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Mini-Reference
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<table>
<thead>
<tr>
<th>DEC</th>
<th>DBOL</th>
<th>RSX</th>
</tr>
</thead>
<tbody>
<tr>
<td>DEC/CMS</td>
<td>EduSystem</td>
<td>UNIBUS</td>
</tr>
<tr>
<td>DEC/MMS</td>
<td>IAS</td>
<td>VAX</td>
</tr>
<tr>
<td>DEClnet</td>
<td>MASSBUS</td>
<td>VMS</td>
</tr>
<tr>
<td>DECSYSTEM-10</td>
<td>PDP</td>
<td>VT</td>
</tr>
<tr>
<td>DECSYSTEM-20</td>
<td>PDT</td>
<td>VT</td>
</tr>
<tr>
<td>DECUS</td>
<td>RSTS</td>
<td>VT</td>
</tr>
<tr>
<td>DECWriter</td>
<td></td>
<td>VT</td>
</tr>
</tbody>
</table>
## Contents

<table>
<thead>
<tr>
<th>Section</th>
<th>Page</th>
</tr>
</thead>
<tbody>
<tr>
<td>PREFACE</td>
<td>v</td>
</tr>
<tr>
<td>ON-LINE HELP FILES</td>
<td>1</td>
</tr>
<tr>
<td>UTILITIES</td>
<td></td>
</tr>
<tr>
<td>BAD Command Summary</td>
<td>3</td>
</tr>
<tr>
<td>BRU Command Summary</td>
<td>5</td>
</tr>
<tr>
<td>CMP Command Summary</td>
<td>9</td>
</tr>
<tr>
<td>DMP Command Summary</td>
<td>13</td>
</tr>
<tr>
<td>DSC Command Summary</td>
<td>17</td>
</tr>
<tr>
<td>Line Text Editor (EDI) Commands</td>
<td>19</td>
</tr>
<tr>
<td>DIGITAL Standard Editor (EDT) Commands</td>
<td>27</td>
</tr>
<tr>
<td>FLX Command Summary</td>
<td>39</td>
</tr>
<tr>
<td>FMT Command Summary</td>
<td>43</td>
</tr>
<tr>
<td>LBR Command Summary</td>
<td>45</td>
</tr>
<tr>
<td>SLP Command Summary</td>
<td>47</td>
</tr>
<tr>
<td>PAT Command Summary</td>
<td>49</td>
</tr>
<tr>
<td>Peripheral Interchange Program (PIP) Commands</td>
<td>51</td>
</tr>
<tr>
<td>Queue Manager Commands</td>
<td>59</td>
</tr>
<tr>
<td>ZAP Command and Switch Summary</td>
<td>63</td>
</tr>
<tr>
<td>COMMAND LINE INTERPRETERS</td>
<td></td>
</tr>
<tr>
<td>Monitor Console Routine (MCR) Commands</td>
<td>67</td>
</tr>
<tr>
<td>DIGITAL Command Language (DCL) Commands</td>
<td>81</td>
</tr>
<tr>
<td>SYSTEM MANAGEMENT TOOLS</td>
<td></td>
</tr>
<tr>
<td>Error Logging System</td>
<td>119</td>
</tr>
<tr>
<td>Procedure for Halting a Job in a Print Queue</td>
<td>125</td>
</tr>
<tr>
<td>PROGRAMMING TOOLS</td>
<td></td>
</tr>
<tr>
<td>On-Line Debugging Tool (ODT) Commands</td>
<td>127</td>
</tr>
<tr>
<td>Task Builder (TKB) Switches and Options</td>
<td>133</td>
</tr>
<tr>
<td>RMS-11</td>
<td></td>
</tr>
<tr>
<td>RMSBCK Utility Summary</td>
<td>143</td>
</tr>
<tr>
<td>RMSCNV Utility Summary</td>
<td>146</td>
</tr>
<tr>
<td>RMSDES Utility Summary</td>
<td>147</td>
</tr>
<tr>
<td>RMSDSP Utility Summary</td>
<td>153</td>
</tr>
<tr>
<td>RMSIFL Utility Summary</td>
<td>155</td>
</tr>
<tr>
<td>RMSRST Utility Summary</td>
<td>157</td>
</tr>
<tr>
<td>RMS-11 Completion Codes and Fatal Error Codes</td>
<td>159</td>
</tr>
</tbody>
</table>
Contents

REFERENCE INFORMATION
ASCII Character Set ........................................... 189
I/O Error Codes ................................................ 171
Directive Error Codes ......................................... 175
Executive Directive Summary ................................ 177
RADIX-50 Conversion Table ................................... 217
Octal/Decimal Conversion Table ................................. 219
Standard File Types ........................................... 221
Notes ............................................................. 223
PREFACE

Manual Objectives
This manual provides a quick reference guide to using specific parts of the
RSX-11M-PLUS operating system. It describes the commands and procedures
for operating the most commonly used parts of the system: the utilities, com-
mand line interpreters, and some other program development tools.

Intended Audience
This manual is intended as a quick reference for RSX-11M-PLUS users who are
already familiar with the system. It assumes you are already familiar with the
documentation in the manual set for the software you are using.

Structure of This Document
This document consists of sections describing each major component of an
RSX-11M-PLUS system. They are:

On-Line Help Files

Utilities
• Bad Block Locator Utility (BAD)
• Backup and Restore Utility (BRU)
• File Compare Utility (CMP)
• File Dump Utility (DMP)
• Disk Save and Compress Utility (DSC)
• Line Text Editor (EDI)
• DEC Standard Editor (EDT)
• File Transfer Program (FLX)
• Disk Volume Formatter (FMT)
• Librarian Utility (LBR)
• Source Language Input Program (SLP)
• Object Module Patch Utility (PAT)
• Peripheral Interchange Program (PIP)
• Queue Manager — Print and Queue Utility (QMG)
• Task Image File Patch (ZAP)
Preface

Command Line Interpreters
- Monitor Console Routine (MCR)
- Digital Command Language (DCL)

System Management Tools
- Error Logging System
- Procedure for Halting a Job in a Print Queue

Programming Tools
- On-Line Debugging Tool (ODT)
- Task Builder (TKB)

Reference Information
- ASCII Character Set
- Directive Error Codes
- Executive Directive Summary in Alphabetical Order by Macro Call
- I/O Error Codes
- RADIX-50 Conversion Table
- Octal/Decimal Conversion Table
- Standard File Types

The Mini-Reference also includes blank pages in the back for you to make notes on other system information that you use often. The binder is designed so that the holes in line printer listings line up with the posts in the binder; therefore, you can also include your own listings in the book.
ON-LINE HELP FILES

Extensive help files for the utilities, MCR, DCL, and many other system components are available to you at your terminal.

For help in logging in to the system, type HELP HELLO (from MCR) or HELP LOGIN (from DCL). You'll need an user-ID and password to log in.

RSX-11M-PLUS systems have two major command languages or CLIs. These are MCR and DCL. Once you log in, your terminal is set to either MCR or DCL. All terminals are set to MCR prior to logging in.

From an MCR terminal, type HELP LIST for information on available help. From a logged-on DCL terminal, type HELP for information on available help.

The general form of the HELP command is:

>HELP[/cli][/OUT[PUT]:filespec] topic [subtopic[s]]

>HELP[/qualifier][/OUT[PUT]:filespec] commandname [switch]

DCL users can also obtain help while entering a command by typing a question mark (?) in response to any DCL prompt. Once the help text has been printed on the terminal, the prompt returns and you can continue to enter the command.

Normally, HELP text is displayed on your screen, but the /OUT[PUT]:filespec qualifier permits you to name a file to which the HELP text is to be written from a logged on terminal.

If you do not include a CLI qualifier to the HELP command, the default is the name of the CLI to which your terminal is set.

Except for /OUT[PUT], each of the following qualifiers has the effect of specifying a file where help can be found. The MCR form of these qualifiers is limited to the first three characters. The DCL form includes the entire qualifier name.

>HELP/LOC[AL] [param[s]]

or

>HELP % [param[s]]

Specifies that the HELP text is in the file HELP.HLP in the default directory on the default volume. HELP/LOC and HELP % are the same.

>HELP/GRO[UP] [param[s]]

Specifies that the HELP text is in the file HELP.HLP in the directory (current group.1) on the default volume.

>HELP/CLI:cliname [param[s]]

Specifies that the HELP text begins in the file LB:[:1,2]cliname.HLP. This qualifier is for installations with alternate CLIs for which HELP is provided.
On-Line HELP Files

>HELP/MCR [param[s]]
Specifies that the HELP text begins in the file LB:(1,2)MCR.HLP. This is the
default for terminals set to MCR.

>HELP/DCL [param[s]]
Specifies that the HELP text begins in the file LB:(1,2)DCL.HLP. This is the
default for terminals set to DCL.

>HELP/FIL[E]:filespec [param[s]]
Specifies any file where HELP text is located. If you do not give a complete file
specification, the defaults are LB:(1,2)filename.HLP.

>HELP/xxx [param[s]]
Specifies that the HELP text is located in the file LB:(1,2)xxx.HLP, where xxx is
a 3-character file name.
BAD COMMAND SUMMARY

Command lines for the Bad Block Locator (BAD) use the following format:

BAD ddn://switch1.../switchn

In this command line, dd is the abbreviation for the volume on which BAD is being run and n is the unit number of the volume.

BAD switches are:

ALLOCATE BAD ddn://ALO:volumelabel

Prompts you for blocks to be allocated to BADBLK.SYS and to be entered in the bad block descriptor file.

CSR ADDRESS BAD ddn://CSR:nnnnn

Specifies the CSR address of a device that is not in a standard location (stand-alone version of BAD only).

LIST BAD ddn://LI

Lists bad blocks as they are located.

MANUAL BAD ddn://MAN

Allows you to enter bad blocks, which are then included in the bad block descriptor file.

NOWRITECHECK BAD ddn://NOWCHK

Negates the effect of /WCHK (see below).

OVERRIDE BAD ddn://OVR

Creates the bad block descriptor file on a last-track device.

PATTERN BAD ddn://PAT:m:n

Specifies the double-word data pattern used to locate bad blocks.

RETRY BAD ddn://RETRY

Recovers soft errors.

UPDATE BAD ddn://UPD

Reads the bad block descriptor file and prompts for your entries.
BAD Command Summary

VECTOR BAD ddn:/VEC=nnn

Specifies the interrupt vector address of a device that is not in a standard location (stand-alone version of BAD only).

WRITECHECK BAD ddn:/WCHK

Causes a write-check operation to take place after each write operation (stand-alone version of BAD only). The switch is not valid for DT-, DX-, or DY-type devices.
BRU COMMAND SUMMARY

Command lines for the Backup and Restore utility (BRU) use the following format:

 ![Image](image)

In this command line, qualifier(s) are any of the command qualifiers listed below, indevs are the physical device or devices from which data is transferred, filespec is the particular file or category of file to be backed up or restored, and outdevice(s) are the output devices to which data is being transferred.

BRU qualifiers are:

/APPEND

Appends new backup data to a tape, or to a disk if you are using the /IMAGE qualifier.

BACKUP_SET:name

Specifies the name of the backup set to be placed on tape or disk.

/BAD: MANUAL AUTOMATIC OVERRIDE

Enters the locations of bad blocks on volumes. The default is /BAD:AUTOMATIC.

/BUFFERS:number

Specifies the default number of directory File Control Blocks (FCBs) kept by the ACP for the volume.

/COMPARE

Compares the data on the output volume to the data on the input volume and reports any differences.

/CREATED: BEFORE:dd-mmm-yy
BEFORE:hh:mm:ss
BEFORE:(dd-mmm-yy hh:mm:ss)
AFTER:dd-mmm-yy
AFTER:hh:mm:ss
AFTER:(dd-mmm-yy hh:mm:ss)

Directs BRU to process files created before or after a specified date and/or time.
BRU Command Summary

/DENSITY: number
   Specifies the data density at which BRU writes to tape.

/DIRECTORY
   Displays information (such as backup set names, file names, or volume
   number of a tape or disk) for a specified tape or disk volume.

/DISPLAY
   Displays at your terminal the UFD and file name of each file being backed
   up.

/ERRORS: number
   Specifies the number of nonfatal I/O errors BRU tolerates on tape reads
   during a restore operation before automatically terminating execution. The
   default is 25(decimal) errors.

/EXCLUDE
   Excludes selectively from a backup or restore operation all files specified
   on the command line.

/EXTEND: number
   Specifies the number of blocks by which a file is extended when that file
   has exhausted its allocated space.

/HEADERS: number
   Specifies the number of file headers to allocate initially to the index file.

/IMAGE: SAVE
   RESTORE
   Specifies that you want to do a multiple disk-to-disk backup or restore
   operation. Use the SAVE option for backup operations. Use the RESTORE
   option for restore operations.

/INITIALIZE
   Directs BRU to initialize the output disk before proceeding with the opera-
   tion.

/INVOLUME: name
   Specifies the volume label of the input disk.
/LENGTH:number
    Specifies the length of the output tape in decimal feet.

/MAXIMUM:number
    Specifies the maximum number of files that can be placed on a volume as
determined by the number of file headers in the volume's index file.

/MOUNTED
    Allows you to back up files from a disk that is mounted (with the MCR or
    DCL MOUNT commands) as a Files-11 volume.

/NEW_VERSION
    Directs BRU to resolve conflicts resulting from files with identical file
    specifications by creating a new version of the file.

/NOINITIALIZE
    Specifies that you do not want to initialize the output disk because it is
    already in Files-11 format.

/NOPRESERVE
    Specifies that you do not want to preserve file identifiers.

/NOSUPERSEDE
    Specifies that where files on the input and output volumes have identical
    filespecs, the input files will not be transferred and the output files will not
    be superseded. The default is /NOSUPERSEDE.

/OUTVOLUME:name
    Specifies the volume label of the output disk. The label can be up to 12(10)
    characters long.

/POSITION:  BEGINNING
            MIDDLE
            END
            BLOCK:number
    Specifies the location of the index file on the output disk volume.
BRU Command Summary

/PROTECTION:  SYSTEM:value
OWNER:value
GROUP:value
WORLD:value

Specifies the default protection status for all files created on the output volume being initialized.

/REVISED:  BEFORE:dd-mmm-yy
BEFORE:hh:mm:ss
BEFORE:(dd-mmm-yy hh:mm:ss)
AFTER:dd-mmm-yy
AFTER:hh:mm:ss
AFTER:(dd-mmm-yy hh:mm:ss)

Directs BRU to process files revised before or after a specified date and/or time.

/REWIND
Rewinds the first tape of a tape set before performing the operation.

/SUPERSEDE
Resolves file specification conflicts by deleting the old file on the output volume and replacing it with the file from the input volume. (The default is /NOSUPERSEDE.)

/TAPE_LABEL:label
Specifies a 6-character ANSI volume identifier for identifying the tape volume.

/UFD
Directs BRU to create UFDs (if they do not already exist) on a mounted output volume, then copy into them the files from the same UFDs on the input volume.

/VERIFY
Copies data from the input volume to the output volume, compares the volumes, and reports any differences.

/WINDOWS:number
Specifies for the output disk the default number of mapping pointers allocated for file windows. The default number is the same as that for the input disk.
CMP COMMAND SUMMARY

Command lines for the File Compare Utility (CMP) use the following format:

\[ \text{CMP} \ [\text{outfile}]/\text{sw}...=/\text{infiles1, infiles2} \]

In this command line, outfile is the file specification for the output file that contains the comparison, sw is one or more of the CMP switches described below, and infiles are the two files being compared.

If you do not specify an output file, CMP output defaults to T1: and is displayed on your terminal. If you specify the equals (=) sign, but no output file, CMP displays only the total number of differences it finds in the input files.

CMP switches, which always modify the output file specification or the default output file specification, are:

**BLANK LINES**  \[ \text{[outfile]}/[-]BL=/\text{infiles1, infiles2} \]

Specifies that blank lines in both files be included in compare processing. If specified in the form /-BL, blank lines are not included in compare processing. /-BL is the default switch.

**CHANGE BARS**  \[ \text{[outfile]}/[-]CB=/\text{infiles1, infiles2} \]

Specifies that CMP list infiles2 with change bars, in the form of exclamation marks (!), to denote each line that does not have a corresponding line in infiles1. /-CB is the default switch.

You can change the change bar character from the exclamation mark to any character you wish by means of the /NB switch, described below.

When a section of lines in infiles1 has been deleted in infiles2 (the output listing file), the first line after the deleted lines is marked.

**COMMENTS**  \[ \text{[outfile]}/[-]CO=/\text{infiles1, infiles2} \]

Specifies that CMP include comments (that is, text preceded by a semicolon) in compare processing. /-CO is the default switch.

**DIFFERENCES**  \[ \text{[outfile]}/[-]DI=/\text{infiles1, infiles2} \]

Specifies that CMP list the differences between the two files (rather than marking the lines in infiles2). /-DI is the default switch.

/BC and /DI are mutually exclusive switches. If both are specified, /BC overrides /DI.
FORM-FEED  [outfile]/[-]FF--inflile1,infie2

Specifies that CMP include records consisting of a single form-feed character in compare processing. /-FF is the default switch.

LINES  [outfile]/L:n--inflile1,infie2

Specifies that a number (n) of lines must be identical before CMP recognizes a match. If you do not specify this switch, CMP searches for three identical lines to match (/L:3).

When it encounters a match, CMP prints all the preceding nonmatching lines, along with the first line of the matched sequence of lines, to help you find the location in the code where the match occurred.

LINE NUMBER  [outfile]/LN--inflile1,infie2

Specifies that lines in the output file be preceded by their line number. Line numbers are incremented by one for each record read, including blank lines. /LN is the default switch. If you specify /SL (below), /LN is unnecessary.

MERGE BLANKS  [outfile]/[-]MB--inflile1,infie2

Specifies that CMP include all blank and tab characters in a line in compare processing. If you specify /-MB, CMP interprets any sequence of blank and/or tab characters as a single blank character in compare processing. However, all spaces and tabs are printed in the output listing. /MB is the default switch.

SLP FILE  outfile/SL[:au]--inflile1,infie2

Directs CMP to generate an output file suitable for use as SLP command input. When you specify /SL, CMP generates the SLP command input necessary to make inflile1 identical to inflie2. If a 1- to 8-character alphanumeric symbol is included (:.au), an audit trail is specified for SLP input.

SPOOL  outfile/[-]SP[:n]--inflile1,infie2

Specifies that the output file be spooled on the line printer. You can optionally specify the number (in octal or decimal) of files to be spooled. /-SP is the default switch.

This switch applies only if you have the print spooler task (RSX-11M) or the Queue Manager (RSX-11M/M-PLUS) installed.
TRAILING BLANKS  [outfile]/[-]TB=infile1,infile2

Specifies that CMP include all trailing blanks on a line in compare processing. If you specify /-TB, CMP ignores all blanks following the last nonblank character on a line. When you specify /-CO and /-TB together, blanks that precede a semicolon (;) are considered trailing blanks and are ignored. /TB is the default switch.

VERTICAL BAR  outfile/VB:nnn=infile1,infile2

Specifies an octal character code for use as a change bar. You use this switch with the /CB switch. The value nnn specifies the octal character code. For example, you can specify /VB:174 for a vertical bar (if your printer is capable of printing the vertical bar character). /VB:041 (for the exclamation mark) is the default switch.
DMP COMMAND SUMMARY

Command lines for the file dump utility (DMP) use the following format:

[outfile][/switch(es)]=inspec[switch(es)]

In this command line outfile specifies the output file dump, switch(es) is one or more of the DMP switches described below, and inspec specifies the input device and file or input device only.

The command line elements take the following defaults:

ASCII   outfile=infle/AS
        Specifies that data be dumped one byte at a time in ASCII mode.

BASE ADDRESS   outfile/BA:n:m=infle
        Specifies a 2-word base block address.

BLOCK   outfile=infle/BL:n:m
        Specifies the first and last logical blocks to be dumped.

BYTE   outfile=infle/BY
        Specifies that data be dumped in octal byte format.

DECIMAL   outfile=infle/DC
        Specifies that data be dumped in decimal word format.

DENSITY   outfile=infle/DENS:n
        Specifies density of an input magnetic tape when DMP is in device mode only. Values for n can be 800, 1600, or 6250.

FILE ID   outfile=infle/F:filename:sequencenumber
        Specifies the input file with its file-ID instead of its name (File Mode only).

HEADER   outfile=infle/HD:F
        Includes the file header in the data dumped. "F", the default, specifies a formatted Files-11 dump for the header. "U" specifies an unformatted octal dump.

HEADER FILES-11   outfile=infle/ HF
        Specifies the format for data blocks that have the Files-11 header structure. Other blocks are dumped as unformatted octal.
HEXDECIMAL  outfile/HX=infile

Specifies that data be dumped in hexadecimal byte format.

IDENTIFICATION /ID

Causes the current version of DMP to be displayed or printed.

LOGICAL BLOCK  outfile=infile/LB

Requests the starting (logical) block number and a contiguous or noncontiguous indication for the file to be displayed.

LOWERCASE  outfile=infile/LC

Specifies that the data should be dumped in lowercase characters. This switch is valid only if the output device supports lowercase characters.

LONG WORD  outfile=infile/LW

Specifies that data be dumped in hexadecimal double-word format.

MEMORY  outfile/MD-[n]=ineline

Controls line number sequencing during a memory image dump.

OCTAL  outfile=infile/OCT

Specifies that the data should be dumped in octal format. If no DMP format switches are included, the default is octal format.

RECORD  outfile=infile/RC

Dumps one record at a time in the specified format.

REWIND  outfile/RW=infile/RW

Issues a rewind command to the tape driver before referencing a specified tape. You can use the /RW switch at any time to reposition a tape at beginning-of-tape (BOT).

RADIX-50  outfile=infile/RS

Dumps in Radix-50 word format.

SPACE BLOCKS  outfile=infile/SB: [--]-in

Specifies the number of blocks DMP spaces forward (n) or backwards (-n) on a tape.
SPACE FILES  outfile=infile/SF[+n]
   Specifies the number of end-of-file (EOF) marks DMP spaces forward (n) or backward (-n) on a tape.

SPOOL  outfile/SP--infile
   Spools the dump file (the output file) to the line printer.

WORD  outfile=infile/WD
   Specifies that data be dumped in hexadecimal word format.
DSC COMMAND SUMMARY

Command lines for the Disk Save and Compress utility (DSC) use the following format:

DSC outdev[:label][/switches]::indev[:label][/switch]

In this command line, outdev[:s] is the physical volume or volumes to which data is copied, label identifies the volume id of the output or input device, switches are the command switches described below, and indev[:s] is the physical volume or volumes from which data is copied.

DSC switches are:

**APPEND** outdev:/AP::indev

Appends a DSC file to the first volume of a magnetic tape set that already contains a DSC file.

**BAD**

MAN

NOAUTO

outdev:/BAD::MAN::NOAUTO::indev

OVR

MAN::OVR

Allows manual entry of bad block locations; can supplement, override, or ignore the disk's own bad block file.

**BLOCKS** outdev:/BL::n::indev

Sets the number of 256-word blocks DSC can include in each of its two buffers.

**COMPARE** outdev:/CMP::indev

Compares input and output volumes for differences.

**CSR** outdev:/CSR::nnnn::indev

Specifies control status addresses for a specific Status Control Block (SCB). /CSR is valid only with the stand-alone version of DSC.

**DENSITY** outdev:/DENS::nnnn::indev

Overides the DSC default storage density for magnetic tapes of 800 bpi. The first form of the switch creates magnetic tapes at 1800 bpi density. The second form (the split density switch) creates magnetic tapes with volume header information at 800 bpi and the rest of the tape at 1000 bpi.
DSC Command Summary

REWIND  outdev/RW~indev
Rewinds all volumes in a magnetic tape set before execution of the current command line.

TM02  outdev/TM02~nn~indev
Specifies the physical unit number of the formatter on the RH11/RH70 controller (stand-alone version of DSC only).

UNIT  outdev/UNIT~nn~indev
Specifies the physical unit that will be referenced by the indicated Unit Control Block (UCB). The /UNIT switch is valid only with the stand-alone version of DSC.

VERIFY  outdev/VE~indev
Copies data from the input volume and compares it with the output volume following the data transfer.

VECTOR  outdev/VEC~nnn~indev
Specifies the vector address for a specific Status Control Block (SCB). The /VEC switch is valid only with the stand-alone version of DSC.
LINE TEXT EDITOR (EDI) COMMANDS

In this section, the following conventions are used:

The asterisk (*) can be used in place of any number in an EDI command. It is read as 32,767.
An ellipsis (...) can be used in many search strings to identify characters between the first and last characters of the string.
EDI allows the use of abbreviations in commands.

ADD A string
Adds the text in the string to the end of the current line.

ADD AND PRINT AP string
Adds the text in the string to the end of the current line and displays the entire line on the terminal.

ALTMODE ALT
or
ESCAPE ED
In Line Mode, prints previous line and makes it the new current line. In Block Mode, exits from input mode.

BEGIN B
Sets the current line to the line preceding the top line in the file or block buffer. In Line Mode, creates a copy of the file.

BLOCK ON/OFF BL
Changes from the EDI Block Mode to Line Mode or from Line Mode to Block Mode to access text.

BOTTOM BO
Moves the line pointer to the bottom of the current block (in Block Mode) or to the bottom of the file (in Line Mode).

CHANGE [n]/C/string1/string2/]
Replaces string 1 with string 2 in the current line n times.
Line Text Editor (EDI) Commands

CLOSE  CL [filespec]
   Transfers the remaining lines in the block buffer and input file to the
   output file, and closes all files. Renames output files to filespec.

CLOSE AND DELETE  CDL [filespec]
   Transfers the remaining lines in the block buffer and the input file to the
   output file, closes the output file, and deletes the input file.

CLOSE SECONDARY  CLOSES
   Closes the secondary input file.

CONCATENATION CHARACTER  CC [letter]
   Changes the concatenation character used to separate EDI commands on
   one line to the character specified. (The default concatenation character is
   &.)

CTRL/Z  Ctl-Z
   Closes all open files and terminates the editing session.

DELETE  D [n] or D [-n]
   Deletes the current line and the next n-1 lines if n is a positive number.
   Deletes n lines preceding the current line, but not the current line, if n is a
   negative number. Negative numbers can only be used in Block Mode.

DELETE AND PRINT  DP [n] or DP [-n]
   Deletes lines specified and prints the new current line.

END  E
   Sets the last line in a file or block buffer as the current line.

ERASE  ERASE [n]
   Erases the current line in Line Mode. Erases the current block buffer and
   the next n-1 blocks in Block Mode.

ESCAPE  ESC
   or
   ALTMODE  ALT
   In Line Mode prints the previous line and makes it the new current line. In
   Block Mode, exits from Input Mode.
EXIT EX [filespec]
Transfers the remaining lines in the block buffer and input file to the output file. Closes files, renames the output file if specified, and terminates the editing session.

EXIT AND DELETE ED [filespec]
Transfers the remaining lines in the block buffer and input file to the output file, closes files, and renames the output file if specified. Deletes the input file and terminates the editing session.

FILE FIL filespec
Transfers lines from the input file to both the output file and the specified file until a form feed or end-of-file is encountered. The original file remains intact. This command is only used in Line Mode.

FIND |n|F string
Finds the line in the current block starting with string, or the nth line, starting with string. A string must begin in the first column of the line to be a match.

FORM FEED FF
Inserts a form feed into the block buffer.

INSERT IN |string|
Enteres the specified string immediately following the current line. If no string is specified, EDI enters Input Mode.

KILL KILL
Closes the input and output files and deletes the output file.

LINE CHANGE |n|LC:string1/string2/|
Changes all occurrences of string 1 in the current line (and n-1 lines) to string 2.

LIST ON TERMINAL LI
Displays on the terminal all lines remaining in the block buffer or input file, starting with the current line.

LIST ON PSEUDO DEVICE LP
Displays on the Console Listing Device, CLD, lines remaining in the block buffer or input file, starting with the current line.
Line Text Editor (EDI) Commands

LOCATE \[n\]L string
Locates the nth or next occurrence of the specified string. In Block Mode, the search stops at the end of the current block.

MACRO MACRO \[x\] definition
Defines the macro number \[x\] for the EDI commands in the definition. The value \[x\] can be 1, 2, or 3.

MACRO CALL \[MC\]:\[n\]
Retrieves a macro definition stored in the file \[MC\]:\[n\].

MACRO EXECUTE \[n\]M\[x\] \[a\]
Executes macro \[x\] \[n\] times, while passing numeric argument \[a\] to it. The value \[x\] can be 1, 2, or 3.

MACRO IMMEDIATE \[n\] <definition>
Defines and executes a macro \[n\] times. Stores it as macro number 1.

NEXT \[N\] \[n\] or \[N\] [-\[n\]]
Establishes a new current line \[n\] lines away from the current line.

NEXT AND PRINT \[NP\] \[n\] or \[NP\] [-\[n\]]
Establishes a new current line and displays it on the terminal.

OPEN SECONDARY \[OP\] \[filespec\]
Opens the specified secondary input file.

OUTPUT ON/OFF \[OU\] \[ON\] or \[OU\] \[OFF\]
Continues or discontinues a file transfer to output file in Line Mode.

OVERLAY \[O\] \[n\]
Deletes \[n\] lines, enters Input Mode, and inserts new lines, as typed, in place of the deleted lines.

PAGE \[PA\] \[G\] \[n\] or \[PA\] \[-\[n\]]
Enteres Block Mode. Reads page \[n\] into current block buffer. If \[n\] is less than the current page, EDI goes to the top of the file first. Pages are set by form feed characters.
PAGE FIND  [n]PF string
Searches successive block buffers for the nth occurrence of the string. The string must begin in the first column of the line.

PAGE LOCATE  [n]PL string
Searches successive blocks for the nth occurrence of the string. The string can begin anywhere on the line.

PASTE   PA/string1/string2/]
Searches for all remaining lines in the input file or block buffer that contain string 1 and replaces them with string 2.

PRINT   P [n]
Displays the current line and the next n-1 lines on the terminal. The last line printed becomes the current line.

READ REA n
Reads the next n blocks of text into the block buffer. If the buffer already contains text, the new text is appended to it.

RENEW REN [n]
Writes the current block to an output file and reads a new block n from an input file (Block Mode only).

RETURN  [ctrl]+[D]
Displays the next line on the terminal and makes it the current line. Exits from Input Mode if it is entered as the first character of a line.

RETYPE   R string
Replaces the current line with the specified string, or deletes the current line if no string is specified.

SAVE SA [n] [filespec]
Saves the current line and the next n-1 lines in the specified file. If no file is specified, saves the lines in SAVE.TMP.

SEARCH AND CHANGE  SC/string1/string2/]
Locates string 1 and replaces it with string 2.
Line Text Editor (EDI) Commands

SELECT PRIMARY  SP
Reestablishes the primary file as the input file.

SELECT SECONDARY  SS
Selects the secondary file that will be an input file.

SIZE  SIZE n
Specifies the maximum number of lines that can be read into a block buffer.

TAB  TA ON  or  TA OFF
Turns automatic tabbing on or off.

TOP  TOP]
Sets the current line to the line preceding the top line in the file or block buffer. In Line Mode, creates a copy of the file.

TOP OF FILE  TOF
Returns to the top of the input file in Block Mode and saves all of the previously edited pages. Reads in a new block after writing the output file. This command creates a new version of the file each time it is executed in Line Mode.

TYPE  TY [n]
Displays the next n lines on the terminal. This command is identical to the PRINT command in Line Mode. However, in Block Mode, the line pointer remains at the current line unless EDI reached the end of a block.

UNSAVE  UNS [filespec]
Inserts all lines from the specified file following the current line. If no file name is used, EDI uses SAVE:TMP.

UPPER CASE  UC ON  or  UC OFF
Enables or disables conversion of lowercase letters to uppercase letters when they are entered at a terminal.

VERIFY  V ON  or  V OFF
Selects whether the operation of the LOCATE and CHANGE commands will be verified (printed on the terminal) after the line is located or changed.
WRITE  W

Writes the contents of the block buffer to the output file and erases the block buffer.
DIGITAL STANDARD EDITOR (EDT) COMMANDS

EDT lets you edit text in line mode and character mode, using the keypad or nokeypad functions.

LINE MODE COMMANDS

You can tell EDT is in line mode when you receive an asterisk prompt (*). You can then edit the text on a line-by-line basis. Enter a ⍋H to exit from EDT. The following commands work from EDT line mode:

CHANGE  C [range]

Starts either keypad or nokeypad character editing, depending upon the terminal type. EDT defaults to keypad character editing for VT52 and VT100 terminals and nokeypad editing for all other terminals. EDT puts the cursor ahead of the location you specify as range.

Entering a ⍋R returns you to line mode.

CLEAR  CL textbuffer

Deletes the contents of a text buffer, but does not delete the buffer itself.

COPY  CO [range–1] TO [range–2][/qualifier(s)]

Copies text from range–1 to the location in front of the line you specify in range–2. EDT can copy from one buffer to another or from one place to another within a text buffer.

Qualifiers:

QUERY  Verifies each line to be inserted.

DUPLICATE  Inserts the range of text more than once.

DEFINE KEY  DEF K{[GOLD]}[number: CONTROL letter: GOLD character] AS ‘string’

Redefines keypad keys in terms of nokeypad commands. The following table describes the command format:

| Braces [ ] | You must choose one of the options. |
| OR : | Separates choices. |
| Brackets [ ] | You can use GOLD to specify the alternate function of a keypad or control key. |
| number | Number of the keypad key. |
DIGITAL Standard Editor (EDT) Commands

Control letter Enter CONTROL and a character from A to Z.
GOLD The GOLD keypad key.
GOLD character Enter GOLD and any keypad character except 0-9, !, @, #, and $.
'string' One or more nokeypad commands used to redefine the key.

DEFINE MACRO DEF M macroname
Assigns a name to a sequence of editor commands stored in the file macroname.

DELETE D [range][][qualifier]
Deletes the lines specified and displays a message stating the number of lines deleted. When you do not specify a range, deletes the current line.
Qualifier:
QUERY Verifies each line to be deleted

EXIT EX [filespec][][qualifier(s)]
Ends an editing session and moves the main text buffer to the output file specified. You can define the name of the output file in the command line that invokes EDT or in the EXIT command.
Qualifiers:
SEQUENCE[]:[initial][increment] Assigns integer line numbers before the text transfer and places them in a fixed field in the file. You define the initial number and the increment between numbers.
SAVE Saves the journal file created during the editing session.

FIND F range
Locates the line or lines specified by range.

HELP H [topic][subtopic]
Displays information on requested topics or subtopics.
**INCLUDE**  INC filenames [range]

Copies disk files into text buffers. Filenames is the name of the file you want to copy. EDT copies the file to the current text buffer in front of the first line of the range.

**INSERT**  I [range]:line to be inserted]

Inserts text into a buffer. When you specify a range, EDT inserts the text before the first line of the range. If you do not specify a range, EDT inserts the text before the current line.

**MOVE**  M [range-1] TO [range-n2]:[qualifier]

Moves the lines in range-1 to the location preceding range-2. Deletes the text from range-1.

**null (Implied TYPE)**  [range]#

Displays the next line of text. You can specify a range of text to be displayed. However, the REST, WHOLE, BEGIN, END, LAST, and ALL range specifications must be preceded by a percent sign (%).

**PRINT**  P filenames [range]

Copies text from a text buffer into a file. Range selects a portion of the buffer to be copied. Without a range, the default is the current text buffer.

**QUIT**  QUIT:[qualifier]

Ends the current editing session without saving the main text buffer.

**SAVE**  Saves the contents of the journal file under the name specified in the command line to invoke EDT.

**REPLACE**  R [range]:line to be inserted]

Deletes lines specified in range and inserts new text. EDT inserts the new text at the first line in the range specification. Without a range, EDT deletes the current line and inserts the new text in its place.
DIGITAL Standard Editor (EDT) Commands

RESEQUENCE RES [range][/qualifier]
Assigns new line numbers to the contents of a buffer or the range of lines specified. Without a range, EDT resequences all lines in the current text buffer.
Qualifier:
SEQUENCE[/initial[/increment]] Sets the first line resequenced to the initial value and increments succeeding numbers by the increment specified.

SET SET parameter
Control the operating characteristics of EDT.
Parameters:
CASE {UPPER: LOWER: NONE}
    EDT flags upper- or lowercase characters with a preceding apostrophe. The default is NONE, which does not flag any characters.
CURSOR top:bottom
    Sets the number of lines over which the cursor moves on the display.
    Top is the number of lines for the upper limit and bottom is the number of lines for the lower limit
ENTITY {WORD: SENTENCE: PARAGRAPH: PAGE: 'string'}
    Sets user-definable entities for character editing.
KEYPAD
    Allows the keypad to control the character-editing operation.
LINES number
    Sets the number of lines that EDT displays on the terminal during character editing.
MODE {LINE: CHANGE}
    Used in a start-up command file to control the editing mode entered at the end of the initialization.
[NO]NUMBERS
    Determines whether EDT displays line numbers in line editing. Default: NUMBERS
[NO]QUIET
    Controls the ringing of the terminal bell when an error occurs in change mode editing. Default: NOQUIET
SCREEN width
Controls the maximum width of the line EDT displays. Default: 80 characters

SEARCH [EXACT: GENERAL]
EDT searches for exact comparisons of case or ignores case in searches. Default: GENERAL
[BOUNDED: UNBOUNDED]
EDT stops searching at the next page entity marker. Default: UNBOUNDED
[BEGIN: END]
EDT leaves the cursor at the end of the string when it is found. If the string is not found, the cursor does not move. Default: BEGIN
[TAB n: NOTAB]
Sets the number of spaces for the first tab stop in keypad editing. Remaining tabs are unchanged. Default: 8

TERMINAL [HCPY: VT52: VT100]
Determines the type of terminal in use. EDT gets the terminal type from the operating system and this command overrides that setting.

[NO]TRUNCATE
Ends display of a line at the value of SET SCREEN. Default: TRUNCATE

[NO]VERIFY
Enables or disables display of commands from command files and macro commands. Default: NOVERIFY

[NO]WRAP n
Sets or eliminates a line length limit of n character positions. Default: NOWRAP

SHOW SHOW parameter
Displays the operating characteristics of EDT.

Parameters:

BUFFER
Lists the buffers in use during the current editing session and the number of lines of text in each.

CASE
Shows the current case setting.

CURSOR
Shows the current cursor range.
DIGITAL Standard Editor (EDT) Commands

ENTITY [WORD: SENTENCE: PARAGRAPH: PAGE]
Shows the current setting for the user-definable entity specified.

KEY [GOLD|number: CONTROL|letter: GOLD|character]
Shows the definition of the specified key in change mode.

SCREEN
Shows the current setting for screen width.

SUBSTITUTE S[string-1/string-2][range][qualifier(s)]
Replaces occurrences of string-1 with string-2 within the range specified.
Without a range, EDT replaces the next occurrence of string-1 with string-2. EDT returns to the first line in the specified range at the end of the substitution.

Qualifiers:

B[RIEF]:[n] EDT displays the first n characters of the line containing string-1. The default for n is 10.

Q(QUERY) EDT prompts you to verify each line of range-1 to be moved.

NOT(TYPE) EDT does not display the lines on which it makes substitutions.

SUBSTITUTE NEXT [S] N[string-1/string-2]
EDT searches for the next occurrence of string-1 from the current location forward. The line on which the substitution is made becomes the current line.
If you do not specify string-1 or string-2, EDT uses the strings specified in the last SUBSTITUTE command.

TYPE T[range][qualifier(s)]
Displays the specified range of lines, or all the lines in the current text buffer.

Qualifiers:

B[RIEF]:[n] EDT displays the first n characters of the selected lines. The default for n is 10.

S[TAY] EDT does not change the cursor position.
WRITE WR filespec [range][qualifier]

Copies the defined range of text from a text buffer to the specified file. Does not change the contents of the text buffer. Without a range, EDT copies the contents of the current text buffer to the file.

Qualifiers:

SEQUENCE[:initial[:increment]] EDT writes the line numbers as a part of the output file.

CHARACTER MODE KEYPAD EDITING COMMANDS

The keypad editing functions are those used when you enter Character Mode with the EDT CHANGE command and set the terminal to use the keypad keys with the SET KEYPAD command. You can also use all line mode commands with the Gold Command keys.

DELETE Erases the character to the left of the cursor
GOLD integer Repeats any keypad function except SPECINS, DELETE, and CTRL/U
LINE FEED Erases the word to the left of the cursor
CTRL/A Computes tab level
CTRL/C Aborts the current command and returns EDT to keypad editing
CTRL/D Decreases tab level
CTRL/E Increases tab level
CTRL/K Defines key
CTRL/T Adjusts tabs
CTRL/U Deletes to start of line
CTRL/W Refreshes screen
CTRL/Z Returns to line-editing prompt

NONKEYPAD CHANGE MODE COMMANDS

No keypad commands have only one format, described below. They can be used in a series without any delimiter between commands. However, no abbreviations are allowed.
DIGITAL Standard Editor (EDT) Commands

ADVANCE  [-]ADV

Sets all commands forward (to the right and down from the current cursor position). [-]ADV sets commands backward (to the left and up from the current cursor position).

APPEND  [+ : [-]count]APPEND[ + : [-]entity-count]
        [+ : [-]entity[+ buffer]]

Moves the specified entities to another text buffer and deletes the text from the current buffer. Buffer names the receiving text buffer. If no buffer is specified, EDT uses the PASTE buffer.

ASCII  [count]ASC

EDT displays an ASCII character when you specify the character's decimal number representation.

BACK  BACK

Sets all commands backward (to the left or up from the cursor). Override with a plus sign preceding another command.

CHANGE CASE  CHGC[entity]

Changes the case of the characters within an entity.

CUT  [+ : [-]rep]CUT[ + : [-]entity-count] [+ : [-]entity[+ buffer]]

Deletes the moved text from the current text buffer and moves it to the specified text buffer, or to the paste buffer if no other buffer is specified. Deletes previous contents of the receiving text buffer.

DELETE  [+ : [-]rep]DELETE[ + : [-]entity-count] [+ : [-]entity[+ buffer]]

Deletes a specified number of entities.

DEFINE KEY  DEFK

Defines the keystrokes used in keypad editing in terms of keypad commands.

EXIT  EX

Exits EDT from keypad editing back to line editing.

EXTENDED  EXT

Enters line mode commands when EDT is in character mode. Returns to change mode after executing the command.
DIGITAL Standard Editor (EDT) Commands

Places the maximum amount of text on each line within the limit determined by the SET WRAP command. Default: 80 characters.

INSERT  I
Prepares the current text buffer for insertion of text in front of the cursor position.

Moves the cursor the specified number of entities.

Copies the contents of the specified text buffer in front of the current cursor location.

QUIT  QUIT
Ends the editing session without saving any edits and returns to the monitor (CLI) prompt.

Deletes the text specified and enters insert mode so that you can replace the deleted text. To exit from insert mode here, press CTRL Z.

REFRESH  REF
EDT refreshes the entire screen.

SUBSTITUTE  [ + : ] count | Substitute | s1 | s2 |
Replaces one string of characters with another. Count defines the number of substitutions and minus (-) indicates a backward search. Use any non-alphanumeric character as a delimiter, in place of the /.

SELECT  SEL
Lets you select a range of text by entering SEL at one end and moving the cursor to the other end. The select range is the text between the cursor and the position marked by SEL.

SHIFT LEFT  [count] | Shift Left |
Shifts the screen image to the left. The amount shifted is equal to the count you specify times 8 (one tab stop). The default count is 1.
DIGITAL Standard Editor (EDT) Commands

SHIFT RIGHT  [count]SHR
Shifts the screen image to the right. The amount shifted is equal to the
count you specify times 8 (one tab stop).

SUBSTITUTE NXT  [·:·]countSN
Uses the s1 and s2 defined in the last substitute command to replace the
next occurrence of s1 with s2. Count defines the number of substitutions,
and a minus (−) sign indicates a backward search.

TAB  TAB
When no tab size is specified with SET TAB or when the cursor is not at
the beginning of a line, TAB inserts a tab character at the cursor position.
When a tab size is specified with SET TAB, and the cursor is at the
beginning of a line, TAB moves the cursor to the column position specified
in the SET TAB command.

TAB ADJUST  [·:·][rep]TADJ·:·[entity-count]
[·:·][entity][buffer]
Adjusts the tab level for the selected range of lines.

TAB COMPUTE  TC
Sets the indentation level count to the value obtained by dividing the
current cursor column position by the SET TAB number.

TAB DECREMENT  [count]TD
Decreases the indentation level count.

TAB INCREMENT  [count]TI
Increases the indentation level count.

TOP  TOP
Places the current line at the top of the screen.

UNDELETE CHARACTER  [count]UNDC
Inserts the last character deleted by a DELETE CHARACTER command
into the current text buffer (in front of the cursor).

UNDELETE WORD  [count]UNDW
Inserts the last word deleted by a DELETE WORD command into the
current text buffer (in front of the cursor).
UNDELETE LINE  [count]UNDL
  Inserts the last line deleted by a DELETE LINE command into the current
  text buffer (in front of the cursor).

CIRCUMFLEX  [count]^[A...Z]
  Inserts a control character in the text buffer.

LINE RANGES:
Most EDT commands allow you to specify a range of text on which the action of
the command is performed. These ranges are:

Single Line Ranges:
  .(period)            Current location of cursor.
  number.(decimal)    The line number specified.
  -`string` :-"string" The most recent preceding line containing the string
                  specified. Without a string specification, EDT uses
                  the last search string.
  [range]-[number]    The line that is the specified number of lines after
                  the specified range.
  [range]-[number]    The line that is the specified number of lines before
                  the specified range.
  BEGIN               The first line in the text buffer.
  END                 An empty line following the last line in the text
                  buffer.
  LAST                The last line in the most recent text buffer before the
                  current text buffer.
  ORIGINAL number     The line numbers assigned to the text in the main
                  text buffer from the primary input file. You can lo-
                  cate text by its original line number even after it has
                  been assigned new numbers.

Contiguous Line Ranges:
  [range-1]:[range-2]  The set of lines from range-1 through range-2 in-
                      clusive. Range-1 and Range-2 are any single line range
                      specification.
  [range]#number   The specified number of lines beginning with range,
                  where range is any single line range specification.
DIGITAL Standard Editor (EDT) Commands

BEFORE All lines preceding the current line in the current buffer.

REST All lines after and including the current line.

WHOLE The current text buffer.

Noncontiguous Ranges:
   [range,range,...] All lines specified by each range, which must be single line range.
   [range AND range...] All lines in the range containing the specified string.
   [range]All 'string' All lines in the range containing the specified string.

Text Buffer Ranges:
   [=buffer][range] When you use a buffer without a range specification, the default is the entire text buffer and the cursor is placed at the first line in the text buffer.
FLX COMMAND SUMMARY

Command lines for the File Exchange utility (FLX) use the following format:
outfile/sw=infile,sw

FLX assumes the following defaults if no switches are specified on the command line:
  Input volume      DOS-11
  Output volume     FILES-11

FLX switches are:

BLOCKS      outfile/BL:n[].-infile
            Specifies the number of contiguous blocks (n) in octal or decimal to be
            allocated to the output file.

BLOCK SIZE   outfile/BS:n(infile)
            Specifies the block size (n) for cassette tape output.

CONTIGUOUS  outfile/CO:infile
            Specifies that the output file is to be contiguous.

DELETE      outfile/DE:infile/DE
            Deletes files from a DOS-11 or RT-11 (used with the /RT switch) volume.

DIRECTORY    outfile/DIR:infile
            Causes a directory listing of a cassette or DOS-11 volume or, when used
            with the /RT switch, of an RT-11 volume. The directory is placed in the
            specified output file.

DENSITY      outfile/DNS:n(infile)
            Specifies a density of 800, 1600, or 6250 bpi for a magnetic tape volume.

DOS-11      outfile/DO:infile/DO
            Identifies the volume as a DOS-11 formatted volume.

FORMATTED ASCII  outfile/FA:n(infile)
            Specifies formatted ASCII transfer mode file format.
FLX Command Summary

FORMATTED BINARY outfile:FB:n--infil
   Specifies formatted binary transfer mode file format.

FORTRAN CONTROL outfile:FC--infil
   Specifies that FORTRAN carriage control conventions are to be used.

IDENTIFICATION /ID
   Displays the current version number of FLX.

IMAGE MODE outfile:IM:n--infil
   Specifies image mode (n is in decimal bytes).

LIST outfile:LI
   Same as /DI.

NUMBER outfile:ZENU:n[. ]--infil
   Used with /ZE and /RT switches; specifies the number of directory blocks
   (n) in octal or decimal to allocate when you are initializing an RT-11 disk
   or DECTape.

RSX FORMAT outfile:RS--infil[RS]
   Identifies the volume as a Files-11 formatted volume.

RT FORMAT outfile:RT--infil[RT]
   Identifies the volume as an RT-11 formatted volume.

REWIND outfile:[.]RW--infil[RW]
   Specifies whether a magnetic tape will rewind before FLX begins the file
   transfer.

SPOOL outfile:SP--infil
   Specifies that the converted file is to be spooled by the print spooler or the
   Queue Manager.

UIC outfile:UI--infil
   Specifies that the output file is to have the same UFD as the input file.

VERIFY outfile:VE--infil
   Verifies each record written to a cassette.
ZERO  outfile/ZE=infile/RT

Initializes cassettes or DOS-11 volumes or, when used with the /RT switch, RT-11 volumes. Initializing erases any files already on the volume.
FMT COMMAND SUMMARY

Command lines for the Disk Volume Formatter (FMT) use the following format:

FMT ddn:[/switch1.../switchn]

In this command line, ddn is the abbreviation for the volume being formatted and
n is the unit number of the volume.

FMT switches are:

BAD ddn:/BAD
Runs the Bad Block Locator Utility if it is installed. Note that you can use
this switch only with operating systems that allow spawning of tasks.
RSX-11M provides spawned tasks as a system generation option.

DENSITY ddn:/DENS=n
Selects high (double) or low (single) density for RX02 floppy diskettes. The
value n can be 800 or 1600.

ERROR LIMIT ddn:/ERL=n
Determines the maximum number of errors FMT allows on the volume.

MANUAL ddn:/MAN
Enters manual operating mode and formats the sector or track you specify.

NOVERIFY ddn:/VE
Inhibits the default verification of a successful FMT operation.

OVERLOAD ddn:/OVR
Overrides or ignores the manufacturer's bad block sector file (MDBSF).

VERIFY ddn:/VE
Verifies that an FMT operation was successfully completed. This switch is
the default.

WRITE LAST TRACK ddn:/WLT
Rewrites the MDBSF (on the last track of the device) to add bad sectors
found during an FMT operation.
FMT Command Summary

INDIRECT ddn:~/@Y

Informs FMT that it is receiving input from an indirect command file. User intervention is not allowed during the operation.
LBR COMMAND SUMMARY

Command lines for the Librarian utility (LBR) use the following format:

outfile[/sw][,listfile=]--infilename1,infilename2,...,infilename[n[/sw]]

LBR switches are:

**COMPRESS**  outfile/CO:size=epm:mnt=--infilename

Compresses a library file by physically deleting logically deleted records, putting the free space at the end of the file, and making the free space available for new library module inserts.

**CREATE**  outfile/CR:size=epm:libtype=def.extern--infilename

Allocates a contiguous library file on a direct access device (for example, a disk).

**DELETE**  outfile/DE:module1=module2,...,modulenum

Logically deletes library modules and their associated entry points from a file.

**DEFAULT**  outfile/DF:typename...
or
/DF:typename

Specifies the default library file type.

**DELETE GLOBAL**  outfile/DG:global1=global2,...,globaln

Deletes the specified library module entry points from the entry point table.

**ENTRY POINT**  outfile/EP:--infilename1,...,infilename[n]
or

Includes or excludes entries in the entry point table.

**EXTRACT**  outfile.--infilename/EX=modulenam1,...,modulenamen

Reads (extracts) one or more modules from a library and writes them into the specified output file.
LBR Command Summary

INSERT  outfile/IN:infile1[,infile2,...,inflen]
        or
        outfile...inflename/IN:op:op:op:op   (universal)

Inserts library modules into a library file.

LIST  outfile[,listfile]switch(es)

Lists all modules in the library file plus additional information, depending
on which form of the switch you use:
/LI       Lists all modules in the library file.
/LE       Lists all modules in the library file and their corresponding en-
           try points.
/FU       Lists all modules in the library file and provides a full module
description that includes the size, date of insertion, and
module-dependent information.

MODIFY HEADERS  outfile/MH:module:op:op:op:op

Modifies the optional user-specified information in the module header of a
universal library.

REPLACE  outfile/RP:...:file1[,file2,...,inflen]} (global format)
          outfile...file1:RP....inflename{RP]} (local format)
          outfile/RP:name:op:op:op:op...file1[,file2,...,inflen]} (universal/global format)
          outfile...file1:RP:name:op:op:op:op:op:file1[,file2,...,inflen]} (universal/local format)

Replaces or, in certain cases, inserts library modules in a library file.

SPOOL  outfile,listfile/SP

Spools the listing file for printing. This is the default setting; use /-SP to
prevent the file from being printed.

SELECTIVE  outfile...file1/SS[,file2/SS,...,inflen]/SS]

Sets the selective search attribute bit in the object module header.

SQUEEZE   outfile/SZ...file1[,file2,...,inflen]} (global format)
          outfile...file1/SZ[,file2/SZ,...,inflen]} (local format)

Reduces the size of macro definitions by removing comments, blank lines,
and trailing blanks and tabs from the macro text.
SLP COMMAND SUMMARY

Command lines for the Source Language Input Program (SLP) use only the following format:

    outfile[/switch,]listfile[/SP or /-SP=]infiile[/switch]

SLP switches have the same effect and can be used on either input or output file specifications, except for the /SP, switch which can only modify the listfile. These switches are:

**AUDIT TRAIL**  
    outfile/[|-]AU-infile  
    outfile=infile/[|-]AU

Enables or disables the audit trail, which indicates the changes made during the most recent editing session.

**BLANK FILL**  
    outfile/[|-]BF-infile  
    outfile=infile/[|-]BF

Enables or disables blank fill (right-justification) for an audit trail.

**COMPRESSION**  
    outfile/[|-]CM-infile  
    outfile=infile/[|-]CM

Deletes the audit trail and any trailing spaces or tabs, and truncates the text at the specified horizontal position.

**CHECKSUM**  
    outfile/CS[n]-infile  
    outfile=infile/CS[n]

Calculates the checksum value for the edit commands.

**DOUBLESPACE**  
    outfile/[|-]DB-infile  
    outfile=infile/[|-]DB

Enables or disables double-spaced listings. /-DB is the default switch.

**NO SEQUENCE**  
    outfile/NS-infile  
    outfile=infile/NS

Does not sequence lines in the output file. New lines are indicated by the audit trail (if specified). This switch overrides the /RS and /SQ switches.

**RESEQUENCE**  
    outfile/RS-infile  
    outfile=infile/RS

Resequences the lines in the output file so that the line numbers are incremented for each line written to the output file.
SLP Command Summary

SPOOL outfile, listfile/|SP--infile

Enables or disables the spooling of listing files to a line printer. This switch applies only if the print spooler task (RSX-11M) or the Queue Manager (RSX-11M/M-PLUS) is installed.

SEQUENCE outfile/SQ--in clientele
  outfile--in clientele/SQ

Sequences the lines in the output file so that the numbers reflect the line numbers of the original input file.

TRUNCATE outfile/ TR--in clientele
  outfile--in clientele/ TR

Specifies that a diagnostic error message occurs when lines are truncated by the audit trail.

SLP uses the following special operators, in edit mode, to perform specific functions:

<table>
<thead>
<tr>
<th>Operator</th>
<th>Function</th>
</tr>
</thead>
<tbody>
<tr>
<td>-</td>
<td>Identifies the dash as the first character of a SLP edit command line</td>
</tr>
<tr>
<td>\</td>
<td>Suppresses audit trail processing</td>
</tr>
<tr>
<td>'</td>
<td>Reenables audit trail processing</td>
</tr>
<tr>
<td>@</td>
<td>Invokes an indirect file for SLP processing</td>
</tr>
<tr>
<td>/</td>
<td>Terminates the SLP edit session and returns to SLP command mode</td>
</tr>
<tr>
<td>&lt;</td>
<td>Allows characters in the input file that SLP would normally use as operators</td>
</tr>
</tbody>
</table>
PAT COMMAND SUMMARY

PAT command lines use the following format:

[outfile]=infile[/CS[number]],correctfile[/CS[number]]

In this command line, outfile is the file specification for the output file, infile is the file specification for the input file containing one or more concatenated object modules, and correctfile is the specification for the correction file containing updates to be applied to one module in the input file.

The only PAT switch is:

CHECKSUM   [outfile]=infile[/CS[:n]],correctfile[/CS[:n]]

Directs PAT to calculate the checksum for all the binary data that constitutes the module. PAT displays this checksum in octal.
PERIPHERAL INTERCHANGE PROGRAM
(PIP) COMMANDS

Default Operation
The default PIP operation (with no switches) is to copy the specified files, using
the following format:

outfile – infile(s)/[subswitches]

PIP allows the following parameters for this command:

outfile  If the command does not specify a file name, file type, or
version number, PIP uses the input name and type and the
next highest version number.
If the command specifies a file name, file type, or version
number, no other field can be a wildcard and the command
line can only specify one input file.

infile  If the command does not specify file name, file type, or ver-


subswitches:

/BL:n[.] Specifies the number of contiguous blocks allocated for the
output file, where n is octal or decimal.
If n is decimal, it is followed by a period (n.).

/CO, /-CO,
or /NOCO Specifies a contiguous or noncontiguous output file.

/FO File ownership (output file UFID).

/NV Forces the output version number of the copied file to be 1
higher than the current highest version.

/SU Copies the output file, superseding an existing file.

APPEND  outfile[FO] – infile(s)/AP/[FO]

Opens an existing file and appends the input files, infile(s), to the end of it.

PIP allows the following parameters for this command:

outfile  Explicit file name and file type.
infle(s) Explicit file parameters; wildcard by default.

/FO File ownership is the output file UFID; without /FO, owner-
ship is the UIC of the user running PIP.
Peripheral Interchange Program (PIP) Commands

BLOCKSIZE outfile/BS:n = infile,(s)
   Defines the block size for magnetic tape.

CREATION DATE outfile/CD = infile,(s)
   outfile = infile/CD
   Gives the output file the creation date of the input file rather than the date
   of the file transfer. (This switch cannot be used with the merge switch or
   with a magnetic tape as an output device.)

DATE /DA:startdate:enddate
   Restricts file searches to files created during the specified period of time.

DELETE infile(s)/DE[/LD]
   Deletes files. /LD is a subswitch that causes PIP to list the files it deletes.

DEFAULT [ddn:][UFD]/DF
   Changes the default device and/or UFD for the current PIP task.

END-OF-FILE infile/EOF;block:byte]
   Specifies the end-of-file pointers for a file. If values for block and byte are
   not entered, PIP places EOF at the last byte of the last block in the file.

ENTER outfile = infile(s)/EN[/NV]
   Enters a synonym for a file in a directory on the same device, with an
   option to force the version number of the output file to 1 greater than the
   latest version for the file.
   outfile   The file name, file type, or file version can be explicit, a
             wildcard, or null. A field that is a wildcard or null assumes a
             corresponding input field.
   infile    Default for the file name, file type, and file version is ".*."
   /NV       Forces a new version of the file.

EXCLUDE filespec/EX
   Excludes one file specification during a search.

FILE ID outfile = /FI:filenumber:sequencenumber
   Accesses a file by its file identification number (File ID).
FREE [ddn:] /FR
Displays on the terminal the amount of space available on a volume, the largest block of contiguous space, the number of available file headers, and the number of headers used.

IDENTIFICATION /ID
Identifies the version number of PIP currently in use and whether PIP is linked to ANSPCS.

LIST [listfile – [infil(e)(s)/LI][/subswitch]]
Lists the contents of one or more UFDs, with an option to specify formats for output directories.

outdir Listing file specifier; defaults to T1:
infile Default is "\*"\*\*.

The subswitches determine what type of report is displayed.
/LI/BR or /BR Brief report.
/Li Limited report.
/LI/FU:n or /FU:n Full report (n specifies the decimal characters per line; the default is device buffer size).
/LI/TB or /TB Total blocks report.
/LI & /TD or /TD/LI Files created on current day. The /TD switch alone does not generate a directory listing.

MERGE outfile – [infil(e)(s)/ME][/subswitch(es)]
Creates one file by concatenating two or more files. The legal subswitches are:
subswitches:
/BL:n[] Specifies the number of contiguous blocks allocated for the output file, where n is octal or decimal.
If n is decimal, it is followed by a period (n.).
Peripheral Interchange Program (PIP) Commands

/CO, /-CO,
or /NOCO  Specifies a contiguous or noncontiguous output file.
/Fo       File ownership (output file UFD).
/NV       Forces the output version number of the copied file to be 1
           higher than the current highest version.
/SU       Copies the output file, superseding an existing output file.

NO MESSAGE infile(s)/NM[/sw]

Causes certain PIP error messages not to be displayed: for example, the
message NO SUCH FILE(S). The switches that can be used with the NM
switch are:
/Li        Lists directory.
/De        Deletes file(s).
/Pu        Purges file(s).
/Un        Unlocks file(s).

You can also use any subswitches of these switches.

PROTECTION SYMBOLIC: infile[PR[/SY:RWED][/OW:RWED]]
                       [/GR:RWED][/WO:RWED][/FO]

Alters the file protection for the file specified. The file name and file type
must be explicit.

Symbolic protection codes assign privilege merely by their presence, using:
System = /SY:RWED
Owner = /OW:RWED
Group = /GR:RWED
World = /WO:RWED

The symbolic codes are:
R  read
W  write
E  extend
D  delete
Peripheral Interchange Program (PIP) Commands

Numeric protection denies privilege by setting bits in a protection status word. Add octal values from the following list to deny privilege.

<table>
<thead>
<tr>
<th>User Class</th>
<th>Privilege</th>
<th>Octal Code</th>
<th>Bit</th>
</tr>
</thead>
<tbody>
<tr>
<td>System</td>
<td>R</td>
<td>1</td>
<td>0</td>
</tr>
<tr>
<td></td>
<td>W</td>
<td>2</td>
<td>1</td>
</tr>
<tr>
<td></td>
<td>E</td>
<td>4</td>
<td>2</td>
</tr>
<tr>
<td></td>
<td>D</td>
<td>10</td>
<td>3</td>
</tr>
<tr>
<td>Owner</td>
<td>R</td>
<td>20</td>
<td>4</td>
</tr>
<tr>
<td></td>
<td>W</td>
<td>40</td>
<td>5</td>
</tr>
<tr>
<td></td>
<td>E</td>
<td>100</td>
<td>6</td>
</tr>
<tr>
<td></td>
<td>D</td>
<td>200</td>
<td>7</td>
</tr>
<tr>
<td>Group</td>
<td>R</td>
<td>400</td>
<td>8</td>
</tr>
<tr>
<td></td>
<td>W</td>
<td>1000</td>
<td>9</td>
</tr>
<tr>
<td></td>
<td>E</td>
<td>2000</td>
<td>10</td>
</tr>
<tr>
<td></td>
<td>D</td>
<td>4000</td>
<td>11</td>
</tr>
<tr>
<td>World</td>
<td>R</td>
<td>10000</td>
<td>12</td>
</tr>
<tr>
<td></td>
<td>W</td>
<td>20000</td>
<td>13</td>
</tr>
<tr>
<td></td>
<td>E</td>
<td>40000</td>
<td>14</td>
</tr>
<tr>
<td></td>
<td>D</td>
<td>100000</td>
<td>15</td>
</tr>
</tbody>
</table>

**PURGE infile(s) /PU[:n]/LD**

Deletes a specified range of versions of a file (but does not delete the latest version). Specification of a file version number is not necessary. Wildcards are valid for file name and file type.

When :n is specified, PIP deletes all but the n latest consecutively numbered versions. Without :n, PIP deletes all but the latest version.

**REMOVE infile(s) /RM**

Removes an entry from a UFD, but does not delete the file.
Peripheral Interchange Program (PIP) Commands

RENAME outfile – infile(s)/RE[/NV]
Changes the name of the file specified. Used with the /NV switch, /RE creates an output file with a version number 1 higher than the latest version of the file.

outfile A wildcard (*) or null field assumes the value of the corresponding field in the input file.
infile Null file name, file type, and file version default to *, *, *
/NV See COPY.

REWIND outfile/RW = infile
outfile = infile /RW

outfile Causes the tape on the specified unit to be rewound and erased.
infile Causes the tape on the specified unit to be rewound before the input file is opened.

SELECTIVE DELETE infile(s)/SD
Prompts for user response before deleting files.

SHARED READING infile(s)/SR
Allows shared reading of a file that has already been opened for writing.

SPAN BLOCKS outdisk:outfile:SB = inmag:infile
Allows output file records to cross block boundaries when ANSI tapes are being copied to Files-11 volumes.

SPOOL infile(s)/SP:[n]
Specifies a list of files to be printed on a line printer. n is the number of copies. This switch applies only if you have the Serial Despooler or the Queue Manager. However, using it with the Queue Manager is not recommended.

TRUNCATE infile(s)/TR
Truncates files to their logical end-of-file point.
Peripheral Interchange Program (PIP) Commands

USER FILE DIRECTORY ENTRY outfile(s)/UF[/FO] = infile(s)


outfile  Specifies the UIC as [".*"] to transfer multiple infile UICs.
/FO      See APPEND.

UNLOCK infile(s)/UN

Unlocks a file that was locked as a result of being closed improperly.

UPDATE FILE outfile = infile(s)/UP[/FO]

Opens an existing file and writes new data (infile) in it, from the beginning.

outfile  Must be explicitly identified.
infile    Null parameters default to ".*.*". Input file(s) replace the current contents of output files.
**QUEUE MANAGER**

This section describes the Queue Manager commands for RSX-11M. It includes syntax to use the commands from either DCL or MCR.

**DELETE**

Deletes queues or QMG jobs by name or by the job's unique entry number.

**Format**

DCL: DELETE/JOB queueame jobname[FILE:POSITION=n]
DCL: DELETE/ENTRY:nnn[FILE:POSITION=n]
MCR:QUE queueame:jobname/Fn:DEL
MCR:QUE /EN:nnn/Fn:DEL

**HOLD AND RELEASE**

You can specify that a job be held when you issue your PRINT or SUBMIT command. You can also hold jobs with the HOLD command and release such jobs with the RELEASE command.

HOLD (QUE /HO) blocks a job in its queue until it is explicitly released.

RELEASE (QUE /RE) unblocks a job that has been held in queue.

**Format**

DCL: HOLD/JOB queueame jobname
DCL: HOLD/ENTRY:nnn
MCR: QUE queueame:jobname/HO
MCR: QUE /EN:nnn/HO
DCL: RELEASE/JOB queueame jobname
DCL: RELEASE/ENTRY:nnn
MCR: QUE queueame:jobname/REL
MCR: QUE /EN:nnn/REL

**PRINT**

Queues files for printing on a line printer or use on other output devices.

**Format**

DCL: PRINT/commandqualifier[s] file[s]/filequalifier[s]
MCR: PRI [queueame:][jobname:][jb:switch][-[j]file[s]/[f]ileswitch[s]]
Queue Manager

DCL Command Qualifiers  MCR Job Switches
/JOBCOUNT:n             /CO:n
/QUEUE:queue:name        /CO:n
/UPPERCASE               /NOLO
/LOWERCASE               /LO
/[NO]HOLD                /[NO]HO
/PAGE_COUNT:n            /[PA:n]
/NAME:jobname            /jobname=
/PRIORITY:n              /PRIO:n
/FORMS:n                 /FO:n
/LENGTH:n                /LE:n
/[NO]RESTART             /[NO]RES
/[NO]FLAG_PAGE           /[NO]FL
/AFTER:dd-mm-mmm-yy hh:mm /[AF:hh:mm:dd-mmm-yy
/DEVICE:ddnn:            /queue:name:
/[NO]JOBPAGE             /[NO]JO

DCL File Qualifiers  MCR File Switches
/[NO]DELETE             /[NO]DEL
/COPIES:n                /CO:n

SET QUEUE
Modifies attributes given to print jobs, batch jobs, or files that compose jobs in queues. Such jobs and files have been entered in queues by the PRINT command.

Job Format

dcl-set queue queue:name:job:name:qualifier[/qualifier[s]]
dcl-set queue /ENTRY:nnn:qualifier[/qualifier[s]]
mcr-queue queue:name:job:name:MODE:switch[/switch[s]]
mcr-queue /EN:nnn:MODE:switch[/switch[s]]

DCL Qualifiers  MCR Switches
/JOBCOUNT:n              /CO:n
/FORMS:n                 /FO:n
/LENGTH:n                /LE:n
/LOWERCASE               /LO
/PAGE_COUNT:n            /[PA:n]
/PRIORITY:n              /PRIO:n
/[NO]RESTART             /[NO]RE
/UPPERCASE               /NOLO
File Format
DCL: SET QUEUE/ENTRY: nnn/FILE...POSITION:n/qualifier[/qualifier[s]]
DCL: SET QUEUE queuname jobname/FILE...
POSITION:n/qualifier[/qualifier[s]]
MCR:QUE /EN: nnn/MOD:F1:n/switch[/switch[s]]
MCR:QUE queuname:jobname/MOD:F1:n/switch[/switch[s]]

DCL Qualifiers MCR Switches
/COPIES:n /CO:n
/[NO]DELETE /[NO]DEL

SHOW PROCESSOR
Displays information about the initialized characteristics printers, and other
devices under control of the Queue Manager.

Format
DCL:SHOW PROCESSOR/qualifier
MCR:QUE [processornname:]/switch

DCL Qualifiers MCR Switches
processornname[:]/L1:DEV
/PRINT or /DEVICE /L1:DEV-P
/INPUT or /CARD...READING /L1:DEV-I

SHOW QUEUE
SHOW QUEUE displays information about QMG print jobs.

Format
DCL:SHOW QUEUE [queueuname]/qualifier[s]
MCR:QUE [queueuname][][uic][jobname]/switch[s]

DCL Qualifiers MCR Switches
/FULL /FU
/FILES /L1
/BRIEF /BR
/DEVICE /L1:P
/ENTRY: nnn /EN: nnn
/FORMS[n] /F0[n]
/NAME:jobname /jobname
/OWNER...uic:uic [uic]
/PRINT /L1:P

61
ZAP COMMAND AND SWITCH SUMMARY

Invoke ZAP before you enter the ZAP command line, using the following format:
  ddmn:(udf)filename;filetype;version/sw...

You cannot enter a file specification on the command line when you invoke ZAP.
In this command, the file specification is the task image file to be examined or modified. The default file type is .TSK and the default version is the latest one.
ZAP command lines use the following switches:

ABSOLUTE  ddmn:filespec/AB
  Specifies absolute mode.

LIST       ddmn:filespec/Li
  Displays the overlay segment table for an overlaid task image file.

READ-ONLY  ddmn:filespec/RO
  Specifies read-only mode.

ZAP Open/Close Commands

ZAP uses the following commands to examine or modify a task image file:

/ (slash)
  Opens a location, displays its contents in octal, and stores the contents of the location in the Quantity Register (Q). If the location is odd, it is opened as a byte.

" (quotation mark)
  Opens a location, displays the contents of the location as two ASCII characters, and stores the contents of the location in the Quantity Register (Q).

% (percent sign)
  Opens a location, displays the contents of the location in Radix-50 format, and stores the contents of the location in the Quantity Register (Q).

\ (backslash)
  Opens a location as a byte, displays the contents of the location in octal, and stores the contents of the location in the Quantity Register (Q).
ZAP Command and Switch Summary

(apostrophe)

Opens a location, displays the contents as one ASCII character, and stores the contents of the location in the Quantity Register (Q).

<RET> (RETURN key)

Closes the current location as modified and opens the next sequential location if no other values or commands are on the command line. ZAP commands take effect only after you press the RETURN key.

* or (circumflex or up arrow)

Closes the currently open location as modified and opens the preceding location.

_(underscore)_

Closes the currently open location as modified, uses the contents of the location, as an offset from the current location, and opens the new location.

© (at sign)

Closes the currently open location as modified, uses the contents of the location as an absolute address, and opens that location.

> (right angle bracket)

Closes the currently open location as modified, interprets the low-order byte of the contents of the location as the relative branch offset, and opens the target location of the branch.

< (left angle bracket)

Closes the currently open location as modified, returns to the location from which the last series of underscore (_), at sign (@), and/or right angle bracket (> ) commands began, and opens the next sequential location.

General-Purpose Commands

X

Exits from ZAP and returns control to the CLI.

K

Calculates the offset in bytes between an address and the value contained in a Relocation Register, displays the offset value, and stores it in the Quantity Register (Q).
O
Displays the jump and branch displacements from the current location to a target location.

= Displays in octal the value of the expression to the left of the equal sign.

V Verifies the contents of the current location.

R Sets the value of a Relocation Register.
MONITOR CONSOLE ROUTINE (MCR) COMMANDS

In this section, (P) indicates that a command format or keyword is privileged.

**ABORT**  ABO taskname [/keyword]

Keywords:  PMD
            TERM=TTnnn:

Terminates execution of the specified task from the issuing terminal, or from another terminal if the /TERM keyword is used. You can request a Postmortem Dump with the /PMD keyword.

**ACTIVE**  ACT [/keyword]

Keywords:  ALL
            TERM=TTnnn:

Displays on the terminal all tasks issued from that terminal, all tasks active in the system, or all tasks issued from a specified terminal.

**ACTIVE TASK LIST**  ATL [taskname]

Displays the name and status of all active tasks in the system, or the status of the particular task specified.

**ALLOCATE**  ALL dd[nnn];llnnn;[/keyword]

Keywords:  TERM=TTnnn:
            TYPE=dev

Establishes the specified device as the user's private device on multi-user protection systems. Privileged users can allocate a device to any terminal, using the /TERM keyword, but nonprivileged users can only allocate devices to their own terminals.

Specifying dd allocates the first logical unit of the dd-type device (for example, DM1:1). Specifying the /TYPE keyword allocates the first available dev-type device (for example, RK67). Specifying —llnn: creates a logical device name and assigns it to the physical device being allocated.

**ALLOCATE CHECKPOINT SPACE (P)**  ACS dd[nnn]/BLKS=n.

Allocates or discontinues a checkpoint file on disk for systems that support the dynamic allocation of checkpoint space. The /BLKS keyword specifies the number of blocks to be allocated to the checkpoint file. Use n=0 to discontinue use of a checkpoint file.
Monitor Console Routine (MCR) Commands

**ALTER**  
ALT taskname[/keyword]  (P)

**Keywords:**  
PRI=static and running priority  
RPRI=running priority only  
TERM=TTnn: = task priority from a specified terminal

Changes the static or running priority of an installed task.

**ASSIGN**  
ASN pnn:=llnn: [/keyword]

**Keywords:**  
GBL  
LOGIN

**TERM=TTnn:**

Defines, displays, or deletes logical device assignments as follows:

**Local assign operations**

ASN pnn:=llnn:
ASN pnn:=llnn:/TERM=TTnn:  (P)

**Login assign operations**

ASN pnn:=llnn:/LOGIN  (P)
ASN pnn:=llnn:/LOGIN/TERM=TTnn:  (P)

**Global assign operations**

ASN pnn:=llnn:/GBL  (P)

**Local display operations**

ASN

**Login display operations**

ASN /TERM=TTnn:  (P)

**Global display operations**

ASN /GBL  (P)

**Local delete operations**

ASN =
ASN = llnn:
Login delete operations
ASN = /LOGIN (P)
ASN = /LOGIN/TERM=TTnn: (P)
ASN = /TERM=TTnn: (P)
ASN = /linn:/TERM=TTnn: (P)
ASN = /linn:/LOGIN (P)
ASN = /linn:/LOGIN/TERM=TTnn: (P)

Global delete operations
ASN = /GBL (P)
ASN = linn:/GBL (P)

`BLOCK BLK [taskname|TERM=TTnn:]`
Declares that the specified task is ineligible to execute or to compete for memory resources. Nonprivileged users can block only tasks running from their own terminals. Privileged users can block any task. However, ACP tasks, CLI tasks, tasks being aborted, and halted tasks cannot be blocked.

`BOOT BOO [filespec] (P)`
Bootstraps a system that exists as a task image file on a Files-11 volume.

`BREAKPOINT TO XTD (P) BRK`
Passes control to the Executive Debugging Tool (XDT).

`BROADCAST BRO TTnn: message`
`BRO ALL: message (P)`
`BRO LOG: message (P)`
`BRO user-name message`
Displays the specified message at one terminal for a nonprivileged user, or at a number of terminals for a privileged user.

`BYE BYE [/keyword]`
Keyword: [NO]HOLD
Logs the user out of a multiusert protection system, optionally specifying that the full-duplex terminal driver not hang up a remote line or that DECnet not break the connection.

`CANCEL CAN taskname`
Cancels time-based initiation of a task. Privileged users can cancel any task, but nonprivileged users can cancel only tasks that they initiated.
Monitor Console Routine (MCR) Commands

COMMON BLOCK DIRECTORY  CBD [common-region-name[/keyword]]

Keyword:  /TASKS
Displays information about all entries or a specific entry in the Common Block Directory. Also, CBD with the /TASKS keyword displays the name of each task attached to a specific common region and the number of times the task has mapped to the region.

COMMAND LINE INTERPRETER  CLI /keyword–cliname

Keywords:  DISABLE–cliname
ELIM–cliname or ELIM=*  
ENABLE–cliname
INIT–cliname[/subkeyword(s)]

Subkeywords:  CPR=“string”
DISABLE
DPR=“string”
LGO
MESSAGE
NULL
PRIV
PROMPT
QUIET
RESTRICT
SNGL
TASK=taskname
MESSAGE=cliname:“message-text”
SHOW
UNOVR

Sets up for use a command line interpreter other than MCR, such as DCL or a user-written CLI.

CLOCK QUEUE  CLQ(UEUE)
Displays on the entering terminal information about tasks currently in the clock queue.

DEALLOCATE  DEA [ddnm:]
Releases a private (allocated) device where ddnm: is the device name and unit number. Privileged users can deallocate any device, but nonprivileged users can only deallocate devices that they have allocated. If no device is specified, the command deallocates all of the user’s allocated devices.
DEBUG DEB [taskname]
Allows you to debug a task by forcing the task to trap to a debugging aid. Nonprivileged users can debug only tasks that they initiated. Privileged users can debug any task.

DEVICES DEV [keyword]
DEV dd:
DEV ddn:
Keyword: LOG
Displays symbolic names of all devices or of all devices of a particular type, or the name of a specific device. The /LOG keyword displays all of the logged-in terminals.

DIGITAL COMMAND LANGUAGE DCL command-line
Allows you to issue DCL commands from a terminal that is set to MCR.

DISMOUNT DMO ddn:[/label][/keyword(s)]
DMO /USER[/keyword(s)]
Keywords: DEV (P)
TERM=TTnc (P)
LOCK--option
Tells the file system to mark the volume for dismount and to release the control blocks. Privileged users can dismount any volume, but nonprivileged users can dismount only devices that they have mounted.

FIX IN MEMORY (P) FIX taskname [/keyword]
Keywords: /REG
/RON
Loads and locks a task or a common task region into its partition.

GROUP GLOBAL EVENT FLAGS FLA(GS)[ggg]/keyword]
Keywords: CRE
ELIM
For privileged users, creates or eliminates global event flags for any group. For nonprivileged users, creates or eliminates group global flags only for their own login group. Any user can display all of the group global event flags.
Monitor Console Routine (MCR) Commands

HELLO/LOGIN
HEL [ulin[password]]
HEL [username[password]]
LOG [ulin[password]]
LOG [username[password]]

Logs you in on a terminal to access a multiuser system.

HELP
HELP /keyword [qualifier][qualifier 2]...[qualifier 9]
HELP % [qualifier][qualifier 2]...[qualifier 9]

Keywords: CLI:cliname
DCL
FIL:[filespec]
GRO
LOC
MCR
OUT:filespec

Displays the contents of a help file on the issuing terminal.

HOME
HOM ddbname:volume-label/keyword(s)

Keywords: DENS—density
EXT—block-count
FPRO—[system,owner,group,world]
LRU—directory-count
MIF—file-count
NAME—new-volume-label
OVR—(P)
OWNER—[g,m]
PRO—[system,owner,group,world]
UIC—[g,m]
V1
WIN—retrieval-pointer-count

Modifies certain fields in the home block of a Files-11 disk volume.

INITIALIZE VOLUME
INI ddbname: ["volume-label"] [/keyword(s)]

Keywords: ACCESS—"character"
BAD—[option]
DENS—density
EXT—block-count
FPRO—[system,owner,group,world]
INDX—index-file-position
INF—initial-index-file-size
LRU—directory-count
Monitor Console Routine (MCR) Commands

Keywords: MXF=file-count
        OWNER=[g.m] or OWNER=\"owner\"
        PRO=[system,owner,group,world]
        UIW=[g.m]
        VI
        WIN=retrieval-pointer-count

Produces a Files-11 volume on disk, magnetic tape, or DECTape. On multi-user protection systems, you can initialize volumes only on devices that you allocated.

INSTALL INS [filespec/keyword(s)] (P)

Keywords: AFF=[CPx,UBy]
        CKP=option
        CLI=option
        INC=option
        IOP=option
        PAR=pname
        PMD=option
        PRI=number
        PRO=[system,owner,group,world]
        RON=option
        ROPAR=pname
        SEC=option
        SLV=option
        SYNC=option
        TASK=taskname
        TIME=nM
        or
        TIME=nS
        /UIW=[g.m]
        XHR=option

Makes a specified task known to the system.

LOAD LOA dd=(keyword(s)) (P)

Keywords: PAR=pname
        /CCTB=cc[.b...]
        SIZE=parsize
        HIGH

Reads a nonresident device driver into memory and constructs the linkages required to allow access to the device.
Monitor Console Routine (MCR) Commands

LOGICAL UNIT NUMBERS LUN[S] taskname
Displays the static LUN assignments for a specified task.

MOUNT
Allows the file system software access to a physical device.

Files-11 disk or DECTape format:

MOU ddnn:[label][/keyword(s)]

Keywords: ACP=option (P)
DENS=density
FOR
FPRO=[system.owner.group.world]
LOCK=option
LRCU=directory-count
OVR (P)
PARM=“user parameters”
PRO=option
PUB
[NO]SHARE
UIC=[g,m]
UNL
VI
[NO]WAIT
WIN =option
[NO]WRITE

Files-11 (ANSI) magnetic tape format:

MOU device-list:[file-set-ID][/keyword(s)]

Keywords: ACP=option (P)
BS=n
CC=option
DENS=density
FOR
FPRO=[system.owner.group.world]
[NO]HDR3
[NO]LABEL
LOCK=option
OVR (P)
OVRACC (P)
Monitor Console Routine (MCR) Commands

Keywords: OVREXP (P)
OVRFSD (P)
PARM= "user parameters"
PROP= option
PUB
RS= n
[NO]SHARE
TR= option
UIC=[g,m]
VI
VOL= (list)
[NO]WAIT
[NO]WRITE

OPEN REGISTER (P) OPEN mem-addr//n//keyword
mem-addr /contents [ctrl-char/value]term

Keywords: AFF= [CPx,UBy]
CPU= CPx
TASK= taskname
TASKD
TASKI
PAR= partitionname
KNL
KNLD
KNLI
DRV= dd;
REG= region-name

Allows examination and optional modification of a register in memory.

PARTITION DEFINITIONS PARTITIONS
Displays a description of each memory partition in the system.

REASSIGN (P) REA taskname lun ddnn:
Reassigns a task’s static logical unit numbers from one device to another.

REDIRECT (P) RED nddnn--oddnn:
 Redirects all I/O requests from one physical device unit to another (from 0 to n).
Monitor Console Routine (MCR) Commands

REMOVE (P)  REM [ddnn:] taskname or REM region-name/keyword
  Keyword:  /REG
  Deletes an entry (task name) from the System Task Directory (STD) and thereby removes the task from the system. The optional device specification indicates the device from which the task was installed. The /REG keyword removes regions from the CBD.

RESUME RES taskname [/keyword]
  Keyword:  /TERM=.Tnnn:  (P)
  Allows nonprivileged users to continue execution of a suspended task that was initiated from the entering terminal. Privileged users can resume any suspended task.

RUN RUN taskname [/UIC-[,g,m]]  (UIC privileged keyword)
RUN taskname dtme [/RSI=magu][/UIC-[,g,m]]  (P)
RUN taskname sync [dtme][/RSI=magu][/UIC-[,g,m]]  (P)
RUN taskname atime [/RSI=magu][/UIC-[,g,m]]  (P)
RUN [ddnn:]$ filespec [/keyword(s)]
  Keywords:  CKP=option
            CMD="command-line"
            EST=option
            INC=size
            IOP=option
            PAR= pname
            PMD=option
            PRI=number  (P)
            ROPAR= pname
            SLV=option
            TASK=taskname
            TIME=nM or TIME=nS
            UIC-[,g,m]
  Initiates execution of a task, either immediately or at one of several time-dependent intervals.

SAVE (P)  SAV [/keyword(s)]
  Keywords:  WB
              MOU="string"
              SFILe="filespec"
              CSR=x
  Copies the current system image into the system image file from which the current system was booted.
Monitor Console Routine (MCR) Commands

**SET** /keyword=values

**Keywords:**
- ABAUD[-TTnn:]
- BRQ[-TTnn:]
- BUF=-ddnn[:size]
- CLI=-TTnn:[cli]
- COLOG
- CRT[-TTnn:]
- DCL[-TTnn:]
- EBCI[-TTnn:]
- ECHO[-TTnn:]
- ESCSEQ[-TTnn:]
- FDX[-TTnn:]
- FORMFEED[-TTnn:]
- HFILL[-TTnn:[value]
- HHT[-TTnn:]
- HOLD[-TTnn:]
- LIBUC[-uic]
- LINES[-TTnn:[value]
- LOGON (P)
- LOWER[-ddnn:]
- MAIN=-pname[:base:size:type]
- MAXEXT[-size] (P)
- MAXPKT[-n]
- MCIU[-TTnn:]
- NETUIC[-[g,m]]
- NOCEx
- OPT=[-dnn:optyp:fairness-count]
- OVLP[-cnn]
- PAR=-pname[:base:size[=type]]
- PLCTL[-high][=low][=frsz[:basep]]]] (P)
- POOL[-top]
- PRIV[-TTnn:]
- PUB[-ddnn:]
- REMOTE[-TTnn:[speed]]
- RNDC[-nn]
- RNDH[-nn]
- RNDL[-nn]
- RPA[-TTnn:]
- SECPOL
- SERIAL[-TTnn:]
- SLAVE[-TTnn:]
- SPEED[-TTnn:[recv:xmit]
- SWPC[-nn]
- SWPR[-nn]
Monitor Console Routine (MCR) Commands

Keywords:  SYSUIC[-[g.m]]
TERM=TTnn[value]
TOP=pname=value
TYPEAHEAD=TTnn[size]
UIC=[-[g.m]][TTnn[:]]
UIC=TTnn[:]
VFILL=TTnn:
WCHK=ddnn:
WRAP=TTnn:

Affects characteristics of the system, tasks, and devices. Privileged users can alter the characteristics of any device or task, but nonprivileged users can alter only characteristics for devices and tasks allocated to them. All users can display information.

SYSTEM SERVICE MESSAGE (P)  SSM message

Inserts text into the error log file.

TASKLIST - ATL  TAL [taskname]

Displays the names and status of all tasks installed in the system or of a specific task.

TASKLIST  TAS [taskname][DEV-ddnn:]

Describes each task installed in the system, a specific task, or one or more tasks installed from a specific device.

TIME  TIM [hrs:mins:secs] [m1/day/year]
[hrs:mins:secs] [day-m2-year]

For privileged users, sets and displays the date and time for the system. For nonprivileged users, only displays them.

USER FILE DIRECTORY  UFD ddnn:[volume-label][g,m][/keyword(s)]

Keywords:  ALLOC=number
PRO=[system.owner.group.world]

Creates a User File Directory (UFD) on a Files-11 volume and enters its name into the Master File Directory (MFD). Privileged users can create UFDs on any mounted volume, but nonprivileged users can create UFDs only on a volume mounted on a device that they have allocated.
UNBLOCK  UNB [taskname][/keyword]

Keyword:  /TERM=TTnn:  (P)

Continues the execution of a previously blocked task. Nonprivileged users
can unblock only tasks running from their own terminals. Privileged users
can unblock any task.

UNFIX  UNF taskname or UNF region-name /keyword (P)

Keywords:  /REG
/RON

Frees a fixed task or common task region from memory.

UNLOAD  UNL dd:  (P)

Removes a loadable device driver from memory.

UNSTOP  taskname[/keyword]

Keyword:  /TERM=TTnn:  (P)

Continues execution of a task previously stopped internally by the Execu-
tive. Nonprivileged users can unstop only tasks running from their own
terminals. Privileged users can unstop any task.
DIGITAL COMMAND LANGUAGE (DCL)

In this section, (P) indicates that a command format or keyword is privileged.

**ABORT**

```
ABORT[/COMMAND][/qualifier[s]] commandname
ABORT/TASK[/qualifier] taskname
```

Command Qualifiers:

- `/COMMAND`
- `/TASK`
- `/NOPOSTMORTEM`
- `/TERMINAL:tnn: (P)`

Default: `/COMMAND`

Forces an orderly end to a running task or to the action of a specific command.

**ALLOCATE**

```
ALLOCATE[/qualifier[s]] dd[nn:] [logicalname]
```

Command Qualifiers:

- `/TERMINAL:tnn: (P)`
- `/TYPE:devicetype`

Default: `NONE`

Declares a specified device to be a private device. You can allocate devices by logical name or physical name. If you omit the unit number and colon, the first available device of that class is allocated.

**APPEND**

```
APPEND[/qualifier[s]] infile[s] outfile
```

Command Qualifiers:

- `/DATE:dd-mmm-yy`
- `/SINCE:dd-mmm-yy`
- `/THROUGH:dd-mmm-yy`
- `/TODAY`
- `/EXCLUDE:filespec`

Default: `NONE`

Appends to an existing sequential file records from one or more sequential files. The file specification for the EXCLUDE qualifier can include wildcards. Data range qualifiers, together with the /EXCLUDE qualifier, are also accepted on the COPY, DELETE, DIRECTORY, PURGE, RENAME, SET PROTECTION, TYPE, and UNLOCK commands.
ASSIGN ASSIGN[<qualifier[s]>] ddnn: logical ddnn:

Command
Qualifiers: /LOCAL
/LOGIN (P)
/GLOBAL (P)
/SYSTEM (P)
/TERMINAL:ttnn: (P)

Default: /LOCAL

Associates a logical name with a physical device, pseudo device, or other logical device. All references to the logical name are resolved by the system to the associated physical device, pseudo device, or logical device.

ASSIGN/QUEUE (P) ASSIGN/QUEUE queue-name processor-name

Establishes a path between a queue and a processor in the Queue Manager subsystem.

ASSIGN/REDIRECT (P) ASSIGN/REDIRECT old-ddnn: new-ddnn:

Redirects output from one physical device to another. You can also redirect a physical device to a pseudo device, or vice versa.

ASSIGN/TASK (P) ASSIGN/TASK:task-name ddnn: lun

Reassigns an installed task's Logical Unit Numbers (LUNs) from one physical device to another. The reassignment overrides the static LUN assignments in the task's disk image file. You cannot change the LUNs of an active task.

BACKUP BACKUP[<qualifier[s]>] source:[filespec[s]]dest:

Command Qualifiers:
Group 1: Selective Backup and Restore
/AFTER:(dd-mmm-yyyy hh:mm) Use with /CREATED or with
/BEFORE:(dd-mmm-yyyy hh:mm) /MODIFIED.
/CREATED
/EXCLUDE
/IMAGE:arg
/SAVE
/RESTORE
/MODIFIED
/NEW:VERSION
/[NO]REPLACE
DIGITAL Command Language (DCL)

Command Qualifiers:

Group 2: Initialization

/ACCEDED:
/BADBLOCKS:arg
   AUTOMATIC
   MANUAL
   OVERRIDE
/EXTENSION:
/FILE_PROTECTION:code
/HEADERS:
/INDEX:arg
   BEGINNING
   MIDDLE
   END
   n
/[NO]INITIALIZE
/MAXIMUM_FILES:
/WINDOWS:

n is default number of FCBs on each volume
Default is 5
Default is same protection as input volume
Specifies location of INDEXF.SYS on volume; default is same position as input volume
Logical block n
Default is same number of mapping pointers (windows) as input volume

Group 3: Tape and Disk Control

/APPEND
/SAVE_SET: name

/DENSITY: arg
   800
   1600
   6550

/ERROR_LIMIT:
/LABEL:TAPE: volumelabel
/LENGTH:

Default is name of disk volume being backed up
Default density = 800 bpi (if unit supports two densities; otherwise default is density of the particular unit.)
Default n = 25
Default n = physical length of the output tape
Rewinds first tape of tape set before executing the command line; may use with /APPEND
DIGITAL Command Language (DCL)

Command Qualifiers:
Group 4: Verification
/COMPARE
/VERIFY

Group 5: Display
/LIST
/[NO]LOG /LOG goes to Ti; default is /NOLOG

Group 6: Disk Processing
/DIRECTORY
/LABEL:arg
INPUT:volumelabel
[OUTPUT:volumelabel]
/LABEL:OUTPUT is default; if the only volumelabel in command line is outvolume, /LABEL:volumelabel will do

/MOUNTED
/[NO]PRESERVE Default /PRESERVE

Backs up and restores Files-11 volumes. Transfers files from a volume to a backup volume and retrieves files from the backup volume. BACKUP works through the Backup and Restore Utility (BRU).

BASIC BASIC[/qualifier]

Command Qualifiers: /B11 (BASIC-11)
/BP2 (BASIC-PLUS-2)
/USING: userbasic

Invokes an interpreter or compiler for the BASIC language, if present. The default is BASIC-PLUS-2.

BROADCAST BROADCAST tnn: message
BROADCAST @indirectspec
BROADCAST[/qualifier] message
BROADCAST username message

Command Qualifiers: /ALL (P)
/LOGGED...IN (P)

Displays the specified message at one or more terminals.
CANCEL  CANCEL taskname
Eliminates entries from the clock queue. CANCEL does not affect a
currently executing task, but only the pending entries in the clock queue.

COBOL-81  COBOL[/qualifier[s]] filespec
Command Qualifiers:
/[NO]ANSL_.FORMAT  Source in conventional
format
/[NO]CHECK:arg  Default is check
/[NO]BOUNDS  Default is check
/[NO]PERFORM ALL
/[NO]NONE
/[NO]CODE:[NO]CIS  Use CIS in object code
/[NO]CROSS_.REFERENCE
/[NO]DEBUG  Default is NODEBUG
/[NO]DIAGNOSTICS:[filespec]  Default is NODIAGNOSTICS
/[NO]LIST  Default is NOLIST
/[NO]OBJECT
/[NO]OVERLAY._DESCRIPTION  Default is NOOVERLAY_. DESCRIPTION
/[NO]SHOW:[NO]MAP  Default is NOSHOW
/[NO]SKELETON  Default is SKELETON
/[NO]SUBPROGRAM  Default is NOSUBPROGRAM
/[NO]TEMPORARY:device  Stores temporary work files
/[NO]USING:usercompiler  Default is COBOL-81
/[NO]WARNINGS:[NO]INFORMATIONAL  Default is WARNINGS
Invokes COBOL-81 compiler, if present.

COBOL/C11  COBOL/C11[/qualifier[s]] filespec
Command Qualifiers:
/[NO]LIST:[filespec]  Default is NOLIST
/[NO]OBJECT:[filespec]  Default is OBJECT
/[NO]ANSL_.FORMAT  Source in conventional format
/[NO]CHECK  No bounds checking
/[NO]CM6  No COMPUTATIONAL-.6
/[NO]CROSS_.REFERENCE
/[NO]LARGE_.SYMBOL_.TABLE[n]  Default n=1;
/[NO]NAMEs:xx  2-character kernel (xx) for program
section names.

85
DIGITAL Command Language (DCL)

Command Qualifiers:
/NEST:n  Depth of nested performs; default n=10
/[NO]OVERLAY
/[NO]POOL__LITERALS
/[NO]READONLY
/[NO]SHOW/(argl,s)
    COPY__LIST
    MAP
    VERB__LOCATION  Location of each program verb
/[NO]SKELETON
/[NO]SUBPROGRAM
/TEMP:ddnn:  Store temporary work files
/WARNINGS
/NOWARNINGS  Only fatal diagnostics printed

Invokes the PDP-11 COBOL (COBOL/C11) compiler, if present.

CONTINUE  CONTINUE[qualifier] [taskname]
  Command Qualifier: /TERMINAL:ttnn: (P)

CONTINUE resumes execution of a previously suspended task. Taskname defaults to TTnn.

CONVERT  CONVERT[qualifier[s]] infile outfile
  Command Qualifiers: /[NO]APPEND
    /BLOCK__SIZE:n  Default is 512
    /NO]FIXED__CONTROL
    /NO]IDENTIFICATION
    /INDEXED
    /KEY[n]
    /[NO]LOG__FILE:filespec  NOLOG__FILE is default.
    /[NO]MASS__INSERT
    /MERGE
    /PAD:[#][arg]  Pad infile records to outfile length. Default pad character is blank.
Command
Qualifiers: /RELATIVE 
/NO:REPLACE 
/SEQUENTIAL 
/NO:TRUNCATE Default is NOTRUNCATE

Invokes the RMSGCNV utility which moves records from one file to another. RMSGCNV reads records from an input file and writes them to an output file. The action of RMSGCNV depends on the organization - sequential, relative, or indexed - of the two files, and on the qualifiers you include in the CONVERT command. See the main text and the RMS-11 documentation supplied with your system for more information.

COPY COPY infile[s] outfile[s]
Command
Qualifiers: /BLOCK:SIZE:n n is octal unless terminated with decimal point
/NO:CONTIGUOUS
/OWN Makes outfile UIC owner of copy
/REPLACE
/NO:SPAN:BLOCKS

Copies files. Unless specified otherwise, COPY preserves the file organization of the input file: that is, indexed files are copied as indexed files, and so forth. See also the CONVERT command. See APPEND command description for other qualifiers.

CORAL 66 CORAL[\qualifier[s] filespec[,s]]
Command Qualifiers:
/NO:CHECK Default is /NO:CHECK 
/CODE:arg Choose instruction set
EIS Extended instruction set
FPP Floating point processor
PIC Position-independent
/NO:EXTEND:SOURCE Default is EXTEND:SOURCE
/NO:LIST:filespec Default is Nolist
/NO:MACHINE:CODE Default is NOMACHINE:CODE
/NAMES:xx
/NO:OBJECT Default is OBJECT
/NO:OPTIMIZE[LEVEL:n] Default is OPTIMIZE
DIGITAL Command Language (DCL)

Command Qualifiers:
/READ..ONLY[arg] Alters READ..ONLY or READ/WRITE attribute
ALL
NONE
PURE..DATA Default is PURE..DATA
/NO|SHOW[arg,sl]]
ALL
EXPANSIONS
NONE
OVERRIDE
SOURCE
STATISTICS
SYMBOLS Default is SHOW STATISTICS
/NO|STANDARD Default is NOSTANDARD
/TEST[n] Default is TEST:0
/NO|TRACEBACK Default is NOTRACEBACK
/WIDTH:n Default is WIDTH:132

CREATE  CREATE filespec
Creates a sequential file in a directory on a file-structured device. After you issue the CREATE command, you can immediately enter text. If you want an empty file, enter a CTRL/Z.

CREATE/DIRECTORY  CREATE/DIRECTORY[/qualifier] [ddnn:] [g.m]

Command
Qualifiers: /ALLOCATION:n
Entries for n files
/PROTECTION:code
/LABEL:volumelabel

Creates a User File Directory (UFD) on a Files-11 volume and enters its name in the volume's Master File Directory (MFD). Nonprivileged users can create directories on mounted volumes only on their own private (allocated) devices.

DEALLOCATE  DEALLOCATE[/qualifier] [ddnn:]

Command
Qualifiers: /ALL Frees all devices allocated by T1
/DEVICE
/Terminal:tnn: (P)

Counteracts ALLOCATE and frees a private device for access by others.
DEASSIGN [qualifier] logicalddnn:

Command
Qualifiers: /ALL Combine with any other qualifier
/LOCAL Default
/GLOBAL (P) Synonym for local
/SYSTEM (P) Synonym for global
/TERMINAL:ttnn: (P)

Deletes logical-device assignments. DEASSIGN disassociates logical names from physical device names, pseudo device names, or logical device names created by ASSIGN.

DEASSIGN/QUEUE (P) DEASSIGN/QUEUE queue name processor name

Counteracts ASSIGN/QUEUE. It is used to eliminate the path from a queue to a processor in the Queue Manager subsystem.

DEBUG DEBUG [taskname]

Forces a task to trap to a debugger by setting the T-bit in the task's Processor Status Word. The task must have been built using the /DEBUG qualifier to the LINK command, or have issued an Executive directive specifying a debugger. Nonprivileged users can use this command only for nonprivileged tasks running from their own terminals. Privileged users can name any task, but the command must be issued from the terminal the task was run from. The default taskname is TTnn.

DELETE DELETE [qualifier]?

Command
Qualifiers: /NOLOG Lists deleted files on TI:
/NOQUERY

Deletes specified versions of files and releases the storage space that the files occupy. See APPEND command description for other qualifiers.

DEBUG

DELETE/ENTRY DELETE/ENTRY:n [qualifier]

Command
Qualifier: /FILE: POSITION:n

Deletes QMG jobs by entry number.
DIGITAL Command Language (DCL)

DELETE/JOB  DELETE/JOB[qualifier] queueName [t.g.m][jobname]

Command
Qualifier:  /FILE__POSITION:n
Deletes QMG jobs by queue name and job name.

DELETE/PROCESSOR (P)  DELETE/qualifiers processorName

Qualifiers:  APPLICATIONS__PROCESSOR
            BATCH__PROCESSOR
            CARD__READER      Synonym for input
            DEVICE            Synonym for printer
            INPUT             Synonym for cardreader
            PRINTER           Synonym for device
            PROCESSOR

Deletes print processors, output despoolers, or batch processors from the
Queue Manager subsystem by processor name or device name. This com-
mand also sets the device unspooled.

DELETE/QUEUE (P)  DELETE/QUEUE queueName/ERASE

Deletes queues in the Queue Manager subsystem by name. See DE-
LETE/JOB and DELETE/ENTRY to delete jobs from queues.

DIFFERENCES  DIFFERENCES infile1 infile2

Command
Qualifier:  /CHANGE__BAR[n]
            /IGNORE:arg
            BLANK__LINES
            COMMENTS
            FORM__FEEDS
            SPACING
            TRAILING__BLANKS
            /LINES:n

n is alternative octal
ASCII code of change-  Comments begin with
bar character.
Default is 041 (!)
any group of tabs and
blanks equals one blank
The n lines specified must
be the same for a match.
DIGITAL Command Language (DCL)

Command Qualifiers:  
/NO][NUMBERS Line numbers in output file
/OUTPUT][filespec Names output file; T: is default.
/SLP[audittrail] 

Compares two ASCII (text) files line by line to determine if parallel records (lines) are identical, and produces a listing of the differences, if any, between the files.

DIRECTORY

Command Qualifiers:  
/ATTRIBUTES RMS-11 attributes
/BRIEF Free blocks on volume; default volume is SY:
/FREE [ddnn:] 
/FULL Blocks used and allocated
/SUMMARY Destination

/OUTPUT][filespec] Names output file; T: is default
/PRINTER Output to printer

Other qualifiers
/DATE:dd-mmm-yy
/SINCE:dd-mmm-yy
/THROUGH:dd-mmm-yy
/TODAY
/EXCLUDE:filespec

Displays information on files in directories (UDFs). See APPEND command description for other qualifiers.
DIsmount  dismount ddnn: [label]
Command
Qualifiers: /ALL
           /PUBLIC (P)
           /SAVE (P)
           /[NO]/UNLOAD
           /SYSTEM

Dismount all devices mounted by user
Dismount all users from volume
Disk keeps spinning
Affects DB and DM devices only.
Synonym for /PUBLIC

Marks the volume mounted on the specified device as logically off line and disconnected from the file system.

Edit  edIt/[qualifier] [edit-input]
Command
Qualifier: /EDI
           /KED
           /KS2
           /MAKE
           /MUNG
           /OUTPUT: filespec
           /CREATE
           /SOS
           /TECO
           /USING: yyy

Line text editor
Unbundled KED editor
VT52 version of KED
Unsupported TECO editor
Unsupported TECO editor
Use with KED and KS2
Use with KED and KS2
Unsupported Son of Stopgap
Unsupported Text Editor and Corrector
Unsupported user editor

Invokes an editor. See also Edit/Edt and Editslp for those editors.

Edit/EdT  edIt/EdT/[qualifier[s]] filespec
Command
Qualifiers: /[NO]/COMMAND: filespec
            /[NO]/CREATE
            /[NO]/JOURNAL: filespec
            /[NO]/OUTPUT: filespec
            /[NO]/READ...ONLY
            /[NO]/RECOVER

Default is COMMAND: EDT/EdT
Default is CREATE
Default is JOURNAL
Default is OUTPUT
Default is READ...ONLY
Default is RECOVER

Invokes Edt, the DEC Standard Editor, and the default editor.
EDIT/SLP EDIT/SLP/[QUALIFIER(s)] filespec

Command
Qualifiers: /[NO]AUDIT:[(arg[s])] Default is /AUDIT:
             (POS:80;51Z:8) n<132, n<14.
             POSITION:n
             SIZE:n
             /CHECKSUM[:n]
             /[NO]LIST:[filespec]
             /[NO]OUTPUT:[filespec]
             /[NO]REPORT Report truncation lines
             /[NO]TAB Right-justify with tabs
             or spaces. Default is NOTAB
             /[NO]TRUNCATE[:n] Deletes audit trails and
             trailing characters

Invokes the Source Language Input Program (SLP), a program-mainte-

ance editor.

FIX (P) FIX taskname /[QUALIFIER(s)]

Qualifiers: /READONLY..SEGMENT
             /REGION

Causes an installed task or region to be loaded and locked into memory.

FORTRAN FORTRAN/[QUALIFIER(s)] filespec(s)

Command
Qualifiers: /[NO]CHECK FOR: arguments are mutually
             /CODE:arg exclusive
             EAE
             EIS
             FIS
             /THREADED F4P and F77; n=0-99
             /CONTINUATIONS:n continuation lines
             /[NO]DLINES Compile D-lines
             /[NO]EXTEND..SOURCE FOR: accepts 72 columns
             /FOR FORTRAN-IV
             /F4P FORTRAN-IV-PLUS
             /[NO]F77 FORTRAN-IV; NOF77 is
             /FOR FORTRAN-IV-PLUS
             /IDENTIFICATION Compiler and version number
             /[NO]I4 I4 is 2-word variables; default is
             NOI4

93
DIGITAL Command Language (DCL)

Command
Qualifiers:
/NO|LINE|_NUMBERS
/NO|LIST|filespec
/MACHINE|_CODE
/MAP
/NO|OBJECT|filespec
/NO|SHAREABLE
/SOURCE
/NO|STANDARD|arg
  ALL
  NONE
  SOURCE
  SYNTAX
/NO|TRACEBACK|arg
  ALL
  BLOCKS
  LINES
  NAMES
  NONE
/USING|usercompiler
/NO|VECTORS
/NO|WARNINGS
/WORK|_FILES|n

Default is NOLIST
Default is OBJECT
F4P and F77: Multuser task
F77: default is NOSTANDARD
F4P and F77
Same as LINES
Same as ALL
FOR; default is /VECTORS
FOR; default is WARNINGS
F4P and F77; n is maximum number of temporary files.

Invokes a FORTRAN compiler, if present. The default is FORTRAN-IV.

HELP
HELP|qualifier(s)| | | [%] | |parameter1| |...|parameter9|

Command
Qualifiers:
/OUTPUT|filespec
/LOCAL
/GROUP
/CLI|cname
/MCR
/FILE|filespec
/filename

Default is /OUTPUT:TI:
Help file is in default UFD;
Help file is in [g.1]; g is your group number
Default for MCR terminals
Default for DCL terminals
Names file containing help text
Defaults to LB:[1,2]filename.HLP

Displays information about your system. Help for MCR, DCL, and most utilities is supplied with the system. Your system may also have help for an alternate CLI, as well as local, group, or other special help.
HOLD/ENTRY

HOLD/ENTRY:n

Holds a QMG job in its queue by entry number.

HOLD/JOB

HOLD/JOB queueame [[g,m]] jobname

Holds a QMG job in its queue by queue name and job name.

INITIALIZE

INITIALIZE[qualifier]s]] ddnn: voluelabel

Command Qualifiers:  

/ACCESSEd:n  Number of UFDs accessed simultaneously

/BAD_BLOCKS:arg  
   AUTOMATIC
   MANUAL
   OVERRIDE

/DENSITY:arg  
   800
   1600
   6250

/EXTENSION:n  Extend files by n blocks; default n=5.

/FILE_PROTECTION:(code)  

/HEADERS:n  

/INDEX:arg  
   BEGINNING
   MIDDLE
   END

/INDEX:arg  

/MAXIMUM_FILES:n  Default is NOSHOW

/OWNER:[g,m]  Specifies owner of volume

/PROTECTION:code

/[NOLOG]  Displays volume information

/WINDOWS:n  Default n=7.

Produces a volume in Files-11 format. See also INITIALIZE/UPDATE. You must mount the volume /FOREIGN. Nonprivileged users must allocate the device.
DIGITAL Command Language (DCL)

INITIALIZE PROCESSOR

INITIALIZE qualifiers
processoname/parameter qualifier

Command
Qualifiers:
PROCESSOR
CARD_READER
INPUT

Parameter
Qualifiers:
/BATCH_QUEUE:queue name
/CONSOLE:ddnn
/PRINTER_QUEUE:queue name

INITIALIZE QUEUE

INITIALIZE QUEUE queue name (P)

Command
Qualifiers:
/BATCH
/PRINTER
/QUEUE/[NO]WARNING

INITIALIZE QUEUE creates, names, and starts a queue in the Queue Manager subsystem.

INITIALIZE UPDATE

INITIALIZE UPDATE[qualifier[s]] ddnn:
volumelabel

Command
Qualifiers:
/ACCESSSEd:n
/DENSITY:arg
800
1600
6250
/EXTENSION:n
/FILE_PROTECTION:code
/OWNER:[g,m]
/MAXIMUM_FILES:n
/PROTECTION:code
/[NO]SHOW
/VOLUME_LABEL:newvolumelabel
/WINDOWS:n

Extend full files by n blocks
Default is SHOW
Mapping pointers to file windows; default is 7.

Invokes the HOME utility to alter values in the Volume Home Block without affecting the other data on the volume. INITIALIZE UPDATE is only for disks and DECTapes in File-11 format. You must mount the volume /FOREIGN.

96
INSTALL [INSTALL]([qualifier[s]]) ([filespec] (P)

Command Qualifiers: /[NO]CHECKPOINT
/COMMAND:"taskcommand"
/EXTENSION:n
/MULTIUSER_PARTITION:parname Read-only portion
/PARTITION:parname
/[NO]POSTMORTEM
/PRIORITY:n
/READONLY_COMMON
/[NO]SLAVE Default is NOSLAVE
/TASK_NAME:taskname
/UIC:[p,m]

Includes a task in the System Task Directory, thus making it known to the system.

LIBRARY [LIBRARY][operation]([/qualifier[s]])
LIBRARY [|filespec]

Creates and maintains user-written library files. The command has eight functions, each listed here as a separate command. See main text for more details on all functions and qualifiers.

LIBRARY/COMPRESS LIBRARY/COMPRESS{:arg[,s]} lib(newlib)

Arguments: GLOBAL:n Entry point table entries
             MODULES:n Module name table entries
             BLOCKS:n Size in 256-word blocks.

Physically deletes modules that have been logically deleted through
LIBRARY/DELETE. You can rename the resulting compressed library. You
can also use this command to copy a library and rename it.

LIBRARY/CREATE LIBRARY/CREATE{:arg[,s]}[/qualifier[s][lib][infil[e]][s]]

Arguments: GLOBAL:n Entry point table entries
             MODULES:n Module name table entries
             BLOCKS:n Size in 256-word blocks

97
DIGITAL Command Language (DCL)

Command Qualifiers: /NOGLOBALs
/MACRO
/OBJECT Identifies object library: default
/SELECTIVE SEARCH
/SQUEEZE
/UNIVERSAL

Creates a library and optionally inserts one or more modules into it.

LIBRARY/DELETE LIBRARY/DELETE libspec module[,module[,s]]

Deletes object modules from a library. See LIBRARY/REMOVE for removing global symbols (entry points) from a library.

LIBRARY/EXTRACT LIBRARY/EXTRACT[/qualifier] libspec module[,s]

Command Qualifier: /OUTPUT[filespec]

Reads one or more modules from a library and writes them to a specified output file. You can extract up to eight modules with a single command. If you extract more than one module, the modules are concatenated in the output file. Default output file is TI.

LIBRARY/INSERT LIBRARY/INSERT libspec filespec[s]

Command Qualifiers: /NOGLOBALs
/SELECTIVE SEARCH
/SQUEEZE

Inserts modules from one or more files into a library.

LIBRARY/LIST LIBRARY/LIST[/filespec] libspec

Command Qualifiers: /BRIEF
/FULL
/NO/NAMES Names and global entry points

Lists the names of all modules in a library on your terminal or in an output file.

LIBRARY/REMOVE LIBRARY/REMOVE libspec global[,global[,s]]

Removes global symbols (entry points) from a library. See LIBRARY/DELETE for deleting object modules from a library.
LIBRARY/REPLACE

Command: LIBRARY/REPLACE libspec filespec[s]
Qualifiers: /NOGLOBAL /SELECTIVE /SQUEEZE

Replaces a module in a library with a new modules of the same name and deletes the old module.

LINK

Command: LINK[qualifier[s]] filespec[qualifier[s]][,filespec[s]]
Qualifiers: /ANCILLARY /PROCESSOR[n]
/BASIC
/NOCHECKPOINT:arg
        SYSTEM Checkpoints to [1,2]
        CORIMG.SYS Checkpoints to task image file
        TASK
/ CODE(arg[s])
        DATA...SPACE
        EAE
        FFP
        PIC Same as POSITION...
        INDEPENDENT
        POSITION...INDEPENDENT Same as PIC
/COMPATIBLE
/NO CROSS...REFERENCE
/NO DEBUG[filespec]
/NO EXECUTABLE:filespec
/NO EXTERNAL
/ERROR...LIMIT:n Stops task build after n errors
/FAST
/FULL...SEARCH
/NO HEADER
/I...PAGE
/LONG Long map
/MAP[ filespec]
/NO MEMORY...MANAGEMENT[:n] Default is MEM
/OPTIONS
/OVERLAY...DESCRIPTION
/POSTMORTEM
/NO PRIVILEGED Default is NOPRIV

99
DIGITAL Command Language (DCL)

Command
Qualifiers: 
/NO)RECEIVE Saves indirect file
/NO)RESIDENT..OVERLAYS
/SAVE
/SELECTIVE..SEARCH Default is NOSEG
/NO)SEGREGATE
/SEQUENTIAL
/SHAREABLE:[arg] Multiuser; default argument is TASK
COMMON
LIBRARY TASK
/SLAVE
/SLOW
/SYMBOL_TABLE:[filespec]
/NO)SYSTEM..LIBRARY..DISPLAY Default is NOSYS
/NO)TASK:[filespec] Same as /EXECUTABLE
/TKB Default is TKB
/TRACE
/NO)WARNINGS Default is WARNINGS
/WIDE

File
Qualifiers: 
/NO)CONCATENATE Names file to replace
/DEFAULT..LIBRARY [1,1] SYSLIB.OLB
/NO)GLOBALS Default is GLOBALS
/LIBRARY /INCLUDE:(module1,..modulen)
/OVERLAY..DESCRIPTION
/SELECTIVE..SEARCH

Invokes the Task Builder, which links object modules and routines from user and system libraries to form an executable task. See also LINK/C81.

LINK/C81 LINK/C81/[qualifier[s]] [filespec,s]
LINK/COBOL/[qualifier[s]] [filespec,s]

Command
Qualifiers: 
/NO)FMS Default is NOFMS
/FMS:NORESIDENT Same as /FMS
/OTS:NORESIDENT Default is OTS:NORESIDENT
/NO)MAP Default is NOMAP
/NO)RMS:NORESIDENT
/NO)DEBUG Default is NODEBUG

Invokes the Task Builder, which links COBOL-81 object files to produce a task image (.TSK file).
LOGIN  LOGIN userid password
  Grants access to a multiuser protection system and establishes your privileges as a system user.

LOGOUT  LOGOUT[/qualifier]
  Command
  Qualifier:  /[NO]HOLD  Holds remote line after logout; default is NOHOLD

  Counteracts LOGIN. LOGOUT also aborts any nonprivileged tasks running from the terminal, and dismounts any volumes and deallocates any private devices allocated from the terminal.

MCR  MCR mccommand
  Enters an MCR command from a DCL terminal without leaving DCL.

MACRO  MACRO[/qualifier[s]] filespec[/qualifier[s]],filespec[s]]
  Command
  Qualifiers:  /[NO]CROSSREFERENCE  Default is NOCROSS
              /DISABLE:parameter[,parameter[s]]
              ABSOLUTE
              BINARY
              CARD_FORMAT
              GLOBAL
              LOCAL
              LOWER_CASE
              REGISTER_DEFINITIONS
              TRUNCATION
              /ENABLE:parameter[,parameter[s]]
              ABSOLUTE
              BINARY
              CARD_FORMAT
              GLOBAL
              LOCAL
              LOWER_CASE
              REGISTER_DEFINITIONS
              TRUNCATION
              /[NO]LIST:filespec  Default is NOLIST
              /[NO]OBJECT:filespec  Default is OBJECT
              /[NO]SHOW:[parameter[,parameter[s]]]
              ALL
              BINARY
              CALLS
              COMMENTS
DIGITAL Command Language (DCL)

Command Qualifiers:
- CONDITIONALS
- CONTENTS
- COUNTER
- DEFINITIONS
- EXPANSIONS
- EXTENSIONS
- LISTING_DIRECTIVES
- OBJECT_BINARY
- SEQUENCE_NUMBERS
- SOURCE
- SYMBOLS

/(NO)WIDE

File Qualifiers:
- /LIBRARY
  Assemble on pass 1 or 2
- /PASS:n

Invokes the MACRO-11 Relocatable Assembler, which assembles one or more MACRO-11 source files into a single relocatable object module suitable for processing by the Task Builder.

MOUNT MOUNT/[qualifier[s]] ddnn: volumelabel
  (Disks and other random-addressable devices)
  MOUNT/[qualifier[s]] ddnn:[.ddnn:...:] filesset-ID
  (magnetic tapes)

Command Qualifiers for Both Disks and Tapes:
- DEFAULT:arg
  SAVE
  NOUNLOAD
  UNLOAD

  /FILE_PROTECTION:(code)
  Protection for files created during mount

  /FOREIGN
  /OVERRIDE:IDENTIFICATION (P)
  /PARAMETERS:"user parameters"
  /PROCESSOR:arg
  acpname
  UNIQUE:[acpname]

  /PROTECTION:(code)
  /PUBLIC (P)
  /[NO]SHAREABLE
  /[NO]LOG
  /SYSTEM
  /[NO]WAIT
  /[NO]WRITE

  Deallocates and sets device public

  Displays volume information on TI

  Default is /[NO]WAIT

102
DIGITAL Command Language (DCL)

Command Qualifiers for Disks and Other Files -11 Devices:

/ACCESSED:n
/EXTENSION:n
/OWNER:[lic]
/UNLOCK
/WINDOW:arg
   n
   (USER:n,INDEX:n)

Command Qualifiers for ANSI and Unlabelled Tapes:

/BLOCK_SIZE:n
/CARRIAGE_CONTROL:arg
   FORTRAN
   LIST
   NONE
/DENSITY:arg
   800
   1600
   6250
/[NO]HDR
/[NO]LABEL
/OVERRIDE:arg
   ACCESSIBILITY
   EXPIRATION_DATE
   SET_IDENTIFICATION
/RECORD_SIZE:n
/TRANSLATE:arg
   EBCDIC
   NONE
   UT1
   UT2
   UT3
/VOLUME_IDENTIFICATION:volume-ID[1, volume-ID[s]]

Declares a volume to be logically known to the system, on line, and available for use. Some qualifiers can be used with any MOUNT command; some are limited to mounting disks (and other random-addressable devices) and others are limited to mounting magnetic tapes.

PRINT PRINT[/qualifier[s] filespec[/qualifier[s]..filespec[s]]]

Command
Qualifiers:
   /AFTER:(dd-mmm-yyyy hh:mm)
   /COPIES:n
   /[NO]DELETE

103
DIGITAL Command Language (DCL)

Command Qualifiers: /DEVICE:ddnn: Flag page on each file; default is NOFLAG
(NO)FLAG...PAGE n can be 0 through 256; default is 0
/NO)HOLD Default is NOHOLD
/NO)JOB...COUNT Flag page on job; default is JOB.PAGE
/NO)JOB...PAGE

/LENGTH:n 1-9 characters
(NO)LOWERCASe /NAME:jobname n is 1 through 150 nonprivileged
/NO)TRANSFER 1 through 250 privileged
/PAGE...COUNT:n Default is 50
/PRIORITY:n

/QUEUE:queue name
(NO)RESTART
(NO)UPPERCASe

File Qualifiers: /COPIES:n Queues files for printing on a line printer. PRINT can also queue jobs for
(NO)DELETE other output devices.
(NO)TRANSFER

PURGE PURGE[qualifier[s]] filespec[s]

Command Qualifiers: /KEEP:n Lists files on TI as deleted
(NO)LOG

Deletes all but the latest versions of files, and releases the storage space that the deleted files occupy. See APPEND command description for other qualifiers.

RELEASE/ENTRY RELEASE/ENTRY:n Releases by entry number a print or batch job that has been held in its
queue. The variable n is the QMG entry number.
RELEASE/JOB

RELEASE/JOB queuename [[g,m]]jobname
 Releases by queue name and job name a print or batch job that has been held in its queue.

REMOVE REMOVE[/ qualifier] taskname (P)

Qualifier: /REGION (P)
 Counteracts INSTALL. REMOVE takes a task name out of the System Task Directory.

RENAME RENAME[/ qualifier[s]] oldfilespec newfilespec
 Changes the name, type, or version number of an existing file. See APPEND command description for other qualifiers.

REQUEST REQUEST message
 Sends a message to the operator's console (CO:).

RUN uninstalledtask  RUN[/ qualifier[s]] [$]filespec

Command
 Qualifiers: /NO/CHECKPOINT
 /COMMAND:"taskcommand"
 /EXTENSION:n
 /PARTITION:parname
 /NO/POSTMORTEM
 /PRIORITY:n (P)
 /STATUS:arg
 TASK
 COMMAND
 /TASK..NAME:taskname
 /TIME..LIMIT:n[u]
 /UIC:[g,m] (P)

When used to run an uninstalled task from a task image file, RUN is a combination command, encompassing INSTALL, RUN, and REMOVE.

RUN installedtask  RUN[/ qualifier[s]] taskname

Command
 Qualifiers: /DELAY:.n (P)
 /INTERVAL:.n (P)
 /SCHEDULE:hh:mm:ss (P)
DIGITAL Command Language (DCL)

Command
Qualifiers: /STATUS:arg

COMMAND
TASK
/SYNCHRONIZE:u (P)
/UIC:[g,m] (P)

Initiates the execution of installed tasks. Privileged users can use RUN to initiate the execution of installed tasks on a schedule by creating entries in the system clock queue.

SET [DAY]TIME (P) SET [DAY]TIME:dd--mmm--yy] [hh:mm]

Sets the system date and time.

SET DEFAULT SET DEFAULT:[ddnn:][g.m]]

Establishes your default device or UFD, or both. With no arguments, SET DEFAULT returns a nonprivileged user to login device and UIC.

SET DEVICE (P) SET DEVICE:ddnn:[qualifier]

Command
Qualifiers: /[NO]CHECKPOINT..FILE[n] n is number of decimal blocks in [0,0] CORIMG.SYS
/[NO]LOWERCASE
/[NO]PUBLIC Default is NOPUBLIC
/WIDTH:n (Nonprivileged for TI)

Establishes certain device attributes.

SET GROUPFLAGS SET GROUPFLAGS:nn:[qualifier]

Command
Qualifiers: /CREATE Default is CREATE
/DELETE

Creates and deletes group global event flags. Nonprivileged users can use the command for their own group. The variable n is the group number.

SET LIBRARY/DIRECTORY (P) SET LIBRARY/DIRECTORY: [g.m]

Establishes the directory where the system utilities and other nonprivileged system tasks are kept.
DIGITAL Command Language (DCL)

SET [NO|PARTITION (P)]  SET [NO|PARTITION:parname/qualifier(s)]

Command
Qualifiers: /BASE:n
            /COMMON
            /DEVICE Device common
            /SIZE:n
            /NO|SUBPARTITION:subparname
            /SYSTEM
            /TASK
            /TOP

Creates or eliminates a partition.

SET PRIORITY (P)  SET PRIORITY:n, taskname

Alters the priority of an active task.

SET PROTECTION  SET PROTECTION:code/qualifier(s)] filespec(s]

Establishes the protection status of files. Default is SY:RWED,
OW:RWED,GR:RWED,W:R. See APPEND command description for
other qualifiers.

SET QUEUE/ENTRY  SET QUEUE/ENTRY:n[|qualifier]

Command
Qualifiers: /AFTER:(dd-mmm-yyyy hh:mm)
            /COPIES:n
            /[NO]DELETE
            /FILE_POSITION:n
            /FORMS:n
            /HOLD Same as HOLD/QUEUE
            /LENGTH:n
            /[NO]LOWERCASE
            /PAGE_COUNT:n
            /PRIORITY:n n is 1 through 150 nonprivileged;
            1 through 250 privileged
            Default is 50.
            /RELEASE Same as RELEASE/QUEUE
            /[NO]RESTART
            /[NO]UPPERCASE

Modifies by entry number some attributes of print or batch jobs once they
are in a queue. See SET QUEUE/JOB to modify by job name.
DIGITAL Command Language (DCL)

SET QUEUE/JOB SET QUEUE/JOB[qualifier] queue [[g.m]]jobname

Command Qualifiers: /AFTER:(ddd-mmm-yy hh:mm)
/COPIES:n
/[NO]DELETE
/[FILE_POSITION:n
/FORMS:n
/HOLD
/LENGTH:n
/[NO]LOWER CASE
/PAGE_COUNT:n
/PRIORITY:n

Same as HOLD/QUEUE

n is 1 through 150 nonprivileged; 1 through 250 privileged

/RELEASE
/[NO]RESTART
/[NO]UPPERCASE

Default is 50.

Same as RELEASE/QUEUE

Modifies by job name some attributes of print or batch jobs once they are in a queue. See previous command to modify by entry number.

SET SYSTEM (P) SET SYSTEM/qualifier

Command Qualifiers: /DIRECTORY:[g.m]

Sets UFD where system tasks are kept

/EXTENSION LIMIT:n

Maximum size a task can be extended

/[NO]LOGINS

/[PACKETS:n

n is 0 through 15

/POOL:top:max:total

Increases pool size

Establishes certain characteristics of the system.

SET TERMINAL SET TERMINAL:[:tttnn:]qualifier[s]

Command Qualifiers:

Group 1: Common Use
/[NO]AUTOBAUD
/[NO]BROADCAST
/CLI:cliname
/DCL
/[NO]HOLD_SCREEN
/[NO]LOWER CASE

NOLOWER is default. Same as UPPER

108
DIGITAL Command Language (DCL)

Command Qualifiers:
/MCR
/PAGE_LENGTH:n  Default is terminal hardware setting
/[NO]PRIVILEGED (P)
/[NO]SPEED: (transmit, receive)
/[NO]UPPERCASE  Same as LOWER
/WIDTH:n

Group 2: Terminal Setup
/ASR33
/ASR35
/CRLFILL:n  n is 0 through 7.
/[NO]FORM_FEED
/[NO]HARDCOPY
/KSR33
/LA12
/LA24
/LA30P
/LA30S
/LA34
/LA36
/LA38
/LA100
/LA120
/LA180S
/LFFILL
/[NO]SCOPE
/[NO]TAB
/[MODEL:arg
/VT05
/VT50
/VT52
/VT55
/VT61
/VT100
/VT101
/VT102
/VT105
/VT125
/VT131
/VT132

109
DIGITAL Command Language (DCL)

Command Qualifiers:
Group 3: Task Setup
/NOECHO
/NOEIGHT_BIT
/NOESCAPE
/NOFULL_DUPLEX
/NOINTERACTIVE
/NOILOCAL
/NOIPASSALL
/NOIREMOTE
/NOISERIAL
/NOITYPE_AHEAD
/NOWRAP

SET TERMINAL sets various attributes of your terminal. Privileged users can set attributes for any terminal.

SHOW ACCOUNTING SHOW ACCOUNTING/qualifier

Command Qualifiers: /INFORMATION /TRANSACTION[infile] outfile

Displays current information on your terminal session for nonprivileged users. Privileged users can display information about any terminal session.

SHOW ASSIGNMENTS SHOW ASSIGNMENTS[:tnn:]/qualifier

Command Qualifiers: /GLOBAL (P) /LOCAL Default is LOCAL
/LOGIN (P) Same as /GLOBAL
/SYSTEM (P)

Displays at your terminal all local and login logical-device assignments. Privileged users can display assignments from other terminals and global assignments.

SHOW CLOCK_QUEUE SHOW CLOCK_QUEUE

Displays information about tasks currently in the clock queue. This information consists of the task names, the next time each task is to be run, and each task’s reschedule interval, if any.
SHOW COMMON   SHOW COMMON[:name] [:qualifier]

Command
Qualifier: /TASK

Displays the name of resident commons installed in the system, their PCB
addresses, the number of attached tasks, and the status of the common.

SHOW [DAY]TIME   SHOW [DAY]TIME

Displays the system time and date setting.

SHOW DEFAULT   SHOW DEFAULT

Displays the current default device and UFD for your terminal, along with
your terminal number.

SHOW DEVICES   SHOW DEVICES[:dd][:qualifier]

Command
Qualifier: /[NO]PUBLIC
              /WIDTH

Displays information about the devices included in the system.

SHOW GROUPFLAGS   SHOW GROUPFLAGS

Displays the group global event flags currently in the system.

SHOW LIBRARY   SHOW LIBRARY

Displays the current library UFD. This is the UFD where nonprivileged
system utilities are kept.

SHOW MEMORY   SHOW MEMORY

Invokes the Resource Monitoring Display (RMDEMO), a dynamic display
of the system's activities in memory.

SHOW PARTITIONS   SHOW PARTITIONS[:name]

Displays address and content information about the partitions in the sys-
tem. You can display information about all partitions or about a single
partition.
DIGITAL Command Language (DCL)

SHOW PROCESSOR  SHOW PROCESSOR[processor-name[/arg]]
Arguments: BATCH
CARD...READER  Same as INPUT
DEVICE          Output processor; same as printer
INPUT           Same as CARD...READER
PRINTER         Same as DEVICE
Displays information about the batch processors, printers, card readers, and other devices under control of the Queue Manager.

SHOW QUEUE  SHOW QUEUE[qualifier] [queue-name]
Command
Qualifiers: /ALL  All entries in all queues
/BATCH
/BRIEF  Same as /PRINTER; all queues
/DEVICE  Same as /DEVICE
/ENTRY:n
/FILES     Files in each job; shorter than FULL
/FORMS:n
/FULL
/NAME:jobname
/OWNER...UIC:[][g,m]
/PRINTER  Same as device
Displays information about print jobs in queues.

SHOW SYSTEM  SHOW SYSTEM[qualifier]
Command
Qualifiers: /CLI
/DIRECTORY  Default; displays system UFD
/EXTENSION...LIMIT
/PACKETS
/POOL
Displays information about the current system.

SHOW TASKS  SHOW TASKS[:taskname][qualifier[s]]
Command
Qualifiers: /ACTIVE[:tmm:]  
/INSTALLED
/LOGICAL...UNITS
Command
Qualifiers:  /BRIEF
            /FULL
            /ALL

Displays information about active or installed tasks.

SHOW TASKS/DYNAMIC
Format to display task header:
SHOW TASK:taskname/DYNAMIC[/qualifier]
Command Qualifier:  /RATE:n
Format to display Active Task List:
SHOW TASKS/ACTIVE/DYNAMIC[/qualifier[s]]
Command Qualifiers:  /OWNER:ddnn:  Default is /ALL
                     /ALL
                     /PRIORITY:n  Default for n is 250
                     /RATE:n  Rate in seconds for display change;
                     Default is 1.

Invokes RMD to display on a video terminal continuing changes to either a
single task header or to all or part of the Active Task List. On a hard-copy
terminal, SHOW TASKS/DYNAMIC provides a snapshot display.

SHOW TERMINAL
Command
Qualifiers:  /[NO]AUTOBAUD
            /[NO]ASR33
            /[NO]ASR35
            /[NO]BROADCAST
            /[CL]:cliname
            /[NO]CRFILL
            /DCL
            /[NO]ECHO
            /[NO]EIGHT__BIT
            /[NO]ESCAPE
            /[NO]FORM__FEED
            /[NO]FULL__DUPLEX
            /[NO]HARDCOPY
            /[NO]HOLD__SCREEN
DIGITAL Command Language (DCL)

Command
Qualifiers: /HT
  /NO|INTERACTIVE
  /NO|KSR33
  /NO|LA12
  /NO|LA24
  /NO|LA30S
  /NO|LA30P
  /NO|LA34
  /NO|LA36
  /NO|LA38
  /NO|LA100
  /NO|LA120
  /NO|LA180S
  /NO|LFILL
  /NO|LOCAL
  /NO|LOWERCASE
  /MCR
  /MODEL
  /PAGE.LENGTH
  /NO|PASSALL
  /NO|PRIVILEGE
  /NO|REMOTE
  /NO|SCOPE
  /NO|SERIAL
  /NO|SLAVE
  /SPEED
  /NO|TAB
  /Ti:
  /TT
  /NO|TYPE.AHEAD
  /NO|UPPERCASE
  /VT
  /NO|VT05
  /NO|VT50
  /NO|VT52
  /NO|VT55
  /NO|VT61
  /NO|VT100
  /NO|VT101
  /NO|VT102
  /NO|VT105
  /NO|VT125
  /NO|VT131
DIGITAL Command Language (DCL)

Command
Qualifiers: /NOVT132
/WIDTH
/(NO)WRAP

Displays information about your terminal and other terminals on your system.

SHOW USERS

Displays all currently logged-in terminals, including DECnet host terminals and virtual terminals, with the default UF and login UIC for each.

SORT

[KEY:(abm.nabm.n)][( qualifier[])] infile/(qual|outfile)/FORMAT:(arg)

Command
Qualifiers: /ALLOCATION:n /BLOCK_SIZE:n /BUCKET_SIZE:n /(NO)CONTIGUOUS
/DEVICE:device /PROCESS:PROCESS
ADDRESS_ROUTING
INDEX
RECORD
TAG
/SIZE:n /SPECIFICATION:filespec
/WORK_FILES:n

File
Qualifiers: /FORMAT:[format,[n]] FIXED STREAM UNKNOWN VARIABLE
/(INDEXED:n) /RELATIVE /SEQUENTIAL

Infile or outfile

Required on infile
Optional on outfile; n is size in bytes.

Invokes the SORT-11 utility, if present.

START

[ QUALIFIER [ taskname ] ]

Command
Qualifier: /TERMINAL:ttnn: (P)

Resumes execution of a task stopped by a STOP$ directive. Taskname defaults to TTnn.
DIGITAL Command Language (DCL)

START PROCESSOR

Qualifiers:
APPLICATIONS
BATCH
CARD
DEVICE
INPUT
PRINTER
PROCESSOR

Parameter
Qualifiers:
/FORMS:n
/CONTINUE
/RESTART
/NEXT
/TOP OF FILE
/BACKSPACE:n
/FORWARDSPACE:n
/PAGE:n
/ALIGN

Same as INPUT
Same as PRINTER
Same as CARD
Same as DEVICE

Starts an output processor or cardreader processor.

START QUEUE

START QUEUE queue_name

Starts a queue.

START QUEUE MANAGER

START QUEUE MANAGER

Starts the Queue Manager.

START UNBLOCK

START UNBLOCK qualifier taskname

Command
Qualifier:
/TERMINAL:tnn: (P)

Continues the execution of a task blocked by the STOP BLOCK command. Nonprivileged users can unblock any task running from their own terminals. Privileged users can unblock any task.

STOP ABORT

STOP ABORT printer

Stops the current job on a line printer immediately. Privileged users can stop any job. Nonprivileged users can stop only their own jobs.
DIGITAL Command Language (DCL)

STOP/BLOCK  STOP/BLOCK [taskname]
Command
Qualifier:  /TERMINAL:tnn:  (P)
Blocks an installed running task. The task no longer executes or competes
for memory. Nonprivileged users can block tasks running from their own
terminals. Privileged users can block any task.

STOP PROCESSORNAME (P)  STOP/QUALIFIER processorname/qualifier
Qualifiers:  APPLICATIONS...PROCESSOR
            BATCH...PROCESSOR
            CARD...READER
            DEVICE
            INPUT
            PRINTER
            PROCESSOR

Parameter
Qualifiers:  /ABORT
            /FILE...END
            /JOB...END
            /PAUSE

Stops a batch processor, card-reader processor, printer, or other output
processor.

STOP/QUEUE (P)  STOP/QUEUE queue

Stops queues.

STOP/QUEUE/MANAGER (P)  STOP/QUEUE/MANAGER
Command
Qualifier:  /ABORT

Stops the Queue Manager after the current job. /ABORT stops the Queue
Manager immediately.

SUBMIT  SUBMIT[(QUALIFIER[s]) filespec[s]]
Command
Qualifier:  /AFTER-(dd-mmm-yy hh:mm)
            /[NO]DELETE

Deletes batch file
after run; command or
filespec qualifier
DIGITAL Command Language (DCL)

Command
Qualifiers: /[NO]HOLD

/NOLOG_FILE
/NAME:jobname
/NO|PRINTER:[queue name]
/PRIORITY:n

/QUEUE:queue name
/NO|RESTART
/NO|TRANSFER

Queues QMG batch jobs consisting of one or more user batch jobs for processing by a batch processor.

TYPE TYPE filenames

Prints selected files on your terminal. See APPEND command description for other qualifiers.

UNFIX UNFIX[qualifier] taskname

Command
Qualifiers: /REGION
/READONLY...SEGMENT

Frees a fixed task or region from memory. Taskname can also be a region name.

UNLOCK UNLOCK filenames

Unlocks locked files. Locked files are files that have been improperly closed. They are identified by an L in the directory listing. See APPEND command description for other qualifiers.
ERROR LOGGING SYSTEM

The Error Logging System records information about errors and events that occur on system hardware for immediate action or later analysis and reporting. The system consists of four tasks:

- The Error Logger (ERRLOG)
- The Error Log Interface (ELI)
- The Report Generator (RPT)
- The Control File Language Compiler (CFL)

This section describes the ELI commands that run ERRLOG and the RPT commands that generate error log reports.

ELI COMMANDS

The general format for an ELI command is:

```
[filespec]/[switch1]...[switchn]
```

`filespec`
A device mnemonic or the name of an error log file, backup file, or file to append to the current error log file.

`switches`
Switches to set, change, or display ERRLOG operation. You must specify at least one switch on each ELI command line.

Using ELI Defaults:

```
ELI /LOG
```

This command starts ERRLOG, using LB:|1,6|LOG.ERR as the error log file and LB:|1,6|BACKUP.ERR as the backup file. It also starts error limiting on the error log devices.

Switches:

```
APPEND  filespec/AP
```

Appends a previous log file to the current error log file. Logging must be active for this switch to work.

```
BACKUP  filespec/BA
```

Sets the name for a backup file to the next highest version of the file named. This file is used if the primary error log file becomes unusable.
Error Logging System

HARD ERROR LIMIT device(s)/HL:n
Sets limit (n) for hard (unrecoverable) errors on a device or devices. If limiting is turned on and the hard error limit is reached, logging of hard errors for that device stops.

LIMITING /LIM
Starts the use of error limiting, using either default limits or those set with ELI switches.

LOGGING [filespec]/LOG
Begins error logger operation, turns on error limiting, and, if you specify a file name, overrides the default name of the error log file (LB:(1,6)LOG.ERR).

NOLIMITING /NOLIM /-LIM
Stops the use of error limiting.

NOLOGGING /NLOG /-LOG
Stops error logger operation and turns off error limiting.

RESET device(s)/RE
Resets the QIO and error counts on the specified devices to 0. You may specify up to 14 devices.

SHOW [device(s)]/SH
Displays error logging information for the specified devices or, if you do not specify device names, for all error logging devices on the system. Also displays information about the current operating status of the error logging system.

SOFT ERROR LIMIT device(s)/SL:n
Sets limits (n) for soft (recoverable) errors on a device or devices. If limiting is turned on and the soft error limit is reached, logging of soft errors for that device stops.

SWITCH filespec/SW
Copies the current error log file to the file specified and begins logging in that file.
RPT COMMANDS

The general format for an RPT command is:

(reportfile)([(switch(es))][=][inputfile])[/switches]

reportfile

The name of the listing file that contains the Error Log Report.

switches

Optional switches to control how RPT selects and formats information from the error log file. You can use the switches with either the output report file specification or the input file specification.

Default:

RPT = [RPT]

The default command line selects the following RPT switches:

/F[ORMAT][B][RIEF]
/T[YPE][A][LL]
/D[ATE][RANGE]:**
/P[ACKET]:**
/D[evice]:ALL
/W[IDTH]:W[IDE]

Switches:

DATE /DA:qualifier

Qualifiers:  P[REVIOUS]:ndays
             R[ANGE]:start:end
             T[ODAY]
             Y[ESTERDAY]

Allows you to select packets based on the time of their occurrence.

DEVICE /DE:qualifier

Qualifiers:  (devicename(s))
             A[LL]

Allows you to select packets for peripheral errors based on device or controller name.
Error Logging System

**FORMAT F:qualifier**

Qualifiers:  
B[RIF][F[ULL][N[ONE]]

Allows you to specify the desired format for the packet-by-packet report.

**PACKET NUMBER /PA:bbbb.xxx(/bbbb.xxx)**

Allows you to select a packet or range of packets by specifying the packet identification number. bbbb is the block number and xxx is the record number. A packet specified as * indicates open ended.

**REPORT /R:qualifier**

Qualifiers: 
D[AY]
MONTH
WEEK
SYSTEM
userstring

Invokes a predefined string of switches for RPT to use. The qualifier can be one of the DIGITAL-defined strings or a user-defined switch string.

The DIGITAL-defined strings and their switches are:

- **SYSTEM**  
  /F:BR/RT:AD:RA:.*/PA:.*/WI:WI/SU:(H,E)

- **WEEK**  
  /F:BR/RT:AD:PA:.*/WI:WI/SU:(H,E)

- **MONTH**  

- **DAY**  
  /F:FULL/RT:AD:TODAY/WI:WI/SU:ALL

**SERIAL NUMBER /SE:qualifier**

Qualifiers: 
D[RI][VE]:number and/or
P[ACK]:number

Selects packets based on drive or pack serial number.
SUMMARY /SU:summary_type

Qualifiers:
HISTORY
ERROR
GEOMETRY
ALL
NONE

Allows you to select the type of summary reports that RPT generates. You cannot use the multiple summary syntax to specify more than one keyword if one of the keywords is ALL or NONE. That is, /SU:(ALL) is legal but /SU:(ALL,ERROR) is not. The default is /SU:NONE.

TYPE /T:qualifier

Qualifiers:
A[LL]
C[ONTROL]
E[RRORS]
M[EMORY]
P[E]RIPHERAL]
P[RCESSOR]
S[YSTEM...INFO]

Selects packets based on packet type or types.

VOLUME LABEL /V:volumelabel

Selects packets based on volume label.

WIDTH /W:qualifier

Qualifiers:
A[ROW]
W[IDE]

Selects the width of the report RPT creates (80 or 132 characters).

Many RPT switches accept lists of qualifiers. The format for these lists is:
switch:(qualifier 1, qualifier 2...)
PROCEDURE FOR HALTING A JOB IN A PRINT QUEUE

The following section describes the commands to stop a job on a print processor without actually disabling the processor or queue manager. The procedure is useful when you accidentally queue a large job that should not be printed.

STOP/ABORT (/KIL) deletes the active job on a given processor.

Privileged users can delete any job; nonprivileged users can delete their own jobs. You do not need to know the queue name or job name, but rather the name of the processor to delete the job.

Format

DCL:STOP/ABORT processorname
MCR:QUE processorname:/KIL

processorname

Specifies the processor whose active job you wish to delete. Note that the MCR command format requires a colon (:) after the processor name.

You can stop jobs running on any processor under the control of QMG.

Examples

DCL:STOP/ABORT
Processor? LP0

This example shows how to stop a print job on line printer LP0:. The currently active job is deleted from the queue and the next eligible job is queued up.

Notes

Use this command to stop a processor fast, such as a line printer printing nothing but form feeds.

As soon as the active job is deleted, QMG passes the next eligible job to the processor. The processor has not been aborted or killed, but only the active job on that processor.

You can also delete the active job on a card-reader processor with this command.
ON-LINE DEBUGGING TOOL (ODT) COMMANDS

OPEN/DISPLAY/MODIFY TASK LOCATIONS

address mode-symbol contents new-value terminator

address (a)

Specifies the effective address of the location (word or byte) to be opened.
The address can be expressed absolutely or in relative form (see Relocatable Address). An odd address forces byte mode.

mode-symbol

Specifies the mode in which the location is to be opened or displayed. If the address is not specified, the last opened location is opened and displayed.

Symbol Open/Display Location As:
/ 6-digit octal word
\ 3-digit octal byte
` 2 ASCII characters (word)
' 1 ASCII character (byte)
% 3 Radix-50 characters (word)

contents

Specifies the current contents of the opened location.

new-value [k]

Specifies the optional value to replace the current contents upon termination of the command line.

terminator

Closes the currently open location, replacing the current contents (if so directed). The terminators are:

Return Terminates the current sequence, displays the ODT prompt (...), and waits for the next command.

Line feed Opens the next sequential location and prints its contents.
Circumflex (\^) or up-arrow (\!)  
Opens the preceding location in the current mode. If typed as an ODT prompt rather than as a terminator, opens the location that precedes the last-opened location in the same mode.

Underline (\_\_) or back-arrow (\-\-)  
Opens the PC-relative location. The effective address equals the contents (previous or replaced) of the current location added to its address plus 2. Mode is the same, except that odd effective addresses force byte mode.

At sign (@)  
Opens the location addressed absolutely by the contents (previous or replaced) of the current location. Mode is the same, except that odd effective addresses force byte mode.

Right angle bracket (\>}  
Opens the PC-relative branch-offset location. The effective-address calculation involves the low-order byte of the contents (previous or replaced) of the just-closed location. Byte, as a signed value, is multiplied by 2 and added to its effective address plus 2. Mode remains the same as when the location was opened.

Left angle bracket (\<)  
Reopens the location most recently opened by a /, <LF>, or \'. If the currently open location was not opened by a \<, @, or \>, then \< closes and reopens the current location.

COMMAND INPUT ERRORS  
Individual characters in a command line cannot be corrected. In general, typing an illegal character or command (such as 8 or 9) causes ODT to ignore the input, print the question mark error indicator (?), and wait for a valid command.

RELOCATABLE ADDRESS  
An effective address can be entered as an explicit value relative to (plus) the contents of a relocation register; typically the register contains the
relocatable base address for the applicable program section or object module. ODT displays task addresses in relative form if a relocation register contains an address-offset value equal to or less than the address to be displayed; if the Format Register ($F$) contains 0, ODT also displays the register's initialized state. Otherwise, ODT displays addresses in absolute form. The relocation registers are identified as 0R through 7R; a null value is taken as 0 when an offset is established. The registers initially contain -1, the nonactive state.

**Establishing Relocatable Address Offsets**

- **value;nR**  Value replaces current contents of relocation register n.
- **n,value;nR** Value is added to (subtracted from) current contents of relocation register n.
- **$nR/**  Displays current contents of relocation register n. New value is typed before terminator replaces current contents.

**Inhibiting Relocatable Addressing**

- **R**  Sets all active relocation registers to -1, the nonactive state.
- **nR**  Sets relocation register n to -1, the nonactive state.

**Entering or Displaying Relative Address**

Effective address is address relative to (plus) the current contents of relocation register r.

**BREAKPOINTS**

A breakpoint must be set in the first word of an instruction. Breakpoints are identified as 0B through 7B. (8B is reserved for use with single step execution.) A breakpoint address can be entered in absolute or in relative form (see Relocatable Address).

**Inserting Breakpoints**

- **r.address;nB**  Inserts breakpoint n at specified address.
- **r.address;B**  Inserts next unset breakpoint at specified address.

**Removing Breakpoints**

- **B**  Removes all inserted breakpoints.
- **nB**  Removes only breakpoint n.
On-Line Debugging Tool (ODT) Commands

Moving Breakpoints
r.address:nB Moves breakpoint n to new address, overriding previous address.

Report of Breakpoint Occurrence
nB.r.address Reports address at which breakpoint n suspended task execution.

Displaying Breakpoint Position
$nB/$ Displays current absolute address (or inactive state) of breakpoint n. Entering a replacement value alters the current contents of the breakpoint register.

CONTROL OF TASK EXECUTION

Go Command
G Initiates task at entry address.
r.address G Initiates task at specified address (address must be even). Execution continues to a breakpoint or to completion.

Proceed Command
P Resumes task execution from current breakpoint suspension, and continues to a breakpoint or completion.
nP Resumes task execution from current breakpoint suspension, and does not recognize this breakpoint again until its nth occurrence.
$nC$ Displays current contents of the proceed-count register associated with breakpoint n. New value typed before terminator replaces current contents.

Single-Instruction Command
S Executes PC-addressed instruction, suspends task, and prints address of next instruction.
nS Executes next n instructions, suspends task, and prints address of next instruction.
8B:r.address Specifies the next instruction’s address.

FILL MEMORY BLOCK - F COMMAND
The memory-limit registers, low ($L$) and high ($H$), must contain the address boundaries of the affected memory area. Both contain 0 initially.
On-Line Debugging Tool (ODT) Commands

The following sequence establishes the address reference, which can be in relative or absolute form:

**SL (or SH)/contents new-address terminator**

value F Places a value in search argument register (S$A), and/or enters the current contents of (S$A) in all memory locations from low limit (SL) through high limit (SH) in the same mode as the last-opened location.

**LIST MEMORY BLOCK - L COMMAND**

L Prints memory locations within specified address limits on console listing device (CL:).

kL Uses address value k as ending location and initiates listing operation.

a:L Uses address value a as a beginning location and initiates listing operation.

a;kL Uses address values a and k as beginning and ending addresses and initiates listing operation.

n:a;kL All listing control arguments are specified in a single listing command; n is the LUN register containing the address of the listing device.

**CALCULATING OFFSETS - O COMMAND**

Calculates positive or negative (2's complement) PC-relative and branch offsets between even (word) addresses.

**From Open Location**

directory/contents/addressO pc-rel->branch

Example: 16126/001402/16134O 000004 > 000002

**Between Two Specified Addresses**

directory/contents/addressO pc-rel->branch

Example: 16126,16134O 000004<>000002

**GENERAL PURPOSE REGISTERS**

C Constant Register

Contains user-specified 16-bit value (unsigned, absolute) for reference as "C" in any address or new-value expressions. $C/ prints current contents. New value typed before $C/ replaces contents.
On-Line Debugging Tool (ODT) Commands

**Q Quantity Register**
Always contains the last value printed for reference as "Q" in address or new value expressions.

**PROCESSOR STATUS WORD**

*\$S*/
Displays the task Processor Status Word (PSW). The new value typed before the terminator replaces the old PSW contents.

**DIRECTIVE STATUS WORD**

*\$W*/
Displays a task's Directive Status Word (\$DSW). The new value typed before the terminator replaces the old contents.

**MISCELLANEOUS SYMBOLS AND OPERATORS**

+ or space  Sums contiguous arguments.
-  Subtracts the following argument from the preceding one.
.  Equals address of the last explicitly opened location.
=  Calculates the 16-bit value (positive or 2's complement) of the preceding argument string, prints it as 6 octal digits, and stores it in Q. Arguments can be signed or unsigned octal values, relocatable address expressions, or any valid ODT expression.

**TERMINATING ODT SESSION**

X  Terminates ODT and returns control to the system monitor.

For additional information, refer to the IAS/RSX-11 ODT Reference Manual.
**TASK BUILDER (TKB) SWITCHES AND OPTIONS**

The format for Task Builder commands is:

```
>TKB
TKB->taskimagefile,memallocfile,symdeffile = inputfile(s)
```

For example, to task-build a program called Zebra, type:

```
>TKB
TKB->ZEBRA.TSK,ZEBRA.MAP,ZEBRA.STB = ZEBRA.OBJ,...
TKB>/
```

**ENTER OPTIONS:**

- `TKB> optionname = argument(s)`
- `TKB>./(to end Task Builder operation)`
- `TKB>./(if you have another task to build)`

The Task Builder file specification is:

```
filespec = devig.mifilename.typ; version/switch(es)
defaults = SY: [uicifilename.typ;n/switch
```

The Task Builder uses the following default file types for the files named:

<table>
<thead>
<tr>
<th>File Type</th>
<th>Extension</th>
</tr>
</thead>
<tbody>
<tr>
<td>Task Image File</td>
<td>.TSK</td>
</tr>
<tr>
<td>Memory Allocation File</td>
<td>.MAP</td>
</tr>
<tr>
<td>Symbol Definition File</td>
<td>.STB</td>
</tr>
<tr>
<td>Object Module</td>
<td>.OBJ</td>
</tr>
<tr>
<td>Overlay Description</td>
<td>.ODL</td>
</tr>
<tr>
<td>Indirect Command</td>
<td>.ODM</td>
</tr>
<tr>
<td>Object Module Library</td>
<td>.OLB</td>
</tr>
</tbody>
</table>

In the file specification above, n is the latest version number for an input file and the latest version plus 1 for an output file.
SWITCHES

The following key is used in the description below to designate which input and output files can use the Task Builder switch specified:

- (C) Common or Library (.TSK)*
- (T) Task Image (.TSK)
- (M) Task Builder Map (.MAP)
- (S) Symbol Definition (.STB)
- (I) Input (.OBJ,.OLB,.ODL,.CMD)

* Commons or libraries are specified with the /HD switch, which produces a .TSK file without a header.

The default value for switches is negative (-sw) unless otherwise specified.

/AC:n

Specifies that the task is an Ancillary Control Processor (ACP); n specifies the base relocation register (allowable registers are 0, 4, or 5; default register is 5). Overrides /PR if applied to the same file. (T)

/AL

Makes the task image file checkpointable and allocates checkpoint space in the task image file. (Do not use with /CP in the same command line.) (T)

/CC

Specifies that the input file contains more than one object module. /CC task-builds only the first object module. The LB (library) switch overrides /CC if it is applied to the same file. (Default is /CC.) (T)

/CM

Specifies a compatibility mode resident overlay structure. (Overlay segments are aligned on 256-word physical boundaries.) (T)

/CO

Causes the Task Builder to build a shared common. (C)

/CP

Makes the task image checkpointable and allows the task to be checkpointed to system checkpoint space. (Do not use in the same command line with /AL.) (T)
/CR
Appears a global cross-reference listing to the memory-allocation file. [M]

/DA
Includes a debugging aid in the task image (ODT) for a task image (output) file or a user-specified debugging program (for an input file). [T, I]

/DL
Specifies a default library file (replacing SYSLIB,O/LB) for global references that remain undefined after user-specified library files have been searched. (Can be applied to only one input file per task.) [I]

/EA
Specifies that the task uses the extended arithmetic element. (/FP overrides /EA if applied to the same file.) [T]

/EL
Specifies the maximum possible size for the library, according to the size specified in the PAR option. (The actual size of the library may be smaller.)

/FP
Specifies that the task uses the floating-point processor. (Overrides /EA if applied to the same file.) [T]

/FU
Specifies a full search of all co-tree segments for a matching definition or reference when processing modules from the default object module library. [T]

/HD
Includes a header in the task image. (Default is /HD; -/HD is used with common blocks, resident libraries, loadable drivers, and system images.) [T, R]

/ID
This switch directs TKB to mark your task as one that uses I-space APRs and D-space APRs in user mode. TKB separates I-PSECTS from D-PSECTS.
Task Builder (TKB) Switches and Options

/IP

Allows the Task Builder to inform INSTALL that the privileged task purposely overmaps the I/O page. Conversely, /-IP informs INSTALL that the privileged task is over 12K and does not map the I/O page. [T]

/LB

Without arguments: TKB uses the input file as a library of relocatable object modules and searches to resolve undefined global references. Includes in task image any modules found in the library that resolve the undefined references. [I]

With arguments: /LB:mod-1:mod-2:.... TKB inserts only the modules named in the command, regardless of references, into the task image. [I]

/LI

Causes the Task Builder to build a library shared region. Use the /-HD switch with /LI.

/MA

Includes information from the input file in the memory allocation listing (when applied to an input file) or controls the display of information about the default library and shared regions (when applied to a memory allocation file). (Default is /MA for input file or /-MA for a memory allocation file.) [M,I]

/MM[n]

Specifies that the system on which the task is to run has memory management hardware. (Defaults to /MM if host system has memory management, or to /-MM if it does not.) [T]

n with /-MM to specify the highest physical address in K-words of the task or system being built. Specify as decimal numbers 28, or 30.

/MP

Specifies that the input file describes the task’s overlay (tree) structure; the input file is an .ODL file. [I]

/MU

The /MU switch specifies to TKB that the task is a multiuser task.

/NM

Tells the Task Builder not to print diagnostic messages. [T]
/PI
Specifies that only position-independent code or data is in the shared region. [T, S]

/PM
Produces a Postmortem Dump if the task is terminated with an SST abort. [T]

/PR:n
Specifies that the task has privileged access. /AC overrides /PR:n if applied to the same file; n specifies base relocation register (0, 4, or 5; default is 5). [T]

/RO
Enables recognition of the memory-resident overlay operator (!) in the overlay descriptor file (/MP). (Default is /RO.) [T]

/SE
Specifies that the task can receive messages by means of the Executive SEND directive. (Default is /SE.) [T]

/SG
Allocates task program sections alphabetically by access code (RW followed by RO). [T]

/SH
Produces a short form of the memory-allocation file without the file contents section. [M]

/SL
Specifies that the task is slaved to an initiating task. Slave task runs under the UIC and TI of the sending task. (Applies only to systems with multiuser protection.) [T]

/SP
Lists the memory-allocation file on the printer via the spooler. (Default is /SP.) [M]
Task Builder (TKB) Switches and Options

/SQ
Builds program sections in the task image in the order in which they are named, rather than in alphabetical order. (Cannot be used with FORTRAN I/O handling modules or FCS modules from SYSLIB.) (T)

/SS
Extracts a global symbol definition from the input file if the global symbol table has a matching undefined reference. (I)

/TR
Specifies that the task can be traced. (T)

/WI
Lists the memory-allocation file in 132-column (wide) format. (Default is /WI.) (M)

/-XH
The /XH switch informs TKB that the task is to have an external header.

/XT:n
Terminates the building of the task after n error diagnostics are detected; n can be octal or decimal (decimal must be specified with a decimal point, for example, 8.).

OPTIONS

[H]
Option is of interest to high-level language programmers.

[M]
Option is of interest to MACRO-11 programmers.

[H,M]
Option is of interest to both high-level language and MACRO programmers.

Names used for option input can be 6 characters long, from the Radix-50 character set (A-Z, 0-9, and $).
ABORT = n
Terminates the current task-build operation and restarts the Task Builder
for another. (The n satisfies the option syntax; it means nothing.) [H,M]

ABSPAT = segname:address:value1...:value8
Patches the task image from a base address. Also patches the I-space part
of an I- and D-space task. Eight values may be specified. [M]

ACTFIL = filemax (decimal integer)
Specifies the number of files that a task can have open simultaneously (the
default is 4). [H]

ASG = devicename:un1...:un8
Assigns logical unit number(s) in decimal to specified physical device(s).
[H,M]

CLSTR = library_1,library_2,...,library_n:switch:apr
Declares a cluster or group of system-owned resident libraries or commons
(from two to six) to be accessed by the task and all residing at the same
virtual address space in the task. [H, M]
Switch Read-only or read-write access for the task (RO or RW)
APR Which APR is to be used as the starting APR for the task

CMPTRT
Declares completion routine for supervisor-mode library [H,M]

COMMON = name:access-code[:apr]
Declares that the task accesses a system-owned resident common area.
Causes the common to be mapped with D-space APRs. The common can
contain only data when linked to I- and D-space tasks. [H,M]

DSPAT = segname:address:value1...:value8
Patches the task image from a base address. Also patches the D-space part
of an I- and D-space task. Eight values may be specified.

EXTSCT = psclen:extension
If the program section has the concatenated attribute, this option extends
the size of the named program section by the number of octal bytes speci-
fied in the extension. If the program section has the overlay attribute, it is
extended only if the extension value exceeds the length of the section.
[H,M]
Task Builder (TKB) Switches and Options

EXTTSK = n
Extends the D-space portion of an I- and D-space task. Extends the task memory allocation by the length n (in decimal words in the range 0<n<05.535) when it is installed in a system-controlled partition. The extension is rounded to the closest 32-word boundary. The default is the extension to the total task size as specified by the PAR option length parameter. [H,M]

FMTBUF = max-format (decimal integer)
Specifies the number of characters (in decimal bytes) in the longest format specification to be compiled at run time. The default is 132. [M]

GBLDEF = symbol-name: symbol-value
Defines the named global symbol as having a value in the range of 0 through 177777 (octal). [M]

GBLINC = symbol-name, symbol-name..., symbol-name
Specifies the symbols to be included as undefined references in the symbol table file of a shared resident library. [M]

GBLPAT = segname: symname[-/offset] val1..., val8
Patches the task image from the location addressed by the global symbol plus or minus the octal offset value through eight words. All values are octal. [M]

GBLREF = symbol-name: symbol-value
Declares the named symbol as a global symbol reference originating in the root segment of the task. [H,M]

GBLXCL = symbol-name: symbol-name..., symbol-name
Specifies the symbols that are to be excluded from the symbol definition file of a resident library. [H,M]

LIBR = name: access-code[apr]
Declares that the task accesses a system-owned resident library. Causes the library to be mapped with both I-space and D-space APRs when linked to an I- and D-space task. [H,M]

MAXBUF = max-record
Specifies the maximum allowable record buffer size (in decimal bytes) in any file processed by the task. [H]
ODTV = symbol-name:vector-length

Declares the named global symbol to be the address of the ODT synchronous system trap vector (SST). The global symbol must be defined in the main root segment. [M]

PAR = name[:base:length]

Identifies the partition for which the task is built. For a mapped system, a size of 0 implies a system-controlled partition, and a nonzero size implies a user-controlled partition. Base and length do not have to be expressed if the partition resides on the host system. The default is PAR = GEN. [H,M]

PRI = priority

Sets the priority at which the task executes; can be overridden when the task is installed. The priority is a decimal integer between 1 and 250. [H,M]

RESCOM = filespec/access-code[:apr]

Declares that the task accesses a user-owned resident common. Causes the common to be mapped with D-space APRs. When linked to I- and D-space tasks, the common can contain data only. [H,M]

RESLIB = filespec/access-code[:apr]

Declares that the task accesses a user-owned resident library. Causes the library to be mapped with both I-space and D-space APRs when linked to an I- and D-space task. [H,M]

RESSUP

Declares task's intention to access a resident supervisor-mode library. [H,M]

ROPAR

Declares partition in which read-only portion of multiuser task is to reside. [H,M]

SUPLIB

Declares task's intention to access a system-owned supervisor-mode library.

TASK = taskname

Names the task. [H,M]
Task Builder (TKB) Switches and Options

**TSKV = symbol-name:vector-length**
Declares a global symbol to be the address of the task synchronous system
trap vector (SST). [M]

**UIC = [g,m]**
Declares the UIC for time-based initiation of a task. The default is the UIC
under which the Task Builder is running. [H,M]

**UNITS = max-units**
Declares the number of logical units used by the task (a decimal number in
the range of 0 through 250). The default is 6. [H,M]

**VSECT = psectname:base:window[:physical-length]**
Specifies the virtual base address, length of virtual memory address space
(window), and length of physical memory allocated to the named program
section. [H,M]

**WNDWS = n**
Declares the number (0 through 7) of extra address windows required by
the task. The number specified equals the number of simultaneously
mapped regions that the task will use. [H,M]
RMSBCK UTILITY SUMMARY

The RMS-11 File Back-Up Utility (RMSBCK) transfers the contents of an RMS-11 file to another file, on another device, to maintain the file should the original file be lost or damaged.

The command line for the RMSBCK utility is:

```
outfile[/switch...]--infile[/switch...][,infile[/switch...]]...
```

Type HELP or ? for a help message. See the RMS-11 Utilities manual for more information.

The RMSBCK switches are listed below.

**Global Switches**

/ID

Identifies the current version. Default: Provides no identification.

/[NO]QU

Enables or disables query mode. Default: Enables query mode.

/SL[/file-spec]

Provides summary listing to terminal or in file, if specified. Default: Provides no summary.

**Output File Switches**

/RA


/RC


/RW

Rewinds magnetic tape before writing. Default: Does not rewind magtape.

/SU

RMSBCK Utility Summary

Input File Switches

/CD:dd-mmm-yyyy:v

Backs up files based on creation date; specify v as A to back up all files created after the date specified or as B to back up all files created before the date specified. If v is not specified, all files created on the date specified will be backed up. Default: Performs no date checking.

/RD:dd-mmm-yyyy:v

Backs up files based on revision date; specify v as A to back up all files revised after the date specified or as B to back up all files revised before the date specified. If v is not specified, all files revised on the date specified will be backed up. Default: Performs no date checking.
RMSCNV UTILITY SUMMARY

The RMS-11 File Conversion Utility (RMSCNV) reads records from an RMS-11 file of any organization and loads them into another RMS-11 file of any organization.

The command line for the RMSCNV utility is:

```
[outfile[/switch...]]-[infile[/switch...]]
```

Type HELP or ? for a help message. See the RMS-11 Utilities manual for more information.

The RMSCNV switches are listed below.

Global Switches

/AN

Appends records to an existing sequential file. Default: Does not append.

/BL:[n]

Sets magnetic tape block size. Default: Uses 512 bytes.

/CA:[file-spec]

Creates an output file with the attributes of the existing input file. Default: Output file must exist or RMSCNV creates a sequential file.

/EO

Converts CTRL/Z EOF character in an ASCII stream file to null and pads the file with nulls to the physical EOF. Default: Assumes null-filled stream file.

/FO:x

Sets output file organization, where x is S, R, or I. Default: Uses sequential (S) organization.

/ID

Identifies the current version. Default: Provides no identification.

/IM

RMSCNV Utility Summary

/KN:"
keyname"
Reads an indexed file using the key of reference specified by keyname. Default: Reads file using primary key.

/KR:n
Reads an indexed file using the key of reference specified by n. Default: Reads file using primary key (0).

/LO
Honors bucket fill size when filling buckets in an indexed file. Default: Fills buckets to capacity.

/MA
Uses mass-insertion mode and sequential PUT operations. Default: No mass insertion; uses random PUT operations.

/ML:n
Explicitly sets limit of buffer allocation. Default: RMSCNV calculates the amount of memory available for allocation.

/PD:[]
Pads input records to output record length, if necessary. Default: Does not pad records.

/SL:[file-spec]
Provides summary listing to terminal or in file, if specified. Default: Does not provide summary.

/SU
Supersedes existing sequential file. Default: Does not supersede existing file.

/TR
Truncates input records to output record length, if necessary. Default: Does not truncate records.

/WF
Writes or reads fixed-control area. Default: Ignores fixed-control area.
# RMSDES Utility Summary

The RMS-11 File Design Utility (RMSDES) allows you to design and create sequential, relative, and indexed files.

The command line for the RMSDES utility is:

```
DES filename[typ][kind]
```

See the RMS-11 Utilities manual for more information.

The following sections list the RMSDES attribute settings and commands.

## Attribute Settings

<table>
<thead>
<tr>
<th>Section</th>
<th>Attribute Keyword and Variable</th>
<th>Default</th>
</tr>
</thead>
<tbody>
<tr>
<td>System</td>
<td>TARGET¹ argument</td>
<td></td>
</tr>
<tr>
<td></td>
<td>argument must be one of:</td>
<td></td>
</tr>
<tr>
<td></td>
<td>RSX</td>
<td>User's system</td>
</tr>
<tr>
<td></td>
<td>RSTS</td>
<td></td>
</tr>
<tr>
<td></td>
<td>SOURCE¹,²</td>
<td>User's system</td>
</tr>
<tr>
<td></td>
<td>FILE PLACEMENT¹, logical</td>
<td>NO</td>
</tr>
<tr>
<td>File</td>
<td>NAME string</td>
<td>FILE.DAT</td>
</tr>
<tr>
<td></td>
<td>ORGANIZATION argument argument must be one of:</td>
<td></td>
</tr>
<tr>
<td></td>
<td>SEQUENTIAL</td>
<td>SEQUENTIAL</td>
</tr>
<tr>
<td></td>
<td>RELATIVE</td>
<td></td>
</tr>
<tr>
<td></td>
<td>INDEXED</td>
<td></td>
</tr>
<tr>
<td></td>
<td>CLUSTER_SIZE number</td>
<td>0 blocks</td>
</tr>
<tr>
<td></td>
<td>ALLOCATION number</td>
<td>0 blocks</td>
</tr>
<tr>
<td></td>
<td>EXTENSION number</td>
<td>0 blocks</td>
</tr>
<tr>
<td></td>
<td>BUCKET_SIZE number</td>
<td>1 block</td>
</tr>
<tr>
<td></td>
<td>PROTECTION string</td>
<td>System protection</td>
</tr>
</tbody>
</table>

1. Informational attribute
2. Not user-settable: RMSDES automatically notes the user's source system.
<table>
<thead>
<tr>
<th>Section</th>
<th>Attribute Keyword</th>
<th>Default</th>
</tr>
</thead>
<tbody>
<tr>
<td>Keyword</td>
<td>and Variable</td>
<td></td>
</tr>
<tr>
<td>OWNER</td>
<td>string</td>
<td>User’s UIC</td>
</tr>
<tr>
<td>MAGTAPE</td>
<td>BLOCK_SIZE number</td>
<td>512 bytes</td>
</tr>
<tr>
<td>MAGTAPE</td>
<td>REWIND logical</td>
<td>NO</td>
</tr>
<tr>
<td>MAX</td>
<td>RECORD_NUMBER number</td>
<td>0 records</td>
</tr>
<tr>
<td>CONTIGUOUS</td>
<td>logical</td>
<td>NO</td>
</tr>
<tr>
<td>SUPERSEDE</td>
<td>logical</td>
<td>NO</td>
</tr>
<tr>
<td>Record</td>
<td>SIZE number</td>
<td>0 bytes</td>
</tr>
<tr>
<td>FORMAT</td>
<td>argument</td>
<td></td>
</tr>
<tr>
<td></td>
<td>argument must be one of:</td>
<td></td>
</tr>
<tr>
<td></td>
<td>VARIABLE</td>
<td>VARIABLE</td>
</tr>
<tr>
<td></td>
<td>STREAM</td>
<td></td>
</tr>
<tr>
<td></td>
<td>FIXED</td>
<td></td>
</tr>
<tr>
<td></td>
<td>VFC</td>
<td></td>
</tr>
<tr>
<td>CONTROL</td>
<td>FIELD_SIZE number</td>
<td>2 bytes</td>
</tr>
<tr>
<td>Record</td>
<td>BLOCK_SPAN logical</td>
<td>YES</td>
</tr>
<tr>
<td>CARRIAGE</td>
<td>_CONTROL argument</td>
<td></td>
</tr>
<tr>
<td></td>
<td>argument must be one of:</td>
<td></td>
</tr>
<tr>
<td></td>
<td>CARRIAGE_RETURN</td>
<td>CARRIAGE_RETURN</td>
</tr>
<tr>
<td></td>
<td>FORTRAN</td>
<td></td>
</tr>
<tr>
<td></td>
<td>PRINT</td>
<td></td>
</tr>
<tr>
<td></td>
<td>NONE</td>
<td></td>
</tr>
<tr>
<td>Key n°</td>
<td>NAME string</td>
<td>No name</td>
</tr>
<tr>
<td>TYPE</td>
<td>argument</td>
<td></td>
</tr>
<tr>
<td></td>
<td>argument must be one of:</td>
<td></td>
</tr>
<tr>
<td></td>
<td>STRING</td>
<td>STRING</td>
</tr>
<tr>
<td></td>
<td>BIN2</td>
<td></td>
</tr>
<tr>
<td></td>
<td>BIN4</td>
<td></td>
</tr>
<tr>
<td></td>
<td>INT2</td>
<td></td>
</tr>
<tr>
<td></td>
<td>INT4</td>
<td></td>
</tr>
<tr>
<td></td>
<td>DECIMAL</td>
<td></td>
</tr>
</tbody>
</table>

3. You must specify a number (n) for each key, key segment, and/or area that you define.
### Section

#### Keyword and Variable

<table>
<thead>
<tr>
<th>Attribute Keyword and Variable</th>
<th>Default</th>
</tr>
</thead>
<tbody>
<tr>
<td>NULL.KEY logical</td>
<td>NO</td>
</tr>
<tr>
<td>NULL.VALUE argument</td>
<td></td>
</tr>
<tr>
<td>argument must be one of:</td>
<td></td>
</tr>
<tr>
<td>An ASCII character</td>
<td></td>
</tr>
<tr>
<td>A decimal number</td>
<td></td>
</tr>
<tr>
<td>DUPLICATES logical</td>
<td>NO (primary key)</td>
</tr>
<tr>
<td></td>
<td>YES (alternate key)</td>
</tr>
<tr>
<td>SEGN.POSITION&lt;sup&gt;1&lt;/sup&gt; number</td>
<td>Byte 0</td>
</tr>
<tr>
<td>SEGN.LENGTH&lt;sup&gt;1&lt;/sup&gt; number</td>
<td>0 bytes</td>
</tr>
<tr>
<td>Key n&lt;sup&gt;1&lt;/sup&gt;</td>
<td></td>
</tr>
<tr>
<td>CHANGES logical</td>
<td>YES (alternate key)</td>
</tr>
<tr>
<td>DATA.FILL number</td>
<td>100</td>
</tr>
<tr>
<td>DATA AREA number</td>
<td>Area 0</td>
</tr>
<tr>
<td>INDEX.FILL number</td>
<td>100</td>
</tr>
<tr>
<td>LEVEL1_INDEX_AREA number</td>
<td>Area 0</td>
</tr>
<tr>
<td>INDEX_AREA number</td>
<td>Area 0</td>
</tr>
<tr>
<td>Area n&lt;sup&gt;1&lt;/sup&gt;</td>
<td></td>
</tr>
<tr>
<td>ALLOCATION number</td>
<td>0 blocks</td>
</tr>
<tr>
<td>EXTENSION number</td>
<td>0 blocks</td>
</tr>
<tr>
<td>BUCKET_SIZE number</td>
<td>1 block</td>
</tr>
<tr>
<td>CONTIGUOUS logical</td>
<td>NO</td>
</tr>
<tr>
<td>POSITION argument</td>
<td></td>
</tr>
<tr>
<td>argument must be one of:</td>
<td></td>
</tr>
<tr>
<td>NONE</td>
<td>NONE</td>
</tr>
<tr>
<td>VIRTUAL number</td>
<td></td>
</tr>
<tr>
<td>LOGICAL number</td>
<td></td>
</tr>
<tr>
<td>EXACT.POSITIONING logical</td>
<td>NO</td>
</tr>
</tbody>
</table>

---

3. You must specify a number (n) for each key, key segment, and/or area that you define.

149
RMSDES Utility Summary

COMMANDS

CLEAR ALL
Restores all attribute values in all sections to their default values.

CLEAR section ALL
Restores all attribute values in the specified section to their default values.

CLEAR section attribute
Restores the specified attribute value in the specified section to its default value.

CREATE [filename,.typ]]
Creates an empty data file that has the attribute values specified in the design buffer. For indexed files in which areas are not defined, RMSDES prompts for whether areas are to be defined by default.

If you do not specify a file name and type, the file will have those specified in the design buffer. If you did not specify a file name and type in the design buffer, the file will be created as FILE.DAT.

<CTRL/Z>
Terminates RMSDES without saving the design or creating an empty data file.

<ESC>
In response to any prompt, returns the RMSDES utility prompt and preserves all attribute values in the design buffer.

EXIT filename[,typ]
Stores the file design in the description file specified in the command line and terminates RMSDES. The default file type is .DES.

GET filename[,typ] [kind]
Reads the file design specified in a description file, and sets the appropriate attribute values in the design buffer. Reads the attribute values of a data file, and sets the appropriate attribute values in the design buffer. The default file type is .DES. If the file is a data file, kind (DAT) must be specified.

150
HELP
Lists all available help topics and gives instructions for displaying the text.

HELP command
Displays help text for the specified command.

HELP COMMANDS
Lists all valid commands.

HELP SECTIONS
Lists all available help topics for all sections and gives instructions for displaying the text.

HELP section
Displays help text for the specified section and lists all available help topics for all attributes in the specified section.

HELP section attribute
Displays help text for the specified attribute in the specified section.

?
Displays help text for the section, attribute, or value for which you are being prompted. Note also that you can type ? instead of HELP for any form of the HELP command.

QUIT
Terminates RMSDES, without storing the design or creating an empty data file.

SAVE filename[.typ]
Stores the file design in the description file specified in the command line. The default file type is .DES.

SET ALL
Prompts for setting all attribute values in all sections. For indexed files in which areas are not defined, prompts for whether areas are to be defined by default.
RMSDES Utility Summary

SET section ALL
Prompts for setting all attribute values in the specified section.

SET section attribute value
Sets the specified attribute value in the specified section.

SHOW ALL
Displays all attribute values in all sections.

SHOW section ALL
Displays all attribute values in the specified section.

SHOW section attribute
Displays the specified attribute value in the specified section.

SHOW ID
Identifies the current level and patch version of RMSDES.
RMSDSP UTILITY SUMMARY

The RMS-11 File Display Utility (RMSDSP) produces a concise description of any RMS-11 file, including back-up files.

The command line for the RMSDSP utility is:

```
[ outfile= ] infile[/switch...][ infile[/switch...][...]]
```

Type HELP or ? for a help message. See the RMS-11 Utilities manual for more information.

The RMSDSP switches are listed below.

**Global Switches**

/BP

Lists contents of back-up files. Default: Provides basic display only.

/FU

Provides detailed display for indexed files or back-up files. Default: Provides basic display only.

/ID

Identifies the current version. Default: Provides no identification.
RMSIFL UTILITY SUMMARY

The RMS-11 Indexed File Load Utility (RMSIFL) reads records from an RMS-11 file of any organization and loads them into an indexed file.

The command line for the RMSIFL utility is:

    outfile[/switch...]--infile[/switch...]

Type HELP or ? for a help message. See the RMS-11 Utilities manual for more information.

The RMSIFL switches are listed below.

Global Switch

/ID

Identifies the current version. Default: Provides no identification.

Output File Switches

/ER[/file-spec]

Writes primary keys of exception records to terminal if no file-spec; or writes exception records to the specified file. Default: Writes primary keys of exception records to terminal.

/NOER[/S]

Stops processing if input record is incompatible. Default: Writes primary keys of exception records to terminal.

/LO

Honors bucket fill size. Default: Fills buckets to capacity.

/PD[/ #/x]

Pads input records to output record length. Default: Handles input records as exception records if different lengths.

/TR

Truncates input records to output record length. Default: Handles input records as exception records if different lengths.
RMSIFL Utility Summary

Input File Switches
/DE:dn1:[dn2:...dn5:]
Reassigns devices for sort work files. Default: Creates and uses sort work files on SY:

/KR:n
Uses key of reference number. Default: Uses primary key (0).

/NOSO
Does not sort records before loading. Default: Sorts records in input file before loading.
RMSRST UTILITY SUMMARY

The RMS-11 File Restoration Utility (RMSRST) restores files that were backed up using RMSBCK and produces standard RMS-11 files as output, so your programs can access them.

The command line for the RMSRST utility is:

```
outfile[/switch...][infile[/switch...][,infile[/switch...][...]]
```

Type HELP or ? for a help message. See the RMS-11 Utilities manual for more information.

The RMSRST switches are listed below.

Global Switches

/ID

Identifies the current version. Default: Provides no identification.

/NOCV

Enables or disables file version number conversion. Default: For RMSBCK V2.0 or later, conversion is enabled and /NOCV will disable it. For RMSBCK tapes prior to V2.0, conversion is disabled and /CV will enable it.

/NOQU

Enables or disables query mode. Default: Enables query mode.

/SL[/file-spec]

Provides summary listing to terminal or in file, if specified. Default: Provides no summary.

Output File Switches

/FR

Changes protection code. Default: Uses original protection.

/RA

RMSRST Utility Summary

/RC

/SU
Supersedes existing files. Default: Does not supersede existing files.

Input File Switches

/BD:dd-mmm-yy
Restores disk files based on back-up date. Default: Performs no date checking.

/OA:[uic]
Restores files based on original account (UIC). Note that in this case, the square brackets are required syntax. Default: Applies no account criterion.

/SE:[file-spec or /SE:[file-spec1, file-spec2[, ..., file-spec10]]
Restores specified files from container file. Default: Restores all files on container file.
RMS-11 COMPLETION CODES AND FATAL ERROR CODES

The following sections list completions that are returned in the STS and STV fields of FABs and RABs, and fatal error completions.

For more information on these codes, see Appendix A of the RMS-11 Macro Programmer's Guide.

### COMPLETION CODES

<table>
<thead>
<tr>
<th>Code</th>
<th>Description</th>
<th>Octal</th>
<th>Decimal</th>
</tr>
</thead>
<tbody>
<tr>
<td>SUSSUC</td>
<td>Operation succeeded</td>
<td>000001</td>
<td>1</td>
</tr>
<tr>
<td>SU8DUP</td>
<td>Inserted record has duplicate key</td>
<td>000002</td>
<td>2</td>
</tr>
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RMS-11 Completion Codes and Fatal Error Codes

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### FATAL ERROR CODES

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*Equivalent to the Radix-50 character set.*
## I/O ERROR CODES

The table below lists RSX-11M I/O error codes. Only partial abbreviations (xxx) are listed; the complete abbreviation is IE.xxx. The octal number listed is the low-order byte of the complete word value (2's complement of the decimal number).

<table>
<thead>
<tr>
<th>Abbreviation</th>
<th>Error Decimal</th>
<th>Number Octal</th>
<th>Meaning</th>
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<tbody>
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<td>- 1</td>
<td>377</td>
<td>Bad parameters</td>
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<td>- 2</td>
<td>376</td>
<td>Invalid function code</td>
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<tr>
<td>.DNR</td>
<td>- 3</td>
<td>375</td>
<td>Device not ready</td>
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<tr>
<td>.VER</td>
<td>- 4</td>
<td>374</td>
<td>Parity error on device</td>
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<tr>
<td>.GYP</td>
<td>- 5</td>
<td>373</td>
<td>Hardware option not present</td>
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<tr>
<td>.SPG</td>
<td>- 6</td>
<td>372</td>
<td>Illegal user buffer</td>
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<tr>
<td>.DNA</td>
<td>- 7</td>
<td>371</td>
<td>Device not attached</td>
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<tr>
<td>.DAA</td>
<td>- 8</td>
<td>370</td>
<td>Device already attached</td>
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<tr>
<td>.DUN</td>
<td>- 9</td>
<td>367</td>
<td>Device not attachable</td>
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<tr>
<td>.EOF</td>
<td>-10</td>
<td>366</td>
<td>End-of-file detected</td>
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<tr>
<td>.EOV</td>
<td>-11</td>
<td>365</td>
<td>End-of-volume detected</td>
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<tr>
<td>.WLK</td>
<td>-12</td>
<td>364</td>
<td>Write attempted to locked unit</td>
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<tr>
<td>.DAO</td>
<td>-13</td>
<td>363</td>
<td>Data overrun</td>
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<tr>
<td>.SRE</td>
<td>-14</td>
<td>362</td>
<td>Send/receive failure</td>
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<tr>
<td>.BGO</td>
<td>-15</td>
<td>361</td>
<td>Request terminated</td>
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<td>.PRI</td>
<td>-16</td>
<td>360</td>
<td>Privilege violation</td>
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<td>.RSU</td>
<td>-17</td>
<td>357</td>
<td>Shareable resource in use</td>
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<td>.OVR</td>
<td>-18</td>
<td>356</td>
<td>Illegal overlay request</td>
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<td>.BYT</td>
<td>-19</td>
<td>355</td>
<td>Odd byte count (or virtual address)</td>
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<td>Logical Block Number too large</td>
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<td>-21</td>
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<td>Invalid UDC module number</td>
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<td>Caller's nodes exhausted</td>
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<td>Device full</td>
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<td>347</td>
<td>Index file full</td>
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<td>346</td>
<td>No such file</td>
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<td>Locked from read/write access</td>
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<td>.HIF</td>
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<td>.WAC</td>
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<td>343</td>
<td>Accessed for write</td>
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<td>Attribute control list format error</td>
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<td>.RER</td>
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### I/O Error Codes

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<td>336</td>
<td>File already accessed on LUN</td>
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<td>335</td>
<td>File ID, file number check</td>
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<td>.SQC</td>
<td>-36</td>
<td>334</td>
<td>File ID, sequence number check</td>
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<td>Rename-a new file name already in use</td>
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<td>EXP</td>
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<td>File expiration date not reached</td>
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<td>Bad tape format</td>
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<td>Not ANSI “D” format byte count</td>
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<td>No data available</td>
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<td>Task not linked to specified ICS/ICR interrupts</td>
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<td>260</td>
<td>Specified task not installed</td>
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<td>No AST specified in connect</td>
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<td>257</td>
<td>Device off line when off-line request was issued</td>
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<td>245</td>
<td>Inconsistent qualifier usage</td>
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<td>Too many links to task</td>
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<td>Timeout on request</td>
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<td>235</td>
<td>Media inserted incorrectly</td>
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<tr>
<td>SPI</td>
<td>-100</td>
<td>234</td>
<td>Spindown ignored</td>
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For additional information, refer to the IAS/RSX-11 I/O Operations Reference Manual.
# DIRECTIVE ERROR CODES

Directives in the Directive Status Word (DSW) return the following error codes. The complete abbreviation for these codes is IE.xxx. Only partial abbreviations (xxx) are included in this list. The octal error number listed is the low-order byte of the complete word value (2's complement of the decimal).

<table>
<thead>
<tr>
<th>Abbreviation</th>
<th>Error</th>
<th>Number</th>
<th>Octal</th>
<th>Meaning</th>
</tr>
</thead>
<tbody>
<tr>
<td>.UPN</td>
<td>-1</td>
<td>377</td>
<td></td>
<td>Insufficient dynamic storage</td>
</tr>
<tr>
<td>.INS</td>
<td>-2</td>
<td>376</td>
<td></td>
<td>Specified task not installed</td>
</tr>
<tr>
<td>.PTS</td>
<td>-3</td>
<td>375</td>
<td></td>
<td>Partition too small for task</td>
</tr>
<tr>
<td>.UNS</td>
<td>-4</td>
<td>374</td>
<td></td>
<td>Insufficient dynamic storage for send</td>
</tr>
<tr>
<td>.ULN</td>
<td>-5</td>
<td>373</td>
<td></td>
<td>Unassigned LUN</td>
</tr>
<tr>
<td>.HWR</td>
<td>-6</td>
<td>372</td>
<td></td>
<td>Device driver not resident</td>
</tr>
<tr>
<td>.ACT</td>
<td>-7</td>
<td>371</td>
<td></td>
<td>Task not active</td>
</tr>
<tr>
<td>.ITS</td>
<td>-8</td>
<td>370</td>
<td></td>
<td>Directive inconsistent with task state</td>
</tr>
<tr>
<td>.FIX</td>
<td>-9</td>
<td>367</td>
<td></td>
<td>Task already fixed/unfixed</td>
</tr>
<tr>
<td>.CKP</td>
<td>-10</td>
<td>366</td>
<td></td>
<td>Issuing task not checkpointable</td>
</tr>
<tr>
<td>.TCH</td>
<td>-11</td>
<td>365</td>
<td></td>
<td>Task is checkpointable</td>
</tr>
<tr>
<td>.</td>
<td>-12</td>
<td></td>
<td></td>
<td>(reserved)</td>
</tr>
<tr>
<td>.RBS</td>
<td>-14</td>
<td></td>
<td></td>
<td>(reserved)</td>
</tr>
<tr>
<td>.PRI</td>
<td>-15</td>
<td>361</td>
<td></td>
<td>Receive buffer too small</td>
</tr>
<tr>
<td>.RSU</td>
<td>-16</td>
<td>360</td>
<td></td>
<td>Privilege violation</td>
</tr>
<tr>
<td>.NSW</td>
<td>-17</td>
<td>357</td>
<td></td>
<td>Resource in use</td>
</tr>
<tr>
<td>.ILV</td>
<td>-18</td>
<td>356</td>
<td></td>
<td>No swap space available</td>
</tr>
<tr>
<td>.ITN</td>
<td>-19</td>
<td>355</td>
<td></td>
<td>Illegal vector specified</td>
</tr>
<tr>
<td>.LNF</td>
<td>-20</td>
<td>354</td>
<td></td>
<td>Invalid table number</td>
</tr>
<tr>
<td>.</td>
<td>-21</td>
<td>353</td>
<td></td>
<td>Logical name not found</td>
</tr>
<tr>
<td>.AST</td>
<td>-79</td>
<td>260</td>
<td></td>
<td>Directive issued/not issued from AST</td>
</tr>
<tr>
<td>.MAP</td>
<td>-80</td>
<td></td>
<td></td>
<td>Directive issued/not issued from AST</td>
</tr>
<tr>
<td>.</td>
<td>-81</td>
<td>257</td>
<td></td>
<td>Illegal mapping specified</td>
</tr>
<tr>
<td>.</td>
<td>-82</td>
<td>256</td>
<td></td>
<td>(reserved)</td>
</tr>
<tr>
<td>.IOP</td>
<td>-83</td>
<td>255</td>
<td></td>
<td>Window has I/O in progress</td>
</tr>
<tr>
<td>.ALG</td>
<td>-84</td>
<td>254</td>
<td></td>
<td>Alignment error</td>
</tr>
<tr>
<td>.WVW</td>
<td>-85</td>
<td>253</td>
<td></td>
<td>Address window allocation overflow</td>
</tr>
<tr>
<td>.NVR</td>
<td>-86</td>
<td>252</td>
<td></td>
<td>Invalid region ID</td>
</tr>
<tr>
<td>.NVW</td>
<td>-87</td>
<td>251</td>
<td></td>
<td>Invalid address window ID</td>
</tr>
<tr>
<td>.JTP</td>
<td>-88</td>
<td>250</td>
<td></td>
<td>Invalid TI parameter</td>
</tr>
</tbody>
</table>
### Directive Error Codes

<table>
<thead>
<tr>
<th>Abbreviation</th>
<th>Error Decimal</th>
<th>Number Octal</th>
<th>Meaning</th>
</tr>
</thead>
<tbody>
<tr>
<td>.IBS</td>
<td>-89</td>
<td>247</td>
<td>Invalid send buffer size (greater than 255)</td>
</tr>
<tr>
<td>.LNL</td>
<td>-90</td>
<td>246</td>
<td>LUN locked in use</td>
</tr>
<tr>
<td>.LUI</td>
<td>-91</td>
<td>245</td>
<td>Invalid UIC</td>
</tr>
<tr>
<td>.IDU</td>
<td>-92</td>
<td>244</td>
<td>Invalid device or unit</td>
</tr>
<tr>
<td>.ITI</td>
<td>-93</td>
<td>243</td>
<td>Invalid time parameters</td>
</tr>
<tr>
<td>.PNS</td>
<td>-94</td>
<td>242</td>
<td>Partition/region not in system</td>
</tr>
<tr>
<td>.IPR</td>
<td>-95</td>
<td>241</td>
<td>Invalid priority (greater than 250)</td>
</tr>
<tr>
<td>.ILU</td>
<td>-96</td>
<td>240</td>
<td>Invalid LUN</td>
</tr>
<tr>
<td>.IEF</td>
<td>-97</td>
<td>237</td>
<td>Invalid event flag (greater than 64)</td>
</tr>
<tr>
<td>.ADP</td>
<td>-98</td>
<td>236</td>
<td>Part of DPB out of user's space</td>
</tr>
<tr>
<td>.SDP</td>
<td>-99</td>
<td>235</td>
<td>DIC or DPB size invalid</td>
</tr>
</tbody>
</table>

For additional information, refer to the *RSX-11M/PLUS Executive Reference Manual.*
EXECUTIVE DIRECTIVE SUMMARY IN
ALPHABETICAL ORDER BY MACRO CALL

Abort Task

FORTRAN Call:
   CALL ABORT (tsk,ids)
   tsk = Name of task to be aborted (Radix-50)
   ids = Directive status

Macro Call:
   ABRT$ tsk
   tsk = Name of task to be aborted (Radix-50)

Alter Priority

FORTRAN Call:
   CALL ALTPRI ((tsk],[ipri],[ids])
   tsk = Active task name
   ipri = A 1-word integer value equal to the new priority, from 1 to 250 (decimal)
   ids = Directive status

Macro Call:
   ALTP$ [tsk],[pri]
   tsk = Active task name
   pri = New priority, from 1 to 250 (decimal)

Assign LUN

FORTRAN Call:
   CALL ASNLUN (lun,dev,unt,ids)
   lun = Logical unit number
   dev = Device name (format: 1A2)
   unt = Device unit number
   ids = Directive status
Macro Call:

\begin{verbatim}
ALUN$ lun,dev,unt
  lun = Logical unit number
  dev = Device name (two characters)
  unt = Device unit number
\end{verbatim}

**AST Service Exit ($S$ form recommended)** \(\text{ASTXS}$

FORTRAN Call:

Neither the FORTRAN language nor the ISA standard permits direct linking to system-trapping mechanisms; therefore, this directive is not available to FORTRAN tasks.

Macro Call:

\begin{verbatim}
ASTXS$ |err|
  err = Error routine address
\end{verbatim}

**Attach Region** \(\text{ATRG}$

FORTRAN Call:

\begin{verbatim}
CALL ATRG (irdb,ids)
  irdb = An 8-word integer array containing a Region Definition Block
         (see Section 3.5.1.2)
  ids = Directive status
\end{verbatim}

Macro Call:

\begin{verbatim}
ATRG$ rd
  rd = Region Definition Block address
\end{verbatim}

**Connect To Interrupt Vector** \(\text{CINT}$

FORTRAN Call:

Not supported

Macro Call:

\begin{verbatim}
CINT$ vec,base,iser,edir,pri,ast
  vec = Interrupt vector address — Must be in the range 60(8) to highest
        vector specified during SYSGEN, inclusive, and must be a
        multiple of 4
\end{verbatim}
Executive Directive Summary in Alphabetical Order by Macro Call

base = Virtual base address for kernel APR 5 mapping of the ISR, and enable/disable interrupt routines
isr = Virtual address of the ISR, or 0 to disconnect from the interrupt vector
edir = Virtual address of the enable/disable interrupt routine
pri = Initial priority at which the ISR is to execute
ast = Virtual address of an AST routine to be entered after the fork-level routine queues an AST

Clear Event Flag  CLEFS$
FORTRAN Call:
CALL CLREF (efn, ids)
  efn = Event flag number
  ids = Directive status

Macro Call:
  CLEFS$ efn
  efn = Event flag number

Cancel Mark Time Requests  CMKTS
FORTRAN Call:
CALL CANMT (efn, ids)
  efn = Event flag number
  ids = Directive status

Macro Call:
  CMKTS$ (efn, ast, err)
  efn = Event flag number
  ast = Mark time AST address
  err = Error routine address

Connect  CNCTS
FORTRAN Call:
CALL CNCT (rname, jefn, jelast, jiesb, jiparm, ids)
  rname = Name (Radix-50) of the offspring task to be connected
Executive Directive Summary in Alphabetical Order by Macro Call

iefn = Event flag to be set when the offspring task exits or emits status
iast = Name of an AST routine to be called when the offspring task exits or emits status
iesb = Name of an 8-word status block to be written when the offspring task exits or emits status
       Word 0 — Offspring task exit status
       Word 1-7 — Reserved
iparm = Name of a word to receive the status block address when an AST occurs
ids = Integer to receive the Directive Status Word

Macro Call:
CNCTS tname, {iefn}, {iast}, {iesb}

  tname = Name (Radix:50) of the offspring task to be connected
  efn = The event flag to be cleared on issuance and set when the offspring task exits or emits status
  iast = Address of an AST routine to be called when the offspring task exits or emits status
  esb = Address of an 8-word status block to be written when the offspring task exits or emits status
       Word 0 — Offspring task exit status
       Word 1-7 — Reserved

Checkpoint Common Region

FORTRAN Call:
CALL CPCRS(name, ids)

  name = Name (Radix:50) of the common region to be checkpointed
  ids = Directive status

Macro Call:
CPCRS name

  name = Name of the common region to be checkpointed
Create Address Window
FORTRAN Call:
CALL CRAW (iwdb,ids)
iwdb = An 8-word integer array containing a Window Definition Block
      (see Section 3.5.2.2)
ids = Directive status
Macro Call:
CRAW$ wdb
   wdb = Window Definition Block address

Create Group Global Event Flags
FORTRAN Call:
CALL CRGF (igroup,ids)
   group = Group number for the flags to be created — If not specified,
           the task’s protection UIC (H.CUIC+1) in the task’s header is
           used
   ids = Integer to receive the Directive Status Word
Macro Call:
CRGF$ (group)
   group = Group number for the flags to be created — If not specified,
           the task’s protection UIC (H.CUIC+1) in the task’s header is
           used

Create Region
FORTRAN Call:
CALL CRRG (irdb,ids)
   irdb = An 8-word integer array containing a Region Definition Block
          (see Section 3.5.1.2)
   ids = Directive status
Macro Call:
CRRG$ rdb
      rdb = Region Definition Block address
Executive Directive Summary in Alphabetical Order by Macro Call

Create Virtual Terminal

FORTRAN Call:
CALL CRVT (iiast,ioast,iaast,imlen,iparm,ids)

- iiast = AST address at which input requests from offspring tasks are serviced
- ioast = AST address at which output requests from offspring tasks are serviced
- iaast = AST address at which the parent task may be notified of the completion of successful offspring attach and detach requests to the virtual terminal unit
- imlen = Maximum buffer length allowed for offspring I/O requests
- iparm = Address of 3-word buffer to receive information from the stack when an AST occurs
- ids = Integer to receive the Directive Status Word

Macro Call:
CRVT$ [iast],[oast],[aast],[mlen]

- iast = AST address at which input requests from offspring tasks are serviced
- oast = AST address at which output requests from offspring tasks are serviced
- aast = AST address at which the parent task may be notified of the completion of successful offspring attach and detach requests to the virtual terminal unit (If this parameter is not specified, no notification of attaches and detaches are returned to the parent task.)
- mlen = Maximum buffer length allowed for offspring I/O requests

Cancel Time-Based Initiation Requests

FORTRAN Call:
CALL CANALL (tsk,ids)

- tsk = Task name
- ids = Directive status

Macro Call:
CSRQ$ tsk

- tsk = Task name

182
Declare Significant Event ($S$ form recommended) \[ \text{DECL}\$S \]

FORTRAN Call:
\[
\text{CALL DECLAR } ([\text{id}], \text{ids})
\]
\[
\text{ids} = \text{Directive status}
\]

Macro Call:
\[
\text{DECL}\$S \ [\text{err}]
\]
\[
\text{err} = \text{Error routine address}
\]

Disable AST Recognition ($S$ form recommended) \[ \text{DSAR}\$S \]

FORTRAN Call:
\[
\text{CALL DSASTR } ([\text{id}])
\]
\[
\text{id} = \text{Directive status}
\]

Macro Call:
\[
\text{DSAR}\$S \ [\text{err}]
\]
\[
\text{err} = \text{Error routine address}
\]

Disable Checkpointing ($S$ form recommended) \[ \text{DSCP}\$S \]

FORTRAN Call:
\[
\text{CALL DISCKP } ([\text{id}])
\]
\[
\text{id} = \text{Directive status}
\]

Macro Call:
\[
\text{DSCP}\$S \ [\text{err}]
\]
\[
\text{err} = \text{Error routine address}
\]

Detach Region \[ \text{DTRG}\$

FORTRAN Call:
\[
\text{CALL DTRG } ([\text{id}, \text{id}])
\]
\[
\text{id} = \text{An 8-word integer array containing a Region Definition Block} \quad \text{(see Section 3.5.1.2)}
\]
\[
\text{id} = \text{Directive status}
\]

Macro Call:
\[
\text{DTRG}\$ \ [\text{ridb}]
\]
\[
\text{ridb} = \text{Region Definition Block address}
\]
Executive Directive Summary in Alphabetical Order by Macro Call

Eliminate Address Window
FORTRAN Call:
CALL ELAW (iwbh, ids)
  iwbh = An 8-word integer array containing a Window Definition Block (see Section 3.5.2.2)
  ids = Directive status
Macro Call:
ELAWS wdb
  wdb = Window Definition Block address

Eliminate Group Global Event Flags
FORTRAN Call:
CALL ELGF (igroup, ids)
  group = Group number of flags to be eliminated
  ids = Integer to receive the Directive Status Word
Macro Call:
ELGF group
  group = Group number of flags to be eliminated

Eliminate Virtual Terminal
FORTRAN Call:
CALL ELVT (iunum, ids)
  iunum = Virtual terminal unit number
  ids = Integer to receive the Directive Status Word
Macro Call:
ELVTS unum
  unum = Unit number of the virtual terminal to be eliminated

Emit Status
FORTRAN Call:
CALL EMST (rtname, istat, ids)
  rtname = Name of task connected to issuing task to which the status is to be emitted
istat = A 16-bit quantity to be returned to the connected task
ids = Integer to receive the Directive Status Word

Macro Call:
EMST$ (tname),status

tname = Name of a task connected to the issuing task to which the status is to be emitted
status = A 16-bit quantity to be returned to the connected task

Enable AST Recognition ($S form recommended) ENAR$S

FORTRAN Call:
CALL ENASTR ((ids))

ids = Directive status

Macro Call:
ENAR$S (err)

err = Error routine address

Enable Checkpointing ($S form recommended) ENCP$S

FORTRAN Call:
CALL ENACKP ((ids))

ids = Directive status

Macro Call:
ENCP$S (err)

err = Error routine address

Exit If EXIF$S

FORTRAN Call:
CALL EXITIF (efn,ids)

efn = Event flag number
ids = Directive status

Macro Call:
EXIF$S efn

efn = Event flag number
Executive Directive Summary in Alphabetical Order by Macro Call

**Task Exit (SS form recommended)**

**EXIT$$**

**FORTRAN Call:**

Fortran tasks that terminate with the STOP statement result in a message that includes task name, a statement causing the task to stop, and an optional character string specified in the STOP statement. CALL EXIT terminates with the message STOP THIS FORTRAN TASK.

**Macro Call:**

```fortran
EXIT$$ [err]
err = Error routine address
```

**Exit With Status**

**EXSTS$$**

**FORTRAN Call:**

CALL EXST (istat)

```fortran
istat = A 16-bit quantity to be returned to parent task
```

**Macro Call:**

```fortran
EXSTS$ status
status = A 16-bit quantity to be returned to parent task
```

**Extend Task**

**EXTKS$$**

**FORTRAN Call:**

CALL EXTSK (inc[],ida[])

```fortran
inc = A positive or negative number equal to the number of 32-word blocks by which the task size is to be extended or reduced (If omitted, task size defaults to installed task size.)
ids = Directive status
```

**Macro Call:**

```fortran
EXTKS$ inc
inc = A positive or negative number equal to the number of 32-word blocks by which the task is to be extended or reduced (If omitted, task size defaults to installed task size.)
```

**Get Command for Command Interpreter**

**GCCIS$$**

**FORTRAN Call:**

CALL GTCMCI (ichf,ichb[],ibuf[],libfl[],iaddr[],incp[],ida[])

```fortran
ichb = Name of a byte to receive the command
```

186
**Executive Directive Summary in Alphabetical Order by Macro Call**

\begin{align*}
\text{ichf} & = \text{Integer containing the size of the ichf array in bytes} \\
\text{ibuf} & = \text{Name of an integer containing the length of the optional information buffer} \\
\text{ibfl} & = \text{Name of an integer containing the length of the optional information buffer} \\
\text{iaddr} & = \text{Name of an integer that contains the address in pool of the command desired (This address was obtained by a previous call to GTCMCI with GC.CND specified.)} \\
\text{incp} & = \text{Name of an integer containing a value indicating the action to take if there is no command queued} \\
\text{ids} & = \text{Integer to receive the directive status word} \\
\end{align*}

**Macro Call:**

\begin{align*}
\text{GCCI\$ (cbuf,cbfl,ibuf,ibfl,iaddr,incp)} \\
\text{cbuf} & = \text{Address of buffer to receive command string} \\
\text{cbfl} & = \text{Length of buffer. Maximum buffer size is 84. for RSX-11M and 259. for RSX-11M-PLUS.} \\
\text{ibuf} & = \text{Address of buffer to receive information on the issuing terminal} \\
\text{ibfl} & = \text{Length of buffer to receive information} \\
\text{addr} & = \text{Address of command} \\
\text{ncp} & = \text{Action to take if no command buffer is present} \\
\text{GC.CCS (000)} & = \text{Return with carry set (default)} \\
\text{GC.CEX (001)} & = \text{Force CLI to exit instead of returning} \\
\text{GC.CST (002)} & = \text{Force CLI to stop instead of returning} \\
\text{GC.CND (200)} & = \text{Copy command into buffer but do not dequeue it from the list} \\
\end{align*}

**Get Command Interpreter Information** \text{GCI\$}

**FORTRAN Call:**

\begin{align*}
\text{CALL GETCI\$ (ibuf,ibfl,icfl,idev,ihunit,ids)} \\
\text{ibuf} & = \text{Name of an integer array to receive the CLI information} \\
\text{ibfl} & = \text{Length in bytes of the integer array to receive the CLI information} \\
\end{align*}

187
Executive Directive Summary in Alphabetical Order by Macro Call

iel  = Name of a two-word array element containing the RAD50 name of the CLI
idev = Name of an integer containing the ASCII name of terminal (default = TI:)
iunit = Name of an integer containing the octal unit number of terminal
ids  = Directive status

Macro Call:
GCIIS buf,bufcli,[dev],[unit]
  buf = Address of buffer to receive information
  bufi = Length of information buffer
  cli  = Name in RAD50 of the CLI that information is requested on
  dev  = ASCII name of terminal whose CLI should be used
  unit = Octal unit number of terminal

Get LUN Information

FORTRAN Call:
CALL GETLUN (lun,dat,ids)
  lun  = Logical unit number
  dat  = A 6-word integer array to receive LUN information
  ids  = Directive status

Macro Call:
GLUNS lun,buf
  lun  = Logical unit number
  buf  = Address of 6-word buffer that will receive the LUN information

Get MCR Command Line

FORTRAN Call:
CALL GETMCR (buf,ids)
  buf = An 80-byte array to receive command line
  ids = Directive status

Macro Call:
GMCRS
Executive Directive Summary in Alphabetic Order by Macro Call

Get Mapping Context

FORTRAN Call:
CALL GMCX (imcx, ids)

imcx = An integer array to receive the mapping context. The size of
the array is 8*n+1, where n is the number of window blocks in
the task's header (The maximum size is 8*24+1=193 on
RSX-11M systems. The maximum size is 8*24+1=193 on
RSX-11M-PLUS systems.)
ids = Directive status

Macro Call:
GMCX$ wvec
wvec = The address of a vector of n Window Definition Blocks; n is the
number of window blocks in the task's header.

Get Partition Parameters

FORTRAN Call:
CALL GETPAR (prt, buf, ids)

prt = Partition name
buf = A 3-word integer array to receive partition parameters
ids = Directive status

Macro Call:
GETPAR$ [prt, buf
prt = Partition name
buf = Address of 3-word buffer

Get Region Parameters

FORTRAN Call:
CALL GETREG (rid, buf, ids)

rid = Region id
buf = A 3-word integer array to receive region parameters
ids = Directive status
Executive Directive Summary in Alphabetical Order by Macro Call

Macro Call:
GREG$  (rid,buf
   rid  = Region ID
   buf  = Address of 3-word buffer

Get Sense Switches ($S form recommended)  GSSWSS
FORTRAN Call:
   CALL READSW (isw)
      isw  = Integer to receive the console switch settings

The following FORTRAN call allows a program to read the state of a single switch:
   CALL SWITCH (ibt,ist)
      ibt  = The switch to be tested (0 to 15)
      ist  = Test results where:
             1  = switch on
             2  = switch off

Macro Call:
GSSW$  (err)
   err  = Error routine address

Get Time Parameters  GTIMS$  
FORTRAN Call:
   CALL GETTIM (ibfl,ids)
      ibfl  = An 8-word integer array
      ids  = Directive status

Macro Call:
GTIMS$  (buf
      buf  = Address of 8-word buffer

Get Task Parameters  GTSKS$  
FORTRAN Call:
   CALL GETTSSK (buf,ids)
      buf  = A 16-word integer array to receive the task parameters
Executive Directive Summary in Alphabetical Order by Macro Call

**ids**

Directive status

**Macro Call:**

```fortran
GTSK$ buf
buf = Address of 16-word buffer
```

**Inhibit AST Recognition ($S$ form recommended)**

**IHAR$**

**FORTRAN Call:**

```fortran
CALL INASTR ((ids))
ids = Directive status
```

**Macro Call:**

```fortran
IHAR$S [err]
err = Error routine address
```

**Map Address Window**

**MAP$**

**FORTRAN Call:**

```fortran
CALL MAP (iwb,[ids])
iwb = An 8-word integer array containing a Window Definition Block
     (see Section 3.5.2.2)
ids = Directive status
```

**Macro Call:**

```fortran
MAP$ wdb
wdb = Window Definition Block address
```

**Mark Time**

**MRK$**

**FORTRAN Call:**

```fortran
CALL MARK (efn,tmg,tnt,[ids])
efn = Event flag number
tmg = Time interval magnitude
tnt = Time interval unit
ids = Directive status
```
Executive Directive Summary in Alphabetical Order by Macro Call

The ISA standard call for delaying a task for a specified time interval is also included:

CALL WAIT (tmg,tnt,ids)
   tmg = Time interval magnitude
   tnt = Time interval unit
   ids = Directive status

Macro Call:
MHKTS$ [efn],tmg,tnt],ast]
   efn = Event flag number
   tmg = Time interval magnitude
   tnt = Time interval unit
   ast = AST entry point address

Map Supervisor D-Space to Supervisor I-Space

FORTRAN Call:
   Not supported

Macro Call:
   MSD$S$ mask
      mask = A 7-bit mask with one bit corresponding to each APR. If the bit is set, the APR is mapped to supervisor-mode I-space. If the bit is clear, the APR is mapped to user-mode D-space. The 7 bits are specified in bits 8 through 14 of the mask word.

Move to/from User/Supervisor I/D-Space

FORTRAN Call:
   Not supported
Executive Directive Summary in Alphabetical Order by Macro Call

Macro Call:

MVTS$ action,addr,val
  buff
  action = One of the following:
    MV.TUI — Move to user I-space
    MV.TUD — Move to user D-space
    MV.TSI — Move to supervisor I-space
    MV.TSD — Move to supervisor D-space
    MV.FUI — Move from user I-space
    MV.FUD — Move from user D-space
    MV.FSI — Move from supervisor I-space
    MV.FSD — Move from supervisor D-space

  addr = Address of the location in the task

  buf = Buffer to receive the value fetched, for the move from operations

  val = Value to be stored in the location, for the move to operations

Queue I/O Request

Queue I/O Request

FORTRAN Call:

CALL QIO (fnc, lun, efn, pri, [isb], [prl][, ids])

  func = I/O function code

  lun = Logical unit number

  efn = Event flag number

  pri = Priority; ignored, but must be present

  isb = A 2-word integer array to receive final I/O status

  prl = A 6-word integer array containing device-dependent parameters
to be placed in parameter words 1 through 6 of the Directive
Parameter Block (DPB). Fill in this array by using the
GETADR routine (see Section 1.5.1.4).

  ids = Directive status

193
Executive Directive Summary in Alphabetical Order by Macro Call

Macro Call:

QIOS  fnc,lun,efn,[pri],[isb],[ast],[prl]

fnc  =  I/O function code
lun  =  Logical unit number
efn  =  Event flag number
pri  =  Priority; ignored, but must be present
isb  =  Address of I/O status block
ast  =  Address of AST service routine entry point
prl  =  Parameter list of the form <p1,...,p6>

Queue I/O Request And Wait  QIOWS

FORTRAN Call:

CALL QTQIO (fnc,lun,efn,[pri],[isb],[prl],[ids])

fnc  =  I/O function code
lun  =  Logical unit number
efn  =  Event flag number
pri  =  Priority; ignored, but must be present
isb  =  A 2-word integer array to receive final I/O status
prl  =  A 6-word integer array containing device dependent parameters
ten be placed in parameter words 1 through 6 of the DPB
ids  =  Directive status

Macro Call:

QIOW$  fnc,lun,efn,[pri],[isb],[ast],[prl]

fnc  =  I/O function code
lun  =  Logical unit number
efn  =  Event flag number
pri  =  Priority; ignored, but must be present
isb  =  Address of I/O status block
ast  =  Address of AST service routine entry point
prl  =  Parameter list of the form <p1,...,p6>
Receive Data Or Stop

FORTRAN Call:

CALL RCST$ (rtname,ibuf,ids)

rtname = Sender task name (If not specified, data may be received from any task.)
ibuf = Address of 15-word buffer to receive the sender task name and data
ids = Integer to receive the Directive Status Word

Macro Call:

RCST$ (tname,buf)

tname = Sender Task name (If not specified, data may be received from any task.)
buf = Address of a 15-word buffer to receive the sender task name and data

Receive Data

FORTRAN Call:

CALL RECEIV (tsk,buf,ids)

tsk = Sender task name (If not specified, data may be received from any task.)
buf = A 15-word integer array for received data
ids = Directive status

Macro Call:

RCVD$ (tsk,buf)

tsk = Sender task name (If not specified, data may be received from any task.)
buf = Address of 15-word buffer

Receive Data Or Exit

FORTRAN Call:

CALL RECOEX (tsk,buf,ids)

tsk = Sender task name (If not specified, data may be received from any task.)
buf = A 15-word integer array for received data
ids = Directive status

Macro Call:
RCVXS [tsk],buf

  tsk = Sender task name (If not specified, data may be received from any task.)
  buf = Address of 15-word buffer

Read All Event Flags
FORTRAN Call:
A FORTRAN task can only read a single event flag. The call is:
CALL READEF (efn,ids)

  efn = Event flag number (1-64.)
  ids = Directive status

Macro Call:
READEF buf

  buf = Address of 4-word buffer

Read Event Flag
FORTRAN Call:
CALL READEF (iefn,ids)

  iefn = Integer containing an event flag number
  ids = Integer variable to receive the Directive Status Word

Macro Call:
READEF efn

  efn = Event flag number

Read Extended Event Flags
FORTRAN Call:
A FORTRAN task can read only a single event flag. The call is:
CALL READEF (efn,ids)

  efn = Event flag number (1-96.)
  ids = Directive status
Macro Call:
RDXF$  buf
  buf    = Address of 6-word buffer

Remove Affinity (SS form recommended)            RMAF$
FORTRAN Call:
  CALL RMAF  [(ids)]
    ids    = Integer to receive the Directive Status Word

Macro Call:
RMAF$

Request and Pass Offspring Information            RPOI$
FORTRAN Call:
  CALL RPOI  (tname,[iucg],[iumc],[iparen],[ibuf],[ibfl],[isc],
                [ids],)[idnm],[idunit],[itask],[ochnad],[ids])
  tname    = An array containing the actual name of the task to be re-
              quested and optionally chained to
  iucg     = Integer containing the group code number for the UIC of the
              requested target chain task
  iumc     = Integer containing the member code number for the UIC of
              the requested target chain task
  iparen   = Array (or I*4 integer) containing the Radix-50 name of the
              parent task (This is returned in the information buffer of the
              GTCMCI subroutine.)
  ibuf     = Array that contains the command line text for the chained
              task.
  ibfl     = Integer that contains the number of bytes in the command in
              the ibuf array.
  isc      = Flag byte controlling the actions of this directive when
              executed. The bit definitions of this byte are as follows:
              RP.OEX = 128. Force this task to exit on successful exec-
                      ution of the RPOI directive.
              RP.OAL = 1   Pass all of this task's OCB's to the re-
                      quested task. (Default is none.)
Executive Directive Summary in Alphabetical Order by Macro Call

idnam = Integer containing the ASCII device name of the requested tasks TI:

iunit = Integer containing the unit number of the requested tasks TI: device

itask = Array which contains the Radix-50 name the requested task is to run under. (Valid only for CLIs.)

ocbad = Integer containing the internal pool address of the parent OCB (Only a CLI can specify this argument because the value can only be obtained in the information buffer of the GTCMSI subroutine.)

ids = Integer to receive the directive status word

Macro Call:

RPO18 tname, pn, pr, ugc, umc, parent, bufadr, buflen, sc, dnam, unit, task, ocbad

tname = Name of task to be chained to

pn = Partition name (Not used or supported)

pr = Request priority (Not used or supported)

ugc = Group code for UIC of the requested task

umc = Member code for UIC of the requested task

parent = Name of issuing task's parent task whose OCB is to be passed. If not specified, all OCB's are passed.

bufadr = Address of buffer to be given to the requested task

buflen = Length of buffer to be given to requested task

sc = Flags byte:

   RP.OEX — (200) Force issuing task to exit
   RP.OAL — (1) Pass all OCB's

dnam = ASCII device name for TI:

unit = Unit number of task TI:

task = Radix-50 name of task to be started

ocbad = Address of OCB to pass (CLIs only)

Request Task

FORTRAN Call:

CALL REQUEST (task,[opt],[ids])

tsk = Task name
opt = A 4-word integer array
    opt(1) = Partition name first half; ignored, but must be present
    opt(2) = Partition name second half; ignored, but must be present
    opt(3) = Priority; ignored, but must be present
    opt(4) = User Identification Code
ids = Directive status

Macro Call:
RQST$ tsk,[prt],[pri],[ugc],[umc]
    tsk = Task name
    prt = Partition name; ignored, but must be present
    pri = Priority; ignored, but must be present
    ugc = UIC group code
    umc = UIC member code

Receive By Reference

FORTRAN Call:
CALL RREF (iwdb,isrb,ids)
    iwdb = An 8-word integer array containing a Window Definition Block
           (see Section 3.5.2.2)
    isrb = A 10-word integer array to be used as the receive buffer
    ids = Directive status

Macro Call:
RREFS wdb
    wdb = Window Definition Block

Resume Task

FORTRAN Call:
CALL RESUME (tak,ids)
    tak = Task name
    ids = Directive status
Macro Call:

RSUM$ tsk
tsk = Task name

Run Task

FORTRAN Call:

CALL RUN (tsk, opt[], smg, snt, rmg, rnt[], ids[])
tsk = Task name
opt = A 4-word integer array
    opt(1) = Partition name first half; ignored, but must be present
    opt(2) = Partition name second half; ignored, but must be present
    opt(3) = Priority; ignored, but must be present
    opt(4) = User Identification Code
smg = Schedule delta magnitude
snt = Schedule delta unit
rmg = Reschedule interval magnitude
rnt = Reschedule interval unit
ids = Directive status

The ISA standard call for initiating a task is also included:

CALL START (tsk, smg, snt[], ids[])
tsk = Task name
smg = Schedule delta magnitude
snt = Schedule delta unit
ids = Directive status

Macro Call:

RUNS tsk, [prt], [pri], [ugc], [umc], [smg], snt[], rmg, rnt[]
tsk = Task name
prt = Partition name; ignored, but must be present
pri = Priority; ignored, but must be present
ugc = UIC group code
umc = UIC member code
smg = Schedule delta magnitude
snt = Schedule delta unit
rmg = Reschedule interval magnitude
rnt = Reschedule interval unit

**Specify Command Arrival AST**

FORTRAN Call:
Not supported

Macro Call:
SCAA$ [ast]

ast = AST service routine entry point; omitting this parameter dis-ables command arrival ASTs for the issuing CLI task until the directive is specified again.

**Supervisor Call ($S$ form recommended)**

FORTRAN Call:
Not supported

Macro Call:
SCAL$ $ saddr,caddr

saddr = Address of the called supervisor-mode routine
caddr = Address of the completion routine for return to the caller

**Set Command Line Interpreter**

FORTRAN Call:
CALL SETCLI (icl,i,idev,iunit,ids)
icl = A two word array element containing the name of the CLI to
which the terminal is to be set
idev = Integer containing the ASCII name of the terminal to be set
(default = T1)
iunit = Integer containing the unit number of terminal
ids = Directive status
Executive Directive Summary in Alphabetical Order by Macro Call

Macro Call:

SCLI$ cli,(dev),(unit)

cli = Name of the CLI to which the terminal is to be set
dev = ASCII name of the terminal to be set (default = 'T')
unit = Unit number of terminal

Send Data

FORTRAN Call:

CALL SEND (tak,buf,(efn),(ids))

tak = Task name
buf = A 13-word integer array of data to be sent
efn = Event flag number
ids = Directive status

Macro Call:

SDAT$ tak,buf,(efn)

tak = Task name
buf = Address of 13-word data buffer
efn = Event flag number

Send Data Request and Pass Offspring Control Block

FORTRAN Call:

CALL SDRP (task,ibuf,(iefn),(iflag),(iparen),(iobced),(ids))

task = Name of an array (REAL, INTEGER, I*4) that contains the
RAD$0 name of target task
ibuf = Integer array containing data to be sent
iefn = Integer containing number of words (integers) in the array to
be sent (On RSX-11M systems, this argument must be 13, and
on RSX-11M-PLUS systems, this argument may be in
the range of 1 to 255.) (Default = 13.)

iefn = Integer containing the number of the event flag to be set
when this directive is executed successfully

202
**Executive Directive Summary in Alphabetical Order by Macro Call**

i flag = Integer containing flags bits controlling the execution. They are defined as follows:

SD.REX = 128. Force this task to exit upon successful execution

SD.RAL = 1 Pass all OCBs

i paren = Name of array containing the Radix-50 name of the parent task whose OCB should be passed to the target task

i ocbad = Name of an integer containing internal pool address of the OCB to pass

i ids = Integer to receive the contents of the Directive Status Word

**Macro Call:**

SDRP$ task,bufadr,bufsen,efn,flag,parent,ocbad

<table>
<thead>
<tr>
<th>Parameter</th>
<th>Description</th>
</tr>
</thead>
<tbody>
<tr>
<td>task</td>
<td>Name of task to be chained to</td>
</tr>
<tr>
<td>bufadr</td>
<td>Address of buffer to be given to the requested task</td>
</tr>
<tr>
<td>bufsen</td>
<td>Length of buffer to be given to requested task</td>
</tr>
<tr>
<td>efn</td>
<td>Event flag</td>
</tr>
<tr>
<td>flag</td>
<td>Flags byte (Force exit, pass all OCB's)</td>
</tr>
<tr>
<td>parent</td>
<td>Name of issuing task's parent task whose OCB is to be passed</td>
</tr>
<tr>
<td>ocbad</td>
<td>Address of OCB to pass (CLI's only)</td>
</tr>
</tbody>
</table>

**Send, Request And Connect**

**SDRC$**

**FORTRAN Call:**

CALL SDRC (rtname,ibuf,iefn,iast,iesb,iparm,i,ids)

<table>
<thead>
<tr>
<th>Parameter</th>
<th>Description</th>
</tr>
</thead>
<tbody>
<tr>
<td>rtname</td>
<td>Target task name of the offspring task to be connected</td>
</tr>
<tr>
<td>ibuf</td>
<td>Name of 13-word send buffer</td>
</tr>
<tr>
<td>iefn</td>
<td>Event flag to be set when the offspring task exits or emits status</td>
</tr>
<tr>
<td>iast</td>
<td>Name of an AST routine to be called when the offspring task exits or emits status</td>
</tr>
</tbody>
</table>

203
Executive Directive Summary in Alphabetical Order by Macro Call

iesb = Name of an 8-word status block to be written when the offspring task exits or emits status
      Word 0 — Offspring task exit status
      Word 1-7 — Reserved
iparm = Name of a word to receive the status block address when an AST occurs
ids = Integer to receive the Directive Status Word

Macro Call:
SDRC$ tname,buf,[efn],[east],[iesb]
tname = Target task name of the offspring task to be connected
buf = Address of a 13-word send buffer
efn = The event flag to be cleared on issuance and when the offspring task exits or emits status
east = Address of an AST routine to be called when the offspring task exits or emits status
iesb = Address of an 8-word status block to be written when the offspring task exits or emits status
      Word 0 — Offspring task exit status
      Word 1-7 — Reserved

Set Event Flag

FORTRAN Call:
CALL SETEF (efn,ids)
      efn = Event flag number
      ids = Directive status

Macro Call:
SETFS$ efn
      efn = Event flag number

Specify Floating Point Exception AST

FORTRAN Call:
Not supported
Macro Call:

SFPAS \{ast\}

ast = AST service routine entry point address

Send Message

FORTRAN Call:

CALL SMSG (itgt,ibuf,ibufl,iprm,iprm1,ids)

itgt = Integer containing the target object
ibuf = Integer array containing the data to be inserted into the formatted data packet
ibuf1 = Integer containing length of the ibuf array
iprm = Integer array containing any additional parameters
iprm1 = Integer containing the number of parameters in the iprm array
ids = Optional integer to receive the directive status

Macro Call:

SMGS \{tgt,ibuf,len,\langle pri,...,prn\rangle\}

tgt = Target identifier
buf = Address of optional data buffer
len = Length in bytes of optional data buffer
pri,...,prn = Target-specific parameter list:

Parameter list for Error Logging

SMGS \{SM,SER,buf,len,typ,sub,lun,mask\}

typ = Error Log packet code
sub = Error Log packet subtype code
lun = Logical unit number of device
msk = Control mask word

Send Next Command

FORTRAN Call:

CALL SNXC (dnam,\{iunit,\langle ids\rangle\})

dnam = Device name (ASCII). If not specified, TI is used
Executive Directive Summary in Alphabetical Order by Macro Call

iunit = Unit number of the terminal from which the command is to be sent
ids = Integer to receive the Directive Status Word

Macro Call:
SNXC$ [dnam,] [unum]
dnam = Device name (ASCII). If not specified, TI is used
unum = Unit number of the terminal from which the command is to be sent

Specify Parity Error AST SPEAS$ FORTRAN Call:
Not supported
Macro Call:
SPEAS$ [ast]
ast = AST services routine entry point address

Suspend ($S form recommended) SPND$S FORTRAN Call:
CALL SUSPND (ids)
ids = Directive status
Macro Call:
SPND$S [err]
err = Error routine address

Specify Power Recovery AST SPRAS$ FORTRAN Call:
EXTERNAL sub
CALL PWRUP (sub)
sub = Name of a subroutine to be executed upon power recovery. The PWRUP subroutine will effect the following:
CALL sub (no arguments)
The subroutine is called as a result of a power recovery AST, and therefore the subroutine can be controlled at critical points by using the DSASTR (or INASTR) and ENASTR subroutine calls
To Remove an AST:
CALL PWRUP

Macro Call:
SPRAS [ast]

ast = AST service routine entry point address

Spawn

FORTRAN Call:
CALL SPAWN (rtname,iugc,iumc,iefn,iast,iesb,iparm,icmlen,iunit,dnam,ids)

rtname = Name (Radix-50) of the offspring task to be spawned
iugc = Group code number for the UIC of the offspring task
iumc = Member code number for the UIC of the offspring task
iefn = Event flag to be set when the offspring task exits or emits status
iast = Name of an AST routine to be called when the offspring task exits or emits status
iesb = Name of an 8-word status block to be written when the offspring task exits or emits status

Word 0 — Offspring task exit status
Word 1-7 — Reserved

iparm = Name of a word to receive the status block address when the AST occurs
icmlin = Name of a command line to be queued for the offspring task
icmlen = Length of the command line (79 characters maximum)
iunit = Unit number of terminal to be used as the TI for the offspring task (If the optional dnam parameter is not specified, this parameter must be the unit number of a virtual terminal created by the issuing task; if a value of 0 is specified, the TI of the issuing task is propagated.)
dnam = Device name mnemonic (If not specified, the virtual terminal is used as TI.)
ids = Integer to receive the Directive Status Word

207
Macro Call:

SPWN tname,...,ugc,umc,[efn],[east],[esb],[cmdlin],[cmdlen],[unum],[dnam]

- tname = Name (Radix-50) of the offspring task to be spawned
- ugc = Group code number for the UIC of the offspring task
- umc = Member code number for the UIC of the offspring task
- efn = The event flag to be cleared on issuance and set when the
  offspring task exits or emits status
- east = Address of an AST routine to be called when the offspring
  task exits or emits status
- esb = Address of an 8-word status block to be written when the
  offspring task exits or emits status
  - Word 0 — Offspring task exit status
  - Word 1-7 — Reserved
- cmdlin = Address of a command line to be queued for the offspring
  task
- cmdlen = Length of the command line (maximum length is 79.)
- unum = Unit number of terminal to be used as the TI: for the off-
  spring task (If the optional dnam parameter is not specified,
  this parameter must be the unit number of a virtual termi-
  nal created by the issuing task; if a value of 0 is specified,
  the TI: of the issuing task is propagated.)
- dnam = Device name mnemonic (If not specified, the virtual termi-
  nal is used as TI:)

**NOTE**

1. If neither unum nor dnam is specified, the TI: of the
   issuing task is propagated.
2. If only unum is specified, TI: is a virtual terminal.

Specify Receive Data AST **SRDAS**

FORTRAN Call:

Not available to FORTRAN.

Macro Call:

SRDAS [ast]

- ast = AST service routine entry point address
Specify Requested Exit AST

FORTRAN Call:

CALL SREA (ast[],ids)
  ast = Name of the externally declared AST subroutine
  ids = Name of an optional integer to receive the Directive Status Word

CALL SREX (ast,ipblk,ipblk[],dummy[],ids[])
  ast = Name of the externally declared AST subroutine
  ipblk = Name of an integer array to receive the trap-dependent parameters
  ipblk[] = Number of parameters to be returned into the ipblk array
  dummy = Reserved for future use
  ids = Name of an optional integer to receive the Directive Status Word

Macro Call:

SREAS [ast]
SREX$ [ast[],dummy]
  ast = AST service routine entry point address
  dummy = Reserved for future expansion

Send By Reference

FORTRAN Call:

CALL SREF (tsk,efn,iwdb,isrb[],ids[])
  tsk = Receiver task name
  efn = Event flag number
  iwdb = An 8-word integer array containing a Window Definition Block (see Section 3.5.2.2)
  isrb = An 8-word integer array containing additional information
  ids = Directive status
Executive Directive Summary in Alphabetical Order by Macro Call

Macro Call:
SREF task,wdb[,efn]
  task = Receiver task name
  wdb = Window Definition Block address
  efn = Event flag number

Specify Receive-By-Reference AST
FORTRAN Call:
  Not supported
Macro Call:
SRRAS [ast]
  ast = AST service routine entry point address

Set Affinity
FORTRAN Call:
  CALL STAF (iaff,ids)
    iaff = Affinity mask word
    ids = Integer to receive Directive Status Word
Macro Call:
STAF$ (cp,ub1,ub2,...)
  cp = CPU selected (A through D)
  ub = UNIBUS run(s) selected (E through T)

Set System Time Directive
FORTRAN Call:
  CALL SETTIM (ibufn,ibufp,ids)
    ibufn = An 8-word integer array, new time specification buffer
    ibufp = An 8-word integer array, previous time buffer
    ids = Directive status
Macro Call:

STIM$ bufn,(bufp)

bufln = Address of 8-word new time specification buffer
buftp = Address of 8-word buffer to receive the previous system time parameters

**Stop For Logical OR Of Event Flags**

FORTRAN Call:

CALL STLOR (ief1, ief2, ief3, ..., ief(n))

ief1 ... ief(n) = List of event flag numbers

Macro Call:

STLO$ grp, mask

grp = Desired group of event flags

mask = A 16-bit mask word

**Stop (SS form recommended)**

FORTRAN Call:

CALL STOP (iids)

iids = Integer to receive the Directive Status Word

Macro Call:

STOP$S

**Stop For Single Event Flag**

FORTRAN Call:

CALL STOPFR (iefn, iids)

iefn = Event flag number

iids = Integer to receive Directive Status Word

Macro Call:

STSE$ efn

efn = Event flag number
Specify SST Vector Table For Debugging Aid

FORTRAN Call:
Not supported

Macro Call:
SVDBS [adr],[len]

adr = Address of SST vector table
len = Length of (that is, number of entries in) table in words

Specify SST Vector Table For Task

FORTRAN Call:
Not supported

Macro Call:
SVTKS [adr],[len]

adr = Address of SST vector table
len = Length of (that is, number of entries in) table in words

Unlock Group Global Event Flags ($$ form recommended)

FORTRAN Call:
CALL ULGF ($ids$)

ids = Directive status

Macro Call:
ULGFSS [err]

err = Error routine address

Unmap Address Window

FORTRAN Call:
CALL UNMAP (iwdb,ids)

iwdb = An 8-word integer array containing a Window Definition Block
(see Section 3.5.2.2)

ids = Directive status
Macro Call:

**UMAP** \(\$\) **wdb**

\(wdb\) = Window Definition Block address

**USTP** \(\$\)

**Unstop TASK**

FORTRAN Call:

CALL USTP (rtnamex,ids)

- **rtname** = Name of task to be unstopped
- **ids** = Integer to receive directive status information

Macro Call:

**USTP** \(\$\) **tname**

- **tname** = Name of task to be unstopped

**Variable Receive Data**

FORTRAN Call:

CALL VRCD ((task),bufadr,buflen[,ids])

- **task** = Sender task name
- **bufadr** = Address of buffer to receive the sender task name and data
- **buflen** = Length of buffer
- **ids** = Integer to receive the Directive Status Word

Macro Call:

**VRCD** \(\$\) (task,bufadr,buflen)

- **task** = Sender task name
- **bufadr** = Buffer address
- **buflen** = Buffer size in words

**Variable Receive Data Or Stop**

FORTRAN Call:

CALL VRCS ((task),bufadr,buflen[,ids])

- **task** = Sender task name
Executive Directive Summary in Alphabetical Order by Macro Call

buf = Address of buffer to receive the sender task name and data
buflen = Length of buffer
ids = Integer to receive the Directive Status Word

Macro Call:
VRCS$ [task],bufadr,[buflen]

task = Sender task name
bufadr = Buffer address
buflen = Buffer size in words

Variable Receive Data Or Exit

FORTRAN Call:
CALL VRCX ([task],bufadr,[buflen],[ids])

task = Sender task name
bufadr = Address of buffer to receive the sender task name and data
buflen = Length of buffer
ids = Integer to receive the Directive Status Word

Macro Call:
VRCS$ [task],bufadr,[buflen]

task = Sender task name
bufadr = Buffer address
buflen = Buffer size in words

Variable Send Data

FORTRAN Call:
CALL VSDA ([task],bufadr,[buflen],[efn],[ids])

task = Receiver task name
bufadr = Address of buffer to receive the sender task name and data
buflen = Length of buffer
efn = Event flag number
ids = Integer to receive the Directive Status Word
Macro Call:

VSDAS \(\text{[task,bufadr,(buflen),efn]}\)

- **task** = Receiver task name
- **bufadr** = Buffer address
- **buflen** = Buffer size in words
- **efn** = Event flag number

**Variable Send, Request and Connect**

**VSRC$**

FORTRAN Call:

CALL VSRC (rtname, ibuf, (ibuflen), iefn, iast, iesb, iparm, ids)

- **rtname** = Target task name of the offspring task to be connected
- **ibuf** = Name of 13-word send buffer
- **ibuflen** = Length of buffer
- **iefn** = Event flag to be set when the offspring task exits or emits status
- **iast** = Name of an AST routine to be called when the offspring task exits or emits status
- **iesb** = Name of an 8-word status block to be written when the offspring task exits or emits status
  - **Word 0** — Offspring task exit status
  - **Word 1-7** — Reserved
- **iparm** = Name of a word to receive the status block address when an AST occurs
- **ids** = Integer to receive the Directive Status Word

Macro Call:

VSRC$ tname, buf, (buflen), iefn, east, esb

- **tname** = Target task name of the offspring task to be connected
- **buf** = Address of a 13-word send buffer
- **buflen** = Length of buffer
- **efn** = The event flag to be cleared on issuance and set when the offspring task exits or emits status

215
Executive Directive Summary in Alphabetical Order by Macro Call

east = Address of an AST routine to be called when the offspring task exits or emits status
esb = Address of an 8-word status block to be written when the offspring task exits or emits status  
      Word 0 — Offspring task exit status
      Word 1-7 — Reserved

Wait For Significant Event ($S form recommended)  \( WSIGS \)
FORTRAN Call:
   CALL WFSNE
Macro Call:
   WSIGS  \( \text{[err]} \)
      err = Error routine address

Wait For Logical OR Of Event Flags  \( WTLOS \)
FORTRAN Call:
   CALL WFLOR  \( efn1,efn2,\ldots,efnn \)
      efn = List of event flag numbers taken as the set of flags to be specified in the directive
Macro Call:
   WTLO$  \( \text{grp,msk} \)
      grp = Desired group of event flags
      msk = A 16-bit octal mask word

Wait For Single Event Flag  \( WTSE$ \)
FORTRAN Call:
   CALL WAITFR  \( efn,ids \)
      efn = Event flag number
      ids = Directive status
Macro Call:
   WTSE$  \( efn \)
      efn = Event flag number

216
# RADIX-50 CONVERSION TABLE

To convert 1 to 3 characters to their Radix-50, 6-digit octal equivalent, add the appropriate octal codes from the following table, based on the positions (that is, first, second, or third) of the characters in the string.

<table>
<thead>
<tr>
<th>Character Set</th>
<th>First Character Code</th>
<th>Second Character Code</th>
<th>Third Character Code</th>
</tr>
</thead>
<tbody>
<tr>
<td>Space</td>
<td>000000</td>
<td>000000</td>
<td>000000</td>
</tr>
<tr>
<td>A</td>
<td>003100</td>
<td>000050</td>
<td>000001</td>
</tr>
<tr>
<td>B</td>
<td>006200</td>
<td>000120</td>
<td>000002</td>
</tr>
<tr>
<td>C</td>
<td>011300</td>
<td>000170</td>
<td>000003</td>
</tr>
<tr>
<td>D</td>
<td>014400</td>
<td>000240</td>
<td>000004</td>
</tr>
<tr>
<td>E</td>
<td>017500</td>
<td>000310</td>
<td>000005</td>
</tr>
<tr>
<td>F</td>
<td>022600</td>
<td>000360</td>
<td>000006</td>
</tr>
<tr>
<td>G</td>
<td>025700</td>
<td>000430</td>
<td>000007</td>
</tr>
<tr>
<td>H</td>
<td>031000</td>
<td>000500</td>
<td>000010</td>
</tr>
<tr>
<td>I</td>
<td>034100</td>
<td>000550</td>
<td>000011</td>
</tr>
<tr>
<td>J</td>
<td>037200</td>
<td>000620</td>
<td>000012</td>
</tr>
<tr>
<td>K</td>
<td>042300</td>
<td>000670</td>
<td>000013</td>
</tr>
<tr>
<td>L</td>
<td>045400</td>
<td>000740</td>
<td>000014</td>
</tr>
<tr>
<td>M</td>
<td>050500</td>
<td>001010</td>
<td>000015</td>
</tr>
<tr>
<td>N</td>
<td>053600</td>
<td>001060</td>
<td>000016</td>
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<td>O</td>
<td>056700</td>
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<td>001320</td>
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<td>001370</td>
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<tr>
<td>T</td>
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<td>001440</td>
<td>000024</td>
</tr>
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<td>001700</td>
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</tr>
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<td>001750</td>
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<td>002020</td>
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<td>002070</td>
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<td>000034</td>
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</tr>
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<td>002400</td>
<td>000040</td>
</tr>
<tr>
<td>Character Set</td>
<td>First Character Code</td>
<td>Second Character Code</td>
<td>Third Character Code</td>
</tr>
<tr>
<td>---------------</td>
<td>----------------------</td>
<td>-----------------------</td>
<td>----------------------</td>
</tr>
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<td>000250</td>
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<td>000250</td>
<td>000044</td>
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<td>163500</td>
<td>000250</td>
<td>000045</td>
</tr>
<tr>
<td>8</td>
<td>166600</td>
<td>000250</td>
<td>000046</td>
</tr>
<tr>
<td>9</td>
<td>171700</td>
<td>000250</td>
<td>000047</td>
</tr>
</tbody>
</table>
### OCTAL/DECIMAL CONVERSION TABLE

<table>
<thead>
<tr>
<th>Bits</th>
<th>Octal</th>
<th>Decimal</th>
</tr>
</thead>
<tbody>
<tr>
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<td>100000</td>
<td>32768</td>
</tr>
<tr>
<td>14</td>
<td>70000</td>
<td>28672</td>
</tr>
<tr>
<td>13</td>
<td>60000</td>
<td>24576</td>
</tr>
<tr>
<td>12</td>
<td>50000</td>
<td>20480</td>
</tr>
<tr>
<td>11</td>
<td>40000</td>
<td>16384</td>
</tr>
<tr>
<td>10</td>
<td>30000</td>
<td>12288</td>
</tr>
<tr>
<td>9</td>
<td>20000</td>
<td>8192</td>
</tr>
<tr>
<td>8</td>
<td>10000</td>
<td>4096</td>
</tr>
<tr>
<td>7</td>
<td>8000</td>
<td>3072</td>
</tr>
<tr>
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<td>7000</td>
<td>2048</td>
</tr>
<tr>
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<td>6000</td>
<td>1536</td>
</tr>
<tr>
<td>10</td>
<td>5000</td>
<td>1024</td>
</tr>
<tr>
<td>9</td>
<td>4000</td>
<td>512</td>
</tr>
<tr>
<td>8</td>
<td>3000</td>
<td>448</td>
</tr>
<tr>
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<td>2000</td>
<td>384</td>
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<tr>
<td>6</td>
<td>1000</td>
<td>256</td>
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<tr>
<td>5</td>
<td>900</td>
<td>192</td>
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<tr>
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<td>100</td>
<td>16</td>
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<td>0</td>
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<td>2</td>
<td>30</td>
<td>3</td>
</tr>
<tr>
<td>1</td>
<td>20</td>
<td>2</td>
</tr>
<tr>
<td>0</td>
<td>10</td>
<td>1</td>
</tr>
</tbody>
</table>

#### Octal to Decimal

For each position of the octal value, locate the octal digit and its decimal equivalent in the conversion table. Add the decimal equivalents to obtain the decimal value.

**Example:**

\[
\begin{align*}
53702(8) & = ?(10) \\
50000 & = 20480 \\
3000 & = 1536 \\
70 & = 448 \\
00 & = 00 \\
\hline
2 & = 2 \\
\hline
53702(8) & = 22466(10)
\end{align*}
\]

#### Decimal to Octal

Locate in the conversion table the decimal value closest to, but not exceeding, the decimal value to be converted. Record the octal equivalent. Subtract the table decimal value from the decimal value to be converted. Repeat the process until the subtraction balance equals 0. Add the octal equivalents to obtain the octal value.

**Example:**

\[
\begin{align*}
22466(10) & = ?(8) \\
22466 & = 53702(8)
\end{align*}
\]

\[
\begin{align*}
20480 & = 50000 - 20480 \\
1536 & = 3000 - 1536 \\
448 & = 700 - 448 \\
\hline
2 & = 2 \\
\hline
22466(10) & = 53702(8) = 0
\end{align*}
\]
## STANDARD FILE TYPES

RSX-11M uses the standard 3-letter file types used by all DIGITAL-supplied software. These names indicate the actual contents of the files. Although any combination of three letters can be used, DIGITAL recommends that the standard types be used whenever possible. (Compilers and other system programs that refer to these file types look for the standard name as a default. For example, if the command FOR ADD – ADD is issued, the FORTRAN-IV compiler looks for ADD.FTN, and if the file is named ADD.FOR, the compiler reports that there is no such file.)

<table>
<thead>
<tr>
<th>Type</th>
<th>File Contents</th>
</tr>
</thead>
<tbody>
<tr>
<td>.BAS</td>
<td>A BASIC-11 language source program</td>
</tr>
<tr>
<td>.BAT</td>
<td>Batch file (default)</td>
</tr>
<tr>
<td>.BLD</td>
<td>Indirect command files used as input to sysgen</td>
</tr>
<tr>
<td>.BZS</td>
<td>A BASIC-PLUS-II language source program</td>
</tr>
<tr>
<td>.CBL</td>
<td>A COBOL language source program</td>
</tr>
<tr>
<td>.CDA</td>
<td>Crash dump binary file</td>
</tr>
<tr>
<td>.CFS</td>
<td>Error Logging control file string</td>
</tr>
<tr>
<td>.CLB</td>
<td>Indirect Command Processor command library</td>
</tr>
<tr>
<td>.CMD</td>
<td>MCR or task commands (an indirect command file)</td>
</tr>
<tr>
<td>.CNF</td>
<td>An Error Logging language source file</td>
</tr>
<tr>
<td>.COR</td>
<td>A SLP correction file</td>
</tr>
<tr>
<td>.CRF</td>
<td>Cross reference processor symbol table file</td>
</tr>
<tr>
<td>.DAT</td>
<td>File containing data (as opposed to a program)</td>
</tr>
<tr>
<td>.DIR</td>
<td>Directory File</td>
</tr>
<tr>
<td>.DMP</td>
<td>File Dump Utility output file</td>
</tr>
<tr>
<td>.ERR</td>
<td>Error Logger output file</td>
</tr>
<tr>
<td>.FTN</td>
<td>FORTRAN-IV or FORTRAN-IV PLUS language source file</td>
</tr>
<tr>
<td>.HLP</td>
<td>Help file</td>
</tr>
<tr>
<td>.IGF</td>
<td>An Error Logging intermediate form file output from Control File Language compiler</td>
</tr>
<tr>
<td>.LOG</td>
<td>Batch or console log file</td>
</tr>
<tr>
<td>.LST</td>
<td>A listing file</td>
</tr>
<tr>
<td>.MAC</td>
<td>A MACRO-11 source program</td>
</tr>
<tr>
<td>.MAP</td>
<td>A Task Builder memory allocation map</td>
</tr>
<tr>
<td>.MLB</td>
<td>A macro library</td>
</tr>
<tr>
<td>.OBJ</td>
<td>An object program (output from either the MACRO-11 Assembler or a compiler)</td>
</tr>
<tr>
<td>.ODL</td>
<td>A Task Builder overlay descriptor</td>
</tr>
<tr>
<td>.OLB</td>
<td>An object module library</td>
</tr>
<tr>
<td>.PAT</td>
<td>Correction file used by assembler to create a patched object module</td>
</tr>
<tr>
<td>.PMD</td>
<td>Postmortem or snapshot dump file</td>
</tr>
</tbody>
</table>
### Standard File Types

<table>
<thead>
<tr>
<th>Type</th>
<th>File Contents</th>
</tr>
</thead>
<tbody>
<tr>
<td>.POB</td>
<td>Patched object module used by the PAT utility</td>
</tr>
<tr>
<td>.SML</td>
<td>The system macro library</td>
</tr>
<tr>
<td>.STB</td>
<td>Symbol table file</td>
</tr>
<tr>
<td>.SYM</td>
<td>An Error Logging symbol file</td>
</tr>
<tr>
<td>.SYS</td>
<td>A loadable system image or other system file</td>
</tr>
<tr>
<td>.TMP</td>
<td>A temporary file</td>
</tr>
<tr>
<td>.TSK</td>
<td>A task image file</td>
</tr>
<tr>
<td>.TXT</td>
<td>A text file</td>
</tr>
<tr>
<td>.ULB</td>
<td>A universal file library</td>
</tr>
</tbody>
</table>