

Command Processor Operation

SW11-507

Command Processor Operation

**SW11-507
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The following standard document conventions may be used in this document. Check Section 1 for conventions unique to this document.

Item	Convention	Meaning
<KEYCAPS>	Pointed brackets around a term	A key on a computer keyboard
[TARGET]	Square brackets around a term	For touch screen monitors, an area that can be touched to invoke a system action
entry data	Courier bold text	Data you enter into the system
screen/program data	Courier text	Screen or program data

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Command Processor Operation

Section 1—Introduction

1.1 About this Document

Basics

Purpose	Provides procedures for using the TDC 3000 ^X Command Processor functions, used in conjunction with virtually all Engineering Personality activities.
Intended audience	Anyone using the Command Processor to modify Default Volume Pathnames and perform file-managing utility commands.
For product release	TDC 3000 ^X Release 500.

Document usage New users of the Command Processor should use this section to get started.

This document includes information on:

2— Modifying Default Volume Pathnames, page 13

3— Command Processor Commands, page 19

11— Recovering from Errors, page 97

Additional sections of this document provide detailed descriptions of the commands.

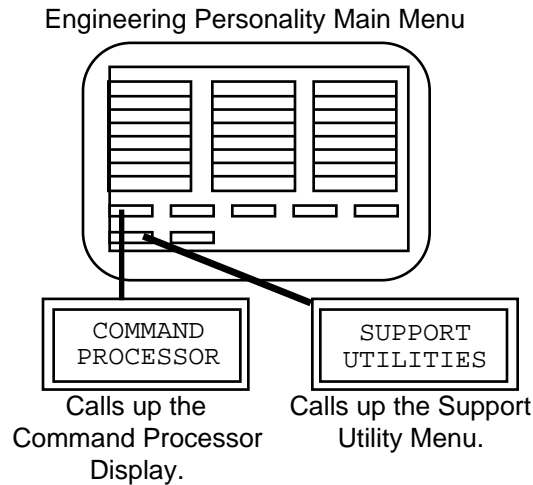
1.2 Overview

Purpose of this section	<p>This section provides basic information for users of the Command Processor functions. These functions include:</p> <ul style="list-style-type: none">• Use of the Command Processor display to execute utility commands.• Use of the Modify Default Volume Pathnames display to change default pathnames.
Topics in this section	<p>1.3 Command Processor Display and Support Utility Menu, page 3</p> <p>1.4 Uses for Command Processor Commands, page 4</p> <p>1.5 Pathnames, Volumes, Directories, and Files, page 5</p> <p>1.6 Modify Default Volume Pathnames Display, page 10</p>
How do I know when to use the Command Processor?	<p>The documentation for Engineering Personality activities advises you when you need to use the Command Processor. Briefly, the Command Processor is used in the following situations:</p> <ul style="list-style-type: none">• System startup—the Command Processor is used at specific steps in the startup of a TDC 3000^X system. Procedures for the initial startup are provided in the <i>System Startup Guide</i>.• Data-entity building —the Command Processor is used to establish and manipulate the volumes, directories, and files used in data-entity building. Entity building procedures are in the <i>Data Entity Builder Manual</i>.• Installing CL Programs— the Command Processor is used in installing and modifying CL structures, and to display and print information relative to those activities. The procedures are in <i>Control Language/AM Data Entry</i>.• System Engineering— the Command Processor is used in almost all of the activities that are selected from the Engineering Main Menu. The <i>Engineer's Reference Manual</i> provides guidelines and recommendations that affect the design and implementation of your system, including several recommendations for the user of the utilities in such work.

1.3 Command Processor Display and Support Utility Menu

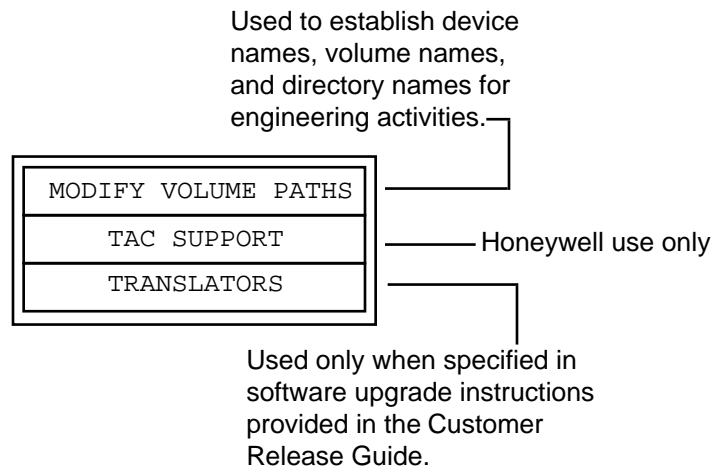
Calling up these displays

When you select [COMMAND PROCESSOR] on the Engineering Main Menu, the Command Processor display appears. Use this display to enter and execute Command Processor commands.



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When you select [SUPPORT UTILITES], the Support Utility Menu appears. This menu has the following targets:



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For information about pathnames, see 1.5 Pathnames, Volumes, Directories, and Files, page 5. For instructions for modifying volume pathnames, see:

1.6 Modify Default Volume Pathnames Display, page 10,

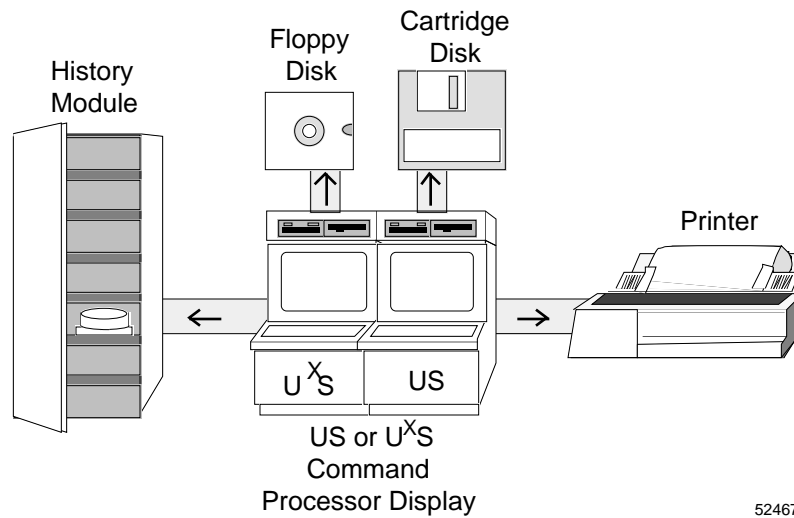
2— Modifying Default Volume Pathnames, page 13.

1.4 Uses for Command Processor Commands

What you can do with the commands

You can do any of the following:

- Establish volumes and directories on floppy disks and cartridges
- Establish directories on HMs.
- Copy volumes, files and directories from one medium to another. “Medium” means floppies, cartridges, and HMs.
- Backup HM content on cartridges and restore HM content from cartridges.
- Create, modify, and list file and directory descriptors.
- Protect and unprotect files.
- Display or print the content of files
- List attributes and status of files and devices.
- Call up other Engineering Personality activities.

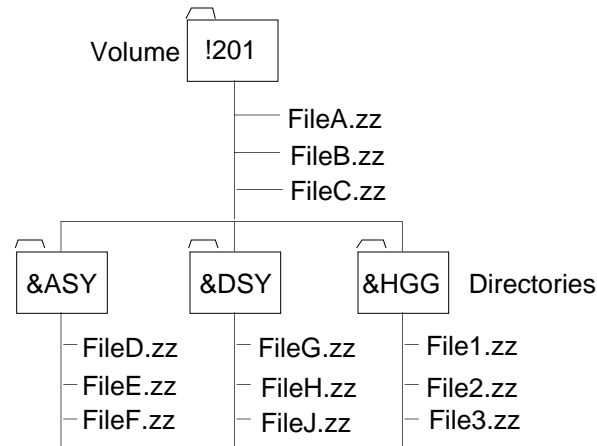


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1.5 Pathnames, Volumes, Directories, and Files

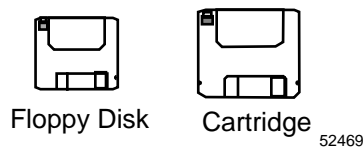
Relationships

- A volume can contain its own files and one or more directories. If a volume does not have its own files, they are located in directories in the volume.
- Directories can contain one or more files. Files contain the data that you enter and use as you configure a system.



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- Each floppy disk and each cartridge disk contains one volume, up to 63 directories, and no more than 9995 files. Floppy and cartridge disks are sometimes referred to as removable media.



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- A History Module (HM) can have several volumes. Each volume can have up to 63 directories and up to 9995 files. HM volumes are established in Volume Configuration.

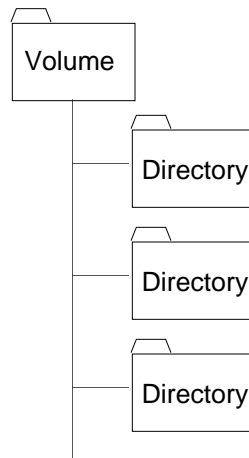


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Introduction

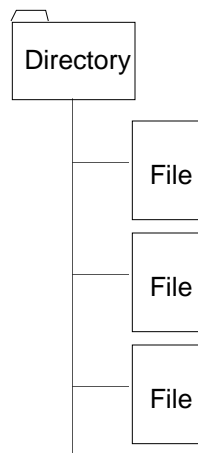
1.5 Pathnames, Volumes, Directories, and Files

- A volume often contains several directories. One or more files may be associated with the volume itself.



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- A directory usually contains a collection of related files. For example, one system directory (&ASY) contains the files related to network configuration. A common directory (CL) contains files related to user programs written in Control Language.



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Pathname form

A pathname is simply a description of the location of a file. That description consists of these parts:

- Device Identity
- Volume Directory Name
- File Name
- LCN

Pathnames are often keyed in as part of a Command Processor command. Here is an example of a pathname:

```
$F2>HGPT>UNIT1A.DB
```

\$F2 is the Device Identity (Device ID). In this case the device is the second Floppy Drive or Cartridge Drive on this Console.

HGPT is the volume name or directory name.

UNIT1A.DB is the file name and suffix (extension).

DB is the suffix. It identifies the type of information in the file.

The Device ID can be in these additional forms:

```
PN:39>HPGT>UNIT1A.DB
```

```
NET>HGPT>UNIT1A.DB
```

PN:39 means, “physical device: node number 39.” It names the physical device whose LCN node number is 39.

NET means the file and volume or directory are in an on-line HM. This indicates that the LCN is the “device,” and whichever HM has the volume or directory is to respond.

LCN device pathform includes the preceding and also these forms:

```
LCN ID \NET
```

```
LCN_ID \PN:nn
```

Pathname rules

It doesn't matter whether the letters in a pathname are capitals or lowercase letters; each is treated as a capital letter.

The Device ID is always in one of these forms: \$Fn, \$Pn, PN:nn, and NET.

\$Fn defines a floppy or cartridge drive number.

\$Pn defines a printer device ID.

PN:nn defines a physical node number (LCN node number).

NET indicates that the volume or directory is to be found in an on-line HM on the LCN.

The Volume or Directory Name consists of One-to-four characters. “&” and “!” are reserved for volumes and directories provided by Honeywell.

While directories are subdivisions of volumes, pathnames can include either a volume name or a directory name in the volume/directory field. When trying to access a file, the pathname must contain the volume name or directory name where the file is located. In the following pathname:

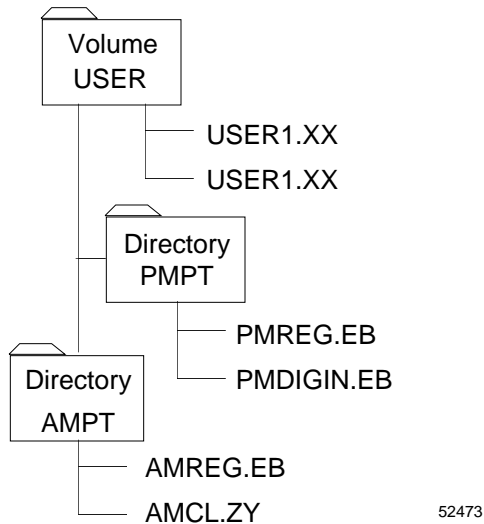
```
NET>VDIR>FILE.XX
```

Introduction

1.5 Pathnames, Volumes, Directories, and Files

The `VDIR` field (one-to-four characters) must contain either the name of a volume in an HM on the network (LCN) or the name of a directory in a volume on the network.

If the file is in a directory, the system can find it through the directory name only, it doesn't need the volume name. In this example,



assuming volume `USER` is a volume on an HM, file `USER2.XY` can be found through this pathname:

```
NET>USER>USER2.XY
```

And file `AMCL.ZY` can be found through this pathname:

```
NET>AMPT>AMCL.ZY
```

But file `AMCL.ZY` cannot be found through this pathname:

```
NET>USER>AMCL.ZY
```

File names and suffixes

File names consist of one-to-eight characters. Suffixes (sometimes called “extensions”) are one or two alphanumeric characters, preceded by a period (dot). User-supplied suffixes begin with “X,” “Y,” or “Z.”

Suffixes serve to identify the type of information contained in the file. These are some of the more common system suffixes:

- `AO=CL/AM` object file
- `BU`=Backup file
- `CF=NCF` file
- `CL=CL` source file
- `DA`=Area database
- `DB`=Intermediate data file (IDF)
- `DO`=Schematic object file

- DS=Schematic source file
- DX=DDB file
- EB=Exception-build file
- EC=Execute Command file
- FO=Free-format log object file
- FS=Free-format log source file
- JL=Logic block listing file
- JO=Logic block object file
- JS=Logic block source file
- KO=Button configuration object file
- KS=Button configuration source file
- LE=CL error listing file
- LS=CL listing file
- PI=Personality image file
- PL=Parameter list file
- WA=Area working file

1.6 Modify Default Volume Pathnames Display

Default Volume Pathnames

The Engineering functions remember a set of Default Volume Pathnames. These pathnames indicate the location of the volumes and directories the Engineering functions use as you enter your configuration information.

Each floppy disk and each cartridge is a volume and has a volume name. HMs can have up to 30 volumes.

More information can be found in, *Engineer's Reference Manual*, Volumes and Types of Data Stored in HMs section.

The display

On the display that follows, you can see all of the major volume/directory names that the Engineering functions remember and use.

When you need to, you can change the pathnames on this display. The data-entry documents tell you when you need to do so. Instructions for changing the pathnames on this display are in 2— Modifying Default Volume Pathnames, page 13.

Modify Default Volume Pathnames Display

MODIFY DEFAULT VOLUME PATH NAMES				
Edit all desired default paths and ENTER				
HG GDF NET->&HGG>	NETWORK CONFIG NET->&ASY>	CL OVERLAY NET->&OP2>	DEB OVERLAY NET->&OP1>	SDT OVERLAY NET->&OP4>
HM/AM/CM GDF NET->&AMG>	CL SOURCE/OBJ NET>CL>	NOT USED NET->&OP1>	LBC OVERLAY NET->&OP1>	FIND NAMES OVLY NET->&OP4>
AREA DB GDF NET->&ARG>	CL PARAM LIST NET>CL>	NOT USED NET->&OP1>	TRANSLATORS OVL NET->&OP4>	LOAD NODE OVRLY NET->&OP4>
CL CUSTOM GDF NET->&CDSG>	USER DEFLT PATH NET>TEST>	BUTTN CFG OVRLY NET->&OP1>	CONFIG OVRLY NET->&OP1>	PICTURE EDITOR NET->&OP1>
NIM GDF NET->&NMG>	KEY FILE VOLUME NET->&KFO>	SMCC OVERLAY NET->&OP2>	TAC SUPPORT OVL NET->&OP5>	GENERIC OVRLAYS NET->&OVG>
NIM GDF NET->&NM2>	EXT LOAD MODULE NET->&CUS>	DOC CTL DIR NET->&DOC>	TEMP FILE DIR NET>TFIL>	NCF BACKUP PATH \$Fx->&ASY
SET DEVICE PATH TO REM. MEDIA	SET DEVICE PATH TO "NET"	MAIN MENU	UTILITIES MENU	

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1.7 References

Document access Throughout this document, references to other documents are made by title only.

- To access documents provided electronically, select the document title in the main topics list (select **Main** from the **TOPICS** button). Not all documents are available electronically. If the document is not listed in the Main Topics listing, please reference your paper documentation.
- To access anything in the paper documentation, find the title in the following document listing, and use the binder number provided there.

Document listing

Table 1-1 Document Listing

Document Title	Binder Number	Binder Name
<i>System Startup Guide</i>	3030 1	Implementation/Startup & Reconfiguration - 1
<i>Data Entity Builder Manual</i>	3032 1	Implementation/Engineering Operations - 1
<i>Control Language/AM Data Entry</i>	3035 2	Implementation/AM - 3
<i>Engineer's Reference Manual</i>	3030 2	Implementation/Startup & Reconfiguration - 2

Section 2—Modifying Default Volume Pathnames

2.1 Overview

Section purpose This section tells you how to modify the default volume pathnames that the Engineering functions use for most of its operations.

Section content This section provides the following procedures:

- 2.2 Preparing to Make Pathname Changes, page 14
- 2.3 Choosing the Type of Pathname Change, page 15
- 2.4 Changing All Pathnames to NET, page 16
- 2.5 Changing All IDs to Removable Media IDs, page 17
- 2.6 Changing Individual Pathnames, page 18

2.2 Preparing to Make Pathname Changes

Calling up the Modify Default Volume Pathnames Display

Start with the Engineering Main Menu.

If you are using the Engineering functions, return to the Main Menu (select the [MAIN MENU] target or hold <CTL> and press <HELP>).

If the Engineering functions are not running on this US, load the Universal Personality. Instructions are in the *System Startup Guide*.

Use the following procedure to call up the Modify Default Volume Pathnames display:

Table 2-1

Step	Action	Result
1	On the Engineering Main Menu, select [SUPPORT UTILITIES].	The Support Utility Menu appears.
2	Select [MODIFY VOLUME PATHS].	The Modify Default Volume Pathnames display appears.

Pathname example

The following is an example of one of the pathnames on this display:

Modify Default Volume Pathnames Display

DD:MMM:YY HH:MM:SS 1

MODIFY DEFAULT VOLUME PATH NAMES

Edit all desired default paths and ENTER

HG GDF NET>&HGG>	NETWORK CONFIG NET>&ASY>	CL OVERLAY NET>&OP2>	DEB OVERLAY NET>&OP1>	SDT OVERLAY NET>&OP4>
HM/AM/CM GDF NET>&AMG>	CL SOURCE/OBJ NET>CL>	NOT USED NET>&OP2>	LBC OVERLAY NET>&OP1>	FIND NAMES OVLY NET>&OP4>
AREA DB GDF NET>&ARG>	CL PARAM LIST NET>CL>	NOT USED NET>&OP2>	TRANSLATORS OVL NET>&OP4>	LOAD NODE OVRLY NET>&OP4>
CL CUSTOM GDF NET>&CDSG>	USER DEFLT PATH NET>TEST>	BUTTN CFG OVRLY NET>&OP1>	CONFIG OVRLY NET>&OP1>	PICTURE EDITOR NET>&OP1>
NIM GDF NET>&NMG>	KEY FILE VOLUME NET>&KFO>	SMCC OVERLAY NET>&OP2>	TAC SUPPORT OVL NET>&OP5>	GENERIC OVRLAYS NET>&OVG>
NIM GDF NET>&NM2>	EXT LOAD MODULE NET>&CUS>	DOC CTL DIR NET>&DOC>	TEMP FILE DIR NET>TFIL>	NCF BACKUP PATH \$F>>&ASY

EXT LOAD MODULE
NET>&CUS

└─ Volume or Directory Name

└─ Device ID

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2.3 Choosing the Type of Pathname Change

Types of changes You may choose one of the following methods to change the Default Volume Pathnames:

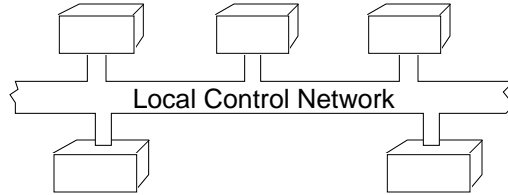
2.4 Changing All Pathnames to NET, page 16

2.5 Changing All IDs to Removable Media IDs, page 17

2.6 Changing Individual Pathnames, page 18

2.4 Changing All Pathnames to NET

How to make this change To change all of the Default Volume Pathnames to specify HMs on the LCN, use the following procedure.



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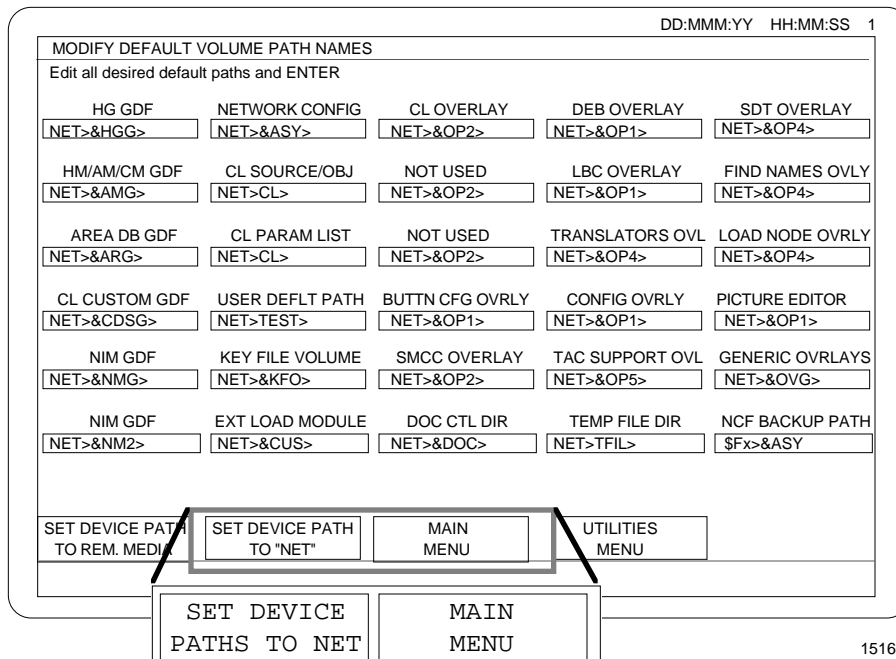
Table 2-2 Specify HMs on the LCN

Step	Action	Result
1	On the Modify Default Volume Pathnames display, select [SET DEVICE PATH TO "NET"] and press <ENTER>.	The device ID in all pathnames changes to NET in blue letters (except the NCF Backup Path for removable media).

Still need to change one or more individual NET pathnames?

Yes—2.6 Changing Individual Pathnames, page 18

No, select [MAIN MENU] to return to the Engineering Main Menu.



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2.5 Changing All IDs to Removable Media IDs

How to make this change To change all of the Default Volume Pathnames to cartridge or floppy devices IDs (identification numbers), use the following procedure:

Table 2-3 Change to cartridge or floppy device IDs

Step	Action	Result
1	On the Modify Default Volume Pathnames display, select [SET DEVICE PATHS TO CARTRIDGE OR FLOPPY "LDIDS"], and press <ENTER>.	The device ID in all pathnames changes to \$Fn in blue letters.

Still need to change one or more individual pathnames?

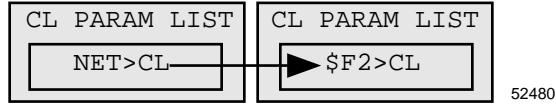
Yes—2.6 Changing Individual Pathnames, page 18

No—Select [MAIN MENU] to return to the Engineering Main Menu, shown above.

2.6 Changing Individual Pathnames

Making this change

To change an individual Default Volume Pathname,



use the following procedure:

Table 2-4 Change an individual Default Volume Pathname

Step	Action	Result
1	Touch or tab to the pathname's port.	The cursor goes to that port.
2	Type over the device name, the volume/directory name, or both; or press <CLR-ENT> to clear the port, and key in a completely new pathname. Then press <ENTER>.	If there are no errors, the pathnames are redisplayed in blue.

Section 3—Command Processor Commands

3.1 Overview

Section content First, this section provides an alphabetic list of all of the Command Processor commands. You can use this list to look up each of the commands. This list is within 3.2 Alphabetic List of Commands, page 20.

Next, this section tells you how to call up the Command Processor display and execute commands through that display. This is within 3.3 Executing Commands, page 22.

Other sections of this document contain detailed descriptions of the commands with instructions for their use. Each of these sections contains commands in the following categories. They are as follows:

- 4— File Commands, page 25
- 5— History Module Commands, page 33
- 6— Volume & Directory Commands, page 43
- 8— List & Status Commands, page 57
- 8— List & Status Commands, page 57
- 9— Descriptor Commands, page 71
- 10— Miscellaneous Commands, page 75
- 12— Decision-Making Commands, page 101

ATTENTION

All keys mentioned in this document are keys on the Engineer's Keyboard.

3.2 Alphanumeric List of Commands

Command Processor Commands	10.2 Activate & Inactivate Point Commands, page 76
	5.2 Backup HM on Removable Medium, page 34
	10.3 Call Engineering Activities, page 78
	4.2 Copy File, page 26
	6.2 Copy Volume, page 44
	6.3 Create Directory, page 46
	6.2 Copy Volume, page 44
	7.2 Data Out, page 52
	12— Decision-Making Commands, page 101
	6.5 Delete Directory, page 50
	4.3 Delete File(s), page 28
	10.4 Documentation Tool, page 80
	10.5 End Command Processor Session, page 81
	10.6 Equipment List Builder, page 82
	10.7 Execute Command, page 83
	8.2 Find Names, page 58
	10.8 Floppy Copy, page 89
	8.3 Get US or HM Device Status, page 59
	(List & Status Commands) 8.4 List File Attributes, page 61
	8.5 List Volumes, page 70
	10.9 Load Multiple Nodes, page 90
	9.2 Modify File or Directory Descriptor, page 72
	4.4 Move File, page 29
	10.10 Pause, page 92
	7.3 Print or Display File Content, page 53
	7.4 Prompt Data, page 54
	7.5 Prompt Data Output, page 55
4.5 Protect/Unprotect File, page 30	
4.6 Rename File, page 31	
5.3 Restore HM from Removable Medium, page 37	
5.4 Set HM Disk Drive Off-Line, page 39	

- 10.11 Set User Pathname, page 93
- 9.3 Set Volume Descriptor, page 73
- 10.12 Short Cuts and “Wildcard” Characters, page 94
- 7.6 Slew Printer Paper, page 56
- 5.5 Synchronize HM Disk Drives, page 40
- 10.13 Write Boot, page 96

3.3 Executing Commands

Calling up the Command Processor display

You can start with the Engineering Main Menu, or you can “escape” from one of the Engineering Personality activities to the Command Processor display.

If the Engineering Personality is not running on the Universal Station or Universal Station^X, this is either because the station is running the Operator Personality portion of the Universal Personality, or because the Engineering Personality is not loaded into the Universal Station or Universal Station^X.

If the Operator portion of the Universal Personality is running, call up the Engineering Main Menu by holding <CTL> and pressing <HELP>.

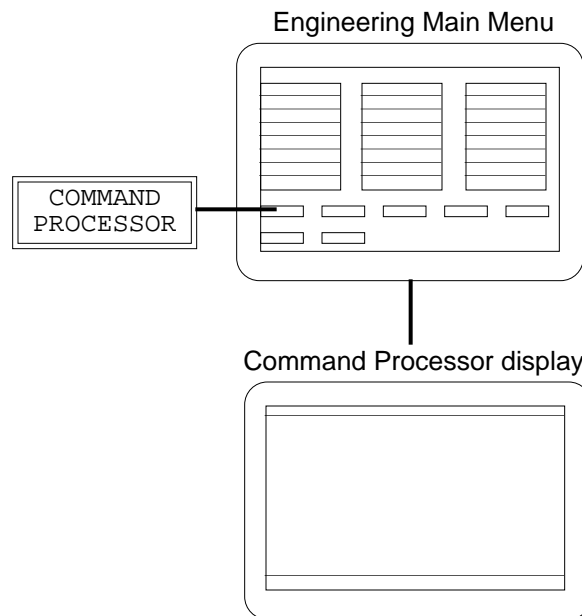
If the Engineering Personality is not loaded into the Universal Station or Universal Station^X, load it. For loading instructions, see the *System Startup Guide*.

If you are starting from the Engineering Main Menu, see *Calling up the Command Processor from the Main Menu*, page 22.

If you are in any Engineering Personality activity except Logic Blocks, see “Escaping” to the Command Processor, page 23.

Calling up the Command Processor from the Main Menu

With the Engineering Main Menu on the screen, select [COMMAND PROCESSOR]. The Command Processor display appears.



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“Escaping” to the Command Processor

With a display for an Engineering Personality activity (except Logic Blocks) on the screen, press [ESC]. The Command Processor display appears.

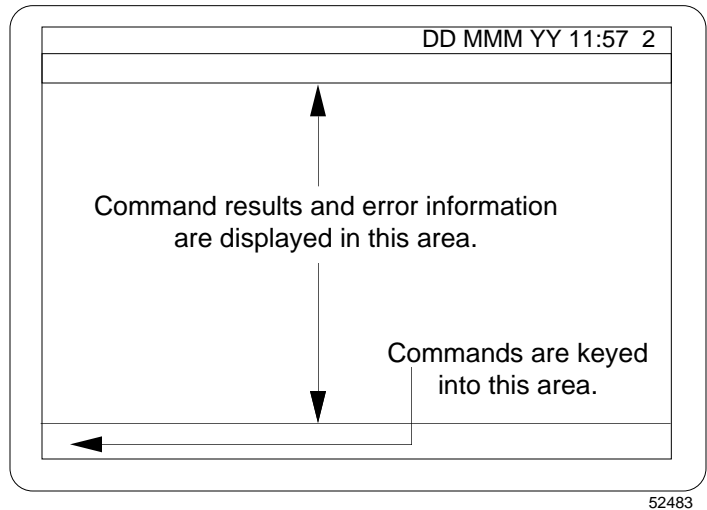
When you are finished with the Command Processor, you can return to the display you “escaped” from by holding <CTL> and pressing <HELP>.

ATTENTION

All keys mentioned in this document are keys on the Engineer’s Keyboard.

Executing a command

Areas on the Command Processor display are as follows:

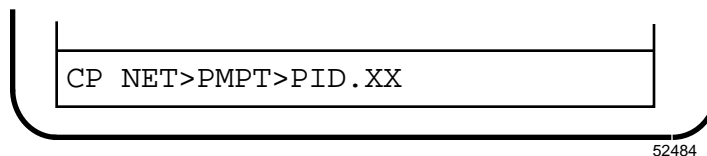


If you need information about the form of a command, you have two ways to find it.

- Press [HELP]. The Command Processor help display appears. It shows the form of each command.
- Look up the command description in other sections of this document. You can use the 3.2 Alphabetic List of Commands, page 20 to do this.

Entering a command

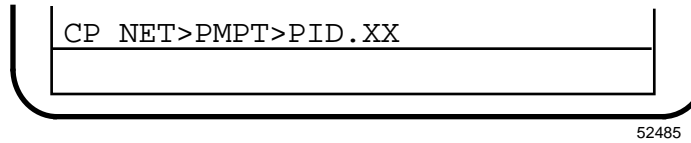
To enter a command, key the command into the entry area and press <ENTER>.



Command Processor Commands

3.3 Executing Commands

You will see an indication that the command is being executed. When execution is complete, a “complete” message appears.



If the command did not execute successfully, see [11.3 Recovering from Command Errors, page 99](#).

ATTENTION

Many of the commands take several seconds, in some cases several minutes, to complete. Usually, you can see that the command is executing. For example, you can both see and hear if a file is being printed on a printer. A copy to a cartridge or floppy-disk unit causes the indicator on the cartridge or floppy to come on from time-to-time. As a volume/directory is copied, each file is listed on the display as it is copied.

Reusing commands

To reuse a command line that you entered earlier, touch that line on the screen or use the <TAB/CUR> cursor movement keys to go to it and press [SELECT]. The command line is copied into the command area on the display. You can then press [ENTER] to execute the command, or make changes in the command area and then press [ENTER].

If the correct user volume already appears in the upper-right corner of the screen, you can omit the NET>VOL> portion of the pathnames.

Section 4—File Commands

4.1 Overview

About the File commands These commands copy, delete, transfer, move, protect, and rename files.

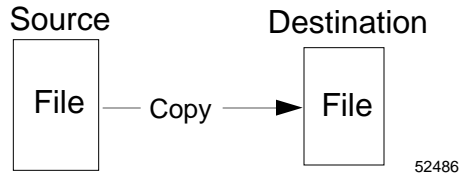
Commands in this category The file commands are as follows:

- 4.2 Copy File, page 26
- 4.3 Delete File(s), page 28
- 4.4 Move File, page 29
- 4.5 Protect/Unprotect File, page 30
- 4.6 Rename File, page 31

4.2 Copy File

Purpose

Copy a file and place the copy in a destination file. The destination file can be in the same volume or directory as the source file or in a different volume/directory. The source and destination files can be in volumes or directories in an HM or on a cartridge or floppy disk.



If a file has a descriptor, when copied it follows the file. If a file descriptor is copied to a volume not supporting descriptors, it will be lost on the destination volume.

If a file not supporting file descriptors is copied to a volume that does, the destination file has a blank descriptor. For more information, see (Descriptor Commands) 9.2 Modify File or Directory Descriptor, page 72.

Command form

```
CP NET>VDIR>FILE.XX NET>VDIR>= -D
```

where

= = Make the destination-file name and suffix equals to the source-file name and suffix.

-D = Indicate file copies and destination file.

Alternate command names are COPY, CPY, and COP.

The source-file name must include a suffix. The destination-file name cannot—the destination suffix is always the same as the source suffix.

Valid device ID forms are NET, &Fn, PN:nn. The PN:nn form must be used if the volume/directory is on an HM that is running its Initialization Personality.

Message at completion

Copy Complete

Error messages

Volume Not Found—The volume or directory you named for the source or the destination was not found where the device ID indicated it should be.

Insufficient Storage Space—There isn't enough storage space left in the destination volume/directory. You may want to delete some files in that volume or directory to make enough space available.

Destination File Extension Not Allowed—The source file suffix (extension) and the destination file suffix must be identical.

Variations and options

```
CP NET>VDIR>FILE.XX $F1>VDIR>FILE
```

where

NET>VDIR>FILE.XX = Source

\$F1>VDIR>FILE = Destination

```
CP NI\NET>VDIR>*. * NET>$F1>VDIR>=
```

where

NI = By entering the Network Gateway ID, files can be copied from one LCN to another.

. = Copy all files with all suffixes from the source volume.

= = Make destination file names and suffixes equal to those on the source volume.

RULA variations and options

To specify a pathname to a device at a Remote RULA site, include the RULA Remote system ID notation (. .\) in the pathname.

For these examples, enter the command from either the configured Remote or Host station:

Copy the Host site NCF to the Remote site removable media:

```
CP NET>&ASY>NCF.CF . .\ $f1>TEST>=
```

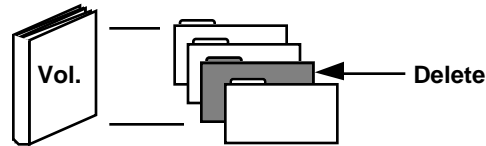
Copy a Picture Editor source file from the Remote site to the Host site:

```
CP . .\ $f1>TEST>RMPIC.DS NET>PICT>= -D
```

Reference: >>**RULA User Manual**

4.3 Delete File(s)

Purpose Deletes one or more files from the specified volume. A deleted file and its data cannot be recovered.



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Command forms DL NET>VDIR>FILE.XX

or

DL NET>VDIR>ORF.*

or

DL NET>VDIR>*. *

where

ORF.* = Delete all unprotected files named ORF, with any suffix.

. = Delete all files on this volume, with any suffix.

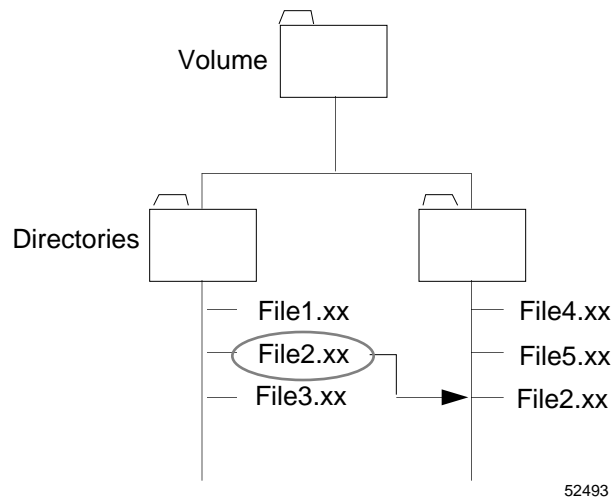
Alternate command names: DEL and DELETE

Valid device ID forms: NET, \$Fn, and PN:nn. The PN:nn form must be used if the volume/directory is on an HM that is running its Initialization Personality.

Message at completion Delete complete

4.4 Move File

Purpose Moves a file from one directory to another directory in the same volume. Also moves a file from a volume to a directory in the same volume, or from a directory to the volume that contains the directory.



Command form `MV NET>DIR1>FILE.XX DIR2`
or
`MV $F1>DIR1>FILE.XX DIR2`
or
`MV $F1>DIR1>ALPHA.* DIR2`
where

`MV NET>DIR1>FILE.XX DIR2` = Move FILE.XX from
`MV $F1>DIR1>FILE.XX DIR2` DIR1 to DIR2
`MV $F1>DIR1>ALPHA.* DIR2` = Move all the
unprotected files named
ALPHA, with any
suffix.

Message at completion Move Complete

4.5 Protect/Unprotect File

Purpose Protects a file or files from being overwritten, deleted, or moved. Also cancels such protection.



52495

Command form PT NET>VDIR>FILE.XX

where

FILE.XX = Protect this file

PT NET>VDIR>HIC.*

where

HIC.* = Protect all HIC files, all suffixes

PT or UNPT NI\NET>VDIR>USER.*

where

NI\NET>VDIR>USER.* = Protect or unprotect all
USER files, including
all suffixes on another
LCN as indicated by
the Network Gateway
ID

UNPT NET>VDIR>HIC.*

where

HIC.* = Cancel protection for all HIC files, all
suffixes

Valid device ID forms are NET, \$Fn, PN:nn. The PN:nn form must be used if the volume is on an HM that is running its Initialization Personality.

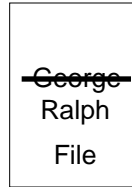
Alternate command names are PROT, PRO, UNPROT, and UNPRO.

Message at completion

File Protect Complete or Unprotect Complete

4.6 Rename File

Purpose Gives a new name to a file or a volume. The original name is no longer recognized by the system, unless it is given to some other file or volume.



52497

Command form RN NET>VDIR>GEORGE.* RALPH

where

GEORGE.* RALPH = Change the name of
GEORGE files, all suffixes,
to RALPH. Files names can
be up to eight characters.

To rename a cartridge or floppy volume:

RN \$FN>VOL> LOV>

where

VOL> LOV> = Change the name of volume VOL
to LOV. Volume and directory
names can be up to four characters.

An alternate form of the command name is REN.

Valid device ID forms are NET, \$Fn, and PN:nn. The PN:nn form must be used if the volume/directory is on an HM that is running its Initialization Personality.

Message at completion

Rename Complete

File Commands
4.6 Rename File

Section 5—History Module Commands

5.1 Overview

Commands in this category The History Module commands are as follows:

5.2 Backup HM on Removable Medium, page 34

5.3 Restore HM from Removable Medium, page 37

5.4 Set HM Disk Drive Off-Line, page 39

5.5 Synchronize HM Disk Drives, page 40

ATTENTION

You can use the (List & Status Commands) 8.3 Get US or HM Device Status, page 59 command to list the status of History Module disk drives.

5.2 Backup HM on Removable Medium

Purpose Copies all the directories and files on an HM onto a removable medium (floppy disk or cartridge). Continuous-history volumes, journal volumes, and the System Maintenance Journal are not copied.

During the backup operation, a volume can be automatically created on the removable medium. Appropriate directories are also created. If the backup requires more than one removable medium, a prompt requests that a new one be mounted. If needed, a sequential volume name can be created on the new medium (for example, &B01 , &B02 , &B03, etc.). Each new medium must be mounted in the same drive.

The backup data stored by this command is suitable for placing back on the HM with the Restore Command.

Reference: 5.3 Restore HM from Removable Medium, page 37

Using the Backup command

ATTENTION

This command creates an Execute Command file on the destination medium, which you can modify to create a custom backup operation that backs up only the volumes you specify. The .EC file contains one or more Copy Volume commands that do the actual backup. The file name is in this form: BKUPnn . EC, where nn is the HM node number.

References:

(Miscellaneous Commands) 10.7 Execute Command, page 83

(Volume & Directory Commands) 6.2 Copy Volume, page 44

We recommend that you use just-initialized cartridges or floppies as the destination media for this command.

Use the Create Volume command to initialize the media. We suggest you use -MF 3000 for cartridges and -MF 300 for floppies, and we suggest -BS 300 for either type of medium.

Reference: (Volume & Directory Commands) 6.4 Create Volume, page 47

Write down the volume name you used with the Create Volume command. You will need that name if you use the EC command to execute the .EC file on the destination cartridge.

Reference: (Miscellaneous Commands) 10.7 Execute Command, page 83

CAUTION

Before you start a backup—Ensure that no HM operation takes place that could alter the content of any of the files to be copied during the backup operation. Automatic checkpointing from all checkpointed nodes (HG, NIM, CG, and AM) must be disabled and no demand checkpoints allowed.

If you must format a removable medium during the backup operation, remember that any information stored on that cartridge or floppy will be lost.

Command form

BACKUP PN:43 \$F1

Alternate command names: BACK, BKUP.

Response of the Backup command

The .EC file is created first, then it is executed (if not inhibited as indicated within Variations and options, page 35).

This command file consists of one Copy Volume command for each volume to be copied from the HM; therefore, the Backup command responds just as the Copy Volume command does. It is the Copy Volume command that requests new media to be mounted, as needed. The Copy Volume command also formats (or reformats) each medium, if needed, according to your responses to its prompts.

Reference: (Volume & Directory Commands) 6.2 Copy Volume, page 44

Message at completion

Backup complete

Variations and options

BACKUP PN:43 \$F1 -EC \$F2>BKUP>BACKUP43.EC

where

-EC = Create the .EC file, only don't execute it.

\$F2>BKUP>BACKUP43.EC = Pathname that defines where the .EC file is to be stored.

-NO_FMD = No file descriptors are copied (unless -EC is used; the resulting EC file that is executed depends on the destination volume).

User-modification of Backup .EC files

You can modify the .EC file created by the Backup command to create a backup operation that backs up only the volumes you specify. To do so, use the Text Editor to delete the CPV command lines you don't want.

This is an example of the .EC file:

History Module Commands

5.2 Backup HM on Removable Medium

&P

CPV PN:43>!001> &1 -A -D

CPV PN:43>!101> &1 -A -D

Where:

-D equals the destination device option

This is an example of the .EC command line:

EC NET>BKUP>HM1.EC \$F1

Where:

\$F1 equals the destination device ID

For information about parameters in .EC files, see 10.7 Execute Command, page 83.

ATTENTION

When you use the Execute Command to execute the .EC file, you must use the volume name used by the Backup command when it generated the file.

5.3 Restore HM from Removable Medium

Purpose Restores the contents of a volume with all of its directories and files from a cartridge or floppy to an HM. The volume and directory must already exist on the HM. It will exist on the original HM, if the HM has not been initialized and has not had a failure that destroyed the volume or directory since the HM was prepared as in Tasks 12 through 16 in the *System Startup Guide*.

ATTENTION

This command creates an .EC file on the source medium. The .EC file has one Copy Volume command that copies the volume on the source medium to the HM.

References:

10.7 Execute Command, page 83

6.2 Copy Volume, page 44

You can modify the .EC file to facilitate restoring a volume to an HM where the HM volume is so large that two or more cartridges or floppies are needed to back it up. With such a modified .EC file, the volume can be easily restored with one EC command. The .EC file name is in this form:
RESTVOLM.EC

Command form RESTORE \$Fn> NET>VOLM

where

\$Fn> = Source

NET>VOLM = Destination HM and volume

Response to the Restore command The .EC file is created first, then it is executed (if not inhibited). This command file consists of a Create Volume command that restores the content of one cartridge or floppy; therefore, the Restore command responds just as the Copy Volume command does.

Reference: (Volume & Directory Commands) 6.4 Create Volume, page 47

If two or more cartridges or floppies are storing the backup information, you should modify the command file (.EC) by adding a Copy Volume command line for each subsequent medium, and placing PAUSE statements between CPV command lines. Each PAUSE statement should be preceded by a message to the screen that asks for the next cartridge or floppy to be mounted.

The following is an example of a modified .EC file, the user adding the third, fourth, and fifth lines:

```
&P
```

History Module Commands

5.3 Restore HM from Removable Medium

```
CPV &1>&ASY> NET -D
```

&P Mount next medium and press ENTER

PAUSE

```
CPV &1>&ASY> NET -D
```

where

&P = This command sends a message to the screen, in this case, "Mount next medium and press ENTER."

PAUSE = This command line waits for the user to mount the next medium and press ENTER.

CPV = This command line copies additional HM volume &ASY information from the next cartridge or floppy, which in this example has the same name (&ASY) as the first. Additional HM volume information can be restored by repeating this command line sequence.

&1> = This is a variable removable-media parameter referencing the first parameter on the .EC command line (example shown below) that contains the \$Fn drive number:

```
EC NET>ECVL>RESTBB01.EC $F1
```

Message at completion

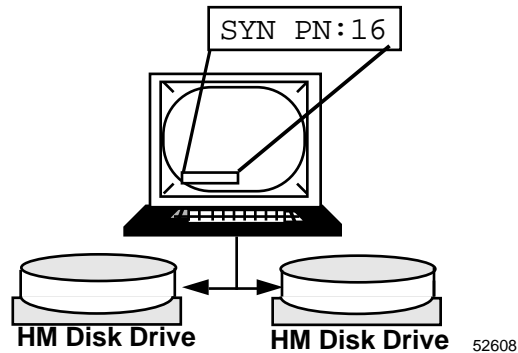
```
Restore Complete
```

5.4 Set HM Disk Drive Off-Line

Purpose	<p>Changes the status of the specified HM disk drive to off-line. This command is not valid unless the status for the specified disk drive is OK and it has a redundant partner that is OK.</p> <p>This command can also be used to abort a disk synchronization operation.</p> <p>Reference: 5.5 Synchronize HM Disk Drives, page 40</p>
Command form	<p>OFF PN: nn n</p> <p>where</p> <p>nn = HM node number</p> <p>n = Number of HM drive to be set off-line</p>
Indication of completion	<p>Use a (List & Status Commands) 8.3 Get US or HM Device Status, page 59 command to verify that the status for the specified drive changed to OFFLINE.</p> <p>To regain disk redundancy, execute a 5.5 Synchronize HM Disk Drives, page 40 command.</p>

5.5 Synchronize HM Disk Drives

Purpose Synchronizes the data on both drives of a redundant pair of drives on a History Module. Synchronization takes place while the HM is running its on-line (&HMO) personality. Once synchronized, the same data is maintained on each drive by recording the same information on both of them at each write operation.



Command form SYN PN:nn
where
nn = HM node number

Operation Synchronization is accomplished by copying of the most current good volume to each drive of the redundant pair. Normally one of the two drives contains the source for all volume data; however, in Release 400 and later, it is possible with the improved History Module Redundancy function, to cross synchronize drives.

ATTENTION

We strongly recommend that you synchronize HM disk drives only according to the following conditions:

- Both drives have been running on line before the execution of the SYN command.
- If the secondary drive has been off-line, but power has not been removed.
- If one drive fails or must be replaced for any reason. The replacement must be a blank, formatted disk drive. [Use the Hardware Verification Test System (HVTS) to format the disk drive.]

A redundant partner drive (secondary) that has had power removed while some activity is done to it on-line (volumes added or deleted), must be formatted before it can be synchronized.

ATTENTION

Because in Release 400 and later the HM disk drives are redundant on a volume-by-volume basis, it is important to realize that the History Module may be fully functional while there are corrupted volumes on any or all of the disks; therefore, before setting any disks off-line for replacement, you should reallocate bad sectors on the good drive [using the System Maintenance Control Center (SMCC) in the Engineering Personality] and then synchronize the disks (if possible) to ensure the best possible data integrity.

Cross synchronization means that some source data is taken from the primary and copied to the secondary and some source data is taken from the secondary and copied to the primary.

Synchronization can take several minutes to more than hour. It depends on how busy the HM is. The US is available for other functions as soon as synchronization is initiated.

To monitor the status of the HM during the synchronization, use the (List & Status Commands) 8.3 Get US or HM Device Status, page 59 command. While the synchronization is in process, the status is SYN_IP and upon completion it becomes OK.

To abort the synchronization, use the 5.4 Set HM Disk Drive Off-Line, page 39 command to change the drive status to OFFLINE.

Indication that synchronization is complete

When synchronization is complete, the HM's status, on the Node Status display, changes from SEVERE to OK and a message is sent to the Real Time Journal.

History Module Commands
5.5 Synchronize HM Disk Drives

Section 6—Volume & Directory Commands

6.1 Commands in this Category

Overview The volume & directory commands are as follows:

6.2 Copy Volume, page 44

6.3 Create Directory, page 46

6.4 Create Volume, page 47

6.5 Delete Directory, page 50

6.2 Copy Volume

Purpose Copy all of the directories and files in a volume and place the copies in a destination volume. The destination volume can have the same name as the source volume or it can have a different name. The source and destination volumes can be in an HM, on a cartridge, or on a floppy disk. Copy volume does not create directories on the HM.

ATTENTION

Recommendation: Use just-initialized cartridges or floppies as the destination media for this command. Use the Create Volume command to initialize the media. We suggest you use -MF 3000 for cartridges and -MF 300 for floppies, and we suggest -BS 300 for either type of medium.

Reference: 6.4 Create Volume, page 47

If you are making backup copies of personality floppies (Univ, Opr, Eng, Maint), after you copy the first floppy, you must execute a Write Boot command to that floppy.

Reference: (Miscellaneous Commands) 10.13 Write Boot, page 96

Command form CPV NET>VOLM> \$F2>VOLM -A -D -I

where

NET>VOLM> = Source

\$F2>VOLM = Destination

-A = Include all directories in the volume if the destination is a floppy or cartridge.

-D = List each file as it is copied.

Valid device ID forms are NET, \$Fn, PN:nn. The PN:nn form must be used if the volume is on an HM that is running its initialization Personality.

Message at completion Copy Volume Complete

Variations and options If you included the -I option on the command line and the medium you mounted is not formatted or does not have the expected volume name, this message appears:

Do you want to FORMAT/INIT this media? (VOLM)
where

(VOLM) = Press ENTER if this volume name
is acceptable, key in a different
volume name, or key in "NO," to
bypass the formatting function.

If you choose to format (initialize) the medium, this message appears:

Do you really want to FORMAT/INIT this media?

Press <ENTER> to continue the formatting operation and the Copy Volume operation, or key in "NO" to abort the formatting operation. If you press <ENTER>, any data in the destination volume will be overwritten.

The formatting operation is as described under 6.4 Create Volume, page 47.

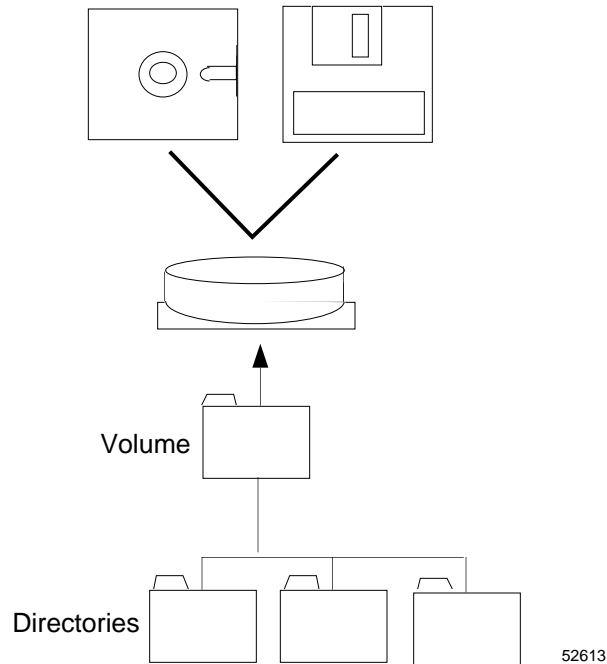
During the volume copying process, this message may appear:

Please mount next removable media on \$Fn.

To continue the operation, mount another cartridge or floppy in the same drive.

6.3 Create Directory

Purpose Creates a directory under a volume, A directory is a subdivision of the volume. Each directory can have one or more files assigned to it.



Each floppy and each cartridge is a volume. An HM can have several volumes. A volume can have up to 63 directories.

It is not necessary to use this command before using the 5.2 Backup HM on Removable Medium, page 34 command.

ATTENTION

If you need to create the same directories on a volume from time-to-time, for example, directories that will store demand checksums, consider creating an Execute Command File with the necessary Create Directory command lines in it and then executing an 10.7 Execute Command, page 83 to execute them all at once.

Command form The form is:

```
CD $F1>VOL> DIR or CD NET>VOL> DIR.
```

A space is required between the pathname and directory name. A directory name can be up to four characters long.

Message at completion Create Directory Complete.

6.4 Create Volume

Purpose Initializes a cartridge or floppy disk, which deletes any existing volumes, directories, and files, and gives the cartridge or floppy a new (or the same) volume name (up to four characters). Includes a Format option that marks and numbers the sectors on the floppy so that the system can read from and write to the floppy.

It is not necessary to use the Format option to initialize (create) a floppy that has already been formatted. When you do not use the format option, the floppy remains formatted as before.

CAUTION

With or without the Format option, the Create Volume command destroys any data stored on the floppy or cartridge.

Command form CR \$F1>VOL> -F -MF 300 -BS 26

where

-F = Format option for floppy only

-MF 300 = Maximum Files option

-BS 26 = Block Size option (Directory information that can be moved in one block.)

Alternate command name forms are CRE, CV, and CREATE.

NOTE: HM volumes are established in Volume Configuration.

Message at completion Create Volume Complete

Error messages Create Volume error messages are as follows:

- Invalid Command Format—The -MF option calls for a number in the range from 1 to 32767; the message appears if the number of files exceeds 32767.
- Max Files Out of Range (1-9995)—This message appears if a value of 0 is entered.
- Block Size Out of Range—The -BS option called for a number not in the range from 26 to 1717, if file descriptors are not being used. If file descriptors are being used, the -BS option called for a number not in the range of 26 to 600.

Variations and Options

```
CR $F1>VOLM> -F -MF 300 -MD -FD -BS 26
```

where

-F = Format Option

-MF 300 = Maximum Files Option

-MD = Memory-Resident Directory Option

-FD = File Descriptor Option

-BS 26 = Block Size Option

ATTENTION

The -MD option is not used with the -BS option. If you try this, the following message appears: -BS OPTION NOT NEEDED WITH -MD.

To initialize a cartridge or floppy disk without reformatting, key in a command without the format option like this: CR \$F1>VDIR>.

The option descriptions follow:

- **Format option**—The form is **-F**. This is used to format a floppy or cartridge disk. The Format option marks and numbers the sectors of the disk so the system can read from and write to it. This option is not needed if the disk is already formatted.
- **Max Files option**—The form is **-MF nnn**, where nnn is a number from 1 to 32767. “nnn” specifies the maximum number of files that can be stored on the cartridge or floppy. The more files, the longer it takes to search the media directory. If you know the number of files you need, use the -MF option to reduce the number of files, allowing faster transfers. The default value for the maximum number of files on a floppy is 302. The default value for the maximum number of files on a cartridge is 3020.

CAUTION

You cannot increase the maximum number of files, if you should need them later, without destroying all of the data on the cartridge or floppy. It is better to specify a number somewhat greater than your estimated needs.

- **Block Size option**—The form is **-BS nnn**, where nnn is a number from 26 to 1717. This option specifies the maximum amount of directory information that can be transferred at one time (in one block). The larger the block size, the faster the access. However, because read/write operations are executed in the node, more node memory is used. The default value equals the -MF value, or 300, whichever is less. (The -BS value doesn't limit the number of files that can be transferred,

only the amount of directory information in one internal transfer operation. For example, if the block size is 300 and 300 files are present, only one transfer is needed; if the block size is 30, ten transfers are needed.) With file descriptor, the limit is 600. See File Descriptor option.

- **File Descriptor option**—Form is **-FD**. This reserves space for the file descriptors for all files and directories on this volume. If you do not use this option with Create Volume, you will not be able to copy descriptors to the media. For more information, see 9.2 Modify File or Directory Descriptor, page 72.
- **Memory-Resident Directory option**—Form is **-MD nnn**. This option stores the entire media directory in the node memory in one block, allowing slightly faster transfers. It is similar to using a block size equal to the number of files. This option automatically sets the block size.

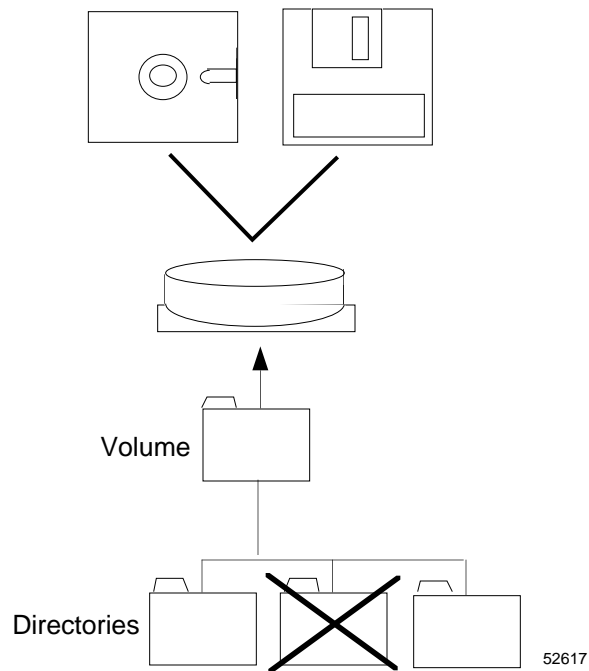
CAUTION

This option takes significant room in memory. Proceed with caution before using it.

6.5 Delete Directory

Purpose Deletes a directory from a volume. A directory that still contains files cannot be deleted. If you have no further use for the directory's files, use Delete File command to delete them.

Reference: (File Commands) 4.3 Delete File(s), page 28



Command form DD NET>VOL DIR

Message at completion Delete Directory Complete

Section 7—Print & Display Commands

7.1 Overview

About the Print & Display commands These commands direct the outputs of other commands to the Universal Station or Universal Station^X screen or to a printer, request the printing or display of text file content, and slew the paper in a selected printer one page at a time.

Commands in this category The print and display commands are as follows:

7.2 Data Out, page 52

7.3 Print or Display File Content, page 53

7.4 Prompt Data, page 54

7.5 Prompt Data Output, page 55

7.6 Slew Printer Paper, page 56

7.2 Data Out

Purpose	Specifies which device(s) to send data to when subsequent Print or List commands are executed. The data always goes to the Universal Station screen, and it can be directed to a printer or to a file in a volume/directory in an HM, or on a cartridge or a floppy disk.
Command form	DO—Send data to the screen, only. This cancels the effect of the preceding Data Out commands. DO \$P2—Send the data to the screen and to printer 2. DO NET>HGPT>ORF.xx—Send the data to the screen and to HM file ORF.xx in volume/directory HGPT.
Message at completion	Data Out Complete
Error messages	Device Error—You keyed in a device ID that was incorrect or named a device that doesn't exist or isn't operating.

7.3 Print or Display File Content

Purpose	Displays the content of the specified file on the Universal Station and, if the last 7.2 Data Out, page 52 command so specified, prints that same information on a printer.
Command form	<pre>P NET>VDIR>FILE.XX</pre> <p>Valid device ID forms are NET, \$Fn, PN:nn. The PN:nn form must be used if the volume/directory is on an HM that is running its Initialization Personality.</p> <p>Alternate command names: PR, PRINT</p>
Message at completion	Print Complete
Variations and options	<pre>P NET>VDIR>ORF.*</pre> <p>where</p> <p>ORF.* = Display (and print) the content of all ORF files, all suffixes.</p> <pre>P NET>VDIR>*.XY</pre> <p>where</p> <p>*.XY = Display (and print) the content of all files on this volume/directory with a suffix of XY.</p>

7.4 Prompt Data

Purpose Lets you direct the prompters and error messages generated by the Command Processor to both the Universal Station screen and a printer, or only to the screen.

If you specify Prompt Data On and if the last 7.2 Data Out, page 52 command specified a printer, the prompters and error messages are included in the printouts. If you specify Prompt Data Off, the prompters and error messages won't be printed, regardless of the last Data Out command.

Command form PD ON—Allow prompters and error messages to be printed.
PD OFF—Do not allow prompters and error messages to be printed.

Message at completion Prompt Data Turned On (Off)

7.5 Prompt Data Output

Purpose	Sends command lines, completion messages, and error messages to a file or to a printer. Also can cancel such outputs.
Command form	<p>PO \$P1—Send command lines, completion messages, and error messages to printer 1.</p> <p>PO NET>VDIR>FILE.XX—Send command lines, completion messages, and error messages to this file.</p> <p>PO—Cancel Prompt Data Output.</p> <p>Valid Device ID forms are NET, \$Fn, PN:nn. The PN:nn form must be used if the volume is on an HM that is running its Initialization Personality.</p>
Message at completion	Promptout Complete

7.6 Slew Printer Paper

Purpose On the printer specified by the last Data Out command, advances the paper by one page.

Command form SLW

Message at completion Slew Complete

Section 8—List & Status Commands

8.1 Overview

About the List & Status commands These commands generate printed or displayed lists of system data and status information.

Commands in this category The List & Status commands are as follows:

8.2 Find Names, page 58

8.3 Get US or HM Device Status, page 59

8.4 List File Attributes, page 61

8.5 List Volumes, page 70

8.2 Find Names

Purpose Searches for objects that are part of other objects. This command is used to display or print lists of items, such as entity names or CDS names, that are contained in objects such as checkpoint files, history groups, CL blocks, and user files. For example, you could use Find Names to obtain a list of all of the parameters in entity A100 that point to other entities or to a list of all of the entities that CL block VLRATIO refers to.

The last Data Out command determines if the output is displayed only, or is displayed and printed.

ATTENTION

Instructions for use of Find Names are provided in the *Find Names document*.

Command form FN object identifier, object identifier, name identifier

where

name identifier = Optional

ATTENTION

You can either key in a Find Names command line or use the Find Names displays to automatically generate the command line. Instructions for use of Find Names are provided in the *Find Names document*.

Message at completion Find Names Complete

Error messages If the requested Find Names search cannot be completed, a message appears to explain why. Here are two examples:

No hiway checkpoint was found in the specified volume:

```
NO MATCH FOR HWY_CP *
```

“ENTITY” is misspelled. The “^” points to the invalid object:

```
FN AMCP *, ENTETY *.* , ENTNAME *.*
```

```
      ^
      INVALID OBJECT
```

8.3 Get US or HM Device Status

Purpose Provides a list of the devices connected to this Universal Station and the status of some internal software modules, if no node number is specified. If the HM node number is specified, this command provides the status of the HM disk drives.

Command form STA—List the status of the devices attached to each US in this console.
 STA PN:nn—List the status of the disk drive(s) in the History Module whose node number is nn.

STA NET—List the status of the disk drives in all HMs on the LCN.

STA PN:nn -D

or

STA NET -D

where

-D = Include the virtual volume listing for the HMs listed.

An alternate form of the command name is STATUS.

Message at completion Status List Complete

Status list examples

```

US status list
LDID          NODE          VDID
-----
$F1           01           FD00
$C01FD01     01           FD00
$F2           01           FD01
$C01FD02     01           FD01
$P1           01           LP00
$C01LP01     01           LP00
$T1           01           IO00
$NCF_DATA    00
$LOAD_DATA   00
$PRINTER     02           LP00
$TRENDPENS   02           IO00
$RTJ         02           LP00
$C01LP01     02           LP00
Status List Complete
  
```

List & Status Commands

8.3 Get US or HM Device Status

Status list for an HM with one disk drive.

Node	Peripheral	Device Address	Redundant Device	Status	System Name	
16	FIXED_DISK	5	NONE	OK	NONE	52628

Status list for an HM with four drives.

Node	Peripheral	Device Address	Redundant Device	Status	System Name	
43	Fixed Disk	2	3	OK	NONE	
43	Fixed Disk	3	2	OK	NONE	
43	Fixed Disk	4	5	OK	NONE	
43	Fixed Disk	5	4	OFFLINE	NONE	
VVID	STATUS 5	STATUS 4	VVID	STATUS 3	STATUS 2	
!001	OK	OK	TEST	OK	OFFLINE	
!901	OK	OK	USER	OK	OFFLINE	

Virtual volume information listed when you include the -D option.

Drive 5 is offline.

Drives 4 and 5 and drives 2 and 3 are redundant.

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8.4 List File Attributes

Purpose Lists the attributes of a file, or files, associated with the specified volume or directory. The list appears on the US screen and on any printer, or in any file specified by the last Data Out command.

Reference: 7.2 Data Out, page 52

Command forms LS NET>VOL—List the attributes of all files in directory VOL.
LS NET>DIR>FILE.LS—List the attributes of the file whose name is FILE.LS.

LS \$F1>DIR—List the attributes of all files in directory DIR.

LS NET>*>* .XX List the attributes of all files in all volumes and directories on the LCN that have the suffix "XX."

LS NET>A*>* .XX List the attributes of all "XX" files in directories whose names start with "A."

Alternate command names are LIST and CAT.

Valid Device ID forms are NET, \$Fn, and PN:nn. The PN:nn form must be used to list files in an HM running its initialization personality (&HMI).

Message at completion Catalog Complete

Variations and options LS NET>VOL -D
where

-D = Don't list files, list only the volume, directory, sectors, and files information.

LS NET>VOL>FILE.*

where

* = List the attributes of each FILE file, all suffixes.

LS NI\NET>VOL

where

NI = List the attributes of files located on another LCN by entering the Network Gateway ID.

List & Status Commands

8.4 List File Attributes

LS \$F1>> or LS \$F1

where

LS \$F1>> or LS \$F1 = List the attributes of all files in the cartridge or floppy volume in drive 1 (don't know the volume name).

LS NET>VOL -A

where

-A = List all files associated with this volume and all files associated with the directories in this volume. Output is truncated at 132 characters if it exceeds this length.

ATTENTION

If the listing lines are too wide to fit on the screen, you can shift the display left or right by holding <CTL> and pressing <L> or <R>.

LS NET>VOL -FD

where

-FD = List all files associated with this volume or directory along with their file descriptors.

LS NET>VOL -REC -FD

where

-REC = List all files associated with this volume or directory, along with the START and END fields.

-REC -FD = List all files associated with this volume or directory, along with their record information and file descriptors. This option combination deletes the START and END fields so that 132 characters of information can be displayed on one line.

LS NET>VOL -N

where

-N = List all associated with this volume or directory, but only display file information. Header (title) or footer (number of sectors or files used) information is not included in the output. You can also type out the -N as NO HEADING, NOHDG, or NOHEADING to identify the option in printed reports.

LS NET>VOL -D

where

-D = Header (title) or footer (number of sectors or files used) information is included in the output. The Detail option can be used only with the -FD and -ALL options or by itself. You can also type out the -D as DETAIL to identify the option in printed reports.

LS NET>USER -S DIR, NAME, EXT, DATE, DESC

where

-S = Sorts files attribute output by either directory, file name, extension, date, or descriptor. The option default is to sort by the directory name. More than one sort option can be used. You can also type out the -S as SORT to identify the option in printed reports.

LS NET>* -M "PATTERN_MATCH_SPECIFIER"

where

-M = Displays only those files whose descriptors match what is entered between the quotes. Wild card characters of * and ? are allowed. Sets [] can also be used where group of characters are listed and one character is used (e.g., a[bcd]e matches abe, ace, or ade). You can also type out the -M as MATCH to identify the option in printed reports.

List & Status Commands

8.4 List File Attributes

```
LS NET -P DATE , TIME
```

where

-P = Lists those files whose date and/or time is prior to what is entered. You can also type out the -P as PRIOR to identify the option in printed reports. Wildcard characters are not allowed.

Date=MO/DAY/YR

Time=HR:MN

```
LS NET -F DATE , TIME
```

where

-F = List those files whose date and/or time is at or after what is entered. You can also type out the -F as FROM to identify the option in printed reports.

```
LS NET -BF
```

where

-BF = Displays limited attribute information. You can also type out the -BF as BRIEF to identify the option in printed reports.

Rules

The output listings include device and directory fields. The Network Gateway identifier is not included in the output unless it is specified in the command line.

Permission to access files through the Network Gateway by using the LS command is configured in NCF Configuration.

Wildcard rules are as follows:

- Wildcard characters “*” and “?” can be included in directory names. With or without wildcard characters, directory names cannot exceed four characters. For example,
 - LS NET >*>* .DB specifies listing of all volumes and files with the .DB suffix on the LCN network.
 - LS NET>A*>* .DB specifies listing of all .DB files in all directories whose names start with “A.”
 - LS NET>M? ?N>* . * specifies listing of all files in directories whose names start with “M” and end in “N.”
- The pattern specified with the -M(ATCH) option can include wildcard characters “*,” “?,” and “[“ with “]” The brackets define sets of characters. For example,
 - a[bcd]e would match “abe,” “ace,” or “ade.”

Legal combinations of options are as follows:

- The -D(ETAIL) option can be combined only with -FD and -A(LL).
- If both -F(ROM) and -P(RIOR) are used, the dates must be different.
- The -B(RIEF) option cannot be combined with -P(RIOR), -F(ROM), or -S(ORT).

Listing examples

ATTENTION

To see how to interpret the lists produced by the LS command, see Interpreting the LS listings, page 68.

Single file.

```
LS NET>CL>VLR.LS
NET>CL>VLR.LS
DEVICE DIR  FILENAME  EXT TYP P  VER  TIME  STAMP      #RECS RECSIZ  #BLKS BLKSIZ
-----
NET      CL  VLR      LS  L      5  11/19/85 14:59      71  -----      2  ----
FILES LISTED: 1
Catalog Complete
```

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Multiple files.

```
LS NET>TEST>*. *
NET>TEST>*. *
DEVICE DIR  FILENAME  EXT TYP P  VER  TIME  STAMP      #RECS RECSIZ  #BLKS BLKSIZ
-----
NET      TEST  HG001HG1  CP  C      0  03/08/90 13:12  ----  -----  1424  -----
NET      TEST  HG001HG2  CP  C      1  03/12/90 09:47  ----  -----  1424  -----
NET      TEST  HG001MAS  CP  C      2  03/12/90 09:47  ----  -----      1  -----
NET      TEST  HG001051  CP  C      2  03/08/90 13:12  ----  -----     10  -----
NET      TEST  HG00105L  CP  C      1  03/12/90 09:47  ----  -----      4  -----
NET      TEST  HG001052  CP  C      4  03/12/90 09:47  ----  -----     10  -----
FILES LISTED: 6
Catalog Complete
```

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Wildcard characters specifying all files in all volumes and directories.

```
LS NET>*>*. *
NET>*>*. *
DEVICE DIR  FILENAME  EXT TYP P  VER  TIME  STAMP      #RECS RECSIZ  #BLKS BLKSIZ
-----
NET      &001  001FILE1  XX  . . . . .
NET      &001  001FILE2  XX  . . . . .
NET      &001  001FILE3  XX  . . . . .
NET      &ASY  ASYFILE1  YY  . . . . .
NET      &ASY  ASYFILE2  YY  . . . . .
NET      &ASY  ASYFILE3  YY  . . . . .
NET      &DSY  DSYFILE1  XX  . . . . .
NET      &DSY  DSYFILE2  YY  . . . . .
NET      &DSY  DSYFILE3  ZZ  . . . . .
FILES LISTED: 9
Catalog Complete
```

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List & Status Commands

8.4 List File Attributes

File descriptor.

```
LS NET>*.* -FD
NET>*.* -FD
DEVICE DIR  FILENAME  EXT TYP P VER TIME STAMP          FILE DESCRIPTOR
-----
NET    &001 001FILE1  XX . . . . .
NET    &001 001FILE2  XX . . . . .
NET    &001 001FILE3  XX . . . . .
NET    &ASY ASYFILE4  YY . . . . .
NET    &ASY ASYFILE5  YY . . . . .
NET    &ASY ASYFILE6  YY . . . . .
NET    &DSY DSYFILE1  XX . . . . .
NET    &DSY DSYFILE2  YY . . . . .
NET    &DSY DSYFILE3  ZZ . . . . .
```

FILES LISTED: 9

Catalog Complete

52645

Record information and file descriptors.

```
LS NET>ASY>*.* -REC -FD
NET>&ASY>*.* -REC -FD
DEVICE DIR  FILENAME  EXT TYP P VER TIME STAMP #RECS RECSIZ #BLKS BLKSIZ FILE DESC
-----
NET    &ASY ASYFILE1  XX . . . . .
NET    &ASY ASYFILE2  XX . . . . .
NET    &ASY ASYFILE3  XX . . . . .
NET    &ASY ASYFILE4  YY . . . . .
NET    &ASY ASYFILE5  YY . . . . .
NET    &ASY ASYFILE6  YY . . . . .
NET    &ASY ASYFILE7  XX . . . . .
NET    &ASY ASYFILE8  YY . . . . .
NET    &ASY ASYFILE9  ZZ . . . . .
```

FILES LISTED: 9

Catalog Complete

52646

No title option.

```
LS NET>TEST>*.* -N
NET>TEST>*.* -N
NET    TEST TSTFILE1 XX  L  0 03/04/91 12:01 53 ----- 1 13 14233
NET    TEST TSTFILE2 XX  C  0 05/21/91 10:16 14 ----- 3 12  5233
NET    TEST TSTFILE3 XX  C  5 06/18/91 09:05 28 ----- 7 24 12763
NET    TEST TSTFILE4 YY  C  2 04/10/91 11:22 25 ----- 5 10 10289
NET    TEST TSTFILE5 YY  L  3 04/11/91 01:04 36 ----- 2  8  9821
NET    TEST TSTFILE6 YY  L  4 07/16/91 08:35 49 ----- 1  7 13097
NET    TEST TSTFILE7 XX  C  3 02/04/91 03:41 62 ----- 4 15  4904
NET    TEST TSTFILE8 YY  C  1 09/30/91 07:06 19 ----- 3 11  7380
```

FILES LISTED: 8

Catalog Complete

52647

Sort option.

```
LS NET>USER>*. * -S EXT
NET>USER>*. * -S EXT
DEVICE DIR  FILENAME  EXT TYP P VER TIME STAMP      #RECS RECSIZ #BLKS BLKSIZ
-----
NET  USER FILE1111  XX  L  0  4  03/04/91 12:01    53  -----   1  ----
NET  USER FILE2222  YY  C  4  5  04/10/91 11:22    25  -----   5  ----
NET  USER FILE3333  ZZ  L  1  0  10/13/91 12:32    33  -----   1  ----

FILES LISTED: 3

Catalog Complete
```

52648

Sort option, two fields sorted.

```
LS NET>USER>*. * -S EXT DATE
NET>USER>*. * -S EXT DATE
DEVICE DIR  FILENAME  EXT TYP P VER TIME STAMP      #RECS RECSIZ #BLKS BLKSIZ
-----
NET  USER FILE1111  XX  L  0  4  03/04/91 12:01    53  -----   1  ----
NET  USER FILE1298  XX  L  2  4  05/28/91 10:06    ---  -----  -----
NET  USER FILE2222  YY  C  4  5  04/10/91 11:22    25  -----   5  ----
NET  USER FILE1901  YY  C  3  4  09/21/91 09:42   179  -----  -----
NET  USER FILE4904  ZZ  C  1  5  08/16/91 08:12    ---  -----  -----
NET  USER FILE3333  ZZ  L  1  0  10/13/91 12:32    33  -----   1  ----

FILES LISTED: 6

Catalog Complete
```

52649

Match option.

```
LS NET>USER>*. * - M "ALPHA"
NET>USER>*. * - M "ALPHA"
DEVICE DIR  FILENAME  EXT TYP P VER TIME STAMP      FILE DESCRIPTOR
-----
NET  USER FILE5555  XX  L  0  0  03/04/91 12:01    ALPHA
NET  USER FILE7777  XX  C  4  2  04/10/91 11:22    ALPHA
NET  USER FILE8888  YY  L  1  1  10/13/91 12:32    ALPHA

FILES LISTED: 3

Catalog Complete
```

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Prior option.

```
LS TEST>*. * -P 04/20/91
NET>TEST>*. * -P 04/20/91
DEVICE DIR  FILENAME  EXT TYP P VER TIME STAMP      #RECS RECSIZ #BLKS BLKSIZ
-----
NET  TEST TESTF2  XX  L  0  1  03/11/91 12:01    53  -----   1  ----
NET  TEST TESTF6  YY  C  4  0  04/13/91 11:22    25  -----   5  ----
NET  TEST TESTF10 ZZ  L  1  2  04/19/91 12:32    33  -----   1  ----

FILES LISTED: 3

Catalog Complete
```

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List & Status Commands

8.4 List File Attributes

From date option.

```
LS TEST>*. * -P 04/20/91
NET>TEST>*. * -P 04/20/91
DEVICE DIR FILENAME EXT TYP P VER TIME STAMP #RECS RECSIZ #BLKS BLKSIZ
-----
NET TEST TESTF2 XX L 0 1 03/11/91 12:01 53 ----- 1 ----
NET TEST TESTF6 YY C 4 0 04/13/91 11:22 25 ----- 5 ----
NET TEST TESTF10 ZZ L 1 2 04/19/91 12:32 33 ----- 1 ----
```

FILES LISTED: 3

Catalog Complete

52652

Brief listing option.

```
LS NET>TEST>*. * -B
NET>TEST>*. * -B
DEVICE DIR FILENAME EXT TYP P
-----
NET TEST TSTFILE1 XX . . .
NET TEST TSTFILE2 XX . . .
NET TEST TSTFILE3 XX . . .
NET TEST TSTFILE4 YY . . .
NET TEST TSTFILE5 YY . . .
NET TEST TSTFILE6 YY . . .
```

FILES LISTED: 6

Catalog Complete

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Interpreting the LS listings

The following two figures show how to estimate file size:

- when BLKSIZ is not shown, and
- when BLKSIZ is shown.

Estimating file size when BLKSIZ is not shown.

```
NET>&701*. *
FILE NAME EXT TYP P # RECS RECSIZ #BLKS BLKSIZ START END TIME STAMP
-----
HG001HG1 CP C ----- 1212 ----- 54 1265 04/01/89 14:23
HG0010501 CP C * ----- 10 ----- 1271 1280 03/26/89 14:42
HG00105L CP C ----- 4 ----- 1266 1269 03/26/89 14:42
HG001HG2 CP C ----- 1212 ----- 1282 2493 03/26/89 14:42
HG001MAS CP C ----- 1 ----- 1270 1270 03/26/89 14:43
```

Protected files indicated by "*" in the "P" column.

```
VOLUME: &701
VOLUME DESC: HG Chkpt Control
MAX FILES: 321
FILES LISTED: 05
TOTAL SECTORS: 7680
SECTORS IN USE: 2493
ACCESS LEVEL: NETWORK_READ_WRITE
CURRENT DIRECTORY ASSIGNMENT:
&Z38 &Z39
```

HG001HG2.CP uses $(2493-1282)+1 = 1212$ sectors.

Maximum number of files in this volume

Total sectors allocated for this volume

Number of sectors currently in use—Usually somewhat more than $END - START$, e.g., $2493 - 54 = 2439$, which is less than 2493.

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Estimating file size when BLKSIZ is shown.

INDEX.AG uses $(1*13)+1 = 14$ sectors, $223+14 = 237$.

```

NET>!401>*. *
FILE NAME EXT TYP P # SECTORS RECSIZ #BLKS BLKSIZ START END TIME STAMP
-----
CA0000SY CM C ----- 215 8 222 03/20/89 15:10
INDEX AG L 1 3106 1 13 223 223 03/20/89 15:57
AGG AG L 6 100 1 09 237 237 03/20/89 15:57
SECOND AG L 1 1940 1 08 247 247 03/20/89 15:57
PAG PA L * 1 104 3 04 256 256 03/20/89 15:57
ERR_BUFF ER L 1536 04 6 04 279 279 03/20/89 15:58
  
```

VOLUME: !401 Protected files indicated by "*" in the "P" column.

VOLUME DESC: Maintenance Support

MAX FILES: 26 For Honeywell internal use only.

FILES LISTED: 06

TOTAL SECTORS: 1248

SECTORS IN USE: 306

ACCESS LEVEL: NETWORK_READ_WRITE

CURRENT DIRECTORY ASSIGNMENT:

!ESY

PAG.PA uses $(3*4)+1 = 13$ sectors

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8.5 List Volumes

Purpose Lists the volumes and directories in the HM named in the command line or in all HMs and, if the last 7.2 Data Out, page 52 command so specified, prints the list on a printer. In release R400 and later, LV NET shows the volumes and directories for the History Modules running either their operating personality (&HMO) or their initialization personality (&HMI).

Command form LV PN:nn
 where
 nn = List volumes in this HM node number.

LV NET
 where
 NET = List volumes in all HMs on this LCN.

An alternate command name is LSV.

Message at completion List Volumes Complete

Volume list example

```

HM:43
!001 ( !A01 !A02 !A03 )
&101 ( &B01 &HG0 &BO3 &AMO &B04 &OPR &ENG &OV1 &OV2 & OV3 &OV4 )
&001 ( &ASY &DSY &HGG &AMG &ARG )
-----
└─ Volumes                               └─ Directories
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```

Section 9—Descriptor Commands

9.1 Overview

**About the
Descriptor
commands**

These commands allow you to add and to edit descriptors that are attached to volumes, directories, and files. These descriptors appear in the printed and displayed listings generated by other commands, such as List File Attributes (LS) and List Volumes (LV).

**Commands in this
category**

The Descriptor commands are as follows:

9.2 Modify File or Directory Descriptor, page 72

9.3 Set Volume Descriptor, page 73

9.2 Modify File or Directory Descriptor

Purpose

Establishes, changes, or deletes file or directory descriptors on volumes that have file descriptors enabled. Any removable media may have descriptors enabled. They are enabled by using the -FD option of the Create Volume command. System volumes, Area Database volumes, and user volumes on an HM may have file descriptors enabled during volume configuration.

Descriptors remain with files and directories when they are copied. If they are copied to a volume that does not support them, they are lost on the destination volume.

Descriptors are blank if a file or directory that does not support them is copied to a volume that does support them.

You may find it helpful to have descriptors attached to files or directories that you list with the List File Attributes command or the List Volumes command. If a whole list item with its descriptor extends beyond the width of the screen, you can shift the display to the left or right by holding <CTL> and pressing <L> or <R>.

References:

(List & Status Commands) 8.4 List File Attributes, page 61

(List & Status Commands) 8.5 List Volumes, page 70

Command forms

- To add or modify a file descriptor: MFD NET>VDIR>FILEA.XX
FILE DESCRIPTOR STRING
- To add or modify a directory descriptor: MFD NET>VDIR DIR
DESCRIPTOR STRING
- To delete a file or directory descriptor, execute a Modify Descriptor command without a descriptor string.

ATTENTION

Volume descriptors are established or modified by the Set Volume Descriptor command.

Reference: 9.3 Set Volume Descriptor, page 73

Message at completion

Modify File Mgr Desc Complete

9.3 Set Volume Descriptor

Purpose Establishes or changes the volume descriptor for the specified volume. The volume descriptor appears in the detailed form of the lists created by the List File Attributes command. It can be any combination of up to 20 printable characters. You can use it to remind you of the purposes of your user volumes.

```
.EB FILES, BOILER_B20A
```

Spaces and underbars are allowed as word separators. 52660

ATTENTION

To specify file descriptors see 9.2 Modify File or Directory Descriptor, page 72.

Command form SVD NET>VDIR>Descriptor String

Message at completion Set Volume Descriptor Complete

Error messages Incomplete Command—The volume descriptor was left out of the command line.

Extra Characters On Line—More than 20 characters were keyed into the volume descriptor field of the command line, with an embedded space at position 21 and additional characters at position 22 and beyond.

Volm Desc Must Be <= 20 Chars—More than 20 characters with no spaces were keyed into the volume descriptor field of the command line.

Descriptor Commands

9.3 Set Volume Descriptor

Section 10—Miscellaneous Commands

10.1 Overview

About the Miscellaneous commands

The commands in this category are those that do not belong to one of the other command categories.

Commands in this category

The miscellaneous commands are as follows:

10.2 Activate & Inactivate Point Commands, page 76

10.3 Call Engineering Activities, page 78

10.4 Documentation Tool, page 80

10.5 End Command Processor Session, page 81

10.7 Execute Command, page 83

10.6 Equipment List Builder, page 82

10.8 Floppy Copy, page 89

10.9 Load Multiple Nodes, page 90

10.10 Pause, page 92

10.11 Set User Pathname, page 93

10.12 Short Cuts and “Wildcard” Characters, page 94

10.13 Write Boot, page 96

10.2 Activate & Inactivate Point Commands

Description `ACTIVATE` and `INACTIVATE`, available for R430 and later, are Data Entity Builder commands that can activate and inactivate any point in the system that has an execution state. These commands are usually used in EC (Execute Command) files. But they also can be issued from the Command Processor.

Definitions `ACTIVATE` point command allows the user to activate a point that is currently in the inactive state. `INACTIVATE` point command allows the user to inactivate a point this is currently in the active state.

Form of commands These two commands use the following form variations when they are used in EC files or typed into the command line of the Command Processor:

Table 10-1

activate	inactivate
<code>ACTIVATE + point name</code>	<code>INACTIVATE + point name</code>
<code>ACTIVE + point name</code>	<code>INACTIVE + point name</code>
<code>ACTIV + point name</code>	
<code>ACT + point name</code>	<code>INACT + point name</code>
Then press the Enter key.	Then press the Enter key.

Example of EC file These commands can be used in an EC file, intermixed with other EC commands. A sample EC file with activate and inactivate commands appears below:

```
INACT A100
UNLK CLPROG1 A100
CLK CLPROG1 A100
ACTIV A100
INACT B100
UNLK CLPROG2 B100
CLK CLPROG2 B100
ACTIV B100
```

Error messages Error messages are displayed for these commands when the point specified:

- Does not exist. (“Invalid point ID”)
- Does not have a point execution status (`PTEXECST`) parameter (“Cannot Activate/Inactivate Pt.”)

**Change state
journaling**

No journaling occurs when an engineer changes a point's execution state using these commands issued from the Command Processor or an EC file.

Journaling does occur when an operator changes the point execution status (Active/Inactive targets) on the Point Detail Display.

10.3 Call Engineering Activities

Purpose Twenty-two subcommands are available to call up Engineering activities (overlays) from the Command Processor display. You can use these subcommands to go directly to one of the activities without returning to the Engineering Main Menu.

Each of the subcommands calls for the appropriate software overlay. Such overlays can be called only if you call the Command Processor display from the Engineering Main Menu.

Command form An example is ADB. See the list in Variations and options, page 78.

Calling for one of the activities Key in one of the commands listed in Variations and options, page 78 and press <ENTER>.

LOADING OVERLAY appears. When successfully loaded, the first display for the selected activity appears. If needed volumes or directories are not found on removable media, prompters appear requesting them. Use the Modify Default Volume Pathnames display to set path to removable media.

Variations and options The following are the Engineering activities and the commands that call for them:

Table 10-2 Commands and Activities

Eng. Activity	Command
Area Database	ADB
Application Module	AM
Area Names	AREA
Button Configuration	BC
CL Programs	CL, CLK, LK, UNLK
Computing Module	CM
DEB Commands	CMD
Console Names	CONS
Free Format Logs	F'FL
Find Names	FN
Hiway Gateway	HG
HM History Groups	HMG
Logic Blocks	LB
LCN Nodes	LCN

Table 10-2 Commands and Activities (continued)

Eng. Activity	Command
Load Multiple Nodes	LD, LN
Network Interface Module	NIM
Picture Editor	PE
System Maint.	SM
System Wide Values	SWV
Translators*	TR
Unit Names	UNIT
Volume Configuration	VC

*Use the Translators (TR) command only when the software upgrade instructions in the Customer Release Guide tell you to do so.

Additional overlays may be available as custom displays. To see a Help display with custom displays and subcommands, press <HELP>, then <PAG FWD> to page 3 of the Help display.

10.4 Documentation Tool

Purpose	Searches and retrieves data from the on-line databases of LCN nodes and process-connected devices including AMs, CMs, the UCN, and Data Hiway devices. Once data is retrieved, commands within the Documentation Tool can manipulate data to create more customized information. Results of this data manipulation can be sent to a file or to a printer.
Command form	DT After you key in this command and press <ENTER>, the Documentation Tool overlay is loaded and the initial Documentation Tool display appears. For instructions for use of the Documentation Tool, see <i>Documentation Tool</i> .
Variations and options	The following commands are available from the Documentation Tool's initial display: FIND —Locates the next occurrence of a pattern, or specified field within the current display. FILTER —Displays a subset of the data currently on the screen. SORT —Arranges records within a file in ascending order. QUERY —Retrieves user-created entity data from the online database. OUTPUT —Prints or saves the results of previous Documentation Tool operations such as queries and sorts. DEFINE CNTRL FILES — Creates the directory that stores previously built queries. OPEN —Displays a file as defined by the pathname entered in the entry ports. CLOSE —Removes the display from the display stack.

10.5 End Command Processor Session

Purpose Returns from the Command Processor display to the Engineering Main Menu. If a printer is in use, printing stops and the printer is released. If a file is open, it is closed.

Command form END

10.6 Equipment List Builder

Reference For more information about the Equipment List Builder (ELB) command, see the *Equipment List Reference Manual*.

10.7 Execute Command

Purpose Executes commands found in user-created Command Files, thus providing a way to execute a predefined sequence of commands to perform complex tasks that are frequently accomplished. As the commands are executed, they and any prompters they cause appear on the screen.

Command form EC NET>VDIR>COMMANDS .EC

Alternate command names are EX and EXECUTE.

The COMMANDS field can contain any of the Command Processor commands and any of the commands in 12— Decision-Making Commands, page 101.

Valid Device ID forms are NET and \$Fn.

Use the Text Editor to create your command files, and to enter data in them.

General information can be found in *Text Editor Operation*.

Variations and options

A command file can include one or more of the following directives:

```
EC NET>VDIR>COMMANDS.EC PAR1 PAR2 PAR3
```

where

PAR1 PAR2 PAR3 = Parameter Values

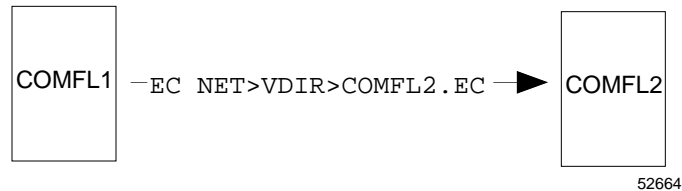
- & This is a comment—"&" followed by a space specifies a comment line, which is ignored by the Execute Command.
- &A—"&" followed by an "A" causes the Command Processor to enter the Attached Mode. In the Attached mode, prompters generated by the commands must be answered by data in the command file.
- &D—"&" followed by a "D" causes the Command Processor to enter the Detached Mode. In the Detached Mode, a prompter generated by a command causes execution to pause until the prompter is answered by someone at the Universal Station. If the Attached mode has not been called for by &A, the Command Processor is in the Detached Mode.
- &F or &FILE—"&" followed by an "F" or "FILE" causes the Command Processor to open a text file. The file is closed when the next &F or &FILE command occurs, or an end-of-file is encountered or the EC ends.
- &P—"&" followed by a "P" causes the text that follows to be sent to the screen and to any printer or file specified by the preceding Prompt Out Command.

Miscellaneous Commands

10.7 Execute Command

Any of the Command Processor commands and any of the Decision-Making Commands can be included in a Command File, including EC. In a Command File executed by an EC Command in another Command File, the &A and &D directives affect only the file that contains them.

Reference: 12— Decision-Making Commands, page 101



ATTENTION

In earlier releases, when you put an Engineering Main Menu command (see the list following) in an EC file, the engineering activity is called and the Engineering Main Menu appears. This leaves the remainder of the EC file unexecuted and some memory is not released.

In R400 and later releases, the EC file processor intercepts a main menu command, displays an error message, and continues execution of the EC file.

Commands that call an Engineering Main Menu activity

Table 10-3 Main Menu Commands

ADB	Area Database
AM	Application Module
AREA	Area Names
BC	Button Configuration
CM	Computing Module
CMD	Builder Commands
CONS	Console Names
DT	Documentation Tool
FFL	Free Format Logs
HG	Hiway Gateway
HMG	HM History Groups
LB	Logic Blocks
LCN	LCN Nodes
NIM	Network Interface Module

Table 10-3 Main Menu Commands (continued)

PE	Picture Editor
SM	System Maintenance
SWV	System Wide Values
UNIT	Unit Names
VC	Volume Configuration

Command file examples

The following is an example of a simple command file. Each comment explains what the next command line does.

```
& The following command line directs command lines and
& prompters to file SESSION.EC, as well as to the screen.
PO NET>CL>SESSION.EC
& The next line sends a message to the screen.
&P READY?
& The next command causes execution to pause until
& the operator presses ENTER.
PAUSE
LS NET>ABC>*. * -D
&P THE CATALOG FOR VOLUME ABC IS
&P STORED IN FILE: SESSION.EC.
```

The following is a command file that uses parameter values. When the file executes, "&1" and "&2" are replaced by parameter values 1 and 2 from the command line.

```
&P Copying &1 and &2
&P Copying &1 and &2
&P &1 Copied to &2
```

The following is a command line to execute the command file, preceding:

```
EC NET>VOL1>CMDFILE.EC NET>VOL1>JOE.EC NET>VOL2>=
```

where

```
NET>VOL1>JOE.EC = Parameter Value 1
NET>VOL2>= = Parameter Value 2
```

When executed, this command line and file copies JOE.EC from VOL1 to VOL2. The last message on the screen says:

```
NET>VOL1>JOE.XX Copied to NET>VOL2>=
```

Miscellaneous Commands

10.7 Execute Command

The following example depicts how an EC can be used to back up files. In this example, you may do a backup from any source path to any destination path. The EC asks several questions that you must answer to determine where the files are located and which suffixes they have. The EC also requires the file time and date in order to allow selective file backup; for example, performing backups for a week or an entire month. This command file uses several of the commands described in 12— Decision-Making Commands, page 101.

In the following example,

- the command file gathers the source and destination pathnames,
- Uses a LS command to list the desired files,
- writes them to a temporary file named FILES.LT,
- opens file FILES.LT with the &FILE directive,
- each line in the file is read (the third and fourth fields are the file names and suffixes, respectively),
- uses ^R3 and ^R4 to copy the file from the source pathname to the destination pathname,
- and repeats this process for each file in FILES.LT.

```
&P**Begin Backup of Files**
&P

&IF EXISTS FILES.LT & THEN DL FILES.LT

& Q2 "Are you using a Cartridge in the backup? (y or n)"
&IF NOT ^Q2 & THEN &G AGAIN
&Q3 "Do you want to format your Cartridge? (y or n)"
&IF NOT ^Q3 &THEN &G AGAIN
&V9 "Enter the device where the Cartridge is located:"
&V10 "Enter the volume name to initialize the Cartridge with:"

&P
&P The Cartridge in device ^V9 will be formatted and initialized
&P and everything currently on the Cartridge will be lost.
&P
&Q4 "Do you wish to continue to format and initialize the Cartridge? (y or n)"
&IF NOT ^Q4 &THEN &G AGAIN
CR ^V9>^V10 -FMT -MF 2000

&L AGAIN

&V1 "Enter the extension of the files you wish to backup (e.g. CL, *, EB)."
```

```
&L NORANG
&P
DO FILES.LT
&IF NOT ^Q5 & THEN &G LSTWO
LS ^V2>^V3>*.^V1 -FROM ^V7 -PRIOR ^V8 -NOHDG
&G LSONE
&L LSTWO
LS ^V2>^V3>*.^V1 -NOHDG
&L LSONE
DO
&Q1 "Do you wish to backup any more files? (y or n)"
&IF ^Q1 &THEN &G AGAIN

&V4 "Enter the device where the files should be copied to:"
&V5 "Enter the volume where the files should be copied to."
&IF EXISTS ^V4>^V5> &THEN &G OKPATH
&P
&P The designated destination does not exist, hit <ENTER> to continue
&P and it will be created for you.
PAUSE
&V6 "Enter the main volume name under the destination device:"
CD ^V4>^V6> ^V5

&L OKPATH
&FILE FILES.LT
&L NEXT
&IF NOT READ &THEN &G DONE
CP ^V2>^V3>^R3.^R4 ^V4>^V5>=
&G NEXT

&L DONE
&P
&P ** Completed Backup of Files**
```

The following shows what appears on the screen as the backup command file, described above, executes:

```
EC EXAMPLE.EC
**BEGIN BACKUP OF FILES**

ARE YOU USING A CARTRIDGE IN THE BACKUP? (Y OR N)
Y
ENTER THE DEVICE WHERE THE CARTRIDGE IS LOCATED:
$F6
ENTER THE VOLUME NAME TO INITIALIZE THE CARTRIDGE WITH:
EC2
THE CARTRIDGE IN DEVICE $F6 WILL BE FORMATTED AND INITIALIZED AND EVERYTHING CURRENTLY ON THE
CARTRIDGE WILL BE LOST. DO YOU WISH TO CONTINUE TO FORMAT AND INITIALIZE THE CARTRIDGE? (Y OR
N)
Y
CR $F6>EC2 -FMT -MF 2000
Create Volume Complete
ENTER THE EXTENSION OF THE FILES YOU WISH TO BACKUP (E.G. CL, *, EB):
ENTER THE DEVICE FROM WHERE THE FILES SHOULD BE READ:
$F7
ENTER THE VOLUME FROM WHERE THE FILES SHOULD BE READ:
```

Miscellaneous Commands

10.7 Execute Command

```
EC
DO YOU WISH TO SPECIFY A DATE RANGE TO CHOOSE THE FILES? (Y OR N)
N

DO FILES.LT
Data Out Complete
LS &F7>EC>*.XX -NOHDG
```

The list called for by the LS command appears here.

```
Catalog Complete
DO
Data Out Complete
DO YOU WISH TO BACKUP ANY MORE FILES? (Y OR N)
N
ENTER THE DEVICE WHERE THE FILES SHOULD BE COPIED TO:
$F6
ENTER THE VOLUME WHERE THE FILES SHOULD BE COPIED TO:
EC2
CP $F7>EC>ATTACH.EC $F6>EC2>=
Copy Complete
CP $F7>EC>BLANKS.XX $F6>EC2>=
Copy Complete
CP $F7>EC>BLANKS.XX $F6>EC2>=
Copy Complete
CP $F7>EC>EMPTY.XX $F6>EC2>=
Copy Complete
CP $F7>EC>F1.XX $F6>EC2>=
Copy Complete
CP $F7>EC>F2.XX $F6>EC2>=
Copy Complete
CP $F7>EC>F3.XX $F6>EC2>=
Copy Complete
CP $F7>EC>FILE.XX $F6>EC2>=
Copy Complete
CP $F7>EC>FILE1.XX $F6>EC2>=
Copy Complete
CP $F7>EC>FILES.XX $F6>EC2>=
Copy Complete
CP $F7>EC>FILES1.XX $F6>EC2>=
Copy Complete
CP $F7>EC>LONGLINE.XX $F6>EC2>=
CP $F7>EC>SUB_STR.XX $F6>EC2>=
Copy Complete

**COMPLETED BACKUP OF FILES**
EC Complete
```

10.8 Floppy Copy

Purpose Copies the full content of one cartridge or floppy disk to another. The Source and destination media must be mounted in drives that are directly connected to the Universal Station.

ATTENTION

Removable media containing test programs HVTS, CMTS, and LCN Communication Test cannot be copied using Floppy Copy. If you want to copy these programs, HVTS contains a copy command that will let you do so.

Command form FCP \$F1 \$F2
where

\$F1 = Source

\$F2 = Destination

Alternate forms of the command name are FCOP and FCOPY.

Message at completion Floppy Copy Complete

10.9 Load Multiple Nodes

Purpose Lets you load one or more nodes by executing a single command, without the need for someone to remain at the console while several nodes are loaded.

Uses the default volumes/directories as sources for the personality images and checkpoint data. These volumes and directories must be on an HM.

ATTENTION

The nodes to be loaded must be shut down or reset before the Load Multiple Nodes command is executed (status must be PWR_ON or READY). Shut them down through the appropriate status display.

Command form LD 35 36 38 40

where

35 36 38 40 = Node numbers for each node to be loaded separated by at least one space.

Messages output as Load Multiple Nodes executes

As each node is loaded, progress messages like these appear:

LOADING NODE 35

LOADING NODE 36

LOADING NODE 38

LOADING NODE 40

LD COMPLETE

Error messages

If the command can't be executed or if any node can't be loaded, a message appears to explain why. Here are two examples:

NODE IS NOT IN PROPER STATE—SHUTDOWN NODE BEFORE ATTEMPTING LOAD—The nodes to be loaded must be shut down or reset before the Load Multiple Nodes command is executed (status must be PWR_ON or READY). Shut them down through the appropriate status display.

WRONG NODE TYPE 43—History Modules cannot be loaded with the Load Multiple Nodes command.

For more information about problems with loading nodes, see the *Engineer's Reference Manual*.

Variations and options

Unless you specify otherwise, the LD command loads the on-process personality in each node. You can specify that a US be loaded with a personality other than the default (on-process) personality by adding the abbreviation (OP, UP, or AM) to the node number as in this example:

```
LD 35 UP36 38 AM40 OP37
```

where

UP36 = Loads the Universal Personality to node 36.

AM40 = Loads the Application Module to node 40.

OP37 = Loads the Operator Personality to node 37.

To stop a loading sequence initiated by the LD command, press <BREAK> (hold <CTL> and press <COMMND>). The sequence stops after loading of the current node is complete and before loading of the next node begins.

To see a **help display** for the LD command, key in **LD** (with no node numbers) and press <ENTER>.

10.10 Pause

Purpose	The Pause command is used to pause in the Execute Command (EC) to wait for an operator action. For example, it would allow the operator to perform a <CONTROL/BREAK> key combination to abort an execution in progress.
Command form	PS Enter the Pause command at the Command Processor to pause the US activity, press the <ENTER> key to resume activity; you can also press the <CONTROL/BREAK> key combination to resume activity. When you place a Pause command in the Execute Command, the system pauses, waiting for an operator action.
Reference	The use of the Pause command with EC is described on one of the TDC 3000X's online Text Editor Help screens. From the Text Editor, press the Help key on the Engineer's keyboard.

10.11 Set User Pathname

Purpose Specifies the pathname for the user volume/directory currently in use. This has the same effect as modifying the [USER DEFLT PATH] port on the Modify Default Volume Pathnames display.

```
USER PATH: NET>MINE>
```

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Once you specify the user volume/directory pathname, you need to enter only the file name and its suffix for most operations that would otherwise require a full pathname.

Because this command can be entered directly from the CL Linker/Loader display, or from the Data Entity Builder through use of the <ESC> key, this command provides a convenient method for changing the user volume/directory pathname without leaving the CL display or the DEB.

Command form SP NET>VDIR>

Example: SP \$F2>PNTS>

An alternate form of the command name is SET.

Message at completion Set User Path Complete

10.12 Short Cuts and "Wildcard" Characters

Purpose Features and functions that can save you time and effort are described here.

Presetting the user pathname If the user pathname displayed in the upper-right corner of the Command Processor display is correct, you can save work by omitting the device identity and volume/directory-name portions of any command line. You can set it up by modifying the [USER DEFLT PATH] port on the Modify Default Volume Pathnames display. Instructions for doing this are in 2—Modifying Default Volume Pathnames, page 13.

For example, suppose the user pathname appears as follows:

```
USER PATH : NET>VOL1>
```

To copy file JOHN.EL to file JANE.EL on the same volume (VOL1), you could key in this short form of the command line:

```
CP JOHN.EL JANE
```

When you press <ENTER>, the copy is made just as if you had keyed in the full form of the command line, like this:

```
CP NET>MYVOL1>JOHN.EL NET>MYVOL1>JANE
```

Call other Engineering activities You can call up other Engineering activities directly from the Command Processor display, without returning to the Main Menu. Instructions are provided with in 10.3 Call Engineering Activities, page 78.

Load several nodes at once You can load one or more nodes directly from the Command Processor display. Instructions are with in 10.9 Load Multiple Nodes, page 90.

Wildcard characters Wildcard characters "*" and "?" let you save keystrokes, and they let you define operations on multiple files and volumes/directories with the same name and different suffixes, or with the same suffix and different names. * and ? in command lines have the following meanings:

* stands for one or more characters in this file or suffix field, beginning at this character position, then to the right, to the end of the field. * cannot be used in the eighth (right-most) position in the file field.

? stands for any single character in the file at this location.

The following are examples of the use of the wildcard characters.

Suppose you have the following text files:

```
ABCDEFGH . EL
```

```
ABCJEFHG . XX
```

```
ABCKEFGH . YY
```

PR ABC?EFGH.*—Causes the content of all three of these files to be displayed or printed. Any 8-character file whose name begins with “ABC” and ends with “EFGH” is displayed or printed; all suffixes are accepted.

PR ABC*.EL—Causes the content of file ABCDEFGH.EL and any other “.EL” files that begin with “ABC” to be displayed or printed.

PR *.EL—Causes the content of all files with any file names and with the suffix “EL” to be displayed or printed.

PR ABCDEFGH.?L—Causes the content of ABCDEFGH.EL and any other ABCDEFGH files with any 2-character suffix ending in “L” to be displayed or printed.

10.13 Write Boot

Purpose Writes a boot record on the specified volume/directory. The boot record is a software routine that allows the hardware and firmware to begin the personality-loading process.

If you are making backup copies of a personality's cartridge or floppies (Univ, Opr, or Maint), after you copy the first cartridge or floppy in the personality set, you must execute a Write Boot command to that cartridge or floppy, or it won't be possible to load the personality from that cartridge or floppy set.

Command form WB \$F1>&LDR

where

\$F1>&LDR = Write Boot to the Universal Personality volume or directory mounted in removable media drive 1.

WB PN:40>!9np

where

PN:40>!9np = Write Boot to the HM local volume/directory (!9np) in an HM running its initialization personality. NOTE: These forms work because boot files have already been copied to those directories.

9np = "np" is the node-pair number for the HM.

Alternate command names are WRITE_BOOT and WRITE_B.

Message at completion

Write Boot Complete

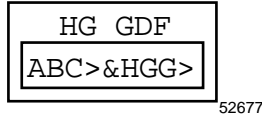
Section 11—Recovering from Errors

11.1 Overview

Purpose of this section	This section provides guidance recovering from errors that may occur when you are modifying Default Volume Pathnames or when you are executing commands through the Command Processor display.
Section content	If you are using the Modify Default Volume Pathnames display, see 11.2 Recovering from Pathname Errors, page 98. If you are using the Command Processor display, see 11.3 Recovering from Command Errors, page 99.

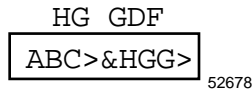
11.2 Recovering from Pathname Errors

Default pathname error indications One or more of the ports (targets) has red characters or a red outline and an error message appears at the lower-left of the display.



Default pathname errors and causes The following are examples of the error messages with the causes of the errors:

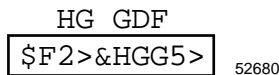
- **DEVICE ID SYNTAX ERROR**—The device ID is neither NET nor \$Fn, where n is a floppy or cartridge drive number. This is an example:



- **DEVICE NOT FOUND**—The device ID names a device that is not NET and is not that of a floppy drive connected to this console. This is an example:



- **VOLUME ID SYNTAX ERROR**—The volume name has more than four characters or has one or more illegal characters. This is an example (“&HGG5” has one too many characters):



Correcting default pathname errors Use the following procedure:

Table 11-1 Correct Default Volume Pathname Errors

Step	Action	Result
1	Type over wrong characters or press <CLR-ENT> and key in a whole new pathname, then press <ENTER>.	All pathnames should be redisplayed in blue and no ports should have a red outline. If you still have errors, go to step 2.
2	Repeat step 1 until there are no errors.	All pathnames should be redisplayed in blue and no ports should have a red outline.

11.3 Recovering from Command Errors

Command execution error indications

Error indications include the following:

- An error message on the screen.
- Failure to get the expected action or response.
- The “message of completion” (defined for each command in the 3— Command Processor Commands, page 19 section) does not appear.

Identifying the cause of a command error

We suggest you try one or more of the following:

- Determine if the problem is in the command line or is caused by a device malfunction.
- In most cases, you can determine from the error message whether the problem is in your command line or if some device is not functioning properly.
- For help in interpreting these messages see the *Messages Directory*.
- See the 3— Command Processor Commands, page 19 section for detailed command and option information.

Correcting command execution errors

Use the following procedure:

Table 11-2 Correct a Command Execution Error

Step	Action	Result
1	Re-enter the command line or key in a new command line and press <ENTER>.	The command is executed and the “complete” message appears.

Recovering from Errors

11.3 Recovering from Command Errors

Section 12—Decision-Making Commands

12.1 Overview

Purpose In your command files you can use the following commands to ask questions, make decisions, and respond to various conditions.

For more information about command files, see (Miscellaneous Commands) 10.7 Execute Command, page 83.

Many of the decision-making commands are used in the .EC files provided by Honeywell, to assist in upgrading LCN-based systems from one software release to another.

Command list The decision-making commands are as follows:

Table 12-1 Decision-Making Commands

Command	Type	Syntax
&Qn &Vn &IF &THEN	Question Question Directive Directive	&Qn "question" &Vn "question" &IF (active function) &THEN (then clause)
&ELSE &(F)ILE &G &L	Directive Directive Directive [go to (label)] Directive [go to (label)]	&ELSE (else clause) &(F)ILE &G (label) &L (label)
&Q (R)EAD AND OR	Directive [quit] Active function Active function Active function	&Q (Active function) (Active function) (Active function)
NOT EXISTS ^Rn ^Qn	Active function Active function Active function Active function (answer)	NOT (active function) EXISTS (pathname) ^Rn ^Qn
^Vn & space &P &A	Active function (answer) Comment line Comment line Active function (answer)	^Vn (No print) Display on screen or printer &A prompts answered within command file
&D &S	Active function (answer) Active function (store)	&D prompts answered from keyboard &S &V1 OR &Q1 string

Decision-Making Commands

12.1 Overview

The &, &A, &P, and &D directives may also be useful in .EC files with decision-making commands.

These directives are defined in (Miscellaneous Commands) 10.7 Execute Command, page 83.

12.2 Command Descriptions

&Qn: Question, yes or no

“n” is an integer from 1 to 32.

Asks a question and expects a yes or no answer. The answer is stored in the corresponding ^Qn item as a true (yes) or false (no) value that can be acted upon by one of the logical functions (AND, OR, and NOT) or an IF command. A “Y” is recognized as a “yes” answer and an “N” is recognized as a “no” answer. For example,

```
&Q1 "DO YOU HAVE 68000 AM?"
&Q2 "DO YOU HAVE 68020 AM?"
&
&IF ^Q1 &THEN CP &1>&AMO>AMONP?.PI NET>&AMO>= -D
&IF ^Q2 &THEN CP &1>&AMO>AMONPH?.PI NET>&AMO>= -D
&
```

As each question appears on the screen, execution pauses to wait for the answer. Key in Y or N (press <ENTER> after keying Y or N) as the answer. Each answer is stored in ^Q1 and ^Q2 as true (yes) or false (no). The &IF/&THEN command lines test those values to decide if the copy command on the same line should be executed (true) or not (false).

The &Qn question can also be made to act as an active function by including in the &IF line an &ELSE directive after the &THEN directive. For example,

```
&IF ^Q1 &THEN PR NET>HMV1>TST.XX &ELSE PR
NET>HMV1>STS.XX
```

If the user answered with Y, TST.XX is displayed by the PR command, and if the answer was N, STS.XX is displayed.

To use quote marks (") within a question, use any character other than A through Z and 0 through 9 as the delimiters. For example,

```
&Q1!DO YOU WANT "FAST" UPDATES?!
```

The exclamation points (!) act like the quote marks (") did in the other examples and the question on the screen looks like this:

```
DO YOU WANT "FAST" UPDATES?
```

&Vn: Question, character-string answer

“n” is an integer from 1 to 32.

Asks a question and expects an answer that consists of one or more printable/displayable characters. The answer is stored in the corresponding ^Vn item as a character string that appended to subsequent lines in the command file. For example,

```
&V1 "WHERE DO YOU WANT THIS FILE TO BE STORED?"
```

Decision-Making Commands

12.2 Command Descriptions

&

```
CP &1>VOL1>MYFILE.XX ^V1= -D
```

&

When the question appears on the screen, execution pauses to wait for the answer. Key in pathname NET>VOL1> as the answer, and that answer is stored in ^V1. When the copy command line is executed, the content of the ^V1 item (NET>VOL1>) is used as the pathname for the destination of the file to be copied.

&IF: If directive

Tests the true or false value in the active function(s), and execution proceeds as indicated by that value and the &THEN and &ELSE functions on the same command line. The active functions can be nested. “&IF” must be at the beginning of the command line. For example,

```
&IF ^Q1 &THEN CP &1>&AMO>AMONP?.PI NET>&AMO>= -D
```

&

```
&IF ^Q1 AND ^Q2 &THEN &G LABEL1 &ELSE &G LABEL3
```

For the first command line, if the value in ^Q1 is true (answer was “yes”), the copy command on that line is executed. Otherwise, the copy command is skipped and the next command line is evaluated. For the second command line, if both ^Q1 and ^Q2 contain “true,” the &G item transfers control to the line named LABEL1. Otherwise, the &ELSE item transfers control to the line labeled LABEL3.

If ^Qn functions are nested, parentheses must be used. For example,

```
&IF ^Q1 AND (^Q2 OR ^Q3) &THEN &G LABEL1 &ELSE &G LABEL3
```

&THEN: Then directive

Defines what is to take place if the active function(s) evaluated by the IF directive is true. The (then clause) defines the action to take and must be on the same line as &THEN. “&THEN (then clause)” must succeed the &IF directive and must precede any &ELSE directive. The (then clause) can be any valid command line or any directive except &L, &IF, &THEN, or &ELSE. For example,

```
&IF ^Q1
```

```
&THEN CP &1>&AMO>AMONP?.PI NET>&AMO>= -D
```

&

If the content of ^Q1 is true (answer was yes), the copy-command line is executed. If ^Q1 contains “no,” the copy command is not executed and the next line in the command file is executed. If the (then clause) should be omitted, an &ELSE directive (if present) is ignored, and the next line in the command file is executed.

You could use an “empty” &THEN clause. For example,

```
&IF ^Q1 &THEN &ELSE CP &1>&AMO>AMONP?.PI
NET>&AMO>= -D
```

If the user answered Y, there is no action. If the answer was N, the CP command is executed.

&ELSE: Else directive

Specifies that some action, other than execution of the next command line, is to take place. This is an optional directive that, when used, must immediately succeed the &THEN directive. The (else clause) can be any valid command line or any directive except &L, &IF, &THEN, or &ELSE. For example,

```
&IF ^Q1 &THEN &G LABEL1 &ELSE &G LABEL3
&
```

If ^Q1 doesn't contain “true,” control is transferred to the command line that follows the line labeled LINE3.

ATTENTION

.EC files can call for other .EC files that include &THEN or &ELSE clauses. If they do, the range of any &Q, &G, &L, &IF, &A, and &D commands are strictly within the range of the file in which they occur.

&F(ILE): File directive

Opens a file using the default pathname unless another is specified. For example,

```
&FILE $F1>ETA>JOHN.XX
```

The file is closed when the next &F(ILE) occurs, or when the .EC ends.

&G: Go-to function

Specifies that control is to be transferred to the command-file line immediately after the specified label location. The label location must be defined by one &L (label) item somewhere in the command file. For example,

```
&IF ^Q1 &THEN &G LABEL1
```

If ^Q1 contains true, control is transferred to the command line that follows the line labeled LINE1. If ^Q1 contains false, control is transferred to the next command line after this one.

&L: Label function

Defines a labeled location that can be the object of an &G (label) function. For example,

```
&IF ^Q1 &THEN &G LABEL2
&
PR $F2>VOL2>JOHN.XX
&
```

Decision-Making Commands

12.2 Command Descriptions

```
&L LABEL2  
DL $F2>VOL2>JOHN.XX  
&
```

If ^Q1 contains “true,” JOHN.XX is deleted. Otherwise, the content of JOHN.XX is displayed by the PR command line.

&Q: Quit command-file execution

Stops execution of the command file and returns control to the Command Processor display. For example,

```
&Q4 "ARE YOU READY TO QUIT?"  
&  
&IF ^Q4 &THEN &Q  
&  
PR $F2>VOL2>JOHN.XX
```

If the user keys in Y in response to the question, command-file execution stops. If the user keys in N, execution continues with the PR command line.

R(EAD): Read function

Reads one line from the text file that was opened in the FILE directive. Variables are substituted (^R1 to ^R32) for as many strings as are on the line. The READ function must be used in conjunction with the &IF directive. For example,

```
&IF &NOT READ &THEN &G bye
```

AND: AND function

Returns a value of true if the values in both (active function) values are true. The AND function can be an active function for another active function, in which case, it is enclosed in parentheses. For example,

```
&IF ^Q1 AND ^Q2 &THEN &G LABEL1  
&  
&IF ^Q5 AND (^Q1 AND ^Q2) &THEN &G LABEL5  
&  
PR $F2>VOL2>JOHN.XX
```

For the first command line, if the values in both ^Q1 and ^Q2 are true, control is transferred to the first command line after the line designated LABEL1. For the second command line, if all of the values in ^Q5, ^Q1, and ^Q2 are true, control is transferred to the first command line after the line designated LABEL5 and if any of these values is false, execution continues with the PR line. Any unnecessary pairs of parentheses are ignored if the syntax is otherwise correct.

OR: OR function Returns a value of true if the values in either of the (active function) values is true. The OR function can be an active function for another active function, in which case, it is enclosed in parentheses. For example,

```
&IF ^Q1 OR ^Q2 &THEN &G LABEL1  
&  
&IF ^Q5 OR (^Q1 AND ^Q2) &THEN &G LABEL5  
&  
PR $F2>VOL2>JOHN.XX
```

For the first command line, if either ^Q1 or ^Q2, or both, are true, control is transferred to the first command line after the line designated LABEL1. For the second command line, if either ^Q5 or (^Q1 AND ^Q2), or both, are true, control is transferred to the first command line after the line designated LABEL5 and if ^Q5 is false and (^Q1 AND ^Q2) is false, execution continues with the PR line. Any unnecessary pairs of parentheses are ignored if the syntax is otherwise correct.

NOT: Invert function If (active function) contains true, “false” is returned. If (active function) contains false, “true” is returned. For example,

```
&IF NOT EXISTS NET>&LDR>BOOTNAME.BO &THEN &G  
LABEL1  
&
```

If the file named by NET>&LDR>BOOTNAME.BO does not exist, control is transferred to the next command line after the location designated LABEL1, but if it does exist, execution continues with the next command line after this one.

EXIST: Does this volume/directory or file exist? If (pathname) defines a volume, directory, or file that is found, a “true” is returned. For example,

```
&IF EXISTS NET>&LDR>BOOTNAME.BO &THEN &G LABEL1  
&  
&  
&IF EXISTS $F1>&LDR> &THEN &G LABEL5
```

Decision-Making Commands

12.2 Command Descriptions

For the first command line, if file BOOTNAME.BO is found in directory &LDR on an HM, the result is true, and control is transferred to the next command line after the line labeled LABEL1. For the second command line, if a volume or directory named &LDR is found on the floppy diskette in drive 1, the result is true, and control is transferred to the next command line after the line labeled LABEL5. If a pathname doesn't define an existing volume, directory, or file, the result is false and the next command line is executed, rather than the one pointed to by the &G directive. Wildcard characters can be used in the pathnames.

Reference: (Miscellaneous Commands) 10.12 Short Cuts and “Wildcard” Characters, page 94.

^Rn: READ variables

READ variables are substituted for strings on a line. They number from 1 through 32 and are used with the READ directive which reads one line from an open text file. For example,

```
&P “Requested by EC NET>TEST>FILES.EC NET TEST
FILES XX”
&FILE &1>&2>&3.&4
& L NEXT
&IF &NOT &READ &THEN &G DONE
&P NAME ^R1>^R2>^R3.^R4
PR ^R1>^R2>^R3.^R4
&G NEXT
&L DONE
&P END
```

^Qn: Yes or No Answer

This item returns a value of true or false, according to the last answer provided to the corresponding &Qn question. The value is true when the answer was Y (yes) and it is false when the answer was N (no) (press <ENTER> after keying Y or N). If the question has not yet been answered, an error message is generated. For example,

```
&IF ^Q1 DL NET>VOL1>JOHN.XX
&
DL NET>VOL1>JANE.XX
```

If the answer to question &Q1 was “yes,” file JOHN.XX is deleted, and if the answer was “no,” file JANE.XX is deleted.

^Vn: Character-string answer

This item returns the character string keyed-in response to the corresponding &Vn

question. If the question has not yet been answered, an error message is generated. For example,

```
&V1 "WHERE DO YOU WANT THIS FILE TO BE STORED?"  
&  
CP NET>VOL1>MYFILE.XX ^V1= -D  
&
```

When the question appears on the screen, execution pauses to wait for the answer. The user keys in pathname NET>VOL1> as the answer, and that answer is stored in ^V1. When the copy command line is executed, the content of the ^V1 item (NET>VOL1>) is used as the pathname for the destination of the file to be copied.

&S: Command Store

This item stores a 1- to 32-character string in ^V1 or stores a “Y” or an “N” in ^Q1.

```
&S &V1 string  
or  
&S Y &Q1
```

Decision-Making Commands
12.2 Command Descriptions

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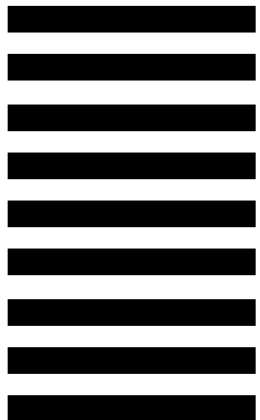
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