HP 3000 Series 9X8LX Computer Systems
# Task Reference

**HEWLETT
PACKARD**

## Printing History

The following table lists the printings of this document, together with the respective release dates for each edition. The software version indicates the version of the software product at the time this document was issued. Many product releases do not require changes to the document; therefore, do not expect a one-to-one correspondence between product releases and document editions.

| Edition | Date | Software Version |
|---|---|---|
| First Edition | April 1994 | B.50.00 |

## In This Book

This book describes how to communicate with your system using MPE/iX commands and how to perform tasks using these commands. The book also includes a chapter on troubleshooting and a glossary. It contains the following chapters described below:

Chapter 1: **Learning to Use MPE/iX Commands**

Provides practice in using MPE/iX commands instead of the HP Easytime/iX menus. It includes learning how to use the editor, which allows you to create text files.

Chapter 2: **Performing Tasks Using MPE/iX Commands**

Gives procedures for the tasks that you can perform on the HP 3000 by using MPE/iX commands.

Chapter 3: **Getting More Information**

Introduces some of Hewlett-Packard's HP 3000 support services, HP 3000 educational services and provides a bibliography.

Chapter 4: **Troubleshooting**

Describes basic troubleshooting and problem identification procedures.

## Related Manuals

The *Task Reference* is the third book in a set of five manuals that includes the following:

*Understanding Your System* (B3813-90001)  If you are new to computers, this is a good place to start. It provides an introduction to what computers do and how they do it.

*Getting Started* (B3813-90003)  Familiarizes you with your computer and computer peripherals. It also explains how to get your system ready for use, how to use and maintain your tape drives and how to communicate with your system using HP Easytime/iX.

*Task Reference* (B3813-90009)  Describes how to communicate with your system using MPE/iX commands. This book also includes a chapter on how to get more information on your system, a chapter on troubleshooting and a glossary.

*Commands Reference* (B3813-90011)  Provides a detailed explanation of each MPE/iX command.

*New Features of MPE/iX: Using the Hierarchical File System* (32650-90351)  Describes the changes to MPE/iX as of Release 4.5 and 5.0, which enhanced MPE/iX to make it "POSIX-compatible." The book also describes the features of the hierarchical file system.

| **Note** | The MPE/iX operating system has been enhanced as of Release 4.5 and 5.0 to include additional features that include POSIX compatibility and the *hierarchical file system*. The *hierarchical file system* is tree structured and can contain files at many different levels. This organization provides a special kind of file called a **directory**. Instead of holding data, directories contain lists of files and pointers to those files.

For more information on *POSIX* and the *hierarchical file system*, refer to the book, *New Features of MPE/iX: Using the Hierarchical File System* (32650-90351), included in this documentation set. This book includes an overview of the following enhancements of MPE/iX as of Release 4.5 and 5.0:

- Open systems environment
- Hierarchical file system (HFS)
- Expanded file naming syntax
- New and enhanced commands and utilities
- MPE/iX Shell and Utilities
- MPE/iX Developer's Kit |

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# Learning to Use MPE/iX Commands

*Getting Started - HP 3000 Series 9X8LX* (B3813-90001) describes one way for you to communicate with your computer system, namely through the menu-driven screens of HP Easytime/iX. This manual describes another method, namely, directly entering MPE/iX operating system commands.

## Using This Tutorial

This chapter includes a self-paced tutorial for those who are new to the MPE/iX operating system. The exercises direct you to try things on the system in order to reinforce important tasks presented within each section.

Begin each section by reading its introduction. Try the examples, performing them in sequence. You may stop at any point within this tutorial.

By the end of the chapter, you will be able to do the following:

- use commands successfully
- use the online Help Facility
- get screen listings of file names
- create and modify text files
- create job files
- copy data onto tape

# Beginning and Ending a Computer Work Session

Before you can do any work on your system, you must begin communicating with the computer. This is called *logging on*.

When you have finished your work on the computer, you end your communication with the computer by *logging off*.

## Before You Start

Before you start this tutorial, you will need

- logon identification for your HP 3000 Series 9X8LX

- account manager (AM) capabilities

- set up a `PRACTICE` account using the MKACCT command described in chapter 2, in the section *Creating a Practice Account*, **OR** use your `USERNAME.ACCT` in place of `USER1.PRACTICE`.

## Getting Started

If you are the system administrator, you have probably set up a `PRACTICE` account Use this account to log on and perform the tasks that follow.

To log on to your MPE/iX system, follow these steps:

1. Type `HELLO` followed by the logon identity:

    MPE/iX: <u>HELLO USER1.PRACTICE</u> [Return]

2. If you are prompted for a password, type it and press [Return]. For security reasons, what you enter does not appear on the screen. What appears on your screen is the system prompt. The system prompt is a colon ( : ), unless a programmer has changed it for you.

:

The colon prompt (:) tells you that you have successfully logged on. You have started a session with the computer.

Next to the prompt is a cursor that can be a small line (_) or a small square of light. The cursor shows you where the next letter or number that you enter is going to appear on the terminal screen.

```
: _
```

## To log off

The log off command is BYE. You can practice logging off and ending your session with the system if the terminal that you are using is not also the console. Enter:

:BYE [Return]

A goodbye message appears when you log off. For example:

```
CPU=1. CONNECT=1. TUE, JAN 15, 1993,  3:38 PM.
```

The words in the message mean this:

CPU                     Central processing unit. This part of the computer system
                        interprets and executes instructions and contains all or part
                        of the internal storage.

CONNECT                 Tells you how many minutes that your session was
                        connected to the system or how long you were logged on to
                        the system.

The current date and logoff time are also provided.

## To use passwords

When you log on to your system, the computer may prompt you to enter passwords:

■ an account password

■ a user password

■ a group password

You may be prompted to provide only one of these, two of them, or all three.

In each case where a password is required, your system gives you three chances to enter the right password. After a third incorrect entry, you see an error message. When this happens, enter the HELLO command again.

An incorrect entry of a password would look like this on the screen:

```
MPE/IX: HELLO LARRY.SMITH
ENTER ACCOUNT PASSWORD:


ENTER ACCOUNT PASSWORD:


ENTER ACCOUNT PASSWORD:


INCORRECT PASSWORD.  (CIERR 1441)


MPE/iX:
```

The message itself, INCORRECT PASSWORD, describes the problem. The error message number (CIERR 1441) follows the description. You will see other messages as you perform tasks.

## To enter commands

Commands let you communicate with the system in a similar way that words
and language let you communicate with other people. To use the commands,
you must be logged on to the system. Once again, log on to the PRACTICE
account.

Executing an MPE/iX command requires only two steps:

1. Type the name of the command and any other necessary words at the
   system prompt.

2. Press the (Return) key.

In the following exercise, you will enter commands that give you information
from the computer.

## Using the Help Facility

You will find the HELP command to be a very useful command. The HELP
command provides a list of categories that you can get help on. Enter the
following command now:

    :HELP (Return)

The screen displays:

```
          This is the MPE/iX Help Facility
-----------------------------------------------------
Enter SUMMARY, CLASS, a command name, or HELPSTUDY  *
-----------------------------------------------------
SUMMARY.... A summary MPE/iX commands & HELP"


CLASS.... ..     Classes of Commands
                 SESSIONS, JOBS, FILES, SUBSYSTEMS, ETC.


< command name >.... . . COMMAND entries, by name


< command name >< keyword > COMMAND entry with keyword
PARMS, OPERATION, EXAMPLE


HELPSTUDY.... .... . A beginner's introduction to
Help


EXIT.... .... .... To leave the Help facility.


You can use UPPERCASE or lowercase.


>>>>>>>  The name of this screen is HELPMENU  <<<<<<<
>
```

The Help Facility has its own prompt, the "greater than" symbol:

>

## To exit HELP

When you are using the Help Facility, you will see the Help prompt when the scrolling has stopped.

To get out of Help, enter EXIT:

>EXIT [Return]

The standard prompt (:) should now appear.

If you would like to learn more about the Help Facility, use the HELPSTUDY command.

## To get the current time and date

The SHOWTIME command allows you to see the time and date on your terminal screen.

At the system prompt, type SHOWTIME:

:SHOWTIME [Return]

On the screen, you should see something like this:

```
FRI, JAN 30, 1993,  3:58 PM
:_
```

If you encounter an error message, retype the command, or refer to "Using the Help Facility" in the above section.

## To change the current time and date

The SETCLOCK command is used to change the system time or to change the system's time zone. The following example illustrates setting the system time by providing a date and time:

:SETCLOCK DATE=07/04/1993; TIME=15.00 [Return]

The following example illustrates a time correction that advances the system time by one hour (3600 seconds):

:SETCLOCK CORRECTION= +3600   (Return)

or

:SETCLOCK CORRECTION= 3600   (Return)

For more information about the :SETCLOCK command, refer to the *Commands Reference* (B3818-90011).

## To get information about your session

The SHOWME command displays information about your session. It also displays any special logon messages, such as a Welcome message.

To see the group and account that you are in, use the SHOWME command. Enter:

The screen displays information about your session:

```
USER: #S41,USER1.PRACTICE,PUB        (NOT IN BREAK)
RELEASE: B.31.00   MPE/IX HP31900 B.09.70   USER VERSION: B.31.00
CURRENT: MON, APR 28, 1993,  9:59 AM
LOGON:   MON, APR 28, 1993,  9:59 AM
CPU SECONDS: 1         CONNECT MINUTES: 1
$STDIN LDEV: 104         $STDLIST LDEV: 104
:_
```

The SHOWME display provides valuable information. Locate each of the following:

| | |
|---|---|
| `USER` | This identifies you on the computer in two ways: |
| | ■ By session number: in this example, `#S41` (session number 41). This number is assigned to you by the system when you log on. |
| | ■ By logon identity: in this example, `USER1.PRACTICE,PUB`. (On the screen, it would show the way you logged on.) |
| `MPE VERSION` | Tells you which version of the operating system that you are using. |
| `LOGON` | Shows the day and time that you logged on. |
| `CONNECT MINUTES` | Shows how many minutes have passed since you logged on. |
| `$STDIN LDEV` | This logical device number (here it is 104, a number assigned by the computer) tells your system which terminal you are using in your session. |
| `$STDLIST LDEV` | This logical device number (here it is 104, a number assigned by the computer) tells your system where to send your output. It is the default. |

The (`NOT IN BREAK`) message (on the top line) means that you are not in the middle of running a program. You have temporarily halted its execution.

Your session number, logon identity, and LDEV number are important. Be sure to record this information.

## To get information about jobs and sessions

The `SHOWJOB` command displays the identities of other users, jobs, and sessions currently logged on to the computer.

To see information about jobs and sessions, enter the following command now:

    `:SHOWJOB` (Return)

Your screen will display a list of columns like the following, although your screen will be unique to your system:

```
JOBNUM    STATE INPRI  JIN   JLIST    INTRODUCED   JOB NAME

#S110      EXEC  QUIET  101   101     TUES  9:00A USER1.PRACTICE
#S114      EXEC         103   103     TUES  2:05P LARRY.SMITH
#S115      EXEC         105   105     TUES  2:45P IRENE.JONES
#J15       EXEC         109   LP      TUES  4:00P PAY.ACCNTNG

4 JOBS
    0 INTRO
    0 WAIT; INCL 0 DEFERRED
    4 EXEC; INCL 3 SESSIONS
    0 SUSP
JOBFENCE=7;  JLIMIT=6;  SLIMIT=60
:
```

In the left column of the above example, all but one job number begins with
an #S. The S indicates session. A session begins the moment that you log on
(HELLO) and ends when you log off (BYE). When you work in a session, you will
see the results of your instructions as they execute.

The remaining job number begins with a #J (J15). You use a job when you want the computer to carry out your instructions on its own. You do not have to be logged on when the job starts, or when it ends. The job prints out a report for you, telling you what it did and whether it succeeded in doing what you wanted it to do. Running a job is often called *batch processing* or a *batch job*.

## To correct an error

What if you make a mistake while entering a command? There are various methods of correcting these mistakes. Choose the method that is most convenient. You can correct your mistake by

- retyping the command

- backspacing over the error

- using the REDO command

Try one of the above methods. Make a mistake. Enter:

    :SHOWHOB (Return)

Your screen should look like this:

```
SHOWHOB
UNKNOWN COMMAND NAME.  (CIERR 975)
:_
```

The computer does not recognize the command, so it displays an error message. The parenthetical phrase (CIERR 975) identifies this error message.

Try retyping the `SHOWJOB` command now. Enter:

    :SHOWJOB (Return)

You now see the `SHOWJOB` display:

```
JOBNUM   STATE INPRI  JIN  JLIST   INTRODUCED  JOB NAME

#S110     EXEC  QUIET  101  101    TUES  9:00A USER1.PRACTICE
#S114     EXEC         103  103    TUES  2:05P LARRY.SMITH
#S115     EXEC         105  105    TUES  2:45P  IRENE.JONES
#J15      EXEC         109  LP     TUES  4:00P  PAY.ACCNTNG
```

## Introduction to Accounts, Groups, and Users

**Note**    The MPE/iX operating system has been enhanced as of
Release 4.5 and 5.0 to include additional features. For more
information on these features, refer to the book, *New Features
of MPE/iX: Using the Hierarchical File System* (32650-90351),
included in this documentation set.

If you installed the software for your organization, you have already seen the
terms accounts, groups, and users. If someone else showed you how to log on,
you have used an account, group, and users perhaps without even knowing it.

The account structure consists of four elements:

- accounts
- groups (who belong to accounts)
- users (who belong to accounts)
- files (who belong to groups)

As a user, you are assigned to a specific account. When you log on, you enter
HELLO, your user name, and the name of the account to which your user name
is assigned. An account may have more than one user assigned to it.

To understand the account structure, think of your computer system as a filing
room in which there are many filing cabinets.

Each separate cabinet in the room is comparable to a separate account on the
computer system.

Try the following exercises to help familiarize yourself with commands that give
you information about your accounts, groups, and users.

## To list account information

The LISTACCT command provides information about assigned capabilities, disk
space limits, and user access. To display this information, enter:

    :LISTACCT  [Return]

A description of the account that you are logged on to appears:

```
*******************
ACCOUNT: PRACTICE

DISC SPACE: 16(SECTORS)          PASSWORD: **
CPU TIME  : 18(SECONDS)          LOC ATTR: $00000000
CONNECT TIME: 333(MINUTES)       SECURITY--READ    : AC
DISC LIMIT: UNLIMITED                      WRITE   : AC
CPU LIMIT : UNLIMITED                      APPEND  : AC
CONNECT LIMIT: UNLIMITED                    LOCK    : AC
MAX PRI   : 150                            EXECUTE : AC
GRP UFID : $055A0002 $0D079125 $0024FFB6 $1E033861 $2C3362E2
USER UFID: $055A0001 $0D079125 $0025D4B6 $1E033861 $2C3362E9
CAP: AM,AL,GL,ND,SF,BA,IA
```

The `CAP` information listed at the lower left and the `SECURITY` information
listed in the right column give you the following information about this
account.

`CAP` stands for capability. The abbreviations that follow indicate the
capabilities assigned to your account. You can find explanations for these
abbreviations and those in the `SECURITY` column in Volume III of this guide.

## To list account passwords

If you forget your account password while you are logged on to your account,
you can list your password by using the `LISTACCT` command followed by the
`PASSWORD` parameter. You must have account manager (AM) capability to list
your account password with the `LISTACCT` command.

Try this now:

   `:LISTACCT;PASS` ⌊Return⌋

## To list group information

Accounts can be divided into smaller units called *groups*. Groups are comparable to the drawers in each filing cabinet. Files reside in groups.

A quick way to list the groups within an account is to use the `REPORT` command. Enter that command now to see which groups are currently in your account:

  :REPORT (Return)

Here's a sample of what you might see on your screen:

```
ACCOUNT    FILESPACE-SECTORS    CPU-SECONDS       CONNECT-MINUTES
/GROUP     COUNT     LIMIT      COUNT    LIMIT    COUNT    LIMIT
PRACTICE    16        **         18       **       333      **
/PUB        16        **          7       **       252      **
/QTR1        0        **         11       **        81      **
```

The names of the account `PRACTICE` and its groups `PUB` and `OTR1` are listed in the far left column. Additional columns of information state the amount of file space occupied by the account and its group, the cumulative total CPU time used by persons using that account and group, as well as their cumulative connect time to the system.

## To see detailed information about groups

To get more detailed information about the groups in your account, use the `LISTGROUP` command. Enter:

  :LISTGROUP (Return)

You should see a display similar to the following on your screen:

```
GROUP: PUB.PRACTICE

DISC SPACE: 44384(SECTORS)      PASSWORD: **
CPU TIME  : 17871(SECONDS)      SECURITY--READ  : ANY
CONNECT TIME: 8373(MINUTES)             WRITE : AL, GU
DISC LIMIT: UNLIMITED                   APPEND: AL, GU
CPU LIMIT : UNLIMITED                   LOCK  : AL, GU
CONNECT LIMIT: UNLIMITED                EXECUTE : ANY
PRIV VOL : NO                           SAVE  : AL, GU
FILE UFID: $055A0003 $0D079125 $000A77B4 $1A0300D6
MOUNT REF CNT: n/a
HOME VOL SET : MPEXL_SYSTEM_VOLUME_SET
CAP: BA,IA
:
```

The LISTGROUP display has similar information to the LISTACCT command display. This listing shows your logon group's capabilities and security information.

If you have account manager (AM) capability, all of the groups in your account are displayed.

## To add a new group

A user with account manager (AM) capability may create account groups with default attributes as well as those with attributes that you specify. If you have account manager (AM) capability, you may add a new group to your account.

## Users

Users are people like yourself who use the computer. In a sense, users do not have a place in the account structure (cabinet). Instead, they are the people who have the key to an account. A user name is the key to a particular account.

## To list the users in your account

You can use the LISTUSER command to display information about users in your account or other users on the system. The SHOWME command also displays the account, group, and user information associated with your session. You must have account manager (AM) capability to execute the LISTUSER command.

To list the users in your account, enter:

    :LISTUSER [Return]

The screen displays the following information:

```
USER: USER1.PRACTICE

HOME GROUP: PUB                    PASSWORD:
MAX PRI    : 150                   LOC ATTR: $00000000
LOGON CNT : 0
CAP: AM,AL,GL,ND,SF,BA,IA
*******************
USER: USER2.PRACTICE

HOME GROUP: PUB                    PASSWORD:
MAX PRI    : 150                   LOC ATTR: $00000000
LOGON CNT : 1
CAP:  ND,SF,BA IA
:
```

Note that the password can be displayed in this example. The password is displayed if you include the ;PASS parameter.

## Files

Files are materials that you create. They are kept in the groups. You can create, save, and edit files. You can also access other files located in another group or account.

## To display file names

To display all file names in the PUB group, use the LISTFILE command. Enter:

:LISTFILE  [Return]

If no one has created any files for this account, you should now see

```
NON-EXISTENT FILE @.PUB.PRACTICE. (CIWARN 920)
```

Otherwise, you would see

```
FILENAME

YOURFILE
```

Soon you will learn how to create a file.

# Creating and Editing Files

The text editor EDIT/3000 is a Hewlett-Packard subsystem that comes with your HP 3000 system. The editor has its own special set of commands and subcommands that give you flexibility in creating, modifying, and deleting files.

## To start EDIT/3000

With EDIT/3000 you can create text files, command files, and job files.

The command EDITOR starts the subsystem EDIT/3000. Just type the command name, and press [Return]:

    :EDITOR [Return]

When the editor starts, your screen should look similar to this:

```
:EDITOR
HP32201A.07.17 EDIT/3000 THU, FEB 15, 1993, 4:00PM
(C) HEWLETT-PACKARD CO. 1990
/_
```

Notice that the system prompt has disappeared and has been replaced by the editor prompt, the slash (/). The editor prompt (/) allows you to issue EDIT/3000 commands. When the editor prompt (/) and the cursor are alone on a blank line, the editor is in command mode. In command mode, you can issue EDIT/3000 commands, but you cannot create lines of text.

## To leave EDIT/3000

To leave the editor program, use the END (or E) command. Try this now:

    /END [Return]

Your screen should look like this:

```
/END
END OF SUBSYSTEM
:_
```

The computer once again displays the system prompt.

## To begin creating a text file

Start the editor again using the EDITOR command, enter:

    :EDITOR

Does the editor slash prompt (/) appear on your screen? If it does, you are in command mode. You can enter commands in all uppercase letters, all lowercase letters, or a combination of uppercase and lowercase letters.

## To add lines of text

The command to start entering lines of text in the editor is ADD or A.

Try typing the ADD command now:

    /ADD [Return]

It should look like this on your screen:

```
/ADD
    1        _
```

The ADD command puts the editor in edit mode. Now you can enter your text.
The editor provides the number of the next line where you will be typing.
Since you have started a new file, the first line number is 1.

You are now ready to begin typing text.

Try typing this now:

```
I am learning to use the EDIT/3000[Return]
```

Does your screen look like this?

```
/ADD
    1    I am learning to use the EDIT/3000
    2    _
```

Notice that the editor labeled the first line 1. Each time you press [Return], the editor gives you a new line, with the next number in sequence. As you continue, keep in mind these guidelines:

- Type the way you would on a typewriter.

- Type no more than 72 characters on a line.

- Press [Return] to start a new line.

Type the rest of these lines, and notice where to press the [Return] key:

```
text editor program.  It seems fairly simple[Return]
to use.  It has dozens of its own commands. Many[Return]
of them are quite elaborate.  It even uses[Return]
subcommands.[Return]
```

Your file should look like this:

```
/ADD
    1    I am learning to use the EDIT/3000
    2    text editor program.  It seems fairly simple
    3    to use.  It has dozens of its own commands. Many
    4    of them are quite elaborate.  It even uses
    5    subcommands.
    6    _
```

Notice that the cursor is on an empty line. You are now ready to change back to command mode. To do this, enter two slashes on line 6.

Your screen should look like this:

```
/ADD
    1    I am learning to use the EDIT/3000
    2    text editor program.  It seems fairly simple
    3    to use.  It has dozens of its own commands. Many
    4    of them are quite elaborate.  It even uses
    5    subcommands.
    6
...
/
```

To stop adding text, enter two slashes on the empty line:

    // Return

The editor is now in command mode. You can execute EDIT/3000 commands again.

Remember that any line that ends in //[Return] is discarded. EDIT/3000 discards that line and waits for your next command.

## To look at your text file

At this point, you may wish to see all of the file that you have just written.

To see all of your file on the screen, use the LIST ALL command. Try this now:

/LIST ALL [Return]

You should see all of the file scroll upward on your screen. If it were a long file, you might need to use the [Ctrl] [S] keys to stop the scrolling and then the [Ctrl] [Q] to continue the scrolling.

You can display a single line of text. Try this now:

/LIST 4 [Return]

You should see line 4 on your screen.

You can also display a portion of a file. Enter:

/LIST 2/4 [Return]

This tells the computer to show you lines 2 through 4. You should see lines 2, 3, and 4 scroll into view.

## To save a text file

In order to keep your text permanently, you must save the file to disk.

The command to save or keep a file permanently is KEEP or K. This saves the file on a computer disk. The editor requires that you give the file a name when you keep it on the disk. This time call it FILE1.

Enter:

/KEEP FILE1 [Return]

You will know that your file has been kept when the slash prompt (/) reappears.

## To list your files from within EDIT/3000

Now that you have created and kept a file, how can you keep track of any or all of the files that you save?

The `LISTFILE` command alphabetically displays file names to your terminal screen. But the `LISTFILE` command is a system command, not an editor command. Most subsystems allow you to enter system commands from within the subsystem. In order to do so, you must precede the command with the system prompt. To list the files now, enter `LISTFILE` with a colon (`:`) preceding it.

    `/:`<u>`LISTFILE`</u> `(Return)`

Your screen should look something like this:

```
/:LISTFILE

FILENAME

FILE1
```

`FILE1` is the file that you just created. To exit, enter:

    `/`<u>`EXIT`</u>

## Editing a text file

Using the editor, you have learned to create and save files. Now you will learn how to edit your files.

## To open a file for editing

From within the editor and at the slash prompt (**/**), enter:

> **/TEXT FILE1** [Return]

The **TEXT** command instructs the computer to find the specified file (**FILE1**), and, if it exists, to put it into the editor's workspace for viewing, for printing, or for editing.

To display the entire **FILE1** file to your screen, enter:

> **/LIST ALL**

This file should look familiar to you by now.

## To add additional lines of text

The **ADD** command automatically begins adding lines at the end of the existing file, no matter where the end of the file is found.

At the slash prompt (**/**), enter:

> **/ADD**

This adds a new blank line labeled 6 onto the screen. You are now ready for typing. Add the following lines 6 through 9 to your file.

> When using the editor, remember that corrections[Return]
> have to be made one step at a time.  After each step,[Return]
> you can see what you accomplished by pressing[Return]
> Return.[Return]
> // [Return]

Look at the new text. Enter:

> **/LIST ALL**

Your screen should look like this:

```
/LIST ALL
    1    I am learning to use the EDIT/3000
    2    text editor program.  It seems fairly simple
    3    to use.  It has dozens of its own commands. Many
    4    of them are quite elaborate.  It even uses
    5    subcommands.
    6    When using the editor, remember that corrections
    7    have to be made one step at a time.  After each step,
    8    you can see what you accomplished by using
    9    the LIST ALL command.
 ...
/
```

## To add lines in the middle of a text file

Now try adding text in the middle of your file. To do this, use the `ADD` command with a line number. This starts a new line immediately after the number that you have specified. Try this:

    /ADD 5

and at line number `5.1` type the following:

    5.1  I decided to add lines in the middle of (Return)
    5.2  my text file. (Return)
    5.3  // (Return)

Once again you needed to use two slashes to indicate the end of your text.

At the slash prompt, enter:

    /LIST ALL

Your screen should look like this:

```
    1   I am learning to use the EDIT/3000
    2   text editor program.  It seems fairly simple
    3   to use.  It has dozens of its own commands. Many
    4   of them are quite elaborate.  It even uses
    5   subcommands.
    5.1 I decided to add more lines in the middle
    5.2 of my text file.
    6   When using the editor, remember that corrections
    7   have to be made one step at a time.  After each step,
    8   you can see what you accomplished by using
    9   the LIST ALL command.
```

Notice that to insert new lines between 5 and 6, the editor adds the new lines with increments of 0.1. It can also add lines in increments of 0.01 or 0.001.

## To erase a line

The `DELETE` or `D` command erases a line or a range of lines. Try now to erase the last line. Enter:

/DELETE 9 [Return]

Your screen should look like this:

```
/DELETE 9
    9 the LIST ALL command.
```

The `DELETE` command displays the line that you erased. See for yourself. Use the `LIST ALL` command to verify that line 9 has been deleted. Enter:

/LIST ALL [Return]

Your screen should look like this:

```
1    I am learning to use the EDIT/3000
2    text editor program.  It seems fairly simple
3    to use.  It has dozens of its own commands. Many
4    of them are quite elaborate.  It even uses
5    subcommands.
5.1  I decided to add more lines in the middle
5.2  of my text file.
6    When using the editor, remember that corrections
7    have to be made one step at a time.  After each step,
8    you can see what you accomplished by using
```

You can delete consecutive lines by specifying the line range that you wish to erase. Try now to erase lines 6 through 8 of your document. Enter:

/DELETE 6/8 [Return]

Use the `LIST ALL` command to make sure the lines that were deleted. Enter:

    /LIST ALL

Your screen should look like this:

```
1    I am learning to use the EDIT/3000
2    text editor program.  It seems fairly simple
3    to use.  It has dozens of its own commands. Many
4    of them are quite elaborate.  It even uses
5    subcommands.
5.1 I decided to add more lines in the middle
5.2 of my text file.
```

## To renumber the lines

Your file should end with line 5.2. To reorder the numbering, use the `GATHER` command. Try this with your file now:

    /GATHER ALL  [Return]

To see your screen, enter:

    /LIST ALL  [Return]

Your screen should now show lines 1 through 7.

To ensure that all of your changes are kept on the system, try saving your file now. Enter the `KEEP` command now:

    /KEEP FILE1

Your screen should look like this:

```
FILE1
FILE1 ALREADY EXISTS - RESPOND YES TO PURGE OLD AND KEEP NEW
PURGE OLD ?
```

## To modify a text line

The `MODIFY` command tells the computer to let you edit specific text lines. For example, `MODIFY 2` allows you to edit line 2 in your text file.

The `MODIFY` command in the editor uses three commands: `D`, `I`, and `R`.

| | |
|---|---|
| `D` | Deletes the character above it. For instance, `DDD` deletes the character above each of the three `Ds`. |
| `I` | Inserts character(s) above the `I`. |
| `R` | Replaces character(s) above the `R` with new characters. |

Try each of these commands on your file now.

1. Delete the word "program" on line 2. Use the spacebar to move the cursor under the first character that you want to delete. Try this now:

   /<u>MODIFY 2</u>

   Your screen should look like this:

   ```
   /MODIFY      2
   text editor program.  It seems fairly simple
               DDDDDDD Return
   text editor.  It seems fairly simple
   ```

2. Try now to insert the word "two" on line 6. Again, use the spacebar to move the cursor to the first character of the text that you want to modify.

   /<u>MODIFY 6</u>

   Your screen looks like this:

```
/MODIFY      6
I decided to add more lines in the middle
                    Itwo Return
I decided to add two more lines in the middle
```

3. Replace the word "even" with the word "also" in line 4.

   /MODIFY 4

```
MODIFY      4
of them are quite elaborate.   It even uses
                                       Ralso Return
of them are quite elaborate.   It also uses
```

Notice that the editor prompts you for the changes that you want to make.
When the line is correct, press Return again to tell the editor to accept the line
the way it is.

## Working with Files

You have learned to log on to your account, to look at your account or group,
and to create text files. In this section, you will practice:

■ using HFS syntax

■ listing files

■ creating a directory

■ renaming files

■ identifying groups

- copying files

- releasing file security

- deleting files

For the following exercises, use the `FILE1` file that you created in the previous section.

## Using HFS syntax

When you log on to the system, you are in a group within an account such as `YOURGRP.YOURACCT`. Files you work with, such as `FILE1`, can be referred to as `FILE1.YOURGRP.YOURACCT` or `file1.yourgrp.youracct`. MPE syntax automatically converts lowercase letters to uppercase. With the advent of the hierarchical file system, you can also refer to a file using the HFS syntax. That same file can be referred to as `/YOURACCT/YOURGRP/FILE1`. It is the path to the file or the *pathname*.

| | |
|---|---|
| **Note** | To refer to an MPE file name using the HFS syntax, you *must* type the name using all capital letters; otherwise, the HFS syntax looks for the name using lowercase letters and won't locate it. HFS syntax does not convert lowercase letters to uppercase. |

```
/YOURACCT/YOURGRP/FILE1 = FILE1.YOURGRP.YOURACCT
```

The first **/** in the pathname refers to the level above the account and is called the *root directory*. It is used as a way to reference files on the system. See Figure 1-1.
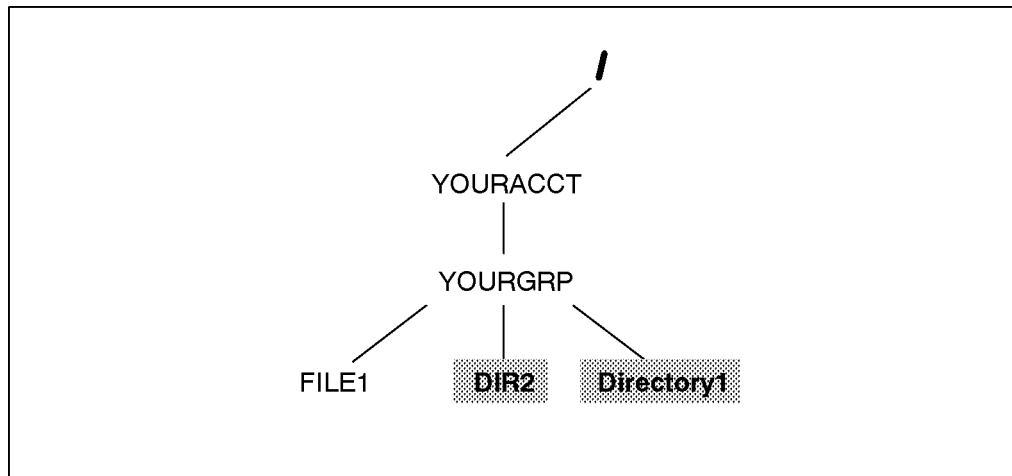
LG200208_003

**Figure 1-1. Location of the File That You Created**

Figure 1-1 shows a picture of your file's location in the file system. `YOURACCT` is one level below the root directory. You logged on to `YOURACCT` and were placed into `YOURGRP`. Then you built a file called `FILE1`. Any other files that you have in `YOURGRP` are also located there with `FILE1`.

## Listing the file

You can refer to a file using either the MPE or HFS syntax. Earlier you created a file called `FILE1`.

| **Note** | The use of the `LISTFILE` command in this section is intentional. The `LISTFILE` command does not recognize HFS syntax. |

You can list the file with MPE syntax:

    :LISTFILE FILE1.YOURGRP.YOURACCT

OR (using the exact capitalization shown)

    :LISTFILE /YOURACCT/YOURGRP/FILE1

Both display the same result:

    FILE1

**Be careful!** HFS syntax is case sensitive but MPE syntax is not. You can type
the following command, using MPE syntax in lowercase, and locate uppercase
`FILE1` in `YOURGRP` in `YOURACCT`. Try it.

    :LISTFILE file1.yourgrp.youracct

That's because MPE syntax upshifts everything. But because HFS syntax
is case sensitive, the following command will not find `FILE1` in `YOURGRP` in
`YOURACCT`:

    :LISTFILE /youracct/yourgrp/file1
    A component of the pathname does not exist. (CIWARN 9053)

`YOURACCT` is not the same as `youracct` in HFS syntax.

## Creating a directory

A **directory** is a work area similar to an MPE group where you can put related
files. You can create directories in your group and account. You must precede
file and directory names with `./` or `/` to use HFS syntax. Dot (.) means
**current working directory** or where you are working within the file system. So
`./` lets you use HFS syntax in your current working directory.

    :NEWDIR ./Directory1

This command creates `Directory1` in your current working directory.

HFS syntax accepts the name exactly as you type it in uppercase and
lowercase, and the name can be up to 16 characters long when created directly
under a group.

**Watch out!** If you try to create the directory without including `./` before the
name, MPE/iX treats the name as a regular MPE name. It converts the letters
to all uppercase. Try typing the following command:

```
:NEWDIR Directory1
File name is more than eight characters long. (CIERR 532)
```

**Also notice:** If you type the following command, MPE/iX creates a directory
called DIR2 (uppercase). That is because you are using MPE syntax. Try it.

    `:NEWDIR dir2`

In the next section, you'll learn how to list the directory.

Figure 1-2 shows a picture of the file system including the directories that you
just created.
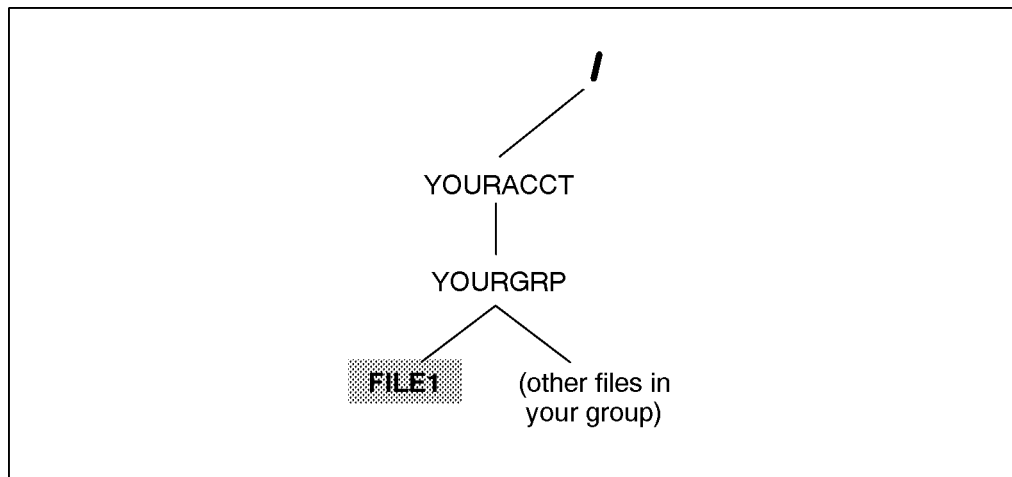


LG200208_002

**Figure 1-2. Location of the Directories That You Created**

## To rename a file

To rename the file called `FILE1`, enter:

    <u>`:RENAME FILE1, YOURFILE`</u> `[Return]`

Notice the punctuation. The comma ( `,` ) is necessary to rename a file.

Use the `LISTFILE` command to check that `FILE1` has disappeared and that a file called `YOURFILE` has appeared. Enter:

    <u>`:LISTFILE`</u> `[Return]`

Your screen should look like this:

```
FILENAME

YOURFILE
```

## To copy a file

To copy a file, use the `COPY` command, specifying the name of the file that you want to copy and the name that you want the new, identical copy to have.

To make a copy of `YOURFILE`, calling the new copy `NEWFILE`, do this:

    <u>`:COPY FROM=YOURFILE;TO=NEWFILE`</u> `[Return]`

Now enter:

    <u>`:LISTFILE`</u> `[Return]`

Your screen should look like this:

```
FILENAME

NEWFILE    YOURFILE
```

Here is what the parameters do:

- `From=` tells the computer which file to copy from. This original, from which the copy is made, is called the *source file*.

- `To=` tells the computer what to call the copy. This new file is called the *target file* or *destination file*.

There is an easier way to use the `COPY` command. Try this now:

    :COPY NEWFILE,DOCFILE (Return)

Use the `LISTFILE` command, and you should see the new file named `DOCFILE` on your screen.

## To release file security

You may want to allow another user to copy your files. In order to do this, you must release your file to this person. This is called *releasing a file*. The `RELEASE` command removes the security provisions for a file. You can only release files that you have created.

To remove the security provisions of the file `YOURFILE`, enter:

    :RELEASE YOURFILE (Return)

This file is now ready to be copied to another account and group.

## To copy files from another group

Once your files have been released, you can move these files to other groups. To copy a file from one group to another group:

- You must know the qualified name of the file that you want to copy. This name is the file name with the group name, such as:

      YOURFILE.PUB

  *or*

- The owner of the file you want to copy must release that file for you with the `RELEASE` command.

  *or*

■ Group security must be organized to allow you access to the group.

Do this:

    :COPY YOURFILE.PUB, YOURFILE.OTHERGRP ⌞Return⌟

Then enter:

    :LISTFILE @.OTHERGRP ⌞Return⌟

You should see a copy of the YOURFILE file.

## To delete a file

Make sure that you are in your home group PUB. The PURGE command erases a
file. It erases one file at a time. If you want to erase five files, you now need to
use the PURGE command five times.

Delete the file called DOCFILE. Enter:

    :PURGE DOCFILE ⌞Return⌟

If you try to delete a file that does not exist, you get an error message.

Try to delete the file QUIKSAND. What happens? Your screen should look like
this:

```
PURGE QUIKSAND

FILE QUIKSAND.PUB.PRACTICE NOT FOUND, NO PURGE DONE.
(CIWARN 383)
:
```

# Creating a Job File

Until now your logon time has been in session mode. In session mode, the computer acts on a single command at a time; however, in job mode or batch processing, you use the **STREAM** command to submit an entire series of commands as a *batch file* or *job file* to the computer.

## To look at a sample job file

In this section, you practice with sample job files to see how job files are organized and what kinds of commands are used within these files.

Below is a sample job file. This file contains examples of commands used in this section.

```
LINE    TEXT
 1      !JOB MYJOB1,USER1.PRACTICE,PUB
 2      !FILE EDLIST;DEV=LP,8
 3      !EDITOR
 4      TEXT FILE2.PRACTICE
 5      LIST ALL MYJOB1, OFFLINE
 6      EXIT
 7      !TELL USER1.PRACTICE FILE2 IS DONE
 8      !EOJ
```

Every job file must contain a few specific commands. A job file must start with a `JOB` command. The purpose of the `JOB` command is to initiate a batch job. It is always the first executable line of any job and contains additional information regarding the location of the file materials, user names, and account names. Much like the `HELLO` command, the `JOB` command is to batch processing what the `HELLO` command is to interactive processing.

By using the required and optional parameters of the `JOB` command, you tell the system that the commands that follow should be executed as a job.

## To include a JOB command line

Follow these steps to create a job file:

1. Enter EDIT/3000 to begin typing the text for your job file:

    :<u>EDITOR</u>

    At the slash prompt (`/`), type `ADD`.

2. On the first text line, type the `JOB` command preceded by an exclamation point (`!`). Do not press ⌈Return⌋ yet.

    !<u>JOB</u>

    Press the space bar once and add the following to the same line:

    a. An optional file name followed by a comma. To identify your job file, put your initials in the job name. For example, type:

        <u>MYJOBNM,</u>

    b. After the command, type the user name, account name, and logon group name. If you have passwords, you must include them. Type:

        <u>USER1.PRACTICE,PUB</u>

You have completed the first command line in your job file. Your screen should look like this:

```
1    !JOB MYJOB1NM, USER1.PRACTICE,PUB
```

Continue creating the job file by following the directions for the file equations in the section below.

## To defer output to a file

Job files generally include file equations to direct error listings and job output to other devices. The purpose of file equations is to do the following:

- Write the job's output to a file designated by `EDTLIST`. (`EDTLIST` is the editor's formal file designated for the offline listing device.)

- Designate the printer to which your job file will print.

- Set the print priority for your job file.

Add line 4 now by entering:

    !FILE EDTLIST;DEV=LP,8 (Return)

Your screen displays the following:

```
1    !JOB MYJOB1NM, USER1.PRACTICE,PUB
2    !FILE EDTLIST;DEV=LP,8
3    _
```

## To use other commands in job files

Some jobs might use a word processor or other applications or utilities (for example, EDIT/3000 or SORT/3000). Any application that is normally executed from a system prompt can be included in a job file preceded by an exclamation point. For example, line 3 of the sample job file starts the editor.

Any application command that will be used in the job file, is entered on a separate line. Enter these commands in the same manner that you would if you were running the application interactively. Press (Return) and go to the next line.

Add the following commands to the job file. (Press (Return) after each lines.)

    !EDITOR
    TEXT YOURFILE.PRACTICE

<u>LIST ALL, OFFLINE</u>
<u>END</u>

What does this mean?

- The `EDITOR` command tells the system that EDIT/3000 is the application that you want.

- `TEXT YOURFILE.PUB.PRACTICE` tells the system to open a file named `YOURFILE` file in the `PUB` group of the `PRACTICE` account.

- `LIST ALL, OFFLINE` tells the system to print the `YOURFILE` file.

- The `END` command tells the system to exit the editor.

Your screen should look like this:

```
1       !JOB MYJOB1NM, USER1.PRACTICE,PUB
2       !FILE EDTLIST;DEV=PP,8
3       !EDITOR
4       TEXT YOURFILE.PUB.PRACTICE
5       LIST ALL, OFFLINE
6       END
7       _
```

You have ended the internal set of commands for the application that this job will open and use; however, you have not yet completed creating your job file.

## To include a TELL command line

The `TELL` command can be used to send a message to your terminal screen saying that a particular job has finished processing.

Add the `TELL` command line now at line 7. Enter

<u>!TELL USER1.PRACTICE MYJOB1NM IS DONE</u>  ⌗Return⌗

Your screen should look like this:

```
1       !JOB MYJOB1NM, USER1.PRACTICE,PUB
2       !FILE EDTLIST;DEV=LP,8
3       !EDITOR
4       TEXT YOURFILE.PUB.PRACTICE
5       LIST ALL, OFFLINE
6       END
7       !TELL USER1.PRACTICE MYJOB1NM IS DONE
```

## To include the EOJ command line

The `EOJ` (End of Job) command terminates a job and displays the following information on the job's printout:

- CPU time (in seconds)

- time elapsed since the beginning of the job

- the time and date that the job ended

The `EOJ` command always appears on the last line of a job file.

Add the `EOJ` command now. Enter:

> !EOJ (Return)

You have now completed the text for a job file. Leave the `ADD` mode by entering two slashes (`//`) at the last line.

Type `LIST ALL` at the slash prompt. Your screen should look like this:

```
1      !JOB MYJOB1NM, USER1.PRACTICE,PUB
2      !FILE EDTLIST;DEV=LP,8
3      !EDITOR
4      TEXT YOURFILE.PUB.PRACTICE
5      LIST ALL, OFFLINE
6      END
7      !TELL USER1.PRACTICE MYJOB1NM IS DONE
8      !EOJ
9      //[Return]
 ...
/
```

Use the `KEEP` command to save this file. Enter:

   `/KEEP MYJOB1NM` [Return]

## To stream a job

Now you have a job file to execute. The process of doing this is called *streaming a job*. This is accomplished with the `STREAM` command. The `STREAM` command has options that allow you to actually specify the time and date that you wish a job to run. Refer to Volume III for information about these commands.

Try streaming the file named `MYJOB1NM`. If you are still in the editor, you must enter a colon before the command name, `/:STREAM MYJOB1NM`. Enter:

   `:STREAM MYJOB1NM` [Return]

Watch for the job number that appears on your screen (`Jxxx`). This number identifies your job file. `MYJOB1NM` immediately enters the job queue and print when the system printer is available.

## To schedule a job

Now suppose you want to stream your job late at night at a specific time. You can specify the time, the day, and the date with the scheduling options of the `STREAM` command.

There are several options that you can specify when using the `STREAM` command:

| | |
|---|---|
| `STREAM jobname;AT=` | lets you specify a time to run the job |
| `;DAY=` | lets you specify a day to run the job |
| `;DATE=` | lets you specify a date to run the job |
| `;IN=` | lets you specify a relative time, day, or date to run the job (for example, two hours from now, or two days from now.) |

### To schedule a job at a specific time

To schedule a job at a specific time, use the `AT` option of the `STREAM` command. Try scheduling `MYJOB1NM` to run tomorrow at 3:00 am. Enter:

    :STREAM MYJOB1NM; AT=03:00 (Return)

Remember to enter the time of day in 24-hour notation.

To schedule `MYJOB1NM` to run tomorrow at 3:00 pm, enter:

    :STREAM MYJOB1NM; AT=15:00 (Return)

### To schedule a job on a specific date

You can schedule your job on a specific calendar date with the `DATE=` option of the `STREAM` command. The format is the month ($mm$), day ($dd$), and the year ($yy$). For example, to schedule `MYJOB1NM` to run on a specific date, enter:

    :STREAM MYJOB1NM;DATE=04/05/91 (Return)

### To schedule a job for a specific number of days, hours, or minutes

The `IN=` option of the `STREAM` command allows you to schedule a job to be streamed in a number of days, hours, and minutes. You can use a positive integer for the number of days. For the number of hours, use a number from

0 to 23. For the number of minutes, use a number from 0 to 59. For example, try scheduling `MYJOB1NM` to run in 5 days and 1 hour from the time that it is streamed.

Enter:

   `:STREAM MYJOB1NM;IN=5,1` ⌞Return⌟

To change this to today and 15 minutes from now, enter this now:

   `:STREAM MYJOB1NM`

Because this job is now scheduled but not yet executed, you can see its job number and other information with the `SHOWJOB` command.

## To stop a scheduled job

If you have scheduled a job and later decide not to stream it, you can prevent it from starting. To see how to do this, try these steps now.

Repeat the stream command for `MYJOB1NM` as you did previously. Do this a few times with different values of minutes. Enter:

   `:STREAM MYJOB1NM;IN=,,10` ⌞Return⌟
   `:STREAM MYJOB1NM;IN=,,20` ⌞Return⌟

(Remember to record each respective job number.)

Now use the `SHOWJOB` command to see a list of these and any other scheduled jobs. Enter:

   `:SHOWJOB JOB=@J`

Try to stop the second job. Use the `ABORTJOB` command and the second job number in the list under the far left column of the display. For job number #J33, you would enter:

   `:ABORTJOB #J33`

Again, try `SHOWJOB JOB=@J` to see that the job that you aborted has been removed from the list of scheduled jobs.

## Creating Command Files

A *command file* is a text file, just like any text file that you create. It may contain MPE/iX commands, program file names, and the names of other command files. At its simplest, a command file is an MPE/iX command that you shorten.

For example, instead of typing the whole command SHOWTIME, you can use the editor to create a command file called ST that contains the command SHOWTIME. You save it, and leave the editor. Every time you enter ST [Return] at the system prompt (:), SHOWTIME executes.

Try creating a simple command file. Get into the editor. Create a one-line file. The only line that you need is the command in this case, SHOWTIME.

It looks like this on the screen:

```
/ADD
        1    SHOWTIME
        2    //
 ...
/KEEP ST
/END
END OF SUBSYSTEM
:
```

You have created a command file called ST.

At the system prompt, enter:

ST [Return]

## To create a welcome message command file

When you start a computer session, you typically receive two kinds of information:

- A message from the computer system acknowledging the `HELLO` logon. This includes the date, the time, and the version number of the computer's operating system.

- A welcome message from you, the system administrator.

The welcome message is a convenient way to transmit information of general interest. For example, you can tell everyone when you plan to perform a backup, a procedure for duplicating all of the important user information contained in your computer. You can include your phone number in the message so that, in case of trouble, other users can call you.

To create a welcome message, you must have system manager (SM) or system operator (OP) capability. To do this now, log on to `MANAGER.SYS` or another system administrator account. Use the editor to create a new command file called `WELCOME`.

1. Begin the editor by entering:

   `:EDITOR` Return

2. At the "`/`" prompt, enter:

   `ADD` Return

   Enter the following message exactly as it appears:

```
1  Welcome to the HP 3000.  You are welcome

2  to use this system any time except during

3  a backup.  This month, backups will be performed

4  at 7:00 pm every work night.  Please log

5  off before this time.  For additional information,

6  call ext. 4444.

7  Your friendly system administrator
```

3. Enter **//** (Return) when you have completed your message.

4. At the "/" prompt, enter:

    /KEEP WELCOME [Return]

5. End EDIT/3000 by entering:

    /END [Return]

    The computer tells you that it has ended the program. Then it reprints the system prompt on your screen.

6. Enter the WELCOME command and your file name:

    :WELCOME WELCOME [Return]

7. To check the new WELCOME message, enter:

    :SHOWME [Return]

8. Remember to return to the original user and account that you are using in this chapter.

# Copying Files To and From Tape

The most important part of your computer system is the files that you and other users create. Normally, original files remain safely stored on your computer's disk. Because they represent months of work, you should also keep a full set of duplicates.

Typically, when you need to store files, the following things happen:

1. You instruct the computer to store some or all of your files by entering the `STORE` command, and some other information, at a terminal.

2. The `STORE` command automatically sends a tape request to the console.

3. If the tape drive is available, you load and prepare a tape for file copying.

4. When all of the files have been copied, you remove the tape and store it in a metal cabinet.

The `STORE` command and, optionally, the `FILE` command are used to store a file or set of files. A `FILE` command assigns a file name to a backup device. A `STORE` command names the files to store and the options to use.

With `STORE` command options for naming files, you can name a single file, several files, or all of the files on the system. The group of files to store is called a *file set*. In addition to naming many kinds of file sets, you can name file subsets to be excluded from the store process.

## To copy files to tape

The user procedures established by system management for copying files to and from tape may vary from facility to facility. The user procedures described in this section assume that you are responsible for entering the equation to define the device and the command to copy your files. You will also load and unload tapes from the tape drive.

In this section, you will practice copying files to and from tape. To practice copying files to tape, use the file that you created earlier in this section (`MYJOB1NM`).

To copy a file to tape:

- Load the tape drive. If you want to protect the data on a cassette from being altered or overwritten, you can write-protect the cassette. To write-protect your cassette, slide the tab on the right rear edge of the cassette. The hole on the tape should be open.

- Log on to your account, and, at the system prompt (`:`), enter:

      :FILE T;DEV=TAPE ⌈Return⌉

  The `FILE` command assigns a file name to your backup device. The `T` is a file designator for the tape.

- Enter the `STORE` command followed by the name of the file to be copied to the tape (`MYJOB1NM`). Backreference (`*`) the tape name.

      :STORE MYJOB1NM.PUB;*T

The above command tells the system to store the file `MYJOB1NM` in the `PUB` group, using tape drive `T`.

## To copy several files to tape

Use the wildcard character (@) to copy several files to tape. The (@) represents "all members of the set." This character tells the system to include everything in that particular group or account. For example:

```
:FILE T;DEV=TAPE
:STORE @.PUB.PRACTICE;*T
```

The above command tells the system to copy everything in the PRACTICE account.

## To monitor STORE command progress

After you enter a STORE command, STORE issues a message similar to the following on the console:

```
STORE/RESTORE VERSION A.31.01  (C) 1986 HEWLETT-PACKARD CO.
TUE, JAN 6, 1993,  2:57 PM
```

STORE sends you messages when you need to insert a new tape on a backup device.

## To request progress messages

Use the PROGRESS parameter in your STORE command to display progress messages at regular intervals. To request progress messages every 5 minutes, enter:

```
:STORE filename.groupname.accountname;PROGRESS=5
```

The system displays progress messages every 5 minutes.

```
STORE OPERATION IS 4% COMPLETE
```

You see similar messages at regular intervals, for example:

```
STORE OPERATION IS 7% COMPLETE
STORE OPERATION IS 11% COMPLETE
STORE OPERATION IS 14% COMPLETE
```

If you use the PROGRESS parameter alone, without specifying an interval, STORE displays progress messages every minute.

## To copy a file from tape

You copy a file from tape by transferring it from a store tape to a disk. You might need to copy a file from tape if you accidentally delete it.

To copy a file from tape:

- Check for duplicate file names. Use the `LISTFILE` command for each file that you intend to restore. Enter:

      :LISTFILE MYJOB1NM.PUB.PRACTICE

  To check all file names within the account, use the wildcard character (`@`). For example, enter:

      :LISTFILE @.PUB.PRACTICE

- To restore `MYJOB1NM` file from tape to the system disk, enter:

      :FILE T;DEV=TAPE
      :RESTORE *T;MYJOB1NM.PUB.PRACTICE

# 2

# Performing Tasks Using MPE/iX Commands

This chapter provides you with simple, step-by-step instructions for performing MPE/iX tasks. As a task reference, it describes the steps needed for tasks that use one or more commands. If you want more detailed information about a command that you need for a task, refer to the book, *Commands Reference - HP 3000 Series 9X8LX* (B3813-90011).

## Beginning and Ending a Computer Worksession

Before you can do any work on your system, you must begin communicating with the computer. This is called *logging on*.

When you have finished your work on the computer, you end your communication with the computer by *logging off*.

### To log on

Logging on involves entering the command `HELLO` followed by your logon identity and supplying the correct passwords when prompted. Your logon identity is assigned by the system administrator and identifies you as a valid user of the system. A logon identity must have a user name and an account name. It may optionally have a group name.

1. If your terminal is not turned on, press the power switch. (Refer to the user's guide for your terminal for an illustration.) When your terminal is powered on, press the (Return) key to get a logon prompt (`MPE /iX:`).

2. At the logon prompt, enter `HELLO` followed by your logon identity. Press (Return).

       MPE/iX:HELLO username.accountname,groupname (Return)

3. Supply the proper password at each prompt. As a security feature, your passwords do not appear on the screen as you type.

       ACCOUNT PASSWORD:
       USER PASSWORD:
       GROUP PASSWORD:

4. Read any welcome messages that might be displayed. Sometimes special messages and requests are used to inform all users of news, problems, or system information.

   A system prompt (:) signals a successful logon. You can then start work on the system.

Here is a sample screen after a successful logon.

```
MPE XL:hello joann.sales,mygroup
ACCT PASSWORD:
GROUP PASSWORD:
USER PASSWORD:
*************************************************************
**                      WELCOME TO SYSONE                  **
*************************************************************
**            LOG OFF BY 7 PM TONIGHT, PLEASE              **
**                                                        **
**         WEEKLY BACKUPS BEGIN AT 7:15 TONIGHT.          **
**     ALL SESSIONS AND JOBS WILL BE ABORTED AT 7:05 PM.  **
*************************************************************
**    CALL EXT. 6666 IF YOU HAVE QUESTIONS OR PROBLEMS.   **
*************************************************************
:_
```

## To change groups within a session

Most account managers establish at least one group other than the PUB group
that exists in every account. You can change from one group to another within
the same account if you have permission to access that group.

1. Enter the CHGROUP command and the group name. In the following
   command, the user is logged on and is changing to the QTR1 group in the
   same account.

   :CHGROUP QTR1 (Return)

2. Enter the group password if you are prompted for it.

## To change accounts

To change from one account to another, you must log on to the new account using the HELLO command. You do not have to log off first. This is done automatically.

1. Enter HELLO, followed by your user name, period, account name, and optional comma and group name.

       :<u>HELLO CLERK.PAYABLE</u> (Return)

2. Supply the appropriate passwords for the account, user, and group, if necessary.

## To log off

To end your communication with the computer, use the BYE command.

1. To end a session, type BYE at the system prompt. Press (Return).

       :<u>BYE</u> (Return)

   You will see something like this at the end of your session with the computer:

   CPU=8.  CONNECT=12.   WED, FEB 13, 1991, 11:55 PM.

| **Caution** | If you are using the system console for your terminal, *do not* turn the terminal off. If you are using a regular terminal, you may wish to turn off the terminal after the above message appears. |
| --- | --- |
| | *Do not* turn the system off until you have read the section "System Shutdown" later in this chapter. It is not necessary to turn the HP 3000 off. Turning the system off while jobs are scheduled or other users are logged on may cause a loss in user data. |

## Any problems?

If you have problems logging on, these hints may help:

- No logon prompt? Press (Return) several times. If you still do not get a prompt, contact your system administrator. If you are the system administrator, refer to the "Terminal problems?" section of this chapter.

- Did you make a typing error in the logon identity? Retype `HELLO` and your logon identity. Make sure that you separate the user name from the account name with a period (.). If a group name is added, separate the group name from the account name with a comma (,).

- Did you make an error entering a password? Retype the password. Press (Return). You have three chances to enter a correct password. If you fail in all three attempts, you will have to start the logon process over again.

- Have you forgotten your logon identity or password? Contact your system administrator. The system administrator has SM capability and can use the `LISTACCT @.@` to see all users and accounts. System administrators can also use `LISTACCT` *username.accountname*`;PASS` to see the passwords of an account. Refer to the "Protecting Your System from Unauthorized Use: To display passwords" section of this chapter.

- Did you get a message about an account, a user, or a group not existing? Check for any typographical errors in your logon. If no errors were made, contact your system administrator. If you are the system administrator, refer to the "Protecting Your System from Unauthorized Use" section of this chapter.

- Did you get the following message: `Can't initiate a new session now.`? Wait a few minutes and try to log on again. If you get the same message, ask the system administrator to check the job and session limits with the `SHOWJOB` command.

- While logged on to a worksession, did you get a message on your terminal screen beginning with `OPERATOR WARNING:`? This is a priority message sent from the system operator. Read the entire message carefully, and act accordingly.

# Working on the Computer

Once you have identified yourself as a valid user on the computer, you can begin working. This may include activating or using programs or interacting with the computer through commands. Some programs may have been installed on your system at the factory before it was delivered to you. Other programs require setup steps before they will run, which should be in the documentation that accompanies those programs.

## To use a program

To start using a program on your system, use the `RUN` command:

1. At the system prompt, type in the `RUN` command followed by a qualified name of the program.

2. Press (Return).

   `:RUN program` (Return)

For example, to access the HP Easytime/iX program, type the following:

   `:RUN EASYTIME.PUB.SYS` (Return)

This example is specific to the HP Easytime/iX program. Other programs respond differently.

To exit HP Easytime/iX, do the following:

1. Press (F4) (To/From Menu Bar) and then (E) to display the Exit menu.

2. Move the cursor to `Exit HP Easytime/iX` and press (Return).

   A window appears on the screen, asking if you really want to exit the program.

3. Press (F5) (OK) to close the window and return to the system prompt for direct command entry.

It is possible to use the *implied run* method of your system to simplify typing in the `RUN` command line. This method abbreviates the command line by allowing you to type just the qualified program name at the system prompt.

1. At the system prompt, enter the program name.

2. Press  Return .

   : *program . group . account*  Return

For example, to access the `EASYTIME.PUB.SYS` program using the implied run
method, type the following at the system prompt:

   : `EASYTIME.PUB.SYS`  Return

Note that the implied run method has limitations in its use. If a program does
not execute properly using implied run, include the `RUN` command in your
command line.

## To stop a program in an emergency

**Caution**  All programs have a specific way of stopping or ending your
interaction with it. The `ABORT` command allows you to
terminate a program without using the program specific stop
command. This method of exiting a program should only be
used for emergency program exits.

To perform an emergency stop on a program, do the following:

1. Press the  Break  key.

2. At the ":" prompt, type `ABORT`.

    Break
   : `ABORT`  Return

## To enter commands

Commands are instructions that you give the computer. They may be simple
and consist of a single word, or they may be complicated and require that you
enter many words or numbers.

Entering simple commands takes only two steps:

1. Type the name of the command at the system prompt.

2. Press the  Return  key.

The following is an example of entering the `SHOWTIME` command, and the result.

```
:SHOWTIME (Return)
FRI, FEB 22, 1991,   3:58 PM
:_
```

## To execute a command file

To execute a command file, do the following:

1. At the system prompt, type the command file name.

2. Press (Return).

To execute a command file called `ST`, type `ST` at the system prompt and press (Return). In the following example, the command file `ST` executes the `SHOWTIME` command.

```
:ST (Return)
TUE, MAR 26, 1991, 11:52AM
:_
```

## To communicate with other system users

You can send messages to the terminal screen of other users of the system and receive messages from them.

### Sending a message to another user

To send a message to another user on your system, use the `TELL` command.

1. Locate the session number or the logon identity of the person to whom you want to send the message by using the `SHOWJOB` command.

```
:SHOWJOB

JOBNUM   STATE IPRI JIN   JLIST    INTRODUCED  JOB NAME

#S16     EXEC      101   101      FRI  9:57A  BOB.LINDER
#S19     EXEC      107   107      FRI  3:57P  SUSAN.KINU
#S20     EXEC      109   109      FRI  4:02P  PAYROLL.ACCNTNG
#J13     EXEC      10S   LP       FRI  3:00P  KEESHA.HOLLAND

4 JOBS:
    0 INTRO
    0 WAIT; INCL 0 DEFERRED
    4 EXEC; INCL 3 SESSIONS
    0 SUSP
JOBFENCE= 7; JLIMIT= 60; SLIMIT= 60
```

For example, the user BOB.LINDER is logged on as session number 16 (#S16).
Use either of these two identities to send a message.

2. Use the TELL command and provide either a logon identity or a session
   number, followed by your message. Press (Return) to send your message.

   To send a message using a session number, place #Snn after TELL.

   ```
   TELL #S16 CAN YOU GIVE ME THE FEB FORECAST? (Return)
   ```

   To send a message using the logon identity, place USERNAME.ACCOUNTNAME
   after TELL.

   ```
   TELL BOB.LINDER CAN YOU GIVE ME THE FEB FORECAST? (Return)
   ```

In either case, the person receiving the message sees something like this on the screen:

```
FROM/S19 SUSAN.KINU/CAN YOU GIVE ME THE FEB FORECAST?
```

Notice that the sender's session number (in this example S19) and the logon identity (SUSAN.KINU) appears before the message text.

### Sending a message to the system administrator

There may come a time when you need to send a message to the person managing the system. The TELLOP command sends a message to the *system console*, the terminal used specifically for system operations.

- To send a message to the system console, type TELLOP followed by a brief message. End your message by pressing Return.

    ```
    TELLOP PLEASE PUT A CASSETTE IN THE TAPE DRIVE Return
    ```

If you are the system administrator and you want to send messages to all users, refer also to the WARN and WELCOME commands.

## Any problems?

- Did you get the following error message on your screen?

    ```
    UNKNOWN COMMAND NAME.  (CIERR 975)
    ```

    Look for any spelling errors. Carefully retype the command. Use the online Help Facility to verify that you are using the command correctly.

- If a command file does not execute exactly as you anticipated, there may be a file-naming conflict on the system. There are two solutions to this problem:

    □ Rename the command file.

    □ Use the XEQ command to execute the command file.

    ```
    XEQ commandfilename Return
    ```

## Getting Online Help with Commands

The online Help Facility provides command information, syntax, explanations of command parameters, and examples of command use for MPE/iX commands. Any user can use it.

### To get information about MPE/iX commands

To get information about the system, use the Help Facility. To begin the Help Facility, use the HELP command.

1. Enter HELP at the system prompt, and press Return.

    :HELP Return

    The following Help Facility menu, HELPMENU, appears on your screen:

```
                    This is the MPE/iX Help Facility
          ---------------------------------------------------
*        Enter SUMMARY, CLASS, a command name, or HELPSTUDY        *
          ---------------------------------------------------
SUMMARY....              A summary MPE/iX commands & HELP

CLASS......              Classes of Commands
                         SESSIONS, JOBS, FILES, SUBSYSTEMS, ETC.


<command name>           COMMAND entries, by name
<command name><keyword>  COMMAND entry with keyword
                         PARMS, OPERATION, EXAMPLE

HELPSTUDY                A beginner's introduction to Help

EXIT                     To leave the Help Facility

              You can use UPPERCASE or lowercase.

>>>>>>>>>>>   The name of this screen is HELPMENU   <<<<<<<<<<<
>
```

2. At the Help Facility prompt (>), type in an option from the HELPMENU, namely SUMMARY, CLASS, a command name, a command name and parameter, HELPSTUDY, or EXIT.

3. To leave the Help Facility, type either E or EXIT. This action returns you to the system prompt (:).

    >EXIT ⌈Return⌉
    :_

## Using the Help Facility tutorial

The Help Facility has a self-paced tutorial that instructs you on its use. To start the tutorial, do the following:

1. If you are not in the Help Facility (identified by the ">" prompt), enter HELP (Return) at the system prompt.

2. At the Help Facility prompt, type HELPSTUDY.

   >HELPSTUDY (Return)

3. Press (Return) to scroll through the HELPSTUDY screens.

4. Press (E) (Return) to leave the Help Facility.


## To display a specific Help Facility topic

To display a specific topic in HELPSTUDY, list the contents and select the topic in which you are interested.

1. If you are not in the Help Facility (identified by the ">" prompt), enter HELP (Return) at the system prompt.

2. Enter CONTENTS at the Help (>) prompt.

3. Enter the topic that you wish to display.

4. Press (Return) to scroll through the information displays.

5. Press (E) (Return) to exit the Help Facility.


## To list commands by classification within the Help Facility

The Help Facility provides lists of MPE/iX commands classified by the type of tasks performed by the commands.

1. If you are not in the Help Facility (identified by the ">" prompt), enter HELP (Return) at the system prompt.

2. Enter CLASS to display command classifications.

3. Press (Return) to scroll through the display.

4. Press (E) (Return) to exit the Help Facility.

## To display command information within the Help Facility

To get information about a specific command, type HELP and the name of the command at the system prompt. Keywords allow you to limit the amount of information and display only the details that are of interest to you.

1. If you are not in the Help Facility (identified by the ">" prompt), enter HELP [Return] at the system prompt.

2. Enter the command name and an optional keyword at the Help Facility prompt (>).

   Select the keyword from this list:

   a. PARMS lists all parameters for the command and describes each one.

   b. OPERATION provides an explanation of how the command works and when to use it.

   c. EXAMPLE offers examples of the command and its parameters.

   For example, to see how the command SHOWME works, type the following:

   >SHOWME OPERATION [Return]

3. Press [Return] to scroll through the display.

4. Press [E] [Return] to exit the Help Facility.


## To display Help outside the Help Facility

If you know what type of information that you are looking for, you can access it directly from the system prompt by specifying the details in your Help request.

1. From the system prompt, enter HELP followed by the command name, followed by an optional keyword (PARMS, OPERATION, or EXAMPLE).

2. Press [Return].

The following uses the SHOWTIME command as an example:

```
:HELP SHOWTIME EXAMPLE  (Return)
EXAMPLE


     To display the time and date, enter



     SHOWTIME
     WED, JUL 24, 1993, 8:47AM

KEYWORDS: PARM,OPERATION,EXAMPLE
:
```

You are returned to the system prompt after this display. Requesting help
directly at the system prompt provides quicker help access if you know the
command name that you want help on.

## To display Help from within another program

You do not need to leave a program to get help. Most of HP's programs allow Help requests from within the program.

1. Precede the `HELP` command with a colon (:).

2. Enter the `HELP` command followed by the command name and optional keyword.

3. Press (Return) or (Enter).

4. Continue work within the program at the program prompt.

In the following example, the user requests a display of the `SHOWJOB` command parameters from within the EDIT/3000 program. The "/" prompt is unique to the EDIT/3000 program. Without including the colon (:) before the `HELP` command here, the program would expect one of its subcommands.

Example:

```
/:HELP SHOWJOB PARMS (Return)
```

## Getting Online Help with Error Messages

There is an easy way to get information on what caused an error or warning message to occur and what action is needed for correction. Simply type the `HELP` command followed by a prefix (either `CIERR` for Command Interpreter errors, `SR`, for Store or Restore errors, or `CIWARN` for Command Interpreter warning messages), and the complete error message number.

    `:HELP CIERR`*errornum* `[Return]`

or

    `:HELP SR`*errornum*   `[Return]`

or

    `:HELP CIWARN`*errornum*  `[Return]`

| | |
|---|---|
| **Note** | Exclamation points (!) may appear in some error or warning messages while using the help facility. The exclamation point merely acts as a system input placeholder and can be ignored. |

### Getting help with command interpreter errors

To obtain information on command interpreter (CI) errors (errors related to how commands are entered):

1. Type the command `HELP` followed by `CIERR`*nn*, where *nn* is replaced by the error number.

2. Press `[Return]`.

In the following example, an error message is displayed on the screen.

```
:showjov
 ^
UNKNOWN COMMAND NAME.  (CIERR 975)
```

If more information is needed on what caused this error message and what
action should be taken for correction, type HELP CIERR975 at the prompt.
Remove all spaces when typing in the error message number.

```
:HELP CIERR975 (Return)

MESSAGE   UNKNOWN COMMAND NAME.   (CIERR 975)

CAUSE     A command was entered that was not recognized by the
          MPE/iX Command Interpreter.

ACTION    Enter a valid MPE/iX Command.

:_
```

## Getting help with STORE/RESTORE errors

To obtain information on STORE or RESTORE error messages

1. Type HELP followed by SR*nn*, where *nn* is replaced with the error message
   number.

2. Press (Return).

In the following example, a store/restore message is displayed on the screen:

```
STORE/RESTORE ENCOUNTERED UNKNOWN MEDIA ON LDEV3 (S/R 11)
```

If more information is needed on what caused this error message and what
action should be taken for correction, type HELP SR11 at the prompt. Remove
the / symbol, and do not include any spaces when typing the error message
number.

```
:HELP SR11 [Return]

MESSAGE STORE/RESTORE ENCOUNTERED UNKNOWN MEDIA ON LDEV! (S/R 11)

CAUSE    Media type is incompatible with store subsystem.

ACTION   Mount compatible media type or update store.
```

### Getting help with command interpreter warning messages

To obtain information on command interpreter warning messages (`CIWARN`):

1. Type `HELP` followed by `CIWARN`*nn*, where *nn* is replaced with the warning message number.

2. Press [Return].

In the following example, a command interpreter warning message is displayed on the screen:

```
  EXTRANEOUS DELIMITER IGNORED.   (CIWARN 215)
```

If more information is needed on what caused this warning message and what action should be taken for correction, type `HELP CIWARN215` at the prompt. Remove any spaces when typing the error message number.

```
:HELP CIWARN215  [Return]
MESSAGE EXTRANEOUS DELIMITER IGNORED.  (CIWARN 215)

CAUSE   You included an extra delimiter (such as a comma or
        semicolon) where none was called for.

ACTION  No action is required; the system merely ignored
        the extra delimiter.  You may wish to note the
        error for future reference.
```

## Viewing File Information

**Note**    The MPE/iX operating system has been enhanced as of
Release 4.5 to include additional features that include POSIX
compatibility and the *hierarchical file system*. The *hierarchical
file system* is tree structured and can contain files at many
different levels. This organization provides a special kind of file
called a **directory**. Instead of holding data, directories contain
lists of files and pointers to those files. For more information
on *POSIX* and the *hierarchical file system*, refer to the book,
*New Features of MPE/iX: Using the Hierarchical File System*
(32650-90351), included in this documentation set. This book
includes an overview of the following enhancements of MPE/iX
as of Release 4.5 and 5.0:

- Open systems environment

- Hierarchical file system (HFS)

- Expanded file naming syntax

- New and enhanced commands and utilities

- MPE/iX Shell and Utilities

- MPE/iX Developer's Kit

Files store the information with which you work. Reports, financial data,
program listings, letters, management tools, and more exist within the system
in the form of files. Files in the `PUB` group of an account are usually the files
that users of the account share. Files in other groups in the account are often
the private files of that group's users. Files must have unique names within the
group, but two files in different groups might have the same name. You can
display a list of files in your group and account.

## To list file names to your screen

There are many ways to display a list of files. The following sections offer ways of displaying sets of files with a single command, `LISTFILE`.

### To list all file names in your current group and account

To list the names of all files in your current group and account, use the `LISTFILE` command.

1. At the system prompt, type `LISTFILE`.

2. Press (Return).

      :LISTFILE (Return)

Your screen displays whatever file names you have in your logon group.

Here is a sample display:

```
 :LISTFILE
 FILE NAME

 ADDCAP   ALLMTNS   ALPHA    AMSPELL   BITSOM  MINUTES
 CLEAN    PATH
 :_
```

### To list all file names that begin the same

To list the names of all files in your group and account that begin with the same letter or letters, use the wildcard character (@) after the common portion of the file name.

1. At the system prompt, type `LISTFILE xxx@`. (Replace *xxx* with the beginning letter or letters of the files that you wish to be displayed.)

2. Press (Return).

The following example displays all files in your current group and account that begin with the letters "ABC":

      :LISTFILE ABC@ (Return)

### To list all file names that end the same

To display the names of all files in your group and account that end with
the same letter or series of letters, use the wildcard character @ immediately
preceding the common part of the file name and for the group:

1. At the system prompt, type LISTFILE @*xxx*. Replace *xxx* with the ending
   letter or letters of the files that you wish to display.

2. Press (Return).

The following example lists files in your current group and account that end in
the letters "TXT".

    :LISTFILE @TXT (Return)

### To list all file names in a specific group and account

To list the names of all files in a specific group of an account, use the LISTFILE
command and provide a group name and an account name. Use the wildcard
character (@) for the file name.

1. At the system prompt, type LISTFILE @.*groupname*.*accountname*.

2. Press (Return).

The following example lists all files (indicated by the @) in the QTR1 group of
the PAYROLL account:

    :LISTFILE @.QTR1.PAYROLL (Return)

### To list all file names in all groups in an account

To list the names of *all* files in *all* groups of an account, use the LISTFILE
command. Use the wildcard character (@) for the file name and group name,
and provide an account name.

1. At the system prompt, type LISTFILE @.@.*accountname*.

2. Press (Return).

The following example lists all files in all groups of the PAYABLE account.

    :LISTFILE @.@.PAYABLE (Return)

**To list all file names on the system**

To list the names of all files in all groups in all accounts, use the `LISTFILE` command with wildcard characters for the file name, the group, and the account.

1. Type `LISTFILE @.@.@` at the system prompt.

2. Press `Return`. For example:

   `:LISTFILE @.@.@` `Return`

For a system with several users, this command may generate a large display. The system scrolls lines of text until it reaches the end of the data. Enter `CTRL` `S` to stop the scrolling. Enter `CTRL` `Q` to continue the scrolling.

| **Note** | The LISTFILE command has been enhanced as of Release 4.5 to include additional features. For more information on these features, refer to the book, *Commands Reference - HP 3000 Series 9X8LX* (B3813-90011), included in this documentation set. |
|---|---|

## To get specific information about files

To get specific information about a file, use one of the options of the `LISTFILE` command. The options can be entered as keywords or option numbers.

**To find the maximum number of records**

To find the maximum number of records in a file, use the `SUMMARY` or `1` option of the `LISTFILE` command.

1. At the system prompt, type `LISTFILE` *filename*`,SUMMARY` (or `1`).

2. Press `Return`.

The following example provides a summary screen for the file `TEMPREC`:

   `:LISTFILE TEMPREC,SUMMARY` `Return`

or

   `:LISTFILE TEMPREC,1` `Return`

This option displays a screen similar to the following:

```
ACCOUNT=  PAYROLL         GROUP=    QTR3

FILENAME   CODE      -------- LOGICAL RECORD ------
                      SIZE  TYP     EOF     LIMIT

 TEMPREC              80B   FA      10        10
```

This screen displays the following information:

■ file group and account information (`ACCOUNT=`, `GROUP=`)

■ file name (`FILENAME`)

■ file code (`CODE`)

■ record size (`SIZE`)

■ type of file format and data representation, such as fixed or variable, ASCII or binary (`TYP`)

■ current end-of-file location (`EOF`)

■ maximum number of records allowed in the file (`LIMIT`)

### To display file specifications

To display the file specifications and security levels of a file, use the `DETAIL` or 3 option of the `LISTFILE` command.

1. At the system prompt, type `LISTFILE` *filename*`,DETAIL` (or 3).

2. Press [Return].

The following example displays file specifications and security levels of the `TEMPREC` file:

```
:LISTFILE TEMPREC,DETAIL  [Return]
```

or

```
:LISTFILE TEMPREC,3  [Return]
```

This option displays the following information:

```
*******************************
FILE:  TEMPREC.QTR3.PAYROLL

FILE CODE : 0          FOPTIONS: ASCII, FIXED, NOCCTL, STD
BLK FACTOR: 10         CREATOR : **
REC SIZE: 80(BYTES)    LOCKWORD: **
BLK SIZE: 80(BYTES)    SECURITY--READ    : ANY
EXT SIZE: 8(SECT)                WRITE   : ANY
NUM REC: 10                      APPEND  : ANY
NUM SEC: 16                      LOCK    : ANY
NUM EXT: 1                       EXECUTE : ANY
MAX REC: 10                   ** SECURITY IS ON
NUM LABELS: 0          FLAGS   :  NO ACCESSORS
MAX LABELS: 0          CREATED :  MON, SEP 10, 1990,  7:21 PM
DISC DEV# :15          MODIFIED:  THU, NOV 15, 1990,  9:54 PM
CLASS      :DISC       ACCESSED:  THU, NOV 15, 1990,  9:54 PM
SEC OFFSET:0           LABEL ADDR:  **
```

This screen displays the following information:

- complete file name

- record and extent sizes

- number of records

- file security access rights for the user

- dates when the file was created, modified, and last accessed

**To display security levels**

To display the security levels of a file, its group, and its account, use the SECURITY or 4 option of the LISTFILE command.

1. At the system prompt, type LISTFILE *filename*, SECURITY (or 4).

2. Press ⏎Return.

The following example displays the security level for the `TEMPREC` file:

    :LISTFILE TEMPREC, SECURITY ⏎Return

or

    :LISTFILE TEMPREC,4 ⏎Return

This option displays a screen similar to the following:

```
    ******************************
    FILE:   TEMPREC.QTR3.PAYROLL

       ACCOUNT -------------- READ : ANY
                            WRITE : AC
                           APPEND : AC
                             LOCK : ANY
                          EXECUTE : ANY


       GROUP --------------- READ : ANY
                            WRITE : AL, GU
                           APPEND : AL, GU
                             LOCK : AL, GU
                          EXECUTE : ANY
                             SAVE : GU


       FILE ---------------- READ : ANY          FCODE : 0
                            WRITE : ANY        **SECURITY IS ON
                           APPEND : ANY            NO ACDS
                             LOCK : ANY
                          EXECUTE : ANY

    FOR USER1.PAYROLL: READ, WRITE, LOCK, APPEND, EXECUTE
```

This screen displays the following information:

- account-level, group-level, and file-level security (`READ`, `WRITE`, `APPEND`, `LOCK`, `EXECUTE`)

- a listing of user's file access rights (`FOR username.acctname: READ`, `WRITE`, `LOCK`, and so on.)

- status of file's security (either `**SECURITY IS ON` or `**SECURITY IS OFF`)

### To display a fully qualified file name

To display the fully qualified file name of a file, use the `QUALIFY` or 6 option of the `LISTFILE` command. The fully qualified file name is composed of the file name, its group name, and its account name.

1. At the system prompt, type `LISTFILE` *filename*`,QUALIFY` (or 6).

2. Press Return

The following example displays the fully qualified name of the `TEMPREC` file:

    :LISTFILE TEMPREC,QUALIFY Return

or

    :LISTFILE TEMPREC,6 Return

This option displays the following information:

    TEMPREC.QTR3.PAYROLL

The wildcard character `@` may be used in place of file, group, and account names. For example:

- To list all qualified file names in the group `QTR3` of the `PAYROLL` account:

    LISTFILE @.QTR.PAYROLL, QUALIFY Return

- To list all qualified file names in all groups of the `PAYROLL` account:

    LISTFILE @.@.PAYROLL, QUALIFY Return

- To list all qualified file names on the system:

    LISTFILE @.@.@, QUALIFY Return

**To display the lockword and creator**

To display the lockword and creator of a file, use option -3 of the LISTFILE
command. This option is available to only the system manager (SM
capability), or the account manager (AM capability) of the account that the
file is in.

1. At the system prompt, type LISTFILE *filename* , -3.

2. Press [Return].

The following example displays the creator of the TEMPREC file and any
lockword assignments:

    :LISTFILE TEMPREC, -3 [Return]

This option displays the following information:

```
******************************
FILE:  TEMPREC.QTR3.PAYROLL

FILE CODE : 0           FOPTIONS: ASCII, FIXED, NOCCTL, STD
BLK FACTOR: 10          CREATOR : CLERK
REC SIZE: 80(BYTES)     LOCKWORD: KINU
BLK SIZE: 80(BYTES)     SECURITY--READ    : ANY
EXT SIZE: 8(SECT)                 WRITE   : ANY
NUM REC: 10                       APPEND  : ANY
NUM SEC: 16                       LOCK    : ANY
NUM EXT: 1                        EXECUTE : ANY
MAX REC: 10                    ** SECURITY IS ON
NUM LABELS: 0           FLAGS   :  NO ACCESSORS
MAX LABELS: 0           CREATED :  MON, SEP 10, 1990,  7:21 PM
DISC DEV  :15           MODIFIED:  THU, NOV 15, 1990,  9:54 PM
CLASS     :DISC         ACCESSED:  THU, NOV 15, 1990,  9:54 PM
SEC OFFSET:0            LABEL ADDR:  $000000D1 $001BC920
```

Along with file specification information, this screen displays the following:

- name of the creator of the file
- lockword assigned to the file, if any

## To view the contents of a file from the system prompt

You can view the contents of a file using the `PRINT` command at the system prompt.

### To view the entire file

To view the contents of a file, use the `PRINT` command followed by a file name.

1. At the system prompt, enter `PRINT` followed by the file name.

2. Press (Return).

   The following example displays the contents of the `YOURFILE` file in your current group and account:

   ```
   :PRINT YOURFILE (Return)
   ```

   This example displays the contents of the file—but only from the `QTR1` group of the `PAYABLE` account.

   ```
   :PRINT TEMPREC.QTR1.PAYABLE (Return)
   ```

   If your file is longer than what can be shown on one screen, a pagebreak prompt appears. This prompt looks similar to the following:

   ```
   23/54 Continue?_
   ```

   Respond with `Y` or `YES` (Return) if you want to display the next screen page of the file. Respond with `N` or `NO` (Return) if you wish to stop the `PRINT` command and return to the system prompt.

   Note that the first number of the pagebreak prompt indicates the next line number to be displayed. The second number of the pagebreak prompt indicates the total number of lines in the document.

### To view portions of a file

You can print certain portions of a file to the screen by specifying `START=` or `END=` line numbers. For example:

- To display selected lines of a file on your screen, enter the `PRINT` command, and specify the file name and the starting and ending line numbers. The following example prints lines 1 through 10 of the `MYFILE` file:

      :PRINT MYFILE;START=1;END=10 `Return`

- To display the end of the file, use the `PRINT` command without an ending line number. In the following example, all lines from line 170 to the end of the file `MYFILE` are displayed:

      :PRINT MYFILE;START=170 `Return`

- To display a number of lines from the end of the file, specify the starting line number as a negative number. This signifies that the starting line number is to be calculated from the end of the file. In the following example, the last twenty lines of the file `MYFILE` are displayed:

      :PRINT MYFILE;START=-20 `Return`

## Any problems?

- Did the prompt disappear after using the `PRINT` command?

  Enter `:eod` (colon included) by itself on a new line and press `Return`. To prevent this from occurring again, always specify a file name when using the `PRINT` command.

- Did you get the following error message?

      NONEXISTENT PERMANENT FILE (FSERR 52)
      THE PRINT COMMAND FAILED.  (CIERR 9080)

  This error message means that the file name that you are trying to access, is not recognized by the computer. Check to see if the file name is spelled correctly.

  Also, check that the file is in your logon group and account. If it is not, and you are the creator of the file, use the fully qualified file name.

- Did you get this error message?

      SECURITY VIOLATION (FSERR 93)
      THE PRINT COMMAND FAILED.  (CIERR 9080)

You are trying to print a file to which you do not have access. In this case, the creator of the file must release the file (see the RELEASE command, in the *Command Reference - HP 3000 Series 9X8LX* (B3820-90007) before you can print it.

## To list the directories

You use the LISTFILE command to list directories as well as files. Directories are special types of files.

```
:LISTFILE ./Directory1


PATH=/YOURACCT/YOURGRP/./

Directory1/
```

You can tell that it's a directory (rather than a file) in the command output because its name is followed by a slash.

To list all files and directories in your current working directory:

```
LISTFILE ./@


PATH=/YOURACCT/YOURGRP/./

DIR2/          Directory1/   FILE1
```

All files (including directories) in your current working directory are listed.

If you omit the ./ from the command, the LISTFILE command assumes that you are looking only for MPE-named files, and HFS-named files are not displayed:

```
:LISTFILE @

FILENAME

FILE1
```

If you have other files in the group where you are working, they are listed along with FILE1.

The result is the same if you omit @ and type LISTFILE since that is the default when no parameter is included with the command.

## To list directories another way

**Note**　　　You can only use the system-provided UDCs, such as LISTDIR, if the system manager has activated them. Refer to the section "UDCs, JCL, Command Files, and Programs" in Chapter 3 for more information.

You can also use the LISTDIR UDC to list directories:

```
:LISTDIR

/YOURACCT/YOURGRP/DIR2/
/YOURACCT/YOURGRP/Directory1/
```

All the directories in your current working directory are listed when you specify the UDC with no parameters.

You can also use the LISTDIR UDC to list directories in a specific location:

    :LISTDIR /SYS/PUB

This command locates any directories located in PUB.SYS.

## To move to the directory

After you create a directory, you can move to it.

    :CHDIR ./Directory1

This command moves you to Directory1. Figure 2-1 shows you where you moved in the file system. Directory1 is now your current working directory.
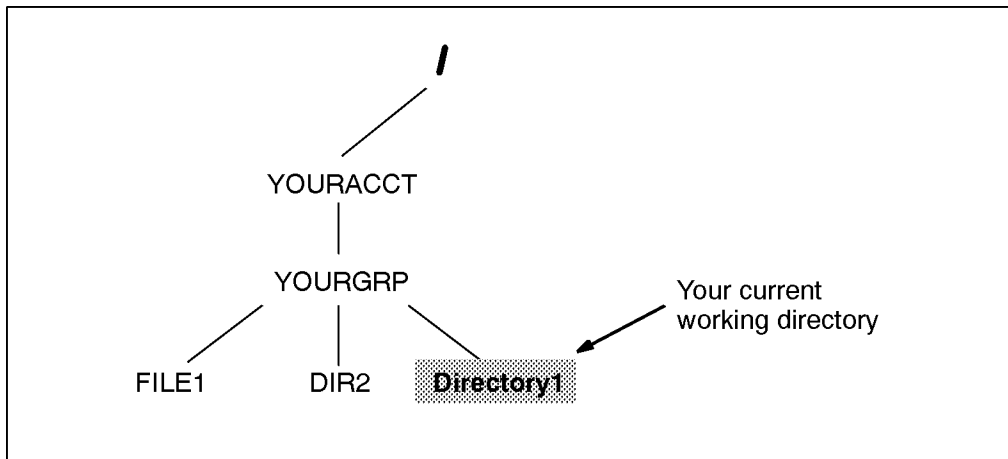


LG200208_004

**Figure 2-1. Location after Changing Directories**

Again, use a `./` to act on HFS files. If you don't, MPE/iX acts only on MPE-named files. If you try to change to `Directory1` without the preceding `./` the system treats the directory name as an MPE name and converts the letters to uppercase. It does not locate the directory.

```
:CHDIR Directory1

File name is more than eight characters long. (CIERR 532)
```

According to MPE syntax, the file name is limited to eight characters, but actually, two errors occur here. First, the system discovers that the name is longer than eight characters and reports the error. Second, the name is upshifted, and the system looks for `DIRECTORY1`, which it wouldn't find even if it were fewer than eight characters.

## To move back to your logon group

If you type

```
:CHDIR
```

by itself, MPE/iX moves you back to your logon group. Try typing the command. Figure 2-2 shows you where you are now. `YOURGRP` is your current working directory again.
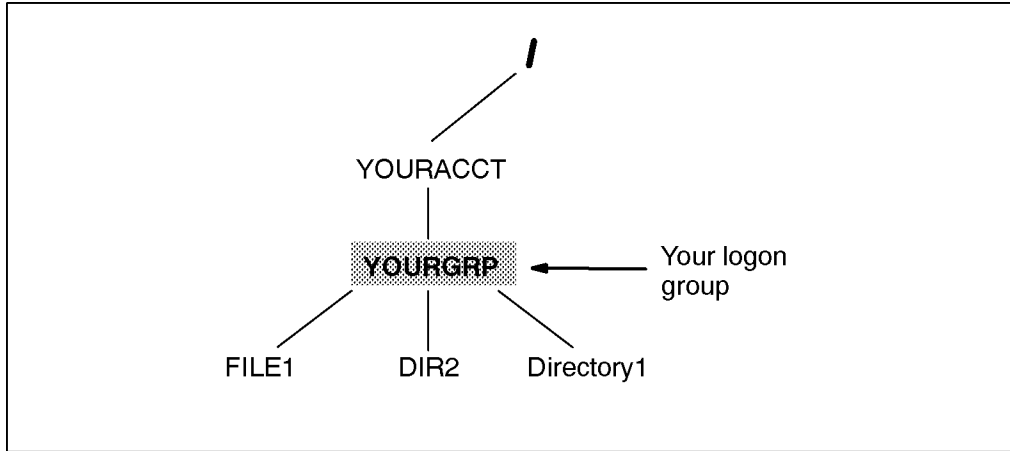
LG200208_005

**Figure 2-2. Moving Back to Your Logon Group**

# Creating and Editing Files

**Note**     The MPE/iX operating system has been enhanced as of Release 4.5 and 5.0 to include additional features that include POSIX compatibility and the *hierarchical file system*. The *hierarchical file system* is tree structured and can contain files at many different levels. This organization provides a special kind of file called a **directory**. Instead of holding data, directories contain lists of files and pointers to those files. For more information on *POSIX* and the *hierarchical file system*, refer to the book, *New Features of MPE/iX: Using the Hierarchical File System* (32650-90351), included in this documentation set. This book includes an overview of the following enhancements of MPE/iX as of Release 4.5 and 5.0:

- Open systems environment
- Hierarchical file system (HFS)
- Expanded file naming syntax
- New and enhanced commands and utilities
- MPE/iX Shell and Utilities
- MPE/iX Developer's Kit

The text editor EDIT/3000 is a Hewlett-Packard subsystem that comes with your HP 3000 system. You can create and edit files using EDIT/3000 or another word processing program. If you are using another program, refer to its instructions to create and modify files. The following task descriptions provide instructions for working within EDIT/3000.

## To start the editor

To start the editor, do the following:

- Type the command `EDITOR` at the system prompt, and press `Return`.

   A slash prompt (/) signifies that you are in the EDIT/3000 program.

```
:EDITOR  Return
/
```

## To add text to a file

To create a file using EDIT/3000, specify ADD to begin the file and type lines of text.

1. At the editor's prompt (/), enter A or ADD.

   When line number 1 displays on the screen, the program is waiting for text for line 1 of the file.

   ```
   /ADD  Return
       1        _
   ```

2. Enter the text for the file beginning at line 1. Enter no more than 72 characters on a line.

3. Press Return to continue on the next line. EDIT/3000 does not automatically wrap text to the next line. You must enter Return to start another line.

4. When you have finished entering text, press Return to give you a new line.

5. Enter // Return to signify the end of adding text.

## To save a file

When you type the text into a file, it exists only in the editor's workspace. To keep your text permanently, you must save it in a file by using the EDIT/3000's KEEP command.

1. To save the file, at the editor's prompt (/), enter K or KEEP followed by a file name.

   Select a name for the file that fits the following restrictions.

   ■ Use no more than eight characters.

   ■ Use an alphabetic character for the first character.

   ■ Do not use special characters (such as $, @, &, or *) in the name.

- Do not use a slash (/) in a file name. This character has a special function in file names. If used incorrectly, you might have difficulty accessing the file later.

For example, if you want to save the file under the name `LETTER1`, you would type the following.

/KEEP LETTER1 (Return)

If the name that you selected is already in use, you are prompted by the program to overwrite the existing file. Again, using the example of `LETTER1`, the following prompt would appear on the terminal screen:

```
LETTER1 ALREADY EXISTS - RESPOND YES TO PURGE OLD AND KEEP NEW

PURGE OLD?_
```

2. If this message appears on the screen, do one of the following:

- Enter `Y` to overwrite the existing file.

- Enter `N` to end your request. Enter `K` or `KEEP` again, using a unique name for the file.

## To end the editor

To leave the editor program, use the editor's `END`, or `E`, command. This command is typed at the editor's prompt.

1. Enter `END` or `E`.

2. Press (Return).

The message `END OF SUBSYSTEM` appears on the screen, and you are returned to the system prompt.

Your screen should look like this:

```
/END
END OF SUBSYSTEM
: _
```

## Editing an EDIT/3000 file

Retrieving a file, adding and deleting lines of text, and modifying words in a text line are described in this section.

### To retrieve an existing file

The EDIT/3000 command `TEXT`, or `T`, lets you retrieve a file for viewing, printing, or editing. This command brings your file into the EDIT/3000 workspace.

1. At the editor's prompt, type either `TEXT` or `T` followed by the file name that you want to retrieve.

2. Press Return.

The following example uses the file name `MYFILE`:

  /TEXT MYFILE  Return

If your file is extremely large, it may take several seconds before you again see the editor's prompt (`/`).

### To list a file's contents in the editor

The EDIT/3000 command `LIST` allows you to view all or any portion of your text file. The tasks described here assume that a file is already in the EDIT/3000 workspace.

1. From the editor's prompt, enter `LIST ALL` to display all of the contents of a file.

2. Press Return.

You can display portions of a file by using special listing commands. For example:

- To display the first line of the file, use the keyword `FIRST`:

    /LIST FIRST Return

- To display the first through the twentieth lines of the file, use the keyword `FIRST` as the beginning of a range and a line number as the end of the range:

    /LIST FIRST/20 Return

    Note that the screen can display about twenty lines of a file at a time without scrolling off the screen. Specify a range of twenty or fewer lines so that it will fit the screen.

- To display a segment of a file, specify a range of line numbers, such as lines 10 through 17:

    /LIST 10/17 Return

- To display only the last line of the file, specify `LAST` with no line numbers:

    /LIST LAST Return

- To display from a certain line number to the end of the file, use the keyword `LAST` and a line number:

    /LIST 327/LAST Return

### To add a line of text

To add a line of text to an existing file, use the editor's `ADD`, or `A`, command. A file must be retrieved into the editor's workspace before issuing this command. For example:

- Enter A or ADD to add text to the end of the file.

     /ADD (Return)
          15

- Enter A or ADD and a line number to add text *after* the line specified. (Note that the additional line numbers are added as decimals, in this example 32.1, if all whole numbers are in use.)

     /A 32 (Return)
          32.1_

- Enter A or ADD and a decimal number less than 1 to add text to the *beginning* of the file.

     /ADD 0.5 (Return)
          0.5_

## To erase a line of text

To erase a line of text, use the editor's DELETE, or D, command. Type DELETE along with the line number that you wish to erase. The following procedures assume that a file is already in the EDIT/3000 workspace.

1. From the editor's prompt, type DELETE followed by a line number.

2. Press (Return).

The following example deletes line 15 of the text. Note that the line of text displays on the screen as it is being erased.


```
/DELETE 15
     15     wonderful calicos from the early 19th century were used
```


## To erase a range of lines

To delete a series of consecutive lines of text, use the DELETE command and specify the range of lines that you want to erase. The line range is designated

by a start number and an end number, separated by a **/**. For example, **24/85** will erase lines 24 through 85.

1. Type **DELETE**, and provide a line range.

2. Press (Return).

In the following example, lines 5 through 7 of the text are deleted. Note that the lines of text appear on the screen as they are erased:

```
/DELETE 5/7
     5 The dominant color was blue, symbolizing honor and
     6 tranquility.  Borders were done in a different
     7 complementary color.
```

### To change or modify a line of text

To change or modify lines of text, use the **MODIFY**, or **M**, command and the **R**, **I**, or **D** subcommands.

The following tasks assume that a file is already in the EDIT/3000 workspace.

1. At the editor's prompt, enter **M**, or **MODIFY**, followed by a single line number or a range of line numbers to change text on certain lines. The line or first line of the range is displayed on the screen.

2. Use the spacebar to move the cursor so that it is under the character or beginning of the phrase that needs to be changed. Use one of the following methods to change the text:

   ■ To replace text, type an **R** followed by the new text. The new text overwrites the existing text. If two characters are entered, two characters of the original phrase are overwritten.

   ```
        1 Here is a line with a mistar.
                                    Rke. (Return)
        1 Here is a line with a mistake.
   ```

   ■ To insert text, type an **I** (for insert) followed by the new text.

   ```
        1 Here is a line with a mistake.
                             iout (Return)
        1 Here is a line without a mistake.
   ```

■ To delete single characters that are next to one another, type D (for delete) beneath each character to be deleted:

```
1 Here is a line without a mistake.
                  ddd (Return)
1 Here is a line with a mistake.
```

■ To delete a section of text in the middle of a line, type a D under the first letter to delete and another D under the last letter to delete.

```
1 Here is a line with a mistake.
              d         d (Return)
1 Here is a mistake.
```

### To renumber lines in a file

The line numbering of the file can become complicated if several lines have been added, deleted, and modified. To renumber your file from the first line to the last using only whole numbers, use the EDIT/3000 GATHER ALL command:

1. From the command mode of the editor, enter GATHER ALL, and press (Return).

```
/GATHER ALL (Return)
```

2. Use the LIST ALL command to view your file.

```
/LIST ALL (Return)
```

## To print your EDIT/3000 file to a printer

You can print the contents of a file by directing the output of the LIST command to the printer. To do this, include the OFFLINE parameter.

Note that the LIST command prints the contents of the file as it would appear in a listing on the screen. It does not format the text as word processors often do.

■ To print the entire file, use the ALL parameter.

```
/LIST ALL, OFFLINE (Return)
```

The following message appears:

```
***OFF LINE LISTING BEGUN.***
```

- To print selected lines of the file, enter the range of line numbers desired:

  /LIST 1/10, OFFLINE (Return)

- To print only the end of a file, specify a range beginning with a line number and ending with the parameter LAST, or specify the beginning of the range as LAST minus a number of lines and the end of the range as the parameter LAST:

  /LIST 170/LAST, OFFLINE (Return)

  or

  /LIST LAST-20/LAST, OFFLINE (Return)

## To create command files

If there are commands that you use frequently, you may want to create a *command file*. At their simplest, command files can shorten or abbreviate what you type at the system prompt.

### Creating a command file

Command files can contain MPE/iX commands, program names, and or other command file names. To create a command file, perform the following tasks:

1. Get into a text editor.

2. Enter each command that you want to execute on a separate text line.

3. Save the file under an abbreviated name, and exit the editor.

The following example shows the text of a command file created in the
EDIT/3000 text editor. This command file executes the SHOWTIME command
when you type ST at the system prompt.

```
:EDITOR [Return]
/ADD [Return]
1   SHOWTIME [Return]
2   //
/KEEP ST [Return]
/END [Return]
END OF SUBSYSTEM
:_
```

The following example creates a command file that executes the EDIT/3000
program when E is typed in at the system prompt:

```
:EDITOR [Return]
/ADD [Return]
1   EDITOR [Return]
2   //
/KEEP E
/END
END OF SUBSYSTEM
:_
```

The following example creates a command file in EDIT/3000 that executes two command files, ST and E, when SE is typed in at the system prompt:

```
:EDITOR  Return
/ADD  Return
1  ST  Return
2  E  Return
3  //  Return
/KEEP SE  Return
/END  Return
END OF SUBSYSTEM
:_
```

## Any problems?

■ Did the following message appear on the screen when you tried to retrieve a file in the EDIT/3000 program?

```
+-F-I-L-E---I-N-F-O-R-M-A-T-I-O-N---D-I-S-P-L-A-Y-+
!  ERROR NUMBER: 52    RESIDUE: 0              !
!  BLOCK NUMBER: 0          NUMREC: 0          !
+-------------------------------------------------+
*23* FAILURE TO OPEN TEXT FILE    (52)
NONEXISTENT PERMANENT FILE   (FSERR 52)
```

Verify the spelling of your file name with the `LISTFILE` command. Retype the command to retrieve a file.

■ In trying to retrieve a file, did the following prompt appear on your screen?

```
LOCKWORD: username.groupname.acctname?
```

This prompt is informing you that a lockword may have been inadvertently assigned to your file. Ask the system administrator to identify the lockword for you. At the lockword prompt, type in the lockword. Keep your file under a different name, making sure that you do not use the "/" character in the new name. Delete the old file name to prevent further occurrences of this problem.

■ Did you get the following error message?

```
OUT OF DISC SPACE (FSERR)
```

This error message indicates that you have run out of disk space allotted to you. To create disk space, delete any files that are not needed with the

`PURGE` command. Have some of your files stored to cassette tape using the
`STORE` command, and then erase those files from the disk. Refer to the
"Working with Files" section of this chapter for instructions on the use of
these commands.

# Using Symbolic Links

You have a lot of flexibility in naming directories and files by using symbolic
links. What if you want to move a set of files from one location to another
without affecting the normal processing of any application that accesses those
files. To do this, you can move the actual files to the new location, and in the
old location create symbolic links with the same name specifying the CWD(s)
of the new location of the files.

## To create symbolic links

A symbolic link is a type of file that contains another path name. It is a
permanent file in the system directory. This concept is similar to MPE/iX *file
equations*.

A symbolic link file may contain a relative or absolute path name. If a
symbolic link to a relative path name is encountered during path name
traversal, the contents of the symbolic link replace the symbolic link component
and is expanded into the path name being interpreted. If a symbolic link to an
absolute path name is encountered, the contents of the symbolic link replaces
all components up to and including the symbolic link and is expanded into the
remainder of the path name.

### Creating symbolic links

Suppose that files `file1`, `file2`, and `file3` originally existed under the
group `PXGROUP` of account `DEVELOP`. You have decided to move the files to the
`/users/denis/bin/FILES` directory. To ensure that all of the applications that
access those files will still function properly, you must create symbolic links to
those files.

Use the `NEWLINK` command to create the symbolic links.

```
:chdir /DEVELOP/PXGROUP
:newlink ./file1, /users/denis/bin/FILES/file1
:newlink ./file2, /users/denis/bin/FILES/file2
:newlink ./file3, /users/denis/bin/FILES/file3
```

From this point on, anytime an application accesses these files, the symbolic links will redirect the file system to the new location of the files.

| Note | This only applies to commands that operate on the target of the links and not the links themselves. For example, `PURGELINK` and `STORE` operate on the link itself and not the target files. |

You can use this method to install newer versions of these files in another location without overlaying their current version, and changing the symbolic links to point to the newer version. If at any time you need to access the old version, you can point the symbolic links to that version of the files.

## Deleting symbolic links

Use the `PURGELINK` command to delete a symbolic link(s).

```
:newlink ./file1, /users/denis/bin/FILES/file1
```

## Renaming symbolic links

Symbolic links can be renamed by calling the POSIX C-library function of `rename()`.

The MPE/iX command `RENAME` does not rename the symbolic link itself, it renames the file pointed to by the symbolic link.

## Archiving symbolic links

Symbolic links can be stored and restored to your MPE/iX system by using the MPE/iX `STORE` and `RESTORE` commands like any other file on the system.

# Printing the Contents of a File

You can choose various methods to print a file. Word processing programs have specific commands that allow you to specify the file and format of the text. This type of command is unique to the word processing program and is not dealt with here. Refer to the documentation that came with your word processor.

Several methods of displaying or printing the contents of a file are available. The variations include sending output to a printer as well as to a terminal.

## To print a file to paper

To print the contents of a file to a printer, use the `FILE` command to identify the printer.

1. Create a file equation that correlates a name with the printer's device class or logical device number. Then use the printer reference in the `PRINT` command.

   `:FILE name;DEV=printer` `[Return]`

   In the following example, the name `PRTR` is equated with the LP device.

   `:FILE PRTR;DEV=LP` `[Return]`

2. Enter the `PRINT` command. Include in its parameters, the name of the file to be printed, the `OUT=` parameter, an asterisk, and the name specified in the file equation. In the following example, the `OUT=` parameter refers back to the previous file equation and designates `*PRTR` as the output file. Because of the file equation, the `*PRTR` is equivalent to the LP device, namely the printer.

   `:PRINT MYFILE;*PRTR` `[Return]`

## To print a file and save it as a spool file

1. To keep a copy of your printed file as a spool file, attach the `SPSAVE` option on the `FILE` command:

   `:FILE PRTR;DEV=LP;SPSAVE` `[Return]`

2. Enter the following:

    :`PRINT MYFILE;*PRTR` (Return)

## To print selected lines of the file

To print selected lines of a file to a printer, use the `FILE` command to identify
the printer and the `PRINT` command to specify the lines of text that you want
printed.

1. Create a file equation that correlates a file name with the printer's device
   class or logical device number. In the following example, the file name `PRTR`
   is equated with the LP device:

    :`FILE PRTR;DEV=LP` (Return)

2. Enter the `PRINT` command. Include the file to be printed, the starting
   and ending line numbers, the `OUT=` parameter, an asterisk, and the name
   specified in the file equation. In the following example, the `OUT=` parameter
   refers back to `*PRTR` as the output file, which in this case is equivalent to
   the printer:

    :`PRINT MYFILE;START=1;END=10;*PRTR` (Return)

## To print only the end of a file

To print the last lines of a file to a printer, use the `FILE` command to identify
the printer and the `PRINT` command to specify the portion of the file to print.
Use a negative number after the `START=` parameter of the `PRINT` command, to
specify the starting line number from the end of the file.

1. Create a file equation that identifies a file name with the printer's device
   class or logical device number. In the following example, the name `PRTR` is
   equated with the LP device:

    :`FILE PRTR;DEV=LP` (Return)

2. Enter the `PRINT` command. Include in its parameters, the name of the file
   to be printed, the `START=` starting line number, an asterisk, and the name
   specified in the file equation.

In the following example, the last twenty lines of the file MYFILE will be printed to a printer equated in the preceding file equation to PRTR.

```
:PRINT MYFILE;START=-20;*PRTR  [Return]
```

# Displaying and Modifying Files Waiting to Print

If spool queues are open for the device, each print request that you make creates a spool file. If the printer is available, the spool file prints immediately. If the printer is unavailable, whether printing something else or needing attention, the spool file is positioned in a waiting state in the spooler. During this time, and even when the spool file is printing, you can display the spool file and modify printer specifications, such as how many copies to print.

## To list files waiting to print

To display a list of the spooled files and their status, use the LISTSPF command.

:LISTSPF [Return]

```
:LISTSPF
SPOOLID   JOBNUM    FILEDES    PRI    COPIES    DEV    STATE RSPFN OWNER
#0830     J1        $STDLIST    2        1      LP     READY       PAY.SYS
#0851     J19       $STDLIST    1        1      LP     DEFER       Q2.PUB

INPUT SPOOL FILES             OUTPUT SPOOL FILES
ACTIVE  = 0                   CREATE  = 0;              READY    = 1;
OPEN    = 0                   DEFER   = 1;              SELECTED = 0;
READY   = 0                   DELPND  = 0;              SPSAVE   = 0;
                              PRINT   = 0;              XFER     = 0;
                              PROBLM  = 0;

TOTAL IN FILES  = 0;     TOTAL OUT FILES   = 2;
      IN SECTORS = 0;          OUT SECTORS = 4357;

OUTFENCE = 7
OUTFENCE = 7 FOR LDEV 113
```

This screen displays the following information:

- The unique spool file identifier (`SPOOLID`).

- The job or session identifier (`JOBNUM`).

- File designator (`FILEDES`).

- Input or output priorities of the spool file (`PRI`).

- The total number of copies of the spool file to be printed (`COPIES`).

- The LDEV, device name, or device class that is the destination of the spool file (`DEV`).

- The current status of the spool file (`STATE`), for example, `READY`, `CREATE`, `ACTIVE`, `OPEN`, `PRINT`.

- The column under each letter R (restartable), S (SPSAVE has been specified), P (spool file is private), F (spool file has a forms message), and N (spool file is not complete) contains the respective letter as a flag indicating something about the spool file.

- The fully qualified name of the creator of the spool file (`OWNER`).

- The list of spool files in their various states (`INPUT SPOOLFILES` and `OUTPUT SPOOLFILES`).

- The total number of input and output spool files (`TOTAL IN FILES` and `TOTAL OUT FILES`).

- The current global outfence setting (`OUTFENCE =`), and any device that has specific outfences of spooled printers.

## To examine output before it prints

You can check the results of a submitted job before it prints by using EDIT/3000.

1. Use the `LISTSPF` command to determine the spool file identification number (`SPOOLID`). This identification number will be used as the output file name in step 4.

2. Type:

       :RUN SPIFF.PUB.SYS  (Return)
       /

3. Text the output file into the editor. Note that output files are in the `OUT` group of the `HPSPOOL` account:

   >T Onnnn (Return)

4. List the portion of the file that you want to see:

   >L 1/20 (Return)

   >L LAST-25/LAST (Return)

5. End the editor when you are finished reviewing the file:

   >EXIT (Return)
   :

## To change the number of copies of a spool file

To change the number of copies of a spool file requires the use of the `SPOOLF` command, and the `;ALTER` and `;COPIES=` parameters. You provide the number of copies that you want to print.

1. Enter `LISTSPF` to display the queued spool files. Use the owner column and `SPOOLID` column to find the spool file number.

2. Enter the `SPOOLF` command, the output spool file number (`SPOOLID`), and the `;ALTER` and `;COPIES=` parameters. In the following example, the number of copies for job number 13 is changed to 3:

   :SPOOLF O13;ALTER;COPIES=3 (Return)

3. Enter `LISTSPF` to verify that the change has been made:

   :LISTSPF (Return)

## To change the priority of a spool file

Occasionally you may want to change the order that your spool file is scheduled to print. You may wish to print the spool file ahead of the files queued, or you may wish to defer the printing altogether. Use `ALTER` and `PRI=` parameters of the `SPOOLF` command to change the printing priority.

1. Enter `LISTSPF` to display how your spool file is currently queued (PRI), and to determine your spool file identification number (`SPOOLID`).

2. Enter the `SPOOLF` command with the `;ALTER` and `;PRI=` parameters. In the following example, the priority for `SPOOLID` is changed to 12.

   ```
   :LISTSPF (Return)
   :SPOOLF 013;ALTER;PRI=12 (Return)
   ```

3. Enter `LISTSPF` to verify that the change has been made.

## To save a spool file after it prints

Ordinarily, the spool file is deleted from the printing queue once it has printed. To keep the spool file after it prints, use the `ALTER;` and `;SPSAVE` parameters of the `SPOOLF` command. Saving the spool file in this manner saves you the time of running the original print program again if you want to produce the same report.

   ```
   :SPOOLF 013;ALTER;SPSAVE (Return)
   ```

## Managing the Printing Process

There are particular commands that are used in managing the spooler and the printers. Several methods of stopping and restarting the print process are available. Each method has a slightly different effect.

### To keep all files from printing

Printing can be halted for all files in a number of ways. The following list provides several variations depending on your needs.

■ Alter the print priorities of all output spool files to a level lower than the outfence. This method changes the output priority of every spool file currently in the queue to a priority lower than the outfence. Notice that this affects only those spool files that are in the queue when this command is entered. Any new spool file entered in the queue will not be affected. In the following example, the print priorities are lowered to 1.

    :LISTSPF (Return)
    :SPOOLF O@;ALTER;PRI=1 (Return)
    :LISTSPF (Return)

■ Raise the outfence to a level higher than any output spool file. This is helpful if you need to manage a large number of printouts. You can then alter individual spool files to the higher priority in the sequence that you want. In the following example, the outfence is increased to 12.

    :OUTFENCE 12 (Return)

■ Take the printer offline if the printer does not place itself offline. (Refer to the user's manual for your printer for an illustration.) This is often used to stop printing quickly to fix a paper jam. Spool files continue to accumulate in the queue.

### To stop a file that is printing

To stop a file that is currently printing, suspend the spooler with the SPOOLER command and ;SUSPEND parameter.

Example:

`:SPOOLER 6;SUSPEND` `[Return]`

LDEV 6, as used in this example, is commonly used as the logical device number for the Series 9X8LX system's printer. Check with your system administrator, as this could vary depending upon how your system is set up.

### To finish printing one file

To finish printing the current file but not let anything else print, suspend the spooler using the `SPOOLER` command and the `;SUSPEND` and `;FINISH` parameters:

`:SPOOLER 6;SUSPEND;FINISH` `[Return]`

LDEV 6, as used in this example, is commonly used as the logical device number for the Series 9X8LX system's printer. Check with your system administrator, as this could vary depending upon how your system is set up.

### To resume printing

The `SPOOLER` command and the `RESUME` parameter are used to resume spooling after the spooler has been suspended. After this command takes effect, printing begins.

`:SPOOLER 6;RESUME` `[Return]`

LDEV 6, as used in this example, is commonly used as the logical device number for the Series 9X8LX system's printer. Check with your system administrator, as this could vary depending upon how your system is set up.

### To resume printing from a particular place

To specify the page from which to resume printing, use the `RESUME` and `OFFSET=` parameters. A positive number in the `OFFSET=` parameter specifies the page number on which to begin printing. In the following example, the printing starts at page 4, no matter where printing was suspended:

`:SPOOLER 6;RESUME;OFFSET=4` `[Return]`

In the following example, printing resumes back four pages from where printing was suspended, or at the beginning of the file, if less than four pages have been printed:

`:SPOOLER 6;RESUME;OFFSET=-4` `Return`

LDEV 6, as used in this example, is commonly used as the logical device number for the Series 9X8LX system's printer. Check with your system administrator, as this could vary depending upon how your system is set up.

## Working with Jobs and Sessions

A session is an interactive communication between the system and a user. It is characterized by the user entering a command at a terminal, the system responding to it, and then waiting for the user to enter another command. A job is different from a session in that the commands are placed in a job file. Once the job file is activated, commands are processed as they are read from the file with little or no interaction from a user. Jobs are commonly referred to as batch jobs or batch processes.

### To display processing information

The computer system is often managing several interactive sessions and several batch jobs at the same time. Summary information can be displayed about one or all sessions and jobs on the system.

#### About your session

You can display summary information about your session by entering the SHOWME command:

    :SHOWME (Return)

The following sample is an example of a SHOWME screen:

```
:SHOWME (Return)

USER:  #S18,JOHN.SMITHERS,MYGROUP     (NOT IN BREAK)
RELEASE: C.45.00   MPE/iX HP 31900   USER VERSION: C.45.00
CURRENT : WED, DEC 15, 1993,  3:58 PM
LOGON :   WED,  DEC 15, 1993,  3:57 PM
CPU SECONDS: 2        CONNECT MINUTES: 1
$STDIN LDEV: 107         $STDLIST  LDEV: 107
********* WELCOME TO THE HP 3000 SYSTEM **********

THERE WILL BE A FULL SYSTEM BACKUP ON FRIDAY, DECEMBER 24,  AT 18:00.
```

This display provides details about your session:

- The number given to your session (**#S**_nn_). This number represents how you are currently identified by the computer. This number changes each time that you log on to the system.

- Your logon identity.

- The version number of the release.

- The MPE/iX product release number.

- The customer's own version number.

- The current date and time.

- The date and time that you logged on.

- The amount of CPU time used by this session so far (`CPU SECONDS`).

- The amount of time that has elapsed since you logged on (`CONNECT MINUTES`).

- The input device that you are using (`$STDIN`).

- The output device that you are using (`$STDLIST`).

- Any welcome messages informing all users of important computer-related information.

### About all jobs and sessions

Details about all jobs and sessions that are currently on the system can be obtained with the `SHOWJOB` command:

    `:SHOWJOB` `Return`

The following sample shows the types of information that the `SHOWJOB` command displays:

```
JOBNUM   STATE IPRI JIN   JLIST    INTRODUCED  JOB NAME

#S30     EXEC       101   101      FRI  9:57A  DONNA.HOLLAND
#S21     EXEC       107   107      FRI  3:57P  JOHN.SMITHERS
#S29     EXEC       109   109      FRI  4:02P  LEDGER.ACCNTNG
#J13     EXEC       10S   LP       FRI  3:00P  DONNA.HOLLAND

4 JOBS:
     0 INTRO
     0 WAIT; INCL 0 DEFERRED
     4 EXEC; INCL 3 SESSIONS
     0 SUSP
JOBFENCE= 7; JLIMIT= 60; SLIMIT= 60
```

Your display may produce much more information:

■ Detailed information about sessions and jobs on the system.

  □ The number assigned to each job and session.

  □ The current state of each job (**#J**nn) or session (**#S**nn). Five possible
    states can be specified:

    EXEC    Currently executing on the system.

    INTRO   Introduced but not yet executing.

    SUSP    Suspended during its execution.

    SCHED   Scheduled to execute at a later time.

    WAIT    Waiting for system resources. (Job limit has been reached, or
            job's priority is too low to execute.)

  □ The standard input device for each job or session (JIN on this display).

  □ The standard output device for each job or session (JLIST on this display).

  □ The day and time that the job or session was introduced on the system.

  □ The job name or logon identity used to identify the job or session.

■ Summary information about the system's current processing load:

□ The total number of jobs and sessions on the system.

□ The number of jobs and sessions in each processing state.

□ The current value of the system's jobfence, joblimit, and session limit.

**About a particular job or session**

1. Determine the session or job number assigned by the system.

2. Use the `SHOWJOB` command followed by a specific session number:

   `:SHOWJOB #S119` (Return)

```
 JOBNUM   STATE IPRI JIN    JLIST     INTRODUCED   JOB NAME

 #S119    EXEC        109    109       FRI  4:02P   LEDGER.ACCNTNG

 JOBFENCE= 7; JLIMIT= 60; SLIMIT= 60
```

## To create a job file

Job files are generally created by using an editor or a word processor. They consist of various commands.

A job file must start with the `JOB` command. This is comparable to the `HELLO` command for an interactive session. The job file must end with the `EOJ` command.

The following job file prints the contents of the file `MYFILE1`:

```
!JOB MYJOB1,USER1/UPASS1.PRACTICE/APASS1,CLASS/GPASS1;&
!INPRI=9;OUTCLASS=LP;
!COMMENT MYJOB1 PRINTS MYFILE1
!CONTINUE
!EDITOR
T MYFILE1
L ALL,OFFLINE
EXIT
!TELL USERx.ACCTx MYJOB1 IS DONE
!EOJ
```

### To create a JOB command line

The purpose of the `JOB` command is to initiate a batch job. It is always the
first executable line of any job. The `JOB` command in batch processing is
comparable to the `HELLO` command in interactive processing.

1. Enter the `JOB` command preceded by an exclamation point.

2. Enter an optional job name followed by a comma.

3. Enter the user name, account name, and logon group name. Passwords for
   the user, account, and group must be included and are designated by the
   slash (/) symbol. For example, in the sample job file `MYFILE1`, the user
   password for `USER1` is designated as `USER1/UPASS1`; the account password
   for `PRACTICE` is designated as `PRACTICE/APASS1`; and the group password for
   `CLASS` is designated as `CLASS/GPASS1`.

4. Enter the input priority by using the keyword `INPRI=`.

5. Enter the optional `OUTCLASS=` parameter specifying location and the priority
   for printing the standard output.

Job commands often need to continue on a second line. To do this, enter an
ampersand (&) as the last character of the first line, and enter an exclamation
point (!) as the first character of the second line. The command line can be
continued at any point, but to make it easier to read, split the line between
options or at another convenient breaking point, as in the following example:

```
!JOB MYJOB1,USER1/UPASS1.PRACTICE/APASS1,OTHERGP/GPASS;&
!INPRI=9;OUTCLASS=LP;
```

| | |
|---|---|
| **Caution** | All users of EDIT/3000: |
| | The ampersand (&) symbol performs a different function in the EDIT/3000 program. If the ampersand symbol is the last character in the text line, it will not be recorded as part of that line. When you use the EDIT/3000 program to create your job file, use the following technique to insure that the ampersand is included in your text. |
| | When placing an ampersand at the end of a text line, type the ampersand symbol followed by a period (.), as shown below: |

`This is a line of text with an ampersand at the end&.` Return

While still in the EDIT/3000 program, remove this period from the line of text using the `MODIFY` command.

### To include a COMMENT command line

The `COMMENT` command inserts a comment into the command stream to document the procedure. You can enter as many `COMMENT` commands as you need. They can be positioned anywhere in the file.

```
!COMMENT MYJOB1 PRINTS MYFILE1
```

### To include a CONTINUE command line

The `CONTINUE` command enables a job to continue processing if an error occurs during processing. This command is placed immediately before a command that could cause an error.

```
!CONTINUE
```

`CONTINUE` should not be used before comment lines.

### To include a TELL command line

The `TELL` command sends a message to the screen. Often this command is used to report to someone, including yourself, that your job has completed successfully.

```
!TELL USERx.ACCTx MYJOB1 IS DONE
```

### To create an EOJ command

The `EOJ` command terminates a job and displays the CPU time and elapsed time for the job, as well as the date and time.

```
!EOJ
```

### To include MPE/iX commands

MPE/iX commands can be added to a job file by preceding the command with an exclamation point. For example, EDIT/3000 can be executed from the job by including the command to start the editor and preceding it with an exclamation point.

```
!EDITOR
```

### To include application commands

Application commands can be entered directly after the command that invokes the program. Do not enter an exclamation point before application commands.

```
!EDITOR
T MYFILE1
L ALL,OFFLINE
END
```

## To edit a job file

To change a job file, use the editor and alter the text as you would the text of any file.

## To run a job

A job file is initiated by entering the `STREAM` command followed by the job file name.

```
:STREAM MYJOB  (Return)
```

An assigned job number displays on the screen when the job enters the system. If you need to check on this job, copy the job number down for later reference.

## To schedule a job

Streaming a job introduces the job to the system and runs it as soon as the current operating environment allows. To schedule a job to run at a particular time or on a specific day, use one of the scheduling options of the STREAM command.

### At a specific time

Use the STREAM command with the AT= option. Enter the time of day to start the job in 24-hour notation. To stream a job that will run at 3:00 pm, specify the time as 15:00 hours.

> :STREAM MYJOB;AT=15:00 `Return`

### On a specific date

Use the STREAM command with the DATE= option to start the job on a specific date. Enter the month ($mm$), day ($dd$), and year ($yy$) in the format $mm/dd/yy$. The job in the following example was run on January 1, 1991.

> :STREAM MYJOB;DATE=1/1/91 `Return`

### On a specific day of the week

Use the STREAM command with the DAY= option to start a job on a particular day of the week. The job in the following example will run next Tuesday:

> :STREAM MYJOB;DAY=TUE `Return`

### A number of days or hours from now

Use the STREAM command with the IN= option to specify a number of days, hours, and minutes from the time that the job is streamed. Use any positive integer for the number of days. For the number of hours, use a number from 0 to 23. For the number of minutes, use a number from 0 to 59. In the following example, the job will run in 10 days and 1 hour from the time that it is streamed.

> :STREAM MYJOB;IN=10,1 `Return`

In this example, the job will run 45 minutes from the time that it is streamed:

```
:STREAM MYJOB;IN=,,45 [Return]
```

## To cancel a scheduled job

To cancel a job that is currently running, issue the `ABORTJOB` command using
the appropriate job number. The user who initiates the job may also abort it.
To abort jobs on the system that are not yours, you must be logged on to the
console as `MANAGER.SYS`.

```
:ABORTJOB #J13 [Return]
```

## To suspend a job

Use the `BREAKJOB` command to suspend a job temporarily. For example,
if system resources are limited and jobs are taking a long time to process,
suspending some jobs can speed up the processing of the remaining jobs on the
system. A user must be logged on to the console as `MANAGER.SYS`, in order to
use this command, unless otherwise specified.

```
:BREAKJOB #J13 [Return]
```

## To resume a job

To resume a job after it has been suspended, enter the `RESUMEJOB` command
with the appropriate job number:

```
:RESUMEJOB #J13 [Return]
```

## To reduce job activity

The following tasks must be entered on the system console or must be allowed
to the user with the `ALLOW` command.

Several commands can limit the jobs and sessions running on the system.

■ Increase the jobfence to reduce the number of new jobs allowed to execute.
  Enter the `JOBFENCE` command, specifying a higher jobfence number:

```
:JOBFENCE 8 [Return]
```

- Decrease the job limit to reduce the number of batch jobs that can run concurrently on the system. New jobs are not able to execute until the number of active jobs has decreased to the new job limit.

    :LIMIT 20 (Return)

- Decrease the session limit to reduce the number of interactive sessions that can run concurrently on the system. New sessions are not able to start until the number of active sessions has decreased to the new job limit.

    :LIMIT ,20

    Note that the LIMIT command is used to set both the job limit and the session limit. Both limits can be entered with a single command. The job limit is first, separated from the session limit by a comma. If only the number of sessions is to be entered, use the comma to specify that the first parameter is not being entered at this time.

- To display the current limits, enter LIMIT(Return).

- Suspend some jobs from executing at this time. Resume processing for these jobs when the system is less busy.

    :BREAKJOB #J13 (Return)

    :RESUMEJOB #J13 (Return)

## Any problems?

- Did you encounter the following error message while trying to abort, suspend, or resume a job?

    JOB SECURITY IS HIGH OR JOB NOT YOURS, CANNOT SUSPEND,
    RESUME, ALTER, OR ABORT.
    (CIERR 3047)

    This error message could mean one of several things:

    □ The job file does not belong to you.

    □ You have not been granted the use of the commands ABORTJOB, BREAKJOB, and RESUMEJOB.

    □ The command should be entered from the console.

## Working with Files

You often need to move files from one environment to another to be shared by other programs, other users, and other systems. You need to have an easy method of transferring files while retaining a level of security against unauthorized access. The creator of a file has control over who else can access it. The following procedures provide instructions for copying files and for maintaining file security.

### To copy a file

To make a duplicate copy of a file in your own group or account, use the `COPY` command. Provide the name of the file that you are copying from (the source file) and the name of the file that you are copying to (the target file), separating the two with a semicolon (;). Provide a unique file name for the target file as the `COPY` command will write over any existing file with the same name.

#### To make a copy of file

To copy a file use the `COPY` command:

    :COPY FROM=source;TO=target  (Return)

The following example duplicates the file `MYFILE` by creating a new file called `NEWFILE`:

    :COPY FROM=MYFILE;TO=NEWFILE  (Return)

This example assumes that the name provided after the `TO=` parameter is unique.

#### To copy over an existing file

To copy over an existing file, use the `COPY` command:

    :COPY FROM=OLDFILE;TO=OTHERFIL  (Return)

If you are copying a file to a file name that already exists on the system, the `COPY` command displays the following prompt:

    PURGE OLD filename.groupname.acctname?

A YES or Y response overwrites (purges) the existing file. A NO or N response
terminates the COPY command without copying the file.

### To not copy over an existing file

To ensure that the COPY command does not copy the file over a previously
existing file, use the NO parameter.

    :COPY FROM=filename;TO=filename;NO (Return)

The following example prevents the copy of the file STATUS91 over an existing
file, STATUS91. There will be no prompt asking you to purge the existing (old)
file.

    COPY FROM=STATUS91;TO=STATUS91;NO (Return)

The message "NO COPY WAS DONE." (CIERR 9113) assures you that your old file,
STATUS91, was not overwritten.

### To copy a file to a different group

To copy a file to a different group, use the COPY command specifying the group
name of the new file:

    :COPY FROM=filename;TO=filename.groupname (Return)

The following example copies the file REPORT to a new file called REPORT in the
PAYABLE group.

    :COPY FROM=REPORT;TO=REPORT.PAYABLE (Return)

## To rename a file

To change the name of a file, use the RENAME command. Enter the command
and the current file name, followed by the new file name. You must be the
creator of the file in order to perform this task.

    :RENAME oldname, newname (Return)

The following example renames a file MYFILE1 to MYFILE2:

    :RENAME MYFILE1, MYFILE2 (Return)

## To delete a file that you have created

To delete unwanted files use the `PURGE` command. Enter the `PURGE` command and the file name:

`:PURGE filename` (Return)

To delete an unwanted file that you have not created. Enter the `PURGE` command from an account with SM or AM capability:

`:PURGE filename.groupname.accountname` (Return)

## To delete a file using wildcards

To delete a directory and the files or directories it contains using wildcards, use the `PURGEDIR` command, for example:

:purgedir /MYACCT/MYGRP/@

This example deletes all directories rooted to `/MYACCT/MYGRP`.

To delete all empty directories under the CWD (Current Working Directory) with `TMP` in their name:

:purgedir @TMP@

To delete all directories under the CWD with names beginning with `TMP`, and all objects below these directories:

:purgedir TMP@; TREE

To delete all directories under the CWD with names ending with `TMP`, and all objects below these directories:

:purgedir ./@TMP

## Any problems?

■ Did you accidently delete the wrong file from the system?

Ask the system administrator when the last system backup was performed. The system administrator should be able to restore a previous version of a file that has been deleted.

■ When using the `PURGE` command, did you get the following error message on your screen?

    FILE filename NOT FOUND, NO PURGE DONE. (CIWARN 383)

Check for any typographical errors or misspellings in the file name.

■ When using the `RENAME` command, did you get the following error message?

    DUPLICATE PERMANENT FILE NAME  (FSERR 100)
    RENAME FAILED DUE TO SYSTEM ERROR, NOT RENAMED.(CIERR 373)

This error message indicates that the name to which you are renaming your file already exists. Reenter the command line, this time selecting a unique file name.

■ When using the `RELEASE` command, did you get the following error message?

    ACTION DISALLOWED SINCE NOT CREATOR OF FILE.  (CIERR 351)

This error message indicates that you are not the creator of the file and do not have the authority to release the file's security. Have the creator enter the command or have the creator release the file for your use. Do not forget to tell the creator when you are finished so that the file can be secured.

If you are the administrator or operator for the system, check to see if you logged on with the appropriate logon. `MANAGER.SYS` should allow you to access any file.

## File Security and Access Control Definitions (ACDs)

MPE/iX file system access is controlled by using access control definitions (ACDs) or the file access matrix. This section briefly introduces ACDs because of their relevance to controlling access to files and directories created outside of MPE groups.

Because ACDs are now required in some cases, it becomes increasingly important that you understand the MPE/iX ACD facility.

| **Note** | ACDs are the main method of controlling access to files, hierarchical directories, and devices. ACDs are automatically assigned to hierarchical directories and to files existing outside of MPE groups. |
|---|---|

## What is an ACD?

ACDs allow or prevent access to files and directories and exist as ordered lists of pairs. The pairs are made up of access permissions and user specifications that control access to **objects**. Objects are passive entities that contain or receive information, such as files, directories, and devices. Each entry in the ACD specifies object access permissions granted to a specific user or group of users. In addition to being granted access to an object protected by an ACD, users can also be granted access to read the ACD itself.

ACDs can be applied to any MPE/iX files or directories using the `ALTSEC` command. If a file has an ACD, this method of specifying access to the file takes precedence over other security features, such as lockwords and the file access matrix. ACDs cannot be placed on root, account, group, or directories.

## Access modes

ACD pairs control the ability to access and change hierarchical directories and the files within them. MPE/iX has enhanced the `ALTSEC` command to support access to directories. The available ACD access modes are as follows:

| | |
|---|---|
| R | Read a file. |
| W | Write to a file. |
| L | Lock a file. |
| A | Append to a file. |
| X | Execute a file. |
| CD | Create directory entries. |
| DD | Delete directory entries. |
| RD | Read directory entries. |

TD    Traverse directory entries.

RACD  Copy or read the ACD associated with the object.

NONE  Deny access.

You use the `ALTSEC` command to alter access modes for files, hierarchical directories, logical devices, or device classes. For more information about ACD access modes, refer to the `ALTSEC` command in the *Commands Reference - HP 3000 Series 9X8LX* (B3813-90011).

Following is an example of an ACD that could be assigned to a text file:

    NONE:JIM.DOE,@.ACCT;R,W,X,L:@.PAYROLL;R:@.@

The ACD pairs in this example set up the following access controls on the text file:

- Deny `JIM.DOE` and all users in the `ACCT` account access to the file.
- Allow read, write, execute, and lock access to users in the `PAYROLL` account.
- Allow read access to everyone else.

Notice that in cases of contradictions, the most specific ACD pair is assigned. So even though all users are assigned read access (`R:@.@`), `JIM.DOE` cannot access the file because he is specifically assigned no access (`NONE:JIM.DOE`).

## Listing ACDs for files and directories

Because ACDs supersede other security mechanisms, it is useful to be able to determine whether or not a directory or file has an ACD assigned to it and, if so, what it is. Any directories or files residing outside of traditional MPE groups are automatically assigned ACDs when they are created. You can list ACDs by using the `LISTFILE` command with the `-2` (also called `ACD`) option.

The following example shows how to list the ACD associated with the directory called `letters`. Notice that the user named `JONES` in the `OFFICE` account has RD (read directory entries) access to the `letters` directory. All other users on the system have both RD and TD (traverse directory entries) access to `letters`.

```
LISTFILE /dir0/letters,-2
 PATH=/dir0/

 ------------ACD ENTRIES------------- FILENAME

    JONES.OFFICE        : RD              letters/
    @.@                 : RD,TD
```

In the next example, the directory GRP is assigned the default ACD. All
users can read the ACD assigned to the directory. Only the creator and the
system manager can change it. Also, note that -2 is replaced with the textual
equivalent ACD.

```
LISTFILE /OFFICE/GRP,ACD
 PATH=/OFFICE/

 ------------ACD ENTRIES------------- FILENAME

 @.@                   : RACD           GRP/
```

In the next example, the file assets has an ACD assigned to it. The ACD
pairs are listed from the most specific (such as a particular user in a particular
account) to the least specific (all other users in all other accounts). User ZONIS
in the OFFICE account has R (read) access to the file assets. Other users in
the OFFICE account have both R and W (write) access to the file. And all
other users in other accounts have R, W, and X (execute) access to the file.

```
LISTFILE /OFFICE/GRP/assets,-2
 PATH=/OFFICE/GRP/

 ------------ACD ENTRIES------------- FILENAME

 ZONIS.OFFICE          : R              assets
 @.OFFICE              : R,W
 @.@                   : R,W,X
```

The next example shows how you can list the ACDs for all of the files in the
GRP directory. It shows the ACDs on the file assets as in the previous example
and lists the ACDs on the other two files in the directory.

```
LISTFILE /OFFICE/GRP/@,-2
 PATH=/OFFICE/GRP/

 ------------ACD ENTRIES------------ FILENAME

 ZONIS.OFFICE      : R              assets
 @.OFFICE          : R,W
 @.@               : R,W,X
 ZONIS.OFFICE      : R              bills
 WILKE.OFFICE      : R,W
 @.@               : R,W,X
 SMITH.OFFICE      : R              goods
 @.OFFICE          : R,W,X
```

## Changing access to files and directories

Because access to MPE/iX files and hierarchical directories is controlled by ACDs, system users may want to change the defaults assigned when files or directories are created.

For the purpose of selectively restricting access to files with ACDs, users can be classified into three groups:

- Individual users
- Specific groups of users
- All other users

### Assigning ACDs

For example, you may want to assign ACD permissions to restrict access to a sensitive file so that only you and your manager can read it. You may also want to restrict access to a sensitive directory so that only certain members of a group can create files in it.

Use the `ALTSEC` command to change access permissions to a file or hierarchical directory. System managers can assign ACDs on any file or directory in the system. They must supply the lockword for any lockword-protected files before they can assign an ACD, however. Once the file has an ACD, the ACD supersedes the lockword.

You can use the `ADDPAIR` option with the `ALTSEC` command to add ACD pairs to an object that already has an ACD. (You must use the `NEWACD` option to assign ACDs to files having no ACDs.)

For example, to assign a new ACD that gives all users on the system total access to the file `NUMBERS`:

    :ALTSEC NUMBERS;NEWACD=(R,W,L,A,X,RACD:@.@)

The file `SUMMARY` has an ACD (`RACD:@.@`). You want to grant read and write access to users in your account:

    :ALTSEC SUMMARY;ADDPAIR=(W,R:@.ACCT)

### Replacing ACDs

You can replace the current ACD by using the `REPACD` option with the `ALTSEC` command.

All users in the `MKTG` account currently have RD and TD access to the directory `van`. The users can only move through `van` and read the names of files in it. Instead, you want to grant all users in `MKTG` greater access to the contents of the directory. You want them to be able to create directory entire, delete directory entries, read directory entries, traverse directory entries, and to be able to read the ACD.

For example,

```
:ALTSEC ./van;REPACD=(CD,DD,RD,TD,RACD:@.MKTG)
```

This option is useful when you want to change the default ACDs assigned to HFS directories and to files outside of MPE groups.

### Deleting ACDs

You can only delete optional ACDs on files in MPE groups that can be protected by the file access matrix.

Users in the `ACCT` account have read access to the file `/ACCT/PUB/dir1/summary` and all other users have read ACD access to the file (`R:@.ACCT;RACD:@.@`). If you decide that the users in `ACCT` should no longer have read access to the file, you can delete previously assigned ACD pairs (but you cannot delete the entire ACD):

```
:ALTSEC /ACCT/PUB/dir1/summary;DELPAIR=(@.ACCT)
```

The above example deletes read access to file `summary` for all users in `ACCT` but still allows all users (including those in `ACCT`) RACD access to the file.

You try to specify the following command to delete the ACD pair that matches `@.@`, which is the only ACD pair left on the file:

```
:ALTSEC /ACCT/PUB/dir1/summary;DELPAIR=(@.@)
```

Because this file is located in an HFS directory, it is required to have ACDs and cannot be protected by the file access matrix. You receive an error message and the ACD will not be deleted:

```
Cannot delete ACDs from objects where file matrix security
```

```
     does not apply. (CIERR 7330)
```

If the file `REPORT` is a file in an MPE group, its GID matches the GID of its parent group, and its ACD is not required, you can use the following command to delete all ACD pairs:

```
:ALTSEC REPORT;DELACD
```

### Copying ACDs

You can copy ACD pairs from one file to another or from one directory to another. This is particularly useful if you assign a complex set of ACDs to one file or directory and you want to assign the same set to another file or directory.

---

**Note**          You can only copy an ACD from one file to another or from one directory to another. You can't copy an ACD from a directory to a file or vice versa.

---

For example, you can copy the ACD from directory `dir1` to another directory `dir2`:

```
:ALTSEC ./dir2;COPYACD=./dir1
```

You can also copy ACDs between devices. The following example copies the ACD associated with ldev 5 to all devices in the device class `TERM`:

```
:ALTSEC TERM,DEVCLASS;COPYACD=5,LDEV
```

## To remove a file's security

Users outside your group cannot access files that you have created. To remove the security on a file so that it can be copied or transferred by someone other than the file's creator, use the `RELEASE` command.

```
:RELEASE filename (Return)
```

In the following example, the security on the file `MYFILE` has been released.

```
:RELEASE MYFILE (Return)
```

Once a file's security has been released, any user of the system has unlimited access to it. Use the LISTFILE command with the SECURITY parameter to display the file's security level:

:LISTFILE MYFILE,SECURITY [Return]

## To reinstate a file's security

After a file has been released and copied, you should reinstate its security with the SECURE command. You must be the creator of the file in order to perform the following task.

:SECURE filename [Return]

In the following example, the security to the file MYFILE is reinstated.

:SECURE MYFILE [Return]

## To copy a file to tape

Make sure that a write-protected tape has been loaded into the DDS tape drive. To copy a file to tape, use the STORE command. As part of this task, use the FILE command to create a file equation to specify a tape device. Then use the SHOW option of the STORE command to list the name of each file as it is copied to the tape.

The following example copies the file MYFILE to a tape drive designated in the file equation as TAPE1. As the file is copied to the tape device onto a cassette tape, its name is listed on the screen.

■ To copy a single file to tape:

:FILE TAPE1;DEV=TAPE [Return]
:STORE MYFILE;*TAPE1;SHOW [Return]

■ To copy more than one file to tape:

:FILE TAPE1;DEV=TAPE [Return]
:STORE filename, filename, filename;*TAPE;SHOW [Return]

■ To copy all files in a group to tape:

:FILE TAPE1;DEV=TAPE [Return]

```
:STORE @.groupname;*TAPE1;SHOW (Return)
```

- To copy all files in all groups of an account (requires account manager capabilities):

```
:FILE TAPE1;DEV=TAPE (Return)
:STORE @.@.acctname;*TAPE1;SHOW (Return)
```

- To copy a file from tape back onto the system, refer to the "To restore files" section of this chapter.

# Backing Up the System

A system backup ensures data recovery if the system fails, loses data, or if a
user accidently purges the wrong file. It consists of storing user and system
files and the system directory onto tape. It is not quite as complete as creating
a system recovery tape and is needed only when you reconfigure or update the
system with SYSGEN.

Backups maintain file integrity so that you will always have a recent copy of
working files. Other functions, such as file security, user management, system
security, and so on, are not related to backups. With a regularly scheduled
backup strategy, you have the most recent version of every file on the system.

Backing up the system can be performed only from the system console or with
HP Easytime/iX. For the HP 3000 Series 9X8LX systems, you can perform
back ups from HP Easytime/iX or by following these steps:

**Caution**   The first backup performed on your system requires you to
            create a system recovery tape. The procedures for performing
            this special, initial backup are described in the section To
            Create a System Recovery Tape. later in this chapter.

## To prepare for the backup

The preparation that you need for a system backup depends on the number of
users on your system. If you have several users and terminals, use the following
steps. If you have only a few terminals and know that all activity has ceased
except your session, you need not perform these steps.

**Step 1. Warn other users of the backup.**

Log on to the `MANAGER.SYS` account. About fifteen minutes before starting the backup, tell everyone on the system to log off. During a backup, files that are in use will not be stored on the tapes. To make sure that all files are included in the backup, ask the users to log off the system. You can do this either verbally or through the system, using the `TELL` command.

a. Use the `TELL` command to send a message to all users:

> :TELL @S; BACKUP WILL BEGIN IN 10 MINUTES. LOG OFF NOW. [Return]

Do not press [Return] until you have typed the entire message. Pressing [Return] earlier ends the message prematurely.

b. About ten minutes before you plan to begin the backup, send everyone a warning. All users receive the warning at their terminals, regardless of what they are doing.

> :WARN @S; BACKUP WILL BEGIN IN TEN MINUTES.  LOG OFF. [Return]

### Step 2.  Limit activity on the system.

To keep users from logging back on the system while the file backup is running, reset the job and session limits to 0.

a. Use the `SHOWJOB` command to determine the current session and job limits. Jot these numbers down, and refer to them in step 4.

> :SHOWJOB [Return]

The `JLIMIT=`$nn$ (job limit) and `SLIMIT=`$nn$ (session limit) fields of the `SHOWJOB` command display how limits are currently set. You will want to reset the job and sessions limits back to these settings after the system backup has completed.

b. Decrease the job and session limits to 0. Type in the following:

> :LIMIT 0,0 [Return]

c. Increase the jobfence to the maximum level:

> :JOBFENCE 14 [Return]

d. Suspend any executing jobs:

```
:SHOWJOB JOB=@J  (Return)
:BREAKJOB #J013  (Return)
:SHOWJOB JOB=@J  (Return)
```

## To create a system recovery tape

| Caution | The first backup performed on your system requires you to create a system recovery tape. The procedures for performing this special, initial backup are described below. |
|---|---|

Since you have made changes to your system resulting from the installation and configuration process, it is necessary to back up this information onto a system recovery tape. The recovery process described here differs from the routine backups performed for ensuring data recovery.

Create a system recovery tape by following these steps. (If you are already in MANAGER.SYS, omit step 1. If you are not sure, enter SHOWME at the prompt.)

1. Use the HELLO command to log on as MANAGER.SYS.

    :  HELLO MANAGER.SYS  (Return)

   The system prompt (:) appears.

2. At the system prompt (:), type the following to get into SYSGEN:

    :  SYSGEN  (Return)

   The computer responds by displaying the SYSGEN prompt:

   sysgen>

3. You should have purchased blank DDS cassette tapes. Load one of these read and write blank cassette tapes (slide the cassette tab to the right rear edge so that the recognition hole is closed), into the DDS tape drive. See Figure 2-3. Remember not to use any other cassette labeled for another purpose. Wait until the tape is fully loaded (the cassette light on the DDS drive stops blinking.) Refer to chapter 5 in *Getting Started - HP 3000 Series 9X8LX* (B3813-90003) if you need a description of the indicator lights for your tape drive.

LG200185_131
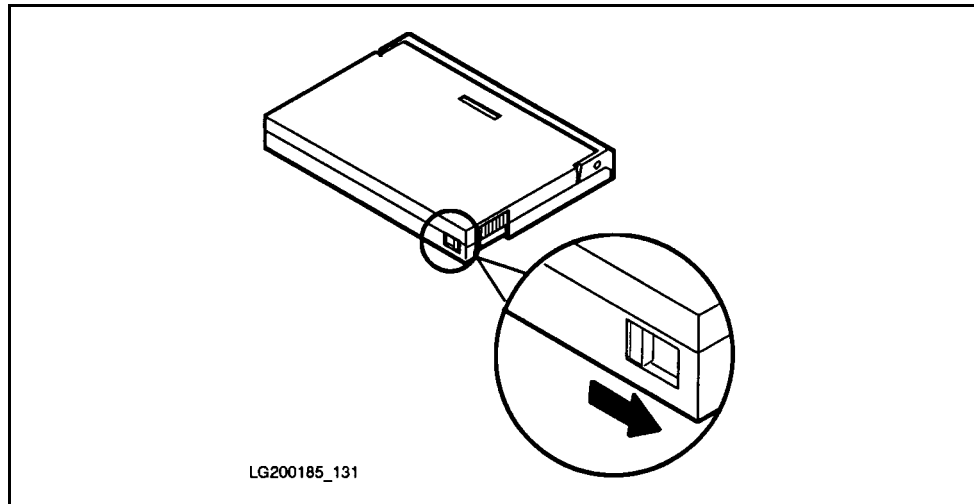
**Figure 2-3. Using a read and write blank tape**

When the tape is loaded, a console message similar to the following is displayed on the screen:

```
8:58/15/VOL (Unlabelled) mounted on LDEV#7
```

4. At the `SYSGEN` prompt, type the following (if the `sysgen>` prompt does not appear, press ⟮Return⟯ to get if):

```
sysgen> TAPE STORE=!FSETLIST   ⟮Return⟯
```

5. After the tape loading process is complete, a tape request similar to the following appears:

```
?8:58/#S2/45/LDEV# FOR SYSGTAPE ON TAPE (NUM)?
```

The message, called a tape request, asks for the LDEV number of the tape drive that you will use. The session number (#S2) is your `MANAGER.SYS` session number. The process identification number (PIN) (45 in this example) is the number that you will need in step 7 in the tape request to answer this message. (The PIN number always appears after the second slash mark (/).)

6. Reply to the tape request by pressing the [Ctrl] and [A] keys simultaneously.

   [Ctrl] [A]

   The = prompt appears.

7. Use the REPLY command including the PIN number and the LDEV of the
   tape drive that are in the tape request message. Separate these two values
   with a comma. The format of the reply is:

   =REPLY <*PIN number*>,<*LDEV#*>


   For the HP 3000 Series 9X8LX, the built-in tape drive is always LDEV 7
   for your tape request. In the above example, the PIN number is 45;
   therefore, you would type the following:

   =REPLY 45,7 [Return]

   You will notice the tape drive lights flashing (if you would like a
   description of the light activities, refer to chapter 5, in *Getting Started -
   HP 3000 Series 9X8LX* (B3813-90003) and hear noise coming from the
   drive. This is all part of creating a system recovery tape.

   The number of files that you currently have on your system determines how
   long the store process takes.

---

**Note**      That this process of creating a system recovery tape could take
              from 30 minutes to two hours.

---

   At the end of this process, the system tells you how many directories
   and files have been stored onto your cassette tape. When the process is
   finished, the sysgen> prompt reappears.

8. To return to the system prompt (:) after the tape is created, type:

   sysgen> EXIT [Return]

   The system prompt (:) should reappear.

9. Remove the tape from the DDS tape drive by pressing the unload button
   on the front panel. Then move the cassette tab to the read-only mode.

10. Place a new label on the tape. To prevent jamming in the DDS tape drive, remove any old labels before adding new labels, and position the new label evenly on your cassette.

11. Store the system recovery tape with a listing of your backup files.

Remember, never turn the computer off at the end of a work session. Employees at your company may need access to the system even after normal work hours. Also, you must follow a procedure called *system shutdown* before you turn the computer off. Information about system shutdown procedures can be found in under the section *System Shutdown* later in this chapter.

## To perform the backup

You are now ready to perform the system backup. When you have completed the backup, change the job and session limits back to their original settings so that users will be able to log on to the system again. Refer to the "To let users back on the system following the backup" procedures of this chapter.

- If you are not already logged on to the system as `MANAGER.SYS`, do so now. When you are sure that your console session is the only session on the system, you are ready to begin the backup process.

- Load a non-write-protected cassette (slide the cassette tab to the right rear edge so that the recognition hole is closed), into the DDS tape drive. Do not use any other cassette labeled for another purpose for the backup.

---

**Caution**     Do not press the tape drive eject button when the backup process is in progress. Doing so causes the backup to be aborted.

---

### Partial backup

A partial backup involves storing only those files that have been changed or accessed since the last backup. The `DATE=` option of the `STORE` command identifies files for partial backups. In the following examples, the account structure is stored to tape using the `DIRECTORY` parameter.

- All files before a certain date

You can specify the files to back up before a specific date by using the DATE<= option. The system copies, or stores, any file that has been accessed on or before the specified date.

a. If you want to back up all files that have been accessed on or before November 11, 1993, you would type the following:

```
:FILE T;DEV=TAPE [Return]
:STORE @.@.@;*T;DIRECTORY;DATE<=11/11/93 [Return]
```

A file equation that correlates a name with the tape device is created first and is referenced in the STORE command line as *T.

A tape request similar to the following appears on the console screen:

```
?17:52/#S24/12/LDEV# FOR "T" ON TAPE (NUM)?
```

b. Respond to the tape request by pressing [Ctrl] and [A] simultaneously.

c. At the = prompt, type REPLY followed by the process identification number (PIN) from the tape request line, a comma (,), and the logical device number (LDEV) of the tape device:

```
=REPLY PIN number,LDEV number [Return]
```

The PIN appears after the second slash (/) in the tape request line. Using the previous tape request as an example, this number would be 12. The LDEV number of the tape device for the HP 3000 9X8LX is set as 7.

Example:

```
[Ctrl] [A]
=REPLY 12,7 [Return]
```

■ All files after a certain date

You can specify the files to back up using the DATE>= option of the STORE command. The system copies, or stores, any file that has been modified on or after the specified date.

a. If you wanted to store all files that have been modified on October 27, 1993 or later, you would type the following:

```
:FILE T;DEV=TAPE [Return]
:STORE @.@.@;*T;DIRECTORY;DATE>=10/27/93 [Return]
```

The file equation correlates a name with the tape device. This tape device is referenced in the STORE command line as *T.

A tape request similar to the following appears on the console screen:

```
?13:43/#S24/36/LDEV# FOR "T" ON TAPE (NUM)?
```

b. Respond to the tape request by pressing ⌈Ctrl⌋ and ⌈A⌋ simultaneously.

c. At the = prompt, type REPLY followed by the process identification number (PIN) from the tape request line, a comma (,), and the logical device number (LDEV) of the tape device.

```
=REPLY PIN number, LDEV number ⌈Return⌋
```

The PIN appears after the second slash (/) in the tape request line. Using the previous tape request as an example, this number would be 36. The LDEV number of the tape device is commonly set as 7.

```
⌈Ctrl⌋ ⌈A⌋
=REPLY 36,7 ⌈Return⌋
```

A screen similar to the following appears when the backup process has completed:

```
DIRECTORIES STORED:            1

FILES STORED:                171
FILES NOT STORED:              0

TOTAL MEDIA WRITTEN:           1
```

■ After the system backup is finished, remove the tape from the DDS tape drive. Label the tape appropriately, and store it in a safe location.

## Full backup

A full backup involves storing all files on the system, whether they have been used or not. To do this, use the STORE command with wildcards for file, group, and account names.

In the following example, all files on the system are stored, the account structure is stored (`DIRECTORY`), and a listing is printed on the standard output device (`$STDLIST`).

- The file equation correlates a name with the tape device. This tape device is referenced in the `STORE` command line as `*T`.

    `:FILE T;DEV=TAPE` `Return`
    `:STORE @.@.@;*T;DIRECTORY;SHOW=$STDLIST` `Return`

  A tape request similar to the following appears on the console screen:

    `?13:43/#S24/12/LDEV# FOR "T" ON TAPE (NUM)?`

- Respond to the tape request by pressing `Ctrl` and `A` simultaneously.

- At the `=` prompt, type `REPLY` followed by the process identification number (PIN) from the tape request line, a comma (,), and the logical device number (LDEV) of the tape device.

    `=REPLY` *PIN number, LDEV number* `Return`

  The PIN appears after the second slash (/) in the tape request line. Using the previous tape request as an example, this number would be 12. The LDEV number of the tape device is commonly set as 7.

  Example:

    `Ctrl` `A`
    `=REPLY 12,7` `Return`

  A similar screen appears when the backup process has completed:

```
  DIRECTORIES STORED:           1

  FILES STORED:               171
  FILES NOT STORED:             O

  TOTAL MEDIA WRITTEN:          1
```

■ After the system backup is finished, remove the tape from the DDS tape drive. Label the tape appropriately, and store it in a safe location.

## To let users back on the system following the backup

Once the backup is complete, users can log on to the system again. If the session and job limits have been changed in preparation for the backup, you must do the following to allow users to log on again.

### To set the job and session limits again

To set the job and session limits back to their original settings so that other users can log on, use the LIMIT command.

    LIMIT *joblimit,sessionlimit* [Return]

For example, if the job limit was originally set at 10 and the session limit was set at 20, you would type the following:

    LIMIT 10,20 [Return]

## To perform an unattended, scheduled backup

During most backups the user must attend to the tape and tape drive at the time of the backup. This includes loading the tape and replying at the system console to the tape request. An unattended and scheduled backup is one that is performed without this user interaction and at a preset time.

Before you can run an unattended, scheduled backup, two things are necessary. You must have a tape drive that is configured for automatic reply (autoreply). You must also have your commands for the backup itself in a job file. When you have a tape drive on autoreply, and a job ready to perform a backup, you next stream the job with a parameter that specifies a time for the job to run.

1. Configure the system so that the tape drive replies automatically to the tape request. To do this you must use the utility known as SYSGEN.

    This step should be performed only by a system manager who has been formally trained in using the SYSGEN utility.

    a. Begin the SYSGEN utility by entering SYSGEN at the system prompt:

```
:SYSGEN
```

b. Open the input/output configurator:

```
sysgen> IO
```

c. Set the tape drive mode to autoreply:

```
io>MDEV 7 MODE=AUTOREPLY
```

d. Save the autoreply setting:

```
io>HOLD
```

e. Exit the input/output configurator:

```
io>EXIT
```

f. Keep the new configuration with this setting:

```
sysgen>KEEP CONFIG
```

g. Answer Y or YES to the following prompt:

```
keeping to group CONFIG
Purge old configuration (yes/no)? YES
```

h. Leave the SYSGEN utility:

```
sysgen>EXIT
```

i. Shut the system down by doing the following:

Before performing the following step, verify that there are no jobs active on the system and that the console is the only active session. Refer to the "To prepare for the system shutdown" section of this chapter for instructions on performing these tasks.

- Press [Ctrl] [A].

- At the = prompt, type SHUTDOWN and press [Return]. This process could take several minutes. Wait for the SHUTDOWN COMPLETE message to appear on your screen.

j. Reset the system.

- Perform either a hard or soft reset.

Ctrl B

CM>RS (Return)

or

CM>TC (Return)

- Boot from primary path. Interact with IPL.
- At the ISL> prompt type, START NORECOVERY (Return)
- Log on as MANAGER.SYS, and supply passwords.

  If you have followed the procedures in the "To prepare for the system shutdown" section of this chapter, continue by performing the procedures found in the "System Startup" section. Continue from procedure 4, "Starting the system", step 3, "Allow users to log on."

This configuration is permanently saved on your disk in a group named CONFIG. It lasts longer than your session. Changes to this configuration may occur upon reconfiguring your system.

| **Caution** | In this case, the tape drive now replies automatically to tape requests; thus, whatever tape is in the drive at the time of the request is written to as a result of any STORE command. |

2. Create a job file so that you can stream the commands for a backup as a job. In this way, you can schedule the backup according to a time parameter, such as AT.

   a. In EDIT/3000 create a file similar to this:

   ```
   !JOB BACKJOB, user/password.account/password; INPRI=13
   !LIMIT 1,1
   !FILE T;DEV=TAPE
   !FILE SYSLIST;DEV=LP
   !STORE @.@.@;*T
   !TELL Backup job has completed.
   !LIMIT 10,20
   ```

```
!EOJ
```

In the `JOB` command line, substitute in your user and account names, along with their passwords.

b. Before exiting the editor, save the file as `BACKJOB`.

3. Stream `BACKJOB` with an appropriate time parameter. The example here shows a job that will execute on the day that it is streamed, at 9:00 pm.

```
STREAM BACKJOB;AT=21:00
```

### Any problems?

■ Was the unload button of the tape drive accidentally pressed during the backup process?

Start the backup procedure over again from the beginning.

# To restore files

| | |
|---|---|
| **Note** | The MPE/iX operating system has been enhanced as of Release 4.5 and 5.0 to include additional features. For more information on these features, refer to the book, *New Features of MPE/iX: Using the Hierarchical File System* (32650-90351), included in this documentation set. |

Files on cassette tape might be needed back on the system. The `RESTORE` command is used to transfer them back to disk. If you are executing this command from a terminal other than the system console, a message appears on the console screen, requesting that the system administrator load a cassette tape onto the tape drive. For directions on handling tapes and loading the tape drive, refer to "Setting Up and Maintaining Your System."

## To restore all of the files from a cassette tape

When the appropriate tape is loaded on the tape drive and you have logged on to the console, use the `RESTORE` command to transfer the files from tape to disk.

To restore all of the files on the tape, use `RESTORE` and the wildcard `@`, for the file, group, and account names.

```
:FILE T;DEV=TAPE [Return]
:RESTORE *T;@.@.@ [Return]
```

## To restore selected files from a cassette tape

When the appropriate tape is loaded on the tape drive and you have logged on to the console, use the `RESTORE` command to transfer the files from tape to disk.

To restore selected files from a tape, identify the files by entering the file names and separating them by commas:

```
:FILE T;DEV=TAPE [Return]
:RESTORE *T;filename,filename,filename [Return]
```

In this example, the command can be simplified further by using a wildcard to specify a common part of the file names, if appropriate:

```
:FILE T;DEV=TAPE [Return]
:RESTORE *T;filename@ [Return]
```

## To restore files and the account structure from a cassette tape

When the appropriate tape is loaded on the tape drive and you have logged onto the console, use the `RESTORE` command to transfer the files from tape to disk.

To restore all files and the account structure on the tape, use the `RESTORE` command and the wildcard @, for the file, group, and account names along with the `DIRECTORY` parameter. The user of this parameter must have special capabilities, either OP or SM, assigned to them.

```
:FILE T;DEV=TAPE [Return]
```

`:RESTORE *T;@.@.@;DIRECTORY` [Return]

## To restore files whose groups or accounts do not exist on the system

When files are saved on the cassette tape, the system notes where the file's creator, group, and account are. At the time that the files are restored to the system, the creator, group, or account may no longer exist on the system. The `CREATE` option of the `RESTORE` command helps recreate those items as the files are restored to the disk.

In the following example, all files are restored recreating the file's original group, account, and creator:

`:FILE T;DEV=TAPE` [Return]
`:RESTORE *T;@.@.@;CREATE=GROUP,ACCOUNT,CREATOR` [Return]

When users, groups, and accounts are recreated by the `RESTORE` command, default capabilities are assigned.

## To restore files from another account or group to your logon group and account

When there is no need to recreate the original group or account structure, you can indicate this to the system with the `LOCAL` option:

`:FILE T;DEV=TAPE` [Return]
`:RESTORE *T;@.@.@;LOCAL` [Return]

In this case, the files are stored under your logon group and account.

# Managing Accounts, Groups, and Users

Files on the system are organized by group and account with a variety of users accessing them. Groups, accounts, and users must be created before files can be created. Once created, they can also be modified or deleted. The *Getting Started* (B3813-90003) book for the HP 3000 Series 9X8LX provides instructions for creating the initial accounts and groups from the `MANAGER.SYS` account. The tasks described below are the general instructions and may be performed from any account with the appropriate capabilities.

## To set up and verify an account

■ To create a new account, use the `NEWACCT` command and its options. You must have system manager capabilities to set up a new account. You must specify the account name and identify an account manager.

For example, to create an account called `PAYROLL` for your payroll department, you would enter the `NEWACCT` command, an account name, and the name of the manager for the account. For protection, specify a password to be entered by all account users.

    :NEWACCT PAYROLL,MANAGER;PASS=PAYPASS [Return]

The new account, `PAYROLL`, contains one user (`MANAGER`), who is the account manager. Also, the account automatically contains one group, `PUB`. If you want other groups, you must create them.

The manager for the account can create groups and users within this account, but not for other accounts.

■ To verify the existence of the account, use the `LISTACCT` command. For example, enter `LISTACCT PAYROLL` to display account characteristics. You can also use the MKACCT Command File to create accounts. For more information, refer to the section Creating a Practice Account, later in this chapter.

    :LISTACCT PAYROLL [Return]

■ To show the password, use the `PASS` option:

    :LISTACCT PAYROLL;PASS [Return]

The `LISTACCT` command also lists the capabilities that have been assigned to the account.

## To set up and verify a group

■ To create a new group, log on as account manager to the account that you want the group to be in. Then use the `NEWGROUP` command and its options. Only the system manager or the account manager for the account can create new groups. You must specify the group name. If no account name is specified, the account is assumed to be the account that you are currently in. For example, four groups can be created in the `PAYROLL` account, one for each quarter's payroll. The passwords entered with the following `NEWGROUP` commands create group passwords. For security, each of these passwords should be different. You can also use the MKACCT Command File to set up groups. For more information, refer to the section Creating a Practice Account later in this chapter.

In these examples, the groups `QTR1`, `QTR2`, `QTR3`, and `QTR4` will be created in your logon account:

```
:NEWGROUP QTR1;PASS=PAY1Q  Return
:NEWGROUP QTR2;PASS=PAY2Q  Return
:NEWGROUP QTR3;PASS=PAY3Q  Return
:NEWGROUP QTR4;PASS=PAY4Q  Return
```

■ To create the group from another account, include the account name:

```
:NEWGROUP QTR1.PAYROLL;PASS=PAY1Q  Return
```

■ To verify the existence of the new groups, use the `LISTGROUP` command. This listing also identifies the capabilities identified for each group. For example, to show that the four new groups exist and that the default characteristics were assigned for each group, enter the following command:

```
:LISTGROUP QTR@.PAYROLL;PASS  Return
```

## To set up and verify a user

- To set up a new user, use the `NEWUSER` command and its options. As with the `NEWGROUP` command, the system manager or the account manager for the appropriate account can execute the `NEWUSER` command. You must provide the user name. If no account name is specified, the account is assumed to be the account that you are currently in. The following example sets up a new user for the `PAYROLL` account. An optional user password is included in this example and a home group, `SALES` is assigned. The home group is where a user is automatically logged on to, unless another group is included in the logon. You can also use the MKACCT Command File to set up users. For more information, refer to the section Creating a Practice Account, later in this chapter.

    `:NEWUSER ROSEN.PAYROLL;PASS=NESOR;HOME=SALES` [Return]

- To verify a new user, use the `LISTUSER` command. You must be the system manager or account manager to list the users for the specified group and account. Other users can list only their own logon user name.

    `:LISTUSER ROSEN.PAYROLL;PASS` [Return]

    In this example, the account name is included. The account name is not necessary if this command is entered from the `PAYROLL` account.

## To modify an account

Use the `ALTACCT` command to modify an account's capabilities, passwords, or other account attributes. Only the system manager can modify an account. The following example modifies the password for the `PAYROLL` account.

    `:ALTACCT PAYROLL;PASS=AUGUST` [Return]

## To modify a group

Use the `ALTGROUP` command to modify a group within an account. The account manager can modify any group within his or her own account. The following example modifies the password for the group:

    `:ALTGROUP QTR4;PASS=AUGUST` [Return]

Only a user with SM capability can modify any group on the system.

## To modify a user

Use the `ALTUSER` command to modify a user's password, capabilities, or other attributes. Only the system manager or the account manager for the account can modify any user's attributes. The following example changes the user's home group, the group to which the user is automatically logged:

```
:ALTUSER ROSEN.PAYROLL;HOME=QTR3  (Return)
```

## To modify capabilities

Use the `;CAP=` parameter of the `ALTACCT`, `ALTGROUP`, and `ALTUSER` commands to change the capabilities of existing accounts, groups, and users. Capabilities can also be assigned with the `;CAP=` parameter of the `NEWACCT`, `NEWGROUP`, and `NEWUSER` commands. To simplify this process, it is recommended that you create the accounts, groups, and users that you need using the default capabilities. If you then decide to increase or decrease the capability of one or more accounts, groups, or users, you can use the `ALTACCT`, `ALTGROUP`, and `ALTUSER` commands to make these changes. You can issue the `LISTACCT`, `LISTGROUP`, or `LISTUSER` command, followed by the account, group, or user name, to view the current capabilities.

Refer to the *Commands Reference* (B3813-90011) manual for a list of capabilities and their meanings. In addition, this chapter provides a list of default capabilities that are set automatically when accounts, groups, and users are created.

### To modify capabilities for an account

To define special capabilities for an account, use the `;CAP=` parameter of the `ALTACCT` command. Note that to add any capabilities to the default list, you must enter all of the capabilities—the new ones and the defaults. Separate the capabilities in the command string with commas. In the following example, the process handling (PH) capability is added to the standard default capabilities for the account `PAYROLL`.

```
:ALTACCT PAYROLL;CAP=AL,AM,BA,GL,IA,ND,SF,PH  (Return)
```

### To modify capabilities for a group

To define special capabilities for a group, use the `;CAP=` parameter of the `ALTGROUP` command. To add any capabilities to the default list, you must enter all of the capabilities—the new ones and the defaults. Separate the capabilities in the list with commas. Remember that the capabilities of a group cannot exceed the capabilities of the account in which this group resides. In the following example, the process handling (PH) capability is added to the standard default capabilities for the group `CURRENT`.

> `:ALTGROUP CURRENT.PAYROLL;CAP=BA,IA,PH` (Return)

### To modify capabilities for a user

To define special capabilities for a user, use the `;CAP=` parameter of the `ALTUSER` command. Note that to add any capabilities to the default list you must enter all of the capabilities—the new ones and the defaults. Separate the capabilities in the list with commas. Remember that the capabilities of a user cannot exceed the capabilities of the account in which this user resides. In the following example, the process handling (PH) capability is added to the standard default capabilities for the user `CLERK`.

> `:ALTUSER CLERK.PAYROLL;CAP=BA,IA,ND,PH,SF` (Return)

## To modify file access

To change the file access for all files residing in an existing account or group, use the `ACCESS=` parameter of the `ALTACCT` or `ALTGROUP` commands. This option limits the access of particular types of users to files within the specified group or account. Six types of file access are defined:

R      Read access allows users to read files.

L      Lock access permits a user to lock a file in order to prevent concurrent access to a file.

A      Append access allows a user to add or append information to a file, but prohibits a user from altering information already written.

W      Write access allows a user to add, delete, or change information in files and allows a user to delete files. It also implicitly allows lock and append access.

S        Save access allows a user to declare files within a group as permanent. (This pertains only to the group level.)

X        Execute access allows a user to execute or run program files.

User types are identified by the following codes:

ANY     Any user on the system.

AC      Member of this account only.

GU      Member of this group only.

AL      Account librarian user only.

GL      Group librarian user only.

Refer to the *Commands Reference* (B3813-90011) for further definition of file access. In addition, this chapter provides a list of the default file access set automatically when accounts and groups are created.

### To modify file access for an account

To modify access to the files within an account, use the `ACCESS=` parameter of the `ALTACCT` command. This parameter specifies the file access granted to specific types of users for the files in the account.

To signify the beginning of this option list, open the parentheses and list the access codes for the first user type. Separate these codes with commas. Enter a colon to signify the end of the first code list, and specify the user type to be allowed this level of access to any file within the account. If more that one set of codes is necessary, enter a semicolon to signify the end of the first set. Repeat the access code and user type specifications for the second set, and so on. When the access codes for the user types have been completed, close the parentheses.

```
:ALTACCT PAYROLL;ACCESS=(R,A,L,W,X:AC;R,X:ANY) [Return]
```

In the preceding example, all account users (:AC) are allowed to read (R), append (A), lock (L), write (W), and execute (X) any file in this account `PAYROLL`. This command also allows any user on the system (:ANY) to read (R) and execute (X) any file in this account.

### To modify file access for a group

To modify the access to the files in a group, use the `ACCESS=` parameter of the `ALTGROUP` command. This parameter specifies lists of file access permissions for specific types of users.

To signify the beginning of this option list, open the parentheses and list the access codes for the first user type. Separate these codes with commas. Enter a colon to signify the end of the first code list, and specify the user type to be allowed this level of access to any files within this group. If more that one set of codes is necessary, enter a semicolon to signify the end of the first set. Repeat the access code and user type specifications for the second set, and so on. When the access code specification has been completed, close the parentheses.

   `:ALTGROUP CURRENT.PAYROLL;ACCESS=(R,W,X:GU)` `Return`

In the preceding example, group users (GU) are allowed to read (R), write (W), and execute (X) any file in the group `CURRENT`.

## To delete an account

Only the system manager can delete an account from the system. The `PURGEACCT` command removes the specified account, its users, its groups, and its files from your system. It is a good practice to store the files in an account to a backup medium before deleting an account from the system. The following example deletes an account called `PAYROLL`—along with its users, its groups, and its files—from the system:

   `:PURGEACCT PAYROLL` `Return`

The following prompt appears:

   `ACCOUNT PAYROLL TO BE PURGED? (YES/NO)_`

If you wish to continue with the deletion of the account, acknowledge with a `YES` and press `Return`. If not, respond with `NO` and press `Return`.

## To delete a group

Only the system manager or the account manager can delete a group from the
system. The `PURGEGROUP` command removes the group and all files belonging
to it from your system. It is a good practice to store the files in the group to
tape before you remove the group. The following example removes the first
quarter's group from the `PAYROLL` account:

    `:PURGEGROUP QTR1` `Return`

The following prompt appears:

    `GROUP QTR1 TO BE PURGED? (YES/NO)_`

If you wish to continue with the deletion of the group, acknowledge with a `YES`
and press `Return`. If not, then respond with `NO` and press `Return`.

## To delete a user

Only the system manager or the account manager can delete a user from
an account. The `PURGEUSER` command removes the specified user from the
account. When the command is issued from a session, you are prompted to
verify the action. The following example removes the user `ROSEN` from the
`PAYROLL` account:

    `:PURGEUSER ROSEN` `Return`

The following prompt appears:

    `USER ROSEN TO BE PURGED? (YES/NO)_`

If you wish to continue with the deletion of the user, acknowledge with a `YES`
and press `Return`. If not, respond with `NO` and press `Return`.

# Creating a Practice Account

Before you can use the system to perform tasks, you can create a practice account. You can practice executing commands and creating files in your practice account.

## To create a practice account using MKACCT

### What you will do

- You will call the account that you create `PRACTICE`.

  □ To protect this account you will give it the password `NOW`.

  □ Every account needs a manager, a special user who is in charge of the account. You will call this special user `MGR`.

  □ You will give user `MGR` the password `FY91`.

- In the `PRACTICE` account, you will create two groups:

  □ You will call the first group `TAXES`.

  □ You will call the second group `BUDGET`.

  □ Because group `TAXES` might contain sensitive information, you will give it password, `TX1992`.

  Every time that you create an account, such as `PRACTICE`, the computer automatically creates a `PUB` group in that account. Every user of an account can log on to the `PUB` group of that account, unless you later assign a password to the `PUB` group.

  You do not have files to put into any of these groups. Eventually, however, files that hold tax records might go into the `TAXES` group. Files that hold monthly budget information might go into `BUDGET`.

- You will create two users who will be able to log on to one of the groups in account `PRACTICE`.

  □ You will call the first user `BARB`.

  □ You will call the second user `JIM`.

You could give each of these users a password, too; but for this exercise, you will leave them without passwords.

■ Because user `BARB` will need to use the `TAX` group a lot, you will assign group `TAX` as the home group for user `BARB`.

Because user `JIM` rarely needs to look at financial files, you will assign group `PUB` as the home group for user `JIM`.

■ Finally, you will exit from the `MKACCT` command file and examine two special files that `MKACCT` has created.

  □ The first file, called `CMDLOG`, contains a chronological record of the MPE/iX commands that will have been used by `MKACCT` to create the account, its groups, and its users.

  □ The second file, called `ACCTLOG`, contains an outline of the account, groups, users, passwords, and home groups that you will have created by using `MKACCT`. It is very similar in structure to the worksheet for accounts at the end of this section.

Only those accounts created with `MKACCT`; will be recorded in `ACCTLOG`. Only those commands used by `MKACCT` will be recorded in `CMDLOG`. If you use MPE/iX commands to create additional accounts, there will be no file record of your accounts and the commands that you used.

1. Make sure that you are logged on as `MANAGER.SYS`.

   If you are not logged on as `MANAGER.SYS`, enter this:

       HELLO MANAGER.SYS (Return)

2. Start `MKACCT` now by entering the following:

       MKACCT (Return)

3. Read the information screens at the beginning of the routine, and use the instructions provided here to guide you along.

   At each information screen, type Yes (Return). This action scrolls to the next screen.

4. After you have read all of the information screens, the following question appears on your screen:

```
Do you want to create a new account (Yes,No,Exit)?
```

5. Type `Yes` [Return]. This action initiates the `MKACCT` process for creating an account.

   You must now respond to a sequence of prompts requesting a name for the account, a name for the account manager, and a password for the account and account manager. Passwords are optional.

   The following example displays the sequence of prompts that appear, along with sample user responses:

```
Do you want to create a new account (Yes,No,Exit)?Yes [Return]

Every ACCOUNT must be named and must include a manager (USER).
Every account and manager should have a password.  Accounts
and user without passwords are not secure.

If there are any problems, you will be asked to repeat the
process.

Please enter a name for this ACCOUNT: PRACTICE [Return]

Please enter a password for account PRACTICE: NOW [Return]

Please enter a manager name for account PRACTICE: MGR [Return]

Please enter a password for account manager MGR: FY91 [Return]
```

6. After entering a password for the account manager, a screen similar to the following appears:

```
The following account and user will be created:

Account name           :PRACTICE
Account password       :NOW

Manager name           :MGR
Manager password       :FY91

Create the ACCOUNT (Yes,No,Exit)? Yes [Return]
```

7. Type `Yes` [Return]. Doing this completes the creation of the account, the account's password, the account manager, and the account manager's password.

8. `MKACCT` then asks, `Do you want to create a new group` in the PRACTICE account `(Yes,No,Exit)?`.

9. Type `Yes` [Return], at this prompt.

   The `MKACCT` process for creating groups is similar to the process for creating accounts. You must provide a group name and password (optional) when prompted.

10. You are asked for the name of a group and for the password for the group.

    a. To the first prompt (name of group), type `TAX` [Return].

    b. To the second prompt (password), type `TX1992` [Return].

```
Please enter a name for this GROUP: TAX [Return]

Please enter a password for group TAX: TX1992 [Return]
```

11. You are asked to confirm the creation of the new group and its password.

```
The following group will be added to the PRACTICE account:

Group name    : TAX
Group password: TX1992

Create this group (Yes,No,Exit)? Yes [Return]
```

12. Type `Yes` [Return] to complete the creation of group `TAX` and its password `TX1992`.

13. You are asked whether you want to create (another) new group in `PRACTICE`.

14. Type `Yes` [Return].

15. Again you are asked to enter the name and password for a new group.

    a. To the first prompt (name of group), type `BUDGET` [Return].

    b. To the second prompt (password), press [Return].

```
Every GROUP must have a name and should have a password.

Please enter a name for this GROUP: BUDGET [Return]

Please enter a password for group BUDGET: [Return]
```

By entering only [Return] when asked for the `BUDGET` password, you indicate that you want no password at all.

16. Once more you are asked to confirm the creation of the new group and its password.

17. Type `Yes` [Return].

```
The following group will be added to the PRACTICE account:

Group name     : BUDGET
Group password:

Create this group (Yes,No,Exit)? Yes [Return]
```

18. You are asked whether you want to create a new (another) group in
    PRACTICE.

19. Type No [Return] to stop creating groups and to move on to creating users.

20. Now you are asked whether you want to create a new user.

21. Type Yes [Return].

22. You are asked to give the new user a name and to give the new user a
    password.

    a. To the first prompt (name of user), type BARB [Return].

    b. To the second prompt (password), press [Return].

```
Please enter a name for this USER: BARB [Return]

Please enter a password for user BARB: [Return]
```

23. You are asked to assign a home group to the user that you have created.

24. You are asked the following:

        Do you want to see a list of the GROUPS in the
        PRACTICE account (Yes,No,Exit)?

25. Type Yes [Return].

You will see a list of the groups you have created in account `PRACTICE`.

```
Here are the groups that exist in the PRACTICE account:
PUB                              TAX
BUDGET
```

The list includes the `PUB` group, which is created automatically whenever you create an account.

26. You are prompted this way for a home group:

```
Please enter a home group for user BARB:
```

You are free to choose any one of the groups that you see named, but for this exercise, follow the directions here.

27. Type `TAX` (Return).

By doing this, you assign user `BARB` to a home group, the group `TAX`.

28. Now you are asked whether you want to create a new user.

29. Type `Yes` (Return).

```
Please enter a name for this USER: JIM (Return)

Please enter a password for user JIM: (Return)
```

30. Again you are asked to assign a home group to the user that you created.

31. You are asked for a home group for user JIM.

32. Type `PUB` (Return)

33. Again you are asked whether you want to create a new user.

34. Type `No` (Return).

This action stops the creation of users and allows you to create a (another) new account.

35. You are asked if you want to create a new account.

36. Type <u>EXIT</u> Return.

   This action causes MKACCT to ask for confirmation that you really want to exit.

37. Type <u>EXIT</u> Return to confirm the exit.

   MKACCT has one more task. It shows you a screen of information like this:

```
****************************************************************
* MKACCT has kept a record of your work.  It produced two    *
* files in the PUB group that you may want to examine now     *
* or sometime later.  These files contain all of the work     *
* that you have done by using MKACCT.                         *
*                                                             *
*                                                             *
* CMDLOG   Contains the MPE/iX commands that were needed at  *
*          each step along the way to create ACCOUNTS,        *
*          GROUPS, USERS and passwords.                       *
*                                                             *
* ACCTLOG  Contains a summary of the account structure that  *
*          you have created, showing ACCOUNTS, their GROUPS, *
*          their USERS, all passwords, and the HOME GROUP     *
*          to which each user of each account was assigned.  *
*                                                             *
* To see these two files enter:                               *
*                                                             *
* :PRINT cmdlog.pub                                           *
* :PRINT acctlog.pub                                          *
*                                                             *
* Since these files contain passwords, it is your            *
* responsibility as system manager to keep this information  *
* safe from misuse.                                           *
*                                                             *
****************************************************************
Please press RETURN to continue
```

38. After carefully reading this screen, press [Return] to view the next screen. To get to the system prompt, press [Return] again.

The following message appears on your screen, and you are returned the system prompt:

```
End of the MKACCT command file.
:_
```

### Viewing your log files

To see what you have accomplished, follow these steps:

1. Type PRINT ACCTLOG [Return].

   The file ACCTLOG appears on your screen and shows you an outline of the account that you have created, its groups, its users and their home groups, and any passwords that you have assigned.

2. Type: PRINT CMDLOG [Return]

   The file CMDLOG appears on your screen and shows you a chronological list of the MPE/iX commands that MKACCT executed on your behalf as it created your account, its groups, users, home groups, and passwords.

Each time that you use MKACCT, it adds information to these files and shows you first the date and time that you used MKACCT and, second, what you accomplished. The files ACCTLOG and CMDLOG grows each time that you use MKACCT.

### Logging on in the PRACTICE account

After you have created the PRACTICE account, users MGR, BARB, and JIM will be able to log on to account PRACTICE and begin work there.

| User | Log on | Destination |
|------|--------|-------------|
| MGR | HELLO MGR.PRACTICE Return | Logs user MGR into the PUB group of PRACTICE. |
| BARB | HELLO BARB.PRACTICE Return | Logs user BARB into the TAX group of PRACTICE. |
|  | HELLO BARB.PRACTICE,BUDGET Return | Logs user BARB into the BUDGET group of PRACTICE |
| JIM | HELLO JIM.PRACTICE Return | Logs user JIM into the PUB group of PRACTICE. |
|  | HELLO JIM.PRACTICE,BUDGET Return | Logs user JIM into the BUDGET group of PRACTICE. |

Each of these logons prompts the user for one or more passwords.

- MGR, BARB, and JIM will need to know the password for account PRACTICE in order to log on at all.

- MGR will need to know the manager password in order to log on.

- JIM would have to know the password for TAX in order to log on in that group.

- BARB, however, does not need to the know the password for TAX in order to log on in that group, because it is her home group.

## To print your account structure information

When you have exited MKACCT, you can print your log files on paper.

- To print ACCTLOG.PUB.SYS on paper, enter the following commands:

      :FILE LP;DEV=LP
      :PRINT ACCTLOG.PUB.SYS,*LP

- To print CMDLOG.PUB.SYS on paper, enter the following commands:

      :FILE LP;DEV=LP
      :PRINT CMDLOG.PUB.SYS,*LP

This program can be used as often as you like. It is designed to create your new accounting structure, but it can also be used to add to your structure at a later date.

■ To delete any portion of your account structure, refer to the `PURGEACCT`, `PURGEGROUP` or `PURGEUSER` commands in the manual, *Commands Reference - HP 3000 Series 9X8LX* (B3813-90011).

■ To modify capabilities or file access for any account, group, or user, refer to the `ALTACCT`, `ALTGROUP`, or `ALTUSER` commands in the manual, *Commands Reference - HP 3000 Series 9X8LX* (B3813-90011).

■ To change a password, refer to the `PASSWORD` command in the manual *Commands Reference - HP 3000 Series 9X8LX* (B3813-90011).

When you have finished creating the account `PRACTICE` and you have examined the two log files, you are ready to add more accounts, groups, and users to your account structure.

1. Start the `MKACCT` command file. Use it as you did to create the `PRACTICE` account, but this time enter your own names for the accounts, groups, and users that you want to create.

# Protecting Your System from Unauthorized Use

| | |
|---|---|
| **Note** | The MPE/iX operating system has been enhanced as of Release 4.5 and 5.0 to include additional features. For more information on these features, refer to the book, *New Features of MPE/iX: Using the Hierarchical File System* (32650-90351), included in this documentation set. |

A user's most important concern is the security of the work done on the system. Confidential, proprietary, and sensitive information requires further protection from access by unauthorized persons. A secure system environment uses access restrictions to maintain reliable file security.

## To assign passwords to new accounts, groups, and users

Passwords can be established for new accounts, groups, and users. Use the `PASS=` parameter to the `NEWACCT`, `NEWGROUP`, and `NEWUSER` commands, when creating an account, group, or user.

- To assign an account password to a new account

    `:NEWACCT acctname,mgrname;PASS=password` `Return`

  You must have system manager (SM) capability to use the `NEWACCT` command.

- To assign a group password to a new group

    `:NEWGROUP groupname.acctname;PASS=password` `Return`

  You must have account manager (AM) capability to use the `NEWGROUP` command.

- To assign a user password to a new user

    `:NEWUSER username.acctname;PASS=password` `Return`

  You must have account manager (AM) capability to use the `NEWUSER` command.

## To assign passwords to existing accounts, groups, and users

Passwords can be added to existing accounts, groups, and users by adding the
`PASS=` parameter to the `ALTACCT`, `ALTGROUP`, and `ALTUSER` commands.

■ To add or change a password of an existing account

    :ALTACCT acctname;PASS=password (Return)

  You must have system manager (SM) capability to use the `ALTACCT`
  command.

■ To add or change a password of an existing user

    :ALTUSER username.acctname;PASS=password (Return)

  You must have account manager (AM) capability to use the `ALTUSER`
  command.

■ To add or change a password of an existing group

    :ALTGROUP groupname.acctname;PASS=password (Return)

  You must have account manager (AM) capability to use the `ALTGROUP`
  command.

## To delete passwords

A password can be deleted from an account, group, or user by entering the
`PASS=` parameter with no password specified.

■ To delete an existing account password

    :ALTACCT acctname;PASS= (Return)

■ To delete an existing group password

    :ALTGROUP groupname.acctname;PASS= (Return)

■ To delete an existing user password

    :ALTUSER username.acctname;PASS= (Return)

The following example removes the group password from the `QTR3` group of the
`PAYROLL` account. You must have account manager (AM) capability.

    :ALTGROUP QTR3.PAYROLL;PASS= (Return)

## To change your user password

Any user can change the password of his or her account using the `PASSWORD` command. There are no special user capabilities needed to use this command.

    `:PASSWORD` [Return]

The system prompts the user for the former password, the new replacement password, and a verification of the new password. To maintain security, passwords do not appear on the screen.

```
:PASSWORD (Return)
ENTER OLD USER PASSWORD: (Return)
ENTER NEW USER PASSWORD: (Return)
ENTER NEW USER PASSWORD AGAIN: (Return)
PASSWORD WAS CHANGED SUCCESSFULLY
```

## To display passwords

There may be instances when it is necessary to find out what passwords have been assigned to accounts, users, and groups.

### To display account password

To display an account password to the screen, use the `LISTACCT` command providing the account name, followed by the `;PASS` option:

    `:LISTACCT acctname;PASS` [Return]

You must have either account manager (AM) or system manager (SM) capability to see the account password.

### To display a user password

To display a user password to the screen, use the `LISTUSER` command providing the user's name, followed by the `;PASS` option:

    `:LISTUSER username;PASS` [Return]

You must have either account manager (AM) or system manager (SM) capabilities to see the user password.

### To display a group password

To display a group password on the screen, use the `LISTGROUP` command, providing the group's name, followed by the `;PASS` option:

    :LISTGROUP groupname;PASS [Return]

You must have either account manager (AM) or system manager (SM) capability to see group passwords.

In each case, if you are the system administrator locating passwords for other accounts from your system manager account, remember to include the account name.

## Any problems?

■ Did you forget your password?

   Contact the system administrator, who will be able to find out what password has been assigned to you. If you are the system administrator, follow the procedures listed in the "To display passwords" section of this chapter.

# Monitoring the System from the Console

You monitor the system to ensure appropriate shared use of the system, to respond to tape reply requests, to respond to place special forms on the printers, and to keep informed about disk storage and other resource usage. Usually the system administrator performs these routine functions from the *system console*.

The system console is the terminal that is directly connected to the computer box. From it the system administrator typically monitors messages from users, requests for loading tapes, and various information about system use. The console may appear to be a simple terminal, yet its function is critical to the operation of the system. The console should not be turned off while the system is operating. For information on turning off the console, or the computer, refer to the "System Shutdown" section of this chapter.

## To identify the console

It is critical to know which terminal is the system console. The console terminal must not be turned off while the system is in operation. It is the only input device for a special set of commands that monitor and control the system.

For the HP 3000 Series 9X8LX, the console is physically connected to the computer. Its logical device (LDEV) number is usually LDEV 20, but your system could be different. This console may also run software applications, but its role as system console is critical to keeping the system operating.

1. Enter the `CONSOLE` command to identify the LDEV number associated with the console on your system:

       :CONSOLE [Return]

       CONSOLE IS CURRENTLY ASSIGNED TO LDEV 20

   This command is limited to those users who have been granted its use.

2. Enter the `SHOWME` command and compare LDEV numbers to ensure that the terminal that you are on is the console. On the `SHOWME` screen find this LDEV number after `$STDIN` and `$STDLIST`. In the following example, the terminal from which the `SHOWME` command has been issued is LDEV 20.

```
:SHOWME  [Return]

USER:  #S118,ROSEN.PAYROLL              (NOT IN BREAK)
RELEASE: C.45.00    MPE/iX HP 31900 B.57.06    USER VERSION: C.45.00
CURRENT : WED, DEC 15, 1993,  3:58 PM
LOGON :   WED, DEC 15, 1993,  3:57 PM
CPU SECONDS: 2         CONNECT MINUTES: 1
$STDIN LDEV: 20           $STDLIST LDEV: 20
```

3. If the terminal's LDEV number is not the same as the console's LDEV
   number, enter the SHOWME command from other terminals until the console
   is located.

## To log on to the console

Usually, the reason for logging on to the console is to perform operations that
require the special console commands. For this reason, you must log on to the
special MANAGER.SYS account. You can log on as MANAGER.SYS, which has SM
capability, or you can log on as OPERATOR.SYS, which has OP capability. OP
capability is usually sufficient for monitoring the console. This is also the logon
identity into which the Series 9X8LX systems boots; that is, if you have just
started the computer, you may already be in OPERATOR.SYS at the console.

1. To log on to the console

   ■ To log on to the console from the logon prompt

        MPE/iX:HELLO MANAGER.SYS  [Return]

   ■ To log on to the console from the system prompt

        :HELLO MANAGER.SYS  [Return]

2. You are prompted for any account and user passwords that have been set
   up.

3. At the system prompt, you can perform the tasks as needed. If there is no
   system prompt, press [Return].

Remember that, unlike other terminals, this terminal is the system console and
should not be turned off.

## To create a welcome message

A welcome message is a convenient way to transmit information of general
interest to all users of the system. To create a welcome message, use the
WELCOME command. This command can be issued only at the system console.
(To create a Welcome message using any terminal, refer to chapter 9.)

To create a welcome message, do the following:

1. Type WELCOME at the system prompt:

        :WELCOME [Return]

2. At the # prompt, begin creating your message. To end your message, press
   [Return] at the # prompt. Enter as many lines as you wish; however, the
   length of each line cannot exceed 72 characters.

```
#WELCOME TO THE HP 3000.  THE SYSTEM [Return]

#WILL BE BACKED UP ON MONDAY NIGHT AT 17:00. [Return]

#THERE WILL BE A POWER SHUTDOWN ON SATURDAY, MARCH 9. [Return]

# [Return]
```

3. To check your welcome message, use the SHOWME command at the system
   prompt.

## To erase a welcome message

To delete an old welcome message, do the following:

1. Type WELCOME [Return].
2. At the # prompt, press [Return].

## To send an urgent message to all users

Use the `WARN` command to send urgent messages to users of the system. This command can be issued only from the system console.

    `:WARN @;message up to 67 characters.` (Return)

The message text of the `WARN` command should contain no more than 67 characters. Type one continuous line *without* pressing the (Return) key. When you are finished writing the warning message, press (Return). This action terminates the message text and sends the warning message to all users logged on to the system.

`WARN @; THE SYSTEM WILL SHUTDOWN IN 5 MINUTES.  LOG OFF NOW.` (Return)

## To control the number of jobs

You can set a limit on the number of jobs that the computer processes by using the `LIMIT` and `JOBFENCE` commands.

### With job and session limits

The job and session limits set the number of jobs and sessions that can process at the same time. If the job limit is set at 10, only the first 10 jobs are allowed to begin processing. Subsequent jobs wait in the input queue until one job ends so that another can begin. The session limit controls the number of sessions that can be opened at one time.

- To set the job limit to 10 and the session limit to 25, enter the limit for jobs and then sessions in the `LIMIT` command:

    `:LIMIT 10,25` (Return)

- To set only the job limit to 10, enter:

    `:LIMIT 10` (Return)

- To set only the session limit to 25, use a comma as a place holder for the job limit, followed by the session limit number:

    `:LIMIT ,25` (Return)

**With the jobfence**

The number of jobs processing on the system can also be controlled by the job priority. This priority level is called the *jobfence*. To execute, a job's priority must be the same as or greater than the jobfence. The jobfence is a number from 0 to 14 that can be raised and lowered to increase or reduce the priority of jobs permitted to run. If the jobfence is high, a job needs a high priority to run on the system at this time. Lowering the jobfence allows jobs with lower priorities to run on the system too. Usually the jobfence is set at a priority of 5.

    :JOBFENCE 5 [Return]

## To display outstanding messages

To display outstanding messages, known as reply requests, at the console, use the RECALL command.

    :RECALL [Return]

The following example shows the display of several types of console messages.

```
THE FOLLOWING REPLIES ARE PENDING:
?13:57/#S25/43/LDEV#  FOR "T" ON TAPE (NUM)?
?14:04/#J36/44/FORMS; PLEASE MOUNT PAYROLL CHECKS
?14:04/#77/45/#SP12/LDEV# for #J36; OUTFILE ON LP (NUM)?
```

Console messages provide the following information:

■ The time the request was made, using a 24 hour clock (13:57 and 14:04).

■ The requestor's job (#J*nn*) and session (#S*nn*) numbers.

■ The process identification number, or PIN, following the second slash **/** symbol. In the above example, 43, 44, and 45 represent PIN. This number identifies who should receive the reply.

If there are no pending messages sent to the console, the following message appears on the screen:

    NO REPLIES PENDING (CIWARN 3020)

## To respond to a tape reply requests

1. Locate the proper cassette tape.

2. Determine whether the tape should be a read and write tape or a read-only tape.

3. Load the tape into the DDS tape drive.

4. Use the `REPLY` command. Enter the PIN number that appeared in the request. Also enter the LDEV for the DDS tape drive.

   `:REPLY 43,7` (Return)

## To respond to a special forms request

At times, it may be necessary to load special forms (such as mailers, checks, or labels) on the printer. The job is suspended until someone responds to the message on the console.

1. Select a printer and mount the correct form.

2. Use the `REPLY` command to respond to the message requesting the printer's LDEV number. Enter the PIN and the LDEV number of the appropriate printer.

   `:REPLY 44,6` (Return)

   The printer runs briefly to print a test pattern. It is then suspended again with another request.

   `?14:20/#77/44/LDEV #6 FORMS ALIGNED OK (Y/N)?`

3. Look at the test pattern that has printed, and verify the alignment of the printing with lines or boxes on the form. (Often, program documentation supplies a sample of how the test pattern should look if it is aligned properly. Compare the sample with the test pattern.) Fix the alignment of the form, if necessary.

   a. If the forms were already aligned accurately and you did not make any adjustment, reply `YES`.

      `:REPLY 44,YES` (Return)

   b. If you adjusted the forms, reply `NO` to the prompt.

```
:REPLY 44,NO  [Return]
```

4. A negative reply prints another test pattern and prompts you to verify the alignment again. Continue this sequence to test the printing until the form is aligned properly and you can reply YES.

**To respond to any user message**

A user can send messages to the console, using the `TELLOP` command. The following is an example of how a user's message is displayed on the console screen:

```
14:15/#S27/46/FROM PAT.PAYROLL/HOW SOON IS SYSTEM SHUTDOWN?
```

The `TELLOP` command supplies the following information to the console screen:

■ the time the message was sent (`14:15`)

■ the session number from which the message was sent (`#S27`)

■ the LDEV, logical device number, of the sender's terminal (`46`)

■ the sender's logon identity (`PAT.PAYROLL`)

■ the message text

To reply to a `TELLOP` message, use the `TELL` command. The sender of this message is identified by the session number or logon identity, in this example, `#S27`.

```
:TELL #S27;SHUTDOWN IS AT 7:30  [Return]
```

## To customize HP Easytime/iX

The following tasks describe starting and exiting the `ETSETUP` program. For detailed information on using the HP Easytime/iX Setup screens, refer to *Getting Started HP 3000 Series 9X8LX* (B3813-90003). You need system manager (SM) capability to use this program.

System managers can use the `ETSETUP` program to customize HP Easytime/iX. This program is used to change HP Easytime/iX to meet the user's needs.

1. Log on to the system as `MANAGER.SYS`.

2. From the system prompt, type:

`:RUN ETSETUP.PUB.SYS` [Return]

**To exit the HP Easytime/iX setup program**

To exit out of the HP Easytime/iX setup program:

1. Press [F8] `Exit`.

2. Press [F5] `Yes` to confirm and exit.

# System Shutdown

A system shutdown does not imply turning off the power to the computer hardware. Instead, a system shutdown means stopping the computer's operating system.

| | |
|---|---|
| **Caution** | Normally, computer hardware remains powered on continuously. There may be instances when you must power the system down. Moving the computer and preparing for an electrical shutdown in your office are instances when you might need to power off your system. |

## To prepare for the system shutdown

The preparation that you need for a system shutdown depends on the number of users on your system. If you have several users and terminals, use the following steps. If you have only a few terminals and know that all activity has ceased, except for your session, you need not perform steps 1 through 9.

### Step 1. Tell users about the shutdown.

Notify all users of the system about the impending system shutdown. Send a message similar to the following:

```
TELL @;SYSTEM SHUTDOWN AT 11:30 AM.  PLEASE LOG OFF.
```

You may want to include a notice of the shutdown in the system welcome message. See the task "To create a welcome message" in the "Monitoring the System from the Console" section of this chapter.

### Step 2. Prevent new system activity.

Prevent the start of new jobs and sessions and the execution of any jobs by typing the following:

```
:LIMIT 0,0 (Return)
:JOBFENCE 14 (Return)
```

## Step 3. Send users a WARN message.

Send a warning message for users to log off immediately.

```
WARN @;SHUTDOWN WILL BEGIN AT 11:30 AM.  PLEASE LOG OFF NOW.
```

## Step 4. Clear console requests.

- Display any outstanding messages at the console using the RECALL command.

    :RECALL (Return)

- Clear any pending requests with the REPLY command.

    :REPLY *pin number*,0 (Return)

  Assigning the *ldev* to zero (0), cancels the console request for the specified process identification number (pin). PINs follow the second slash (/) in the messages (requests) sent to the console.

## Step 5. Abort remaining jobs.

- Check to see if any jobs are active. Type in the following:

    :SHOWJOB JOB=@J (Return)

  If no jobs are active, the system responds with the following message:

    NO SUCH JOBS

  If there are active jobs on the system, they are listed.

- Proceed to abort any remaining jobs. You may wish to wait until all executing jobs have entered the Ready state. Jobs in the Ready state can be saved to a spooler tape. To abort each job, type the following:

    :ABORTJOB #J*nnn* (Return)

  Perform this step for each job listed.

- To verify that the job's status has been changed, type in the following:

    :SHOWJOB JOB=@J (Return)

**Step 6. Display sessions still in progress.**

List to the screen all remaining sessions still logged on to the system:

　　SHOWJOB JOB=@S [Return]

**Step 7. Send a final warning.**

Send a final warning message to all remaining sessions:

　　:WARN @;LOG OFF NOW!  SHUTDOWN ABOUT TO BEGIN.

**Step 8. Halt any remaining sessions.**

■ List to the screen any remaining sessions:

　　:SHOWJOB JOB=S@ [Return]

■ Abort all remaining sessions logged on to the system, except your own:

　　:ABORTJOB #S*nnn* [Return]

Perform this step for each session.

---

**Caution**　　　Do not abort the session being used by the system console.

---

■ Verify with the SHOWJOB command that the only session running on the system is that on the system console:

　　:SHOWJOB [Return]

**Step 9. Save spool files.**

Save any existing spool files to cassette tape. Type the following:

　　:FILE T;DEV=TAPE [Return]
　　:SPFXFER [Return]
　　>OUTPUT @.@;*T;PURGE [Return]
　　>EXIT [Return]

This action results in a tape request from the system. Respond to the tape request in the following manner:

$\boxed{\text{CTRL}}$ $\boxed{\text{A}}$
`=REPLY` *pin,ldev* $\boxed{\text{Return}}$

The PIN is found after the second slash (/) of the tape request. The LDEV number is the logical device number of the tape drive, generally, but not always, set at 7.

## To shut the system down

Shut the system down by doing the following:

- Complete, if any, system shutdown preparatory tasks.

- Press $\boxed{\text{Ctrl}}$ $\boxed{\text{A}}$.

- At the `=` prompt, type `SHUTDOWN` and press $\boxed{\text{Return}}$.

A series of messages appears, indicating the end of the shutdown procedure. The last message ends with (`Shut 6`).

---

**Caution**    At this point, you may push the ON/OFF button to turn the computer off. Normally, computer hardware remains powered on continuously.

---

# System Startup

System startup refers to the procedure for starting the computer software, the operating system, and other programs. The system startup involves the following procedures:

1. turning on the computer (perform *only* if system has been powered off)

2. resetting the system

3. booting the system

4. starting the system

This section briefly describes the procedures for starting a system that you have previously shut down.

## Step 1. Turning the computer on.

**Note**　　　Perform this step only if the system has been powered off.

Turning on the computer is the first step in starting the system. Press the ON/OFF button to turn the system on.

## Step 2. Resetting the system.

You can reset the system by performing a hard reset or by performing a soft reset.

**Caution**　　　The Power-on button performs a hard reset, but it should only be used as a last resort.

### Hard reset

A hard reset performs a self-test of the system that clears and resets the system's memory.

1. At the console, enter (Ctrl) (B).

2. At the `CM>` prompt enter, `RS` `[Return]`.

3. Respond `Y` to the following prompt:

```
Type Y to confirm your intention to restart the system (Y/[N]):Y
```

### Soft reset

A soft reset performs a nondestructive self-test of the system that does not reset the system's memory.

1. At the console, enter `[Ctrl]` `[B]`.

2. At the `CM>` prompt, enter `TC` `[Return]`.

3. Respond `Y` to the following prompt:

```
Type Y to confirm your intention to execute this command (Y/[N]): Y
```

## Step 3. Booting the system

There may be instances which require you to perform a system boot. System configuration and recovering your system's operating system (FOS) and software applications are instances when you might need to boot your system.

| Note | Keep in mind that these tasks should be performed only by system management trained personnel or a Hewlett-Packard Service Representative as these procedures may result in loss of user data if it is performed inappropriately. |
|------|------|

After performing a system powerup, a similar screen appears on the console screen:

```
-------------------------------------------------------------------
PDC - Processor Dependent Code  - Version x.x
(c) Copyright 1990-1993, Hewlett-Packard Company, All rights reserved
-------------------------------------------------------------------
0 Bytes of memory configured an tested.
Primary boot path:    0/0/0/0/0/0/0.0.0.0.0.0.0.0  (dec)
Alternate boot path:  0/0/0/0/0/0/0.0.0.0.0.0.0.0  (dec)
```

**Figure 2-4. Initial Menu**

This screen is followed by the Main Menu.

```
--Main Menu------------------------------------------------------

  Command                        Description
  -------                        -----------
  BOot [PRI|ALT|<path>]          Boot from specified path
  PAth [PRI|ALT|CON][<path>]     Display or modify a path
  SEArch [DIsplay|IPL] [<path>]  Search for boot devices

  COnfiguration menu             Displays or sets boot values
  INformation menu               Displays hardware information
  SERvice menu                   Displays service commands

  DIsplay                        Redisplay the current menu
  HElp [<menu>|<command>]        Display help for a menu or command
  RESET                          Restart the system


----
Main Menu: Enter command or menu >
```

**Figure 2-5. Main Menu**

## Booting from the Primary Path

If you need to boot from the disk enter the following at the Main Menu prompt:

```
Main Menu: Enter command or menu > BO [Return]
Interact with IPL (Y or N)?> y [Return]
```

| **Note** | Booting from the primary path is the system default, therefore when BO is typed at the prompt, BO PRI is assumed. |
|----------|----------|

The system will respond with a screen similar to the following:

```
Booting...
Boot IO Dependent Code (IODC) revision 4
.
.
.
ISL>
```

## Booting from the Alternate Path

If you need to boot from tape do the following at the Main Menu prompt:

```
Main Menu: Enter command or menu > BO ALT [Return]
Interact with IPL (Y or N)?> y [Return]
```

The system will respond with a screen similar to the following:

```
Booting...
Boot IO Dependent Code (IODC) revision 4
.
.
.
ISL>
```

## Step 4. Starting the system

The START command can be used to start the system after a shutdown, a reconfiguration, or a system fail.

a. Start the system.

  ■ When starting the system after a shutdown or recovering from a system failure, type the following at the >ISL prompt:

    ISL>START RECOVERY [Return]

  The RECOVERY option allows for the recovery of the jobs and spool files that were on the system before it stopped.

  ■ When starting the system after it has been reconfigured, type the following at the >ISL prompt:

    ISL>START NORECOVERY [Return]

  The NORECOVERY option ensures that the changes made to the reconfiguration files take effect.

b. Log on as system manager.

  At the end of the start procedure if the MPE/iX: prompt appears, log on as MANAGER.SYS.

    MPE/iX: HELLO MANAGER.SYS;HIPRI [Return]

  If the system prompt (:) appears, you are probably logged on to OPERATOR.SYS.

c. Allow users to log on.

  Set the job and session limits so that others may log on:

    :LIMIT 10,30 [Return]

d. Allow jobs to process.

  Lower the jobfence so that jobs may process:

    :JOBFENCE 1 [Return]

e. Allow reports to print.

  Lower the outfence so that reports may print:

:OUTFENCE 1 [Return]

f. Restart job streaming.

   Restart the job stream facility and the spooler by entering the following:

        :STREAMS 10 [Return]

g. Allow spool files to print.

   Start the spooler so that spool files may be created.

        :SPOOLER START [Return]


## Summary for starting the system

The following is a summary of the procedures for getting the system running
after a system shutdown:

1. Reset the system:

        [Ctrl] [B]

        CM>RS [Return]

        or

        CM>TC [Return]

2. Boot from primary path. Interact with IPL.

3. At the ISL> prompt type, START RECOVERY [Return].

4. If necessary, log on as MANAGER.SYS and supply passwords.

5. Set job and session limits so that others may log on:

        :LIMIT 10,30 [Return]

6. Lower the jobfence so that jobs may process:

        :JOBFENCE 1 [Return]

7. Lower the outfence so that reports may print:

        :OUTFENCE 1 [Return]

8. Turn on the streaming device so that the user may stream jobs:

    :STREAMS 10 [Return]

9. Turn on the spooler so that spool files may be printed.

    :SPOOLER START [Return]


## To automate system preparation for use

Every time that you turn on the system, or every time that you boot the
system, certain commands need to be entered to prepare the system for
normal use. For example, the facility that enables the streaming of jobs must
be set with the STREAMS command. Rather than entering these commands
individually each time you boot the system, you can have them execute
automatically at reboot by listing them in a special file. This file must be
created by MANAGER.SYS and must have the name SYSSTART.PUB.SYS to be
effective.

When your system was installed, a SYSSTART file may have been created for
you. If so, it probably contains the following commands:

    STARTUP
    SPOOLER LP;START
    STREAMS 10
    OUTFENCE 7

To create a SYSSTART file or to modify the commands in an existing SYSSTART
file, enter the following commands:

1. Log on as MANAGER.SYS.

2. Enter the editor

    :EDITOR [Return]

3. If the file exists on your system, bring it into the editor and add additional
   lines as desired:

    /T SYSSTART [Return]
    /L ALL [Return]
    /A nn [Return]
       nn_

If the file does not exist on your system, create it by entering the following commands.

> /ADD (Return)
>     1_

The following sample commands can be added as desired. The entry STARTUP must be the first line in the file. There is no required sequence to the other commands. It is not necessary to include all of these other commands. Create a file that is appropriate for your environment.

    1     startup (Return)
    2     spooler lp;start (Return)
    3     streams 10 (Return)
    4     limit 60,60 (Return)
    5     outfence 7 (Return)
    6     jobfence 6 (Return)
    7     //

The following list provides an explanation of typical entries:

STARTUP             Identifies the situations in which the commands in
                    this file will be executed. All commands following
                    STARTUP are executed on any start or reboot of the
                    system.

SPOOLER LP;START    Starts the printer spooler.

STREAMS 10          Defines the streams device used to stream jobs in the
                    system. Usually, the streams device is configured as
                    device 10.

LIMIT 60,60         Identifies the maximum number of jobs and sessions
                    that will be allowed to execute at the same time.
                    The first number specifies the maximum number of
                    jobs. The second number specifies the maximum
                    number of sessions. These limits must be set to 0
                    when the system is needed for maintenance, such
                    as a configuration change. This command in the
                    SYSSTART file would reset the limits to the standard
                    settings when the system is rebooted. The standard

settings for job and session limits depend on how many users you have on your system.

OUTFENCE 7 — Defines the print priority at which a spool file will print. The outfence ranges from 1 to 14. An outfence of 14 allows no spool files to print without system manager intervention. The outfence is often set to 14 during rebooting or system maintenance when the printer should be idle. The outfence is usually set to 7 for normal operation.

JOBFENCE 6 — Similar to the outfence, defines the priority at which a job can be run. The jobfence also ranges from 1 to 14. The jobfence is often set to 14 to keep other users from logging on to the system during system maintenance. It is usually set to 6 for normal operation.

4. Once the desired entries have been added, save the file with the KEEP command and name it SYSSTART.PUB.SYS.

   /KEEP SYSSTART.PUB.SYS (Return)

   If this is an update to an existing file, you will be prompted that the file already exists. Press Y to overwrite the existing file.

5. Exit the Editor:

   / E (Return)

From this point, the commands in your SYSSTART file will execute automatically with a restart or reboot of the system. To keep this file from executing, rename the file.

   RENAME SYSSTART.PUB.SYS EXSTART.PUB.SYS

To reinstate it, rename the file back to SYSSTART.PUB.SYS.

## To check the status of peripherals

Use the `SHOWDEV` command to display the status of devices such as terminals, tape drives, and printers.

:<u>SHOWDEV</u> (Return)

```
  LDEV   AVAIL       OWNERSHIP      VOLID     DEN   ASSOCIATION
    1    DISC
    2    DISC
    3    DISC
    7    TAPE
   10    JOBTAPE
   20    CONSOLE
  113    LP
  114    UNAVAIL    SPOOLER OUT
```

## Terminal problems?

### Did your terminal screen suddenly turn off?

Some terminals have a feature that causes the screen to turn itself off automatically after several minutes of user inactivity. If this happens, press any key on the keyboard to reactivate the screen.

### Is the keyboard not responding?

Sometimes the terminal screen and keyboard seem to "freeze up" and become unresponsive. There may be a problem with the power source, or you may have what is called a *hung* terminal.

Several hung terminals could mean serious system problems. If there is such an occurrence on your system, call your Hewlett-Packard representative immediately. Here are some remedies for a hung terminal.

**Method 1:  Wait a few minutes.**

1. Wait a few minutes.

2. Press $\boxed{\text{Return}}$ several times.

**Method 2:  Check the cable connections.**

1. Check that the terminal is plugged into its power source.

2. Check to see if the terminal is turned on.

3. Check that the terminal is connected to the computer system.

    a. Make sure that the cable is connected firmly at the back of the terminal.

    b. Trace the cabling back to its connection in the serial port. Make sure that the cable is connected firmly in the serial port socket.

**Method 3:  Check that the terminal is not in $\boxed{\text{Ctrl}}$ S.**

■ Press $\boxed{\text{Ctrl}}$ Q.

$\boxed{\text{CTRL}}$ S may have been pressed. This would prevent the terminal screen from scrolling. By pressing $\boxed{\text{CTRL}}$ Q, scrolling will start again. If scrolling does not resume, try the next method.

**Method 4:  Check that your terminal is in the correct mode.**

1. Look at the bank of terminal keys at the top of your keyboard. In the middle of the row of keys marked $\boxed{\text{F1}}$ through $\boxed{\text{F8}}$, locate and press the one labeled $\boxed{\text{System}}$.

2. This should change the softkeys displayed at the bottom of your terminal screen. Locate and press the softkey, $\boxed{\text{F4}}$, labeled `Modes`.

3. This changes the softkey display. Look at the softkey labeled `BLOCK MODE`. Make sure that the `BLOCK MODE` key *does not* contain an asterisk (*) in the label. If it does, press $\boxed{\text{F3}}$ to toggle the asterisk "off."

4. Look at the softkey labeled `AUTO LF`. Make sure that the `AUTO LF` key *does not* contain an asterisk (*) in the label. If it does, press $\boxed{\text{F3}}$ to toggle the asterisk "off."

5. Locate and check the `REMOTE MODE` label. Make sure that an asterisk (*) *does* appear in the label. If not, press (F4) to toggle the asterisk "on."

6. Press (Return) several times to see if the system prompt appears.

### Method 5: Perform a terminal "soft reset".

1. Press (Shift) (Reset).

2. Press (Return) several times.

If your terminal hang occurred while you were in the middle of work on the system, do the following:

1. Press (Shift) (Reset).

2. Press (Return) several times.

3. At the system prompt, type `ABORT` (Return).

This terminates whatever process you were working on and may free your terminal.

### Method 6: Perform a terminal hard reset.

■ Press (Shift) (Ctrl) (Reset) simultaneously.

A hard reset might erase your current work.

### Method 7: Turn the terminal off and back on

| | |
|---|---|
| **Caution** | The following procedure should not be performed on the system's console. If you are using the console, refer to the next section entitled, "Console problems?". |

■ Turn the terminal off and then back on again.

### Method 8: Abort your session

Have the system administrator abort your session.

If you are the system administrator, do the following from the system console:

1. Enter the following:

SHOWJOB JOB=@S [Return]

A screen similar to the following appears:

```
JOBNUM    STATE    IPRI    JIN    JLIST    INTRODUCED    JOBNAME

#S22      EXEC              20     20       TUE 8:46P     JOANN.YUKI
#S43      EXEC             105    105       WED 9:32A     MANAGER.SYS

2 JOBS (DISPLAYED):
    0 INTRO
    0 WAIT; INCL 0 DEFERRED
    2 EXEC; INCL 2 SESSIONS
    0 SUSP
JOBFENCE= 7; JLIMIT= 2; SLIMIT= 15
```

2. Identify your session number, identified under JOBNUM as #S*nn*.

3. Enter the following:

    `ABORTJOB #S`*nnn* [Return]

    Replace *nnn* with the session number of the hung terminal.

4. After the session abort message appears on the user's terminal screen, and the log off message has been displayed on the console, have the user press [Return] several times.

5. If the logon prompt (`MPE XL:`) does not appear on the user's terminal, enter the `ABORTJOB` command again.

## Console problems?

An unresponsive console is a more serious problem than an unresponsive terminal. You cannot monitor or control the system when the console is "hung."

### Is the console not responding?

If the console is hung, try the first six methods of the "Terminal problems?" section.

If after attempting these methods the console is still hung, check the following:

### Is the console receiving messages from other users?

Check to see if another user on the system can send a message to the console. Have someone using a working terminal do the following to send a message to the console:

1. Type a message using the `TELLOP` command.

    `TELLOP Let's try this!` [Return]

2. When this message appears on the console screen, press [Return] to get the colon prompt.

### Are there too many pending console requests?

Too many pending console requests can cause the console to appear hung. Check to see if there are any pending console requests using the `RECALL` command.

1. Hold down the [Ctrl] key and press [A].

2. At the **=** prompt, type `RECALL` [Return].

3. Respond to pending requests one at a time, using the `REPLY` command.

### No response to [Ctrl] [A]?

If there is no **=** prompt, abort input and output to the console from another working terminal. .

1. At the working terminal, log on to an account with SM capability.

   `:HELLO MANAGER.SYS` [Return]

2. Enter the following:

   `ABORTIO 20` [Return]

   You must have SM capability to use this command.

3. Repeat this command a few times until you see the following message:

   `NO I/O TO ABORT FOR DEVICE` $nn$

4. Press [Return] several times to get to the system prompt.

### Switch console control to a working terminal

It may be necessary to abort your original console session. To do so, you must switch the console controls to a working terminal. You must have, or be allowed, SM capability to do the following procedures:

1. Log on to another working terminal as `MANAGER.SYS`.

2. At the prompt, enter `CONSOLE` [Return]. This determines the current LDEV number of the console. The system console is normally LDEV 20.

3. Enter `SHOWME` [Return]. This determines the LDEV number of the terminal that you are using.

4. Enter `CONSOLE` $nn$ [Return] where $nn$ is replaced by the LDEV number of the terminal that you are currently using. For example, if you were to move the console from LDEV 20 to the terminal that you are using (LDEV 31), you would type the following:

```
CONSOLE 31 [Return]
```

5. Verify that the console has been moved by typing `CONSOLE` [Return].

6. Enter `SHOWJOB JOB=MANAGER.SYS` [Return] to determine the session number that you were using on the original console.

7. At the prompt, enter `ABORTJOB JOB=#S`*nn* [Return] to abort your original session at the console.

8. When the log off message displays on this terminal, go back to the original console, and press [Return] several times.

9. Log on to the original console by entering `HELLO MANAGER.SYS;HIPRI` [Return].

10. Move the console control back to the original console. For example, if the console was identified as 20, you would enter `CONSOLE 20`.

## Other hardware problems?

If you are having problems with any of the peripherals attached to the computer system, refer to the user's guide of each particular piece of equipment.

# Getting More Information about HP Support Services, HP Educational Services, and Documentation

**3**

## Introduction

This chapter introduces you to some of Hewlett-Packard's HP 3000 support and educational services. This chapter also provides you with a bibliography of special interest documentation intended to help you advance your skills and understanding of the HP 3000 system.

## HP Support

Because your HP 3000 Series 9X8LX system plays such a critical role in your office, Hewlett-Packard realizes the importance of system support and offers a variety of services designed to match your business needs in maintaining your system.

### What services are available?

Here are a few support service packages that Hewlett-Packard offers:

## Software license, information, and updates

This service includes the software license for new releases, patches and updates to your HP software products. You also get electronic access to current HP support information and up-to-date HP software and manuals. HP SupportLine electronic support enables any member of your information technology staff to locate essential product and support information.

You can choose from a variety of software and documentation media types. For example, compact disc read-only memory (CD-ROM) technology offers an efficient and cost-effective alternative to the traditional options of magnetic tape for software and paper for documentation.

The features of this service are:

■ License for software updates

■ Software media and documentation

■ HP SupportLine electronic support

■ Assigned contract administrator

## Software assistance, information, and updates

HP System Support service provides comprehensive software maintenance services that increase the availability of your systems and applications. HP Response Center engineers work with your system managers and operators to resolve problems with HP software products and supported non-HP applications.

HP maintains complete diagnostic centers worldwide that house at least one of every computer system HP has ever manufactured. These centers allow our engineers to replicate your software and system environment in the problem-solving process. Sophisticated remote support tools enable HP to link directly to your environment and access system configruation and support information.

You also receive software updates and patches that are essential in keeping your systems current. HP System Support service includes the software licenses for new releases, patches and updates to HP software products.

The features of this service are:

- Software assistance

- Electronic software call submittal

- Escalation management (software)

- Remote software support

- License for software updates

- Software media and documentation

- HP SupportLine electronic support

- HP PowerPatch tapes (select products)

- Assigned contract administrator

### Hardware support with software information and updates

This service includes the software license for new releases, patches, and updates to your HP software products. You also get electronic access to current HP support information and up-to-date HP software and reference manuals. HP SupportLine electronic support enables any member of your information technology staff to locate essential product and support information.

You can choose from several types of software and documentation media, including compact disc read-only memory (CD-ROM) technology, which offers an efficient and cost-effective alternative to the traditional options of magnetic tape for software and paper for documentation.

The features of this service are:

- On-site hardware support

- Esclation management (hardware)

- 24-hour hardware call submittal

- License for software updates

- Software media and documentation

- HP SupportLine electronic support

- Assigned contract administrator

## Hardware, software, and network support

This service provides high-quality hardware, software, and network support that enables you to increase productivity and computer system uptime. You get the flexibility to choose the hardware response time and coverage periods that meet your service needs. HP Response Center engineers work with your system managers and operators to resolve problems with HP software and supported non-HP applications. Sophisticated remote support tools enable HP to link directly to your environment and access system configuration and support information.

The features of this service are:

- On-site hardware support

- Software assistance

- Escalation management

- Flexible call submittal

- License for software updates

- Software media and documentation

- HP SupportLine electronic support

- Network support

- Complete network documentation

- Assigned contract administrator

## Personalized system support

This service provides personalized comprehensive hardware, software, and network maintenance. With this service, you can rely on an HP support team to focus on your maintenance needs. Your support team's understanding of your business and computing environment enables them to proactively prevent problems from occurring and if problems do occur, to resolve them quickly. As a result, you spend more time managing your business and less time managing your systems.

This service gives you the flexibility to choose the hardware response time and coverage hours that meet your needs. You also get access to the worldwide HP

Response Center network. This service includes the software license for new releases, patches, and updates to HP software products.

The features of this service are:

■ Assigned system support engineer

■ Assigned HP Response Center engineer

■ Patch management assistance

■ Operational reviews

■ System release planning seminars

■ Installation of software updates and add-on hardware products

■ On-site hardware support

■ Software assistance

■ Escalation management

■ Flexible call submittal

■ License for software updates

■ Software media and documentation

■ HP SupportLine electronic support

■ Network support

■ Complete network documentation

■ Assigned contract administrator

## Bibliography

The following documents are intended to help you advance your skills and understanding of your HP 3000 system. These documents are available through your local Hewlett-Packard representative.

*Using the 900 Series HP 3000: Fundamental Skills,*
Order No. 31126A, Option 001.

*Using the 900 Series HP 3000: Fundamental Skills* is a self-paced course designed for every user of the MPE/iX operating system. This course allows students to build basic usage skills by completing lessons that they select based on prior experience and their job needs. This course is based upon hands-on exercises.

This course is the prerequisite to the *Advanced Skills* course. Some overlapping material occurs in this course and in the HP 3000 Series 9X8LX documentation.

*Using the 900 Series HP 3000: Advanced Skills,*
Order No. 31126A, Option 002

*Using the 900 Series HP 3000 Lab Tape* (DDS format),
Order No. 31126A, Option 004 (This tape must be ordered with the
*Advanced Skills* course.)

*Using the 900 Series HP 3000: Advanced Skills* is a self-paced course designed
for users of the MPE/iX operating system who want to perform advanced
operating system functions, such as creating user-defined commands and using
commands and variables in user commands. This course allows students to
build advanced usage skills by completing lessons that they select based upon
prior experience and their job needs. This course is based upon hands-on
exercises.

Some overlapping material occurs in this course and in the HP 3000 Series
9X8LX training.

If you are ordering the *Advanced Skills* course, you must order the *Using
the 900 Series HP 3000* lab tape. This lab tape contains files essential to
completing the *Advanced Skills* course.


*900 Series HP 3000: Commands Reference Manual (Volumes I and
II)*
Part Number 32650-90155

This is a complete listing and description of all MPE/iX commands.


*MPE/iX EDIT/3000 Reference Manual,*
Part Number 03000-90012

This is a complete listing of EDIT/3000 commands and subcommands. It is
recommended that you order this manual only if you will exclusively be using
the EDIT/3000 program for creating text files.

# 4

# Troubleshooting

This chapter discusses basic troubleshooting and problem identification procedures.

## Problems Starting the System

This section discusses how to identify system startup problems by reading front panel lights and console displays.

The most important thing to do when you are starting the system is to watch the console and front panel lights.

Generally speaking, messages are displayed fairly rapidly during all phases of startup. This is normal. A long delay (more than 3 or 4 minutes) in the display of messages may indicate a problem.

### Power-on problems

Your computer performs certain self-tests whenever the power is turned on. A display similar to the following appears at the bottom of the console:

```
OSTAT: XXXX  REMOTE: aaa  bbb  ccc  ACCESS FAULT: nn
```

- Does `OSTAT` appear as `WARN` or `FLT`?

  `FLT` indicates a fault and usually prevents your system from coming up. `WARN` is a warning that indicates that something is not quite right, but it usually won't prevent your system from coming up. If your system does not come up, write down both of the contents of `OSTAT` and the four characters (XXXX) next to it. Try the steps under "Clearing your system," in the following pages. If they don't work, call your service representative.

For example:

```
FLT :  1F3A  REMOTE: aaa  bbb  ccc  ACCESS FAULT: nn
```

In this case, a fault has occurred (`OSTAT` field is `FLT`) and you would record 1F3A and call your service representative.

- Note the color of the indicator lights on the computer front panel. Is the orange indicator light on? Is the green indicator light off?

  This indicates a fault. Try the steps under "Clearing your system," in the following pages. If they don't work, call your service representative.

- Does your system appear locked? Does it seem like nothing is happening?

  This may also be a fault. Try the steps under "Clearing your system," in the following pages. If they don't work, call your service representative.

- If you see the following display:

  ```
  booted...
  ```

  and nothing happens for 40 to 60 seconds, try the steps under "Clearing your system," in the following pages. If they don't work, call your service representative.

---

**Caution**    Do not access the internal parts of either the computer or any peripheral equipment. Do not remove the back panel of the computer or any other device.

---

## Initial system load problems

If your machine passes self-test it proceeds to ISL, or initial system load.

During ISL many messages are displayed on the console screen.

- Has your machine stopped displaying messages and is the `ISL>` prompt not displaying?

  If your machine is successfully coming up, it should continue to display messages at intervals of no longer than 2 or 3 minutes (usually faster). If ISL successfully completes, you will see the `ISL>` prompt. If you don't see the `ISL>` prompt and nothing else appears to be happening, you may have a problem. Copy down the last message displayed, try the steps under

"Clearing your system," in the following pages, and start your system again. If the problem recurs, call your service representative.

## Operating system boot problems

Operating system boot begins when you enter a START command at the ISL prompt.

- Do you see any message indicating that a disk is not available for mounting?

    You may have used the wrong configuration file name in the START command. Verify your configuration file or try a different one. Shut down the system and bring it up again by entering the following commands:

    [CTRL A]
    = SHUTDOWN [Return]

    The shutdown process displays several messages. When shutdown is complete ((SHUT 6) displays or 4 or 5 minutes pass and it appears that nothing is happening), enter the following:

    [CTRL B]
    CM>RS [Return]

    When you see the ISL> prompt, enter the following with the correct file name:

    ISL> START FILENAME NORECOVERY

    Remember that FILENAME is the name of the configuration group.

- Do you see the following message?:

```
Error - Unable to get the SYSGEN version
        or the version is obsolete

        status - subsys: #204 info: #-9051
```

This message suggests that the configuration files shipped with your machine have been changed. Call your service representative for the correct files.

■ Have you seen any error messages like the following?

```
13:31/24/ DCC warning  103-5,
Add ldev to class failure (hlio status FF6A00BD)

13:31/18/ DCC STARTUP - ERROR
```

If so and if you are booting for the first time with a new configuration file, please *ignore* them.

## Clearing your system

The following steps may clear a machine that appears to have faulted or otherwise won't come up. After trying the following, begin your startup procedure over again. If you still can't bring the system up, call your service representative.

■ Check all cable connections. Be sure that they are in the correct place and are securely attached.

■ Be sure that all external equipment is plugged in and turned on. All device display windows should indicate READY or ONLINE.

■ Power cycle your machine. (Turn the power switch OFF, wait 30 or 40 seconds, and turn it ON again.)

## Problems with EZCONFIG

EZCONFIG is an interactive command file that performs certain configuration-related tasks after your system has come up. Most EZCONFIG error messages are self-explanatory and tell you exactly how to respond.

If you have correctly responded to EZCONFIG and still encounter problems be sure to check the following:

■ Is the number of disks that you specified to EZCONFIG different from the number of disks for the configuration file that you used in the START command?

Before you start your system, this manual asks you to determine how many disks you have and to select a configuration file based on this number. It is very important that the number of disks that you specify to `EZCONFIG` is the same number that you used to select a configuration file.

■ Have you correctly specified your DTC addresses?

If there is any question about the correctness of your DTC addresses, check them again, start `EZCONFIG` over again, and be sure to specify the correct addresses.

---

**Caution**      You may restart `EZCONFIG` at anytime during your initial setup procedure; however, if you restart `EZCONFIG` after you have been using the system for awhile and have established data on it, and if you specify a different number of disks, you may encounter problems in data storage and retrieval.

Never attempt to change your disk configuration(s) without first making a full system backup. If you have any questions about disk configuration and possible data loss, call your service representative.

---

## Problems with MKACCT

`MKACCT` is a command file that helps you establish user names, groups, accounts, and passwords. If you have any problems with `MKACCT`, you may restart it at any time without damaging your system.

`MKACCT` is interactive and, if you make a mistake, it prompts you for the correct response.

You may verify the results of `MKACCT` with the `LISTACCT`, `LISTGROUP` and `LISTUSER` commands. You may override anything accomplished by `MKACCT` with the `ALTUSER`, `ALTGROUP` and `ALTACCT` commands. For more information on these commands refer to the *Commands Reference, HP 3000 Series 9X8LX* (B3813-90011), or the MPE/iX Help Facility.

# General Usage Problems

General usage problems are those that occur in the course of everyday work, once your system is up and running.

## Problems with passwords

If you forget a password, contact your system administrator, who can use the `LISTUSER`, `LISTACCT`, or `LISTGROUP` commands to determine the password or the `LISTFILE` command to determine a file lockword.

A user who has logged on with system manager (SM) capability can determine any password or lockword on the system . If you forget the password to log on with SM capability (`MANAGER.SYS`), you must reload your system or call your service representative.

## Problems logging on

- No logon prompt?

  Press (Return) several times. If you still do not get a prompt, contact your system administrator. If you are the system administrator, refer to the "Problems with terminals" section of this chapter.

- Did you make a typing error in the logon identity?

  Retype `HELLO` and your logon identity. Make sure that you separate the user name from the account name with a period (.). If a group name is added, separate the group name from the account name with a comma (,).

  For example:

      :HELLO FRED.PROGRAM,DEVELOP

- Did you make an error entering a password?

  Retype the password. Press (Return). You have three chances to enter a correct password. If you fail in all three attempts, you have to start the logon process over again.

- Have you forgotten your logon identity or password?

Contact your system administrator. The system administrator has SM
capability and can use `LISTACCT` to see all accounts. System administrators
can also use `LISTUSER` *username.accountname*`;PASS` to see the passwords of
an account.

- Did you get a message about an account, a user, or a group not existing?

  Check for any typographical errors in your logon. If no errors were made,
  contact your system administrator.

- Did you get the following message: `Can't initiate a new session now.`?

  Wait a few minutes and try to log on again. If you get the same message,
  ask the system administrator to check the job and session limits with the
  `SHOWJOB` command.

- While logged on to a worksession, did you get a message on your terminal
  screen beginning with `OPERATOR WARNING:`?

  This is a priority message sent from the system operator. Read the entire
  message carefully, and act accordingly.

## Problems streaming jobs

- Will streamed jobs not log on?

  Check the jobfence and the job limit with the `SHOWJOB` and `LIMIT`
  commands. Also, be sure that `STREAMS 10` has been invoked. (`STREAMS 10` is
  usually included in file `SYSSTART.PUB.SYS` and is automatically invoked when
  your system is started. Your system administrator may want to check this
  file.)

  Check symptoms under "Problems logging on" above.

## Problems invoking commands

- Did you get the following error message on your screen after entering a
  command?

  ```
  UNKNOWN COMMAND NAME.   (CIERR 975)
  ```

  Look for any spelling errors. Carefully retype the command. Use the online
  Help Facility to verify that you are using the command correctly.

- If a command file does not execute exactly as you anticipated (but appears to execute like an MPE/iX command), there may be a file-naming conflict on the system. There are two solutions to this problem:
  - Rename the command file to a name that does not match an MPE/iX command.
  - Use the XEQ command to execute the command file.

    :XEQ  *commandfilename* (Return)

## Command problems—obtaining online help

If you are invoking a valid MPE/iX command with no naming conflicts with command files, perhaps you simply entered the command incorrectly. The following tells you how to use the MPE/iX Help Facility to correct possible errors.

The online Help Facility provides command information, syntax, explanations of command parameters, and examples of command use for MPE/iX commands. Any user can use it.

1. To invoke the Help Facility, enter HELP at the system prompt, and press (Return).

    :HELP (Return)

The following Help Facility menu, `HELPMENU`, appears on your screen:

```
                  This is the MPE/iX Help Facility
          ---------------------------------------------------
*       Enter SUMMARY, CLASS, a commandname, or HELPSTUDY       *
          ---------------------------------------------------
SUMMARY....             A summary MPE/iX commands & HELP

CLASS......             Classes of Commands
                        SESSIONS, JOBS, FILES, SUBSYSTEMS, ETC.

<command name>          COMMAND entries, by name
<command name><keyword> COMMAND entry with keyword
                        PARMS, OPERATION, EXAMPLE

HELPSTUDY               A beginner's introduction to Help

EXIT                    To leave the Help Facility

          You can use UPPERCASE or lowercase.

>>>>>>>>>>  The name of this screen is HELPMENU  <<<<<<<<<<
>
```

2. At the Help Facility prompt (>), type in an option from the `HELPMENU`, namely `SUMMARY`, `CLASS`, a command name, a command name and parameter, `HELPSTUDY`, or `EXIT`.

3. To leave the Help Facility, type either `E` or `EXIT`. This action returns you to the system prompt (:).

   ```
   >EXIT  [Return]
   :
   ```

**Using the Help Facility tutorial**

The Help Facility has a self-paced tutorial that instructs you on its use. To start the tutorial, do the following:

1. If you are not in the Help Facility (identified by the ">" prompt), enter HELP (Return) at the system prompt.

2. At the Help Facility prompt, type HELPSTUDY.

    >HELPSTUDY (Return)

3. Press (Return) to scroll through the HELPSTUDY screens.

4. Press (E) (Return) to leave the Help Facility.

**To display a specific Help Facility topic**

To display a specific topic in HELPSTUDY, list the contents and select the topic in which you are interested.

1. If you are not in the Help Facility (identified by the ">" prompt), enter HELP (Return) at the system prompt.

2. Enter CONTENTS at the Help (>) prompt.

3. Enter the topic that you wish to display.

4. Press (Return) to scroll through the information displays.

5. Press (E) (Return) to exit the Help Facility.

**To list commands by classification within the Help Facility**

The Help Facility provides lists of MPE/iX commands classified by the type of tasks performed by the commands.

1. If you are not in the Help Facility (identified by the ">" prompt), enter HELP ⌐Return⌐ at the system prompt.

2. Enter CLASS to display command classifications.

3. Press ⌐Return⌐ to scroll through the display.

4. Press ⌐E⌐ ⌐Return⌐ to exit the Help Facility.

**To display command information within the Help Facility**

To get information about a specific command, type HELP and the name of the command at the system prompt. Keywords allow you to limit the amount of information and display only the details that are of interest to you.

1. If you are not in the Help Facility (identified by the ">" prompt), enter HELP ⌐Return⌐ at the system prompt.

2. Enter the command name and an optional keyword at the Help Facility prompt (>).

   Select the keyword from this list:

   a. PARMS lists all parameters for the command and describes each one.

   b. OPERATION provides an explanation of how the command works and when to use it.

   c. EXAMPLE offers examples of the command and its parameters.

   For example, to see how the command SHOWME works, type the following:

   >SHOWME OPERATION ⌐Return⌐

3. Press ⌐Return⌐ to scroll through the display.

4. Press ⌐E⌐ ⌐Return⌐ to exit the Help Facility.

**To display help outside the Help facility**

1. From the system prompt, enter `HELP` followed by the command name. You can follow the command name with an optional keyword (`PARMS`, `OPERATION`, or `EXAMPLE`).

2. Press Return.

The following uses the `SHOWTIME` command as an example:

```
:HELP SHOWTIME EXAMPLE Return
EXAMPLE

     To display the time and date, enter

     SHOWTIME
     WED, JUL 24, 1993, 8:47AM

KEYWORDS: PARM,OPERATION,EXAMPLE
:
```

You are returned to the system prompt after this display.

**To display help from within an HP 3000 subsystem**

Most of HP's programs allow Help requests from within the program.

1. Precede the `HELP` command with a colon (:):

     `:HELP`

2. Enter the `HELP` command followed by the command name and optional keyword:

     `:HELP HELLO PARMS`

3. Press Return or Enter.

4. Continue work within the program at the program prompt.

In the following example, the user requests a display of the `SHOWJOB` command parameters from within the EDIT/3000 program. The "/" prompt is unique to the EDIT/3000 program. Without including the colon (:) before the `HELP` command here, the program would expect one of its subcommands.

    `:HELP SHOWJOB PARMS` [Return]

## Interpreting error messages

When you do something that doesn't work, the system frequently attempts to tell you what went wrong by providing an error message or warning.

There is an easy way to get information on what caused selected error or warning messages to occur and what action is needed for correction. Simply type the `HELP` command followed by a prefix (either `CIERR` for command interpreter errors, `SR` for store or restore errors, or `CIWARN` for command interpreter warning messages) and the complete error message number.

    `:HELP CIERRerrornum` [Return]

or

    `:HELP SRerrornum` [Return]

or

    `:HELP CIWARNerrornum` [Return]

| **Note** | Exclamation points (!) may appear in some error or warning messages while using the Help Facility. The exclamation point merely acts as a system input placeholder and can be ignored. |
| --- | --- |

### Getting help with command interpreter errors

To obtain information on command interpreter (CI) errors (errors related to how commands are entered), do the following:

■ Type the command `HELP` followed by `CIERR`nn, where nn is replaced by the error number.

■ Press [Return].

In the following example, an error message is displayed on the screen.

```
:showjov
 ^

UNKNOWN COMMAND NAME.   (CIERR 975)
```

If more information is needed on what caused this error message and what
action should be taken for correction, type HELP CIERR975 at the prompt.
Remove all spaces when typing in the error message number.

```
:HELP CIERR975  [Return]

MESSAGE   UNKNOWN COMMAND NAME.   (CIERR 975)

CAUSE     A command was entered that was not recognized by the
          MPE/iX Command Interpreter.

ACTION    Enter a valid MPE/iX Command.

:_
```

### Getting help with Store/Restore errors

To obtain information on STORE or RESTORE error messages do the following:

■ Type HELP followed by SR*nn*, where *nn* is replaced with the error message
  number.

■ Press [Return].

In the following example, a STORE/RESTORE message is displayed on the screen:

```
STORE/RESTORE ENCOUNTERED UNKNOWN MEDIA ON LDEV3 (S/R 11)
```

If more information is needed on what caused this error message and what action should be taken for correction, type HELP SR11 at the prompt. Remove the / symbol, and do not include any spaces when typing the error message number.

```
:HELP SR11 (Return)

MESSAGE STORE/RESTORE ENCOUNTERED UNKNOWN MEDIA ON LDEV! (S/R 11)

CAUSE    Media type is incompatible with store subsystem.

ACTION   Mount compatible media type or update store.
```

### Getting help with command interpreter warning messages

To obtain information on command interpreter warning messages (CIWARN) do the following:

- Type HELP followed by CIWARN*nn*, where *nn* is replaced with the warning message number.

- Press (Return).

In the following example, a command interpreter warning message is displayed on the screen:

```
   EXTRANEOUS DELIMITER IGNORED.   (CIWARN 215)
```

If more information is needed on what caused this warning message and what action should be taken for correction, type HELP CIWARN215 at the prompt. Remove any spaces when typing the error message number.

```
:HELP CIWARN215 (Return)


MESSAGE  EXTRANEOUS DELIMITER IGNORED.  (CIWARN 215)


CAUSE   You included an extra delimiter (such as a comma or
        semicolon) where none was called for.


ACTION  No action is required; the system merely ignored
        the extra delimiter.  You may wish to note the
        error for future reference.
```

## Problems with HP Easytime/iX

If HP Easytime/iX appears not to work for any reason or in any way, the first thing to check is the capabilities of user `OPERATOR.SYS`. Minimum capabilities are IA, BA, OP, ND, PH. To check capabilities, use the `LISTUSER` command. To alter capabilities, use the `ALTUSER` command.

```
:LISTUSER OPERATOR.SYS

:ALTUSER OPERATOR.SYS;CAP=IA,BA,OP,ND,PH
```

`ALTUSER` replaces the existing capability set with the capability set specified after `;CAP=`.

### Obtaining help in HP Easytime/iX

There are two ways to get help in HP Easytime/iX. You can access the `Help` menu for a complete index of help topics, or you can press [F1] `Field Help` for context-sensitive help about an object on the screen.

The HP Easytime/iX Help menu is available on every screen. The Help menu provides the following six categories of help information:

| Use this topic | To do this |
| --- | --- |
| Help | Access information about the HP Easytime/iX Help Facility. |
| Basic skills | Access information about basic skills and concepts that you will need to use the product effectively. |
| Procedures | Access step-by-step procedures for every task available on a screen. |
| Keys | Access information about cursor movement keys, dialog box keys, function keys, and editing keys in HP Easytime/iX. |
| Glossary | Access an alphabetical listing of HP Easytime/iX terms and definitions. |
| Version | Access information about the current version of HP Easytime/iX on your system. |

**To use the Help menu**

1. Press (F4) (H) to open the Help menu.

2. Press the key that corresponds to the underlined character in the menu item that you want. For example, press

   (P) for help on Procedures.

   An index of help topics for this screen is displayed.

**To select and read a help topic**

1. Press (▲) or (▼) to move the cursor to a help topic.

2. Press either (F3), (Spacebar), or (Return) to select the topic.

3. Press (F5) Read.

   A help window displays help information about that topic.

4. Press (F8) Close when you are finished reading.

   If you want to choose another help topic, press (Tab) twice to go back to the list of topics and select another.

5. Press (F8) Close again to close the Help menu.

**To use the help key**

With the help key you can access field-specific help about an object on the screen or in a menu, such as, a task or a data-entry field.

1. Move the cursor to an object on the screen.

2. Press (F1) Field Help to get help information about that object.

3. Press (F8) Close to close the help window when you are finished reading.

### Help in HP Easytime/iX dialog boxes

HP Easytime/iX uses `dialog boxes` to present information, or to prompt you for the data needed to complete a task. Dialog boxes are windows that appear on your screen overlaying a portion of the current display.

To get help in a dialog box, do the following:

- Press function key 1 (field help) at any point to get step-by-step instructions about how to complete that section of the dialog box.

- Tab one or more times to move to the field help option within a dialog box, and press (Return) for more general help about that dialog box.

### HP Easytime/iX abnormally ends

If HP Easytime/iX abnormally ends (abends), console logging may be terminated, and may not restart when HP Easytime/iX is restarted. This does not prevent your system from operating, but may prevent console events from being written to a log file.

Contact your system administrator if HP Easytime/iX abends. If you are the system administrator, determine if anybody in your environment (or a remote environment, like your company's home office) enabled console logging. For additional assistance, call your service representative.

### If you forget the system administrator password

If you forget the system administrator password, you may obtain it as follows:

- Log on to the system as `MANAGER.SYS`

- Text the file `ETSETUPF.PUB.SYS` into any text editor (such as EDIT/3000).

- Find and delete the line beginning with `SYSADMIN-PWD`.

- Start HP Easytime/iX.

- Switch to system administrator mode, and set a new password.

## Problems with the print command

■ Did the prompt disappear after using the `PRINT` command?

Enter `:eod` (colon included) by itself on a new line and press ⌈Return⌋. To prevent this from occurring again, always specify a file name when using the `PRINT` command.

■ Did you get the following error message?

```
NONEXISTENT PERMANENT FILE (FSERR 52)
THE PRINT COMMAND FAILED.  (CIERR 9080)
```

This error message means that the file name that you are trying to access, is not recognized by the computer. Check to see if the file name is spelled correctly.

Also, check that the file is in your logon group and account. If it is not, and you are the creator of the file, use the fully qualified file name.

■ Did you get this error message?

```
SECURITY VIOLATION (FSERR 93)
THE PRINT COMMAND FAILED.  (CIERR 9080)
```

You are trying to print a file to which you do not have access. In this case, the creator of the file must release the file (with the `RELEASE` command) before you can print it.

## Problems printing

■ Is the printer ready?

Be sure that the printer is plugged in, powered up (power switch is on), and online.

■ Is the printer out of paper, or is there a paper jam?

Load more paper, or clear jammed paper.

■ Is the printer outfence too high?

The outfence should be lowered with the `OUTFENCE` command, or the output priority of files waiting to be printed (spool files) should be undeferred or raised (above the printer outfence) with the `SPOOLER` command.

- Has the print file been deferred, or is its output priority lower than the outfence?

  Use the `SHOWOUT` command to check the outfence. Use the `LISTSPF` command to check the output priority of your print file and to see if it has been deferred. Use the `SPOOLF` command to undefer your print file or to raise its output priority.

- Is the printer spooler queue not open, or is the printer not spooled?

  The system administrator should spool the printer and open the spooler queue with the `SPOOLER` command. This is usually done by the `SPOOLER` command in file `SYSSTART.PUB.SYS` when the system is started. The system administrator may wish to check this file.

- Is the printer waiting for a special form to be loaded?

  Use the `RECALL` command to see if a reply request is pending for the printer. Load special forms, if necessary, and reply to the request.

- Is the printer waiting for forms alignment verification?

  If special forms have been loaded, the printer may be waiting for verification that the forms have been properly aligned. Use the `RECALL` command, and check the printer.

- Is the printer waiting for regular paper to be loaded?

  If a special forms request has just been processed, your printer may be waiting for regular paper to be reloaded. Use the `RECALL` command, as above to check.

- Has the printer been removed from use by the `DOWN` command from the console?

  The system administrator should activate the printer with the `UP` command.

- Do you have a DTC problem?

  If your printer fails to respond correctly, the DTC to which it is connected may have a problem.

  1. Check all cable connections, then power cycle the DTC (turn the power off and then on).

2. Check the printer; if the problem was in the DTC, the printer may now be operative.

---

**Caution**     Power cycling a DTC aborts all terminal users on that DTC.

---

■ Has none of the above worked?

1. From the console, enter `ABORTIO` to the logical device number (113 in this example) of the printer as follows:

    :<u>ABORTIO 113</u>

2. If this doesn't work, power-cycle the printer (turn the power switch off and then on). This causes most HP printers to perform a self-test. If the printer has a display window of any kind, observe it as the printer comes up.

If, after trying all of the above, printer problems still exist, call your service representative.

## Problems using EDIT/3000

■ Did the following message appear on the screen when you tried to retrieve a file in the EDIT/3000 program?

```
+-F-I-L-E---I-N-F-O-R-M-A-T-I-O-N---D-I-S-P-L-A-Y-+
!  ERROR NUMBER: 52    RESIDUE: 0                  !
!  BLOCK NUMBER: 0             NUMREC: 0           !
+-------------------------------------------------+
*23* FAILURE TO OPEN TEXT FILE    (52)
NONEXISTENT PERMANENT FILE   (FSERR 52)
```

Verify the spelling of your file name with the `LISTFILE` command. Retype the command to retrieve a file.

■ In trying to retrieve a file, did the following prompt appear on your screen?

    `LOCKWORD: username.groupname.acctname?`

This prompt is informing you that the file has a lockword. Ask the system administrator to identify the lockword for you. At the lockword prompt, type in the lockword.

■ Did you get the following error message?

    `OUT OF DISC SPACE (FSERR)`

This error message indicates that you have run out of disk space allotted to you. To obtain disk space, delete extra files with the `PURGE` command or ask the system administrator to allocate more file space for your logon group (the `ALTGROUP` command) or your logon account (the `ALTACCT` command).

## Problems aborting, suspending, or resuming jobs

■ Did you encounter the following error message while trying to abort, suspend, or resume a job?

    `JOB SECURITY IS HIGH OR JOB NOT YOURS, CANNOT SUSPEND,`
    `RESUME, ALTER, OR ABORT.`
    `(CIERR 3047)`

This error message could mean one of several things:

☐ The job file does not belong to you.

☐ You have not been granted (with the `ALLOW` command) the use of the commands `ABORTJOB`, `BREAKJOB`, and `RESUMEJOB`.

☐ The command should be entered from the console.

## Problems managing files

■ Did you accidentally delete a file?

Ask the system administrator when the last system backup was performed. The system administrator should be able to restore a previous version of a file that has been deleted.

■ When using the `PURGE` command, did you get the following error message on your screen?

    FILE filename NOT FOUND, NO PURGE DONE. (CIWARN 383)

Check for any typographical errors or misspellings in the file name.

■ When using the `RENAME` command, did you get the following error message?

    DUPLICATE PERMANENT FILE NAME  (FSERR 100)
    RENAME FAILED DUE TO SYSTEM ERROR, NOT RENAMED.(CIERR 373)

This error message indicates that the name to which you are renaming your file already exists. Reenter the command line, this time selecting a unique file name.

■ When using the `RELEASE` command, did you get the following error message?

    ACTION DISALLOWED SINCE NOT CREATOR OF FILE.  (CIERR 351)

This error message indicates that you are not the creator of the file and do not have the authority to release the file's security. Have the creator enter the command, or have the creator release the file for your use. Do not forget to tell the creator when you are finished so that the file can be secured.

If you are the administrator or operator for the system, check to see if you logged on with the appropriate logon. The `MANAGER.SYS` logon should allow you to access any file.

## Problems with passwords

■ Did you forget your password?

Use the LISTACCT, LISTUSER, or LISTGROUP commands to display the
forgotten password. Use the LISTFILE command to display a forgotten
lockword (file-level password).

A user with system manager (SM) capability can display any password
or lockword on the system. Individual users can display passwords for
their logon and lockwords for files they have created. A user with account
manager (AM) capability can display all passwords (user, group and account)
for the account for which the user has AM capability.

## Problems with backups

Several things may cause a backup to malfunction:

■ Was the unload button of the tape drive accidentally pressed during the
backup process?

Start the backup procedure over again from the beginning.

■ Did the backup not start because the backup device was never assigned to
the job?

Be sure that someone responds to the backup device reply request on the
console (usually a tape request); or, if you want the reply to be automatic (so
that a console reply is not needed), be sure that your backup device has been
configured for autoreply.

## Problems with terminals

■ Did your terminal screen suddenly turn off?

Some terminals have a feature that causes the screen to turn itself off
automatically after several minutes of user inactivity. If this happens, press
any key on the keyboard to reactivate the screen.

■ Is the keyboard not responding?

Sometimes the terminal screen and the keyboard seem to "freeze up" and become unresponsive. There may be a problem with the power source, or you may have what is called a *hung* terminal.

Several hung terminals could mean serious system problems. If there is such an occurrence on your system, call your service representative immediately. Here are some remedies for a hung terminal.

- Method 1: Wait a few minutes.

  1. Wait a few minutes.

  2. Press (Return) several times.

- Method 2: Check that the terminal is not in (Ctrl) S mode.

  □ Press (Ctrl) Q.

  (CTRL) S may have been pressed. This prevents the computer from displaying output on your terminal screen. By pressing (CTRL) Q, output once again begins displaying.

- Method 3: Check that your terminal is in the correct mode.

  1. Look at the bank of terminal keys at the top of your keyboard. In the middle of the row of keys marked (F1) through (F8), locate and press the one labeled (System).

  2. This should change the softkeys displayed at the bottom of your terminal screen. Locate and press the softkey (F4), labeled `Modes`.

  3. This changes the softkey display. Look at the softkey labeled `BLOCK MODE`. Make sure that the `BLOCK MODE` key *does not* contain an asterisk (*) in the label. If it does, press (F3) to toggle the asterisk "off."

  4. Look at the softkey labeled `AUTO LF`. Make sure that the `AUTO LF` key *does not* contain an asterisk (*) in the label. If it does, press (F3) to toggle the asterisk "off."

  5. Locate and check the `REMOTE MODE` label. Make sure that an asterisk (*) *does* appear in the label. If not, press (F4) to toggle the asterisk "on."

  6. Press (Return) several times to see if the system prompt appears.

- Method 4: Perform a terminal *soft reset*.

1. Press [Shift] [Reset].

2. Press [Return] several times.

If your terminal hang occurred while you were in the middle of work on the system, do the following:

1. Press [Shift] [Reset].

2. Press [Return] several times.

3. At the system prompt, type ABORT [Return].

This terminates whatever process you were working on and may free your terminal.

- Method 5: Check the cable connections.

  1. Check that the terminal is plugged into its power source.

  2. Check to see if the terminal is turned on.

  3. Check that the terminal is connected to the DTC.

     a. Make sure that the cable is connected firmly at the back of the terminal.

     b. Trace the cabling back to its connection on the DTC. Make sure that the cable is firmly attached to the connector.

- Method 6: Perform a terminal hard reset.

  1. Press [Shift] [Ctrl] [Reset] simultaneously.

- Method 7: Turn the terminal off and back on.

---

**Caution**     The following procedure should not be performed on the system console. If you are using the console, refer to the section entitled, "Problems with consoles."

---

  1. Turn the terminal off and then back on again.

- Method 8: Abort your session.

  Have the system administrator abort your session.

If you are the system administrator, do the following from the system console:

1. Enter the following:

    SHOWJOB JOB=@S [Return]

A screen similar to the following appears:

```
JOBNUM     STATE     IPRI    JIN    JLIST    INTRODUCED    JOBNAME

#S22       EXEC               20     20       TUE 8:46P     JOANN.YUKI
#S43       EXEC              105    105       WED 9:32A     MANAGER.SYS

2 JOBS (DISPLAYED):
    0 INTRO
    0 WAIT; INCL 0 DEFERRED
    2 EXEC; INCL 2 SESSIONS
    0 SUSP
JOBFENCE= 7; JLIMIT= 2; SLIMIT= 15
```

2. Identify your session number, identified under JOBNUM as #S*nn*.

3. Enter the following:

    ABORTJOB #S*nnn* [Return]

    Replace *nnn* with the session number of the hung terminal.

4. After the session abort message appears on the user's terminal screen, and the logoff message has been displayed on the console, have the user press [Return] several times.

5. If the logon prompt (MPE/iX:) does not appear on the user's terminal, enter the ABORTJOB command again.

■ Method 9: Determine if other terminals are hung.

If all terminals connected to the same DTC are hung, the problem could be with the DTC.

1. Power cycle the DTC (turn the power off and then on).

2. Check the console to ensure that the DTC downloads successfully.

3. If the DTC does not download, check the cable connections.

4. Check the hung terminals; if the problem was in the DTC, the hung terminals may now be okay.

---

**Caution**       Power cycling a DTC aborts all users on that DTC.

---

## Problems with the console

An unresponsive console is a more serious problem than an unresponsive terminal. You cannot monitor or control the system when the console is "hung."

### Is the prompt missing?

Press [Return] several times.

### Is the console not responding?

If the console is hung, try the first six methods of the "Problems with terminals" section.

If after attempting these methods the console is still hung, check the following:

### Is the console BAUD rate set to 9600?

Check that the BAUD rate (the speed at which the console transmits and receives data) is set to 9600.

### Is the console receiving messages from other users?

Check to see if another user on the system can send a message to the console. Have someone using a working terminal do the following to send a message to the console:

1. Type a message using the TELLOP command.

TELLOP Let's try this! [Return]

2. When this message appears on the console screen, press [Return] to get the colon prompt.

### Are there too many pending console requests?

Too many pending console requests can cause the console to appear hung. Check to see if there are any pending console requests using the RECALL command.

1. Hold down the [Ctrl] key, and press [A].

2. At the = prompt, type RECALL [Return].

3. Respond to pending requests one at a time, using the REPLY command.

### No response to [Ctrl] [A]?

If there is no = prompt, abort input and output to the console from another working terminal.

1. Log on to another terminal as MANAGER.SYS.

   :HELLO MANAGER.SYS [Return]

2. At the prompt, enter CONSOLE [Return]. This determines the current LDEV number of the console. The system console is normally LDEV 20.

3. Enter ABORTIO followed by the console logical device number:

   ABORTIO 20 [Return]

   You must have SM capability to use this command.

4. Repeat this command a few times until you see the following message:

   NO I/O TO ABORT FOR DEVICE $nn$

5. Press [Return] several times to get to the system prompt.

### Switch console control to a working terminal

It may be necessary to abort your original console session. To do so, you must switch the console controls to a working terminal. You must have, or be allowed, SM capability to do the following procedures:

1. Log on to another working terminal as `MANAGER.SYS`.

2. At the prompt, enter `CONSOLE` (Return). This determines the current LDEV number of the console. The system console is normally LDEV 20.

3. Enter `SHOWME` (Return). This determines the LDEV number of the terminal that you are using.

4. Enter `CONSOLE` *nn* (Return), where *nn* is replaced by the LDEV number of the terminal that you are currently using. For example, if you were to move the console from LDEV 20 to the terminal that you are using (LDEV 31), you would type the following:

   `:CONSOLE 31` (Return)

5. Verify that the console has been moved by typing `CONSOLE` (Return).

6. Enter `SHOWJOB JOB=MANAGER.SYS` (Return) to determine the session number that you were using on the original console.

7. At the prompt, enter `ABORTJOB JOB=#S`*nn* (Return) to abort your original session at the console.

8. When the logoff message displays on this terminal, go back to the original console, and press (Return) several times.

9. Log on to the original console by entering `HELLO MANAGER.SYS;HIPRI` (Return).

10. Move the console control back to the original console. For example, if the console was identified as 20, you would enter `CONSOLE 20`.

## Problems with tapes

If a problem occurs, the first step is to try to establish whether the problem lies with the tape, the drive, the host computer and connections, or with the way the system is being operated.

■ Are you using new tapes, or a different brand of tapes? Is the Caution signal being displayed by the drive? Have you been using the particular tape for a very long time? Then the problem could be the tape.

  If you suspect the tape:

1. Clean the tape heads (if you have a DDS tape drive use the cleaning cassette).

2. Try the operation again.

3. If the problem still occurs, try using a different tape (tape cassette for DDS drives).

4. If the problem persists, the tape is probably not the cause.

- Has the tape drive been moved recently? Has the environment changed—unusually hot, cold, damp, or dry? Has there been dust or dirt near the drive? Have reasonable precautions been taken against static? If so, then the problem could be the tape drive. If you suspect that the problem is with the drive:

  1. Clean the tape heads, and try the operation again.

  2. If the problem persists, check the environmental conditions against the drive's specified limits and try to correct the conditions if they are outside the limits. Perhaps move the drive to a more suitable site.

- Has a new operating system been installed in the host computer? Have any cables been disconnected and reconnected? Then the problem could be in the host or the connections.

  If you suspect problems in the host, call your service representative.

- Is someone new operating the system? Has the operator just returned after a long absence? Then the problem may be caused by incorrect operation.

  If you suspect improper operation, ask the person to repeat the operation while you watch, to check that they are not omitting some vital step.

## Other hardware problems

If you are having problems with any of the peripherals attached to the computer system, refer to the user's guide of each particular piece of equipment.

# Glossary

| | |
|---|---|
| **abort** | To end a job, a session or a program before its completion. It might be caused by an error or a malfunction, or by a command that requests it. See also **delete**. |
| **accelerator** | A key or sequence of keys that provides a fast (accelerated) method of access to a particular function. For example, the underlined character in each HP Easytime/iX menu or menu item is an accelerator. |
| **access codes** | Codes assigned to accounts and to groups and to users. Access codes regulate who has the ability to read, write, append, lock, save, or execute a given file. |
| **access control definition (ACD)** | A security mechanism whereby all access control to an object is defined as part of that object. ACDs are more expressive than matrix security since certain accesses can be granted to individual users or groups of users. ACD is a proprietary name for Access Control Lists (ACLs) which will be the key security component of POSIX. |
| **account** | A location on your computer where files are kept. Each account consists of one or more groups. Accounts provide security for your files. Each account has a unique name. A user must give the name of an account in order to log on to the system. |

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| **account librarian capability** | AL capability: A capability given to users that allows them to access files in order to maintain specified files within the account. |
| **account manager capability** | AM capability: A capability given to the first user created under the account. Unless specified otherwise, this user has all of the capabilities that the account has and is responsible for creating users and groups. In POSIX terms, the Account Manager can access all files whose file group ID matches their user GID. |
| **account structure** | The structure that provides organization for the system. It deals with these four elements: accounts, users (who are assigned to accounts), groups, and files. |
| **Actions menu** | An HP Easytime/iX menu that provides a list of tasks that can be performed from a particular screen. See also **task**. |
| **alternate boot path** | The tape drive that serves as the storage device from which the operating system may be loaded into the computer's main memory. This path is used rarely, such as for a complete reloading of the operating system from the system recovery tape. See also **system recovery tape**, **primary boot path**, and **boot path**. |
| **American Standard Code for Information Interchange (ASCII)** | The standard code for representing character data (seven data bits plus one that can be used for parity). This code was established by the American National Standards Institute (ANSI) to achieve compatibility between data devices during an exchange of information. It contains 256 characters. |
| **append** | To join all or part of one file to the end of another file. |
| **application** | A computer program that is used for a particular kind of work. Applications include word processing, graphics, database management, and data |

communication programs. HP Easytime/iX is an application.

**attachment unit interface local area network (AUI LAN)**   A connector on the back of the HP 3000 Series 9X8LX computers. It is internally disabled because it cannot be used simultaneously with the ThinLAN connector.

**attribute**   Characteristic assigned to accounts, users, groups, or files that enables the computer to determine what functions it will or will not allow a user, a group, or an account to perform. Attributes include file access codes and special capabilities.

**backreference**   A technique of referencing a previously defined file. To show backreferencing you must place an asterisk (*) before a formal file designator to indicate that it has been previously defined with the `FILE` command. For example, in the command `STORE @.@.@;*T`, the `T` refers to a device that would have been named as a file in a related file equation, such as `FILE T;DEV=TAPE`. See also **file equation**.

**back up (verb)**   To store data (files) to tape, in order to have a duplicate. Any user can back up user files by using the `STORE` command. The system administrator is responsible for backing up the system on a routine basis. This can be done through HP Easytime/iX or by using the MPE/iX commands `STORE` and `FILE`.

**backup (noun, adjective)**   A process that copies files from disk to tape for security reasons. Backups protect data in case a file is damaged or accidentally deleted from the system. You can use a backup copy on tape to restore the file to the system disk. If you have no backup copy, the file is *lost*. Backups can be chosen to duplicate system files, system files plus user files, or only user files modified after a specified date. See **system backup**.

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| **batch access capability** | BA capability: A default capability that is assigned to accounts and users, allowing users to submit batch jobs. |
| **batch processing** | A method of computing that performs a programmed procedure without interaction from a user. A job is a sample of batch processing. When you submit a job, the commands listed in the job file are carried out independently and require no user input. During this time, the user can perform other tasks while the job runs or is waiting to run. See also **job**. |
| **binary notation** | A method of representing numbers, alphabetic characters, and symbols in digital computers. Binary is a base two number system that uses only two digits, 0's and 1's, to express numbers. |
| **bit** | One of the digits used in the binary number system; 0 or 1. The basic unit of representation of information in a computer. |
| **boot** | To load the operating system (and subsystems) into the computer's main memory from instructions on a storage device such as a disk or tape. |
| **boot path** | The storage device and connections by which the operating system is loaded from disk or tape to the computer's main memory. See also **alternate boot path** and **primary boot path**. |
| **byte** | A combination of eight consecutive bits treated as a unit. A byte represents one letter or number. The size of memory and disk storage is measured in bytes. See also **kilobyte**. |
| **byte stream file** | A file without any formal record structure. Each logical "line" in the file is terminated by the newline (linefeed) character. |

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| **cancel** | A function key label that appears in dialog boxes. Selecting this function key closes the dialog box without performing a task. |
| **capability** | A method for determining what commands the account members are allowed to execute. Capabilities are assigned to accounts, groups, and users to provide system security and access to the operating system. Account capabilities are assigned when the account is created. |
| **carriage control characters (CCTL)** | Carriage control characters affect text elements such as double spacing, vertical line spacing, and page ejects. |
| **cassette** | A plastic container that holds magnetic tape. Data is stored on this tape when backing up or storing files. See also **digital data storage**. |
| **central processing unit (CPU)** | The part of a computer system that controls the interpretation and execution of instructions. It contains the control unit and the arithmetic logic unit. |
| **chmod** | A POSIX.1 function to change read, write and execute access for a file or directory. |
| **chown** | A POSIX.1 function to change the ownership and group ID of a file. |
| **command** | A system-reserved word that is an instruction to the computer to perform a specific operation. Three samples of MPE/iX commands are `LISTFILE`, `SHOWME`, and `STREAM`. |
| **command file** | A file that contains one or several MPE/iX commands for the purpose of executing them easily. To execute commands that are written in the command file, enter the command file name at the system prompt. |
| **command interpreter (CI)** | A part of the MPE/iX operating system that reads command lines entered at the terminal; interprets |

them; determines if they are valid; and, if so, executes them. The CI prompt, called the system prompt, is usually a colon (:). The CI is responsible for prompting, reading command input, command execution, servicing break and error handling and is the MPE equivalent of the POSIX shell.

**command line interface**
The method of entering commands directly at the system prompt. It is in contrast to the menu-driven interface of HP Easytime/iX.

**compatibility mode (CM)**
A CM program or procedure emits classic 3000 instructions which are emulated or translated to the native instructions set.

**compile**
The process of changing a program written in a source language (for example, BASIC, C, FORTRAN) into a machine language routine that the computer can understand. The compiled routine is then ready to be loaded into computer storage and run.

**component of a pathname**
A lname delimited by a '/'. typically a component is a directory name, except when it is the last component, where it could also be a file name. "Last" refers to the rightmost component of a POSIX pathname.

**computer**
A device that accepts information, processes it, and produces an output. A computer usually contains memory, a control unit, arithmetic and logical manipulators, and a means for input and output.

**configuration**
The way in which a computer and peripheral devices are programmed to interact with each other.

**console**
A terminal, usually assigned the logical device number 20, given unique status by the operating system. The console is used to boot the system; monitor and manage jobs, sessions, and resources; respond to requests; and communicate with other user terminals. If HP Easytime/iX is enabled, the

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| | messages and requests are no longer displayed on the console screen itself, but on the Console Management screen in HP Easytime/iX instead. |
| **console command** | An MPE/iX command that can be executed from the control-A prompt (=) at the system console. Three commands that can be entered only at the (=) prompt are: `LOGOFF`, `LOGON`, and `SHUTDOWN`. Three commands that can be entered at either the (=) prompt or the system prompt (:) are: `RECALL`, `REPLY`, and `ABORTIO`. |
| **continuation character** | An ampersand (`&`) entered as the last character of a command line. A continuation character tells the command interpreter that the command is longer than one line and is continuing onto a second line. |
| **creator** | The user who created a file. Only the creator of a file can release or secure it. |
| **current working directory (CWD)** | The directory (often your logon group) where you are currently located. Moving your CWD has no affect on your file access. It is only a naming shortcut. |
| **cursor** | A character, such as a flashing rectangle, a blinking line, a solid line or highlighted bar on a terminal screen. The cursor marks your position on the screen. |
| **data** | Factual information or a collection of factual information. |
| **database** | A collection of logically related data files and structural information about the data. |
| **Datacommunications and Terminal Controller (DTC)** | A hardware device for connecting printers, terminals, modems, and other asynchronous devices to the computer. |
| **debugging** | The activity of searching for and removing errors or malfunctions in a computer system or computer program. |

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| **default** | A predefined value or condition that is assumed and used by the operating system if no other value or condition is specified. For example, if you print a file and do not specify the number of copies, you will get one copy. The default number of copies for printing is one. |
| **delete** | To remove or eliminate a file (or print file) from the disk, or to abort a job or session from the system. See also **abort**. |
| **delimiter** | A special character used to mark the end of a string of characters. Common delimiters are the semicolon (;), the equal sign (=), $\boxed{\text{Return}}$, or the comma (,). |
| **device** | A piece of equipment that can be attached to the computer. For example, terminals, printers, plotters, modems, and disks are all devices. Devices can be used to send or receive information (terminals, printers, plotters) or as additional storage for the computer (disks and tapes). See also **peripheral**. |
| **device file** | A file associated with a nonshareable device such as a tape drive. A spool file is an example of a device file. |
| **device link** | A file that is linked to an LDEV number such that opening the device link is identical to opening a device via its LDEV number. |
| **dialog box** | A window that appears on the screen, overlaying a portion of the current display. A dialog box presents information or prompts you for data. It usually contains one or more fields that you can fill in or edit. |
| **digital audio tape (DAT)** | A method of recording audio signals digitally on cassette tapes. DAT tapes are not recommended for use on the HP 3000. Using lower-quality DAT media can result in data loss or corruption. See also **DDS**. |

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| **digital data storage (DDS)** | A format that overlays DAT to produce a means of storing computer data on cassette tapes. The HP 3000 Series 9X8LX requires the use of DDS tapes for optimal performance. See also **DAT**. |
| **directory** | A system table defining where groups, users, accounts, and files are located. A directory may also contain information such as file size, creation date, modification dates, creator, or security information. |
| **disabled** | Removed from normal system use. For example, a terminal is said to be disabled if its normal connection to the system has been removed. |
| **disk** | A medium for storing information. On the HP 3000 Series 9X8LX, the disk is inseparable from the disk drive. The first system disk is internal. Additional disk drives, which again include the disks, may be added to the system. |
| **disk drive** | A peripheral device that reads information from and writes information to the disk. This drive may be in the computer box itself, or it may be an external drive in a cabinet. |
| **dump** | A copy of the computer's memory onto a storage device. A dump may be used by HP personnel to analyze system problems. |
| **echo** | To display on the terminal screen data being typed on the keyboard. If echo is turned off, the computer receives the data but nothing appears on the screen. |
| **editor** | A word processing application used to prepare, modify, or delete text and program files. The command `EDITOR` is the command to start EDIT/3000, which is the text editor that comes with MPE/iX. |
| **end of job (EOJ)** | The last command in a job file. It must be preceded by a delimiter such as an exclamation point, `!EOJ`. |

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| **environment file** | A compiled disk file containing all of the specifications for a printed page of data. These specifications, which are not a part of the data, may include the page size, character fonts, and forms to be used in conjunction with the printer. |
| **error listing** | A report generated by the system describing the step-by-step processing of a job. Each job has an error listing, as well as any particular output of the job. |
| **error message** | A notification to a job, session, program, or device that a mistake or malfunction has occurred. Some error messages appear online, and others are printed in an error report on the default printer. The type of error is indicated in the error window (HP Easytime/iX) or in the error report. |
| **error report** | A detailed report generated by a system error or an internal error that is printed on the default printer. Use this report to correct the error or to give the information to your Hewlett-Packard representative if you need assistance. |
| **execute** | To carry out an instruction in response to a command that is entered or to a menu item that is selected. |
| **factory preload tape (FPT)** | A customized tape sent from the factory that contains your system software and subsystem software products. It is a duplicate of the software installed on your system at the time of shipment. It is intended for use only by HP service personnel or trained system managers. |
| **field** | In HP Easytime/iX, an area on the terminal screen where you can view, edit, or enter data. |
| **field help** | Refers to the function key (F1), which provides information about the current cursor object, such as a menu item or a field in a dialog box. Move the |

cursor to an object on the screen and press ⌑F1⌑ to get help about that object.

**FIFO**                A type of file with the property that data is always read and written in a first-in-first-out sequence.

**file**                 A group of related records stored together with a single name. For example, if you use the MPE/iX editor, EDIT/3000 to create a document, this document is a file. Basically all objects in the HFS are implemented as files.

**file equation**     A method of associating a file name (known as a formal file designator) to a set of characteristics, such as a device class. For example, the equation `FILE T;DEV=TAPE` establishes the relationship of the file `T` to a tape device. The file equation is usually paired with a command, such as the `STORE` command, that refers back to the file name to direct output to that device. See also **backreference**.

**file group**        The class of users who are not a file's owner, but match one of the $GROUP,*user.account,* or *@.account* ACD subjects. These user GIDs match the GID of the file. In MPE terms they are in the same account as the file.

**file name**         A label identifying a file. A file name can contain a maximum of eight alphanumeric characters. Each file name must begin with a letter and cannot contain any special characters. In HP Easytime/iX, you assign a file name when you copy or rename a file.

**file owner**        The class of users whose UIDs match the owner ID of the file. In MPE terms they are the creator of the file.

**file other**        The collection of users who are not file owners nor members of a file's group class. In an ACD pair "@.@" is the file other subject.

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| **flash** | The irregular flashing of a front panel light as opposed to *pulsing*, which is regular. |
| **form** | A special kind of paper to be used in a printer, such as, payroll checks. |
| **formal file designator** | An *alias* file name that is used either programmatically or in a file equation to refer to a file. Formal file designators are not listed in the system file directory. |
| **fundamental operating system (FOS)** | The core operating system without any optional subsystems. |
| **full backup** | A method of creating a copy of all user and system files to tape (except for those files in use during the time of backup). |
| **fully qualified file name** | A complete file description that includes the file name, the group to which the file belongs, and the account to which the group belongs. The fully qualified file name of the `LETTER` file in the `PUB` group of the `SYS` account is `LETTER.PUB.SYS`. |
| **function keys** | Special keys on the terminal keyboard that are labeled sequentially, F1, F2, F3 ... and correspond to the function key labels that appear at the bottom of the HP Easytime/iX screen. Press a function key to perform the action listed on its corresponding label. Function keys change according to the application that you are using. |
| **group identification (GID)** | A GID identifies users as members of a file's group class. These users can have unique file access defined for them. POSIX defines a GID as a number. It is simulated as a number in MPE, but the user's account name is currently the basis for security. |
| **group** | A subdivision of an account that is used to organize the account's files. All files must be assigned to a |

group. Within an account, each group has a unique name. A `PUB` group is designated for each account when it is created. Additional groups are created within the account, as needed, by the account manager. For the POSIX group definition see **file group** and **GID**.

**group librarian capability**  GL capability: A capability given to a user that allows special file access modes for the maintenance of certain files within the user's home group.

**hard reset**  A method to reset the computer or a terminal. A hard reset erases all information in memory. See also **soft reset**.

**hardware**  All the physical components of the computer including the central processing unit, tape drives, disk drives, terminals, and other peripherals.

**header**  The first page printed when output is directed to a line printer. It contains the session name (if any), session number, logon identification, day of the week, date, and time. It corresponds to the trailer that is printed as the last page of the output.

**Help Facility**  An online utility providing information on all MPE/iX commands. Information can be accessed by topic areas or by command name. The Help Facility can be accessed by entering `HELP` at the system prompt.

**hexadecimal notation**  A base sixteen number system that uses 0, 1, 2, 3, 4, 5, 6, 7, 8, 9, A, B, C, D, E, F to represent the value.

**hierarchical file system (HFS)**  The MPE/iX directory and file system which allows files and directories to be at an arbitrary level under the root directory. HFS is often used synonymously with POSIX names to indicate that the object is not part of the traditional MPE file, group or account structure.

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| **home group** | A specific group of an account. A home group may be assigned to each user. If no other group is specified with the `HELLO` or `JOB` command, users are logged on to their home group by default. If no home group is assigned, the user must always specify a group when logging on. The account manager assigns the home group when a user name is first defined. |
| **host** | The computer or computer system that controls terminals and peripherals, such as tape drives. |
| **HPGID.PUB.SYS** | The name of the POSIX group database file. This is where all account names and their associated GIDs are stored. This file is automatically created when updating to 5.0. |
| **HPUID.PUB.SYS** | The name of the POSIX user database, where the *user.account* names and associated UID numbers are stored. |
| **hung terminal** | A terminal that fails to respond to normal keyboard entries. |
| **implied RUN** | The ability to run a program without explicitly using the MPE/iX `RUN` command. For example, rather than entering `RUN EASYTIME.PUB.SYS`, you can simply enter `EASYTIME.PUB.SYS` or even `EASYTIME.` |
| **indicator lights** | Lights that indicate system or tape drive status. The computer indicator lights are the four horizontal lights at the top of the front panel of the computer. |
| **Initial Program Load Software (IPL)** | The software that initializes the boot path and gets the system ready for loading the operating system. |
| **Initial System Loader (ISL)** | The software that is used to boot the operating system or to perform a memory dump to tape. |
| **input** | The information or data that is entered into the computer. |

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| **input/output (I/O)** | Input or output. Usually refers to the process, data, or devices used to achieve communication between the computer and an external source. |
| **input priority** | A number in the range of 1 (lowest priority) to 14 (highest priority) assigned to a job either by the system or by the user. Input priority, which is assigned with the `INPRI` option in the `!JOB` command line, must be higher than the system jobfence for a job to run. For the default jobfence value, which is 7, the input priority would likely be 8 (`INPRI=8`). Jobs with an input priority less than or equal to the system jobfence are deferred or, in HP Easytime/iX, put On Hold. |
| **interactive** | An interactive session allows users to enter commands and data at the terminal and receive an immediate response. |
| **interactive access** | IA capability: A default capability given to accounts and users to allow users to begin sessions with the `HELLO` command. |
| **interface** | The method of joining computer equipment and peripherals together to allow them to communicate with each other. |
| **internal disk drive** | The primary disk drive for the computer. For the HP 3000 Series 9X8LX, it is physically located within the computer box itself. It is identified to the system as `MPEXL_SYSTEM_VOLUME_SET`. |
| **internal error** | A programming error within a program. A printed report is generated whenever an internal error occurs. |
| **job** | A file containing multiple system and subsystem commands to be processed without user intervention. When a job is started, it executes independently of the user's session. Jobs are used to compile source programs, modify files, or perform |

other functions that do not require user interaction. See also **batch processing** and **stream**.

**jobfence**
A limit established to manage the priority of jobs. If a job has an input priority higher than the jobfence, the job runs. If a job has an input priority less than or equal to the jobfence, the job does not run. The default value for the jobfence is 7. See also **input priority**.

**job file**
A file used to define a job to the system. It must start with a `JOB` command and end with an `EOJ` command. A special character such as an exclamation point (!) must precede the `JOB` and `EOJ` commands.

**job file name**
Name given to each job file when it is defined to the system (created).

**job limit**
A number that identifies the maximum number of jobs allowed to run on the system. The system administrator can restrict system usage by limiting the number of jobs allowed to run on the system. If the job limit is set to 0 (zero), no additional jobs can log on to the system.

**job number**
A system-assigned identification number given to each job when it is submitted for processing.

**keyboard**
A device attached to a terminal and used to input data to communicate with the system. It contains alphabet keys similar to those on a typewriter. It also contains number keys, function keys, and other special purpose keys.

**keyword**
A word assigned a specific meaning by the operating system, a subsystem, a computer language, or a utility.

**keyword parameter**
A word that has special meaning and modifies or restricts a command. It may appear in any order in the command line but it must be preceded by

a semi-colon (;). The phrase ;`PASS`=*password* is
an example of a keyword parameter. The user
must supply the value for "*password*". See also
**parameter** and **positional parameter**.

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| **kilobyte** | A unit of measurement that describes file size. Each kilobyte (Kbyte) equals 1024 characters. File size in HP Easytime/iX is measured in kilobytes. |
| **laser printer** | A type of printer that prints output one page at a time, using laser technology. |
| **LDEV number** | LDEV stands for logical device number. See **logical device number**. |
| **line editor** | An editor that processes data one line at a time. In a line editor, you must press (Return) to end one line of text and to begin another. EDIT/3000 is an example of a line editor. |
| **line printer** | A type of printer that prints output one line at a time. |
| **list box** | A rectangular area displaying a list of objects related to the current HP Easytime/iX function, such as, a list of files. List boxes can also display a list of choices within a dialog box. Every list box contains a scroll bar on the right edge or bottom edge of the list box. Use the scroll keys to browse through the contents of a list box. |
| **local area network (LAN)** | A collection of computer equipment interconnected by data communication channels, sharing resources such as printers and disk drives. |
| **local mode** | A standalone method of terminal operation. A terminal is operating in local mode when it is not connected to the computer. See also **remote mode**. |
| **lockword** | A word used as a security device on files. A lockword can be assigned to a file when it is created or renamed, and must be supplied to regain access to the file. The word may be from one to eight |

alphanumeric characters long and must begin with an alphabetic character.

**logical device number (LDEV)**   A number assigned to each peripheral of a computer system and used for identification purposes. The console usually has a logical device number of 20. Although LDEV numbers are not usually displayed in HP Easytime/iX, you may see them in console messages.

**log off**   A method of ending a session with the HP 3000 by using the `BYE` or `EXIT` command.

**log on**   A method of starting a session with the HP 3000 by using the `HELLO` command. When you log on, you identify yourself to the computer by typing a user name and account name, plus a group name if necessary.

**logon identity**   A security device used to verify users to the system. A logon identity includes a valid user name and account name in the form *user.account*.

**logon prompt**   An initial prompt (`MPE XL:`) that indicates the computer is ready to begin a session. See also **prompt** and **system prompt**.

**loop**   A circular repetition whereby an instruction in a software program leads to another (or others) and then back to the first instruction, which starts the sequence all over.

**Main menu**   An HP Easytime/iX menu that provides access to every screen in HP Easytime/iX. You can access the Main menu from the menu bar on any HP Easytime/iX screen.

**MANAGER.SYS**   The user and account from which you can manage disks, devices, and the account structure for your Hewlett-Packard computer. You must log on as `MANAGER.SYS` to enable HP Easytime/iX as well

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|  | as to perform other specific tasks that cannot be accomplished from any other account. |
| **matrix security** | A mandatory security mechanism where access is established at the account, MPE group and file levels. Typically, access is more restrictive as you move down from account to group to file. Matrix security allows a System Manager to shut off a certain access to all users by disallowing it at the account level. A released file is emempt from matrix security. |
| **menu** | A list of items from which you can choose HP Easytime/iX tasks. Menu names appear on the menu bar in the upper left corner of the screen. |
| **menu bar** | A horizontal bar containing the names of all HP Easytime/iX menus. The menu bar appears directly below the title bar on your screen. |
| **message line** | A line on the screen that displays information about what is happening on the system. In HP Easytime/iX, the message line appears at the bottom of your screen directly above the function key labels. |
| **modem** | Originally an acronym for modulator/demodulator, a device connected to the computer and to a telephone communication line for the purpose of transferring data (in the form of digital signals) between computer equipment and over common telephone lines. |
| **native mode (NM)** | Native mode execution means that a program or procedure directly calls the machine's native instruction set. |
| **NL.PUB.SYS** | The operating system's XL (executable library). The NL is the final point for binding external procedures. |

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| **MPE/iX** | Multiprogramming Executive with Integrated Posix. The operating system for the 900 Series HP 3000 computers. MPE/iX manages all system resources and coordinates the execution of all programs running on the system. |
| **node management services configuration manager (NMMGR)** | A software configuration utility used to configure connections through the DTC for the 900 Series HP 3000 computers. |
| **nonshareable device capability** | ND capability: A capability assigned to accounts and users. It allows account members to own nonshareable devices. A nonshareable device, such as a terminal, can be used by one user at a time. |
| **object** | A generic term for files, directories, root, MPE groups and accounts. |
| **offline** | Pertaining to equipment, devices, or persons who are not in direct communication with the central processing unit of a computer. For example, a printer or tape drive that is not connected (or not switched on) is offline. |
| **online** | Pertaining to equipment, devices, or persons who are in direct communication with the central processing unit of a computer. For example, a printer or tape drive that is connected (and switched on) is online. Online also refers to data stored in memory that is updated as soon as it changes and is, therefore, constantly current and accessible. |
| **operating system** | A software program that enables the computer to run. It allows the computer to communicate with users, run application programs, and manage system resources. All subsystems run within the operating system. See also **MPE/iX**. |
| **OPERATOR.SYS** | The logon identity for the user and account from which you work at the console. It is usually assigned OP capability rather than SM capability. |

With OP capability, you can manage console messages and requests without having the system manager capability of `MANAGER.SYS`, which has broader powers over the system and should be used cautiously.

**optional parameter**  A parameter that is not required when entering a command. In MPE/iX reference manuals, optional parameters appear within brackets `[ ]`.

**Options menu**  An HP Easytime/iX menu that provides a list of tasks that allow you to set and save HP Easytime/iX settings, such as, the HP Easytime/iX printer.

**outclass priority**  A value in the range of 1 to 13 used to determine if a job's error listing will print. If the outclass priority is higher than the system outfence value, the error listing will print.

**outfence**  A number in the range of 1 (lowest priority) to 14 (highest priority) used to control access to the system printer. If a job or print file does not have an output priority higher than the system outfence (default 7), its output will not print.

**output**  The information or data that results from the computer processing. Output is usually sent to a printer, or to a file for storage or future processing.

**output priority**  A number in the range of 1 (lowest priority) to 13 (highest priority) assigned to an output spool file either by the system (a default value) or by a user. The output priority is used by MPE/iX to determine the order in which files are to be printed.

**overwrite**  A method of erasing and replacing an existing file. If a file is saved under a name that already exists on disk, the new file overwrites the existing file.

**paging**  A method to limit the amount of data appearing on the terminal screen. One full screen is considered a

page. This method is in contrast to the scrolling of data.

**parameter**  A value used with a command, which then uses that value in calculations or while operating according to a particular qualification. See also **keyword parameter** and **positional parameter**.

**parser**  A program that evaluates input, such as a string of characters, to see that it follows the rules of syntax.

**pathname**  The POSIX equivalent to a file name. Pathname can refer to the complete, "fully qualified" name (absolute pathname), or the name relative to your CWD (relative pathname).

**partial backup**  A tape copy of all user and system files that have been changed since the last full backup. It may be created by using HP Easytime/iX or the MPE/iX `STORE` command.

**password**  A form of security. A password is set with the `;PASS` parameter during creation of an account, user, or group. The system uses passwords to verify the identity of a user, group, or account. A user with SM capability can use the `LISTACCT` command to see account passwords.

**perform**  To carry out an HP Easytime/iX task by selecting a menu item or function key.

**peripheral**  A hardware device that is attached to and controlled by the host computer. Peripherals include terminals, disk drives, and printers. See also **device**.

**permanent file**  A file that is stored on disk and has an entry identifying it in the system directory. To delete a permanent file from the system, use the `PURGE` command.

**pipe**  A pipe consists of two file descriptors connected such that data written to one can be read by the other in a first-in-first-out sequence.

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| **positional parameter** | A word that has special meaning and modifies or restricts a command. Its order in the command line signifies the meaning of the value. A comma serves as a placeholder for positional parameters that are being omitted. In the command line `LIMIT ,12`, the comma before the 12 is a placeholder for the number of jobs which value is not specified here. See also **parameter** and **keyword parameter**. |
| **primary boot path** | The disk that serves as the storage medium from which the operating system (plus other system files) is loaded into the computer's main memory. See also **alternate boot path**. |
| **printer** | A hardware device used for printing output. Various types of printers are available for use with MPE/iX. |
| **print file** | Files that users have requested for printing, but which have not yet printed. Print files are sorted according to priority (queued) and listed in HP Easytime/iX on the Print File Management screen. See also **spool file**. |
| **process identification number (PIN)** | A number assigned by the operating system to a process when the process is created. This number is used with the `REPLY` command in response to a request, which displays the PIN after the second slash in the request line. It is used most frequently for replies to tape requests. |
| **program** | A sequence of instructions that tells the computer how to perform a specific task. |
| **programmer** | A person who writes sets of instructions (programs) telling the computer how to perform a specific task. |
| **prompt** | A character(s) or symbol displayed on the terminal screen indicating that the system is ready for a command. In MPE/iX the default system prompt after logging on is a colon ( : ). Subsystems have different prompts. See also **logon prompt** and **system prompt**. |

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| **PUB group** | The public group of an account. Programs and files that are available to all users of the account reside here. |
| **PUB.SYS** | The public group of the system account. Programs and applications that are available to all users of the system reside here. |
| **pulse** | A regular pulsing of a front panel light — half-second on, half-second off— as opposed to *flashing*, which is irregular. |
| **queue** | A line of jobs waiting to be processed. Jobs waiting in a line (queue) are usually processed on a first in, first out basis or by priority, if specified. For example, the output produced by a program is generally stored on disk in a queue until a printer becomes available. As output from a job is printed, the next job in priority is selected and processed. |
| **read-and-write tape** | A tape that is ready to be written on (and read). The recognition tab on a read-and-write tape should cover the hole so that the hole is closed. See also **write-enable**. |
| **read-only tape** | A tape that is protected from being written to, and that can only be read. The recognition tab on a read-only tape should be to the side of the hole so the hole is open. See also **write-protect**. |
| **record** | A collection of data treated as a unit and residing in a file. A file consists of one or more records. Each record contains one or more fields which display data related to a specific object. For example, in HP Easytime/iX, each listing of a print file, job, or session is one record.' |
| **released** | A file is released via the :RELEASE command, which disables group and account level security. The inverse operation is performed by the :SECURE command. |

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| **remote mode** | A method of terminal operation. A terminal is operating in remote mode when it is sending to and receiving data from a remote (or host) computer. See also **local mode**. |
| **requests** | Messages from the system that require a user response. If HP Easytime/iX is enabled, requests are displayed on the Console Management screen. Requests can also appear when you are performing tasks, such as backing up or storing files on tape. |
| **required parameter** | A parameter that is required when entering a command. In MPE/iX reference manuals, required parameters appear within braces `{ }`. |
| **restore** | To bring back files that have been stored on tape (copied from tape to disk) by using the `RESTORE` command or the task `Restore` on the File Management screen in HP Easytime/iX. |
| **root (/)** | The origin of the directory structure. Root cannot be protected by an ACD. Object names under root cannot exceed 16 characters in length. Only SM can create objects under root. If a pathname begins at root, it is an absolute pathname. |
| **run (noun)** | The execution of a computer program. |
| **run (verb)** | To submit or send a job or program to be executed. |
| **save file capability** | SF capability: Assigned to users and accounts allowing users to save the files that they create. |
| **scheduling** | A method of determining when a job will be processed by the computer. Jobs are scheduled by using parameters of the `STREAM` command. |
| **screen** | The terminal display that shows information from the computer. In HP Easytime/iX, each area of management is displayed on a screen (accessible from the Main menu). Through screens you can access information about the current status of the system and perform system management tasks. |

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| **scroll** | A way to roll data up or down on the terminal screen. See the *Getting Started HP 3000 Series 9X8LX* (B3820-90003) for a list of the scroll keys on your keyboard. |
| **scroll bar** | A bar that appears on the right edge and/or bottom edge of a list box indicating the amount of data displayed. |
| **security** | MPE/iX provisions to protect the system from unauthorized use. The most basic level of security includes organizing files into groups and users into accounts, both of which may be assigned a password. Security also refers to the ability to read, write, append, lock, save, and execute files. |
| **select** | In HP Easytime/iX, to choose an object by pressing `F3` `Select`, `Return`, or `Spacebar`. |
| **self-test** | A sequence of tests that the computer, a terminal, or a printer runs when you turn it on. The self-test checks that the device is working correctly. |
| **session** | An interactive way of communicating with a computer. In a session, commands are entered through the keyboard, and the computer responds by displaying an action or a message on the terminal's screen. You begin a session on the HP 3000 with the `HELLO` command and end it with the `BYE` command. |
| **session limit** | The maximum number of sessions allowed to log on at any given time. This is set with the `LIMIT` command. |
| **session name** | An optional identification method for a session. A session name may be specified when logging on in the form *session,user.account*. |
| **session number** | A system-assigned identification number given to each new session as it is logged on to the system. |

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| **shell (.2 Shell)** | A program that serves the purpose of the Command Interpreter, but is POSIX compliant. Currently the shell must be run from the Command Interpreter. |
| **small computer system interface (SCSI)** | A standard interface for small computers. (The acronym SCSI is pronounced *scuzzy*.) |
| **soft keys** | See **function keys**. |
| **soft reset** | A method of resetting a computer or a terminal. A soft reset initializes various functions but does not reset the memory or interrupt pending input/output operations. See also **hard reset**. |
| **software** | A set of computer instructions. Software programs are concerned with the operation of a computer and provide it with instructions on how to perform specific operations. |
| **source file** | A file that is being copied from, as with the `COPY` command. It is the original file, which is being duplicated. See also **target file**. |
| **spooler** | A program that manages printing on your system. When many users send files to be printed, the spooler program organizes these files according to priority, storing them until they each print in turn. |
| **spool file** | A file on the disk drive that is being stored there temporarily before being sent to an output device, such as a printer. Output spool files can print in turn while the computer continues to be used by other users. In HP Easytime/iX, this file is called a print file. In MPE/iX, spool files (when saved or deferred) are stored in the `OUTGROUP` of the `HPSPOOL` account. `136.OUT.HPSPOOL` is a sample spool file name, where `136` is a sample spool file identification number. |
| **spooling** | A method of managing the printing of jobs. Multiple users can send output to a printer, and |

the output is redirected to spool files on disk. The output is printed on a priority basis as the printer becomes available. Users can proceed with other processing activities without waiting for the printer.

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| **stabilizing** | The process of leaving tapes in a new environment for a minimum of two hours before using them, so that they adapt to the new temperature and humidity. This helps avoid problems of condensation. |
| **$STDIN** | A system-defined name for an input device, usually a terminal. |
| **$STDLIST** | A system-defined name for the device used to receive the job or session listing. The listing device is usually a printer for batch jobs and a terminal for sessions. |
| **store** | To save a copy of one or more files on tape by using the MPE/iX STORE command or the task Store on the File Management screen in HP Easytime/iX. |
| **stream** | A method of running a batch job. A batch job is begun from a session or a job by using the STREAM command or by using the HP Easytime/iX command Start. Once a job is streamed, it executes as a separate process without any further user input or supervision. See also **job**. |
| **streams** | A streams device is a bi-directional, character oriented connection between a file and typically a device driver. |
| **subcommand** | A command performed under another command. For example, the EDIT/3000 MODIFY command enables you to use the D (delete), I (insert), and R (replace) subcommands. |
| **subject of an ACD** | The target of an ACD rule. For example, :ALTSEC file1: repacd=(R:mgr.test) restricts all users |

logged on as *mgr.test* to being granted only read access to FILE1. *Mgr.test* is the ACD subject.

**subsystem**  A system-supported utility or program. The MPE/iX EDIT/3000 is an example of a subsystem.

**symbolic link**  A file that points to another directory object (e.g., file, group, account, directory, symbolic link). When a symbolic link name is encountered in a pathname it is substituted with its target name.

**syntax**  A set of rules defining the structure of a language, an instruction, or a command.

**SYS account**  A special account on the HP 3000 Series 9X8LX that is included with the system when it is first installed. It contains all of the files for system-supported subsystems, utility programs, and compilers.

**system backup**  The process of storing all files on the system (the operating system, subsystems, user files, and system directory) onto an offline media, such as a tape.

**system console**  See **console**.

**system-defined files**  Files defined by MPE/iX and made available to all users. They indicate standard input or output devices, special temporary files, and files opened for output that do not perform an actual write operation.

**system error**  An error that occurs during the call of a system routine. A system error may abort your session of HP Easytime/iX. A printed report is generated whenever a system error occurs.

**system generator (SYSGEN)**  A system utility that creates system load tapes. It is used during the setting up process for the Series 9X8LX to create a system recovery tape. Only system administrators that have been trained in HP system management tasks should use SYSGEN for any other reason.

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| **system manager capability** | SM capability: A capability required for installing the computer, creating accounts, and assigning capabilities and resource limits to each account created. |
| **system processing unit (SPU)** | Another term for central processing unit. SPU does not refer to the system console or any other peripheral devices. See also **central processing unit**. |
| **system prompt** | Usually a colon (:). See also **prompt** and **system prompt**. |
| **system recovery tape** | The tape that you create after you boot and start the system for the first time. This tape should be stored safely in case of damage to the operating system, the subsystems, and add-on programs that you customize during installation. The procedure for using it to recover a system should be performed only by HP personnel or a trained system manager. |
| **system verifier** | A program that examines the connections made during the setup of the HP 3000 Series 9X8LX. |
| **tape** | A medium for storing information. The computer reads and writes from tapes inserted in a tape drive. |
| **tape drive** | A hardware device used to store and restore data from disk to tape and from tape back to disk. Your computer has a tape drive built into the same box as the computer. |
| **target file** | A file that is being copied to, as with the `COPY` command. It is the duplicate file, which is a copy of the source or original file. See also **source file**. |
| **task** | A specific operation that is performed by selecting an HP Easytime/iX menu item or function key. Also used as the general term for performing an action on the computer with one or more MPE/iX commands. Copying a file is a sample of a task. |

**temporary file**    A file that exists only for the duration of a session or job. There is no entry in the system directory for a temporary file.

**terminal**    A hardware device consisting of a keyboard and a display screen. It is used for entering data to and receiving data from the computer.

**title bar**    The first line displayed on an HP Easytime/iX screen (or dialog box). It tells you your current location.

**trailer**    The last page printed when output is directed to a line printer. It contains the session name (if specified), session number, log on identification, day of the week, date, and time. It corresponds to the header printed as the first page of a document.

**truncate**    To cut off or shorten data. If too many characters appear on a line, they may not all be recognized by the system or printed as output. To avoid a long command line from being truncated, use the ampersand character (&).

**type manager**    A file system module responsible for handling all file system operations for a particular type of file. Operations include: read, write, control, close, etc.

**user defined command (UDC)**    A collection of one or more Command Interpreter (CI) commands given a name, which must begin the first line of the UDC. One or more individual UDCs are placed in the same file, which is "catalogued" by the :SETCATALOG command. The CI searches for UDCs before built-in commands and command files.

**unattended backup**    A backup that is not only scheduled to be performed at a specific time but also does not require user response to the tape request necessary for the backup. The tape drive used in this backup must be configured with the AUTOREPLY mode. Only trained system managers should configure the system and its devices.

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| **user** | A person logged on to the computer. Each user is identified by a user name and account name. |
| **user command** | A user command is a user-defined command (UDC) or a command file created to execute one or more MPE/iX commands. See also **command file**. |
| **user-defined command (UDC)** | A header specified in a special text file that lists one or more MPE/iX commands. When this UDC file is cataloged, the header(s) in it can be entered at the system prompt and the associated MPE/iX commands will execute. |
| **user error** | An error that occurs during the normal operation of the computer and that is generated by the user doing something incorrectly. |
| **user identification (UID)** | A unique identification for every user on the system. POSIX implements this as a number. MPE/iX currently maintains both a number in the HPUID.PUB.SYS database for use by POSIX applications (and process signals),and a string ID in the form of `user.account` for all other needs. |
| **utility** | A system program that performs specific functions such as copying files, sorting or merging data, analyzing a memory dump, or monitoring available disk space. |
| **View menu** | An HP Easytime/iX menu that allows you to display and sort objects on the screen. |
| **volume** | A term for disk. Volume (disk) management is an advanced concept that is concerned with organizing the storage on disk of system, subsystem, and user files. |
| **volume set** | A group of related disks. MPE/iX requires that the system volume set, `MPEXL_SYSTEM_VOLUME_SET` be present on the system in order to boot and run the system. For the HP 3000 Series 9X8LX, this system |

volume set is defined for the internal disk before shipment.

**VOLUTIL**
Volume Utility: A subsystem that provides for the management of volume sets (disk drives).

**warn message**
A message sent from the system console to all users. A warn message interrupts all sessions on the system.

**welcome message**
A message created to appear each time a user logs on to the system. It usually contains a greeting and important system information.

**wildcard characters**
Special characters that are used to replace a character or set of characters. Traditional MPE wildcard characters are: "@" - match zero or more of any legal character, "?" - match a single legal character, and "#" - match a single numeric character. POSIX syntax expands the range of legal characters to include lowercase, "_", "." and "-". A range or group of characters is expressed as "[abc]", or "[a-c]", which both indicate to match the letters "a", "b" or "c".

**window**
An HP Easytime/iX term that refers to rectangular work areas through which you can perform tasks and manage your system. The two kinds of windows in HP Easytime/iX are screens (accessed from the Main menu) and dialog boxes. See also **dialog box**.

**word**
A term used for 32 bits (4 bytes) of information on MPE/iX operating systems.

**word processor**
A utility program that supports the creation, change, or deletion of letters, memos, reports, and other written documents.

**write-enable**
A method of allowing information to be written onto a tape. See also **read-and-write tape**.

**write-protect** A method of preventing information from being erased from a tape or being added to the tape. See also **read-only tape**.

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