Mini Reference

digital software

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RSX-11M-PLUS

Mini-Reference

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REFERENCE INFORMATION

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, command 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:

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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 or MCR). You'll need a user-ID and password to log in.

RSX-11M-PLUS systems have two major command interpreters or CLIs: 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-in DCL terminal, type HELP for information on available help.

The general form of the HELP command is as follows:

```
>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 in 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 3 characters. The DCL form includes the entire qualifier name.

```
>HELP/LOC[AL] [parm[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]cli__name.HLP. This qualifier is for installations with alternate CLIs for which HELP is provided.

>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.

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:

[/qualifiers] indev1:,...[filespec,...] outdev1:,...[filespec,...]

In this command line, qualifier(s) are any of the command qualifiers listed below, indevices 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 as follows:

/APPEND

Appends new backup data to a magnetic 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 magnetic 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.

/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 magnetic 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 operation.

/INVOLUME:name

Specifies the volume label of the input disk.

/LENGTH:number

Specifies the length of the output magnetic 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(decimal) characters long.

/POSITION: BEGINNING
MiDDLE
END
BLOCK:number

Specifies the location of the index file on the output disk volume.

/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 magnetic 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 magnetic 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:

CMP [outfile[/sw...=]infile1,infile2

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 TI: 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 as follows:

BLANK LINES [outfile]/[-]BL=infile1,infile2

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 [outfile]/[-]CB=infile1,infile2

Specifies that CMP list infile2 with change bars, in the form of exclamation marks (!), to denote each line that does not have a corresponding line in infile1. /-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 /VB switch, described below.

When a section of lines in infile1 has been deleted in infile2 (the output listing file), the first line after the deleted lines is marked.

COMMENTS [outfile]/[-]CO=infile1,infile2

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

DIFFERENCES [outfile]/[-]DI=infile1,infile2

Specifies that CMP list the differences between the two files (rather than marking the lines in infile2). /DI is the default switch.

/CB and /DI are mutually exclusive switches. If both are specified, /CB overrides /DI.

FORM-FEED [outfile]/[–]FF=infile1,infile2

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

LINES [outfile]/LI:n=infile1,infile2

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 (/LI: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=infile1,infile2

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=infile1,infile2

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]=infile1,infile2

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 infile1 identical to infile2. If a 1- to 8-character alphanumeric symbol is included (:au), an audit trail is specified for SLP input.

SPOOL outfile/[–]SP[:n]=infile1,infile2

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 Queue Manager 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=infile/AS**

Specifies that data be dumped one byte at a time in ASCII mode.

BASE ADDRESS **outfile/BA:n:m=infile**

Specifies a 2-word base block address.

BLOCK **outfile=infile/BL:n:m**

Specifies the first and last logical blocks to be dumped.

BYTE **outfile=infile/BY**

Specifies that data be dumped in octal byte format.

DECIMAL **outfile/DC=infile**

Specifies that data be dumped in decimal word format.

DENSITY **outfile=infile/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=infile/FI:filenumber:sequencenumber**

Specifies the input file with its file-ID instead of its name (File Mode only).

HEADER **outfile=infile/HD:F**
outfile=infile/HD:U

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=infile/HF

Specifies the format for data blocks that have the Files–11 header structure. Other blocks are dumped as unformatted octal.

HEXADECIMAL 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]=infile

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/R5**

Dumps in Radix-50 word format.

SPACE BLOCKS **outfile=infile/SB:[-]n**

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[s]:[label][/switch[es]]=indev[s]:[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, switch[es] are the command switches described below, and indev[s] is the physical volume or volumes from which data is copied.

DSC switches are as follows:

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

Overrides the DSC default storage density for magnetic tapes of 800 bpi. The first form of the switch creates magnetic tapes at 1600 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 1600 bpi.

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 (ESC)

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.

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 (CTRL/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]**

Enters 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, CL:, lines remaining in the block buffer or input file, starting with the current line.

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 MCALL;n.

MACRO EXECUTE [n]Mx [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 PAG n or **-n**

Enters 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 (RET)

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.

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 T[OP]

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 CTRL/Z 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 CTRL/Z 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.

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:

SEQ[UENCE][: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.
SA[VE]	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 filespec [range]**

Copies disk files into text buffers. Filespec 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.

Qualifier:

QUERY: EDT prompts you to verify each line of range–1 to be moved.

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

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 filespec[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.

Qualifier:

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.

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:

SEQ[UENCE][: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.

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[UERY] 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:

SEQ[UENCE][: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

NOKEYPAD CHANGE MODE COMMANDS

Nokeypad commands have only one format, described below. They can be used in a series without any delimiter between commands. However, no abbreviations are allowed.

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]D[+|–][entity-count][+|–]entity[=buffer]

Deletes a specified number of entities.

DEFINE KEY DEFK

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

EXIT EX

Exits EDT from nokeypad 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.

FILL **[+¦–][rep]FILL[+¦–][entity-count][+¦–]entity[=buffer]**

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.

NULL **[+¦–][rep][+¦–][entity-count][+¦–][entity][=buffer]**

Moves the cursor the specified number of entities.

PASTE **PASTE**
[+¦–][rep]PASTE[+¦–][entity-count][+¦–]entity[=buffer]

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.

REPLACE **R**
[+¦–][rep]R[+¦–][entity-count][+¦–]entity[=buffer]

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]S/s1/s2**

Replaces one string of characters with another. Count defines the number of substitutions and minus (–) indicates a backward search. Use any nonalphanumeric 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]SHL**

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.

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 [+¦–][count]SN

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 locate 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 inclusive. Range-1 and Range-2 are any single line range specification.
[range]#number ¦ [range]FOR number	The specified number of lines beginning with range, where range is any single line range specification.

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,...] ¦ [range AND range...]	All lines specified by each range, which must be single line range.
[range]All ´string´	All lines in the range containing the specified string.

Text Buffer Ranges:

[=buffer][range] ¦ [BUFFER 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(,s)/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 as follows:

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/DI=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.

FORMATTED BINARY **outfile/FB:n=infile**

Specifies formatted binary transfer mode file format.

FORTRAN CONTROL **outfile/FC=infile**

Specifies that FORTRAN carriage control conventions are to be used.

IDENTIFICATION **/ID**

Displays the current version number of FLX.

IMAGE MODE **outfile/IM:n=infile**

Specifies image mode (n is in decimal bytes).

LIST **outdevice/LI**

Same as /DI.

NUMBER **outfile/ZE/NU:n[.]=infile**

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=infile[/RS]**

Identifies the volume as a Files-11 formatted volume.

RT FORMAT **outfile/RT=infile[/RT]**

Identifies the volume as an RT-11 formatted volume.

REWIND **outfile/[-]RW=infile[/RW]**

Specifies whether a magnetic tape will rewind before FLX begins the file transfer.

SPOOL **outfile/SP=infile**

Specifies that the converted file is to be spooled by the print spooler or the Queue Manager.

UIC **outfile/UI=infile**

Specifies that the output file is to have the same UFD as the input file.

VERIFY outfile/VE=infile

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, dd is the abbreviation for the volume being formatted and n is the unit number of the volume.

FMT switches are as follows:

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.

OVERRIDE 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.

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]=infile1[,infile2,...infilen][/sw]

LBR switches are as follows:

COMPRESS outfile/CO:size:ept:mnt=infile

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:ept:mnt:libtype:infiletype=infile[s]

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

DELETE outfile/DE:module1[:module2...:modulen]

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

DEFAULT outfile/DF:type...
or
/DF:type

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]=infile[...,infilen]
or
outfile=infile[/EP][...,infilen[/EP]]

Includes or excludes entries in the entry point table.

EXTRACT outfile=infile/EX[:modulename1:...:modulenamen]

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

INSERT outfile/IN=infile1[,infile2...,infilen]
or
outfile=infile/IN:name: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 entry 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=infile1[,infile2...,infilen] (global format)
outfile=infile1/RP[,infile2[/RP]...,infilen[/RP]] (local format)
outfile/RP:name:op:op:op:op=infile1[,infile2...,infilen](universal/global format)
outfile=infile1/RP:name:op:op:op:op[,infile2...,infilen](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=infile1/SS[,infile2[/SS]...,infilen[/SS]]

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

SQUEEZE outfile/SZ=infile1[,infile2...,infilen] (global format)
outfile=infile1/SZ[,infile2[/SZ]...,infilen[/SZ]] (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]=infile[/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.

COMPRESS **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.

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=infile**
outfile=infile/SQ

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

TRUNCATE **outfile/TR=infile**
outfile=infile/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:

Operator	Function
-	Identifies the dash as the first character of a SLP edit command line
\	Suppresses audit trail processing
%	Reenables audit trail processing
@	Invokes an indirect file for SLP processing
/	Terminates the SLP edit session and returns to SLP command mode
<	Allows characters in the input file that SLP would normally use as operators

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 the following:

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 version number, the default is *.*;*.

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 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 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.

infile(s) — Explicit file parameters; wildcard by default.

/FO — File ownership is the output file UFD; without /FO, ownership is the UIC of the user running PIP.

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 /DD: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 ANSFCS.

LIST [listfile =]infile(s)/LI[/subswitch]

Lists the contents of one or more UFDs, with an option to specify formats for output directories.

outfile — Listing file specifier; defaults to TI:.

infile — Default is *.*;*.

The following 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 = infile(,s)/ME[/subswitch(es)]

Creates one file by concatenating two or more files. The legal subswitches are as follows:

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 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 as follows:

/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 the following:

System = /SY:RWED
Owner = /OW:RWED
Group = /GR:RWED
World = /WO:RWED

The symbolic codes are as follows:

R read
W write
E extend
D delete

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

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

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.

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 magnetic tape on the specified unit to be rewound and erased.

infile — Causes the magnetic 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 outdsk: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.

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

Creates a User File Directory entry in the Master File Directory on a volume.

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-PLUS. 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 queuename jobname[FILE_POSITION:n]
DCL>DELETE/ENTRY:nnn[/FILE_POSITION:n]
MCR>QUE queuename:jobname/FI:n/DEL
MCR>QUE /EN:nnn/FI:n/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 queuename jobname
DCL>HOLD/ENTRY:nnn
MCR>QUE queuename:jobname/HO
MCR>QUE /EN:nnn/HO
DCL>RELEASE/JOB queuename jobname
DCL>RELEASE/ENTRY:nnn
MCR>QUE queuename: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 [queuename:][jobname][/jobswitch][=]file[s][/fileswitch[s]]
```

DCL Command Qualifiers	MCR Job Switches
/JOBCOUNT:n	/CO:n
/QUEUE:queuename	queuename:
/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-mmm-yy hh:mm)	/AF:hh:mm:dd-mmm-yy
/DEVICE:ddnn:	queuename:
/NOJOBPAGE	/NOJO
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 queuename:jobname/qualifier[/qualifier[s]]
DCL>SET QUEUE /ENTRY:nnn/qualifier[/qualifier[s]]
MCR>QUE queuename:jobname/MOD/switch[/switch[s]]
MCR>QUE /EN:nnn/MOD/switch/[/switch[s]]
```

DCL Qualifiers	MCR Switches
/AFTER:(hh:mm dd-mmm-yy)	/AF:hh:mm:dd-mmm-yy
/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 queuename jobname/FILE_
POSITION:n/qualifier[/qualifier[s]]

MCR>QUE /EN:nnn/MOD/FI:n/switch[/switch[s]]
MCR>QUE queuename:jobname/MOD/FI: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 [processorname:]/switch
```

DCL Qualifiers	MCR Switches
processorname[:]	/LI:DEV
/PRINT or /DEVICE	/LI:DEV:P
/INPUT or /CARD_READER	/LI:DEV:I

SHOW QUEUE

SHOW QUEUE displays information about QMG print jobs.

Format

```
DCL>SHOW QUEUE [queuename]/qualifier[s]
MCR>QUE [queuename:][[uic]][jobname]/switch[s]
```

DCL Qualifiers	MCR Switches
/FULL	/FU
/FILES	/LI
/BRIEF	/BR
/DEVICE	/LI:P
/ENTRY:nnn	/EN:nnn
/FORMS[:n]	/FO[:n]
/NAME:jobname	jobname
/OWNER_UIC:uic	[uic]
/PRINT	/LI:P

ZAP COMMAND AND SWITCH SUMMARY

Invoke ZAP before you enter the ZAP command line, using the following format:

ddnn:[ufd]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 ddnn:filespec/AB

Specifies absolute mode.

LIST ddnn:filespec/LI

Displays the overlay segment table for an overlaid task image file.

READ-ONLY ddnn: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).

' (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 by a privileged user. You can request a Postmortem Dump with the /PMD keyword.

ACTIVE ACT [/keyword]

Keywords: /ALL
/TERM=TTnn:

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[nn:][=llnn:][/keyword]

Keywords: /TERM=TTnn:
/TYPE=dev

Establishes the specified device as the user's private device on multiuser 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:). Specifying the /TYPE keyword allocates the first available dev-type device (for example, RK07). Specifying =llnn: creates a logical device name and assigns it to the physical device being allocated.

ALLOCATE CHECKPOINT SPACE (P) ACS ddnn:/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.

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.

ANCILLARY CONTROL DRIVER ACD function

Functions (Privileged): INSTALL filename AS NUMBER n [ASSIGN logicalname]
REMOVE NUMBER n [logicalname]

Loads and unloads character translation routines so terminals that conform to other standards can use the DIGITAL Multinational Character Set (MCS).

Functions (Nonprivileged): LINK ttnn: TO NUMBER n [logicalname]
UNLINK ttnn:

Links or unlinks the specified routine to the specified terminal.

ASSIGN ASN ppn:=llnn: [/keyword]

Keywords: /GR **(P)**
/FINAL **(P)**
/GBL **(P)**
/LOGIN
/TERM=TTnn:

Assigns, displays, or deletes logical name assignments if extended logical name support was selected during system generation or logical device assignments, as specified in the following list.

Note that ppn: is the physical device name or equivalence string, and llnn is the logical name being assigned.

Local assign operations

ASN ppn:=llnn:
ASN ppn:=llnn:/TERM=TTnn: **(P)**

Login assign operations

ASN ppn:=llnn:/LOGIN **(P)**
ASN ppn:=llnn:/LOGIN/TERM = TTnn: **(P)**

Group assign operations

ASN ppn:=llnn:/GR **(P)**

Global assign operations

ASN ppn:=llnn:/GBL **(P)**

Local display operations

ASN

Login display operations

ASN /TERM=TTnn: **(P)**

Group display operations

ASN /GR **(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 =/llnn:/TERM=TTnn: **(P)**
ASN =/llnn:/LOGIN **(P)**
ASN =/llnn:/LOGIN/TERM=TTnn: **(P)**

Group delete operations

ASN=/GR **(P)**

Global delete operations

ASN =/GBL **(P)**
ASN =llnn:/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 XDT (P) BRK

Passes control to the Executive Debugging Tool (XDT).

BROADCAST

BRO TTnn: message
BRO @filespec
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 [/keyword]

Keyword: /[NO]HOLD

Logs the user out of a multiuser 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.

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

Subkeywords: /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 [ddnn:]

Releases a private (allocated) device where ddnn: 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.

DEFINE LOGICALS DFL keyword

Defines, deletes, or displays logical name assignments.

Keywords: /ALL
/FINAL **(P)**
/GBL or SYSTEM **(P)**
/TERM=TTnn: **(P)**

Local define operations

DFL ppn:=llnn: **(P)**
DFL ppn:=llnn:/TERM=TTnn: **(P)**

Group define operations

DFL ppn:=llnn:/GR **(P)**

Global define operations

DFL ppn:=llnn:/GBL **(P)**
DFL ppn:=llnn:/SYSTEM **(P)**

Local display operations

DFL
DFL /ALL

Group display operations

DFL /GR **(P)**

Global display operations

DFL /GBL or /SYSTEM **(P)**

Local delete operations

DFL =

Group delete operations

DFL =/GR **(P)**

Global delete operations

DFL =/GBL or /SYSTEM

DEVICES **DEV [/keyword]**
DEV dd:
DEV ddnn:

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 as well as device characteristics.

DIGITAL COMMAND LANGUAGE **DCL command-line**

Allows you to issue DCL commands from a terminal that is set to MCR.

DISMOUNT **DMO ddnn:[["]label["]][/keyword(s)]**
DMO /USER[/keyword(s)]

Keywords: /DEV **(P)**
/TERM=TTnn: **(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 memory (or partition memory).

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.

HELLO/LOGIN **HEL [uic[/password]]**
HEL [username[/password]]
LOG [uic[/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 ddnn:volume-label/keyword(s)**

Keywords: /DENS=density
/EXT=block-count
/FPRO=[system,owner,group,world]
/LRU=directory-count
/MXF=file-count
/NAME=new-volume-label
/OVR (P)
/OWNER=[g,m]

Keywords: /POS
/PRO=[system,owner,group,world]
/UIC=[g,m]
/VI
/WIN=retrieval-pointer-count

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

INITIALIZE VOLUME INI ddnn:["]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
/MXF=file-count
/OWNER=[g,m] or OWNER="owner"
/POS
/PRO=[system,owner,group,world]
/UIC=[g,m]
/VI
/WIN=retrieval-pointer-count

Produces a Files-11 volume on disk, magnetic tape, or DECtape. On multiuser 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=size
/IOP=option
/PAR=pname
/PMD=option
/PRI=number
/PRO=[system,owner,group,world]
/RON=option
/ROPAR=parname
/SEC=option
/SLV=option
/SYNC=option
/TASK=taskname

Keywords: /TIME=nM
or
/TIME=nS
/UIC=[g,m]
/WB=option
/XHR=option

Makes a specified task known to the system.

LOAD LOA dd:[/keyword(s)] (P)

Keywords: /PAR=parname
/CTB=cca[,b...]
/SIZE=parsize
/HIGH
/VEC

Reads a nonresident device driver into memory and constructs the linkages required to allow access to the device.

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)
/CACHE=option
/DENS=density
/EXT=block-count
/FOR
/FPRO=[system,owner,group,world]
/LOCK=option
/LRU=directory-count
/OVR (P)
/PARM="user parameters"
/PRO=option
/PUB
/[NO]SHARE
/UIC=[g,m]
/UNL
/VI

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

OPEN REGISTER (P) **OPE[N] 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

Keywords: /KNLI
/DRV=dd:
/REG=region-name

Allows examination and optional modification of a register in memory.

PARTITION DEFINITIONS PAR[TITIONS]

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).

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=TTnn: **(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 dtime [/RSI=magu][/UIC=[g,m]] (P)
RUN taskname sync [dtime][/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

Keywords: /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.

SET SET /keyword=values

Keywords: /[NO]ABAUD[=TTnn:]
/[NO]ANSI[=TTnn:]
/[NO]AVO[=TTnn:]
/[NO]BLKMOD[=TTnn]
/[NO]BOT=pname:value
/[NO]BRO[=TTnn:]
/BUF=ddnn:[size]
/[NO]CACHE=option
/CLI=TTnn:[cli]
/COLOG
/CRASHDEV and CRASH_DEVICE:ddnn:[CSRaddr]
/[NO]CRT[=TTnn:]
/DCL[=TTnn:]
/[NO]DEC[TTnn:]
/DEF[="(ddnn:][[directory]]]
/[NO]DPRO[=protection codes]
/[NO]EBC[=TTnn:]
/[NO]ECHO[=TTnn:]
/[NO]EDIT[=TTnn:]
/[NO]ESCSEQ[=TTnn:]
/[NO]FDX[=TTnn:]
/[NO]FORMFEED[=TTnn:]
/HFILL=TTnn:[value]
/[NO]HHT[=TTnn:]
/[NO]HOLD[=TTnn:]

Keywords:
/HOST[=node[::]
/[NO]HSYNC[=TTnn:]
/INQUIRE
/LIBUIC[=[uic]]
/LINES=TTnn:[value]
/[NO]LOGON (P)
/[NO]LOWER[=ddnn:]
/[NO]MAIN=pname[:base:size:type]
/NOPAR=pname
/MAXEXT[=size] (P)
/MAXPKT[=n]
/MCR[=TTnn:]
/[NO]NAMED
/NETUIC[=[g,m]]
/NOCEX
/NOMAIN=pname (P)
/[NO]OPT[=ddnn:opttyp:fairness-count]
/[NO]OVLP[=ccn]
/PAR=pname[:base:size[:type]]
/[NO]PARITY
/PASSWORD
/[NO]PASTHRU[=TTnn:]
/PLCTL[=high][:[low][:[frsiz][:basep]]]] (P)
/POOL[=top]
/POOLSIZE=size
/[NO]PRINTER_PORT[=TTnn:]
/[NO]PRIV[=TTnn:]
/[NO]PUB[=ddnn:]
/[NO]REGIS[=TTnn:]
/[NO]REMOTE[=TTnn:[speed]]
/RNDC[=nn]
/RNDH[=nn]
/RNDL[=nn]
/[NO]RPA[=TTnn:]
/SECPOL
/[NO]SERIAL[=TTnn:]
/[NO]SLAVE[=TTnn:]
/[NO]SOFT[=TTnn:]
/SPEED=TTnn:[recv:xmit]
/SWPC[=nn]
/SWPR[=nn]
/SYSUIC[=[g,m]]
/TERM=TTnn:[value]
/TOP=pname:value
/[NO]TTSYNC[=TTnn:]

Keywords: /[NO]TYPEAHEAD[=TTnn[:size]]
/UIC[=[g,m][:TTnn:]]
/UIC[=TTnn:]
/[NO]VFILL[=TTnn:]
/[NO]WCHK[=ddnn:]
/[NO]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.

UNS[TOP] taskname[/keyword]

Keyword: /TERM=TTnn: **(P)**

Continues execution of a task previously stopped internally by the Executive. 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
/[NO]POSTMORTEM
/TERMINAL:ttnn: **(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:ttnn: **(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.

ANALYZE/CRASH_DUMP **ANALYZE/CRASH_DUMP**
[/qualifier[s]]filespec[/qualifier[s]]

Command Qualifiers: /LIST[:listfilespec[/qualifiers]]
/ERROR_LIMIT
/PAGE_COUNT
/PAGE_LENGTH
/[NO]PRINTER
/EXIT:n
/LIMIT:n
/LINES:n
/[-]SP

/BINARY:binaryfilespec
/MEMORY_SIZE:n

/SYMBOLS:symbolfilespec

Filespec
Qualifiers: /ACTIVE:(arg[,...])
DEVICES
TASKS
/ALL
/DEVICES
/TASKS
/BLOCK:n
/CLOCK_QUEUE
/CONTROLLERS
/DENSITY:n
/DATA_STRUCTURES:(arg[,...])
COMMAND_PARSER
DEVICE
PARTITION
STATUS
TASK
UNIT
/DUMP[:(START:n,END:n[ADDRESS:n])]
/HEADERS
/KERNEL:(arg[,...])
DATA:(START:n,END:n)
INSTRUCTION:(START:n,END:n)
REGISTERS
/PARTITION
/POOL:(START:n,END:n)
/SECONDARY_POOL[:(START:n,END:n])
/[NO]SYSTEM
/TASKS:(arg[,...])
DIRECTORY
ADDRESS:(NAME:name[,START:n,END:n])
DATA:(NAME:namd[,START:n,END:n])
INSTRUCTION:(NAME:name[,START:n,END

Helps you determine the cause of system crashes by analyzing and formatting a memory dump created by the Executive Crash Dump Module. You must have the Advanced Programmer's Kit to use this command.

ANALYZE/MEDIA ANALYZE/MEDIA[/qualifer[s]] ddnn:

Command
Qualifiers: /ALLOCATE=label
/BADBLOCKS
/BADBLOCKS/EXERCISE
/BADBLOCKS/NOEXERCISE
/[NO]EXERCISE[=(n,m)]
/OVERRIDE
/RETRY
/SHOW

Default: NONE

Allows you to identify and determine the number of bad blocks on a disk. ANALYZE/MEDIA determines if bad blocks exist on a disk volume and records their locations for use by the BACKUP and INITIALIZE commands.

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

Command Qualifiers:
/DATE:dd-mmm-yy
/SINCE:dd-mmm-yy
/THROUGH:dd-mmm-yy
/SINCE:dd-mmm-yy/THROUGH:dd-mmm-yy
/TODAY
/EXCLUDE:filespec
/NOWARNINGS
/REWIND
/SHARED

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]] equivalence_name logical_name

Command Qualifiers:

/FINAL **(P)**	
/GROUP: [g] **(P)**	
/LOCAL	
/LOGIN **(P)**	
/GLOBAL **(P)**	
/SYSTEM **(P)**	Synonym for GLOBAL
/TERMINAL:ttnn: **(P)**	
/TRANSLATION:FINAL **(P)**	Synonym for FINAL

Default: /LOCAL

Equates a logical name to a physical Files-11 device name, to all or part of a Files-11 file specification, or to another logical name. ASSIGN checks the syntax of an equivalence name that is either a device or a file specification. All references to the logical name are resolved by the operating system. This format applies only to RSX-11M-PLUS operating systems that support extended logical names.

ASSIGN/QUEUE (P) ASSIGN/QUEUE queuename processorname

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

ASSIGN/REDIRECT (P) ASSIGN/REDIRECT oldddnn: newddnn:

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:taskname 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-yy hh:mm)	Use with /CREATED or with /MODIFIED.
/BEFORE:(dd-mmm-yy hh:mm)	
/CREATED	
/EXCLUDE	
/IMAGE:arg	
SAVE	
RESTORE	
/MODIFIED	
/NEW_VERSION	
/[NO]REPLACE	

Group 2: Initialization

/ACCESSED:n	n is default number of FCBs on each volume
/BADBLOCKS:arg	
AUTOMATIC	
MANUAL	
OVERRIDE	
/EXTENSION:n	Default is 5
/FILE_PROTECTION:code	Default is same protection as input volume
/HEADERS:n	
/INDEX:arg	Specifies location of INDEXF.SYS on volume; default is same position as involume
BEGINNING	
MIDDLE	
END	
n	Logical block n

Command Qualifiers:

Group 2: Initialization

/[NO]INITIALIZE	
/MAXIMUM_FILES:n	
/SAVE_SET:name	Default is name of disk volume being backed up
/WINDOWS:n	Default is same number of mapping pointers (windows) as input volume

Group 3: Tape and Disk Control

/APPEND	
/DENSITY:arg 800 1600	Default density = 800 bpi (if unit supports two densities; otherwise default is density of the particular unit.)
/ERROR_LIMIT:n	Default n = 25
/LABEL:TAPE:fileset-ID	
/LENGTH:n	Default n = physical length of the output tape
/REWIND	Rewinds first tape of tape set before executing the command line; may use with /APPEND

Group 4: Verification

/COMPARE	
/VERIFY	

Group 5: Display

/LIST	
/[NO]LOG	/LOG goes to TI:; default is /NOLOG

Command Qualifiers:

Group 6: Disk Processing

/APPEND /DIRECTORY
/NOINITIALIZE
/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).

BROADCAST **BROADCAST ttnn: 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.

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 — Default is NOFIXED_CONTROL

Command Qualifiers:		
	/[NO]IDENTIFICATION	Default is NOIDENTIFICATION
	/INDEXED	Outfile is indexed
	/KEY[:n]	Default=1
	/[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.
	/RELATIVE	
	/[NO]REPLACE	
	/SEQUENTIAL	
	/[NO]TRUNCATE	Default is NOTRUNCATE

Invokes the RMSCNV utility which moves records from one file to another. RMSCNV reads records from an input file and writes them to an output file. The action of RMSCNV 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:		
	/ALLOCATION:n[.]	n is octal unless terminated with a decimal point
	/BLOCK_SIZE:n	n is octal unless terminated with decimal point
	/[NO]CONTIGUOUS	
	/EXCLUDE:filespec	
	/NONEW_VERSION	Suppresses automatic increment of version numbers
	/NOWARNINGS	Suppresses error messages
	/OWN	Makes outfile UIC owner of copy
	/OVERLAY	
	/PRESERVE_DATE	Preserves the creation date
	/REPLACE	
	/REWIND	
	/SHARED	
	/UFD	

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.

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:] [directory]**

Command Qualifiers:	/ALLOCATION:n
Entries for n files	
	/LABEL:volumelabel
	/NOWARNINGS
	/OWNER_UIC:[uic]
	/PROTECTION:code

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 TI
	/DEVICE	
	/TERMINAL:ttnn: **(P)**	

Counteracts ALLOCATE and frees a private device for access by others.

DEASSIGN **DEASSIGN[/qualifier[s]] logical_name:**

Command Qualifiers:	/ALL	Combine with any other qualifier
	/GLOBAL **(P)**	
	/GROUP[:g] **(P)**	
	/LOCAL	Default
	/LOGIN	
	/SYSTEM **(P)**	Synonym for global
	/TERMINAL:ttnn: **(P)**	

Deletes logical name assignments. DEASSIGN counteracts both the ASSIGN and DEFINE commands.

DEASSIGN/QUEUE (P) DEASSIGN/QUEUE queuename processorname

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.

DEFINE DEFINE[/qualifier[s]] logical_name equivalence_name

Command Qualifiers:	/FINAL **(P)**	
	/GLOBAL **(P)**	
	/GROUP[:g] **(P)**	
	/LOCAL	Default
	/LOGIN **(P)**	
	/SYSTEM **(P)**	Synonym for GLOBAL
	/TERMINAL:ttnn: **(P)**	
	/TRANSLATION:FINAL **(P)**	Synonym for FINAL

Equates a logical name to a physical device name, to all or part of a file specification, or to another logical name. All references to the logical name are resolved by the operating system. Unlike the ASSIGN command, DEFINE does not check the syntax of equivalence name that is either a device or file specification.

DELETE DELETE[/qualifier[s]]

Command Qualifiers:	/[NO]LOG	Lists deleted files on TI:
	/[NO]QUERY	
	/NOWARNINGS	

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

DELETE/DIRECTORY DELETE/DIRECTORY[ddnn:][directory]

Deletes a directory on a Files-11 volume and removes its name from the volume's Master File Directory (MFD). Nonprivileged users can only delete directories on mounted volumes on their own private (allocated) device.

DELETE/ENTRY **DELETE/ENTRY:n[/qualifier]**

Command Qualifier: /FILE_POSITION:n

Deletes QMG jobs by entry number.

DELETE/JOB **DELETE/JOB[/qualifier] queuename [[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 command also sets the device unspooled.

DELETE/QUEUE (P) **DELETE/QUEUE queuename/ERASE**

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

DIFFERENCES **DIFFERENCES infile1 infile2**

Command Qualifiers:

/CHANGE_BAR[:n]		n is alternative octal ASCII code of change-bar character. Default is 041 (!)
/IGNORE:arg		
	BLANK_LINES	
	COMMENTS	Comments begin with
	FORM_FEEDS	
	SPACING	any group of tabs and blanks equals one blank
	TRAILING_BLANKS	
/LINES:n		The n lines specified must be the same for a match.

Command Qualifiers:

/[NO]NUMBERS	Line numbers in output file
/OUTPUT:filespec	Names output file; TI: 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

DIRECTORY[/format][/destination][otherqual[s]][filespec[s]]

Command Qualifiers:

Format

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

Destination

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

Other qualifiers

/DATE:dd-mmm-yy	
/SINCE:dd-mmm-yy	
/THROUGH:dd-mmm-yy	
/SINCE:dd-mmm-yy/THROUGH:dd-mmm-yy	
/TODAY	
/EXCLUDE:filespec	
/NOWARNINGS	Suppresses error messages
/REWIND	

Displays information on files in directories (UFDs). See APPEND command description for other qualifiers.

DISMOUNT

DISMOUNT ddnn: [label]

Command Qualifiers:

/TERMINAL:ttnn:(P)	Dismounts volumes from another terminal
/ALL	Dismount all devices mounted by user

Command Qualifiers:		
	/PUBLIC (P)	Dismount all users from volume
	/SAVE (P)	Disk keeps spinning
	/[NO]UNLOAD	Affects magnetic tape devices only.
	/SYSTEM	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	Line text editor
	/KED	Unbundled KED editor
	/K52	VT52 version of KED
	/MAKE	Unsupported TECO editor
	/MUNG	Unsupported TECO editor
	/OUTPUT:filespec	Use with KED and K52
	/CREATE	Use with KED and K52
	/SOS	Unsupported Son of Stopgap
	/TECO	Unsupported Text Editor and Corrector
	/USING:yyy	Unsupported user editor

Invokes an editor. See also EDIT/EDT and EDIT/SLP for those editors.

EDIT/EDT **EDIT/EDT[/qualifier[s]] filespec**

Command Qualifiers:		
	/[NO]COMMAND[:filespec]	Default is COMMAND: EDTINI.EDT
	/[NO]CREATE	Default is CREATE
	/[NO]JOURNAL[:filespec]	
	/[NO]OUTPUT[:filespec]	
	/[NO]READ_ONLY	Default is NOREAD_ONLY
	/[NO]RECOVER	Default is NORECOVER

Invokes EDT, the DIGITAL standard editor, and the default editor.

EDIT/SLP **EDIT/SLP[/qualifier[s] filespec**

Command Qualifiers:		
	/[NO]AUDIT[:(arg[s])]	Default is /AUDIT: (POS:80:512Z:8)
	POSITION:n	n<=132.
	SIZE:n	n<=14.

Command Qualifiers:		
	/CHECKSUM[:n]	
	/[NO]LIST[:filespec]	
	/[NO]OUTPUT[:filespec]	
	/[NO]REPORT	Report truncation lines by audit trail
	/[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-maintenance editor.

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

Qualifiers:	
	/READONLY_SEGMENT
	/REGION

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

HELP HELP[/qualifier[s]] [%] [parameter1] [...parameter9]

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

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 queuename [[g,m]] jobname

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

INITIALIZE **INITIALIZE[/qualifier[s]] ddn: volumelabel**

Command Qualifiers:

/ACCESSED:n	Number of UFDs accessed simultaneously
/BAD_BLOCKS:arg	
AUTOMATIC	
(AUTOMATIC,MANUAL)	
MANUAL	
NOAUTOMATIC	
OVERRIDE	
(OVERRIDE,MANUAL)	
/DENSITY:arg	
800	
1600	
HIGH	
LOW	
/EXTENSION:n	Extend files by n blocks; default n=5.
/FILE_PROTECTION:(code)	
/HEADERS:n	
/INDEX:arg	Locates index file on volume
BEGINNING	Default for tapes and DECTAPES
MIDDLE	Default for disks
END	
n	Logical block n
/LABLE:VOLUME_ACCESSIBILITY:"c"	Magtape only; limits access
/MAXIMUM_FILES:n	
/[NO]SHOW	Default is NOSHOW
/OWNER:[uic]	Specifies owner of volume
/PROFESSIONAL	Initializes disk Professional 300 series
/PROTECTION:(code)	
/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.

INITIALIZE PROCESSOR **INITIALIZE/processortype processorname/qualifier[s]**

processortype:	APPLICATIONS_PROCESSOR	output
	BATCH_PROCESSOR	input
	CARD_READER	output

Processortype:	DEVICE	output
	INPUT	input
	PRINTER	output
	PROCESSOR	output
Qualifiers:	/BATCH_QUEUE:queuename	input
	/CONSOLE:ddnn:	input
	/FLAG_PAGE:n	output
	/FORMS:n	output
	[NO]LOWERCASE	output
	/[NO]SHAREABLE	output
	/[NO]UPPERCASE	output
	/PRINTER_QUEUE:queuename	input

INITIALIZE/QUEUE **INITIALIZE/QUEUE queuename[/qualifier] (P)**

Command Qualifiers:
/BATCH
/PRINTER
/NOWARNINGS

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

INITIALIZE/UPDATE **INITIALIZE/UPDATE[/qualifier[s]] ddnn: volumelabel**

Command Qualifiers:

/ACCESSED:n	
/DENSITY:arg	
HIGH	
LOW	
/EXTENSION:n	Extend full files by n blocks
/FILE_PROTECTION:code	
/LABEL:newvolumelabel	
/MAXIMUM_FILES:n	
/OWNER:[uic]	
/PROFESSIONAL	Initializes disk as Professional 300 series
/PROTECTION:code	
/[NO]SHOW	Default is SHOW
/WINDOWS:n	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 Files-11 format. You must mount the volume /FOREIGN.

INSTALL **INSTALL[/qualifier[s]] [$]filespec (P)**

Command Qualifiers:

/[NO]CHECKPOINT	
/COMMAND:"taskcommand"	
/EXTENSION:n	n (decimal) additional words of address space
/[NO]INTERPRETER	
/MULTIUSER_PARTITION:parname	Read-only portion
/PARTITION:parname	
/[NO]POSTMORTEM	
/PRIORITY:n	0-250
/[NO]READONLY_COMMON	
/[NO]RESIDENT_HEADER	
/[NO]SLAVE	Default is NOSLAVE
/TASK_NAME:taskname	1-6 characters
/TRANSLATION_ROUTINE:n	
/UIC:[uic]	
/[NO]WRITEBACK	

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[infile[s]]**

Arguments:

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

Command Qualifiers: /[NO]GLOBALS
/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: /[NO]GLOBALS
/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 **LIBRARY/REPLACE libspec filespec[s]**

Command Qualifiers: /[NO]GLOBALS
/SELECTIVE_SEARCH
/SQUEEZE

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

LINK **LINK[/qualifier[s]] filespec[/qualifier[s]][,filespec[s]]**

Command Qualifiers: /ANCILLARY_PROCESSOR[:n]
/[NO]CHECKPOINT:arg
SYSTEM Checkpoints to [1,2] CORIMG.SYS
TASK Checkpoints to task image file
/CODE:(arg[s])
CLI
DATA_SPACE
EAE
FAST_MAPFast mapping
[NO]FPP
PIC Same as POSITION_INDEPENDENT
POSITION_INDEPENDENT Same as PIC
/COMPATIBLE
/[NO]CROSS_REFERENCE
/[NO]DEBUG[:filespec] Default is ODT
/ERROR_LIMIT:n Stops task build after n errors
/[NO]EXECUTABLE:filespec Same as /TASK
/[NO]EXTERNAL
/FAST
/FULL_SEARCH
/[NO]HEADER
/[NO]IO_PAGE
/LONG Long map
/MAP[:filespec]
/[NO]MEMORY_MANAGEMENT[:n] Default is MEM
/OPTIONS[:filespec]
/OVERLAY_DESCRIPTION
/POSTMORTEM
/[NO]PRINT
/[NO]PRIVILEGED Default is NOPRIV

Command Qualifiers:

```
/[NO]RECEIVE
/[NO]RESIDENT__OVERLAYS
/SAVE                    Saves indirect file
/[NO]SEGREGATE           Default is NOSEG
/SEQUENTIAL
/SHAREABLE[:arg]         Multiuser; default
            COMMON       argument is TASK
            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
/[NO]WIDE
```

File Qualifiers:

```
/[NO]CONCATENATE
/DEFAULT__LIBRARY        Names file to replace
                         [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.

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 mrcommand**

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

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

Command Qualifiers for Both Disks and Tapes:

/CACHE:(option[,s])
par=[main_parname:]subparname[:size]
[NO]DIRECTORY
[NO]LOGICAL
[NO]OVERLAY
[NO]READ_AHEAD
[NO]VIRTUAL
/NOCACHE
/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
/PROTECTION:(code)
/PUBLIC **(P)** Deallocates and sets device public
/[NO]SHAREABLE
/[NO]SHOW
/SYSTEM
/[NO]WAIT Default is /NOWAIT
/[NO]WRITE

Command Qualifiers for Disks and Other Files-11 Devices:

/ACCESSED:n n is number of File Control Blocks
/EXTENSION:n Extend full files by n blocks
/OWNER:[uic]
/UNLOCK
/WINDOW:arg
n
(USER:n,INDEX:n)
FULL

Command Qualifiers for ANSI and Unlabelled Tapes:

/BLOCK_SIZE:n
/CARRIAGE_CONTROL:arg
FORTRAN
LIST
NONE
/DENSITY:arg
800
1600
/[NO]HDR3
/[NO]LABEL
/OVERRIDE:arg
ACCESSIBILITY
EXPIRATION_DATE
IDENTIFICATION
SET_IDENTIFICATION
/RECORD_SIZE:n
/TRANSLATE:arg
EBCDIC
NONE
UT1
UT2
UT3
/VOLUME_IDENTIFICATION:(volume-ID[,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-yy hh:mm)	
/AFTER:TOMORROW	
/COPIES:n	
/[NO]DELETE	
/DEVICE:ddnn:	
/[NO]FLAG_PAGE	Flag page on each file; default is NOFLAG
/FORMS:n	n can be 0 through 256; default is 0
/[NO]HOLD	Default is NOHOLD
/JOB_COUNT	
/[NO]JOB_PAGE	Flag page on job; default is JOB.PAGE

Command Qualifiers: /LENGTH:n
/[NO]LOWERCASE
/NAME:jobname — 1-9 characters
/[NO]TRANSFER
/PAGE_COUNT:n
/PRIORITY:n — n is 1 through 150 nonprivileged
1 through 250 privileged
Default is 50
/QUEUE:queuename
/[NO]RESTART
/[NO]UPPERCASE

File Qualifiers: /COPIES:n
/[NO]DELETE
/[NO]TRANSFER

Queues files for printing on a line printer. PRINT can also queue jobs for other output devices.

PURGE **PURGE[/qualifier[s]] filespec[s]**

Command Qualifiers: /KEEP:n
/[NO]LOG — Lists files on TI as deleted
/NOWARNINGS — Suppresses error messages

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)**
/TRANSLATION_ROUTINE:n **(P)**

Removes an ACD

Counteracts INSTALL. REMOVE takes a task name out of the System Task Directory.

RENAME RENAME[/qualifier[s]] oldfilespec newfilespec

Qualifier: /NOWARNINGS Suppresses error messages.

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:[uic] **(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:nu **(P)**
/INTERVAL:nu **(P)**
/SCHEDULE:hh:mm:ss **(P)**
/STATUS:arg
COMMAND
TASK
/SYNCHRONIZE:u **(P)**
/UIC:[uic] **(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 sytem clock queue.

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

Sets the system date and time.

SET DEBUG **SET DEBUG[/qualifier[s]]**

Command Qualifiers:		
	/[NO]EXECUTE	Translates, then executes the command
	/FULL	Display logical symbols and translation

Displays the MCR translation of any DCL command.

SET DEFAULT **SET DEFAULT[NO]NAMED_DIRECTORY device_name[:]**

Command Qualifiers:		
	/[NO]NAMED_DIRECTORY	Allows the sytem to accept either named or numbered directories

Default: /NONAMED_DIRECTORY

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

SET DEVICE (P) **SET DEVICE:ddnn:/qualifier[s]**

Command Qualifiers:		
	/CACHE:(option[s]) PAR=[main_parname:]subparname[:size] [NO]DIRECTORY [NO]OVERLAY [NO]VIRTUAL [NO]LOGICAL [NO]READ_AHEAD	Modifies data caching
	/NOCHACHE	
	/[NO]CHECKPOINT_FILE[:n]	n is number of decimal blocks in [0,0] CORIMG.SYS
	/[NO]LOWERCASE	
	/[NO]PUBLIC	Default is NOPUBLIC
	/[NO]SYSTEM	Synonym for /[NO]PUBLIC
	/WIDTH:n (Nonprivileged for TI:)	

Establishes certain device attributes.

SET FILE SET FILE[/qualifier[s]] filespec[/qualifier[s]]

Command Qualifiers:	/ENTER:synonym_filespec	Refers to a file by more than one name
		Suppresses error messages
	/NOWARNINGS	
	/REMOVE	
	/REWIND	
	/TRUNCATE	
File Qualifiers:	/END_OF_FILE:(BLOCK:n,BYTE:n)	

Establishes certain file characteristics. You can change an end-of-file marker, have an entry in one directory point to a file in another directory, remove an entry from a directory, or truncate files to their actual length.

SET GROUPFLAGS SET GROUPFLAGS:n[/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 HOST SET HOST nodename

Connects your terminal to another system. Both your current system and the remote system must run DECnet software.

SET LIBRARY/DIRECTORY (P) SET LIBRARY/DIRECTORY:[directory]

Establishes the directory where the system utilities and other nonprivileged system tasks are kept.

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

Command Qualifiers:	/BASE:n	
	/DEVICE	Device common
	/DIAGNOSTIC	

Command Qualifiers: /SIZE:n
/SYSTEM
/TOP
/[+]n

Creates or eliminates a partition.

SET PASSWORD SET PASSWORD

Allows nonprivileged users to change their passwords.

SET PRIORITY (P) SET PRIORITY:n taskname

Alters the priority of an active task.

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

Command Qualifier:		
	/[NO]DEFAULT	Establishes your personal default protection code for all files that you create after issuing command.

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-yy hh:mm)	
	/COPIES:n	
	/[NO]DELETE	
	/FILE_POSITION:n	
	/FORMS:n	
	/HOLD	Same as HOLD/QUEUE
	/JOBCOUNT:n	
	/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.

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	
/JOBCOUNT: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 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:

/[NO]CRASH_DEVICE[:ddnn:]	Loads a crash driver
/DIRECTORY:[directory]	Sets directory where system tasks are kept
/EXTENSION LIMIT:n	Maximum size a task can be extended
/[NO]LOGINS	
/NETWORK_UIC:[uic]	Sets directory for DECnet-related tasks
/PACKETS:n	n is 0 through 15
/POOL:top:max:total	Increases pool size
/POOL/LIMITS:arg	
HIGH=n	high pool limit
LOW=n	low pool limit
MINIMUM_SIZE=n	minimum size of largest free pool block required
TASK_PRIORITY=n	lowest task priority

Establishes certain characteristics of the system.

SET TERMINAL SET TERMINAL[:ttnn:]/qualifier[s]

Command Qualifiers:

Group 1: Common Use

/[NO]BROADCAST
/CLI:cliname
/[NO]CONTROL=C
/DCL
/[NO]HOLD_SCREEN
/INQUIRE
/[NO]LOWERCASE NOLOWER is default. Same as UPPER
/MCR
/[NO]PRIVILEGED **(P)**
/SPEED:(transmit,receive)
/[NO]UPPERCASE Same as LOWER
/WIDTH:n

Group 2: Terminal Setup

/[NO]ADVANCED_VIDEO
/[NO]ANSI_CRT
/[NO]AUTOBAUD
/ASR33
/ASR35
/[NO]BLOCK_MODE
/CRFILL:n n is 0 through 7.
/[NO]DEC_CRT
/DTC01
/[NO]EDIT_MODE
/[NO]FORM_FEED
/[NO]HARDCOPY
/[NO]HOSTSYNC
/KSR33
/KSR35
/LA12
/LA24
/LA30P
/LA30S
/LA34
/LA36
/LA38
/LA50
/LA100

Command Qualifiers:

Group 2: Terminal Setup

/LA120
/LA180S
/LA210
/LFFILL
/LN03
/LQP02
/LQP03
/MODEL:arg
/PAGE_LENGTH:n Default is terminal hardware setting
/PRINTER_PORT
/PRO_SERIES
/[NO]REGIS
/[NO]SCOPE
/[NO]SOFT_CHARACTERS
/[NO]TAB
/TRANSLATION_ROUTINE[:arg]
n ACD number
logical logical name for ACD number
/[NO]TTSYNC
/VT05
/VT50
/VT52
/VT55
/VT61
/VT100
/VT101
/VT102
/VT105
/VT125
/VT131
/VT132
/VT200_SERIES

Group 3: Task Setup

/[NO]ECHO
/[NO]EIGHT_BIT
/[NO]ESCAPE
/[NO]FULL_DUPLEX
/[NO]INTERACTIVE
/[NO]LOCAL

Command Qualifiers:

Group 2: Terminal Setup

/[NO]PARITY[:type]
ODD
EVEN
/[NO]PASSALL
/[NO]PASTHRU
/[NO]REMOTE
/[NO]SERIAL
/[NO]SLAVE
/[NO]TYPE_AHEAD
/[NO]WRAP

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

SET UIC (P) SET UIC [g,m]

Changes your User Identification Code (UIC).

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[/qualifier[s]]

Command Qualifiers:

/ALL	
/GLOBAL **(P)**	
GROUP[:g] **(P)**	uic group number
/LOCAL	Default is LOCAL
/LOGIN **(P)**	
/SYSTEM **(P)**	Same as /GLOBAL
/TERMINAL:ttnn: **(P)**	

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

SHOW CACHE **SHOW CACHE [ddnn:][/qualifer]**

Command
Qualifier
/RATE:n

Displays disk data caching information.

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[/qualifier][dd[nn:]]**

Command
Qualifiers: /[NO]CACHE
/[NO]PUBLIC
/[NO]SYSTEM Synonym for /[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 HOST **SHOW HOST**

Displays the name of the processor to which your terminal is currently connected.

SHOW LIBRARY **SHOW LIBRARY**

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

SHOW LOGICALS **SHOW LOGICALS[qualifiers[s]]**

Command Qualifiers:
/ALL **(P)**
/GLOBAL **(P)**
/GROUP[:g] **(P)**
/LOCAL
/LOGIN **(P)**
/SYSTEM **(P)**
/TERMINAL:ttnn: **(P)**

Displays at your terminal all local and login logical name assignments. Privileged users can display assignments from other terminals, from other groups, and global assignments.

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 system. You can display information about all partitions or about a single partition.

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 PROTECTON **SHOW PROTECTION**

Displays your personal default file protection code.

SHOW QUEUE **SHOW QUEUE[/qualifier] [queuename]**

Command Qualifiers:

/ALL	All entries in all queues
/BATCH	
/BRIEF	
/DEVICE	Same as /PRINTER; all queues
/ENTRY:n	
/FILES	Files in each job; shorter than FULL
/FORMS:n	
/FULL	
/NAME:jobname	
/OWNER_UIC:[[uic]]	
/PRINTER	Same as /DEVICE

Displays information about print jobs in queues.

SHOW SYSTEM **SHOW SYSTEM[/qualifier]**

Command Qualifiers:

/CLI	
/CRASH_DEVICE	
/DIRECTORY	Default; displays system directory
/EXTENSION_LIMIT	
/NETWORK_UIC	
/PACKETS	
/POOL	
/POOL/LIMITS	
/SECONDARY_POOL	

Displays information about the current system.

SHOW TASKS **SHOW TASKS[:taskname]/qualifier[s]**

Command Qualifiers:

/ACTIVE[:ttnn:]	
/DEVICE:ddnn:	Use only with /INSTALLED/BRIEF
/INSTALLED	
/LOGICAL_UNITS	
/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:arg ddnn: /ALL	Default
/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

SHOW TERMINAL[:ttnn:][/qualifier]

Command Qualifiers:

/[NO]ANSI_CRT
/[NO]ADVANCED_VIDEO
/[NO]AUTOBAUD
/[NO]ASR33
/[NO]ASR35
/[NO]BLOCK_MODE
/[NO]BROADCAST
/[NO]CONTROL=C
/[NO]CRFILL
/DCL
/[NO]DEC_CRT
/DTC01
/[NO]ECHO
/[NO]EDIT_MODE
/[NO]EIGHT_BIT
/[NO]ESCAPE
/[NO]FORM_FEED
/[NO]FULL_DUPLEX
/[NO]HARDCOPY
/[NO]HOLD_SCREEN
/[NO]HOST_SYNC
/HT
/[NO]INTERACTIVE

Command Qualifiers:

/[NO]KSR33
/[NO]KSR35
/[NO]LA12
/[NO]LA24
/[NO]LA30P
/[NO]LA30S
/[NO]LA34
/[NO]LA36
/[NO]LA38
/[NO]LA50
/[NO]LA100
/[NO]LA120
/[NO]LA180S
/[NO]LA210
/[NO]LFFILL
/[NO]LN03
/[NO]LOCAL
/LOGGED_ON
/[NO]LOWERCASE
/[NO]LQP02
/[NO]LQP03
/MCR
/MODEL
/PAGE_LENGTH
/[NO]PARITY
/[NO]PASSALL
/[NO]PASTHRU
/PRINTER_PORT
/[NO]PRIVILEGE
/[NO]PRO_SERIES
/[NO]REGIS
/[NO]REMOTE
/RT
/[NO]SCOPE
/[NO]SERIAL
/[NO]SLAVE
/SPEED
/[NO]SOFT_CHARACTERS
/[NO]TAB
/TI:
/TT
/[NO]TTYSNC
/[NO]TYPE_AHEAD
/[NO]UPPERCASE

Command Qualifiers: /VT
/[NO]VT05
/[NO]VT50
/[NO]VT52
/[NO]VT55
/[NO]VT61
/[NO]VT100
/[NO]VT101
/[NO]VT102
/[NO]VT105
/[NO]VT125
/[NO]VT131
/[NO]VT132
/[NO]VT200_SERIES
/WIDTH
/[NO]WRAP

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

SHOW UIC SHOW UIC

Displays your User Identification Code (UIC).

SHOW USERS SHOW USERS

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

START START[/qualifier] [taskname]

Command Qualifier: /TERMINAL:ttnn: **(P)**

Resumes execution of a task stopped by a STOP$S directive. Taskname defaults to TTnn.

START PROCESSORNAME (P) START/qualifier processorname/qualifier

Qualifiers: APPLICATIONS_PROCESSOR
BATCH_PROCESSOR
CARD_READER Same as INPUT
DEVICE Same as PRINTER
INPUT Same as CARD_READER
PRINTER Same as DEVICE
PROCESSOR

Parameter Qualifiers:

/FORMS:n	Overrides initialization value
/CONTINUE	Default is CONTINUE
/RESTART	
/NEXT	
/TOP_OF_FILE	
/BACKSPACE:n	
/FORWARDSPACE:n	
/PAGE:n	
/ALIGN	

Starts an output processor or cardreader processor.

START/QUEUE (P) START/QUEUE queuename

Starts a queue.

START/QUEUE/MANAGER (P) START/QUEUE/MANAGER

Starts the Queue Manager.

START/UNBLOCK START/UNBLOCK[qualifier][taskname]

Command Qualifier: /TERMINAL:ttnn: **(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.

STOP/BLOCK STOP/BLOCK [/qualifier] [taskname]

Command Qualifier: /TERMINAL:ttnn: **(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	Same as INPUT

Qualifiers:	DEVICE	Same as PRINTER
	INPUT	Same as CARD_READER
	PRINTER	Same as DEVICE
	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 queuename**

Stops queues.

STOP/QUEUE/MANAGER (P) **STOP/QUEUE/MANAGER[/qualifier]**

Command Qualifier: /ABORT

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

SUBMIT **SUBMIT[/qualifier[s]] filespec[s]**

Command Qualifiers:	/AFTER:TOMORROW	
	/AFTER:(dd-mmm-yy hh:mm)	
	/[NO]DELETE	Deletes batch file after run; command or filespec qualifier
	/[NO]HOLD	Default is NOHOLD; /HOLD has same effect as HOLD command.
	/[NO]LOG_FILE	
	/NAME:jobname	1-9 characters; default is first filename
	/[NO]PRINTER[:queuename]	Optionally name queue for log print job
	/PRIORITY:n	n is 1 through 150 nonprivileged; 1 through 250 privileged; default n=50.

Command Qualifiers: /QUEUE:queuename
/[NO]RESTART
/[NO]TRANSFER

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

TYPE **TYPE [/qualifier[s] filespec[s]**

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 [/qualifiers] filespec[s]**

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 RET

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 the specified 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.

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 /NOLOG /-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 =(RET)

The default command line selects the following RPT switches:

/F[ORMAT]:B[RIEF]
/T[YPE]:A[LL]
/DA[TE]: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 date of their occurrence.

DEVICE /DE:qualifier

Qualifiers: (devicename(s))
A[LL]

Allows you to select packets for a particular device, for more than one device, or for all the devices on the system.

FORMAT F:qualifier

Qualifiers:
B[RIEF]
F[ULL]
N[ONE]
R[EGISTERS]

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. The value 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 as follows:

SYSTEM	/FO:BR/TY:A/DA:RA:*:*/PA:*:*/WI:WI/SU:(H,E)
WEEK	/FO:BR/TY:A/DA:PRE:7/WI:WI/SU:(H,E)
MONTH	/FO:BR/TY:A/DA:PRE:31/WI:WI/SU:(H,E)
DAY	/FO:FULL/TY:A/DA:TODAY/WI:WI/SU:ALL

SERIAL NUMBER /SE:qualifier

Qualifiers:
D[RIVE]: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]
PE[RIPHERAL]
PR[OCESSOR]
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: N[ARROW]
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 (RET)

Terminates the current sequence, displays the ODT prompt (_), and waits for the next command.

Line feed (LF)

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.

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.

The following sequence establishes the address reference, which can be in relative or absolute form:

$L (or $H)/contents new-address terminator

value F — Places a value in search argument register ($A), and/or enters the current contents of ($A) in all memory locations from low limit ($L) through high limit ($H) 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

address/contents/addressO pc-rel>branch
Example: 16126/001402/16134O 000004 > 000002

Between Two Specified Addresses

address;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 RET replaces contents.

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 *RSX-11M/M-PLUS and Micro/RSX Debugging Reference Manual.*

TASK BUILDER (TKB) SWITCHES AND OPTIONS

The format for Task Builder commands is as follows:

```
>TKB
TKB>taskimagefile,memallocfile,symdeffile = inputfile(s)
```

For example, to task-build a program called Zebra, type the following:

```
>TKB
TKB>ZEBRA.TSK,ZEBRA.MAP,ZEBRA.STB = ZEBRA.OBJ....
TKB>/
ENTER OPTIONS:
TKB> optionname = argument(s)
...
TKB>//(to end Task Builder operation)
or
TKB>/(if you have another task to build)
```

The Task Builder file specification is as follows:

```
filespec = dev:[g,m]filename.typ; version/switch(es)
defaults = SY: [uic]filename.typ;n/switch
```

The Task Builder uses the following default file types for the files named:

Task Image File	.TSK
Memory Allocation File	.MAP
Symbol Definition File	.STB
Object Module	.OBJ
Overlay Description	.ODL
Indirect Command	.CMD
Object Module Library	.OLB

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]

/CL

Specifies that the task is a command line interpreter. [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

Appends 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-supplied debugging program (for an input file). [T,I]

/DL

Specifies a default library file (replacing SYSLIB.OLB) 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.)

/FM

Causes the allocation of additional memory between the task and the external header for fast mapping. [T]

/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 cotree 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,S]

/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.

/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-1mod-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 Used 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]

/SB

Selects the slow Task Builder [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]

/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; 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

CMPRT

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]

DSPPAT = 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 = psectname: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 specified 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]

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 $0<n<65,535$.) 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 = symbolname,symbolname...,symbolname

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 8 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 = symbolname:symbolname:...:symbolname

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]

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 as follows:

```
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

/NV

Creates a new version of the output file (the default).

/RA

Performs read-after-write data integrity checking. Default: Does no read-after-write checking.

/RC

Performs check-after-writing data integrity checking. Default: Does no check-after-writing.

/RW

Rewinds magnetic tape before writing. Default: Does not rewind magtape.

/SU

Supersedes existing file. Default: Does not supersede file.

Input File Switches

/CD:dd-mmm-yy[: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-yy[: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 as follows:

```
[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

/AP

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

Processes files in block mode. Default: Uses standard RMS–11 access modes.

/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[:[#][")x["]]

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 as follows:

```
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

Section Keyword	Attribute Keyword and Variable	Default
System	TARGET[1] argument	
	argument must be one of:	
	RSX	User's system
	RSTS	
	SOURCE[1,2]	User's system
	FILE PLACEMENT[1] logical	NO
File	NAME string	FILE.DAT
	ORGANIZATION argument	
	argument must be one of:	
	SEQUENTIAL	SEQUENTIAL
	RELATIVE	
	INDEXED	
	CLUSTER_SIZE number	0 blocks
	ALLOCATION number	0 blocks
	EXTENSION number	0 blocks
	BUCKET_SIZE number	1 block
	PROTECTION string	System protection

1. Informational attribute.
2. Not user settable: RMSDES automatically notes the user's source system.

Section Keyword	Attribute Keyword and Variable	Default
	OWNER string	User's UIC
	MAGTAPE_BLOCK_SIZE number	512 bytes
	MAGTAPE_REWIND logical	NO
	MAX_RECORD_NUMBER number	0 records
	CONTIGUOUS logical	NO
	SUPERSEDE logical	NO
Record	SIZE number	0 bytes
	FORMAT argument	
	argument must be one of:	
	VARIABLE	VARIABLE
	STREAM	
	FIXED	
	VFC	
	CONTROL_FIELD_SIZE number	2 bytes
Record	BLOCK_SPAN logical	YES
	CARRIAGE_CONTROL argument	
	argument must be one of:	
	CARRIAGE_RETURN	CARRIAGE_RETURN
	FORTRAN	
	PRINT	
	NONE	
Key n[3]	NAME string	No name
	TYPE argument	
	argument must be one of:	
	STRING	STRING
	BIN2	
	BIN4	
	INT2	
	INT4	
	DECIMAL	

3. You must specify a number (n) for each key, key segment, and/or area that you define.

Section Keyword	Attribute Keyword and Variable	Default
	NULL_KEY logical	NO
	NULL_VALUE argument	
	argument must be one of:	
	An ASCII character	(space)
	A decimal number	
	DUPLICATES logical	NO (primary key) YES (alternate key)
	SEGn_POSITION[3] number	Byte 0
	SEGn_LENGTH[3] number	0 bytes
Key n[3]	CHANGES logical	YES (alternate key)
	DATA_FILL number	100
	DATA_AREA number	Area 0
	INDEX_FILL number	100
	LEVEL1_INDEX_AREA number	Area 0
	INDEX_AREA number	Area 0
Area n[3]	ALLOCATION number	0 blocks
	EXTENSION number	0 blocks
	BUCKET_SIZE number	1 block
	CONTIGUOUS logical	NO
	POSITION argument	
	argument must be one of:	
	NONE	NONE
	VIRTUAL number	
	LOGICAL number	
	EXACT_POSITIONING logical	NO

3. You must specify a number (**n**) for each key, key segment, and/or area that you define.

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.

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.

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.

/BR

Provides a brief display of attributes. Default: Provides basic display of file attributes and characteristics.

/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.

/SU

Supersedes existing output file. Default: Does not supersede an existing file.

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 as follows:

```
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.

Input File Switches

/DE:dvn1:[dvn2:...dvn5:]

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 as follows:

```
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.

/[NO]CV

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.

/[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

/FR

Changes protection code. Default: Uses original protection.

/NV

Creates new version of output file (the default).

/RA

Performs read-after-writing data integrity checking. Default: Performs no read-after-writing checking.

/RC

Performs check-after-writing data integrity checking. Default: Performs no check-after-writing checking.

/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

SU$SUC	Operation succeeded	Octal:	000001
		Decimal:	1
SU$DUP	Inserted record has duplicate key	Octal:	000002
		Decimal:	2
SU$IDX	Error updating index	Octal:	000003
		Decimal:	3
ER$ACC	File access error	Octal:	177740
		Decimal:	-32
ER$ACT	Activity precludes operation	Octal:	177720
		Decimal:	-48
ER$AID	Bad value in AID field	Octal:	177700
		Decimal:	-64
ER$ALN	Bad mask in ALN field	Octal:	177660
		Decimal:	-80
ER$ALQ	Bad value in ALQ field	Octal:	177640
		Decimal:	-96
ER$ANI	Bad ANSI-format magtape file	Octal:	177620
		Decimal:	-112
ER$AOP	Bad mask in AOP field	Octal:	177600
		Decimal:	-128
ER$ATR	Error reading attributes	Octal:	177540
		Decimal:	-160
ER$ATW	Error writing attributes	Octal:	177520
		Decimal:	-176
ER$BKS	Bad value in BKS field	Octal:	177500
		Decimal:	-192

ER$BKZ	Bad value in BKZ field	Octal: 177460 Decimal: –208
ER$BOF	Beginning-of-file found	Octal: 177430 Decimal: –232
ER$BPA	Bad address in BPA field	Octal: 177420 Decimal: –240
ER$BPS	Bad value in BPS field	Octal: 177400 Decimal: –256
ER$CCR	RAB already in use	Octal: 177340 Decimal: –288
ER$CHG	Illegal record key change	Octal: 177320 Decimal: –304
ER$CHK	Bad bucket header	Octal: 177300 Decimal: –320
ER$CLS	File processor error	Octal: 177260 Decimal: –336
ER$COD	Bad code in COD field	Octal: 177240 Decimal: –352
ER$CRE	File processor error	Octal: 177220 Decimal: –368
ER$CUR	Undefined current-record context	Octal: 177200 Decimal: –384
ER$DAN	Bad value in DAN field	Octal: 177140 Decimal: –416
ER$DEL	Record having RFA deleted	Octal: 177120 Decimal: –432
ER$DEV	Bad device specification	Octal: 177100 Decimal: –448
ER$DFW	File processor error	Octal: 177070 Decimal: –456
ER$DIR	Bad directory specification	Octal: 177060 Decimal: –464
ER$DME	Pool exhausted	Octal: 177040 Decimal: –480

ER$DNA	Bad address in DNA field	Octal: 177030 Decimal: –488
ER$DNF	No such directory	Octal: 177020 Decimal: –496
ER$DNR	Device not ready	Octal: 177000 Decimal: –512
ER$DPE	Device positioning error	Octal: 176770 Decimal: –520
ER$DTP	Bad code in DTP field	Octal: 176760 Decimal: –528
ER$DUP	Duplicate key not allowed	Octal: 176740 Decimal: –544
ER$ENT	File processor error	Octal: 176720 Decimal: –560
ER$ENV	Feature not in selected RMS–11 environment	Octal: 176700 Decimal: –576
ER$EOF	End-of-file reached	Octal: 176660 Decimal: –592
ER$ESA	Bad address in ESA field	Octal: 176650 Decimal: –600
ER$ESL	Bad value in ESL field	Octal: 176644 Decimal: –604
ER$ESS	ESS field value too small	Octal: 176640 Decimal: –608
ER$EXP	File expiration date not yet reached	Octal: 176630 Decimal: –616
ER$EXT	File processor error	Octal: 176620 Decimal: –624
ER$FAC	FAC field forbids operation	Octal: 176560 Decimal: –656
ER$FAL	Operation not supported by remote node	Octal: 176550 Decimal: –664
ER$FEX	File already exists	Octal: 176540 Decimal: –672

ER$FID	Bad value in FID field	Octal: 177530 Decimal: –680
ER$FLG	Bad mask in FLG field	Octal: 176520 Decimal: –688
ER$FLK	File locked by another task	Octal: 176500 Decimal: –704
ER$FNA	Bad address in FNA field	Octal: 176470 Decimal: –712
ER$FND	File processor error	Octal: 176460 Decimal: –720
ER$FNF	File not found	Octal: 176440 Decimal: –736
ER$FNM	Bad file name	Octal: 176420 Decimal: –752
ER$FOP	Bad mask in FOP field	Octal: 176400 Decimal: –768
ER$FUL	Device or file full	Octal: 176360 Decimal: –784
ER$IAN	Bad value in IAN field	Octal: 176340 Decimal: –800
ER$IDX	Index not initialized	Octal: 176320 Decimal: –816
ER$IFI	Bad value in IFI field	Octal: 176300 Decimal: –832
ER$IMX	Too many XABs of same type	Octal: 176260 Decimal: –848
ER$IOP	Illegal operation for file	Octal: 176220 Decimal: –880
ER$IRC	Illegal record found in sequential file	Octal: 176200 Decimal: –896
ER$ISI	*Bad value in ISI field*	*Octal: 176160* Decimal: –912
ER$KBF	Bad address in KBF field	Octal: 176140 Decimal: –928

ER$KEY	Bad key	Octal: 176120 Decimal: -944
ER$KRF	Bad value in KRF field	Octal: 176100 Decimal: -960
ER$KSZ	Bad value in KSZ field	Octal: 176060 Decimal: -976
ER$LAN	Bad value in LAN field	Octal: 176040 Decimal: -992
ER$LBL	Bad magtape label	Octal: 176020 Decimal: -1008
ER$LBY	Logical channel busy	Octal: 176000 Decimal: -1024
ER$LCH	Bad value in LCH field	Octal: 175760 Decimal: -1040
ER$LEX	Extension not needed	Octal: 175750 Decimal: -1048
ER$LOC	Bad value in LOC field	Octal: 175740 Decimal: -1056
ER$MEM	Memory address rollover	Octal: 175710 Decimal: -1080
ER$MKD	File processor error	Octal: 175700 Decimal: -1088
ER$MRN	Bad value in MRN field or bad record number	Octal: 175660 Decimal: -1104
ER$MRS	Bad value in MRS field	Octal: 175640 Decimal: -1120
ER$NAE	Unmappable network access error	Octal: 175630 Decimal: -1128
ER$NAM	Bad address in NAM field	Octal: 175620 Decimal: -1136
ER$NEF	Context not end-of-file	Octal: 175600 Decimal: -1152
ER$NET	Network link lost	Octal: 175570 Decimal: -1160

ER$NMF	No more matching files	Octal: 175554 Decimal: –1172
ER$NOD	Bad node name	Octal: 175550 Decimal: –1176
ER$NPK	No primary key for indexed file	Octal: 175540 Decimal: –1184
ER$ORD	Ordering of XABs illegal	Octal: 175500 Decimal: –1216
ER$ORG	Bad mask in ORG field	Octal: 175460 Decimal: –1232
ER$PLG	Error reading file prologue	Octal: 175440 Decimal: –1248
ER$PLV	File prologue version level unsupported	Octal: 175430 Decimal: –1256
ER$POS	Bad value in POS field	Octal: 175420 Decimal: –1264
ER$PRM	Bad file date read	Octal: 175400 Decimal: –1280
ER$PRV	Privilege violation	Octal: 175360 Decimal: –1296
ER$RAC	Bad mask in RAC field	Octal: 175320 Decimal: –1328
ER$RAT	Bad mask in RAT field	Octal: 175300 Decimal: –1344
ER$RBF	Bad address in RBF field	Octal: 175260 Decimal: –1360
ER$RER	File processor error	Octal: 175240 Decimal: –1376
ER$REX	Record already exists	Octal: 175220 *Decimal: -1392*
ER$RFA	Bad value in RFA field	Octal: 175200 Decimal: –1408
ER$RFM	Bad code in RFM field	Octal: 175160 Decimal: –1424

ER$RLK	Record locked	Octal: 175140 Decimal: -1440
ER$RMV	File processor error	Octal: 175120 Decimal: -1456
ER$RNF	No such record	Octal: 175100 Decimal: -1472
ER$RNL	Record not locked	Octal: 175060 Decimal: -1488
ER$ROP	Bad mask in ROP field	Octal: 175040 Decimal: -1504
ER$RPL	File processor error	Octal: 175020 Decimal: -1520
ER$RRV	Bad internal pointer	Octal: 175000 Decimal: -1536
ER$RSL	Bad value in RSL field	Octal: 174754 Decimal: -1556
ER$RSS	Bad value in RSS field	Octal: 174750 Decimal: -1560
ER$RST	Bad address in RSA field	Octal: 174744 Decimal: -1564
ER$RSZ	Bad value in RSZ field	Octal: 174740 Decimal: -1568
ER$RTB	Record too big for user buffer	Octal: 174720 Decimal: -1584
ER$RVU	Internal pointer corrupted	Octal: 174710 Decimal: -1592
ER$SEQ	Sequential insertion records not in order	Octal: 174700 Decimal: -1600
ER$SHR	Bad mask in SHR field	Octal: 174660 Decimal: -1616
ER$SIZ	Bad value in SIZ field	Octal: 174640 Decimal: -1632
ER$SUP	Operation not supported over network	Octal: 174610 Decimal: -1656

ER$SYS	System error	Octal: 174600 Decimal: –1664
ER$TRE	Index error	Octal: 174560 Decimal: –1680
ER$TYP	Bad file extension	Octal: 174540 Decimal: –1696
ER$UBF	Bad address in UBF field	Octal: 174520 Decimal: –1712
ER$UIN	Field value rejected by FAL	Octal: 174510 Decimal: –1720
ER$USZ	Bad value in USZ field	Octal: 174500 Decimal: –1728
ER$VER	Bad file version number	Octal: 174460 Decimal: –1744
ER$WCD	Illegal wildcard in merged string	Octal: 174430 Decimal: –1768
ER$WER	File processor error	Octal: 174420 Decimal: –1776
ER$WLK	Device write-locked	Octal: 174410 Decimal: –1784
ER$WPL	File processor error	Octal: 174400 Decimal: –1792
ER$XAB	Bad address in XAB field	Octal: 174360 Decimal: –1808
ER$XTR	Extraneous data in file specification	Octal: 174340 Decimal: –1824

FATAL ERROR CODES

ER$ACT	Illegal concurrent operation	Octal: 177720 Decimal: -48
ER$AST	Illegal operation at AST level	Octal: 177560 Decimal: -144
ER$BUG	Error in RMS–11 internal data	Octal: 177360 Decimal: -272
ER$CPB	Bad parameter block	Octal: 177230 Decimal: -360
ER$FAB	Bad FAB	Octal: 176600 Decimal: -640
ER$LIB	Resident library not available	Octal: 175744 Decimal: -1052
ER$MAP	Error in internal buffer mapping data	Octal: 175720 Decimal: -1072
ER$RAB	Bad RAB	Octal: 175340 Decimal: -1312

ASCII CHARACTER SET

Octal Code	Character	Octal Code	Character	Octal Code	Character	Octal Code	Character
000	NUL	040	SP	100	@	140	
001	SOH	041	!	101	A	141	a
002	STX	042	"	102	B	142	b
003	ETX	043	#	103	C	143	c
004	EOT	044	$	104	D	144	d
005	ENQ	045	%	105	E	145	e
006	ACK	046	&	106	F	146	f
007	BEL	047	'	107	G	147	g
010	BS	050	(	110	H	150	h
011	HT	051	)	111	I	151	i
012	LF	052	*	112	J	152	j
013	VT	053	+	113	K	153	k
014	FF	054	,	114	L	154	l
015	CR	055	-	115	M	155	m
016	SO	056	.	116	N	156	n
017	SI	057	/	117	O	157	o
020	DLE	060	0	120	P	160	p
021	DC1	061	1	121	Q	161	q
022	DC2	062	2	122	R	162	r
023	DC3	063	3	123	S	163	s
024	DC4	064	4	124	T	164	t
025	NAK	065	5	125	U	165	u
026	SYN	066	6	126	V	166	v
027	ETB	067	7	127	W	167	w
030	CAN	070	8	130	X	170	x
031	EM	071	9	131	Y	171	y
032	SUB	072	:	132	Z	172	z
033	ESC	073	;	133	[	173	{
034	FS	074	<	134	\	174	|
035	GS	075	=	135	]	175	}
036	RS	076	>	136	^	176	~
037	US	077	?	137	—	177	DEL

*Equivalent to the Radix-50 character set.

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 (two's complement of the decimal).

Abbreviation	Error Number Decimal	Octal	Meaning
.UPN	- 1	377	Insufficient dynamic storage
.INS	- 2	376	Specified task not installed
.PTS	- 3	375	Partition too small for task
.UNS	- 4	374	Insufficient dynamic storage for send
.ULN	- 5	373	Unassigned LUN
.HWR	- 6	372	Device handler not resident
.ACT	- 7	371	Task not active
.ITS	- 8	370	Directive inconsistent with task state
.FIX	- 9	367	Task already fixed/unfixed
.CKP	-10	366	Issuing task not checkpointable
.TCH	-11	365	Task is checkpointable
.RBS	-15	361	Receive buffer too small
.PRI	-16	360	Privilege violation
.RSU	-17	357	Resource in use
.NSW	-18	356	No swap space available
.ILV	-19	355	Illegal vector specified
.ITN	-20	354	Illegal table number
.LNF	-21	353	Logical name not found
.AST	-80	260	Directive issued/not issued from AST
.MAP	-81	257	Illegal mapping specified
.IOP	-83	255	Window has I/O in progress
.ALG	-84	254	Alignment error
.WOV	-85	253	Address window allocation overflow
.NVR	-86	252	Invalid region ID
.NVW	-87	251	Invalid address window ID
.ITP	-88	250	Invalid TI parameter
.IBS	-89	247	Invalid send buffer size (greater than 255(decimal))
.LNL	-90	246	LUN locked in use
.IUI	-91	245	Invalid UIC
.IDU	-92	244	Invalid device or unit
.ITI	-93	243	Invalid time parameters

Abbreviation	Error Decimal	Number Octal	Meaning
.PNS	-94	242	Partition/region not in system
.IPR	-95	241	Invalid priority (greater than 250 (decimal))
.ILU	-96	240	Invalid LUN
.IEF	-97	237	Invalid event flag (number)
.ADP	-98	236	Part of DPB out of user's space
.SDP	-99	235	DIC or DPB size invalid

For additional information, refer to the *RSX-11M/M-PLUS and Micro/RSX Executive Reference Manual.*

EXECUTIVE DIRECTIVE SUMMARY
ALPHABETICAL ORDER BY MACRO CALL

Abort Task **ABRT$**

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)

Assign Channel **ACHN$**

FORTRAN Call:

CALL ACHN (mod,itbmsk,lun,fsbuf,fssz)

mod = Modifier for logical name table entries

tbmsk = Inhibit mask to prevent a logical table from being searched. The following symbol definitions, when set, prevent a particular table from being searched:

System	(IN.SYS)	= 0
Group	(IN.GRP)	= 1
Session	(IN.SES)	= 2
Task	(IN.TSK)	= 3

lun = LUN to be assigned

fsbuf = Address of file specification buffer

fssz = Size (in bytes) of the file specification buffer

Macro Call:

ACHN$ mod,tbmsk,lun,fsbuf,fssz

mod = Modifier for logical name table entries

tbmsk = Inhibit mask to prevent a logical table from being searched. The following symbol definitions, when set, prevent a particular table from being searched:

System	(IN.SYS)	= 0
Group	(IN.GRP)	= 1
Session	(IN.SES)	= 2
Task	(IN.TSK)	= 3

lun = LUN to be assigned

fsbuf = Address of file specification buffer

fssz = Size (in bytes) of the file specification buffer

Alter Priority **ALTP$**

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 **ALUN$**

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:

ALUN$ lun,dev,unt

lun = Logical unit number

dev = Device name (two uppercase characters)

unt = Device unit number

AST Service Exit ($S form recommended) ASTX$S

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:

ASTX$S [err]

err = Error routine address

Attach Region ATRG$

FORTRAN Call:

CALL ATRG (irdb[,ids])

irdb = An 8-word integer array containing a Region Definition Block

ids = Directive status

Macro Call:

ATRG$ rdb

rdb = Region Definition Block address

Connect To Interrupt Vector CINT$

FORTRAN Call:

Not supported

Macro Call:

CINT$ vec,base,isr,edir,pri,ast

vec = Interrupt vector address — Must be in the range 60(octal) to highest vector specified during sysgen, inclusive, and must be a multiple of 4

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 — CLEF$

FORTRAN Call:

CALL CLREF (efn[,ids])

efn = Event flag number

ids = Directive status

Macro Call:

CLEF$ efn

efn = Event flag number

Create Logical Name — CLOG$

FORTRAN Call:

CALL CRELOG (mod,itbnum,lns,lnssz,iens,ienssz,idsw)

mod = Modifier of the logical name within a table; if not specified, the nonzero value reserved by the system is placed in the DPB; if specified, nonzero values must correspond to the valid symbolic references used by the system

itbum = Logical name table number in the lower byte and the status byte in the upper byte, as follows:

LS.TER = 0 Terminal status
LS.PRV = 2 Privileged status

lns = Character array containing the logical name string

lnssz = Size (in bytes) of the logical name string

iens = Character array to contain the returned equivalence string

ienssz = Size (in bytes) of the data area for the returned equivalence string

idsw = Integer to receive the Directive Status Word

Macro Call:

CLOG$ mod,<prmlst>lns,lnssz,ens

mod = Modifier of the logical name within a table; if not specified, the nonzero value reserved by the system is placed in the DPB; if specified, nonzero values must correspond to the valid symbolic references used by the system

<prmlst> = <[tbnum][,status]>

tbnum = Logical name table number. The following are the symbolic offsets for the table:

LT.TSK	Task table
LT.SES	Session table
(LB.LOC and LB.LOG are both valid)	
LT.GRP	Group table
LT.SYS	System table

status = Logical status definition value. The following are the valid bits for the value:

LT.PRV	Privileged status
LT.TER	Terminal logical

lns = Character array containing the logical name string

lnssz = Size (in bytes) of the logical name string

lens = Character to contain the returned equivalence string

lenssz = Size (in bytes) of the data area for returned equivalence string

Cancel Mark Time Requests — CMKT$

FORTRAN Call:

CALL CANMT ([efn][,ids])

efn = Event flag number

ids = Directive status

Macro Call:

CMKT$ [efn,ast,err]

efn = Event flag number

ast = Mark time AST address

err = Error routine address

Connect — CNCT$

FORTRAN Call:

CALL CNCT (rtname,[iefn],[iast],[iesb],[iparm][,ids])

rtname = Name (Radix-50) of the offspring task to be connected

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:

CNCT$ tname, [efn],[east],[esb]

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

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

Checkpoint Common Region — CPCR$

FORTRAN Call:

CALL CPCR (name[,ids])

name = Name (Radix-50) of the common region to be checkpointed

ids = Directive status

Macro Call:

CPCR$ name

name = Name of the common region to be checkpointed

Create Address Window **CRAW$**

FORTRAN Call:

CALL CRAW (iwdb[,ids])

iwdb = An 8-word integer array containing a Window Definition Block

ids = Directive status

Macro CAll:

CRAW$ wdb

wdb = Window Definition Block address

Create Group Global Event Flags **CRGF$**

FORTRAN Call:

CALL CRGF ([group][,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 **CRRG$**

FORTRAN Call:

CALL CRRG (irdb[,ids])

irdb = An 8-word integer array containing a Region Definition Block

ids = Directive status

Macro Call:

CRRG$ rdb

rdb = Region Definition Block address

Create Virtual Terminal — CRVT$

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 succesful 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 — CSRQ$

FORTRAN Call:

CALL CANALL (tsk[,ids])

- tsk = Task name
- ids = Directive status

Macro Call:

CSRQ$ tsk

tsk = Task name

Declare Significant Event ($S form recommended) **DECL$S**

FORTRAN Call:

CALL DECLAR ([,ids])

ids = Directive status

Macro Call:

DECL$S [,err]

err = Error routine address

Delete Logical Name **DLOG$**

FORTRAN Call:

CALL DELLOG (mod,itbnum,lns,lnssz,idsw)

mod = Modifier of the logical name within a table; if not specified, the nonzero value reserved by the system is placed in the DPB; if specified, the nonzero values must correspond to the valid symbolic references used by the system

itbnum = Logical name table number. The tables and their corresponding numbers are:

System	(LT.SYS)	= 0
Group	(LT.GRP)	= 1
Session	(LT.SES)	= 2
Task	(LT.TSK)	= 3

lns = Character array containing the logical name string

lnssz = Size (in bytes) of the logical name string

idsw = Integer to receive the Directive Status Word

Macro Call:

DLOG$ mod,tbnum,lns,lnssz

mod = Modifier of the logical name within a table; if not specified, the nonzero value reserved by the system is placed in the DPB; if specified, the nonzero values must correspond to the valid symbolic references used by the system

tbnum = Logical name table number. The tables and their corresponding numbers are:

System	(LT.SYS)	= 0
Group	(LT.GRP)	= 1
Session	(LT.SES)	= 2
Task	(LT.TSK)	= 3

lns = Character array containing the logical name string

lnssz = Size (in bytes) of the logical name string

Disable AST Recognition ($S form recommended) — DSAR$S

FORTRAN Call:

CALL DSASTR [(ids)]

ids = Directive status

Macro Call:

DSAR$S [err]

err = Error routine address

Disable Checkpointing ($S form recommended) — DSCP$S

FORTRAN Call:

CALL DISCKP [(ids)]

ids = Directive status

Macro Call:

DSCP$S [err]

err = Error routine address

Detach Region — DTRG$

FORTRAN Call:

CALL DTRG (irdb[,ids])

irdb = An 8-word integer array containing a Region Definition Block

ids = Directive status

Macro Call:

DTRG$ rdb

rdb = Region Definition Block address

Eliminate Address Window **ELAW$**

FORTRAN Call:

CALL ELAW (iwdb[,ids])

iwdbi = An 8-word integer array containing a Window Definition Block

ids = Directive status

Macro Call:

ELAW$ wdb

wdb = Window Definition Block address

Eliminate Group Global Event Flags **ELGF$**

FORTRAN Call:

CALL ELGF ([group][,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 **ELVT$**

FORTRAN Call:

CALL ELVT (iunum[,ids])

iunum = Virtual terminal unit number

ids = Integer to receive the Directive Status Word

Macro Call:

ELVT$ unum

unum = Unit number of the virtual terminal to be eliminated

Emit Status **EMST$**

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$**

FORTRAN Call:

CALL EXITIF (efn[,ids])

efn = Event flag number

ids = Directive status

Macro Call:

EXIF$ efn

efn = Event flag number

Task Exit ($S form recommended) **EXIT$S**

FORTRAN Call:

CALL EXIT (istat)

istat = A 16-bit quantity to be returned to the parent task

Macro Call:

EXIT$S [err]

err = Error routine address

Exit with Status **EXST$**

FORTRAN Call:

CALL EXST (istat)

istat = A 16-bit quantity to be returned to parent task

Macro Call:

EXST$ status

status = A 16-bit quantity to be returned to parent task

Extend Task **EXTK$**

FORTRAN Call:

CALL EXTTSK ([inc][,ids])

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:

EXTK$ [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)

Test for Specified System Feature **FEAT$**

FORTRAN Call:

CALL FEAT (isym[,ids])

isym = Symbol for the specified system feature

ids = Directive status

Macro Call:

FEAT$ sym

sym = Symbol for the specified system feature

File Specification Scanner — FSS$

FORTRAN Call:

CALL FSSFSS (fsbuf,fssz,prsblk,prssz,[reserv][,idsw])

fsbuf = Array containing the file specification buffer

fssz = Size (in bytes) of the file specification buffer

prsblk = Array containing the parse block

prssz = Size (in bytes) of the parse block

reserv = Reserved parameter (must not be specified)

idsw = Integer to receive the Directive Status Word

Macro Call:

FSS$ fsbuf,fssz,prsblk,prssz,reserv

fsbuf = Address of the file specification buffer

fssz = Size (in bytes) of the file specification buffer

prsblk = Address of the parse block

prssz = Size (in bytes) of the parse block

reserv = Reserved parameter (must be blank)

Get Command for Command Interpreter — GCCI$

Fortran Call:

CALL GTCMCI (icbf,icbfl,[iibuf],[iibfl],[iaddr],[incp][,ids])

icbf = Name of a byte to receive the command.

icbfl = Integer containing the size of the icbf array in bytes.

iibuf = Name of an integer array to receive the optional information buffer.

iibfl = Name of an integer containing the length of the optional information buffer. If you specify a length shorter than the information buffer, as much information as will fit in the specified length is returned.

iaddr = 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).

incp = Name of an integer containing a value indicating the action to take if there is no command queued:

GC.CCS (000) — Return with Carry set (default)

GC.CEX (001) — Force CLI to exit instead of returning

GC.CST (002) — Force CLI to stop instead of returning

GC.CND (200) — Copy command into buffer, but do not dequeue it from the list

ids = Integer to receive the Directive Status Word.

Get Command Interpreter Information — GCII$

FORTRAN Call:

CALL GETCII (ibuf,ibfl,[icli],[idev],[iunit][,ids]

ibuf = Name of an integer array to receive the CLI information

ibfl = Length in bytes of the integer array to receive the CLI information

icli = Name of a 2-word array element containing the Radix-50 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:

GCII$ buf,bufl,cli,[dev],[unit]

buf = Address of buffer to receive information

bufl = Length of information buffer

cli = Name (Radix-50) of the CLI on which information is requested

dev = ASCII name of terminal whose CLI should be used (default is TI:)

unit = Octal unit number of terminal

Get Default Directory — GDIR$

FORTRAN Call:

CALL GETDDS (mod,iens,ienssz,[irsize],[idsw])

mod = Modifier for the GDIR$ directive; specify one of the following values:

0	= Get Task default
GD.LOG	= Get terminal default

iens = Character array containing the default directory string

ienssz = Size (in bytes) of the default directory string

irsize = Buffer address of the returned default directory string size

idsw = Integer to receive the Directive Status Word

Macro Call:

GDIR$ [mod],ens,enssz[,rsize]

mod = Modifier for the GDIR$ directive; specify one of the following values:

0	= Get Task default
GD.LOG	= Get terminal default

ens = Buffer address of the default directory string

enssz = Size (in bytes) of the default directory string buffer

rsize = Buffer address to which the size of the default directory string is returned

Get LUN Information — GLUN$

FORTRAN Call:

CALL GETLUN (lun,dat[,ids])

lun = Logical unit number

dat = A 6-word integer array to receive the LUN information

ids = Directive status

Macro Call:

GLUN$ lun,buf

lun = Logical unit number

buf = Address of 6-word buffer that will receive the LUN information

Get MCR Command Line — GMCR$

FORTRAN Call:

CALL GETMCR (buf[,ids])

buf = An 80-byte array to receive the command line

ids = Directive status

Macro Call:

GMCR$

Get Mapping Context — GMCX$

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-PLUS systems.)

ids = Directive status

Macro Call:

GMCX$ wvec

wvec = The address of a vector of n Window Definition Blocks, followed by a terminator word; n is the number of window blocks in the task's header.

Get Partition Parameters — GPRT$

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:

GPRT$ [prt],buf

prt = Partition name

buf = Address of 3-word buffer

Get Region Parameters — GREG$

FORTRAN Call:

CALL GETREG ([rid],buf[,ids])

rid = Region id

buf = A 3-word integer array to receive region parameters

ids = Directive status

Macro Call:

GREG$ [rid],buf

rid = Region id

buf = Address of 3-word buffer

Get Sense Switches ($S form recommended) — GSSW$S

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$S [err]

err = Error-routine address

Get Time Parameters **GTIM$**

FORTRAN Call:

CALL GETTIM (ibfl[,ids])

ibfl = An 8-word integer array

ids = Directive status

Macro Call:

GTIM$ buf

buf = Address of 8-word buffer

Get Task Parameters **GTSK$**

FORTRAN Call:

CALL GETTSK (buf[,ids])

buf = An 18-word integer array to receive the task parameters

ids = Directive status

Macro Call:

GTSK$ buf

buf = Address of 18-word buffer

Inhibit AST Recognition ($S form recommended) **IHAR$S**

FORTRAN Call:

CALL INASTR [(ids)]

ids = Directive status

Macro Call:

IHAR$S [err]

err = Error-routine address

Map Address Window **MAP$**

FORTRAN Call:

CALL MAP (iwdb[,ids])

iwdb = An 8-word integer array containing a Window Definition Block

ids = Directive status

Macro Call:

MAP$ wdb

wdb = Window Definition Block address

Mark Time — MRKT$

FORTRAN Call:

CALL MARK (efn,tmg,tnt[,ids])

efn = Event flag number

tmg = Time interval magnitude

tnt = Time interval unit

ids = Directive status

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:

MRKT$ [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 — MSDS$

FORTRAN Call:

Not supported

Macro Call:

MSDS$ mask

mask = A 7-bit mask with one bit corresponding to each supervisor-mode D-space 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 **MVTS$**

FORTRAN Call:

Not supported

Macro Call:

MVTS$ action,addr,val
buff

action = One of the following:

MV.TUI — Moe 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)

Parse FCS$** **PFCS$

FORTRAN Call:

CALL PFCS ([mod],[itbmsk],[lun],prbuf,prsz,rsbuf,rssz,[rslen],
[prsblk,prssz],[dfnbk,dfnsz],[rsmsk][,idsw])

mod = Modifier for logical name table entries; specify one of the following values:

LB.LOC = 1
LB.LOG = 2

Specifying one of these values indicates that matches in the logical table are based on the exact value. Not specifying a value indicates that the system will look for the first matching logical block, regardless of the modifier value.

itbmsk = Inhibit mask to prevent a logical table from being searched. The following symbol bit definitions, when set, prevent a particular table from being searched:

System	IN.SYS	= 10
Group	IN.GRP	= 4
Session	IN.SES	= 20
Task	IN.TSK	= 1

lun = LUN to be assigned

prbuf = Array containing the primary file specification buffer; prbuf and prsz must both be specified or both omitted; if omitted, a comma between their positions must be present unless not other parameters follow

prsz = Size (in bytes) of the primary file specification buffer; prbuf and prsz must both be specified or both omitted; if omitted, a comma between their positions must be present unless no other parameters follow

rsbuf = Array containing the resulting file specification buffer

rssz = Size (in bytes) of the resulting file specification buffer

rslen = Integer to receive the resulting string size

prsblk = Array containing the parse block

prssz = Size (in bytes) of the parse block

dfnbk = Array containing the default name block; dfnbk and dfnsz must both be specified or both omitted; if omitted, a comma between their positiion must be present unless no other parameters follow

dfnsz = Size of the default name block; dfnbk and dfnsz must both be specified or both omitted; if omitted, a comma between their positions must be present unless no other parameters follow

rsmsk = Mask of fields in the resulting string to suppress before returning the string. The bits currently defined are the same as those for the flag word in the parse block. The bits are FS$NOD, FS$DEV, FS$DIR, FS$NAM, FS$TYP, and FS$VER. If the bit FS$NDF is set, the device is not defaulted to and the LUN is not assigned. (FS$NDF has no meaning for the FSS$ directive.)

idsw = Integer to receive the Directive Status Word.

Macro Call:

PFCS$ mod,tbmsk,lun,prbuf,prsz,rsbuf,rssz,rslen,prsblk,prssz,dfnbk,
dfnsz,rsmsk

mod = Modifier for logical name table entries; specify one of the following values:

LB.LOC = 1
LB.LOG = 2

Specifying one of these values indicates that matches in the logical table are based on the exact value. Not specifying a value indicates that the system will look for the first matching logical block, regardless of the modifier value.

tbmsk = Inhibit mask to prevent a logical table from being searched. The following symbol bit definitions, when set, prevent a particular table from being searched:

System	IN.SYS	= 10
Group	IN.GRP	= 4
Session	IN.SES	= 20
Task	IN.TSK	= 1

lun = LUN to be assigned

prbuf = Address of the primary file specification buffer

prsz = Size (in bytes) of the primary file specification buffer

rsbuf = Address of the resulting file specification buffer

rssz = Size (in bytes) of the resulting file specification buffer

rslen = Address of a word to receive the resulting string size

prsblk = Address of the parse block

prssz = Size (in bytes) of the parse block

dfnbk = Address of the default name block

dfnsz = Size of the default name block

rsmsk = Mask of fields in the resulting string to suppress before returning the string. The bits currently defined are the same as those for the flag word in the parse block. The bits are FS$NOD, FS$DEV, FS$DIR, FS$NAM, FS$TYP, and FS$VER. If the bit FS$NDF is set, the device is not defaulted to and the LUN is not assigned. (FS$NDF has no meaning for the FSS$ directive.)

PRMS$** **PRMS$

FORTRAN Call:

CALL PRSRMS ([mod],[itbmsk],[lun],prbuf,prsz,r
buf,rssz,[rslen],[prsblk,prssz],
[dfbuf,dfsz],[rsmsk][,idsw])

mod = Modifier for logical name table entries; specify on of the following values:

LB.LOC = 1
LB.LOG = 2

Specifying one of these values indicates that matches in the logical table are based on the exact value. Not specifying a value indicates that the system will look for the first matching logical block, regardless of the modifier value.

itbmsk = Inhibit mask to prevent a logical table from being searched. The following symbol bit definitions, when set, prevent a particular table from being searched:

System	IN.SYS	= 10
Group	IN.GRP	= 4
Session	IN.SES	= 20
Task	IN.TSK	= 1

lun = LUN to be assigned

prbuf = Array containing the primary file specification buffer; prbuf and prsz must both be specified or both omitted; if omitted, a comma between their positions must be present unless no other parameters follow

prsz = Size (in bytes) of the primary file specification buffer; prbuf and prsz must both be specified or both omitted; if omitted, a comma between their positions must be present unless no other parameters follow

rsbuf = Array containing the resulting file specification buffer

rssz = Size (in bytes) of the resulting file specification buffer

rslen = Integer to receive the resulting string size

prsblk = Array containing the parse block

prssz = Size (in bytes) of the parse block

dfbuf = Address of the default file specification buffer; prbuf and prsz must both be specified or both omitted; if omitted, a comma between their positions must be present unless no other parameters follow

dfsz = Size (in bytes) of the default file specification buffer; prbuf and prsz must both be specified or both omitted; if omitted, a comma between their positions must be present unless no other parameters follow

rsmsk = Mask of fields in the resulting string to suppress before returning the string. The bits currently defined are the same as those for the flag word in the parse block. The bits are FS$NOD, FS$DEV, FS$DIR, FS$NAM, FS$TYP, and FS$VER. If the bit FS$NDF is set, the device and directory are not defaulted to and the LUN is not assigned. (FS$NDF has no meaning for the FSS$ directive.)

idsw = Integer to receive the Directive Status Word.

Macro Call:

PRMS$ mod,tbmsk,lun,prbuf,prsz,rsbuf,rssz,rslen,prsblk,prssz,dfbuf, dfsz,rsmsk

mod = Modifier for logical name table entries; specify on of the following values:

LB.LOC = 1
LB.LOG = 2

Specifying one of these values indicates that matches in the logical table are based on the exact value. Not specifying a value indicates that the system will look for the first matching logical block, regardless of the modifier value.

tbmsk = Inhibit mask to prevent a logical table from being searched. The following symbol bit definitions, when set, prevent a particular table from being searched:

System	IN.SYS	= 10
Group	IN.GRP	= 4
Session	IN.SES	= 20
Task	IN.TSK	= 1

lun = LUN to be assigned

prbuf = Address of the primary file specification buffer

prsz = Size (in bytes) of the primary file specification buffer

rsbuf = Address of the resulting file specification buffer

rssz = Size (in bytes) of the resulting file specification buffer

rslen = Address of a word to receive the resulting string size

prsblk = Address of the parse block

prssz = Size (in bytes) of the parse block

dfbuf = Address of the default file specification buffer

dfsz = Size (in bytes) of the default file specification buffer

rsmsk = Mask of fields in the resulting string to suppress before returning the string. The bits currently defined are the same as those for the flag word in the parse block. The bits are FS$NOD, FS$DEV, FS$DIR, FS$NAM, FS$TYP, and FS$VER. If the bit FS$NDF is set, the device and directory are not defaulted to and the LUN is not assigned. (FS$NDF has no meaning for the FSS$ directive.)

Queue I/O Request — QIO$

FORTRAN Call:

CALL QIO (fnc,lun,[efn],[pri],[isb],[prl][,ids])

fuc = I/O function code.

lun = Logical unit number.

efn = Event flag number.

pri = Priority (ignored, but parameter must be present in call).

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.

ids = Directive status.

Macro Call:

QIO$ fnc,lun,[efn],[pri],[isb],[ast],[prl]

fnc = I/O function code

lun = Logical unit number

efn = Event flag number

pri = Priority (ignored, but Q.IDPR byte must be present in DPB)

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 **QIOW$**

FORTRAN Call:

CALL WTQIO (fnc,lun,[efn],[pri],[isb],[prl][,ids])

fnc = I/O function code

lun = Logical unit number

efn = Event flag number

pri = Priority (ignored, but parameter must be present in call)

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 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 parameter must be present in DPB)

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 **RCST$**

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 **RCVD$**

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 **RCVX$**

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:

RCVX$ [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 **RDAF$**

FORTRAN Call:

A FORTRAN task can read only one event flag. The call is:

CALL READEF (efn[,ids])

efn = Event flag number

ids = Directive status

The Executive returns the status codes IS.SET (+02) and IS.CLR (00) for FORTRAN calls in order to report event-flag polarity.

Macro Call:

RDAF$ buf

buf = Address of 4-word buffer

Read Event Flag **RDEF$**

FORTRAN Call:

CALL READEF (iefn[,ids])

iefn = Integer containing an event flag number

ids = Integer variable to receive the Directive Status Word

The Executive returns the status codes IS.SET (+02) and IS.CLR (00) for FORTRAN calls in order to report event-flag polarity.

Macro Call:

RDEF$ efn

efn = Event flag number

Read Extended Event Flags — RDXF$

FORTRAN Call:

A FORTRAN task can read only one event flag. The call is:

CALL READEF (efn[,ids])

efn = Event flag number

ids = Directive status

The Executive returns the status codes IS.SET (+02) and IS.CLR (00) for FORTRAN calls in order to report event-flag polarity.

Macro Call:

RDXF$ buf

buf = Address of six-word buffer

Recursive Translation of Logical Name — RLON$ RLOG$

(CALL RCTLON and RLON$ are the preferred calls to use on RSX-11M-PLUS and Micro/RSX. CALL RCTLOG and RLOG$ are provided for compatibility with P/OS.)

FORTRAN Calls:

CALL RCTLON (mod,itbmsk,[status],lns,lnssz,iens,ienssz,[rsize],[rtbmod],[idsw])

CALL RCTLOG (mod,itbmsk,[status],lns,lnssz,iens,ienssz,[rsize],[rtbmod],[idsw])

mod = Modifier of the logical name within a table; restricted to LB.LOC or LB.LOG

itbmsk = Inhibit mask to prevent a logical name table from from being searched. The following symbol bit definitions, when set, prevent a particular table from being searched:

System	(IN.SYS)	= 10
Group	(IN.GRP)	= 4
Session	(IN.SES)	= 20
Task	(IN.TSK)	= 1

If no mask is specified, the tables are searched in the following order: user, session, group, system.

lns = Character array containing the logical name string

status = Word to receive the logical status associated with the located logical name:

LS.TRM = Terminal status bit
LS.PRV = Privileged status

lnssz = Size (in bytes) of the logical name string

iens = Character array buffer to receive the returned equivalence-name string

ienssz = Size (in bytes) of the data area for the returned equivalence-name string

rsize = Word to receive the size of the equivalence-name string

rtbmod = Word to receive, in the lower byte, the table number and, in the higher byte, the modifier value of the located logical name

idsw = Integer to receive the Directive Status Word

Macro Calls:

RLON$ mod,[tbmsk],[status],lns,lnssz,ens,enssz,[rsize],[rtbmod]

RLOG$ mod,[tbmsk],[status],lns,lnssz,ens,enssz,[rsize],[rtbmod]

mod = Modifier of the logical name within a table; restricted to LB.LOC or LB.LOG

tbmsk = Inhibit mask to prevent a logical name table from being searched. The following symbol bit definitions, when set, prevent a particular table from being searched.

System	(IN.SYS)	= 10
Group	(IN.GRP)	= 4
Session	(IN.SES)	= 20
Task	(IN.TSK)	= 1

If no mask is specified, the tables are searched in the following order: user, session, group, system. The value defaults to 1 (LB.LOC).

lns = Character array containing the logical name string

lnssz = Size (in bytes) of the logical name string

ens = Character array buffer to receive the returned equivalence-name string

enssz = Size (in bytes) of the data area for the returned equivalence-name string

rsize = Word to receive the size of the equivalence-name string

rtbmod = Word to receive, in the lower byte, the table number and, in the higher byte, the modifier value of the located logical name

status = Word to receive the logical status associated with the located logical name

Remove Affinity ($S form recommended) **RMAF$S**

FORTRAN Call:

CALL RMAF [(ids)]

ids = Integer receive the Directive Status Word

Macro Call:

RMAF$S

Request and Pass Offspring Information **RPOI$**

FORTRAN Call:

CALL RPOI (tname,[iugc],[iumc],[iparen],[ibuf],[ibfl],[isc],
[idnam],[iunit],[itask],[ocbad][,ids])

tname = Name of an array containing the actual name (in Radix-50) of the task to be requested and optionally chained to

iugc = Name of an integer containing the group code number for the UIC of the requested target chain task

iumc = Name of an integer containing the member code number for the UIC of the requested target chain task

iparen = Name of an 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 = Name of an array that contains the command line text for the chained task

ibfl = Name of an integer that contains the number of bytes in the command in the ibuf array

isc = Flag byte controlling the actions of this directive request when executed. The bit definitions of this byte (only the low-order byte of the integer specified in the call is ever used) are as follows:

RP.OEX = 128. Force this task to exit on successful execution of the RPOI$ directive.

RP.OAL = 1 Pass all of this task's connections to the requested task. (The default is none.)

RP.ONX = 2 Pass the first connection in the queue, if there is one

idnam = Name of an integer containing the ASCII device name of the requested task's TI: (must be the name of a physical device)

iunit = Name of an integer containing the unit number of the requested task's TI:

itask = Name of an array containing the Radix-50 name the requested task is to run under.

On RSX-11M-PLUS systems, any task may specify a new name for the requested task as long as the requested task is not a CLI task.

The requested task (specified in the tname parameter) must be installed in the ...tsk format.

ocbad = Name of an integer containing the internal pool address of the parent OCB. This value may be obtained only in the information buffer of the GTCMCI subroutine, which only a CLI can issue; therefore, only a CLI can specify this argument.

ids = Integer to receive the Directive Status Word

Macro Call:

RPOI$ tname,,,,[ugc],[umc],[parent],[bufadr],[buflen],[sc],[dnam], [unit],[task],[ocbad]

tname = Name of task to be chained to

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 connection is to be passed.

bufadr = Address of buffer to be given to the requested task

buflen = Length of buffer to be given to requested task

sc = Flag bits:

RP.OEX	— (200)	Force issuing task to exit
RP.OAL	— (1)	Pass all connections (default is none)
RP.ONX	— (2)	Pass the first connection in the queue, if there is one.

dnam = ASCII device name for TI: (must be the name of a physical device)

unit = Unit number of task's TI:

task = Radix-50 name of task to be started.

On RSX-11M-PLUS systems, any task may specify a new name for the requested task as long as the requested task is not a CLI task.

The requested task (specified in the tname parameter) must be installed in the ...tsk format.

ocbad = Address of OCB to pass (CLIs only)

Request Task **RQST$**

FORTRAN Call:

CALL REQUES (tsk,[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 RREF$

FORTRAN Call:

CALL RREF (iwdb,[isrb][,ids])

iwdb = An 8-word integer array containing a Window Definition Block

isrb = A 10-word integer array to be used as the receive buffer

ids = Directive status

Macro Call:

RREF$ wdb

wdb = Window Definition Block address

Receive By Reference or Stop RRST$

FORTRAN Call:

CALL RRST (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. If the call omits this parameter, the contents of iwdb(8) are unchanged.

ids = Directive status.

Macro Call:

RRST$ wdb

wdb = Window Definition Block address

Resume Task **RSUM$**

FORTRAN Call:

CALL RESUME (tsk[,ids])

tsk = Task name

ids = Directive status

Macro Call:

RSUM$ tsk

tsk = Task name

Run Task **RUN$**

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 (either 1, 2, 3, or 4)

rmg = Reschedule interval magnitude

rnt = Reschedule interval unit

ids = Directive status

The ISA standard call for initiating a task is also provided:

CALL START (tsk,smg,snt[,ids])

tsk = Task name

smg = Schedule delta magnitude

snt = Schedule delta unit (either 0, 1, 2, 3, or 4)

ids = Directive status

Macro Call:

RUN$ 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 (either 1, 2, 3, or 4)

rmg = Reschedule interval magnitude

rnt = Reschedule interval unit

Specify Command Arrival AST **SCAA$**

FORTRAN Call:

Not supported

Macro Call:

SCAA$ [ast]

ast = AST service-routine entry point. Omitting this parameter disables command arrival ASTs for the issuing task until the directive is specified again.

Supervisor Call ($S form recommended) **SCAL$S**

FORTAN Call:

Not supported

Macro Call:

SCAL$S saddr,caddr[,err]

saddr = Address of the called supervisor-mode routine

caddr = Address of the completion routine for return to the caller

err = Address of error routine

Set Command Line Interpreter — SCLI$

FORTRAN Call:

CALL SETCLI (icli,idev,iunit[,ids])

- icli = A 2-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 = TI:)
- iunit = Integer containing the unit number of terminal
- ids = Directive status

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 = TI:)
- unit = Unit number of terminal

Send Data — SDAT$

FORTRAN Call:

CALL SEND (tsk,buf,[efn][,ids])

- tsk = Task name
- buf = A 13-word integer array of data to be sent
- efn = Event flag number
- ids = Directive status

Macro Call:

SDAT$ tsk,buf[,efn]

- tsk = Task name
- buf = Address of 13-word data buffer
- efn = Event flag number

Set Default Directory **SDIR$**

FORTRAN Call:

CALL SETDDS (mod,iens,ienssz,[idsw])

mod = Modifier for the SDIR$ directive;

0 = Modify task default
SD.LOG = Modify terminal default
SD.BYE = Delete terminal default
SD.TI = Set task default to terminal default

iens = Character array containing the default directory string

ienssz = Size (in bytes) of the default directory string

idsw = Integer to receive the Directive Status Word

Macro Call:

```
        { mod              }
SDIR$ {,ens,enssz
}   (must choose one of these options)
        { mod,ens,enssz
}
```

mod = Modifier for the SDIR$ directive;

0 = Modify task default
SD.LOG = Modify terminal default
SD.BYE = Delete terminal default
SD.TI = Set task default to terminal default

ens = Buffer address of the default directory string; if not specified, the default directory string is deleted (ens and enssz must be selected to modify the default)

enssz = Size (in bytes) of the default directory string (enssz and ens must be selected to modify the default)

Send, Request and Connect **SDRC$**

FORTRAN Call:

CALL SDRC (rtname,ibuf,[iefn],[iast],[iesb],[iparm][,ids])

CALL SDRCN (rtname,ibuf,[iefn],[iast],[iesb],[iparm][,ids])

rtname = Target task name of the offspring task to be connected

ibuf = Name of 13-word send 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 (ignored for CALL SDRCN)

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 — TKTN abort code

Word 2–7 — 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],[esb]

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

esb = Address of an eight-word status block to be written when the offspring task exits or emits status:

Word 0 — Offspring-task exit status

Word 1 — TKTN abort code

Word 2–7 — Reserved

Send Data Request and Pass Offspring Control Block — SDRP$

FORTRAN Call:

CALL SDRP (task,ibuf,[ibfl],[iefn],[iflag],[iparen],[iocbad][,ids])

task = Name of an array (REAL, INTEGER, I*4) that contains the Radix-50 name of target task

ibuf = Name of an integer array containing data to be sent

ibfl = Name of an integer containing number of words (integers) in the array to be sent. On RSX-11M-PLUS systems, this argument may be in the range of 1 to 255. If this argument is not specified, a default value of 12(10) is assumed.

iefn = Name of an integer containing the number of the event flag to be set when this directive is executed successfully

iflag = Name of an integer containing flags bits controlling execution of this directive. They are defined as follows:

SD.REX = 128.	Force this task to exit upon successful execution of this directive
SD.RAL = 1	Pass all connections to the requested task (default is pass none); if you specify this flag, do not specify the parent task name
SD.RNX = 2	Pass the first connection in the queue, if there is one, to the requested task; if you specify this flag, do not specify the parent task name

iparen = Name of array containing the Radix-50 name of the parent task whose connection should be passed to the target task. The name of the parent task was returned in the information buffer of the GTCMCI subroutine.

iocbad = Name of an integer containing pool address of the OCB to pass. This value was returned in the information buffer of the GTCMCI subroutine. Only CLI tasks may specify this parameter.

ids = Name of an integer to receive the contents of the Directive Status Word

Macro Call:

SDRP$ task,bufadr,[buflen],[efn],[flag],[parent],[ocbad]

task = Name of task to be chained to

bufadr = Address of buffer to be given to the requested task

buflen = Length of buffer to be given to requested task

efn = Event flag number

flag = Flag bits controlling execution of this directive (see iflag, above, for the definitions of the bits)

parent = Name of issuing task's parent task whose connection is to be passed. If not specified, all connections or no connections are passed, depending on the flag bit.

ocbad = Address of OCB to pass (CLIs only)

Set Event Flag **SETF$**

FORTRAN Call:

CALL SETEF (efn[,ids])

efn = Event flag number

ids = Directive status

Macro Call:

SETF$ efn

efn = Event flag number

Specify Floating Point Exception AST **SFPA$**

FORTRAN Call:

Not supported

Macro Call:

SFPA$ [ast]

ast = AST service routine entry point address

Send Message **SMSG$**

FORTRAN Call:

CALL SMSG (itgt,ibuf,ibufl,iprm,iprml,ids)

itgt = Name of an integer containing the target object

ibuf = Name of an integer array containing the data to be inserted into the formatted data packet

ibufl = Name of an integer containing length of the ibuf array

iprm = Name of an integer array containing any additional parameters

iprml = Name of an integer containing the number of parameters in the iprm array

ids = Name of an optional integer to receive the directive status

Macro Call:

SMSG$ tgt,buf,len,<pri,...,prn>

tgt = Target identifier

buf = Address of optional data buffer

len = Length in bytes of optional data buffer

pri,...,prn = Target-specific (for the Error Logger) parameter list:

SMSG$ SM.SER,buf,len,<typ,sub,lun,mask>

typ = Error Logger packet code

sub = Error Logger packet subtype code

lun = Logical unit number of device

msk = Control mask word

Send Next Command SNXC$

FORTRAN Call:

CALL SNXC ([idnam] [,iunit][,ids])

dnam = Device name (ASCII); if not specified, TI: is used

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 — SPEA$

FORTRAN Call:

Not supported

Macro Call:

SPEA$ [ast]

ast = AST service-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 — SPRA$

FORTRAN Call:

To establish an AST:

```
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 may be controlled at critical points by using the DSASTR (or INASTR) and ENASTR subroutine calls.

To remove an AST:

```
CALL PWRUP
```

Macro Call:

SPRA$ [ast]

ast = AST service-routine entry-point address

Spawn — SPWN$

FORTRAN Call:

CALL SPAWN (rtname,[iugc],[iumc],[iefn],[iast],[iesb],[iparm], [icmlin,icmlen],[iunit],[dnam][,ids])

CALL SPAWNN (rtname,[iugc],[iumc],[iefn],[iast],[iesb],[iparm], [icmlin,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 (ignored for CALL SPAWNN)

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 — TKTN abort code

Words 2–7 — 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 (255 (decimal) 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 (must be the name of a physical device)

ids = Integer to receive the Directive Status Word

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 - TKTN abort code

Word 2-7 — Reserved

cmdlin = Address of a command line to be queued for the offspring task

cmdlen = Length of the command line (maximum length is 255 decimal)

unum = 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 (must be the name of a physical device)

Specify Receive Data AST **SRDA$**

FORTRAN Call:

Neither the FORTRAN language nor the ISA standard permits direct linking to system-trapping mechanisms. Therefore, this directive is not available for FORTRAN tasks

Macro Call:

SRDA$ [ast]

ast = AST service-routine entry-point address

Specify Requested Exit AST

SREA$
SREX$

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,ipblkl,[dummy][,ids])

- ast = Name of the externally declared AST subroutine
- ipblk = Name of an integer array to receive the trap-dependent parameters
- ipblkl = 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:

SREA$ [ast]

SREX$ [ast][,dummy]

- ast = AST service-routine entry-point address
- dummy = Reserved for future use

Send By Reference

SREF$

FORTRAN Call:

CALL SREF (tsk,[efn],iwdb,[isrb][,ids])

- tsk = A single-precision floating-point variable containing the name of the receiving task in Radix-50 format.
- efn = Event flag number
- iwdb = An 8-word integer array containing a Window Definition Block
- isrb = An 8-word integer array containing additional information (If specified, the address of isrb is placed in iwdb(8); if isrb is omitted, the contents of iwdb(octal) remain unchanged.)
- ids = Directive status

Macro Call:

SREF$ task,wdb[,efn]

task = Receiver task name

wdb = Window Definition Block address

efn = Event flag number

Specify Receive-By-Reference AST — RSRA$

FORTRAN Call:

Neither the FORTRAN language nor the ISA standard permits direct linking to system-trapping mechanisms. Therefore, this directive is not available for FORTRAN tasks.

Macro Call:

SRRA$ [ast]

ast = AST service-routine entry-point address

Set Affinity — STAF$

FORTRAN Call:

CALL STAF (iaff[,ids])

iaff = Affinity mask word

ids = Integer to receive Directive Status Word

Macro Call:

STAF$ [cp!ub!ub...]

cp = CPU selected (A through D)

ub = UNIBUS run(s) selected (E through T)

Set System Time Directive — STIM$

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]

bufn = Address of new 8-word time-specification buffer

bufp = Address of 8-word buffer to receive the previous system time parameters

Stop for Logical OR of Event Flags **STLO$**

FORTRAN Call:

CALL STLOR (ief1,ief2,ief3, ... ief(n))

ief1 ... ief(n) = List of event flag numbers

Macro Call:

STLO$ grp, msk

grp = Desired group of event flags

msk = A 16-bit mask word

Stop ($S form recommended) **STOP$S**

FORTRAN Call:

CALL STOP ([ids])

ids = Integer to receive the Directive Status Word

Macro Call:

STOP$S

Stop For Single Event Flag **STSE$**

FORTRAN Call:

CALL STOPFR (iefn[,ids])

iefn = Event flag number

ids = Integer to receive Directive Status Word

Macro Call:

STSE$ efn

efn = Event flag number

Specify SST Vector Table for Debugging Aid — SVDB$

FORTRAN Call:

Neither the FORTRAN language nor the ISA standard permits direct linking to system-trapping mechanisms. Therefore, this directive is not available for FORTRAN tasks.

Macro Call:

SVDB$ [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 — SVTK$

FORTRAN Call:

Neither the FORTRAN language nor the ISA standard permits direct linking to system-trapping mechanisms. Therefore, this directive is not available for FORTRAN tasks.

Macro Call:

SVTK$ [adr][,len]

adr = Address of SST vector table

len = Length of (that is, number of entries in) table in words

Switch State — SWST$

FORTRAN Call:

Not supported

Macro Call:

SWST$ base,addr

base = The base virtual address within the task for mapping the subroutine through APR5

addr = Virtual address of the subroutine to be executed in system state by the directive

Test for Specified Task Feature — TFEA$

FORTRAN Call:

CALL TFEA (isym[,ids])

isym = Symbol for the specified task feature

ids = Directive status

Macro Call:

TFEA$ sym

sym = Symbol for the specified task feature

Translate Logical Name

TLON$
TLOG$

(CALL TRALON and TLON$ are the preferred calls to use on RSX-11M-PLUS and Micro/RSX. CALL TRALOG and TLOG$ are provided for compatibility with P/OS.)

FORTRAN Calls:

CALL TRALON (mod,tbmsk,[status],lns,lnssz,ens,ienssz,(rsize),[rtbmod],[,idsw])

CALL TRALOG (mod,tbmsk,[status],lns,lnssz,ens,ienssz,(rsize),[rtbmod],[,idsw])

mod = Modifier of the logical name within a table; restricted to LB.LOC or LB.LOG

tbmsk = Inhibit mask to prevent a logical name table from being searched. The following symbol bit definitions, when set, prevent a particular table from being searched:

System	(IN.SYS)	= 10
Group	(IN.GRP)	= 4
Session	(IN.SES)	= 20
User	(IN.USR)	= 1

If no mask is specified, the tables are searched in the following order: user, session, group, system.

status = Word to receive the logical status word:

LS.TER	= 1	Terminal status bit
LS.PRV	= 2	Privileged status

lns = Character array containing the logical name string

lnssz = Size (in bytes) of the logical name string

ens = Character array buffer to contain the returned equivalence string

ienssz = Size (in bytes) of the data area for the returned equivalence name string

rsize = Word to receive the size of the returned equivalence name

rtbmod = Word to receive, in the lower byte, the table number and, in the higher byte, the modifier value of the located logical name

idsw = Integer to receive the Directive Status Word

Macro Calls:

TLON$ mod,[status]tbmsk,lns,lnssz,ens,enssz,[rsize],[rtbmod]

TLOG$ mod,[status]tbmsk,lns,lnssz,ens,enssz,[rsize],[rtbmod]

mod = Modifier of the logical name within a table; restricted to LB.LOC or LB.LOG

tbmsk = Inhibit mask to prevent a table from being searched. The following symbol bit definitions, when set, prevent a particular table from being searched:

System	(IN.SYS)	= 10
Group	(IN.GRP)	= 4
Session	(IN.SES)	= 20
User	(IN.USR)	= 1

If no mask is specified, the tables are searched in the following order: user, session, group, system.

status = Word to receive the logical status:

LS.TER	= 1	Terminal status bit
LS.PRV	= 2	Privileged status

lns = Character array containg the logical name string

lnssz = Size (in bytes) of the logical name string

ens = Character array to contain the returned equivalence string

enssz = Size (in bytes) of the data area for the returned equivalence name string

rsize = Word to receive the size of the returned equivalence name; this size is always the actual size of the equivalence name regardless of the string size specified with enssz

rtbmod = Word to receive, in the lower byte, the table number and, in the higher byte, the modifier value of the located logical name

Unlock Group Global Event Flags ($$ form recommended) **ULGF$S**

FORTRAN Call:

CALL ULGF ([ids])

ids = Directive status

Macro Call:

ULGF$S [err]

err = Error-routine address

Unmap Address Window **UMAP$**

FORTRAN Call:

CALL UNMAP (iwdb[,ids])

iwdb = An 8-word integer array containing a Window Definition Block

ids = Directive status

Macro Call:

UMAP$ wdb

wdb = Window Definition Block address

Unstop Task **USTP$**

FORTRAN Call:

CALL USTP ([rtname][,ids])

rtname = Name of task to be unstopped. (If not specified, CALL USTP will use the issuing task as its default.)

ids = Integer to receive directive status information

Macro Call:

USTP$ [tname]

tname = Name of task to be unstopped. (If not specified, CALL USTP will use the issuing task as its default.)

Variable Receive Data **VRCD$**

FORTRAN Call:

CALL VRCD ([task],bufadr,buflen[,ids])

task = Sender task name

bufadr = Address of buffer to receive the sender task name and data (must be word-aligned (INTEGER*2))

buflen = Length of buffer (in words)

ids = Integer to receive the Directive Status Word

Macro Call:

VRCD$ [task],bufadr[,buflen],[ti]

task = Sender task name

bufadr = Buffer address

buflen = Buffer size (in words)

ti = TI: indicator (ignored)

Variable Receive Data Or Stop VRCS$

FORTRAN Call:

CALL VRCS ([task],bufadr,[buflen][,ids])

task = Sender task name

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],[ti]

task = Sender task name

bufadr = Buffer address

buflen = Buffer size (in words)

ti = TI: indicator (ignored)

Variable Receive Data Or Exit VRCX$

FORTRAN Call:

CALL VRCX ([task],bufadr,[buflen][,ids])

task = Sender task name

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:

VRCX$ [task],bufadr[,buflen],[ti]

task	=	Sender task name
bufadr	=	Buffer address
buflen	=	Buffer size (in words)
ti	=	TI: indicator (ignored)

Variable Send Data **VSDA$**

FORTRAN Call:

CALL VSDA ([task],bufadr,[buflen],[efn][,idsw])

task	=	Receiver task name
buf	=	Address of buffer to receive the sender task name and data
bufadr	=	Address of the buffer to receive the sender task name and data (must be word-aligned (ITEGER*2))
buflen	=	Length of buffer (in words)
efn	=	Event flag number
idsw	=	Integer to receive the Directive Status Word

Macro Call:

VSDA$ [task],bufadr[,buflen],[efn],[spri],[ti]

task	=	Receiver task name
bufadr	=	Buffer address
buflen	=	Buffer size (in wods)
efn	=	Event flag number
spri	=	Send priority (ignored)
ti	=	TI: indicator (ignored)

Variable Send, Request, and Connect **VSRC$**

FORTRAN Calls:

CALL VSRC (*rtname,ibuf,[ibuflen],[iefn],[iast],[iesb],[iparm][idsw]*)

CALL VSRCN (rtname,ibuf,[ibuflen],[iefn],[iast],[iesb],[iparm][idsw])

rtname	=	Target task name of the offpring task to be connected

ibuf = Name of send buffer

ibuflen = Length of the 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 (ignored for CALL VSRCN)

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 — TKTN abort code

Words 2-7 — Reserved

iparm = Name of a word to receive the status block address when an AST occurs

idsw = Integer to receive the Directive Status Word

Macro Call:

VSRC$ tname,buf[,buflen],[efn],[east],[esb]

tname = Target task name of the offspring task to be connected

buf = Address of 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

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 — TKTN abort code

Words 2-7 — Reserved

Wait for Significant Event ($S form recommended) **WSIG$S**

FORTRAN Call:

CALL WFSNE

Macro Call:

WSIG$S [err]

err = Error-routine address

Wait for Logical OR of Event Flags **WTLO$**

FORTRAN Calls:

CALL WFLOR (efn1,efn2,ef3...,efn)

CALL WFLORS (idsw,efn1,efn2,ef3...,efn)

efn = List of event flag numbers taken as the set of flags to be specified in the directive

idsw = Integer to receive the Directive Status Word

efl...efn
= List of event flag numbers taken as the set of flags to be specified in the directive

Macro Call:

WTLO$ grp,msk

grp = Desired group of event flags

msk = A 16-bit flag 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

I/O ERROR CODES

The table below lists RSX-11M-PLUS 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 (two's complement of the decimal number).

Abbreviation	Error Number Decimal	Octal	Meaning
.BAD	- 1	377	Bad parameters
.IFC	- 2	376	Invalid function code
.DNR	- 3	375	Device not ready
.VER	- 4	374	Parity error on device
.ONP	- 5	373	Hardware option not present
.SPC	- 6	372	Illegal user buffer
.DNA	- 7	371	Device not attached
.DAA	- 8	370	Device already attached
.DUN	- 9	367	Device not attachable
.EOF	-10	366	End-of-file detected
.EOV	-11	365	End-of-volume detected
.WLK	-12	364	Write attempted to locked unit
.DAO	-13	363	Data overrun
.SRE	-14	362	Send/receive failure
.ABO	-15	361	Request terminated
.PRI	-16	360	Privilege violation
.RSU	-17	357	Shareable resource in use
.OVR	-18	356	Illegal overlay request
.BYT	-19	355	Odd byte count (or virtual address)
.BLK	-20	354	Logical block number too large
.MOD	-21	353	Invalid UDC module number
.CON	-22	352	UDC connect error
.NOD	-23	351	Caller's nodes exhausted
.DFU	-24	350	Device full
.IFU	-25	347	Index file full
.NSF	-26	346	No such file
.LCK	-27	345	Locked from read/write access
.HFU	-28	344	File header full
.WAC	-29	343	Accessed for write
.CKS	-30	342	File header checksum failure
.WAT	-31	341	Attribute control list format error
.RER	-32	340	File processor device read error

Abbreviation	Error Decimal	Number Octal	Meaning
.WER	-33	337	File processor device write error
.ALN	-34	336	File already accessed on LUN
.SNC	-35	335	File ID, file number check
.SQC	-36	334	File ID, sequence number check
.NLN	-37	333	No file accessed on LUN
.CLO	-38	332	File was not properly closed
.NBF	-39	331	Open — No buffer space available for file
.RBG	-40	330	Illegal record size
.NBK	-41	327	File exceeds space allocated, no blocks
.ILL	-42	326	Illegal operation on File Descriptor Block
.BTP	-43	325	Bad record type
.RAC	-44	324	Illegal record access bits set
.RAT	-45	323	Illegal record attribute bits set
.RCN	-46	322	Illegal record number-too large
.ICE	-47	321	Internal consistency error
.2DV	-48	320	Rename-two different devices
.FEX	-49	317	Rename-a new file name already in-use
.BDR	-50	316	Bad directory file
.RNM	-51	315	Cannot rename old file system
.BDI	-52	314	Bad directory syntax
.FOP	-53	313	File already open
.BNM	-54	312	Bad file name
.BDV	-55	311	Bad device name
.BBE	-56	310	Bad block on device
.DUP	-57	307	Enter-duplicate entry in directory
.STK	-58	306	Not enough stack space (FCS or FCP)
.FHE	-59	305	Fatal hardware error on device
.NFI	-60	304	File ID was not specified
.ISQ	-61	303	Illegal sequential operation
.EOT	-62	302	End-of-tape detected
.BVR	-63	301	Bad version number
.BHD	-64	300	Bad file header
.OFL	-65	277	Device off line
.BCC	-66	276	Block check, CRC, or framing error
.ONL	-67	275	Device on line
.NNN	-68	274	No such node
.NFW	-69	273	Path lost to partner
.DIS	-69	273	Path lost to partner

Abbreviation	Error Decimal	Number Octal	Meaning
.BLB	-70	272	Bad logical buffer
.TMM	-71	271	Too many outstanding messages
.NDR	-72	270	No dynamic space available
.URJ	-73	267	Connection rejected by user
.NRJ	-74	266	Connection rejected by network
.EXP	-75	265	File expiration date not reached
.BTF	-76	264	Bad tape format
.NNC	-77	263	Not ANSI "D" format byte count
.NDA	-78	262	No data available
.NLK	-79	261	Task not linked to specified ICS/ICR interrupts
.NST	-80	260	Specified task not installed
.AST	-80	260	No AST specified in connect
.FLN	-81	257	Device off line when off-line request was issued
.IES	-82	256	Invalid escape sequence
.PES	-83	255	Partial escape sequence
.ALC	-84	254	Allocation failure
.ULK	-85	253	Unlock error
.WCK	-86	252	Write check failure
.NTR	-87	251	Task not triggered
.REJ	-88	250	Transfer rejected by receiving CPU
.FLG	-89	247	Event flag already specified
.DSQ	-90	246	Disk quota exceeded
.IQU	-91	245	Inconsistent qualifier usage
.RES	-92	244	Circuit reset during operation
.TML	-93	243	Too many links to task
.NNT	-94	242	Not a network task
.TMO	-95	241	Timeout on request
.CNR	-96	240	Connection rejected
.UKN	-97	237	Unknown name
.SZE	-98	236	Unable to size device
.MII	-99	235	Media inserted incorrectly
.SPI	-100	234	Spindown ignored

For additional information, refer to the *RSX-11M-PLUS and Micro/RSX I/O Operations Reference Manual.*

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.

Character Set	First Character Code	Second Character Code	Third Character Code
Space	000000	000000	000000
A	003100	000050	000001
B	006200	000120	000002
C	011300	000170	000003
D	014400	000240	000004
E	017500	000310	000005
F	022600	000360	000006
G	025700	000530	000007
H	031000	000500	000010
I	034100	000550	000011
J	037200	000620	000012
K	042300	000670	000013
L	045400	000740	000014
M	050500	001010	000015
N	053600	001060	000016
O	056700	001130	000017
P	062000	001200	000020
Q	065100	001250	000021
R	070200	001320	000022
S	073300	001370	000023
T	076400	001440	000024
U	101500	001510	000025
V	104600	001560	000026
W	107700	001630	000027
X	113000	001700	000030
Y	116100	001750	000031
Z	121200	002020	000032
$	124300	002070	000033
.	127400	002140	000034
Unused	132500	002210	000035
0	135600	002260	000036
1	140700	002330	000037
2	144000	002400	000040
3	147100	002450	000041
4	152200	002520	000042

Character Set	First Character Code	Second Character Code	Third Character Code
5	155300	002570	000043
6	160400	002640	000044
7	163500	002710	000045
8	166600	002760	000046
9	171700	003030	000047

OCTAL/DECIMAL CONVERSION TABLE

Bits	Octal	Decimal
15	100000	32768
	0	0
	70000	28672
	60000	24576
14	50000	20480
13	40000	16384
12	30000	12288
	20000	8192
	10000	4096
	0	0
	7000	3584
	5000	2560
	6000	3072
11	5000	2560
10	4000	2048
9	3000	1536
	2000	1024
	1000	512
	0	0
	700	488
	600	384
8	500	320
7	400	256
6	300	192
	200	128
	100	64
	0	0
	70	56
	60	48
5	50	40
4	40	32
3	30	24
	20	16
	10	8
	0	0
	7	7
	6	6
2	5	5
1	4	4
0	3	3
	2	2
	1	1
	0	0

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:

53702(8)	=	?(10)
n(8)		n(10)
50000	=	20480
3000	=	1536
700	=	448
00	=	00
2	=	2
53702(8)	=	22466(10)

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: 22466(10) = ?(8)
n(10) = n(8)

			22466
20480	=	50000	- 20480
			1986
1536	=	3000	- 1536
			450
448	=	700	- 448
			2
2	=	2	- 2
22466(10)	=	53702(8) =	0

STANDARD FILE TYPES

RSX-11M-PLUS 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; but if the file is named ADD.FOR, the compiler reports that there is no such file.)

Type	File Contents
.BAS	A BASIC-11 language source program
.BAT	Batch file (default)
.BLD	Indirect command files used as input to sysgen
.B2S	A BASIC-PLUS-II language source program
.CBL	A COBOL language source program
.CDA	Crash dump binary file
.CFS	Error Logging control file string
.CLB	Indirect Command Processor command library
.CMD	MCR or task commands (an indirect command file)
.CNF	An Error Logging language source file
.COR	A SLP correction file
.DAT	File containing data (as opposed to a program)
.DIR	Directory file
.DMP	File Dump Utility output file
.ERR	Error Logger output file
.FTN	FORTRAN IV, FORTRAN IV-PLUS or FORTRAN-77 language source file
.HLP	Help file
.ICF	An Error Logging intermediate form file output from Control File Language compiler
.LOG	Batch or console log file
.LST	A listing file
.MAC	A MACRO-11 source program
.MAP	A Task Builder memory allocation map
.MLB	A macro library
.OBJ	An object program (output from either the MACRO-11 Assembler or a compiler)
.ODL	A Task Builder overlay descriptor
.OLB	An object module library
.PAT	Correction file used by assembler to create a patched object module
.PMD	Postmortem or snapshot dump file

Type	File Contents
.POB	Patched object module used by the PAT utility
.SML	The system macro library
.STB	Symbol table file
.SYM	An Error Logging symbol file
.SYS	A bootable system image or other system file
.TMP	A temporary file
.TSK	A task image file
.TXT	A text file
.ULB	A universal file library

NOTES