT 0AF

Overrun. Directive. Reply Y to retry the operation. Reply N to abort the job.

ER MT 0B0

Word count zero (write command count unequal to zero). Informative.

ER MT 0B1

Not capable (density handling features of tape unit or controller are not compatible with mounted tape). Mount a different tape and reply Y to retry, or reply N to abort the job.

ER MT 0B6

Unsolicited attention. Directive. This message occurs whenever a condition on a tape unit goes from Not Ready to Ready. If the message appears as a result of intentional operator action, reply Y to continue the operation. If it occurs from other causes, it might be best to enter N and abort the job.

ER MT 0B7

Timeout. Informative.

ER MT 0B8

Undefined IOC error. Directive. To abort the job reply either Y or N.

ER MT 0B9

Internal recovery error number 1. Directive. To abort job, reply either Y or N.

ER MT 0BA

Internal recovery error number 2. Directive. To abort job, reply either Y or N.

ER MT 0BB

Internal recovery error number 3. Directive. To abort job, reply either Y or N.

ER MT 0BC

Unit not cabled to controller. Directive. This message may indicate that the unit is not dialed to the correct unit number. If this is true, set the dial to the correct number and reply Y to retry. To abort the job, reply N.

ER MT 0E1

ISS channel error. Directive. Reply Y to retry or N to abort job.

ER MT 0E2

Wrong address-in channel error. Directive. Reply Y to retry or N to abort job.

ER MT 0E3

Control check channel error. Directive. Reply Y to retry or N to abort job.

ER MT 0E4

Transmission check channel error. Directive. Reply Y to retry or N to abort job.



## MODEL 20 COMPATIBILITY MESSAGES

The error messages described below appear on the operator console when the operator has performed an incorrect operation or issued an incorrect command. After the message appears on the operator console, the operator should correct his mistake and receive the command that was in error. The error code that precedes each message has the following format:

pp ss eee t

pp Always EU, specifying that the error has been detected by the Model 20 Compatibility System.

ss Variously CM, DS, or LD, designating the module within the Emulator that detected the error.

eee A three-digit error number specifying the error within the particular module.

t A one-digit number specifying the type of error.

ERROR CODE	MESSAGE TEXT
EUCM0040	. text . INVALID COMMAND. The text that appears between the two periods is the text of the command in error. The operator should correct and reissue the command.
EUCM0050	. text . OPERAND INVALID. The text that appears between the two periods is the text of the invalid operand. The invalid operand field should be corrected by the operator and the command should be reissued.
EUDS0070	NO DRIVE EXISTS X'80n'. No IBM virtual drive is assigned for the physical drive specified by n in the message. The operator should correct and reissue the MOUNT/DEMOUNT command.
EUDS0080	NO VOLUME EXISTS DRIVE X'80n'. The operator has attempted to demount a virtual volume that is not open on the existing virtual drive, or he has specified an invalid drive address for n. The operator should correct his error and reissue the DEMOUNT command.

**EUDS0090**            **VOLUME ALREADY EXISTS ON DRIVE X'80n.'**  
The operate has attempted to mount a volume on a virtual drive that already contains an active virtual volume. The operator should correct his error and reissue the MOUNT command.

**EUDS0100**            **VOLUME . text . NOT FOUND**  
In this message, text is the label name of the volume that cannot be located. The virtual volume specified by text does not currently exist on the system. The operator should correct and reissue the command.

**EULD0000**            **PLEASE ENTER LOAD ADDRESS – LOAD nnnn/16.**  
Enter a 4-digit hexadecimal load address using the LOAD command.

### **SYSGEN MESSAGES**

Only one SYSGEN message appears on the console.

**OSSG0018**            **SYSRES NOT INITIALIZED. MOUNT NEW PACK AND TYPE C TO CONTINUE OR A TO ABORT.**  
If the pack that will contain the new system being generated has not been initialized before the System Generation programs are executed, the operator can type A to abort the System Generation procedure. He can then mount another pack that has been initialized and try again to execute the System Generation programs. The validity check will be repeated. Otherwise, he can choose to mount a different, previously initialized pack before he responds to the message and then type in C to continue. If another pack is not available, he should type in A to abort the System Generation job and then execute the Disc Initialize utility to initialize the SYSRES pack before he tries to re-execute the System Generation programs.

## CHECKPOINT/RESTART MESSAGES

The checkpoint/restart program issues two messages to the console.

CODE	MESSAGE TEXT
I CRCP0010	<p>JOB jobname CHECKPOINT nnn. This message is typed on the console when a checkpoint is taken. In the message, jobname is the name of the job issuing the checkpoint macro and nnn is the number of the checkpoint taken. The number can be used as the operand of the RESTART keyword on the //EXEC card if a deferred restart is required (see Control Language message JMST0270).</p>
D CRRS0010	<p>MOUNT VOLUME ident nn ON UNIT cuu. This message is issued by the Restart program when the user has requested that a volume be mounted. In the message, ident is the identifier of the volume requested for mounting, nn is the reel number (specified for magnetic tape only), and cuu is the unit address. The operator may mount the volume and reply YES to the message or may reply NO to terminate the restart.</p>

## UTILITY PROGRAMS MESSAGES

Messages are issued by the following utility programs:

Emulated Disc File to Memorex Disc File  
Disc Initialize  
Rebuild Track  
Catalog Display  
Stand-Alone Disc-to-Disc Copy  
Catalog and Uncatalog  
Tape Initialize  
Stand-Alone Disc-to-Tape Dump  
Stand-Alone Tape-to-Disc Restore  
UCS Load  
Disc-File Conversion Unit

The utility program messages, except for the messages from the stand-alone utilities, Disc Initialize, Disc-to-Disc Copy, Disc-to-Tape Dump, and Tape-to-Disc Restore, are preceded by an 8-character error code that has the following format:

pp ss eee t

pp Always UT meaning utility program error.

ss EM for the conversion utility UTCVEM

FF for the file-to-file utility

SS for the systems service utilities

DF for the disc file conversion unit utility, UTDFCU

eee A three-digit error number specifying the error within the utility program.

t A one-digit number specifying the type of error:

0 No error

2 Warning

4 Error; may continue processing

8 Disaster

The stand-alone utilities send only the message text to the operator console.

## EMULATED IBM DISC FILE TO MEMOREX DISC FILE (UTCVEM) MESSAGES

The following messages from this utility program appear on the operator console. The I preceding each message indicates that no operator reply is required. Only the message error code is printed on the console. The description does *not* follow the message.

ERROR CODE	DESCRIPTION
I UTEM0018	No M20BLK= parameter was found when one was required.
I UTEM0028 xxnn {A O}	A logical I/O error has occurred. Refer to the Data Management GET/PUT message where nn are the two rightmost hex status completion code digits.  {A O} indicates the file on which the error occurred, where A = alternate and O = output.
I UTEM0038	The output file was not sequential or indexed.
I UTEM0048	The output file is indexed and the input (M20) file is sequential. KEYLEN= and KEYPOS= parameters were not specified.
I UTEM0058 nnnn	The size of the buffers (MRX) exceeds available space by nnnn bytes.
I UTEM0068 xxxxxx	This is a parameterization error where xxxxxx is the keyword of the invalid parameter.
I UTEM0078	The device assigned to an alternate file is not disc or tape.
I UTEM0088	The block size and/or the record size is invalid; the resulting blocking factor would be zero.

## **DISC INITIALIZE (UTSSDI) MESSAGES**

The Disc Initialize utility program issues message text only, with no error codes.

### **MESSAGE TEXT**

#### **DISC INITIALIZE REV mm-dd-yy PARAMETERS.**

This is the header message that precedes the execution of the initialize program retrieval of console parameters. mm-dd-yy is the date of the last revision.

#### **INVALID REPLY.**

This message appears when an invalid parameter has been received by UTSSDI. The request for the parameter will be repeated.

#### **SYSTEM AREAS OVERLAP. PCAT=ccc,n CCAT=ccc,nn ALTADR=ccc**

This message appears when the space for the PCAT, CCAT, or ALT TRKS overlap each other. Initialize program will request those parameters again.

#### **DEVICE LABEL EXISTS WITH VOLUME IDENT=xxxxxx CONTINUE?**

This message occurs when the pack specified to be initialized already contains a valid device label. Reply y to reinitialize the pack.

#### **DRIVE x CYL xxx TRK xx HARDWARE STATUS xxxx DURING I/O.**

This error occurs when an error status is returned to the UTSSDI during a disc I/O operation. This message invokes the RETRY? message. xxxx contains the IFA hardware status code (Table 4-1).

#### **RETRY?**

This message is used to indicate to the UTSSDI user that he should either retry an operation that had an error or terminate the program. Response is YES or NO.

#### **CARD READ FAILURE.**

This message occurs when an error status is returned during a card input operation. This invokes the RETRY? message.

#### **INVALID ID.**

This message appears when the first card or the first card after an EOF card is not a valid deck identifier. This message invokes the RETRY? message.

#### **INVALID DECK.**

This message appears when any of the cylinder 0 update decks (AL, CS, or Diagnostics) contain more cards than allowed by the reserved area on disc. This message invokes the RETRY? message.

#### **EXCESSIVE DEFECTIVE TRACKS.**

This message occurs when surface analysis detects more defective tracks than can be assigned to alternate tracks. This condition causes abnormal termination.

DISC INITIALIZE COMPLETE ON VOLUME xxxxxx DRIVE x.  
This is the UTSSDI completion message.

#### DEFECTIVE TRACKS ASSIGNED TO ALTERNATE TRACKS

CYL	HD	CYL	HD
xxx	xx	xxx	xx
.	.	.	.
.	.	.	.
.	.	.	.
xxx	xx	xxx	xx

This table is printed after the UTSSDI completion message and when the message EXCESSIVE DEFECTIVE TRACKS occurs.

#### REBUILD TRACK (UTSSRT) MESSAGES

An invalid reply to these messages causes UTSSRT to repeat the message.

ERROR CODE	MESSAGE TEXT
UTSS2900	IS VOLUME ccccc A SYSTEM-RESIDENT PACK? REPLY Y OR N. UTSSRT is unable to determine from internal evidence whether volume ccccc is system-resident. Operator replies Y if the volume is system-resident and N if it is not.

If the user wants to assign an alternate track, message UTSS2910 appears; if he wishes to change records, message UTSS2910 appears. Either (or both) appear only after the track has been listed. The operator replies are CONT to continue execution and END to terminate execution.

If both messages appear, an operator reply of END to either message terminates execution without either user function being performed.

ERROR CODE	MESSAGE TEXT
UTSS2910	ALTERNATE TRACK ASSIGNMENT REQUESTED. REPLY CONT OR END. The user has specified ALTRAK=YES in his //PAR statements. UTSSRT is requesting permission to make the assignment. Reply: CONT or END.
UTSS2920	CORRECTIVE DATA TO BE APPLIED. REPLY 'CONT' OR 'END'. The user wants to change data on the track. UTSSRT is requesting permission to make the change. Reply: CONT or END.

## CATALOG DISPLAY (UTSSCD) MESSAGES

All UTSSCD console messages are informative only. No operator action is required.

ERROR CODE	MESSAGE TEXT
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UTSS400x	END OF CATALOG DISPLAY. This message is printed upon normal completion of UTSSCD. x will contain the highest return type discovered during normal processing (0, 2, or 4).
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UTSS41x8	I/O ERROR: yyyyyy CODE=nnnn ID=ident. Sent when an I/O operation fails to complete successfully. nnnn contains the return information field. ident contains the identifier of the file for which the error occurred.
----------	---

<u>x</u>	<u>YYYYYY</u>
0	OPEN (Data Management)
1	READ (I/O Control)
2	WRITE (I/O Control)
3	CLOSE (Data Management)
4	CNTROL (for CONTROL macro, Data Management)

See the I/O or Data Management packet status codes, Appendix B, where nn are the two rightmost hexadecimal status completion code digits.

UTSS42x8	SR ERROR: yyyyyy CODE=ccnn. This message is sent when a non-I/O service request completes abnormally. ccnn contains the return information field. For LOAD requests, see the LOADER message ( <b>MRX/OS Messages manual</b> ) where nn are the two rightmost hex status code digits. nn are zeros for the other requests.
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<u>x</u>	<u>YYYYYY</u>
0	SDATE
1	TIME
2	LOAD
3	GETADR

UTSS4508	BB=0 REQUESTED ID=ident. This message is sent by the root module GET subroutine if entry is made requesting a block number of zero. It indicates an error in the catalog structure. ident contains the identifier of the file in error.
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UTSS4518	RECORD END PAST END-OF-BLOCK. ID=ident. This message is sent by the root module GET subroutine. It indicates an error in CSDF structure. ident contains the identifier of the file in error.
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ERROR CODE	MESSAGE TEXT
UTSS4528	<p>REC HEADER PAST END-OF-BLOCK. ID=ident.  This message is sent by the root module GET subroutine. It indicates an error in CSDF structure. ident contains the identifier of the file in error.</p>
UTSS4538	<p>POINTERS PAST END-OF-RECORD. ID=ident.  This message is sent by the pack catalog overlay or the central catalog overlay. It indicates an error in the name element of the catalog concerned. ident contains the identifier of the file in error.</p>
UTSS4548	<p>SPACE ELEMENT POINTER ABSENT. ID=ident.  This message is sent by the space map overlay. It indicates an error in the name element entry of the space map in the pack catalog. ident contains the identifier of the file in error.</p>
UTSS4558	<p>TOTAL SEGMENT COUNT &lt; 0. ID=ident.  This message is sent by the space map overlay. It indicates an error in the space element entry of the space map in the pack catalog. ident contains the identifier of the file in error.</p>
UTSS456x	<p>NO SEGMENT DESCRIPTIONS. ID=ident.  This message is sent by the pack catalog overlay or the space map overlay. It indicates an error in the space element record.  x = 4 for the first such error for the same ident and overlay. If another such error occurs for the same ident and overlay, x = 8.  ident contains the identifier of the file in error.</p>
UTSS4578	<p>MISSING SPACE OR CONT ELEM. ID=ident.  This message is sent by the pack catalog or the space map overlay. It indicates an error in the space element record. ident contains the identifier of the file in error.</p>
UTSS458x	<p>NO VOLUME DESCRIPTIONS. ID=ident.  This message is sent by the central catalog overlay. It indicates an error in the volume element record. ident contains the identifier of the file in error.   x = 4 for the first such error  x = 8 for all other errors</p>
UTSS4598	<p>MISSING VOLUME OR CONT ELEM. ID=ident.  This message is sent by the central catalog overlay. It indicates an error in the volume element record. ident contains the identifier of the file in error.</p>
UTSS4608	<p>BYTE COUNT INPUT ERROR. ID=ident.  This message is sent by the root module READ subroutine if the residual byte count is not zero. ident contains the identifier of the file in error.</p>

ERROR CODE	MESSAGE TEXT
UTSS4618	FDT NOT FOUND AFTER OPEN. ID=ident. Sent by root module. Self-explanatory; ident contains the identifier of the file in error.
UTSS4628	NO //DEF STATEMENT FOR PCAT1 OR CCAT. No //DEF statements with ID=PCAT1 or ID=CCAT appeared in the input streams. At least one is required.
UTSS4638	I/O ERROR: HASH TABLE CODE=cccc. ID=PCATx. When trying to read the hash table in the file whose ID=PCATx, an I/O error occurred; x will be a number from 1 to 7. cccc is the return information field from the READ service request.
UTSS4648	I/O ERROR: HASH TABLE CODE=cccc. ID=CCAT. When trying to read a hash table block from the file whose ID=CCAT, an I/O error occurred. cccc is the return information field from the READ service request.

#### STAND-ALONE DISC-TO-DISC COPY (UTSSDD) MESSAGES

The normal termination message and the set of parameter request messages are included in the **MRX/OS Utilities Reference** manual. Below are found the error messages, classified according to the programming phase where they occur. The following rules apply to these messages:

1. In all messages where the words DRIVE x appear, x contains the disc drive number.
2. In all messages where the words STATUS xxxx appear, xxxx contains the IFA Hardware Status. (See Table 4-1.)
3. In the messages containing the words ATTN=yyyy, yyyy contains the IFA attention and PDA status. (See Table 4-2.)
4. When CYL ccc TRK hh appears in a message, ccc and hh are, respectively, the cylinder and head numbers (in decimal) of the track where an error has occurred. If REC nn also appears, nn is (in decimal) the record number on that track.
5. The message text appears on the operator console. No error code is displayed.

**Table 4-1. IFA Hardware Status Codes**

xxxx	Bit	Status Definition
8000	0	IFA status not valid or command early
4000	1	IFA missed window or command early
2000	2	IFA window
1000	3	IFA track boundary
0800	4	IFA read/write termination
0400	5	IFA burst check error
0200	6	IFA lost data
0100	7	IFA no sync compare
0080	8	IFA third revolution sync find
0040	9	Disc not on line
0020	10	Disc file unsafe
0060	9,10	Disk seek incomplete
0010	11	Disc read only
0008	12	Disc pack change
0004	13	Disc end of cylinder
0002	14	Disc search-no-find or write current sense*
0001	15	Disc busy

\*Detection of this bit by itself or in conjunction with bit 4 after a search command indicates a search-no-find condition. Detection of this bit by itself after issuing any command other than a search indicates disc write current sense.

**Table 4-2. IFA Attention and P.D.A. Status Codes**

YYYY	Bit	Definition
		<u>Attention on Drive:</u>
800y	0	0
400y	1	1
200y	2	2
100y	3	3
080y	4	4
040y	5	5
020y	6	6
010y	7	7
008y	8	Spare drive
004y	9	Indicates 100 cylinder IFA
	10-11	Unused
000y	12-15	Physical drive number (range 1-9)



## MESSAGE TEXT

DRIVE x VOLUME ID SPECIFIED NOT = ACTUAL VOLUME ID xxxxxx. |

The volume identifier input through the console does not match the one in the device label on drive x. xxxxxx contains the identifier from the device label. If all characters in the device label volume identifier are legal, UTSSDD resends the appropriate FROM DRIVE= or TO DRIVE= message.

If any character(s) in the device label are illegal, however, a ? will be present in the field xxxxxx and the following message will be sent.

? MEANS ILLEGAL CHARACTER(S) IN DEVICE LABEL VOLUME ID. CONTINUE? |

A Y or YES reply will proceed as if the identifier were legal; i.e., the next normal parameter request message is sent. An N or NO (the default) results in the MORE? message.

DRIVE x CYL 0 TRK 0 – CANNOT READ DEVICE LABEL-STATUS xxxx-FATAL ERROR. |

The program halts. One means of recovery is to reinitialize cyl 0, track 0.

## MESSAGE THAT MIGHT OCCUR DURING VALIDATION OF LIMITS

### MESSAGE TEXT

UPPER LIMIT < LOWER. |

This error causes UTSSDD to return to reissue the LOWER LIMITS= message.

## MESSAGES OCCURRING DURING THE DISC COPY PHASE OF UTSSDD

These errors can occur on any track.

### MESSAGE TEXT

DRIVE x HARDWARE STATUS xxxx DURING SELECT. RETRY? |

Although identical in form to the message occurring during validation of disc drive numbers and status, the replies to this message have the following effect. A Y or YES initiates the retrial of the select-drive process. An N or NO (default) causes abnormal termination.

DRIVE x CYL ccc TRK hh HARDWARE STATUS xxxx DURING SEEK. RETRY? |

A Y or YES response causes UTSSDD to retry the seek; an N or NO (default) causes abnormal termination.

DRIVE x CYL ccc TRK hh REC nn HARDWARE STATUS xxxx DURING I/O. RETRY? |

A Y or YES reply will generate a retry of the unsuccessful I/O operation. An N or NO response (the default) aborts the program. (See also Other Special-Purpose I/O Error Messages.)

## MESSAGE TEXT

- | DRIVE x CYL ccc TRK hh CANNOT READ { HOME ADDRESS } STATUS xxxx. RETRY?  
RECD 0 COUNT }  
If the operator replies Y or YES, UTSSDD retries the read. If the operator replies N or NO, the program terminates abnormally.

- | DRIVE x CYL ccc TRK hh ATTN=yyyy BUT STATUS xxxx DURING SEEK-FATAL ERROR.  
The action recommended when this error occurs is to request a dump and call your field service representative.

- | DRIVE x CYL ccc TRK hh REC nn READ-NO SYNC COMPARE-FATAL ERROR.  
The count field previously read in indicated that (key and/or) data should follow, but none is present. The action recommended when this error occurs is to rebuild the track.

## MESSAGES CONCERNING DEFECTIVE TRACKS

### MESSAGE TEXT

- | DRIVE x CYL ccc TRK hh DEFECTIVE – WILL USE ALT CYL ccc TRK hh. CONTINUE?  
A response of Y or YES will cause UTSSDD to go ahead and use the assigned alternate track (either input or output). A response of N or NO (the default) will send the end-of-run MORE? message.

- | DRIVE x CYL ccc TRK hh DEFECTIVE BUT NO ALTERNATE ASSIGNED. TRACK WILL BE BYPASSED.  
This message simply informs the operator of the automatic action that UTSSDD will take and where the defective track exists. After the copy is complete, the user would be well advised to reinitialize the defective track.

- | DRIVE x CYL ccc TRK hh DEFECTIVE-FATAL ERROR.  
Defective tracks cause abnormal termination for any disc pack if either an alternate track assigned to a defective primary is itself a defective track or the defective track is cylinder 0, head 0.

In addition, for Memorex system-resident packs, defective control storage data tracks are also cause for abnormal termination.

## OTHER SPECIAL-PURPOSE I/O ERROR MESSAGES

### MESSAGE TEXT

- | DRIVE x CYL 0 TRK 0 REC 3 HARDWARE STATUS xxxx DURING I/O. RETRY?  
The replies to this message will do the same as in the more general case. However, if this is the output drive of a Memorex pack, this could mean that record 4 (the alternate track assignment table) is missing. This is the only case where the record number does not reflect reality.

## MESSAGE TEXT

DRIVE x CYL 0 TRK hh – CANNOT READ C.S. DATA W/O BURST CK – CONTINUE?  
This message indicates that the length of the control storage data on the input pack is not a multiple of 512. The reply Y or YES will cause a full 6656 bytes to be written to the track of the output pack. An N or NO response (the default) proceeds to the end-of-run query MORE?

DRIVE x CYL 0 TRK 0 – NO Rn COUNT – FATAL ERROR.  
This message applies only to a Memorex pack, track 0. If n=0, 1, or 2, it indicates that the input pack was not properly initialized or that track 0 has been at least partially destroyed.

## CATALOG AND UNCATALOG (UTSSCU) MESSAGES

ERROR CODE	MESSAGE TEXT
UTSS8000	MOUNT VOLUME vvvvv ON xxx. The operator must mount volume vvvvv on drive xx.
UTSS8000	ALL REQUESTED VOLUMES MOUNTED? Reply Y or YES if the volume has been mounted. Reply N or NO if the volume has not been mounted. Any other answer results in a repeat of the message.
UTSS8000	WRONG VOLUME MOUNTED. The operator must mount the correct volume.
UTSS8208	ABNORMAL RETURN FROM SYSOUT WRITE. RETURN INFORMATION = xxnn. The program was unable to write to SYSOUT. See the Input/Output packet status codes in Appendix B for an explanation of nn.

## TAPE INITIALIZE (UTSSTI) MESSAGES

The Tape Initialize utility issues only the following messages to the console.

ERROR CODE	MESSAGE TEXT
UTSS0180	MOUNT TAPE TO BE LABELED ON DEV=cuu cuu contains the channel, c, and the physical address, uu, of the unit that UTSSTI will use to start the I/O on the next tape. After this message appears, UTSSTI will wait for the operator to load a new tape before starting the I/O for the initialization. No reply is necessary.

ERROR CODE	MESSAGE TEXT
UTSS0190	DEV=cuu, TAPE INITIALIZED WITH VOL=cccccc This informs the operator of the volume serial number (cccccc) of the tape which has just been successfully initialized on device cuu. This can serve as a guide, during a run to initialize a number of tapes, as to which exterior label goes on the newly initialized tape. No action or reply is required.

### STAND-ALONE DISC-TO-TAPE DUMP (UTSSDT) MESSAGES

The set of parameter request messages are included in the **MRX/OS Utility Programs Reference** manual. The following are informative or error messages, listed in alphabetical order. The following rules apply to these messages:

1. In all messages where the characters DEVICE cuu appear, c represents the channel and uu the physical address of the device.
2. When CYL cc HD hh appears in a message, ccc and hh are, respectively, the cylinder and head numbers (in decimal) of the track where an error has occurred.
3. In all messages where the words DISC ERROR STATUS xxxx appear, xxxx contains the IFA Hardware Status (Table 4-1).
4. In messages containing the words ATTN=yyyy, yyyy contains the IFA attention and PDA status (Table 4-2).
5. In all messages where the words OP nn appear, nn contains the hexadecimal code of the operation that failed (Table 4-3).



**Table 4-3. Operation Codes for Disc and Tape I/O**

Code (hex)	Operation
	<u>Common codes</u>
01	Write
02	Read
	<u>Codes exclusive to disc I/O (DIO usage)</u>
04	Read without data transfer
08	Search
10	Format Write
	<u>Codes exclusive to tape I/O (SIO usage)</u>
00	Test I/O
04	Sense
07	Rewind
0F	Rewind and unload
17	Erase gap
1F	Write Tape Mark
27	Backspace Block
2F	Backspace File
37	Forward Space Block
3F	Forward Space File
1B	Request Track in Error
0B	Set Force Error Mode
C3	Clear Force Error Mode

**Table 4-4. IOC Hardware Status Codes**

yyyy	Bit	Meaning
		<u>Unit Status Information</u>
8000	0	Attention
4000	1	Status modifier
2000	2	Control unit end
1000	3	Busy
0800	4	Channel end
0400	5	Device end
0200	6	Unit check
0100	7	Unit exception
		<u>Channel Status Information</u>
0080	8	Initial selection sequence error
0040	9	Invalid command word
0020	10	Channel address/status check
0010	11	No 'request in'
0008	12	Control check
0004	13	Transmission check
0002	14	Short buffer
0001	15	Reserved

## MESSAGE TEXT

CYL ccc HD hh IS AN ALT TRK  
TRACK WILL BE BYPASSED

A track within the dump limits which is supposed to be a primary was found to be an assigned alternate.

CYL ccc HD hh IS DEFECTIVE  
ALT CYL ccc HD hh WILL BE TRIED

A primary track within the dump limits is defective and the dump will be made from the assigned alternate.

CYL ccc HD hh IS DEFECTIVE  
NO ALT ALLOWED  
TRACK WILL BE BYPASSED

It is illegal to assign an alternate to a defective primary when the primary is cylinder 0, head 0 or in the range of control storage tracks.

CYL ccc HD hh IS DEFECTIVE  
NO ALT ASSIGNED  
TRACK WILL BE BYPASSED

The defective primary track has no assigned alternate. The track will be automatically bypassed.

CYL ccc HD hh IS DEFECTIVE  
TRACK WILL BE BYPASSED

This occurs only when an assigned alternate is defective. The message indicating the primary-defective track and the alternate track to be tried precedes this message.

CYL ccc HD hh IS PRIMARY!  
TRACK WILL BE BYPASSED

This appears when the flag byte of a track which is assigned as an alternate from a primary indicates that the track is really not assigned; that is, the assigned alternate is labeled primary. The message showing the original defective-primary and the alternate to be tried precedes this message.

DEFECTIVE TAPE VOLUME LABEL  
RETRY?

An attempt to read the tape volume label has resulted in a length error, detection of a tape mark, or the first 4 characters do not equal 'VOL1'. In all except the tape mark error, an automatic retry has been attempted 3 times before the message is displayed. A reply of Y causes the utility to rewind the tape and retry the read. If the reply is N or defaulted, the utility resubmits a parameter request.

DEVICE cuu MOUNT ERROR  
RETRY?

This message occurs during the tape parameter request sequence and indicates that the WRITE ENABLE ring is missing from the tape on device cuu. The condition should be corrected before replying to the message. A reply of Y will cause the utility to rewind the tape and retry the I/O. A reply of N or a default reply causes the utility to resubmit a parameter request.

## MESSAGE TEXT

### DEVICE cuu NOT A TAPE

This message, occurring during the parameter request sequence, is followed by a repeat of the parameter request.

### DEVICE cuu TIMED OUT

When this message occurs by itself, a hardware malfunction has occurred. Specifically, channel-end has not been returned within a specified amount of time. The utility branches to programmed stop address 0008.

### DEVICE cuu TIMED OUT

#### RETRY?

This message occurs during the parameter request sequence when the first SENSE command is issued for device cuu. The SENSE is retried if the operator replies Y to this message. If the reply is N or defaulted, the utility branches to programmed stop address 0008. Consistent reappearance indicates a definite hardware malfunction. Reply N, request a storage dump, and call the Field Service Representative.

### DEVICE cuu TIMED OUT

#### STOP THE TAPE AND MOUNT ANOTHER! LABEL IS MISSING!

Stop the tape on device cuu immediately. This message occurs when a degaussed tape is mounted; no label is present. Operator intervention is the only way to stop the action. This message is followed by a parameter request message.

### DISC ERROR-STATUS xxxx OP nn CYL ccc HD hh text

#### RETRY?

An I/O error has occurred on the disc.

text will describe the field on the track where the error occurred and will be one of the following:

HOME ADDRESS  
C.S. DATA  
REC rrr COUNT  
REC rrr DATA  
REC rrr EMU  
REC rrr KEY

rrr is the number of the record where the I/O failed. An exception to this occurs when the failing command word is a READ for a RECORD N COUNT (N > 0). In this case rrr is set equal to '?'.

If the operator replies Y, the utility retries the operation or command program that failed. Action for an N or default reply depends on the programming phase — if during the parameter setup sequence, the utility resubmits the parameter request message. During the actual dump phase, the track will be bypassed, a message to that effect will be sent to the console, and the utility will proceed to the next track.

## MESSAGE TEXT

DISC ERROR-STATUS xxxx WHILE SEEKING CYL ccc HD hh  
BUT ATTN=yyyy. . . FATAL ERROR

This message indicates a disc hardware malfunction. The sequence of events has been (1) a seek was performed against a cylinder and head, (2) after the seek, when the disc was no longer 'busy', (3) an attention failed to come up for the drive. After this message is displayed, the utility turns itself off.

Recommended action: Take a storage dump and forward it with the console log to your Field Service Representative.

DISC ERROR-STATUS xxxx WHILE SEEKING CYL ccc HD hh  
RETRY?

A possibly recoverable error occurred during the seek routines for the disc.

If the operator replies Y, the utility retries the operation or command program that failed. Action for an N or default reply depends on the programming phase — if during the parameter setup sequence, the utility resubmits the parameter request message. During the actual dump phase, the track will be bypassed, a message to that effect will be sent to the console, and the utility will proceed to the next track.

DISC ERROR-STATUS xxxx WHILE SELECTING DRIVE n  
RETRY?

An error has occurred during the disc drive selection sequence.

n is the disc drive number.

If the operator replies Y, the utility retries the operation or command program that failed. Action for an N or default reply depends on the programming phase — if during the parameter setup sequence, the utility resubmits the parameter request message. During the actual dump phase, the track will be bypassed, a message to that effect will be sent to the console, and the utility will proceed to the next track. This error during the dump phase would be highly unusual.

DISC MOUNT ERROR  
RETRY?

The disc is mounted READ/WRITE instead of READ-ONLY. If the drive number is correct, the operator should change the mount status before replying to the message.

If the operator replies Y, the utility retries the operation or command program that failed. Action for an N or default reply depends on the programming phase — if during the parameter setup sequence, the utility resubmits the parameter request message. During the actual dump phase, the track will be bypassed, a message to that effect will be sent to the console, and the utility will proceed to the next track. Occurrence of this error during the dump phase would be extremely irregular.

An unsolicited attention will be generated when the mount status is changed. This is a normal condition and the operator should continue.

## MESSAGE TEXT

### DISC OFFLINE RETRY?

The disc is not yet on line. If the drive number is correct, the user should wait for it to be fully powered up before replying to the message. If the drive is fully powered up, the ENABLE/DISABLE switch should be set to ENABLE.

If the operator replies Y, the utility retries the operation or command program that failed. Action for an N or default reply depends on the programming phase — if during the parameter setup sequence, the utility resubmits the parameter request message. During the actual dump phase, the track will be bypassed, a message to that effect will be sent to the console, and the utility will proceed to the next track. Occurrence of this message during the dump phase is extremely unlikely and would indicate serious operator error or hardware malfunction.

Change of the power up condition will generate an unsolicited attention message. The operator should reply Y to the attention message.

### DISC-SPECIFIED VOLUME ID UNEQUAL ACTUAL, vvvvv. CONTINUE?

This message indicates that the disc volume identifier, vvvvv, on the device is not equal to that specified in the reply to the parameter request. If the actual identifier contains an illegal character, a question mark is substituted for the character.

If the operator replies Y or YES, the utility requests further parameters. If the reply is N or defaulted, the utility repeats the original parameter request.

### DISC-TO-TAPE DUMP mm-dd-yy

This is the program header message which precedes the parameter request sequence. The rest of the normal parameter request messages are described in the publication **MRX/OS Utility Programs Reference manual**.

### DISC-UNSOLICITED ATTENTION CONTINUE?

An unsolicited attention occurred on the current disc drive. This can occur at program load time or when a drive which has been offline is now ready or when the operator changes the mounting status. Such cases are normal. Unsolicited attentions occurring during the middle of the dump are probably abnormal.

Reply Y to continue execution.

A default reply or a reply of N causes execution to stop at programmed address 0006 for processor 4.

### INVALID REPLY

This message is sent when the format or content of a reply to a message is invalid. This message is followed by a repeat of the original message.

## MESSAGE TEXT

### REPLY CANCELLED

This message is sent when the reply to a message is terminated by a CAN, ENQ, or NAK. The original message is then repeated.

### TAPE ERROR-STATUS xxxx OP nn SENSE zzzz zzzz zzzz RETRY?

This message appears when an I/O error has occurred for tape.

zzzz, etc., contain the sense information returned from tape (Appendix F).

If the operator replies Y to the message, the utility will reposition the tape and retry the operation that failed. Unsuccessful repositioning causes the utility to branch to halt address 0002.

Utility action if the reply is N or defaulted depends upon the phase of execution — if during the tape parameter request routine, the parameter request will be re-sent. Otherwise, the utility will halt at address 0002.

### TAPE-SPECIFIED VOLUME ID UNEQUAL ACTUAL, vvvvvv. CONTINUE?

The tape volume identifier, vvvvvv, on the device is not equal to that specified in the reply to the parameter request. If the actual identifier contains an illegal character, a question mark is substituted for the character.

If the operator replies Y or YES, the utility proceeds to writing header labels. If the reply is N or defaulted, the utility repeats the original parameter request.

### TAPE-UNSOLICITED ATTENTION CONTINUE?

An unsolicited attention occurred on the current tape drive. This can occur at program load time, when a drive which has been offline is now ready, or when the operator changes the mounting status. Such cases are normal. Unsolicited attentions during the actual dump are probably abnormal.

Reply Y to continue execution. An N or default reply stops execution at programmed address 0006 for processor 4.

### UPPER LIMIT < LOWER

During the parameter request sequence, the partial dump option has been selected and the address supplied by the user for the upper cylinder and head is less than that supplied for the lower. This is followed by a repeat of the parameter requests for the lower and upper limits.

## STAND-ALONE TAPE-TO-DISC RESTORE (UTSSTD) MESSAGES

The set of parameter request messages are included in the **MRX/OS Utility Programs Reference manual**. The following messages are informative or error messages, listed in alphabetical order. The following rules apply to the messages:

1. In all messages where the characters DEVICE cuu appear, c represents the channel and uu the physical address of the device.
2. When CYL cc HD hh appears in a message, ccc and hh are, respectively, the cylinder and head numbers (in decimal) of the track where an error has occurred.
3. In all messages where the words DISC ERROR STATUS xxxx appear, xxxx contains the IFA Hardware Status (Table 4-1).
4. In messages containing the words ATTN=yyyy, yyyy contains the IFA attention and PDA status (Table 4-2).
5. In all messages where the words OP nn appear, nn contains the hexadecimal code of the operation that failed (Table 4-3).

### MESSAGE TEXT

#### BACKUP VOLID UNEQUAL DISC VOLID CONTINUE?

The volume identifier of the disc dumped to this tape is not the same as that of the disc to which the restore is to be made. If the reply is Y the utility proceeds to the restore. If the reply is N or defaulted, the utility resends the message FROM TAPE (cuu,volume)=.

#### CYL ccc HD hh IS AN ALT TRK TRACK WILL BE BYPASSED

The address of the primary track originally dumped to tape corresponds to the address of an assigned alternate on the disc.

#### CYL ccc HD hh IS DEFECTIVE ALT CYL ccc HD hh WILL BE TRIED

The track to be restored is defective; restoration will be attempted on the assigned alternate.

#### CYL ccc HD hh IS DEFECTIVE NO ALT ALLOWED TRACK WILL BE BYPASSED

If track 0 or a Control Storage track, it is illegal to assign an alternate to a defective primary.

#### CYL ccc HD hh IS DEFECTIVE NO ALT ASSIGNED TRACK WILL BE BYPASSED

The track to be restored is defective and has no assigned alternate.

## MESSAGE TEXT

**CYL ccc HD hh IS DEFECTIVE  
TRACK WILL BE BYPASSED**

This message follows the message indicating that an alternate track is being tried; it indicates that the assigned alternate is itself defective.

**CYL ccc HD hh IS A PRIMARY!  
TRACK WILL BE BYPASSED**

This message follows the message indicating that an alternate track is being tried; it shows that the assumed alternate track is labeled as primary.

**DEFECTIVE TAPE VOLUME LABEL  
RETRY?**

An attempt to read the tape volume label has resulted in a length error, detection of a tape mark, or the first 4 characters do not equal VOL1. In all except the tape mark error, an automatic retry has been attempted 3 times before the message is displayed. A reply of Y causes the utility to rewind the tape and retry the read. If the reply is N or defaulted, the utility resubmits a parameter request.

**DEVICE cuu MOUNT ERROR  
RETRY?**

This message occurs during the tape parameter request sequence. It indicates that the WRITE ENABLE ring must be removed from the tape. Correct the condition before replying to the message. A reply of Y will cause the utility to retry the operation which failed. A reply of N or the default is followed by a repeat of the parameter request message.

**DEVICE cuu NOT A TAPE**

This message, occurring during the tape parameter request sequence, is followed by a repeat of the parameter request.

**DEVICE cuu TIMED OUT**

This message, when occurring by itself, indicates a hardware malfunction. After sending this message the utility branches to programmed stop address 0008.

**DEVICE cuu TIMED OUT  
RETRY?**

This message occurs during the parameter request sequence. A hardware malfunction may have occurred; however, the user may retry the SENSE command which failed by replying Y to the message. A reply of N or a default reply causes the utility to branch to programmed stop address 0008.

Consistent reappearance of this message definitely indicates a hardware malfunction. Reply N, request a storage dump, and forward the dump and the console log to your Field Service Representative.



## MESSAGE TEXT

DEVICE cuu TIMED OUT  
STOP THE TAPE AND MOUNT ANOTHER!

Stop the tape. This message occurs if the tape reading fails at some point after the device label because the rest of the tape is blank. Operator intervention is required to stop the tape motion. A different tape will be needed. The utility next sends a parameter request message to give the operator a chance to restore from a different tape.

DEVICE cuu TIMED OUT  
STOP THE TAPE AND MOUNT ANOTHER! LABEL IS MISSING!

Stop the tape on device cuu immediately. This message occurs when a degaussed tape is mounted; no label is present. Operator intervention is the only way to stop the action. This message is followed by a parameter request message.

DISC ERROR-STATUS xxxx OP nn CYL ccc HD hh text  
RETRY?

An I/O error has occurred on the disc.

text will describe the field on the track where the error occurred and will be one of the following:

HOME ADDRESS  
C.S. DATA  
REC rrr COUNT  
REC rrr DATA  
REC rrr EMU  
REC rrr KEY

rrr is the number of the record where the I/O failed. An exception to this occurs when the failing command word is a READ for a RECORD N COUNT (N > 0). In this case rrr is set equal to '?'.

If the operator replies Y, the utility retries the operation or command program that failed. Action for an N or default reply depends on the programming phase. During the parameter setup sequence, the utility resubmits the parameter request message. During the actual restore, however, the message BYPASS TRACK? is issued. A reply of Y to this message produces the message TRACK WILL BE BYPASSED followed by normal processing of the next tape block. If the BYPASS TRACK message is answered N or defaulted, control branches to programmed stop address 0006.

DISC ERROR-STATUS xxxx WHILE SEEKING CYL ccc HD hh  
BUT ATTN=yyyy. . .FATAL ERROR

This message indicates a disc hardware malfunction. The sequence of events has been (1) a seek was performed against a cylinder and head, (2) after the seek, when the disc was no longer 'busy', (3) an attention failed to come up for the drive. After this message is displayed, the utility turns itself off.

Recommended action: Take a storage dump and forward it with the console log to your Field Service Representative.

## MESSAGE TEXT

DISC ERROR-STATUS xxxx WHILE SEEKING CYL ccc HD hh  
RETRY?

A possibly recoverable error occurred during the seek routines for the disc.

If the operator replies Y, the utility retries the operation or command program that failed. Action for an N or default reply depends on the programming phase. During the parameter setup sequence, the utility resubmits the parameter request message. During the actual restore, however, the message BYPASS TRACK? is issued. A reply of Y to this message produces the message TRACK WILL BE BYPASSED followed by normal processing of the next tape block. If the BYPASS TRACK message is answered N or defaulted, control branches to programmed stop address 0006.

DISC ERROR-STATUS xxxx WHILE SELECTING DRIVE n  
RETRY?

An error has occurred during the disc drive selection sequence.

n is the disc drive number.

If the operator replies Y, the utility retries the operation or command program that failed. Action for an N or default reply depends on the programming phase. During the parameter setup sequence, the utility resubmits the parameter request message. During the actual restore, however, the message BYPASS TRACK? is issued. A reply of Y to this message produces the message TRACK WILL BE BYPASSED followed by normal processing of the next tape block. If the BYPASS TRACK message is answered N or defaulted, control branches to programmed stop address 0006.

DISC MOUNT ERROR  
RETRY?

The disc is mounted READ-ONLY instead of READ-WRITE. If the drive number is correct, the operator should change the mount status before replying to the message.

If the operator replies Y, the utility retries the operation or command program that failed. Action for an N or default reply depends on the programming phase. During the parameter setup sequence, the utility resubmits the parameter request message. During the actual restore, however, the message BYPASS TRACK? is issued. A reply of Y to this message produces the message TRACK WILL BE BYPASSED followed by normal processing of the next tape block. If the BYPASS TRACK message is answered N or defaulted, control branches to programmed stop address 0006.

An unsolicited attention will be generated when the mount status is changed. This is a normal condition and the operator should continue.

## MESSAGE TEXT

### DISC OFFLINE RETRY?

The disc is not yet on line. If the drive number is correct, the user should wait for it to be fully powered up before replying to the message. If the drive is fully powered up, the ENABLE/DISABLE switch should be set to ENABLE.

If the operator replies Y, the utility retries the operation or command program that failed. Action for an N or default reply depends on the programming phase. During the parameter setup sequence, the utility resubmits the parameter request message. During the actual restore, however, the message BYPASS TRACK? is issued. A reply of Y to this message produces the message TRACK WILL BE BYPASSED followed by normal processing of the next tape block. If the BYPASS TRACK message is answered N or defaulted, control branches to programmed stop address 0006.

Occurrence of this message during the dump phase is extremely unlikely and would indicate serious operator error or hardware malfunction.

Change of the power up condition will generate an unsolicited attention message. The operator should reply Y to the attention message.

### DISC-SPECIFIED VOLUME ID UNEQUAL ACTUAL, vvvvvv. CONTINUE?

This message indicates that the disc volume identifier, vvvvvv, on the device is not equal to that specified in the reply to the parameter request. If the actual identifier contains an illegal character, a question mark is substituted for the character.

If the operator replies Y or YES, the utility requests further parameters. If the reply is N or defaulted, the utility repeats the original parameter request.

### DISC-UNSOLICITED ATTENTION CONTINUE?

An unsolicited attention occurred on the current disc drive. This can occur at program load time or when a drive which has been offline is now ready or when the operator changes the mounting status. Such cases are normal. Unsolicited attentions occurring during the middle of the dump are probably abnormal.

Reply Y to continue execution.

A default reply or a reply of N causes execution to stop at programmed address 0006 for processor 4.

### INVALID REPLY

This message is sent when the format or content of a reply to a message is invalid. This message is followed by a repeat of the original message.

### REPLY CANCELLED

This message is sent when the reply to a message is terminated by a CAN, ENQ, or NAK. The original message is then repeated.

## MESSAGE TEXT

TAPE ERROR-STATUS xxxx OP nn SENSE zzzz zzzz zzzz  
RETRY?

This message appears when an I/O error has occurred for tape.

zzzz, etc., contain the sense information returned from tape (Appendix F).

If the operator replies Y to the message, the utility will reposition the tape and retry the operation that failed. Unsuccessful repositioning causes the utility to branch to halt address 0002.

Utility action if the reply is N or defaulted depends upon the phase of execution. If during the tape parameter request routine, the parameter request will be re-sent. Otherwise, the utility will halt at address 0002.

TAPE FORMAT ERROR. LAST BLOCK NUMBER=nnnn.  
Occurs if a block on the tape is not one of the following:

- Header label
- Trailer label
- Standard block created by UTSSDT

or if no tape mark appears after the second header label.

nnnn=0 if the error occurs in the header label — tape mark region. nnnn, otherwise, is the last block successfully read. The utility rewinds and unloads the tape and then issues a parameter request message.

### TAPE IS NOT A BACKUP

The first header label indicates that the tape mounted was not created by UTSSDT and thus does not meet the specifications required by this utility. The tape is rewound and unloaded and a parameter request message is repeated.

TAPE-SPECIFIED VOLUME ID UNEQUAL ACTUAL, vvvvv.  
CONTINUE?

The tape volume identifier, vvvvv, on the device is not equal to that specified in the reply to the parameter request. If the actual identifier contains an illegal character, a question mark is substituted for the character.

If the operator replies Y or YES, the utility proceeds to writing header labels. If the reply is N or defaulted, the utility repeats the original parameter request.

TAPE-TO-DISC RESTORE mm-dd-yy

This program header message precedes the parameter request sequence. The rest of the normal parameter request messages are described in the **MRX/OS Utility Programs Reference Manual**.

## MESSAGE TEXT

### TAPE-UNSOLICITED ATTENTION CONTINUE?

An unsolicited attention occurred on the current tape drive. This can occur at program load time, when a drive which has been offline is now ready, or when the operator changes the mounting status. Such cases are normal. Unsolicited attentions during the actual dump are probably abnormal.

Reply Y to continue execution. An N or default reply stops execution at programmed address 0006 for processor 4.

### TAPE VOLUME SEQUENCE ERROR CONTINUE?

This message is sent if the tapes are out of sequence. A reply of Y will cause the utility to proceed to the restore. A reply of N or a default reply proceeds to rewind and unload the tape, send the message NEW TAPE REQUIRED and then repeat the parameter request message.

## UCS LOAD (UTSSLU) MESSAGES

UTSSLU sends the following messages to verify that the print chain/train is mounted prior to UCS Load, and that a visual scan of the printed buffer was satisfactory.

### MESSAGE CODE

### MESSAGE TEXT

UTSS9260

MOUNT PRINTER ARRANGEMENT xxxx ON PRINTER nnn.  
IS ARRANGEMENT MOUNTED?

When verification is requested, the utility program asks the above question to ensure that the proper print chain or train is installed on the 1403 prior to issuing the LOADUCS service request. The options are simply YES or NO. If YES is specified, execution proceeds normally. NO forces step termination.

UTSS9270

VERIFY UCS IMAGE xxxx ON DEVICE nnn. IS IMAGE CORRECT?

After the UCS load has been performed and the buffer has been printed, if verification is requested, the above message is displayed to the console requesting visual verification by the operator. The reply may be YES or NO. A reply of YES will cause the utility to normally terminate. NO will allow the operator to mount another cartridge and retry after the following message has been displayed. Print chain formats are shown in Appendix E.

UTSS9280

IS RETRY DESIRED?

A reply of NO will cause step abort. YES sets the utility back to the point at which it requests the cartridge to be mounted.

MESSAGE CODE	MESSAGE TEXT
UTSS9292	INVALID REPLY. REPLY MUST BE YES, Y, NO, N. This message is displayed in response to an incorrect reply to one of the above messages.

### DISC FILE CONVERSION UNIT (UTDFCU) MESSAGES

The UTDFCU utility produces the following messages on the operator's console. Wherever the terms CYL cc HEAD h appear in a message, they represent the cylinder number and head number in hexadecimal notation.

MESSAGE CODE	MESSAGE TEXT
DFCU0010	DFCU READY – ENTER COMMAND The program is ready to accept a test command or the COPY command.
DFCU0020	DFCU READY FOR NEXT COMMAND The program is ready to accept a command. If the previous command routine has not been completed, the response to this message will override the previous command.
DFCU0030	INVALID COMMAND – TRY AGAIN The last command entered was found to be in error. Look up the correct format and re-enter the command.
DFCU0040	DFCU TEST FINISHED The test routine for the last command has been completed. Enter the next command as the response for message DFCU0020.
DFCU0050	command STATUS (xxxx) ON CYL cc HEAD h RECORD r An error has occurred on disc address cchr (hexadecimal notation). xxxx = the IFA hardware status (Table 4-1). command = the I/O operation which caused the error.
DFCU0060	DATA ERR aaaaaaaaa S/B bbbbbbbbb ON CYL cc HEAD h This message may occur during the VFYSEC or VFYTRK tests. The actual data read from the disc appears as a. . a; the test pattern from the special test pack appears as b. . b. This message will appear each time an error is detected as the data buffer is scanned. If type-outs become excessive, they may be bypassed with the SKIPTO command.
DFCU0070	HOME ADDR aaaaaaa S/B bbbbbbbb ON CYL cc HEAD h The home address a. . a which was read is incorrect.

MESSAGE CODE	MESSAGE TEXT
DFCU0080	DFCU FILE UNSAFE, RESET IT AND RESPOND WITH (ETX) A file unsafe condition has occurred on either the DFCU, the drive, or both. If the drive is unsafe it must be powered down, then back up to remove the condition. To remove unsafe from the DFCU, operate the 'MASTER CLEAR' switch on the DFCU maintenance panel. When the condition has been reset, press INT, enter the message number and one space, and press ETX to resume processing.
DFCU0090	IFA TEST PATTERN pppppppp This message is displayed when in 'IFATEST' mode of operation each time that the data switches on the DFCU maintenance panel are changed.
DFCU0100	FILE filename NOT IN FDT STRING This file cannot be found in the FDT string. This condition should never occur if the file has been opened properly.
DFCU0110	FILE filename ALLOCATED ON NON-CONTIGUOUS SPACE Correct your Control Language statements and resubmit the job.
DFCU0120	FILE filename DOES NOT START ON A CYLINDER BOUNDARY Correct your Control Language statements and resubmit the job.
DFCU0130	FILE filename HAS INVALID SIZE File size not 500, 520, 1000, or 1020 tracks. Correct your Control Language statements to properly allocate the file and resubmit the job.
DFCU0140 DFCU0141	COPYING nnnn TRACKS FROM 1316 VOL volsn TO MRX FILE filename ON VOL volid These messages describe the file which is being copied. They are typed out as the copy begins.
DFCU0150	VOLUME xxxxxxx ON DFCU – MOUNT yyyyyy The input label check failed for the 1316 pack which is mounted on the DFCU. xxxxxxx is the volume serial number of the pack which is mounted; yyyyyy is the volume serial number of the pack which should be mounted. Mount the correct pack on the DFCU and reply with Y or N.
DFCU0160	COPY COMPLETED This message appears upon successful completion of the COPY.

MESSAGE CODE	MESSAGE TEXT
DFCU0170	<p>RETRY? ANSWER Y OR N</p> <p>This message refers to the error message just typed out. The operation has already been tried 10 times. Enter Y to try again or N to abort the run.</p>
DFCU0180	<p>COPY ABORTED</p> <p>This message appears when the run has been discontinued prior to completion. The previous error message describes the reason for premature termination.</p>
DFCU0190	<p>DEFECTIVE TRACK FLAGGED ON CYL cc HEAD h</p> <p>A defective track has been encountered while copying to an EMULATOR file which has been initialized with the SUPALT option (26 or 51 cylinders). During this mode of copy the input pack must contain no defective tracks, as cylinders 1 through 3 are assumed to contain data and must not be used as alternate track areas.</p>
DFCU0200	<p>CANNOT RECOVER DEF TRACK ON CYL cc HEAD h</p> <p>On IBM 1316 tracks which are flagged as defective, the assigned alternate track address is recorded in each of the 10 count fields on the defective track. At least one of these count fields must be readable or the pack is unusable. This pack is unusable.</p>
DFCU0210	<p>INVALID FILENAME filename1 JCL SPECIFIES filename2</p> <p>filename1 is from the COPY command and filename2 is from the //DEF card for EMUFILE. This is to protect the user from inadvertently writing over an existing file.</p>



## TELECOMMUNICATIONS MESSAGES

Irrecoverable transmission errors that occur during a telecommunications program are posted on the console. Since these errors are irrecoverable, the message simply identifies the error without indicating a response to be made for error correction.

The console messages have the following format:

```
ER TP eee paa termname ssss
```

ER	Indicates that error recovery was unsuccessful.
TP	indicates that the error occurred on a telecommunications device.
eee	A three-digit decimal error code that is variously:  001        The error is hardware-related. Additional information is supplied in the ssss portion of the message.  002        The connect or receive time requested is invalid.  003        An abort request was issued for a given line from outside its partition.  004        An abort request was issued for a given line from outside its partition.
p	Identifies the processor using the device (line). For telecommunications errors, p is always zero.
aa	A two-digit hexadecimal number specifying the physical address of the device (line).
termname	The logical terminal name assigned by the programmer when coding the Control Language Services statements, e.g., the name specified in the ID= keyword parameter on the //DEFINE statement.
ssss	The hexadecimal status completion code, defined in Table 4-5.

**Table 4-5. Hexadecimal Status Completion Codes (ssss)**

Hex Status Completion Code (SSSS)	Meaning	Description	Comments
8000	Abort Requested	The command program was aborted via the user's request.	The command in execution is stopped and the communication request is aborted.
4000	Timer Expired	The timer requested with this command expired.	The command in execution is stopped and the communication request is terminated.
2000	Termination Character Received	The communication driver detected a requested termination character in the input data.	The command and the command program are terminated.
1000	BREAK Received	A break was detected on the addressed asynchronous line or an RVI was detected on a synchronous line.	If the command in execution is a WRITET, execution stops immediately. The execution of any other command is not altered. This only applies to asynchronous lines. The RVI is synchronous only and is received as a response.*
0400	Software Lost Data	One or more input characters were received by the communication driver and no read command for this line was pending.	The output data transfer command in execution (for 103A only) or the next data transfer command is executed to completion. The command program is then terminated.*
0200	Transmission Error	No stop bit, VRC error, or a BCC/LRC error occurred on the processing unit receipt of data.	The input command is executed to completion and the command program is terminated.
0100	Reserved		
0080	Modem Error	A modem error was detected on the addressed line.	The command in execution and the command program are terminated upon detection of this condition. The user can issue a RECEIVE with STATUS=YES for more information.
0040	Line Disconnect Detected	A line disconnect was detected on the addressed line.	The command in execution and the command program are terminated upon detection of this condition.
0008	Ring Indicator	The ring indicator was received for the addressed line.	This status bit is set only when the RPTRING command is pending. The command program is terminated upon detection of this condition.
0004	Hardware Lost Data	A processing unit overload was detected and the addressed line adapter was unable to enter the assembled character into the common control (hardware) queue.	The command in execution or the next command issued is executed to completion and the command program is then terminated.*
0002	Hardware Timer Expired	The BSC-3 second hardware timer expired.	The command in execution or the next command to be executed will continue to completion. The command program will then be terminated.*

\*These conditions can occur simultaneously with each other. Also they may occur with only one of those conditions not marked by an asterisk.

## INQUIRY RETRIEVAL MESSAGES

The messages are preceded by an eight-character error code that has the following format:

pp ss eee t

pp Always IR meaning Inquiry Retrieval program error.

ss CP Control Program  
ED Define Field Output Edit Picture program  
FD Define Output Format utility program  
MT Message Table  
OI Output Initialization program module  
QR Query Initialization program module  
RD Define Record utility program  
RF Relative File Search module  
SY Syntax Check program module

eee A three-digit error number specifying the error within the Inquiry Retrieval program.

t A one-character code specifying the type of error:

0 or I Informative message  
W Warning  
E Error – can continue processing  
8 or F Fatal

ERROR CODE	MESSAGE TEXT
IRMT0018	FATAL ERROR – THE ATTRIBUTES OF THE IRSAF FILE ARE INCORRECT
IRMT0028	FATAL ERROR – THE ATTRIBUTES OF THE IRMT FILE ARE INCORRECT
IRMT0038	FATAL ERROR ON DATA CARD seqno – INVALID INTEGERS APPEARED seqno is the data card sequence number (columns 73-80)
IRMT0048	FATAL ERROR ON DATA CARD seqno DIRECTORY OVERFLOWED seqno is the data card sequence number

ERROR CODE	MESSAGE TEXT
IRMT0058	FATAL ERROR ON DATA CARD seqno – IRMT FILE OVERFLOWED seqno is the data card sequence number
IRMT0068	FATAL ERROR ON DATA CARD seqno – TEXT OUT OF SEQUENCE seqno is the data card sequence number
IRMT0070	NORMAL COMPLETION – INQUIRY RETRIEVAL MESSAGE TABLE BUILT
IRCP0501	INQUIRY RETRIEVAL IS INACTIVE – REPLY (T) TO TERMINATE – (C) TO CONTINUE None of the terminals defined in the control language for QUERY are physically connected to TCOM.
IRCP052F	ABNORMAL SYSTEM CONDITION – INQUIRY RETRIEVAL ABORTED Refer problem to a systems analyst.
IRCP0531	INQUIRY RETRIEVAL CANNOT ALLOCATE ITS TEMPORARY WORK FILES Inadequate space on the system disc pack.
IRCP0541	NO TERMINALS CAN BE ENABLED – INQUIRY RETRIEVAL TERMINATED No terminals were defined in the control language for QUERY, or the defined terminals do not match the logical names of the terminals defined in the IRTERM or TRMDEV macros or physical connection cannot be made by any of the defined terminals.

## RPG II MESSAGES

The RPG II program issues messages to inform the operator of various error conditions that can occur while the program is executing. There are four possible responses that can be used; however, not all responses are valid for all messages. Refer to the specific message for legal responses.

### Response Codes

The allowable response codes and their associated meanings are listed below.

<u>Code</u>	<u>Meaning</u>
0	Continue processing the job.
1	Proceed to the beginning of the next cycle.
2	Cancel the job after writing out the tables and arrays and closing the files associated with the job.
3	Cancel the job immediately.

### Message Format

The execution-time messages all have the following format:

ERROR CODE	MESSAGE TEXT
RGRT nnnn	text variable field

where:

RGRT	Specifies that the error occurred during program execution (run time) of an RPG II program.
nnnn	The four-digit decimal error number.
text	The text of the message. The variable field is the line number where the error occurred, the name of a file, or the number of an indicator, table, or array. This portion of the message is shown in this manual in lower-case type within the message text.

ERROR CODE	MESSAGE TEXT	LEGAL RESPONSES
RGRT0001	IND ON IS Hn Indicator number, n, is supplied when the message is printed; value is 0 through 9.	0, 2, or 3
RGRT0002	NEG. SQ. RT. AT LINE nnnnn The line number is supplied for nnnnn.	0, 2, or 3
RGRT0003	ARITH OVERFLOW AT LINE nnnnn The line number is supplied for nnnnn.	0, 2, or 3
RGRT0004	DIVIDE BY 0 AT LINE nnnnn The line number is supplied for nnnnn.	0, 2, or 3
RGRT0005	VARIABLE ARRAY INDEX IS 0, MINUS OR TOO LARGE AT LINE nnnnn The line number is supplied for nnnnn.	0, 2, or 3
RGRT0006	TABLE/ARRAY SEQ ERROR, T/A-RECORD NO.S nnnnn-mmmmm FILE IS xxxxxxxx The table/array number nnnnn, record number mmmmm, and file id xxxxxxxx, are supplied.	0, 2, or 3
RGRT0007	TABLE/ARRAY MISSING, T/A NO. nnnnn * FILE IS xxxxxxxx The table/array number nnnnn, and file id xxxxxxxx are supplied.	0, 2, or 3
RGRT0008	EXCESS TABLE/ARRAY ENTRIES, T/A NO. nnnnn * FILE IS xxxxxxxx The table/array number nnnnn, and file id xxxxxxxx, are supplied.	0, 2, or 3
RGRT0009	PARTITION SIZE EXCEEDED	3
RGRT0010	1P FORMS ALIGNMENT	0 or 1
RGRT0011	RECORD SEQ ERROR * FILE IS xxxxxxxx The file id xxxxxxxx is supplied.	1, 2, or 3
RGRT0012	MATCHING RECORD SEQ ERROR * FILE IS xxxxxxxx The file id xxxxxxxx is supplied.	1, 2, or 3
RGRT0013	UNIDENTIFIED RECORD * FILE IS xxxxxxxx The file id xxxxxxxx is supplied.	1, 2, or 3

ERROR CODE	MESSAGE TEXT	LEGAL RESPONSES
RGRT0014	INVALID NUMBER AT LINE nnnnn The line number is supplied for nnnnn.	0, 2, or 3
RGRT0015	CHANNEL NOT DEFINED ON LINE COUNTER * FILE IS xxxxxxxx The file id xxxxxxxx is supplied.	0 or 3
RGRT0016	BINARY CONVERSION OVERFLOW AT LINE nnnnn The line number is supplied for nnnnn.	0 or 3
RGRT0017	TABLE/ARRAY BINARY OVERFLOW, T/A NO. nnnnn * FILE IS xxxxxxxx The table/array number in the file nnnnn, and the file id xxxxxxxx, are supplied.	0 or 3
RGRT0018	SPECIAL FILE I/O ERROR nnn The error code nnn is supplied; it is contained in word 3 of the SPECIAL file parameter list described in Appendix E of the <b>RPG II Reference</b> manual.	2 or 3
RGRT0019	EOF INDICATOR MISSING ON CARD OR CHAIN OPERATION * FILE IS xxxxxxxx The file id xxxxxxxx is supplied.	2 or 3

## OUTPUT SPOOLER MESSAGES

The Output Spooler messages provide information to the operator regarding forms changes, printer images, the accounting file, and errors in the system.

The messages are preceded by an eight-character code that has the following format:

$\left\{ \begin{array}{l} I \\ D \end{array} \right\}$  OSPL eeet

- I            Informative message
- D            Directive message
- OSPL       Specifies that message is from Output Spooler
- eee         A three-digit hexadecimal message number
- t            A one-digit number specifying the type of error
  - 0   Informative; not fatal to Spooler
  - 8   Fatal error

### ERROR CODE            MESSAGE TEXT

- D OSPL0000            MOUNT FORMS 'ffffff' ON DEVICE aaa. ARE FORMS MOUNTED?
- In the message, the form specified in the Control Language statement or program macro is displayed; aaa is the device address. See Appendix D for definition of STD forms. The following are valid responses:
- YES    Indicates that forms are mounted and processing should continue.
- HOLD   Specifies that the current print/punch file is to be re-queued and put in a hold state. This reply could be used to avoid multiple forms changes when subsequent jobs will use the forms currently on the device.
- RESTART xxx    Specifies that the current print/punch file is to be re-queued and initiated on the device whose address is specified by xxx. This reply could be used when the form specified in the message is already on the alternate device.
- DELETE    This reply specifies that the current file is to be removed from the print/punch queue. The file may be re-queued later by submitting a //RTE control statement for the file in a subsequent job or by executing a disc to print utility.



ERROR CODE	MESSAGE TEXT
D OSPL0010	<p data-bbox="537 239 1442 306"><b>MOUNT PRINTER ARRANGEMENT 'ucs' ON aaa. IS ARRANGEMENT MOUNTED?</b></p> <p data-bbox="537 310 1442 411">The Universal Character Set specified by ucs is to be mounted on the printer whose address is specified by aaa. The following are valid responses:</p> <p data-bbox="537 428 1442 495"><b>YES</b> The proper arrangement is mounted and processing is to continue.</p> <p data-bbox="537 529 1442 667"><b>HOLD</b> The current print file is to be requeued and put in a hold state. This reply could be used to avoid multiple printer arrangement changes when subsequent jobs will use the arrangement currently on the printer.</p> <p data-bbox="537 701 1442 835"><b>RESTART xxx</b> The current print file is to be requeued and initiated on the printer specified by xxx. This reply could be used when the arrangement specified in the message is already on the alternate printer.</p> <p data-bbox="537 869 1442 1003"><b>DELETE</b> The current file is to be removed from the print/punch queue. The file may be requeued later by submitting a //RTE control statement for the file in a subsequent job or by executing a disc to print utility.</p>
D OSPL0020	<p data-bbox="537 1037 1442 1104"><b>VERIFY UCS IMAGE 'ucs' ON DEVICE aaa. IS IMAGE CORRECT?</b></p> <p data-bbox="537 1108 1442 1209">The operator should verify that the print chain on device aaa contains the print image specified by ucs. Images are shown in Appendix E. Valid responses are the following:</p> <p data-bbox="537 1226 1442 1262"><b>YES</b> The print image is correct and printing should be initiated.</p> <p data-bbox="537 1295 1442 1362"><b>NO</b> The print image is incorrect and the current print file is to be deleted from the print/punch queue.</p> <p data-bbox="537 1396 1442 1570"><b>RETRY</b> Corrective action has been taken and a reload of the buffer and reverification is requested. This would be the normal response if the wrong print chain was mounted and the operator recognized it and mounted the correct chain before replying to the message.</p>
D OSPL0030	<p data-bbox="537 1604 1442 1671"><b>UCS 'ucs' LOAD ERROR ee ON aaa. FILE name ASSIGNED. ENTER RECOVERY.</b></p> <p data-bbox="537 1675 1442 1776">An error has occurred during the load of print image ucs on device aaa. For an explanation of the error code ee, see Appendix B. Valid responses are the following:</p> <p data-bbox="537 1789 1442 1877"><b>HOLD</b> The current print file is to be requeued and put in a hold state. This reply could be used when the alternate printer has a different UCS image mounted and no change is desired at present.</p>

ERROR CODE	MESSAGE TEXT
	<p>RESTART xxx The current print file is to be requeued and initiated on the printer specified by xxx. This reply could be used when the arrangement specified in the message is already on the alternate printer.</p> <p>DELETE The current file is to be removed from the print/punch queue. The file may be requeued later by submitting a //RTE control statement for the file in a subsequent job or by executing a disc to print utility.</p>
I OSPL0048	<p>OUTPUT SPOOLER RESOURCES UNAVAILABLE. OUTPUT SPOOLER TERMINATED. Not enough main storage is available for the Output Spooler.</p>
I OSPL0058	<p>OPEN ERROR IN \$OUTSPLO. OUTPUT SPOOLER TERMINATED. An error was detected while attempting to open the print/punch queue. The Spooler terminates and a re-autoload is required to produce output by the Spooler.</p>
I OSPL0060	<p>OPEN ERROR ee ON FILE name. FILE PUT INTO HOLD STATE. The required volume was not mounted. After mounting the volume containing the named file, the file must be released to obtain printed or punched output.</p>
I OSPL0070	<p>OPEN ERROR ee ON FILE name. An error occurred while opening the named file. Refer to the OPEN packet status codes in Appendix B for the meaning of the hexadecimal status completion code supplied with this message. The file is not purged, but is deleted from the print/punch queue.</p>
I OSPL0080	<p>FILE name BLOCK SIZE TOO LARGE. The block size of the named file exceeds the largest available spooler buffer. The file is not purged.</p>
I OSPL0090	<p>INVALID RESPONSE. An invalid response has been made to a message.</p>
I OSPL00A0	<p>DEVICE aaa RETURNED TO SYSTEM. This message is produced as a result of execution of the UNSPOOL directive.</p>
I OSPL00B0	<p>FILE name DELETED FROM PRINT/PUNCH QUEUE. This message appears whenever a file is deleted from the queue.</p>
I OSPL00C0	<p>PURGE ERROR ee ON FILE name. For an explanation of error code ee, see Appendix B.</p>

ERROR CODE	MESSAGE TEXT
D OSPL00D0	<p data-bbox="534 237 1276 300">DEVICE aaa IO ERROR. FILE name ASSIGNED. ENTER RECOVERY PROC.</p> <p data-bbox="534 306 1390 436">An irrecoverable I/O error has occurred on the device whose address is specified by aaa. The file identified by filename is assigned to the device. The following responses assume that the operator has disabled the device if output is not to continue on it.</p> <p data-bbox="534 457 1409 827">REASSIGN xxx This response reassigns the disabled device to an on-line spooled printer/punch whose address is specified by xxx, and requeues and assigns the file named in the message to the new device. Output from the beginning of the file may be initiated immediately or later depending on the activity on device xxx and current queue priority. All files explicitly assigned to the disabled device will be printed or punched on the reassigned device. When the disabled device becomes available, it should be enabled by the operator, at which time the Output Spooler will initiate output to it. The REASSIGN response should be used when continuous output with no breaks in it is required.</p> <p data-bbox="534 863 1382 1060">CONTINUE xxx This response reassigns the disabled device to device xxx in the same manner as the REASSIGN response, except that the file named in the message is continued from the last checkpoint. This response can be used when output can be accepted in two parts; for instance, when an assembly listing is being printed on standard forms.</p> <p data-bbox="534 1098 1382 1335">HOLD This response requeues the file named in the message in a hold state. When the file is released, output will be continued from the last checkpoint if the disabled device has been enabled or re-assigned. The named file remains in the print/punch queue until a spooled device is made available and the file is released. This response might be used if some other form is on the alternate printer, for example.</p> <p data-bbox="534 1373 1338 1541">DELETE This response terminates processing of the named print/punch file and removes it from the print/punch queue. It should be used with caution. The file may be requeued later by submitting a //RTE statement for the file in a subsequent job or by executing a disc to print utility.</p>
D OSPL00E0	<p data-bbox="534 1577 1252 1640">NON-RECOVERABLE IO ERROR FILE name. ENTER RECOVERY PROCEDURE.</p> <p data-bbox="534 1646 1328 1705">An irrecoverable I/O error occurred during access of the named spooled print/punch file.</p>

ERROR CODE	MESSAGE TEXT
	The following are valid responses:
	<b>SAVE</b> The named file is removed from the print/punch file. This response may be used when the file is critical and is known to be valid.
	<b>DELETE</b> The named file is removed from the print/punch queue and is purged, unless the file was specified to be saved in a control statement or program macro.
I OSPL00F8	<b>IO ERROR ON \$OUTSPLQ.</b> An I/O error occurred on the print/punch queue. The Spooler terminates.
I OSPL0100	<b>INVALID OPERAND</b> The operand of a directive or response to a message is invalid.
I OSPL0110	<b>INVALID DEVICE aaa</b> The device specified by aaa in a directive or response to a message is invalid.
I OSPL0120	<b>END DIRECTIVE</b> The Spooler program has completed processing a directive.
I OSPL0130	<b>RESUBMIT DIRECTIVE</b> The most recent directive is unacceptable to the Spooler and should be resubmitted.
I OSPL0140	<b>JOB NAME NOT FND</b> The job named in the most recently entered directive was not found by the Spooler.
I OSPL0150	<b>FILE NAME NOT FND</b> The file named in the most recently entered directive was not found by the Spooler.
I OSPL0160	<b>OUTPUT SPOOLER QUEUE EMPTY.</b> The print/punch queue is empty and no output is going on.
I OSPL0170	<b>INVALID DIRECTIVE</b> The most recently entered directive is invalid.
I OSPL0188	<b>NON-RECOVERABLE QUEUE ERROR. OUTPUT SPOOLER TERMINATING AFTER OUTPUT COMPLETION.</b> An irrecoverable I/O error has occurred during access of the print/punch queue. No further attempts to access the queue will be made, no files will be enqueued, checkpoints taken, or Spooler directives accepted.

ERROR CODE	MESSAGE TEXT
I OSPL0198	OUTPUT SPOOLER TERMINATED. This message appears after message OSPL0188 has appeared and output has terminated.
I OSPL01A0	INVALID DEVICE REASSIGNMENT: xxx Device xxx is not a spooled device.
I OSPL01B0	UNABLE TO OPEN \$OSSPLJA. JOB ACCOUNTING BYPASSED. The job accounting file was not allocated or an I/O error occurred while attempting to open the file.
I OSPL01C0	IO ERROR ON \$OSSPLJA. OUTPUT SPOOLER TERMINATED. An I/O error occurred when the spooler was initializing the job accounting file.
D OSPL01D0	IS JOB ACCOUNTING LIST COMPLETE? This message is issued upon receipt of the console directive RESET ACCT. The response to this message is the message number and an ETX.
I OSPL01E0	JOB ACCOUNTING FILE 75% FULL. The job accounting file is nearing capacity and should be listed. If the file is not listed before it is full, records will wrap back to the beginning of the file.
I OSPL01F0	IO ERROR ON \$OSSPLJA, JOB ACCOUNTING BYPASSED. An I/O error has occurred when reading or writing to the job accounting file. All job accounting functions will be bypassed.



## A. OBTAINING A TOTAL MAIN STORAGE DUMP

A stand-alone utility program is provided in card form for producing a total register and main storage dump. This program (Stand-Alone Memory Dump) runs in control memory and consequently is able to dump all of main storage intact. Two procedures are provided: the first is relatively simple but destroys the contents of all eight P micro registers, the control register, the busy/active register, and the tie breaker register; the second is relatively complex but preserves the contents of all pertinent registers.

### PROCEDURE 1

- STEP 1 Press the PROGRAM MODE pushbutton to place the system in program mode. (The light in the pushbutton should come on.)
- STEP 2 Press SYSTEM RESET.
- STEP 3 Place the LOAD SELECT toggle switch in the CR or ALTERNATE (up) position.
- STEP 4 Load the Stand-Alone Memory Dump card deck in the card reader and press START.
- STEP 5 Press the RESET/LOAD pushbutton on the System Control Panel. Note: The system will not begin to read cards until the card reader START light comes on (after a delay of about 3 seconds).
- STEP 6 Set the PROCESSOR SELECT rotary switch to the processor (1 or 2) that controls the line printer. This processor is determined at system generation and corresponds to the first digit of the device address of the line printer.
- STEP 7 Press SYSTEM RESET.
- STEP 8 Ready the line printer (ensure that the START pushbutton is lit).
- STEP 9 Press the PROCESSOR RUN pushbutton. The dump will now begin and end automatically.
- STEP 10 Always reload control memory using the RESET/LOAD procedure.

### PROCEDURE 2

(See also *Explanation of Steps* following these step-by-step procedures.)

- STEP 1 Press the PROGRAM MODE pushbutton. When this pushbutton is lit, the system is in program mode. Note: If the pushbutton will not light, check that the MAINTENANCE MODE pushbutton is not lit and try again.

- STEP 2 Place all PROCESSOR CONTROL SELECT toggle switches in the STOP/STEP position (up). This stops all processors; all display lights for processors should extinguish.
- STEP 3 Set the BREAKPOINT ADDRESS SELECT rotary switches to zero.
- STEP 4 Set the CONSOLE ADDRESS REGISTER SELECT rotary switch to  $S_{\mu}$  and record the value displayed in the CONSOLE ADDRESS REGISTER DISPLAY.
- STEP 5 Place the CONSOLE CONTROL SELECT toggle switch in the BREAKPOINT position (down).
- STEP 6 Set the CONSOLE MODE SELECT rotary switch to the CS-RD position.
- STEP 7 Set the CONSOLE DATA REGISTER SELECT rotary switch to DATA.
- STEP 8 Press the CONSOLE RUN pushbutton. Verify that the  $S_{\mu}$  register now contains zeros as indicated in the CONSOLE ADDRESS REGISTER DISPLAY.
- STEP 9 Place the CONSOLE CONTROL SELECT toggle switch in the STOP/STEP position.
- STEP 10 Place the PROCESSOR CONTROL SELECT toggle switches in the NORMAL (center) position.
- STEP 11 Set the CONSOLE MODE SELECT rotary switch to the CS-WR position.
- STEP 12 Load the Stand-Alone Memory Dump card deck in the card reader and press START.
- STEP 13 Place the LOAD SELECT toggle switch in the CR or ALTERNATE position (up).
- STEP 14 Press the RESET/LOAD pushbutton.
- STEP 15 Set the CONSOLE MODE SELECT rotary switch to the RF-RD position.
- STEP 16 Set the CONSOLE ADDRESS REGISTER SELECT rotary switch to ADDRESS.
- STEP 17 By pressing the CONSOLE ADDRESS REGISTER DISPLAY pushbuttons, enter the value of 00121<sub>16</sub> if the printer is controlled by processor 1, or 00141<sub>16</sub> if the printer is controlled by processor 2.
- STEP 18 Press the CONSOLE RUN pushbutton. Record the value displayed in the CONSOLE DATA REGISTER DISPLAY.
- Step 19 Press the CLEAR DATA pushbutton.



- STEP 20 If all cards have been read, set the CONSOLE MODE SELECT rotary switch to RF-WR.
- STEP 21 Press the CONSOLE RUN pushbutton.
- STEP 22 Set the CONSOLE MODE SELECT rotary switch to OFF.
- STEP 23 Ready the line printer.
- STEP 24 Set the PROCESSOR SELECT rotary switch to the processor selected in Step 17.
- STEP 25 Press the PROCESSOR RUN pushbutton.
- STEP 26 Always reload control memory using the RESET/LOAD procedure after the dump is completed.

#### **EXPLANATION OF STEPS FOR PROCEDURE 2**

- 1 Place system in maintenance mode
- 2 Stops all processors
- 3 Sets up breakpoint stop address for registers
- 4 Selects  $S\mu$  register for display; recording value in  $S\mu$  may be useful for debugging
- 5 Sets console in breakpoint mode
- 6 Allows control storage to be scanned until breakpoint address is met
- 7 Sets up for display of values
- 8 Allows  $S\mu$  to run to zero
- 9 Changes console mode to STOP/STEP
- 10 Allows selected processor to run when run button is pressed
- 11 Allows writing into control storage
- 12 Self explanatory
- 13 Selects loading from card reader
- 14 Causes card information to be read into control storage
- 15 Selects reading of register file

- 16 Preparation for step 17
- 17 Selects  $P_{\mu}$  register for proper processor
- 18 Displays the data in the selected  $P_{\mu}$  register
- 19 Sets up data display to clear  $P_{\mu}$  register
- 20 Selects writing of register file
- 21 Clears  $P_{\mu}$  register
- 22 Prevents accidental interference from console during next steps
- 23 Self explanatory
- 24 Selects processor (1 or 2)
- 25 Starts selected processor (1 or 2) and begins dump
- 26 Prepares system for running other jobs

#### NOTES ON STEPS

Steps 2-8 effectively position control storage to 0000 in order to be in the correct starting position for loading the card deck.

Steps 9-12 load the deck at address 0000 in control storage.

Steps 13-18 preserve the value in the printer processor's  $P_{\mu}$  for debugging purposes.

Steps 19-21 insert the starting address 0000 in the printer processor's  $P_{\mu}$ .

Steps 22-25 set up last steps needed to start the dump going.

## B. PACKET STATUS CODES

### INPUT/OUTPUT PACKET STATUS CODES

- 00 EOA on this disc request
- 01 Channel 12 on the printer carriage control tape
- 01 This request was not processed because an exception condition occurred on a previous request and the file has not been reset.
- 02 Disc EOF
- 02 Unit down
- 03 Card reader EOF
- 03 Invalid function code in command program
- 04 Channel 9 on the printer carriage control tape.
- 04 A Remove request removed this request
- 05 Length error. A record was read which was longer than the buffer space provided for it.
- 06 Tape mark sensed on any Read operation not including Search command
- 06 An ASKATT request is being rejected because an ASKATT is already pending against the device.
- 10 Error status returned from an I/O operation
- 11 Operation timed out
- 12 Unsolicited attention set
- 13 Bad I/O status from Seek or Restore
- 20 Invalid function code in BIO macro
- 21 Invalid block number
- 22 Invalid byte count
- 23 Invalid Control request

- 24 No FDT
- 25 Usage error
- 26 Operation to locked file
- 27 Invalid sequence of operations to a device
- 28 Subfunction field error
- 29 Invalid position (to magnetic tape file that is not maintaining block numbers).
- 30 Invalid unit ordinal on PIO request
- 3F No error recovery for device
- 41 Disc: Timeout
- 42 Disc: Command reject
- 43 Disc write current
- 44 Disc: Seek incomplete
- 45 Disc: Not on line
- 46 Disc: File unsafe
- 47 Disc: Pack change
- 48 Disc: Status not valid
- 49 Disc: Command early
- 4A Disc: Unsolicited Attention
- 4B Disc: Catastrophic error
- 4C Disc: Missed window
- 4D Disc: IFA window
- 4E Disc: Track boundary
- 4F Disc: Read/Write terminate
- 50 Disc: Burst check
- 51 Disc: Lost data

- 52 Disc: No sync compare
- 53 Write operation issued to a drive in read-only mode
- 54 Disc: End of cylinder
- 55 Disc: Busy
- 56 Disc: Invalid seek address
- 58 Disc: Search failed (arm mispositioned)
- 59 Disc: Search failed (no record found)
- 5A Disc: Illegal command program after EOF record
- 5B Disc: Command program does not begin with a Seek
- 61 Printer: Timeout
- 63 Equipment check on IBM 1403
- 64 Printer: Command reject
- 65 Printer: I/O channel error
- 66 Printer: Data check
- 67 Printer: Intervention required
- 68 Universal character set parity error on IBM 1403
- 69 Printer: Bus out check
- 6A Printer: Catastrophic error
- 6B Both Channel 9 and 12 on the printer carriage control tape
- 70 Reader: Catastrophic error
- 71 Reader: Command reject
- 72 Reader: Intervention required
- 73 Reader: Busy
- 74 Reader: Feed check or jam
- 75 Reader: Read check

- 76 Reader: Data check (illegal EBCDIC Character)
- 77 Reader: Timeout
- 78 Reader: Unsolicited attention
- 79 Reader: Initial selection error
- 80 Reader/Punch: Catastrophic error
- 81 Reader/Punch: Command reject
- 82 Reader/Punch: Intervention required
- 83 Card/Reader: Busy
- 84 Reader/Punch: Feed check or jam
- 85 Reader/Punch: Data check (illegal EBCDIC characters)
- 86 Reader/Punch: Read check
- 87 Reader/Punch: Timeout
- 88 Reader/Punch: Unsolicited attention
- 89 Reader/Punch: Initial selection error
- 8A Reader/Punch: Punch check
- A1 Mag tape: Command reject (read reverse)
- A1 Mag Tape: Command reject (protected tape)
- A1 Mag tape: Intervention required (without equipment check)
- A3 Mag tape: Intervention required (with equipment check)
- A4 Mag tape: Bus out check (on command)
- A5 Mag tape: Bus out check (on data)
- A6 Mag tape: Equipment check (Read Write register)
- A7 Mag tape: Equipment check (Write register)
- A8 Mag tape: Equipment check (Read register) on data
- A8 Mag tape: Equipment check (Read register) on command

- A9 Mag tape: Equipment check (Delay register) on data
- A9 Mag tape: Equipment check (Delay register) on command
- AA Mag tape: Data check (Write)
- AB Mag tape: Data check (Write File Mark)
- AC Mag tape: Data check (multiple track error on read)
- AD Mag tape: Data check (single track error on read) includes preamble and postamble errors
- 00 Mag tape: Data check (phase track in error and VRC without Read Write register error)
- AE Mag tape: Data check (trace)
- AF Mag tape: Over run
- B0 Mag tape: Word count zero (Write Command Count unequal to zero).
- B1 Mag tape: Not capable
- B2 Mag tape: Backspace into BOT
- B4 Mag tape: Reverse Read command at BOT
- B5 Mag tape: EOT during any write operation
- B6 Mag tape: Unsolicited attention
- B7 Mag tape: Timeout
- B8 Mag tape: Undefined IOC error
- B9 Mag tape: Internal recovery error No. 1\*
- BA Mag tape: Internal recovery error No. 2\*
- BB Mag tape: Internal recovery error No. 3\*
- BC Mag tape: Unit not cabled to Controller
- E1 Mag tape: ISS channel error

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\*Catastrophic error, forward panic dump to systems engineer.

- E2 Mag tape: Wrong address-in channel error
- E3 Mag tape: Control check channel error
- E4 Mag tape: Transmission check channel error
- E5 Mag tape: Zero byte count

#### **ALLOCATE PACKET STATUS CODES**

- 01 Conflict in file type versus file status
- 02 Error in conditions for uncataloged file
- 03 Spread factor too large for prevailing blocks/track
- 04 Invalid primary or paired file name
- 05 Invalid entry within pack or central catalog
- 06 Duplicate file name in central catalog
- 07 No packs available for allocation
- 08 Duplicate file name in pack catalog
- 09 Adequate pack space not available for allocation
- 0A Invalid index file parameters
- 0B Inadequate space in pack or central catalog
- 0C Index information file space not adequate, purge file
- 0D Invalid block or record size
- 0E Block I/O error
- 0F Physical I/O error

#### **PURGE PACKET STATUS CODES**

- 01 Ident not supplied when labl is absent, or when file is uncataloged
- 02 No define table entry found for ident
- 03 Active FDT exists for file



- 04 Central catalog structure not recognized
- 05 Invalid volume count or volume identification in CLS
- 06 Entry not found in pack catalog
- 07 Entry not found in central catalog
- 08 Pack catalog structure not recognized
- 09 Volume specified in central catalog not mounted
- 0A Inadequate space within pack or central catalog
- 0B No match on modification security code
- 0C Uncatalog option improperly specified
- 0D Error concerning paired file option
- 0E Block I/O error
- 0F Physical I/O error

#### **OPEN PACKET STATUS CODES**

- 02 FILEID match found in FDT/PDT string
- 03 CLS usage and OPEN usage conflicts
- 04 Label address missing for internal Open, no match for ident found in SYSIN, or open for PIO and FIL=PIO
- 05 Index data file, access random, open for output
- 06 Open for input or I/O and HBW=zero
- 07 Not correct volume, operator typed 'ABORT'
- 08 No catalog or CLS entry found
- 09 Cannot locate VOLID in unit table
- 0A Usage conflict on open file and this file
- 0B Not enough memory for an FDT
- 0C Unit table part number is unequal to this part number

- 0D File already open on this pack, cannot dismount and mount new volume
- 0E Wrong volume and active user on shared device
- 0F I/O error on disc
- 10 No PCAT entry found - uncataloged file
- 11 Tape file open for update
- 12 CLS did not specify PIO, open for PIO
- 14 Filename CCAT does not match PCAT
- 15 BDT file type does not match catalog file type
- 16 I/O error initializing files
- 17 MSC on CLS or in OPEN packet does not match MSC on catalog
- 18 File is not cataloged and FIL=DUMMY specified on CLS
- 19 Shared buffer and buffer in use
- 1A B, I, N on label parameter for output file

#### **CLOSE PACKET STATUS CODES**

- 01 FDT not found
- 02 Open volumes do not match catalog
- 03 No PCAT entry found
- 04 Error writing trailer label on tape
- 0F I/O error

## C. HARDWARE DEVICE TYPES

The following hexadecimal device types have been assigned for devices supported by MRX/OS.

10	Card Reader Punch, nonbuffered
11	Card Reader Punch, buffered
12	Card Reader Punch, nonbuffered, early return
13	Card Reader Punch, buffered, early return
20	Card Reader, nonbuffered
21	Card Reader, buffered
22	Card Reader, nonbuffered, early return
23	Card Reader, buffered, early return
50	Line Printer, nonbuffered
51	Line Printer, buffered
52	Line Printer, nonbuffered, early return
53	Line Printer, buffered, early return
59	IBM 1403 Printer
5B	IBM 1403 Printer, early return
60	800 BPI Magnetic Tape
68	1600 BPI Magnetic Tape
70	203 Cylinder Disc Drive
80	Communications Terminal, ASY EIA leased
84	Communications Terminal, ASY 103 A/E, 113B leased
86	Communications Terminal, ASY 103 A/E switched answer only
88	Communications Terminal, ASY 202 C/D leased
8A	Communications Terminal, ASY 202 C/D switched answer only
A4	Communications Terminal, SYN 201 A/B, 202 C/D leased
A5	Communications Terminal, SYN 201 A, 202 C switched answer only



## D. SPOOLER OUTPUT

The Output Spooler produces header and trailer cards for punch files, header and trailer pages for print files, and an accounting file.

### HEADER CARD

Three header cards are punched for each file of each job. They have the following format:

<u>Column</u>	<u>Content</u>
1-15	Plus signs (12, 6, 8 punches)
18-22	First letter of job name from //JOB card
24-28	Second character of job name
30-34	Third character of job name
36-40	Fourth character of job name
42-46	Fifth character of job name
48-52	Sixth character of job name
54-58	Seventh character of job name
60-64	Eighth character of job name
66-80	Plus signs

### TRAILER CARD

A trailer card in the following format is punched for each file in each job.

<u>Column</u>	<u>Content</u>
1-15	Plus sign (12, 6, 8 punches)
17-21	Number of cards punched (includes header and trailer cards)

The trailer card for each file is followed by three blank cards.

### HEADER PAGE

The header page consists of two parts: a header line and a display of the job name in block letters. The header line consists of the job name, file name, universal character set designation (if one has been specified), system time, and system date, all separated from each other by strings of six asterisks.

## TRAILER PAGE

The trailer page contains only the legend LINES PRINTED-nnnnn, where nnnnn is the line count (five digits).

## ACCOUNTING FILE

If an accounting file was specified during system generation, the output Spooler will produce accounting records with the format shown below. One record will be written for each spooled print or punch file. The first block of the file contains, in bytes 0-3, the number of the next block to be written. Accounting records are contained in blocks 2 through the end of data in the file.

<u>Bytes</u>	<u>Content</u>
0	Control
1-8	Job name
9-25	File name
26-27	Number of lines printed (binary)
28-29	Number of cards punched (binary)
30-41	Date
42-53	Time of completion

The user must allocate the accounting file, preferably during Job TWO of the system generation process. The accounting file name is \$OSSPLJA and it resides on the system resident pack. It consists of 54 byte-unblocked records, not in common stored data format. It is the user's responsibility to supply a program to print the accounting file.

The operator can use the RESET ACCT directive (Section 3) to suspend Spooler initiation of files while printing the accounting file. If all printers are designated as spooled devices, there are two convenient means available to print the accounting file:

1. Declare the output of the job to print the accounting file to be spooled, in which case the output will be printed according to its position in the spooled print queue.
2. Before issuing the RESET ACCT directive, issue an UNSPOOL directive for a printer. Then issue the RESET ACCT directive and run a job to list the accounting file on the available printer. When the job completes normally, answer the message IS JOB ACCOUNTING LIST COMPLETE?, and issue a SPOOL directive for the printer.

## **STANDARD FORMS**

Standard forms, specified as 'STD' in the forms mount message, are normally 11 x 15 inch one-part paper for print files and standard 80-column cards for punch files. Header and trailer pages, error messages, and SYSOUT files will be printed only on standard forms. Header and trailer cards will be punched on any form type.





## **E. UNIVERSAL CHARACTER SET IMAGES**

The Output Spooler supports twelve universal character set (UCS) images or a user provided image (UC01 through UC10). The default UCS image is defined during system generation.

The UCS images, in alphabetical order, are shown in Figure E-1.

---

**AN**

1234567890#@/STUVWXYZ&,%JKLMNOPQR-\$\*ABCDEFGHI+. □1234567890#@/STUVWXYZ&,%JKLMNOPQR-\$\*ABCDEFGHI+. □1234567890#@/STUVWXYZ&,%  
JKLMNOPQR-\$\*ABCDEFGHI+. □1234567890#@/STUVWXYZ&,%JKLMNOPQR-\$\*ABCDEFGHI+. □1234567890#@/STUVWXYZ&,%JKLMNOPQR-\$\*ABCDEFGHI+. □

**HN**

1234567890='/STUVWXYZ&,(JKLMNOPQR-\$\*ABCDEFGHI+.)1234567890='/STUVWXYZ&.(JKLMNOPQR-\$\*ABCDEFGHI+.)1234567890='/STUVWXYZ&,(  
JKLMNOPQR-\$\*ABCDEFGHI+.)1234567890='/STUVWXYZ&.(JKLMNOPQR-\$\*ABCDEFGHI+.)1234567890='/STUVWXYZ&.(JKLMNOPQR-\$\*ABCDEFGHI+.)

**PCAN**

1234567890,-PQR#\$/STUVWXYZ□.\*1234567890,-JKLMNOABCDEFGHI+.\*1234567890,-PQR&\$%/STUVWXYZ□.\*1234567890,-JKLMNOABCDEFGHI+.\*  
1234567890,-PQR#\$/STUVWXYZ□.\*1234567890,-JKLMNOABCDEFGHI+.\*1234567890,-PQR&\$%/STUVWXYZ□.\*1234567890,-JKLMNOABCDEFGHI+.\*

**PCHN**

1234567890,-PQR=\$'/STUVWXYZ).\*1234567890,-JKLMNOABCDEFGHI+.\*1234567890,-PQR&\$(/STUVWXYZ).\*1234567890,-JKLMNOABCDEFGHI+.\*  
1234567890,-PQR=\$'/STUVWXYZ).\*1234567890,-JKLMNOABCDEFGHI+.\*1234567890,-PQR&\$(/STUVWXYZ).\*1234567890,-JKLMNOABCDEFGHI+.\*

**PN**

1234567890XY/STUVW|:\_"',=JKLMNOPQR-Z(ABCDEFGHI+.)%\$\*#&@<;-?'>1234567890XY/STUVW|:\_"',=JKLMNOPQR-Z(ABCDEFGHI+.)%\$\*#&@<;-?'>  
1234567890XY/STUVW|:\_"',=JKLMNOPQR-Z(ABCDEFGHI+.)%\$\*#&@<;-?'>1234567890XY/STUVW|:\_"',=JKLMNOPQR-Z(ABCDEFGHI+.)%\$\*#&@<;-?'>

**QN**

1234567890XY/STUVW\_"'\$\*,=JKLMNOPQR-Z(ABCDEFGHI+.)1234567890XY/STUVW<:;#\*,=JKLMNOPQR-Z(ABCDEFGHI+.)1234567890XY/STUVW?>@\*',=  
JKLMNOPQR-Z(ABCDEFGHI+.)1234567890XY/STUVW-~'&\*',=JKLMNOPQR-Z(ABCDEFGHI+.)1234567890XY/STUVW|:%\*',=JKLMNOPQR-Z(ABCDEFGHI+.)

**QNC**

1234567890#@/STUVWXYZ&,%JKLMNOPQR-\$\*ABCDEFGHI"',=1234567890#@/STUVWXYZ&,%JKLMNOPQR-\$\*ABCDEFGHI|:\_1234567890#@/STUVWXYZ&,%  
JKLMNOPQR-\$\*ABCDEFGHI<;-?1234567890#@/STUVWXYZ\$.%JKLMNOPQR-\$\*ABCDEFGHI'?>1234567890#@/STUVWXYZ&,%JKLMNOPQR-\$\*ABCDEFGHI+)(

Figure E-1. UCS Images

**RN**

1234567890XY/STUVW'@\$\*,=JKLMNOPQR-Z(ABCDEFGH+.)1234567890XY/STUVW%@\$\*,=JKLMNOPQR-Z(ABCDEFGH+.)1234567890XY/STUVW#@\$\$\*,=JKLMNOPQR-Z(ABCDEFGH+.)1234567890XY/STUVW@\$\$\*,=JKLMNOPQR-Z(ABCDEFGH+.)1234567890XY/STUVW@\$\$\*,=JKLMNOPQR-Z(ABCDEFGH+.)

**SN**

1234567890&./STUVWXYZ,\$\*JKLMNOPQR-':ABCDEF GHI+abcdefghijklmnopqrstuvwxy@'()-|1234567890&./STUVWXYZ,\$\*JKLMNOPQR-':ABCDEF GHI+abcdefghijklmnopqrstuvwxy@'()-|1234567890&./STUVWXYZ,\$\*JKLMNOPQR-':ABCDEF GHI+abcdefghijklmnopqrstuvwxy@'()-|1234567890&./STUVWXYZ,\$\*JKLMNOPQR-':ABCDEF GHI+abcdefghijklmnopqrstuvwxy@'()-?;!;ç% □

**TN**

1234567890= ./STUVWXYZ, # &JKLMNOPQR-':ABCDEF GHI+abcdefghijklmnopqrstuvwxy@'?;±!\$\*% □ 1 2 3 4 5 6 7 8 9 - + ( ) o \_ ( ) ≠ + > < ≤ ≥ ç ■ [ ] { } { } L J r r ● - |  
1234567890= ./STUVWXYZ, # &JKLMNOPQR-':ABCDEF GHI+abcdefghijklmnopqrstuvwxy@'?;±!\$\*% □ 1 2 3 4 5 6 7 8 9 - + ( ) o \_ ( ) ≠ + > < ≤ ≥ ç ■ [ ] { } { } L J r r ● - |

**XN**

1234567890, .ABCDEFGHIZJKLMNOPQR\*\$STUVWXY1234567890, .ABCDEFGHIZJKLMNOPQR\*\$STUVWXY1234567890, .ABCDEFGHIZJKLMNOPQR\*\$STUVWXY  
1234567890, .ABCDEFGHIZJKLMNOPQR\*\$STUVWXY1234567890, .ABCDEFGHIZJKLMNOPQR\*\$STUVWXY1234567890, .ABCDEFGHIZJKLMNOPQR\*\$STUVWXY

**YN**

1234567890STABCDEFGHIJKLMNOPQRUVWXYZ\*,.1234567890STABCDEFGHIJKLMNOPQRUVWXYZ\*,.#-1234567890STABCDEFGHIJKLMNOPQRUVWXYZ\*,.  
1234567890STABCDEFGHIJKLMNOPQRUVWXYZ\*,.1234567890STABCDEFGHIJKLMNOPQRUVWXYZ\*,.#-1234567890STABCDEFGHIJKLMNOPQRUVWXYZ\*,.

Figure E-1. UCS Images (Continued)



## F. SENSE WORDS FOR MRX 3237 MAGNETIC TAPE DRIVES

Bit	Designation		
	In Word 0	In Word 1	In Word 2
0	Command reject	LRCR error	ER7
1	Intervention required	VRC error	CRCP
2	Bus-out check	CRCR error	CRC0
3	Equipment check	Delay counter error	CRC1
4	Data check	Write counter error	CRC2
5	Overrun	Read counter error	CRC3
6	Word count zero	R/W register error	CRC4
7	Not capable	Noise	CRC5
8	Ready	EPP	CRC6
9	Not present	EP0	CRC7
10	BOT	EP1	Force error mode
11	EOT	EP2	PTIE*
12	Phase	EP3	PRAM error*
13	File protect	EP4	POAM error*
14	Tape mark	EP5	Reserved
15	MTIE	EP6	Reserved

\*These conditions apply only to Phase-Encoded Tape.

<u>Designation</u>	<u>Meaning</u>
Command reject	Set when an illegal command is attempted; that is, write to a file-protected tape.
Intervention required	Set when reject tape unit is set, or addressed tape unit is not ready.
Bus-out check	Set whenever even parity appears on the information bus lines from the channel to the control unit.
Equipment check	Set when reject tape unit (see word 0, bit 1), or an internal error occurs counting delays (word 1, bits 3 through 6).

<u>Designation</u>	<u>Meaning</u>	
Data check	Set when a data check occurs (see Word 1).	
Overrun	Set during a Read or Write operation when the next data byte is received before the previous byte can be processed. Data transfer stops as soon as condition occurs.	
Word count zero	Set during a write operation if transfer of data is prevented before the first byte of data. If set, no tape motion has occurred.	
Not capable	Set if density of mounted tape and tape unit are incompatible.	
Ready	Tape unit is selected and ready.	
Not present	Tape unit is not cabled to controller.	
BOT	Selected tape unit is at load point.	
EOT	Selected tape unit is at end-of-tape.	
Phase	Set if selected tape unit is set to phase-encoded recording mode.	
File protect	Set if tape is mounted without tape ring.	
Tape mark	A tape mark occurred while reading.	
MTIE	A multiple track error occurred while reading.	
LRCR error	Longitudinal Redundancy Check Error (write or read).	
VRC error	Vertical Redundancy Check Error (read register).	
CRCR error	Cyclic Redundancy Check Error (read).	
Delay counter error Write counter error Read counter error R/W register error	Maintenance aids	
Noise		Set if incorrect character spacing or data was detected after the LRC character was read but before EOP time.

<u>Designation</u>	<u>Meaning</u>
EPP-EP7	Output of error pattern register; a maintenance aid.
CRCP-CRC7	Output of Cyclic Redundancy check register; a maintenance aid.
Force Error Mode	Set if control unit is in Maintenance mode and is generating parity errors. This status can be programmed internally (see Table 4-3).
PTIE	Phase Track error; sense word 0, bit 15 indicates whether single or multiple track error.
PRAM error	Preamble error.
POAM error	Postamble error.





# INDEX

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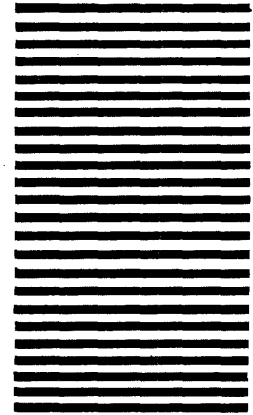
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