

Concurrent™ PC DOS

E X P A N D E D M E M O R Y

USER'S GUIDE



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Thank you for licensing Concurrent™ PC DOS Expanded Memory (XM) from Digital Research®

Concurrent PC DOS Expanded Memory (hereinafter called Concurrent) is an advanced operating system for IBM® Personal computers and IBM-compatibles. Unlike DOS, (either PC-DOS or MS-DOS™) which is a single-tasking operating system, Concurrent supports **multitasking**, which means you can run up to four interactive DOS applications at once. Concurrent also provides **windows** which are simply areas of your terminal's screen from which you can run and monitor output from application programs. Concurrent's unique user interface lets you enter DOS-like commands, or select commands from menus.

Concurrent has been designed especially for computers that use expanded memory boards. Concurrent supports both the Expanded Memory Specification (EMS) and the Enhanced Expanded Memory Specification (EEMS) which allow a process to address memory that would otherwise be unavailable in the processor's normal 1Mb address space.

Hardware Requirments

Concurrent runs on the IBM PC, PC/XT, PC/AT and 100%-compatible systems. To take full advantage of Concurrent's multitasking capability, your system board should have 640K of conventional (RAM) memory and a hard disk. To run applications with the EEMS, your system board should have 256K of conventional memory with the remainder backfilled by an expanded memory board.

Concurrent PC DOS XM Contents

This package should contain the following items:

- Concurrent DOS 86 XM User's Guide
- Concurrent DOS 86 XM Reference Guide
- Four double-sided, double-density distribution disks
- Registration card
- End User Program License Agreement

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CONCURRENT™ PC DOS EXPANDED MEMORY

USER'S GUIDE

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Before You Begin

Concurrent™ PC DOS Expanded Memory (hereinafter called Concurrent) is an advanced operating system for IBM.. Personal computers and IBM-compatibles. Unlike DOS* which is a single-tasking operating system, Concurrent supports **multitasking**, which means you can run up to four interactive DOS applications at once. Concurrent also provides **windows** which are simply areas of your terminal's screen from which you can run and monitor output from application programs. Concurrent's unique user interface lets you enter DOS-like commands, or select commands from menus.

Concurrent has been designed especially for computers that use expanded memory boards. Concurrent supports both the Expanded Memory Specification (EMS) and the Enhanced Expanded Memory Specification (EEMS) which allow a process to address memory that would otherwise be unavailable in the processor's normal 1Mb address space.

WHAT KIND OF HARDWARE DO YOU NEED

Concurrent does not require a hard disk, but it is recommended for convenience. Concurrent requires at least one floppy disk drive from which to start the operating system for the first time.

* In this guide, DOS refers to either PC-DOS or MS-DOS™

Since Concurrent is shipped on double-sided floppy disks, if you have single-sided floppy disk drives, you will need to use another computer with double-sided drives to make single-sided copies.

To take full advantage of Concurrent's multitasking capability, your system board should have 640K of conventional (RAM) memory. To run applications with the EEMS, your system board should have 256K of conventional memory with the remainder backfilled by an expanded memory board.

WHAT YOU NEED TO KNOW

This guide assumes you are already familiar with personal computers, including the general terminology used to describe hardware and software. You should be familiar with the documentation that accompanies your system before proceeding.

WHAT'S IN THIS GUIDE

This guide contains general information about Concurrent's requirements and features. Section 1 tells you how to install Concurrent on your system. Section 2 gives a brief introduction to Concurrent's features. Section 3 explains how to use the File Manager, the menu-driven user interface.

Section 4 describes DR EDIX, a text editor. Section 5 describes Cardfile, a name and address filer. Section 6 describes the Printer Manager, a print program. Section 7 describes how to create and modify your own menus. Appendix A lists the files required to use the Startup Menu, the File Manager and other Concurrent features. Appendix B lists the Concurrent error messages. Appendix C contains information about running specific applications under Concurrent. Appendix D provides guidelines for installing and using expanded memory boards with Concurrent.

WHERE TO FIND MORE INFORMATION

For detailed reference information on each of Concurrent's commands, see the Concurrent PC DOS Expanded Memory Reference Guide cited as the Reference Guide.

NOTATION CONVENTIONS

Examples use **boldface blue** type to represent information that you type into your computer, and blue type to represent information that your computer displays on the screen.

The figures in this manual might vary slightly from the screens you see on your video display.

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Installing Concurrent

This section helps you install Concurrent and configure it for your computer. The installation procedure is menu-driven, and includes instructions for installing Concurrent on either floppy-disk or hard disk systems, as well as backing up your distribution disks.

Note: Installing Concurrent does not affect the present configuration of your system. You should leave DOS and its associated files on your system.

ON A FLOPPY DISK SYSTEM

To install Concurrent on a system with two floppy-disk drives, complete the following steps:

1. Place the distribution disk labeled "Startup Disk" in drive A.
2. Press Ctrl-Alt-Del simultaneously, and wait for Concurrent to display the title screen.
3. Press the F10 function key to select the main installation menu.
4. At the main installation menu, press the F4 function key to install Concurrent on a floppy disk, then follow the menu instructions.

ON A HARD DISK SYSTEM

To install Concurrent on a hard disk system, complete the following steps*:

* It is a good practice to back up your files whenever you work extensively with your hard-disk.

1. Place the distribution disk labeled "Startup Disk" in drive A.
2. Start your computer and wait for Concurrent to display the title screen.
3. Press the F10 function key to select the main installation menu.
4. At the main installation, select F2 to install Concurrent on a hard disk system, then follow the instructions from the menu.

During the installation process, Concurrent copies the following system files from the Startup disk to the hard disk's root directory:

CCPM.SYS	EMM.SYS	STARTUP1.BAT	STARTUP4.BAT
CCONFIG.SYS	LOADXM.COM	STARTUP2.BAT	STARTUP5.BAT
CONFIDD.CMD	BATCH.CMD	STARTUP3.BAT	STARTUP6.BAT

Concurrent modifies the existing AUTOEXEC.BAT file by adding the command:

```
LOADXM ASK
```

See the Reference Guide for information about LOADXM. Concurrent also creates a subdirectory on the hard disk named "CON-DOS" and copies into it the other system utilities from the Startup disk.

After the installation is complete, Concurrent displays a message on how to restart your computer to begin using Concurrent. At that time, you might want to use the commands PATH and ORDER to adjust the way Concurrent looks for files. The Reference Guide describes these commands.

Note: To use Concurrent's special memory paging with an expanded memory board you must run the program SCEPTER from Concurrent's command line after you start your system. See the Reference Guide for information about SCEPTER, and Section 2 "Expanded Memory" for information about using expanded memory boards.

STARTING CONCURRENT

To start Concurrent in a computer with two floppy-disk drives when the power is off, follow these steps:

1. Insert the Startup Disk into drive A.
2. Now close the drive doors and turn the power on. When Concurrent finishes loading, a copyright screen appears for a few seconds, and then the Startup Menu appears.

To start Concurrent in a computer with two floppy-disk drives when the power is already on, follow these steps:

1. Insert the Startup Disk in drive A.
2. Press Ctrl-Alt-Del simultaneously.

To start Concurrent from a hard disk when the power is off, just turn the power on. To start Concurrent from a hard disk when the power is already on, press Ctrl-Alt-Del simultaneously.

Startup Files

When you start Concurrent, it looks for six batch files with special names: STARTUP1.BAT for window 1, STARTUP2.BAT for window 2, STARTUP3.BAT for window 3, STARTUP4.BAT for window 4, and STARTUP5.BAT and STARTUP6.BAT for the serial terminals. Each batch file contains commands that are run from the specified window.

You can use these startup files to arrange your windows, define function keys, set the system date and time, and perform other preliminary tasks that define the particular configuration of your computer. You can create and edit startup batch files just as you create and edit any batch file.

If you start Concurrent from a CP/M medium (see Section 2 "DOS and CP/M Media"), store your startup files in User 0 of that drive.

If you start Concurrent from a DOS hard disk partition, store your startup files in the partition's root directory.

The Reference Guide explains how to use the BATCH command. Section 2 explains how Concurrent uses windows.

CONFIGURING YOUR SYSTEM

When you connect printers, modems, and plotters to your computer, use the SETPORT command to configure a serial port according to the requirements of a specific device. The SETUP command lets you save the settings you make with SETPORT so that those settings are in effect each time you start Concurrent.

Connecting a Printer

Concurrent supports up to five printers--three parallel and two serial. To keep track of printers used in different windows, Concurrent assigns a number to each printer. Numbers are assigned in ascending order, starting with 0. Port numbers are designated by your hardware. The port numbers with their corresponding printer numbers are given in Table 1-1.

Table 1-1. Port and Printer Numbering

Port Number	Printer Number
0 - Parallel	0
1 - Parallel	1
2 - Parallel	2
0 - Serial	3
1 - Serial	4

Before you use a serial printer, use SETPORT to configure your serial port according to the specifications of your printer. As indicated in Table 1-1, SETPORT calls the serial printer connected to serial port 0, printer 3. The printer connected to serial port 1 is printer 4.

When you start Concurrent, the default printer for each window is the first printer installed in your system. Use the PRINTER command to change the default printer for a given window.

One program can use a single printer at a time. If you have more than one printer, you can assign different printers to different windows and print files concurrently.

Connecting Serial Terminals

Concurrent lets you install serial terminals as part of your system. They can be used as work stations for additional users or as remote work stations, when connected to a modem.

There are two ways to get multiuser capability. One way is to connect additional terminals to your serial port. The other way is to connect a modem to a serial port. You can then dial the main computer from the remote terminal. You can also use a combination of these methods.

To install a serial terminal, use SETPORT to configure the serial port according to the terminal's requirements. Then run SETUP. SETUP allows you to set each serial port to be an auxiliary or printer port, or a serial terminal.

After designating an appropriate serial port as a serial terminal port, you can use SETUP to save the port configuration you made in SETPORT. By saving your selections, that port configuration is in effect each time you start Concurrent.

They can be used as workstations for additional users or as remote workstations. There are certain limitations to the use of serial terminals. For instance, you cannot switch windows on a serial terminal and no status line appears. Also, screen-oriented programs (those that write directly to the screen) do not run on additional terminals. However, all serial input/output programs work well.

If you have a serial-console system, see the MULTIUSER topic in the HELP command for instructions on how to configure a multiuser system.

Attaching a Hard Disk

To attach a hard disk to your computer that is not automatically supported by Concurrent, you must edit the CCONFIG.SYS file and specify

```
FIXED-DEVICE= driver.fil
```

where **driver.fil** is the name of the hard disk device driver supplied in the hard disk's documentation.

Make sure that CONFIDD.COMD, CCONFIG.SYS, and the device driver are all in the root directory of your Startup Disk (either floppy or hard disk).

Connecting Other Devices

Concurrent supports serial devices that can provide input to and accept output from your computer. Such devices include modems, plotters, and video display terminals.

You can use PRN or LST with printers and some plotters. The PRINTER command assigns printer 3 (serial port 0) or printer 4 (serial port 1) to the PRN device.

Use the SETPORT command to set up the serial ports for your specific needs, regardless of which logical device you use to access a serial device.

INSTALLING APPLICATIONS

Perform the following steps to install application programs under Concurrent:

1. Copy each application's program files.
2. Place the text files in the desired directory.
3. Configure applications for terminals (if necessary).
4. Assign passwords (if file security is required).
5. Create batch files.

The first two steps are different on floppy-disk-only systems than they are on hard-disk systems and are described separately below. The last three steps are the same for both kinds of systems.

The description of text file placement (step 2) describes the storage of text files on drive D in user numbers. User number 0 on CP/M drives is special; program files stored there can be accessed from any user number as long as the drive is specified in the path. Files in all other user numbers are only accessible when that user number is current.

User numbers are not available on drive C, the DOS partition. Instead, you have the root directory and named subdirectories in which to store program and text files. See the MKDIR and CHDIR descriptions in the Reference Guide for explanations of subdirectories, how to create them, and how to use them. To have global access to program files on the DOS partition, record them in any subdirectory, and place the drive and directory name in the search path with the PATH command.

If your computer has floppy drives only, skip to "...on Floppy-only Systems."

On Hard-disk Systems

If the system is not running, turn it on. When the Startup Menu is displayed, press the Esc key to exit and display the command-line prompt.

Before installing any new applications, use the following steps to restore program and text files removed before the hard disk was formatted:

1. Copy all program files, except for those applications that do not run under Concurrent, to a drive or subdirectory that is included (or will be included) in the search path (user 0 for CP/M disks).
2. Copy all text files for these applications to an appropriate work disk or directory where you plan to use the application. However, before doing so, see "Placing Text Files" below for a description of the use of user numbers.

Use either PIP or COPY to copy the files. Use USER to change source and destination user numbers; use CHDIR to change the current source or destination directory.

Note: Do not transfer command or utility files provided with your previous operating system to CP/M media; Concurrent's commands replace them. If you need to maintain a DOS operating system environment, copy your DOS command files to a DOS subdirectory on DOS media only.

Now, put the application manufacturer's disk in drive A and enter the following:

```
D>COPY A:*. * D:
```

User numbers let you organize your text files into related groups on CP/M media. To organize text files by application, select a different user number for each application. Next, put the application manufacturer's disk in drive A and use COPY in the following form to copy the text files to drive D.

```
COPY A:filespec D:/5
```

which copies the selected file to drive D:, user 5.

To run each application, you must first run the USER command to change user numbers and then invoke the program. Subdirectories on DOS media work even better, and do not limit you to only 15

subdivisions. To copy an application to a subdirectory, first create the subdirectory with MKDIR, then copy the application files to it. For example,

```
C>MKDIR STUFF
C>COPY A.*.* STUFF
```

creates a directory called "STUFF" and copy all the application files from disk A: to the directory "STUFF".

On Floppy-only Systems

Before you install the application, read its installation instructions to determine how much space its program and text files require. Also, add in the size of the Concurrent command files, such as PIP or COPY, SDIR, BATCH, and so forth, you need to have on the disk. If the required program and text files take up more than 360 kilobytes of space, you will need two disks to run the application. Otherwise, you can get by with one.

Note: Text files grow in size as you run the application and add information. Consider leaving 100 kilobytes empty on all disks. If this puts you over the 360 kilobyte limit on a disk used for both program and text files, consider keeping text files on a separate disk.

Each application and text file disk must be formatted before you can use it. Note that you can format the disks with either the DOS or CP/M formats. The DOS format gives you a bit more space per disk, subdirectories, and automatic time and date stamping. However, you cannot have password protection for the files on that disk. The CP/M format lets you have password protection and user numbers instead of subdirectories, but time and date stamping is not automatic.

Most programs, whether designed to run under DOS or CP/M, can be recorded on disks with either format. However, there are some DOS programs that require the DOS format. Determine which format you need for each application from the program's manual. Subsequently, use the DSKMAINT command to format your disks.

If you select the CP/M format and want to have time and date stamping, you must also run INITDIR and FSET.

DSKMAINT is a self-explanatory, menu-driven command used to copy and format disks. Press F7 in the DSKMAINT Main Menu to format disks. If you have questions about the format options, see the DSKMAINT description in the Reference Guide. The Reference Guide also contains the INITDIR and FSET descriptions.

Note: Before copying program files, read through "Configuring Applications for Terminals" below and your application's manual to determine if any program preparation is required. If so, complete the preparation before copying the application files.

Put the Concurrent disk with the COPY.CMD file on it in drive A, enter COPY, and press Enter. After the COPY prompt is displayed, replace the Concurrent disk with the manufacturer's disk in drive A and a blank, formatted disk in drive B. Enter each copy command in the following form:

A:filespec B:

Replace "filespec" in your command with the program file's filename and extension. Wait for the COPY prompt to reappear before entering another command and copy all of the application's program files.

Repeat this procedure for each application. You can change the drive A and B disks without terminating COPY; however, never remove a disk unless the COPY prompt is displayed.

To terminate COPY, press the Enter key when COPY is waiting for input. This returns the command-line prompt to the screen.

Use the same procedure described above to copy an application's text files to the program file disk or a separate text file disk. Be sure to leave enough space on the disk for the text files to grow.

To run an application, load Concurrent from the daily startup and then replace it with the application's set of program and text file disks. Refer to the application's manual for its operating instructions. Do not remove any disks from the system unless instructed to do so or until the application has been exited.

Configuring Applications for Terminals

Some applications have special configuration programs or procedures that prepare the program to run on a specific kind of terminal. The application's installation instructions describe any preparation procedures. If terminal installation is necessary, follow the application's instructions to create a version for the console or terminal the program will run on.

If you must configure the application for more than one kind of terminal or a console and a terminal, be careful--you might need different versions of the same program. This poses a problem because you cannot have two files with the same name. To solve the problem, use the REN command to give each terminal version a different name. Some installation programs also let you make up different names for the different terminal versions.

End of Section 1

Concepts and Features

This section describes the main features of Concurrent. Like DOS, Concurrent performs three basic functions:

- runs application programs such as word processing, database management, and spreadsheets.
- keeps track of files you create and use.
- controls the peripheral equipment connected to your computer such as video display screens, printers, and modems.

In addition, Concurrent has a number of unique features:

- Concurrency, or multitasking, which allows you to run more than one application at the same time.
- Windows, which allow you to see more than one program at a time on your computer screen.
- Expanded memory support, which allows a program to access memory beyond the 640K limit imposed by DOS.
- Dual media support, which allows you to access files on DOS as well as CP/M © media disks.
- Menu-driven user interface, which allow you to run your computer by making choices from lists, rather than learning computer jargon.

Note: This guide contains only brief descriptions of Concurrent commands; for detailed descriptions, refer to the Reference Guide.

MULTITASKING

Concurrent is a multitasking operating system, which means that multiple programs reside in memory simultaneously. Using a technique called **time-slicing** Concurrent runs each program for a very short time (1/60th of a second), then gives control to another program, so that each program has a chance to run. To the user, it appears as if each program runs alone. When running multiple programs, the total combined size of the programs cannot be greater than the range of memory used by application programs (from address 256K to address 640K). Thus, three 100K programs could run simultaneously, but not two 250K programs.

WINDOWS

Windows are simply areas of your computer's screen from which you can run and monitor the screen output from your applications. Concurrent gives you four windows that enable you to run as many as four different interactive programs at once. You can switch windows as you switch channels on a television set.

When you start Concurrent, you see window 1. You can switch to any of the three other windows, windows 2, 3, or 4, by pressing the Ctrl key while you press 2, 3, or 4 on the numeric keypad. Press Ctrl-1 to switch to window 1, Ctrl-2 to switch to window 2, and so on. The **FUNCTION** command, described in the Reference Guide, lets you change your window-switching keys.

When you first start Concurrent, your windows are exactly the size of your video display. We describe these windows as being full screen. When a full-screen window appears on your screen, we say that it is in the **foreground**. When a full-screen window is invisible to you, we say that it is in the **background**. The most important distinction between the foreground and background window is that only the foreground window can accept keyboard input.

Concurrent has two commands that allow you to modify your windows: WMENU, which is menu-driven, and WINDOW, which is command-line oriented. These commands let you move the window borders to shrink windows, expand them, hide them, or change foreground and background colors.

WINDOW and WMENU also let you write the contents of a window--full-screen or the portion within borders--to a file. With a single command, you can create a batch file that arranges your windows just as they are at the moment you enter the WINDOW or WMENU command. See the Reference Guide for details on WINDOW and WMENU.

EXPANDED MEMORY

Like DOS, Concurrent manages the conventional memory (from 0 to 640K) in your computer. Concurrent also supports two types of expanded memory: EMS and EEMS.

EMS stands for Expanded Memory Specification which is also called the LIM specification because it was developed jointly by Lotus® Intel® and Microsoft®. EMS memory is called **paged** memory because it maps the physical memory from an expanded memory board onto 16K pages of memory in a special location above 640K. Four of these pages (64K) can be accessed at a time. Some application programs such as Lotus 1-2-3 version 2.0 and Symphony version 1.1 are specially written to take advantage of expanded memory.

EEMS stands for Enhanced Expanded Memory Specification which is also called the AQA specification because it was developed jointly by Ashton-Tate®, Quadram®, and AST® Research. EEMS is a superset of EMS because it uses expanded memory as conventional memory. EEMS uses up to 64 16K pages and moves as many pages as can fit at a given time into conventional memory.

Concurrent is specially designed to support the Enhanced Expanded Memory Specification (EEMS). Concurrent allows the entire program area to be used for paging application programs. Every 1/60th of a second, when Concurrent gives control from one program to another, it also disables the EEMS memory used by the program being switched from, and enables the EEMS memory of the program being switched to. Thus, you can run four 300K programs simultaneously, if you have an expanded memory board with 1200K (4 x 300K) of memory.

Note: In order for Concurrent to support EEMS memory paging, you must allow the expanded memory board to supply as much of your system's conventional memory as possible in the range used by application programs because Concurrent converts this conventional memory to paged memory when you start the system. This may require you to **remove** or **disable** conventional memory that is already installed in your system in the application program area beyond address 256K.

DOS AND CP/M MEDIA

DOS media include disks formatted under DOS or DSKMAINT's DOS formatting options and DOS hard-disk partitions. CP/M media are CP/M-formatted disks, CP/M hard-disk partitions, and MDISKs.

Most Concurrent features are available to you whether you store your files on one type of media or another. However, certain features are either defined differently or are not available when dealing with one kind of media or another. Table 2-1 shows the basic differences between DOS and CP/M media. These differences are explained in more detail following the table.

Table 2-1. DOS and CP/M Media

DOS	CP/M
Hierarchical subdirectories	User Numbers
Automatic Time/Date stamping	Optional Time/Date stamping
Passwords not supported	Passwords supported

Working with DOS Media

DOS media consists of floppy disks prepared with Concurrent's DSKMAINT command or the FORMAT command. DOS media also refers to DOS hard-disk partitions prepared with Concurrent's HDMAINT or the DOS FDISK command. With files stored on DOS media, you can use a hierarchical directory structure and have automatic time stamping.

Each DOS medium has a single directory, called a root directory, that is created at the time the medium is formatted. Concurrent allows you to create one or more subdirectories beneath a root directory. Concurrent has three commands that provide support for subdirectories: MKDIR, RMDIR, and CHDIR. MKDIR allows you to create a subdirectory. RMDIR allows you remove a subdirectory. See "Moving among DOS Directory Levels" in Section 3 for detailed information.

On DOS media, each drive has a current directory, which is the root directory unless you change it with the CHDIR command. CHDIR allows you to change your current directory and to display the path of your current directory on any drive. The path is a hierarchical sequence of directories, from the root directory to the current directory.

Working with CP/M Media

With your files stored on CP/M media, you can use user numbers, passwords, and optional time-stamping. You can use either CP/M formatted floppy disks or CP/M hard disk partition to start Concurrent.

You can use user numbers to separate files stored on CP/M media into 16 file groups. All files on CP/M media are identified by a user number that ranges from 0 to 15. Concurrent assigns a user number to a file when the file is created. Generally, the file is assigned the current user number, the number that appears in the command line prompt. When you are in user 0, no number appears in the command line prompt. You can change the current user number with the USER command as described in the Reference Guide.

Most commands access only those files that have the current user number. For example, if the current user number is 7, a DEL command can erase only the files in user 7. These exceptions are the PIP, COPY, PRINTMGR, and SDIR commands. These commands have options that allow them to access files in user numbers other than the current user number. These commands are described in the Reference Guide.

Time Stamping

The time stamps on CP/M media indicate when a file was created or the last time a file was accessed or modified. You must initiate time stamping separately for each CP/M-formatted disk or CP/M hard-disk partition. First run INITDIR and FSET. Then run TIME and DATE whenever you start your computer. The Reference Guide describes these commands.

Time stamps can use up to one fourth of the directory space on a CP/M-formatted disk or CP/M hard-disk partition. This means that a medium with time stamps can store fewer files than a medium without time stamps.

File Attributes

File attributes control how a file can be accessed. You should become familiar with two file attributes. The first one can be either DIR (Directory) or SYS (System); the second one can be either RW (Read/Write) or RO (Read/Only). Both attributes can be used with files stored on DOS and CP/M media.

When you create a file, it is automatically marked with the DIR attribute. Filenames marked with the DIR attribute are displayed in response to the DIR command. Files with the SYS attribute are displayed in response to DIR/S.

Note that SDIR without options and DIR/A produce a display of all files that exist in the current user number or current DOS directory.

The second file attribute is RW or RO. Concurrent does not let you erase, rename, or edit a file marked RO. Use the RO attribute to protect important files. A file with the RO attribute cannot be modified or erased until the disk or the drive is set to RW.

Concurrent offers a third kind of attribute, called the **archive** attribute. The archive attribute lets you determine whether a file has been backed up. When you make changes to a file, the archive attribute is turned off. You turn the archive attribute on when you copy a file with PIP or BACKUP. Use the FSET command to assign attributes to a file. See FSET or PIP in the Reference Guide for a complete discussion of the archive attribute.

Passwords

Concurrent lets you protect files stored on CP/M media with passwords. If two people are using Concurrent simultaneously, or if many people have access to your system, passwords enable users to protect their files from accidental erasure by other users. Passwords also allow managers and systems personnel to limit access to particular files.

A password is an optional part of the file specification. It always appears next to the filename in the file specification, separated from the name of the file by a semicolon. Passwords can contain any characters that can be used in filenames and file extensions. Passwords can be up to eight characters in length. In the following file specification, the password is KEATS.

```
A:ODE.URN;KEATS
```

Concurrent's FSET command has a password option that assigns a password to any file. You must use FSET to enable password protection for a disk before you can use password protection for files. See the Reference Guide for details on FSET.

Some commands accommodate file specifications in their command tails and accept passwords with your specified filename. For these commands, a command line can require multiple passwords to execute properly.

Most built-in Concurrent commands, most word processing and accounting packages, and other application programs running under Concurrent do not accept passwords in the command tail. To allow these programs to access password-protected files, Concurrent lets you set a default password for a file or set of files. This feature also frees you from typing the password each time you access password-protected files. Default passwords are further explained in the description of the FSET command in the Reference Guide.

Wildcards

Wildcards are symbols that represent all other characters. A file specification that contains wildcards can refer to more than one file because it gives Concurrent a pattern to match. Concurrent searches the disk and selects any file whose filename or file extension matches the pattern. This is useful when you want to perform an operation on a number of files at the same time.

The two wildcard characters are the question mark (?) and the asterisk (*). The rules for using wildcards are listed below:

- A question mark replaces any single character in a filename or file extension. For example, A?.TXT matches AA.TXT, AB.TXT, A.TXT, or any other file that has a one- or two-character filename beginning with an A and a file extension of TXT.
- An asterisk replaces the character in the same position as the asterisk plus any remaining characters in the filename or file extension. For example, AA.T* matches AA.TX, AA.TA, AA.TXT, AA.TXR, or any other file whose filename is AA and whose file extension starts with a T. The file extension can be one, two, or three characters long.

Suppose, for example, you have a disk with the following six files:

A.CMD	B.CMD
AA.CMD	A.A86
AAA.CMD	B.A86

The following file specifications match all or some of the above files:

- | | |
|--------|--|
| *.* | is treated as ????????.??? and matches all six names. |
| *.CMD | is treated as ????????.CMD and matches the first four names. |
| ?CMD | matches A.CMD and B.CMD. |
| ?.* | is treated as ?.??? and matches A.CMD, B.CMD, A.A86, and B.A86. |
| A?.CMD | matches A.CMD and AA.CMD. |
| A*.CMD | is treated as A???????.CMD and matches A.CMD, AA.CMD, and AAA.CMD. |

FILES

As in DOS, Concurrent filenames consist of one to eight characters in uppercase or lowercase. You can use letters and numbers, but avoid using any of the following characters, which have special meanings to Concurrent:

< > = , : ; * ? & ! [] () / . \$ \ ~

The optional file extension can be one to three characters long; it follows the filename and is separated from the filename by a period. You can use either letters or numbers in the file extension. Table 2-2 lists the file extensions used by Concurrent. You should avoid using these file extensions when you name your own files.

Table 2-2. Common File Extensions

Extensions	Descriptions
.\$\$\$	Temporary or incorrectly-closed file. Many application programs write temporary files on the disk during their operation.
.BAK	Backup file created by a text editor.
.BAS	File containing a Personal BASIC™ or CBASIC™ program.
.BAT	File containing one or more commands that Concurrent executes sequentially.
.CMD	CP/M-86® program file.
.COM	DOS command file.
.EXE	DOS program file.

DRIVES

To the user, a drive is either a slot in which to insert a disk or an area in the system unit that contains a hard disk. To Concurrent, a drive is a place to look for files. When it searches for a file, Concurrent does not distinguish between floppy disks, hard disks, or memory disks.

Drive Designation

Concurrent supports up to four floppy-disk drives and two IBM-compatible hard-disk drives. Other drives may be supported with suitable device driver software.

Concurrent designates drives according to the following principles:

- Concurrent designates disk drives by letter, starting with the letter A and continuing in alphabetical order.
- Concurrent designates DOS partitions on one or more hard disks in alphabetical order, starting with the letter C. For systems with more than two floppy-disk drives, DOS partitions are designated starting with the first letter following the highest-lettered floppy-disk drive.
- Concurrent designates CP/M partitions on one or more hard disks in alphabetical order, a letter for each CP/M partition. If you have one hard disk and one or two floppy-disk drives, Concurrent designates the CP/M partition as drive D. With three floppy-disk drives and a hard disk, the CP/M partition is E; with four floppy-disk drives and a hard disk, the CP/M partition is F.
- If you have two hard disks and one or two floppy-disk drives, Concurrent designates CP/M partitions starting with E. With three floppy-disk drives and two hard disks, CP/M partitions start with F; with four floppy-disk drives and two hard disks, CP/M partitions start with G.

For example, in a system with one floppy-disk drive and one hard-disk drive, Concurrent designates the floppy-disk drive as A. A DOS partition is drive C and a CP/M partition is drive D.

In a two-floppy-disk-drive system, the left-hand drive is drive A; the right-hand drive is B. Additional floppy-disk drives would be drives C, D, and so on.

In a system with two floppy-disk and two hard-disk drives, the floppy-disk drives are A and B. DOS partitions, if they exist, are C and D. The CP/M partitions, if they exist, are E and F.

For systems with only one floppy-disk drive, Concurrent does not map a "phantom" drive B to the same drive as drive A, as DOS does.

Floating Drives

Concurrent supports a special type of drive called a **floating drive**, which enables you to designate a subdirectory with a drive letter (N or O). For example, the command:

```
A>CHDIR N:=C:\PAYROLL\DEPT8
```

sets the floating drive N to be the subdirectory named \PAYROLL\DEPT8 on drive C. A subsequent command such as:

```
A>COPY N:*.DAT A:
```

copies all the .DAT files from B:PAYROLL\DEPT8 to drive A.

You can use the floating drive L: (load drive) to designate the drive where an application program searches for its overlays or associated data files, since it always points to the subdirectory from where the last program was loaded.

The memory drive, MDISK, is always referred to as drive M. MDISK is described later in this section.

Current Drive

When Concurrent searches for a file, it looks on the **current drive**. You can determine which drive is the current drive by examining the top of the File Manager Menu or the drive prompt in command mode. (Section 3 describes the File Manager.)

At any given time, one drive (the current drive) is associated with each window. Unless you put a drive specification in your command line, Concurrent and its commands look first in the directory of the disk in the current drive for all your program and text files.

The command prompt, A> means that the A drive is the current drive. The following input changes the current drive to C:

A>C:

The command line prompt message then appears as:

C>

The File Manager Menu displays a directory of the files contained on the disk in the current drive. You can change the current drive whenever you want to see the directory of a disk on another drive or whenever you want to use a file on another drive. You change the current drive by selecting the DRIVE SELECTION option from the File Manager Menu.

MDISK, The Memory Drive

An MDISK is an area you reserve in your computer's memory that, to Concurrent, looks and behaves like a disk drive. The advantage of having an MDISK is that Concurrent can access files residing in memory faster than it can access files on disk. You can COPY or PIP files to and from the MDISK, look at the MDISK directory with DIR, and perform all the commands you usually use with your disk drives. In commands, or when logging to the MDISK, refer to drive M.

MDISK is not permanent storage. Because MDISK exists in your computer's memory, the contents of MDISK disappear when power to the computer is turned off. If you store files in an MDISK, make sure that you copy those files to disk before turning off the power to your computer or performing a system reset. See **SETUP** in the Reference Guide for an explanation of how to install an MDISK.

Path Assignment

Concurrent assigns one drive as the initial path whenever you start Concurrent. The path is the drive where Concurrent looks for program and batch files if those files are not found in the current drive. Program and batch files are files with the extensions **CMD**, **COM**, **EXE**, and **BAT**. Note that the search does not include a program's overlay files or text files. If your commonly used program and batch files are on more than one disk or subdirectory, you can change the path to encompass additional drives and subdirectories in the command search.

On DOS media, you can make any DOS directory a part of the search path. See the **PATH** command in the Reference Guide. On CP/M media, files must be stored in user 0 to be accessible from the path assignment. The initial assignment of the path varies according to the configuration of your system. For all configurations, the initial system drive is the drive whose letter appears in the command line prompt when you start Concurrent.

In a computer without a hard disk, the path defaults to **A:**. In a computer with one or more hard disks, the system drive is assigned to the drive from which you load Concurrent.

You can include a **PATH** command in a startup file that will assign the path to the drive of your choice, including subdirectories on DOS media, each time you start Concurrent.

How Files Are Accessed

When you type a file specification in a command tail, the command or application program usually looks for the specified file in the drive indicated by the command line prompt, called the current (or default) drive. For example, if you type the command

```
A>DIR POEMS.BLY
```

DIR looks in the directory of the disk in drive A for POEMS.BLY. You can use either uppercase or lowercase letters.

If your file is not on the disk in the current drive, you need to tell Concurrent to access a different drive. Concurrent lets you precede a filename with a drive specification, which is the drive letter followed by a colon. For example, in response to the command

```
A>DIR C:STAFFORD.LTR
```

DIR looks for the file STAFFORD.LTR in the directory of the disk in drive C. You can also precede the name of a program or a batch file with a drive specification. For example, if you type

```
A>C:HELP
```

Concurrent looks in the directory of the disk or hard disk in drive C for the file HELP.CMD. If Concurrent finds HELP.CMD in drive C, it loads HELP into memory and executes it.

Notice that you need not type an executable program's file extension for Concurrent to load it into memory and run it. This is also true for batch files. See "Command Search Path," below for more information on Concurrent's method of accessing executable program files and batch files.

Command Search Path

If you specify a drive in a command line, Concurrent looks for the command's program file only on the specified drive. On CP/M media, Concurrent searches only the current user number. On DOS media, Concurrent searches only in the current directory of the specified drive.

If you do not specify a drive, Concurrent looks for program and batch files first in the default directory, then in each directory specified in the PATH (see the Reference Guide).

Within a directory, on either kind of media, Concurrent searches for program and batch files in the following sequence of file extensions:

1. CMD
2. COM
3. EXE
4. BAT

When you enter the filename of a program or batch file at the command line prompt, Concurrent searches for a matching filename with a file extension of CMD. If Concurrent does not find the filename with a CMD file extension, it continues its search in the order listed above.

If you have two programs, or a program and a batch file, with the same filename, you can invoke the program whose file extension is lower in the search order. To do this, include the file extension along with the program's filename in the command line.

The ORDER command lets you change the sequence of file extensions Concurrent uses to search for program and batch files. See the Reference Guide for details on the ORDER command.

Changing Floppy Disks

You can replace a disk in a drive whenever the status line indicates that no program is accessing a file on that drive. If you remove a disk that contains open files, the programs accessing these files will be disrupted. If you were creating files on that disk, you might lose data in these files. Therefore, you should always consult the open-file space on the status line before removing a disk. Make certain that no program in any window has open files on the disk that you want to remove.

COMMANDS

Like DOS, Concurrent commands are either built-in, or the names of executable program files. Table 2-3 shows the correspondence between DOS and Concurrent commands. For those commands with no Concurrent equivalent, you must revert to DOS if the specific functionality is required.

Table 2-3. Correspondence of Concurrent and DOS Commands

DOS Command	Concurrent Command
ASSIGN	No equivalent
BACKUP	BACKUP
BATCH	BATCH
BREAK	Use Ctrl-C
CHDIR	CHDIR
CHKDSK	CHKDSK
CLS	CLS
COMP	No equivalent
COPY	COPY
CTTY	No equivalent

Table 2-3. (Continued)

DOS Command	Concurrent Command
DATE	DATE
DEL	DEL
DIR	DIR
DISKCOMP	No equivalent
DISKCOPY	DISKCOPY
EDLIN	DR EDIX
ERASE	ERASE
EXE2BIN	No equivalent
FDISK	HDMAINT
FIND	FIND
FORMAT	FORMAT
GRAPHICS	No equivalent
MKDIR	MKDIR
MODE	SETPORT, WINDOW, or WMENU
MORE	No equivalent; use DOS
PATH	PATH
PRINT	Use PRINTMGR or TYPE with I/O redirection
PROMPT	PROMPT
RECOVER	No equivalent
RENAME	RENAME
RESTORE	BACKUP
RMDIR	RMDIR
SET	SET
SORT	No equivalent
SYS	No equivalent
TIME	TIME
TREE	TREE
TYPE	TYPE
VER	No equivalent
VERIFY	No equivalent
VOL	No equivalent

The following commands are unique to Concurrent and have no DOS equivalent:

ADDMEM	DSKMAINT	ORDER	SUSPEND
AUX	EDITMENU	PRINTER	WINDOW
BANK	ERAQ	RETURN	WMENU
CARDFILE	FM	RUNMENU	8087
CHSET	FSET	SCEPTER	
COMPAQ	FUNCTION	SDIR	
COMSIZE	HELP	SETPORT	
COPYMENU	INITDIR	SETUP	
DELO	LOADXM	STOP	

The Reference Guide describes all the Concurrent commands in detail.

Line-editing Commands

Table 2-4 lists the control character commands Concurrent provides for editing the command line.

Table 2-4. Line-editing Commands

Character	Function
CTRL-S	Move one character to the left.
CTRL-D	Move one character to the right.
CTRL-A	Move one word to the left.
CTRL-F	Move one word to the right.

Table 2-4. (Continued)

Character	Function
CTRL-Q	Move to the beginning of the line.
CTRL-W	Move to the end of the line.
CTRL-H	Delete character to left of cursor (same as Backspace).
CTRL-G	Delete character to right of cursor.
CTRL-T	Delete word.
CTRL-Y	Delete line.*
CTRL-U	Delete to beginning of line.
CTRL-K	Delete to end of line.
CTRL-V	Insert/overstrike mode on/off.
CTRL-E	Move up in command history buffer*.
CTRL-X	Move down in command history buffer*.
CTRL-M	Enter command line (entire line is entered)*.
CTRL-J	Same as CTRL-M*.
CTRL-R	History buffer search mode on/off for the current line. After entering the line, the search mode returns to the default.

Table 2-4. (Continued)

Character	Function
CTRL- <u> </u>	Toggles the default search mode on/off and sets the current line's mode to the new default. The initial default is to begin each line with the search mode off.

* saves line in history buffer if modified

Concurrent has a command-line history buffer that saves as many command lines as possible for review or retrieval with CTRL-E and CTRL-X. The actual number of lines saved varies according to the length of the lines. Search mode (CTRL-R) searches the history buffer for a certain string. Either type the characters you want to search for, or use the up/down arrows (or CTRL-E and CTRL-X) to step you through the matching entries. The end-of-buffer is indicated by only the search string on the command line.

Control Character Commands

Concurrent has control characters that perform a variety of functions. For example, with the control character commands you can start and stop screen scrolling, switch windows, or echo the screen display at the printer. Table 2-5 summarizes control character commands.

Table 2-5. Control Character Commands

Control Character	Function
Ctrl-C	Stops the currently running program. When pressed following a Shift-PrtSc, stops output to printer.
Ctrl-Del	After the Window Manager is loaded, you can use Ctrl-Del to change the foreground, or switched-in window from partial screen to full screen. When you press Ctrl-Del a second time, the window returns to its former size and location. You can use Ctrl-Del while you are in an application program or at the operating system level.
Ctrl-O	Stops video output to a window until another key is pressed. Any program running in that window continues to run.
Ctrl-P	Sends screen output to the printer and to the screen. A second Ctrl-P cancels the effect of the previous Ctrl-P.
Ctrl-+	When the Concurrent status line is displayed, Ctrl-+ brings you to the WMENU main menu so that you can make changes to your windows. Ctrl-+ works whether you are in an application program or at the operating system level. The Window Manager must be loaded before Ctrl-+ takes effect.
Ctrl-Q	Restarts screen output after being halted with Ctrl-S.

Table 2-5. (Continued)

Control Character	Function
Ctrl-S	Stops screen output. If the program is writing to the screen, it will pause. If the display on your screen scrolls too quickly for you to read, press Ctrl-S. Press Ctrl-Q to continue output.
Ctrl-Break	Same as Ctrl-C.
Shift-PrtSc	Copies the switched-in window and sends it to the printer. Prints a window that is the full size of the screen. You cannot switch windows while the Shift-PrtSc function is printing. Press Shift and PrtSc simultaneously.
Ctrl-1	Switches to window 1. Use the keypad key number 1. You can change the keys used to switch windows with the FUNCTION command.
Ctrl-2	Switches to window 2. Use the keypad 2.
Ctrl-3	Switches to window 3. Use the keypad 3.
Ctrl-4	Switches to window 4. Use the keypad 4.

Function Keys

Concurrent lets you set 50 combinations of programmable function keys (PFKs) on the personal computer keyboard. PFKs let you invoke any Concurrent command with just one or two keystrokes, as if you had typed the full command after the command line prompt or entered the string as input to an application program. The PFKs consist of the following keys and key combinations:

- The 10 keys labeled F1 through F10 on the left side of the keyboard. These keys can be used in combination with the Shift, Ctrl, and Alt keys. When you start Concurrent, keys F1 through F10 have default values shown below:

F1	HELP	F6	CHKDSK
F2	FM (File Manager)	F7	DIR/W/A
F3	FUNCTION	F8	SCEPTER
F4	WMENU	F9	DIR/A
F5	DSKMAINT	F10	STOP

Use the FUNCTION command to change or assign values to all PFKs and to read their assigned values.

- At the operating system level, the 10 keypad number keys on the right side of the keyboard can be either PFKs or number keys. To use these keys as PFKs, Num Lock must be off. To use these keys as number keys, Num Lock must be on. NUM appears on the status line if Num Lock is on.

When you press one of the F1 through F10 function keys, you can generate commands as long as 20 characters. The remaining 40 function keys, the numeric keypad keys, and the Ctrl-, Shift-, and Alt-function key combinations can generate strings that are four characters long.

Each window has its own PFKs; that is, to program function keys for window 1, you must run FUNCTION from window 1; to program PFKs for window 2, you must run FUNCTION from window 2.

See SETUP in the Reference Guide for information on setting function key definitions so they take effect each time you restart Concurrent (default definitions).

Note: Many function keys have different uses within the various menus; however, each use is clearly described on each of the menu screens. Also, some application programs might assign values to function keys that take precedence over assignments made with FUNCTION.

INPUT/OUTPUT REDIRECTION

In normal operation, you enter input at the keyboard and see output displayed on the console screen. You can, however, change this process by "redirecting" input or output to different destinations, such as a file or device.

You can redirect input or output by typing a Concurrent command followed by one of the symbols `>`, `>>`, and `<`, then a file specification or appropriate device. There must be no space between any of these symbols and the character following it.

The form of the command line for I/O redirection to a file is:

```
COMMAND >FILESPEC
```

For example, the command:

```
A>DIR >DISK.LST
```

takes the root directory listing of the default drive A generated by DIR and sends it to the file DISK.LST instead of displaying it on the screen.

The command:

```
A>SHOW >DISKSTAT.DAT
```

takes the output of the SHOW command and puts it in a file called DISKSTAT.DAT.

I/O redirection in the form:

```
COMMAND >>FILESPEC
```

appends the output of the command to the end of the file specified. For example, the command:

```
A>DIR B: >>DISK.LST
```

adds the directory listing of drive B to the end of the file created earlier for drive A.

The command:

```
A>TYPE INDEX.DAT >>BOOK.TXT
```

appends a file containing an index to a file containing the book itself. The resulting BOOKS.TXT file now contains the contents of both files in the order shown.

I/O redirection in the form:

```
COMMAND <FILESPEC
```

allows you to create files of input parameters that can then be automatically read into a command.

For example, in the command:

```
A>FORMAT A: <FMT.INP
```

the **FORMAT** command takes its input from the file **FMT.INP**. This file contains instructions to begin formatting and to terminate the program when through. This type of file can also be included in a batch file.

The form of the command line for I/O redirection to a device is:

```
COMMAND >DEVICE
```

For example, the command:

```
A>DIR B: >PRN:
```

sends the root directory listing of drive B to the printer.

When redirecting output, you can specify two output files if they are separated by a plus sign. For example, the command:

```
C>DIR >a:\path\d1.fil+d2.fil
```

redirects **DIR**'s output to the files **D1.FIL** and **D2.FIL**. Note that it is faster to redirect output to only one file and then use **COPY** to create the second file.

The command:

```
A>DIR/L >>c:\dir.lst+con
```

appends the long directory listing to the file **DIR.LST** while also displaying it on the console.

The command:

```
A>DIR/A/L >con:+aux:
```

sends **DIR**'s output to the console and the default auxiliary device.

The command:

```
A>TYPE file.txt >lpt4+lpt5
```

sends the file FILE.TXT to printers 3 and 4.

The command:

```
A>COPY <backup.inp >result+con:
```

uses the file BACKUP.INP as input, and sends the output to the file RESULT and the console.

End of Section 2

File Manager

The File Manager takes the most common computer commands and lists them in a menu. You can select commands from the menu by pressing a few keys, saving time and keystrokes. You can also enter commands directly at the command line prompt whenever you prefer to bypass the menu system. The File Manager contains set-up procedures for configuring your Concurrent system.

To invoke the File Manager, select F2, "File Manager," from the Startup Menu or type FM from the command line. The Main Menu of the File Manager then appears on your console. The Main Menu contains three parts: the command panel, object panel, and prompt panel. The Main Menu shown in the following figure is similar in format to the menu on your console.

DOS Media 253k	You are here ▶ A:\	▶ Help
BUSS.IDX CARDFILE.CMD CLEAR.BAT COPYMENU.CMD DRTALK.DIR DRTALK.EXE FDMENU.DAT FIRST.IDX NAME.IDX PHONE.IDX		File Directory Subset of Files Drive Selection Type File(s) Print File(s) Copy File(s) Rename File(s) Delete File(s) Backup File(s) Edit a File Run a Program Copy Diskette Format Diskette Free Memory Size/Date ON Set Up System
← Object Panel		
Command Panel →		
Prompt Panel		
↓		
Command: Help, Concurrent DOS Help System Esc= F1=HELP F3=Repeat F5=Run F7=Dir1 F9 =Directory EXIT F2=Type F4=Cancel F6=Edit F8=Dir2 F10=Command		

Figure 3-1. File Manager Main Menu

COMMAND PANEL

The command panel lists important Concurrent commands. When you invoke the File Manager, the cursor is always positioned at the top of the command panel, to the left of Help. Use the keypad arrow keys or the spacebar to move the cursor up and down the list of commands. The cursor highlights the command it points to. When the cursor points to the command you want to select, press Enter. Note that you can select only one command at a time. After you press Enter, the cursor either executes the command, or moves to the object panel. You can use the Tab key to move the cursor from the command panel to the object panel, and back, without selecting a command.

OBJECT PANEL

Within the object panel, use the keypad arrow keys or the spacebar to move the cursor from file to file. The object panel scrolls up and down if there are more files than can fit on the screen. When the cursor points to a file you want to select, press the Ins key. The file is then highlighted. You can select multiple files for some commands. If you want to cancel a selection, move the cursor to it and press Del. Then the file is no longer highlighted. Press Enter again to activate the command after you select all files. It is also convenient to use Enter to select just one file at the cursor position. If you have already selected a command, the action is executed; if not, you are prompted to select a command.

PROMPT PANEL

The horizontal panel at the bottom of the menu contains a prompt line, which is a description of the currently selected command. If necessary, the prompt line displays questions you need to answer to execute a command selected from the menu.

To bypass the menu system, press function key F10. The prompt panel displays a command line prompt, where you can type a command. See Table 2-4 for command-line editing commands.

Below the command line prompt are two legends of function keys that assist in the operation of each File Manager menu. The legends are shown in Figure 3-3, and the keys are described in Table 3-3.

Directly below the prompt panel is the Concurrent status line (not shown in Figure 3-1. The status line tells you which programs are running and highlights the application you are currently viewing, which drives you are currently logged onto, and whether a printer is connected to your computer. The status line also displays a digital clock.

CURSOR MOVEMENT KEYS

Table 3-1 defines the cursor movement keys used in the File Manager menu system. Note that most of the cursor movement keys described below are not displayed in the prompt panel. Refer to Table 3-1 when using the File Manager menus or use function key F1 to get Help.

Table 3-1. Cursor Movement Keys

Key	Effect
Esc	Stops any operation in progress and returns to the previous menu.
Tab	Moves the cursor between command and object panels.

Table 3-1. (Continued)

Key	Effect
Spacebar	In the object panel, moves the cursor one item to the right. If horizontal movement is not possible, it moves the cursor to the first item in the next row. In the command panel, pressing the spacebar causes the cursor to move from one command to the next.
Ins	Selects the object positioned at the cursor, and highlights it.
Del	Cancels the selection and removes the highlighting.
Enter	Selects the object at the cursor, and/or executes the command for all selected objects. The selected objects are highlighted.
Home	Moves cursor to top left item in list.
End	Moves cursor to bottom right item in list.
Up-arrow	Moves cursor up one item.
Down-arrow	Moves cursor down one item.
Left-arrow	Moves cursor left one item. If no item is there, the cursor moves to last item on row above.
Right-arrow	Moves cursor right one item. If no item is there, the cursor moves to first item on row below.

Note that the Up-arrow and Down-arrow keys do not change columns; if you press an Up- or Down-arrow key after reaching the end of a column, it has no effect.

Type the first letter of a filename in the object panel to move the cursor directly to that filename. If more than one filename begins with the same letter, type enough letters to uniquely identify it. Type the first letter of a name in the command panel to move the cursor to that command; type the second letter to execute the command. What you type is displayed in the prompt panel. It is not necessary to press **Ins** to highlight the item. Press **Enter** when you are ready to execute the command. The cursor can be anywhere in the object panel to select an item in this manner.

WILDCARDS

Another way to select files in the object panel is to use wildcards. To use this method, type an asterisk, *****, in place of a filename, file extension, or both. What you type is displayed in the prompt panel. Typing ***.TXT**, for example, selects all files of type **TXT**. Typing **PROG.*** selects all filenames named **PROG**, whatever their type. Typing ***.*** selects all files. The selection is not actually performed until you press the **Ins** key or **Enter**, so you have time to change your mind. Use the **Backspace** key to erase the request; then type a new selection. After pressing **Ins**, you can type another wildcard request to select additional files.

FUNCTION KEYS

Function keys provide a shortcut to execute commands listed in the command panel. One function key can replace several steps required to select a command with the cursor. Sometimes a function key is assigned by the File Manager to do something that could not be done any other way.

For example, the only way to get help for the Type File(s) command on the Main Menu is by using function key F1; the Type File(s) command does not list Help as an option on its own menu.

Function keys are always assigned a task in the context of their menu, except for F10, which always invokes the command line prompt. For example, the function key assignments displayed in Table 3-3 refer only to the Main Menu. Even F1, which is assigned to offer help from any screen, invokes Help in the context of the specific topic displayed on the menu. If the cursor points to Help in the command panel, F1 invokes the general Help Menu. If the cursor points to the Copy File(s) command, you receive help on that topic. If the cursor is in the object panel, you receive help on selecting objects.

DIRECTORIES

Your Concurrent system supports multiple directories on different drives, while the File Manager displays only one directory at a time. The File Manager uses function keys to display, view, or access the directories on other drives.

At any point in the File Manager, you can use function keys to select a particular drive, display the Drive Selection Menu, or change directories. Figure 3-3 shows the function keypad map for the Main Menu.

FILE MANAGER MENUS

When a command and its object(s) are selected from the Main Menu, a new menu sometimes appears. The sections that follow describe each command and its associated menu. Once you understand what each menu does and how it works, the File Manager becomes an efficient way to execute the most commonly used Concurrent commands.

Main Menu

Figure 3-2 displays a Main Menu. Note the three large rectangles containing the command, object, and prompt panels. Notice also the information displayed at the top of the object panel.

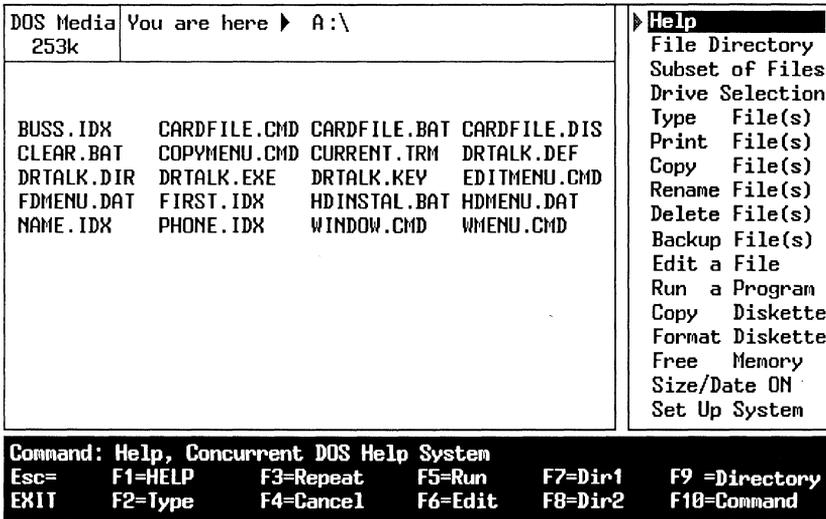


Figure 3-2. File Manager Main Menu

At the top left, the current disk is identified as CP/M or DOS media. The conventions for naming directories differ between CP/M and DOS.

Table 3-2 provides a brief introduction to the Main Menu for convenient reference.

Table 3-2. File Manager Main Menu Commands

Command	Purpose
Help	Provides explanations of Concurrent and File Manager operations.
File Directory	Selects, views, creates, or deletes a directory.
Subset of Files	Allows you to select a set of files.
Drive Selection	Selects a drive and views the root, or system, directory.
Type File(s)	Displays the contents of one or more files.
Print File(s)	Prints one or more files on the printer.
Copy File(s)	Duplicates one or more files and places them in another directory or drive. Can make copies of a file, give each copy a different name, and keep copies on one directory.
Rename File(s)	Changes file names, but not their location.
Delete File(s)	Permanently erases one or more files.
Backup File(s)	Copies one or more files from hard disk to floppy disk to archive the files, saving them against hardware malfunction or accidental erasure. Backup File restores files that have been saved; that is, it copies archived files from a floppy disk to the hard disk.

Table 3-2. (Continued)

Command	Purpose
Edit a File	Invokes DR EDIX to edit one file.
Run a Program	Runs, or executes, one file. File must have CMD, COM, EXE, or BAT extension.
Copy Diskette	Duplicates one or more disks.
Format Diskette	Prepares a disk for use.
Free Memory	Allows you to make sure that enough memory is available for programs running on different windows. Allows you to cancel a program when you cannot exit the program normally.
Size/Date ON	Allows you to switch back and forth between short and long directory displays. The default is the short directory format. Press Size/Date ON to select the long directory type. The long format displays the size and creation date for each file. Press command again (shown now as Size/Date OFF) to return to the short directory format.
Set Up System	Changes Concurrent system parameters and provides for disk maintenance. Keeps programs accessible from system disk.

Table 3-3 summarizes the function key assignments for the Main Menu. Remember that a function key might perform different actions in different menus. The following table applies only to the Main Menu. However, the Alt-function key assignments are available even when you are using a different menu. (Press Alt and the function key simultaneously.)

Table 3-3. Function Key Assignments for Main Menu

Function Key	Action
F1	Offers help using the Main Menu.
F2	Types selected files.
F3	Brings back previous set of selections.
F4	Clears all selected files.
F5	Starts the program (file) selected from the object panel. If no item is selected, you are prompted to select one.
F6	Invokes DR EDIX for the file selected in the object panel. If no file is selected, you are prompted to select one.
F7	Selects Directory 1. Directory 1 is set in the File Directory Menu. After you press F7 and Dir1 is displayed, the function key assignment for F7 changes temporarily to Dir Main. This feature allows you to access the Main Directory by pressing F7 a second time.

Table 3-3. (Continued)

Function Key	Action
F8	Selects Directory 2. Directory 2 is set in the File Directory Menu. After you press F8 and Dir2 is displayed, the function key assignment for F8 changes temporarily to Dir Main. This feature allows you to access the Main Directory by pressing F8 a second time.
F9	Displays the File Directory Menu.
F10	Moves the cursor to the command line prompt in the prompt panel, allowing you to enter command lines directly to the system. You can then return to the File Manager by pressing Esc.
Alt-F1	Offers help in using the Main Menu.
Alt-F2	Types selected files.
Alt-F3	Allows you to switch back and forth between short and long directory displays.
Alt-F4	Copies one or more files.
Alt-F5	Selects drive C.
Alt-F6	Selects drive D.
Alt-F7	Selects drive A.
Alt-F8	Selects drive B.

Table 3-3. (Continued)

Function Key	Action
Alt-F9	Displays Drive Selection Menu.
Alt-F10	Moves the cursor to the command line prompt, allowing you to enter command lines directly to the system.

The following figure is a quick-reference map of the function keys as they are defined with File Manager.

F1 HELP	F2 TYPE
F3 REPEAT	F4 CANCEL
F5 RUN	F6 EDIT
F7 DIR 1	F8 DIR 2
F9 DIRECTORY	F10 COMMAND

Press the function key only.

F1 HELP	F2 TYPE
F3 SIZE/DATE ON	F4 COPY
F5 DRIVE C	F6 DRIVE D
F7 DRIVE A	F8 DRIVE B
F9 DRIVE	F10 COMMAND

Press Alt and function key together.

Figure 3-3. Keypad Map for Main Menu

Help Menu

Help is found on each of the File Manager command panels. It offers general help on the other commands listed in the menu. After you select the Help command from the Main Menu, a new menu appears. To use Help, the file HELP.CMD must be on the system drive or current directory.

Press F1 to invoke Help when the cursor is in either the command or object panel. The type of help offered depends on the topic the cursor is pointing to. If the cursor is in the command panel, you receive help on that particular command. If the cursor is positioned in the object panel, you receive help on file, directory, or drive selection. After displaying the Help Menu, a prompt appears, allowing you to get information on additional topics. The Help prompt appears at the bottom of the menu, as follows:

```
HELP (Enter topic, ESC to exit)
```

To exit from Help, press Esc or Enter. If you want help on other topics, enter a new topic rather than exiting from Help with Esc. If you type in an unknown topic at the Help prompt, you get a list of Help topics available.

File Directory Menu

The File Directory command allows you to select a different file directory from the one appearing on the Main Menu. After the command is selected, a new menu appears. On the object panel, the current directory is highlighted to show you exactly where you are relative to other directory levels. Move the cursor around the list of directories to choose a new one. Press Enter when the cursor points to the file directory you want.

Normally, only one directory can be selected at a time with this command. However, if you press F2, you can view the contents of the directory that the cursor points to without selecting that directory.

The files for that directory are displayed in the lower portion of the object panel. If you do not press F2, the files on the current directory are displayed.

CP/M media use 16 directories, user numbers 0 through 15. In the File Manager, they are named Root, 1st Dir, 2nd Dir, 3rd Dir,...15th Dir if USER.TXT is not on your current drive or current directory (see Section 2 "CP/M Media"). Otherwise, USER.TXT displays the following names in place of the user numbers 0 through 15: System, Directory 1, Directory 2,...Directory 15. You can edit USER.TXT to show your own names (see Figure 3-4 below). All 16 directories are displayed on the menu under CP/M media. The first directory (user number 0) is called "System" to distinguish it from the others, because in CP/M, user number 0 is the root, or main, directory.

Table 3-4 summarizes the commands and their respective function key assignments for both DOS media and CP/M media file directory menus.

Table 3-4. File Directory Menu Commands

Command	Function Key	Action
Change Directory		The cursor is at the current directory, which is highlighted. Move the cursor to another directory selection and press Enter.
Help	F1	Offers help on File Directory selection. You can also press F1.

Table 3-4. (Continued)

Command	Function Key	Action
View Files	F2	Allows you to display the files in a directory without selecting that directory. You can also press F2.
Set Directory 1	F3	Assigns the Dir1 key, F7, to the directory at the cursor position.
Set Directory 2	F4	Assigns the Dir2 key, F8, to the directory at the cursor position.
Make Directory	F5	Creates and names a new DOS directory, then lists it on the File Directory Menu. The directory name cannot exceed 11 characters. This command requires DOS media.
Remove Directory	F6	Deletes the selected DOS directory, provided that it is empty (that is, the directory has no files or subdirectories in it). This command requires DOS media.

Naming CP/M Directories

Figure 3-4 shows an example of a USER.TXT file to rename CP/M user numbers.

System	This is the name for	User 0
	Directory 1	User 1
	Directory 2	User 2
	Directory 3	User 3
	Directory 4	User 4
	Directory 5	User 5
	Directory 6	User 6
	Directory 7	User 7
	Directory 8	User 8
	Directory 9	User 9
	Directory 10	User 10
	Directory 11	User 11
	Directory 12	User 12
	Directory 13	User 13
	Directory 14	User 14
	Directory 15	User 15

Figure 3-4. Naming CP/M Media Directories

The figure shows a 16-line file, USER.TXT, with one line per user number. The name you want for a directory should be placed on the line number corresponding to the user number, with the first line being the name for User 0, the next for User 1, and so forth. For example, Directory 3 is the name given to User 3; it could have been "Accounting" or any other appropriate name. If you supply names, you must name all the user numbers of a value lower than that one. In other words, there should be no intervening blank lines, but it is acceptable for the file to have fewer than 16 lines. For example, you can have seven lines for user numbers 0 through 6.

The file must be on User 0 of the disk for which the names apply. Each drive is treated separately, although you can place the same file

on each disk to have identical names for the user numbers throughout the system.

The directory name must not exceed 12 characters for CP/M media, but it can have spaces--unlike DOS media directory names. Also, lowercase characters are permitted. For example, accts payabl or Directory 10. DOS directories always appear in uppercase.

If a USER.TXT file is placed on DOS media, it is ignored.

Moving Among DOS Directory Levels

The following series of figures show you how to move to different DOS directory levels. The example displays the screens you see at each level. To begin, Figure 3-5 illustrates a hypothetical DOS directory with subdirectories. Their accompanying files are shown in parentheses.

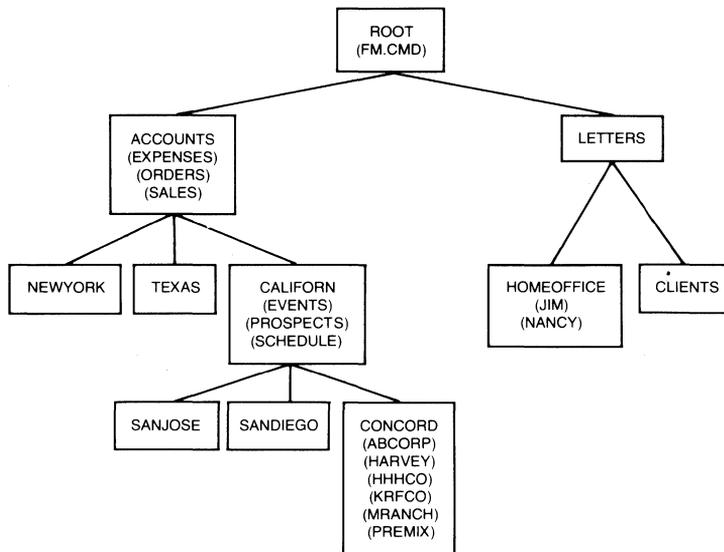


Figure 3-5. Example of a DOS Directory

To make this example more meaningful, assume you are looking for a file named MRANCH, which you want to print. Figure 3-6 shows the Main Menu in DOS media with the cursor on Help in the command panel. "You are here" indicates that you are at drive B and the root directory, and that the only file at this level is FM.CMD.

DOS Media 253k	You are here ▶ B:\	Help ▶ File Directory Subset of Files Drive Selection Type File(s) Print File(s) Copy File(s) Rename File(s) Delete File(s)
FM.CMD		

Figure 3-6. Root Directory for DOS Media

Now, move the cursor to File Directory in the Command Panel and press Enter. A new screen appears with different commands listed in the command panel. In the object panel, "Select a directory" displays the current directory level (ACCOUNTS and LETTERS). The file FM.CMD is in the current directory. Choose Change Directory in the command panel, as shown in the following figure. This command allows you to move to the next subdirectory level. The cursor points to ACCOUNTS, one of the two subdirectories available in this example. (Note that on some screens, function key F9 has an alternate assignment, Root Dir, which enables you to go directly to the root directory from any subdirectory level.)

DOS Media 253k	You are here ▶ B:\	Change Directory Help View Files Set Directory 1 Set Directory 2 Make Directory Remove Directory
Select a directory You are here Subdirectories . . . \ ▶ ACCOUNTS LETTERS		
Files on B:\		
FM.COMD		

Figure 3-7. Selecting the First Subdirectory

Press Enter with the cursor at ACCOUNTS and Change Directory highlighted in the command panel. Figure 3-8 displays the new screen that appears. At the top of the menu, "You are here" displays the drive (B) and the directory levels from the root to the current level (ACCOUNTS). The section below lists the files at the subdirectory level for ACCOUNTS: EXPENSES, ORDERS, and SALES.

DOS Media 253k	You are here ▶ B:\ACCOUNTS	Help ▶ File Directory Subset of Files Drive Selection Type File(s) Print File(s) Copy File(s) Rename File(s) Delete File(s)
EXPENSES ORDERS SALES		

Figure 3-8. Files on the First Subdirectory

Because none of the files at this subdirectory level is MRANCH, you need to search the next subdirectory level down. Select File Directory and a new screen appears (Figure 3-9). It has the same format as Figure 3-7. Under "Select a Directory", "Dir above" refers to the directory level above the current one (in this case, "\", the root

directory). "You are here" lists ACCOUNTS. Under "Subdirectories...", three are listed: CALIFORN, NEWYORK, and TEXAS. The files shown below this section of the menu are the same files as listed in Figure 3-8; that is, they are the files for the subdirectory level ACCOUNTS.

DOS Media 253k	You are here ▶ B:\ACCOUNTS		Change Directory
Select a directory			Help
Dir Above	You are here	Subdirectories . . .	View Files
\	▶ ACCOUNTS	CALIFORN NEWYORK	Set Directory 1
TEXAS			Set Directory 2
Files on B:\ACCOUNTS			Make Directory
EXPENSES	ORDERS	SALES	Remove Directory

Figure 3-9. Selecting the Second Subdirectory

Move the cursor to CALIFORN and then press Enter with the command Change Directory highlighted. A new screen appears (Figure 3-10) with the files listed for CALIFORN. The cursor points to Help and is highlighted. Again, because none of the files is MRANCH, you need to search the next subdirectory level down.

DOS Media 253k	You are here ▶ B:\ACCOUNTS\CALIFORN		Help
EVENTS PROSPECTS.S SCHEDULE			▶ File Directory
			Subset of Files
			Drive Selection
			Type File(s)
			Print File(s)
			Copy File(s)
			Rename File(s)
			Delete File(s)

Figure 3-10. Files on the Second Subdirectory

Move the cursor to File Directory and press Enter. The new screen (Figure 3-11) displays the subdirectories under CALIFORN: CONCORD, SANDIEGO, and SANJOSE. The cursor points to CALIFORN. Notice that the "Dir above" is ACCOUNTS and that CALIFORN is under "You are here." The files shown in the menu section below are the files for the subdirectory level CALIFORN.

DOS Media 253k	You are here ▶ B:\ACCOUNTS\CALIFORN	Change Directory
Select a directory Dir Above You are here Subdirectories . . . ACCOUNTS ▶ CALIFORN CONCORD SANDIEGO SANJOSE		Help View Files Set Directory 1 Set Directory 2 Make Directory Remove Directory
Files on B:\ACCOUNTS\CALIFORN EVENTS PROSPECTS.S SCHEDULE		

Figure 3-11. Selecting the Third Subdirectory

Move the cursor to the subdirectory CONCORD and press Enter with Change Directory highlighted. A new screen appears with the files listed for CONCORD. The cursor initially points to Help. "You are here" lists the chain of subdirectories from the root directory to CONCORD at the top of the menu. Select Print File(s) by moving the cursor down the command panel. Press Enter. You are then prompted to select a file. Move the cursor to MRANCH and press Enter to print the file. Figure 3-12 shows the screen at this point.

DOS Media 253k	You are here ▶ B:\ACCOUNTS\CALIFORN\CONCORD	Help
Please select one or more files		File Directory
ABCORP	HARVEY	Subset of Files
▶ BRANCH	PREMEX	Drive Selection
	HHCO	Type File(s)
	KRFCO	Print File(s)
		Copy File(s)
		Rename File(s)
		Delete File(s)

Figure 3-12. Files on the Third Subdirectory

Press F9 to get back to the root directory with one keystroke. If you want to move to the subdirectory immediately above the current level, point the cursor to the directory listed under "Dir above," press Ins, and then select File Directory.

Using Dir1 and Dir2

Set Dir1 and Set Dir2 in the File Directory Menu are used primarily for the Copy File(s) command, although they can also serve as place holders. They are set in the File Directory Menu with function keys F3 and F4, or from the command panel. The highlighted directory is set to Dir1 or Dir2. From then on, pressing F7 (F8 for Dir2) allows you to move back to the directory selected for Dir1. Selecting a drive key or a drive from the Drive Selection Menu moves you from Dir1 or Dir2 to the directory you were in on that drive.

The Copy File(s) command allows you to duplicate files selected on Dir1 (or Dir2). To copy files in another directory onto the current drive or onto another drive, follow these steps:

1. Find the directory containing files to duplicate.
2. Select Set Dir1 in the command panel of the File Directory Menu and press Enter.

3. Find and select the files in your current directory that you want to duplicate.
4. Select Copy File(s).
5. Copy the selected files to Dir1.

Note: You can also copy files from Dir1 to Dir2, or vice versa. If the files you want to copy are already in the directory you are currently in, it might be more convenient to set Dir1 to that directory and then set Dir2 to the destination directory. Then press F7 to go back to Dir1, select the files, and copy them as in steps 3, 4, and 5 above.

Subset of Files Menu

The "Subset of Files" command limits the group of files you see on one menu. Subset of Files allows you to look at only the files you are working with, rather than having to scroll your menu to see them all. When you are ready to select files for an operation, Subset of Files makes the selection process easier because there are fewer files to search through. This command displays the chosen group of files only; it does not highlight them. Later, if you want to Copy File(s) from Subset of Files, for example, you still need to press Ins and Enter to execute the operation. After you select the Subset of Files command, a new message appears in the prompt panel:

```
Enter wildcard (? matches any character, *.* matches all):
```

The question mark matches any character, while the asterisk can match a whole sequence. After this prompt if you type *.* or press Enter only, you will see all the files in the directory rather than a subset. If you select *.TXT, the top of the file display contains the message:

```
Subset of Files = *.TXT
```

Drive Selection Menu

The Drive Selection Menu displays all the drives present on your Concurrent system. This menu allows you to select a different drive from the one on the Main Menu. After the Drive Selection command is selected, a new menu appears. Move the cursor around the top of the object panel under "Select a drive" to choose a new drive. Press Enter when the cursor points to the drive you want to select. Table 3-5 summarizes the commands for the Drive Selection Menu.

Table 3-5. Drive Selection Menu Commands

Command	Action
Change Drive	Allows you to select another drive.
Help	Offers help on Drive Selection.
View Files	Allows you to display the directories in a drive without selecting it. It works the same way as the F2 key.

Table 3-6 lists the function key assignments for the Drive Selection Menu.

Table 3-6. Function Keys for Drive Selection Menu

Function Key	Action
F1	Offers help in using the Drive Selection Menu on the topic the cursor points to.
F2	Allows you to display the directories in a drive without selecting it.

Table 3-6. (Continued)

Function Key	Action
F7	Selects Directory 1. Directory 1 is set in the File Directory Menu. After you press F7 and Dir1 is displayed, the function key assignment for F7 changes temporarily to Dir Main. This feature allows you to access the Main Directory by pressing F7 a second time.
F8	Selects Directory 2. Directory 2 is set in the File Directory Menu. After you press F8 and Dir2 is displayed, the function key assignment for F8 changes temporarily to Dir Main. This feature allows you to access the Main Directory by pressing F8 a second time.
F9	Displays the File Directory Menu.
F10	Moves the cursor to the command line prompt in the prompt panel, allowing you to enter command lines directly to the system.
Esc	Returns to the Main Menu.

Type File(s) Menu

The Type File(s) command allows you to display the contents of one or more files on your menu. After the command is selected, a new screen appears. The files you select from the Main Menu are displayed on the screen, and the names of the files appear at the top of the screen. If the files do not fit within the screen, you are instructed to press Enter to view the next page. If more than one file is selected, the next file is displayed automatically after the first one has been typed. Press Enter at the end of the first file to begin typing

the next file. After the last file, press any key to quit and you are returned to the Main Menu. To stop the operation before all files are typed, press Esc. If you press F1, the Help Menu for Type File(s) is displayed.

Print File(s) Menu

The Print File(s) command allows you to print a file on a printing device. After the Print File(s) command is selected, the files highlighted on the Main Menu are printed on your printer. You can switch to another window while the files are printing.

Note: Print File(s) does not offer any optional commands. As a result, the only way to get help for the Print File(s) command is by pressing F1. During the printing operation, all keystrokes are ignored except for F1 (Help) and Esc, which cancels the operation.

Copy File(s) Menu

The Copy File(s) command allows you to duplicate one or more files and place them on a different drive, directory, or on one of the two preset directories in your Concurrent system. After you select the command, a new menu is displayed. The following message appears in the object panel:

CHOOSE A DESTINATION FOR THE FILES SHOWN BELOW

Move the cursor within the command panel to select a copy destination. Then press Enter to execute the Copy File(s) command. Table 3-7 summarizes the commands and their corresponding function keys for the Copy File(s) Menu.

Table 3-7. Copy File(s) Menu Commands

Command	Function Key	Action
Help	F1	Offers help in using the Copy File(s) command.
Copy to A:	F3	Duplicates one or more files and places the duplicates on drive A.
Copy to B:	F4	Duplicates one or more files and places the duplicates on drive B.
Copy to C:	F5	Duplicates one or more files and places the duplicates on drive C.
Copy to D:	F6	Duplicates one or more files and places the duplicates on drive D.
Copy to Drive		Duplicates one or more files and adds them to the selected drive for drives other than A, B, C, or D.
Copy to Dir #1	F9	Duplicates one or more files and sends them to Directory 1. Be sure to set Dir1 to the desired drive or directory destination first.
Copy to Dir #2	F8	Duplicates one or more files and sends them to Directory 2. Be sure to set Dir2 to the desired drive or directory destination first.

Table 3-7. (Continued)

Command	Function Key	Action
Copy to Dir	F9	Displays File Directory Menu and allows you to select another directory on either DOS or CP/M media. Files displayed in the lower portion of the screen are the ones to be copied.
Copy to New Name		Duplicates one or more files with several options possible. A prompt appears for each selected file. The following options are available: new filename only, different drive and new filename, or different drive only (name remains unchanged).

Note: When you copy files to a drive, they are copied to the current directory. If you are copying to a floppy disk, and the destination drive and user number are the same as your current drive and user number, or if the filename destination entered is the same as the filename source, the following prompt appears:

Single drive copy (Y/N)?

If you type Y, you are prompted to change disks during the copy operation. If you type N, the following prompt appears:

Copy aborted (Press ENTER):

An error message also appears if you attempt to do a single-drive copy on a hard-disk drive or in a subdirectory on DOS media. The Copy to Drive option on the menu displays all the valid drives and allows you to select the destination drive you want. This operation is similar to changing drives.

The way to copy one or more files to the same directory or drive is with Copy to New Name. This command allows you to enter a new filename and/or file extension. A prompt appears for each selected file.

Rename File(s) Menu

The Rename File(s) command allows you to change filenames but not their locations. After the command is selected and if no files are highlighted, move the cursor in the object panel on the Main Menu to choose the files you want to rename. Press Ins when the cursor points to the files you wish to select. When you press Enter, the prompt panel queries:

```
Rename (filename) to ?
```

Type in the new filename and press Enter again. The Main Menu is displayed with the renamed file listed in the directory. The prompt panel queries you sequentially until all selected files are renamed. Press Esc to cancel the Rename File(s) operation. If you press Enter when the new name is requested, you are returned to the Main Menu. If the selected file cannot be renamed (for example, if a file is Read/Only), the following message appears in the prompt panel:

```
(Filename) is READ ONLY, not renamed (Press ENTER):
```

Delete File(s) Menu

The Delete File(s) command allows you to erase one or more files; the erasure is permanent. After you select the command, if no files are highlighted, move the cursor in the object panel on the Main Menu to choose the files you want to delete. Press **Ins** when the cursor points to the files you want to delete. When you press **Enter**, the prompt panel queries:

```
ERASE, are you sure (Y=yes) ?
```

Type **Y** for yes or any other key for no, and press **Enter** again. If you select more than one file to be deleted, the prompt panel queries you sequentially until all selected files are deleted. The Main Menu is displayed without the deleted file(s). Press **Esc** to cancel the Delete File(s) operation. After you answer **Y** to delete a file, it is too late to save the file by pressing **Esc**.

Backup File(s) Menu

The Backup File(s) command handles two functions. First, it copies one or more files from hard disk to floppy disk for archiving purposes to protect against hardware malfunction or accidental erasure. Second, it restores a backup set, which means it copies a set of archived files from a floppy disk to the hard disk.

After the command is selected, a new menu appears. The new menu shows any highlighted files from the current directory that you selected from the Main Menu. If you want to back up files on a different directory, select the File Directory command first from the Main Menu or with **F9**; select the files you want to back up; then press the Backup File(s) command. Refer to **BACKUP** in the Reference Guide for more details on the use of this utility.

Note: You must be on a hard disk drive to use this command. If not, the following error message is displayed:

Select a hard disk drive to back up or restore (Press ENTER):

Table 3-8 summarizes the commands for the Backup File(s) menu.

Table 3-8. Backup File(s) Menu Commands

Command	Key	Action
Help	F1	Offers help in using Backup File(s).
Files to A:	F3	Backs up selected files to drive A.
Dir to A:	F4	Backs up all the files from the current directory on your hard disk to drive A.
Files to B:	F5	Backs up selected files to drive B, assuming that you have a two floppy disk system.
Dir to B:	F6	Backs up all the files from the current directory on your hard disk to drive B, assuming that you have a two floppy disk system. If not, you receive an error message. Also, if drive B is on your hard disk, Dir to B: does not work.

Table 3-8. (continued)

Command	Key	Action
Restore		Allows you to recover files that have been backed up from drive A or B, assuming that you have a two floppy disk system. The files are automatically restored to the correct hard disk partition. On CP/M media, the files are restored to their original directory user number.

The key legend in the prompt panel of the Backup File(s) Menu also lists function keys you can use to execute the commands displayed on the menu.

Edit a File Menu

This option invokes DR EDIX, a text editor, used to create and edit memos, letters, or programs. To edit a new file, select Edit a File. To edit an existing file, first select the file from the object panel and then select Edit a File. An error message is displayed if more than one file is selected. Files with these extensions cannot be edited: EXE, COM, CMD, SYS, HLP, L86, BIN, and OBJ. This command requires that DREDIX.CMD and HELP.EDX be on the system drive or current directory. Press Alt-X (not Esc) to exit from DR EDIX; there is a pause while the File Manager is reloaded. Then the Main Menu reappears. See Section 4, "DR EDIX Editor," for instructions on using DR EDIX.

Run a Program Menu

This option allows you to run an application program from the File Manager Main Menu. After the command is selected, you are prompted to select one batch or program file. If the file extension is not CMD, COM, EXE, or BAT, you are prompted with the following message:

```
Bad file type, only .CMD, .COM, .EXE, or .BAT files (Press ENTER):
```

If more than one file is selected, an error message is displayed.

Copy Diskette Menu

The Copy Diskette command allows you to duplicate the contents of one or more floppy disks. After the command is selected, a new menu appears. You are asked to select a source disk from a particular drive. Then a new menu appears and you are asked to select a destination drive. Copy Diskette requires that DSKMAINT.CMD be on the system drive or current directory; otherwise, an error message is displayed.

The Copy Diskette Menu identifies function keys for each choice. You can follow the menu instructions to copy the disks, or refer to the DSKMAINT command in the [Reference Guide](#).

Format Diskette Menu

The Format Diskette command allows you to prepare a disk for use on your Concurrent system. After the command is selected, a new menu appears. You are asked to choose the type of floppy disk to format. The four options are DOS single-sided, DOS double-sided, CP/M single-sided, and CP/M double-sided. You are then prompted to select either drive A or B. Drive B is displayed only if it is a floppy drive. Then the operation is selected. Press Esc to cancel the operation at any time. This command requires that DSKMAINT.CMD be present on the system drive or current directory; otherwise, an error message is displayed.

The Format Diskette Menu identifies the function keys for each choice. You can follow the menu instructions to format disks or refer to the DSKMAINT command in the Reference Guide.

Free Memory Menu

The Free Memory Menu shows you how much memory is used by programs running on different windows and how much memory is available in the system. It also allows you to cancel a program when you cannot exit the program normally. This is especially helpful when you want to interrupt a program because it is not operating the way you intended. The STOP command, which Free Memory invokes, interrupts the operation, and the data output files being created are lost. You do not lose the data input files, however. Free Memory provides a much easier method of recovery than rebooting the system, because other programs do not have to be interrupted.

After the command is selected, the Free Memory Menu displays the programs that are currently running. Type the number of the program you want to cancel and press Enter. Upon termination of the cancel operation, the Main Menu of the File Manager is displayed. This command requires that STOP.COM be present on your system drive or current directory; otherwise, an error message is displayed.

Size/Date ON Menu

This option allows you to switch back and forth between short and long directory displays. Before the command is selected, the short directory format menu is displayed. Select Size/Date ON to switch to the long directory format.

The long directory format lists the filename and extension, the size in bytes, and the date and time that information was last written in the file. Date and time stamping are not always recorded for CP/M files. (See "Time Stamping" in Section 2 for instructions on enabling time and date stamping for CP/M files.) As a result, fewer files can be displayed on the screen at one time with the long directory format (13

files versus 52 files on the short directory format). Dotted lines at the bottom of the object panel indicate that there are more items than will fit on the menu screen. Use the keypad arrow keys or the End key to scroll the menu so you can see the additional files.

Set Up System Menu

This command contains the set-up procedures for initially configuring Concurrent. Set Up System changes Concurrent system parameters and disk maintenance procedures.

Table 3-9 summarizes the commands for the Set Up System Menu. Related command files appear in parentheses to the right of the command name. See the description of the related commands in the [Reference Guide](#). The CMD files must be present in the system drive or the current directory when you invoke the designated function. Some commands require that one or more files be selected from the object panel.

Table 3-9. Set Up System Menu Commands

Command	Action
Copy to Sys Disk	Copies selected files to the system disk and sets them to the system and Read/Only attributes.
System Attributes	Allows you to set programs to the system and Read/Only attribute. If these programs exist on the system drive, they can be used on different windows at the same time, independent of the current directory.

Table 3-9. (Continued)

Command	Action
Local Attributes	Reverses the system attribute function, giving selected files the Read/Write and DIR attributes, necessary if you want to erase or rename files.
Load Func Keys (FUNCTION.CMD)	Allows you to install a particular set of function key definitions. Only files of type PFK (Programmable Function Keys) are accepted.
Assign Func Keys (FUNCTION.CMD)	Allows you to set up function key assignments. The values are defined for the current work session unless they are written to a special file that cannot be loaded with Load Func Keys.
Serial Ports (SETPORT.CMD)	Allows you to configure the serial ports.
System Defaults (SETUP.CMD)	Allows you to set up parameters, such as function key assignments and serial port settings so that they are in effect each time you start (boot) Concurrent.

Table 3-9. (Continued)

Command	Action
Memory Disk (SETUP.CMD)	Creates a memory (virtual) disk in a reserved area of your Concurrent system memory that behaves like a disk drive.
Boot From H D (HDMAINT.CMD)	Enables a hard-disk partition to start (boot) Concurrent when your computer's power is turned on. This is done only once when you set up Concurrent on your computer.
Hard Disk Maint (HDMAINT.CMD)	Verifies, formats, and partitions the hard disk. This is done only once when you set up Concurrent on your computer.
Diskette Maint (DSKMAINT.CMD)	Verifies, formats, and copies floppy disks.

USING THE COMMAND LINE

There are occasions when you might want to bypass the File Manager and enter commands directly to the command line prompt, or system prompt. To have access to application programs requiring parameters on the command line, you must enter commands at the command line prompt.

Section 2 explains in detail the procedure for entering and editing command lines at the prompt. It also describes additional control characters that perform functions such as stop/start menu scrolling, window switching, or echoing screen display to the printer. Table 2-4, "Line-editing Commands," lists the control characters and explains how they are used.

Press F10 to reach the command line prompt. The only time you cannot get back to the command line prompt from the command or object panel is when an operation (such as copying a file) is in progress.

Note: At any time except during Copy Diskette, Format Diskette, and certain Set Up System functions, you can change windows in Concurrent and invoke another program.

Another way to use the command line prompt is to enter multiple commands. This is done by separating each command with an exclamation point (!). For example, the following command line clears the screen and invokes two directory displays--one for drive B and one for drive A:

```
A>DIR B:!DIR A:
```

After the commands are executed, the command line prompt reappears and you can type additional commands. Note that the File Manager Main Menu does not reappear.

Note: To return to the File Manager, press Esc at the command line prompt.

CHANGING COLOR CONFIGURATIONS

If the file FM.CFG is present on the system drive in User 0, it allows you to override the default File Manager colors for the object, command, and prompt panels, as well as the function key legend. If the file is not found, default colors are used for the File Manager.

Sixteen colors can be used for both foreground and background color selection. Foreground color refers to the color of the characters on the screen, while background color is the color of the screen behind the characters. The colors selected must be specified as numbers and the rest of the color specification command (such as "object FG color=") must be typed exactly as shown with no additional spaces. Use DR EDIX or any other editor to modify or create FM.CFG.

Due to hardware limitations, when colors numbered 8–15 are used as background colors, they are actually displayed as the color you would get by subtracting 8 from that color number. For example, if Light Green (number 12) is selected as a background color, it is displayed as Green (number 4). Background colors become foreground colors while an item or command is highlighted. Thus, if you select Light Green (number 12) as a background color, it is displayed as Light Green during highlighting even though it would appear as Green for the background color.

Table 3-10 lists the color specifications for file FM.CFG.

Table 3-10. Color Specifications for File FM.CFG

Number	Color Value
0	Black
1	Blue
2	Red
3	Magenta
4	Green
5	Cyan
6	Brown
7	White
8	Gray
9	Light Blue
10	Light Red
11	Light Magenta
12	Light Green
13	Light Cyan
14	Yellow
15	High Intensity White

Table 3-11 shows the specification commands for the default colors for File Manager. No extra spaces can be used within the command line. The command line can be typed in lowercase.

Table 3-11. File Manager Default Colors

Command	Explanation
OBJECT FG COLOR=0	The object panel foreground color is black.
OBJECT BG COLOR=5	The object panel background color is cyan.
COMMAND FG COLOR=0	The command panel foreground color is black.
COMMAND BG COLOR=4	The command panel background color is green.
PROMPT FG COLOR=14	The prompt panel foreground color is yellow.
PROMPT BG COLOR=2	The prompt panel background color is red.
KEY FG COLOR=14	The function key legend foreground color is yellow.
KEY BG COLOR=15	The function key legend background color is high intensity white.

End of Section 3

DR EDIX Editor

DR EDIX is a general purpose “what-you-see-is-what-you-get” text editor. DR EDIX has many advanced features, including an on-line help facility that allows you to get helpful instructions whenever you need them. At any time, you can press Alt-H to find out what you should do and what commands are available.

DR EDIX lets you work on four separate documents at the same time. DR EDIX does this by dividing its memory into four sections called buffers. Each buffer can contain one document. DR EDIX allows you to switch back and forth among all four buffers.

DR EDIX lets you divide the screen into two windows. In each window you can view and edit the contents of any of the four buffers. Do not confuse DR EDIX windows with Concurrent windows. DR EDIX operates in one of the Concurrent windows. In that Concurrent window, you can have two more windows when you use DR EDIX.

DR EDIX also has a number of other powerful commands to move, delete, search, and translate text. After you finish creating and editing a document, you can print and format it by using the Concurrent Printer Manager. The Printer Manager is described in Section 6.

DR EDIX reprograms the function keys F1 through F10 and provides its own meanings to the Alt, Ctrl, Shift, and cursor control keys. Most DR EDIX commands are invoked by pressing a combination of either the Alt or Ctrl key and another key.

THE BEST WAY TO LEARN DR EDIX

The best way to learn how to use DR EDIX is to use the on-line tutorial, which takes you through the major DR EDIX commands in quick succession. In a short time, you can create and edit your own documents. You should run through the tutorial before reading the rest of this section.

USING THE DR EDIX TUTORIAL

There are two ways to run the DR EDIX tutorial. One is to use the File Manager from the Concurrent Startup Menu. The second is to invoke the tutorial at the command line prompt. Be sure the DR EDIX program and tutorial files are on your current or system drive. These files are: STUDENT.BAT, LSN.EDX, DREDIX.CMD, HELP.EDX, and TEXT.

If you have a hard disk drive, start the tutorial from the Startup Menu by pressing function key F2, "File Manager." Using the spacebar, skip to the Run a Program command and press the Enter key. Then choose the file STUDENT.BAT and press Enter again.

To start the tutorial at the command line prompt from the Startup Menu, press the Esc key. You see the command line prompt, A>, appear on your screen. This means Concurrent is ready to receive a command from you. Type the following command and press the Enter key:

```
A>>STUDENT
```

You are now in the hands of the tutorial. The tutorial is interactive; it tells you what commands to enter and when to type. You can exit anytime from the tutorial by pressing Alt-X, which returns you to either the File Manager or the command line, depending on where you started. When you finish the tutorial, you are ready to use DR EDIX.

CURSOR CONTROL KEYS

Table 4-1 lists and explains the cursor control keys. Most of the cursor control keys are the arrow keys located on the keypad to the right of your keyboard. You can hold any of these arrow keys down to move the cursor multiple stops. The function keys on the left side of your keyboard are programmed with the most frequently used cursor commands.

Table 4-1. Cursor Control Keys

Command	Explanation
Right-arrow	Moves the cursor to the right one space.
Left-arrow	Moves the cursor to the left one space.
Up-arrow	Moves the cursor up one line.
Down-arrow	Moves the cursor down one line.
Home	Moves the cursor to the first line of the buffer.
PgUp	Moves the cursor up one page. The distance moved depends on the height of the window.
PgDn	Moves the cursor down one page. The distance moved depends on the height of the window.
F3 or Ctrl-Home	Moves the cursor to the first line of a window.
F4 or Ctrl-End*	Moves the cursor to the last line of a window.
F5 or Alt-Y	Moves the cursor to the leftmost character on the current line.

Table 4-1. (Continued)

Command	Explanation
F6 or Alt-Z	Moves the cursor to the right-most character on the current line.
End	Moves the cursor to the last line of the buffer.
Ctrl-Right-arrow	Moves the cursor to the first letter of the next word, or to the next tab stop.
Ctrl-Left-arrow*	Moves the cursor to the first letter of the previous word, or the previous tab stop.

* Note that these two key sequences normally switch you to windows 4 and 1, respectively. If you want to use these functions, redefine the screen-switching keys with FUNCTION.

When the cursor is on the last line of the window, moving it downward causes the window to move down in the buffer while the text appears to scroll up. It is the window that moves over the text. The text, itself, remains stationary. Similarly, you can conceptualize how the window moves over text when you press the Up-, Right-, or Left-arrow keys.

Exiting DR EDIX and Resetting Function Key Assignments

Use Alt-X to exit from DR EDIX. If any buffers have been changed but not yet written, you must confirm that you want to exit. Usually, you should answer N to the confirmation to cancel the exit. Use Alt-P to review the status display to see which buffers are unwritten. Then specify Alt-W to write the file to disk and Alt-X to exit.

DR EDIX automatically programs the function keys. To restore the function key assignments after you exit DR EDIX, do one of the following:

- Press the Esc key, type 7, and press the Enter key.
- Type FUNCTION and press the Enter key. After the first menu appears, press Esc.

DR EDIX COMMAND SUMMARY

Table 4-2 contains a brief explanation of all the DR EDIX commands.

Table 4-2. DR EDIX Alt Commands

Command	Explanation
Alt-1	Window 1. Switches to window 1 and its associated buffer. (Use the 1 key on the top row of your keyboard, not the keypad key.)
Alt-2	Window 2. Splits the screen to show window 2 and its associated buffer. (Use the 2 key on the top row of your keyboard, not the keypad key.)
Alt-A	Append. Provides a new, blank line after the current line. Places the cursor at the start of the new line.
Alt-B	Buffer. Prompts for a buffer number or filename. Buffer numbers are 1, 2, 3, and 4. A buffer's file name must be explicitly assigned with the Alt-F command.

Table 4-2. (continued)

Command	Explanation
Alt-C	Copy. Copies the marked lines after the current line. Places the cursor at the first character of the copy. See the Alt-K command to specify a block of text.
Alt-D	Delete line. Deletes the entire line where the cursor is positioned.
Alt-E	Edit. Prompts for a file name and then erases the old contents of the buffer, replacing them with the new contents.
Alt-F	File. Prompts for a file name and assigns it to the current buffer.
Alt-F9	Delete to end-of-line. Deletes the contents of a line from the current cursor position to the end of the line. Deleted material cannot be restored by Alt-U.
Alt-F10	Repeat search. Searches for the next match on the currently defined pattern. See Alt-S.
Alt-G	Go. Prompts for a line number and places the cursor at the start of that line.
Alt-H	Help. Provides a screen of helpful information.

Table 4-2. (continued)

Command	Explanation
Alt-I	Insert blank line. Provides a new, blank line before the current line.
Alt-K	Mark. Marks the first or last line of a block to be copied or moved. If a block is already marked, Alt-K unmarks the block.
Alt-M	Move text. Moves the marked lines to follow the current line containing the cursor.
Alt-O	One window. Restores the full screen to window 1.
Alt-P	Displays the status screen, showing each buffer's file name, buffer number, window number, number of lines, whether the buffer has unwritten changes, and whether the buffer contains a marked block.
Alt-R	Read. Prompts for a file name and then reads that file into the current buffer. If the buffer already contains a file, the file read in follows that file.
Alt-S	Search. Prompts for a pattern and then searches for text that matches it. Places the cursor at the start of the matched text.

Table 4-2. (continued)

Command	Explanation
Alt-T	Translate. Prompts for a pattern and then prompts for a replacement string. Searches for text that matches the pattern, places the cursor there, and then asks you whether to perform a local translation, perform a global translation, abort the translation, or skip to the next match. Unless the translation is aborted, Alt-T searches for the next match and repeats.
Alt-U	Undo deletion. Undo the previous Alt-D by inserting the last deleted line before the current line.
Alt-W	Write. If there is no filename in the status area, prompts for a filename and writes the buffer to that file.
Alt-X	Exit. Exits DR EDIX to Concurrent. If Alt-X is issued in response to a prompt, it cancels the command that caused the prompt. If it is issued during a translation, Alt-X aborts the translation.
Alt-Y	Left end. Places cursor at first nonblank character of the current line. Same as F5.
Alt-Z	Right end. Places the cursor at the end-of-line character of the current line. Same as F6.

End of Section 4

Cardfile

Cardfile is a program that allows you to store and retrieve information on electronic cards. You can enter the first and last name, business, address, and phone number, plus a comment, for each person or business you want on file. Using just a few keys, you can enter, change, delete, print, and search for cards in your Cardfile file.

The program is distributed with several cards already in the file so that you can familiarize yourself with the features of Cardfile before creating your own name and address file. Use the DELETE command in Cardfile to delete these cards when you have finished practicing.

Table 5-1 summarizes the Cardfile commands.

Table 5-1. Summary of Cardfile Commands

Command	Description
COPY/UPDT	Makes a second copy of the card currently in view and lets you update it.
DELETE	Lets you delete the card currently in view.
INSERT	Displays an empty card and allows you to enter information. This card is automatically placed in alphabetical order by name.
PRINT	Prints one or more cards or labels.

Table 5-1. (continued)

Command	Description
SCROLL	Displays one card after another. You can also scroll one card at a time by pressing the Up- or Down-arrow key.
SEARCH	Allows you to look for a card with a specific name, phone number, first name, or business.
UPDATE	Lets you change information on the card currently in view.

STARTING CARDFILE

If you have a hard-disk system, select F5, Cardfile, from the Concurrent Startup Menu. If you have a floppy-disk system, insert the disk containing the Cardfile program into one drive and use the File Manager RUN command to select the file CARDFILE.COM. You can also start Cardfile by typing one of the following commands next to the command line prompt:

A>CARDFILE

A>CARDFILE COLOR

Use the first form of the command if you have a monochrome monitor. Use the second form if you have a color monitor.

The following files are necessary to run the Cardfile program: CARDFILE.COM, CARDFILE.DIS, CARDFILE.DAT, CURRENT.TRM, NAME.IDX, PHONE.IDX, FIRST.IDX, BUSS.IDX. These files must be in the current drive and directory, or they must follow Concurrent conventions for accessing command and data files. Those conventions are described in "Installing Applications" in Section 1.

Note: When you initially use Cardfile, you must insert at least three cards before you can use the other Cardfile commands.

Cardfile automatically programs the keypad keys. If you use keypad keys to invoke Concurrent commands, you must run the FUNCTION command after exiting Cardfile. See FUNCTION in the Reference Guide for details.

Figure 5-1 shows the screen that appears when you start Cardfile.

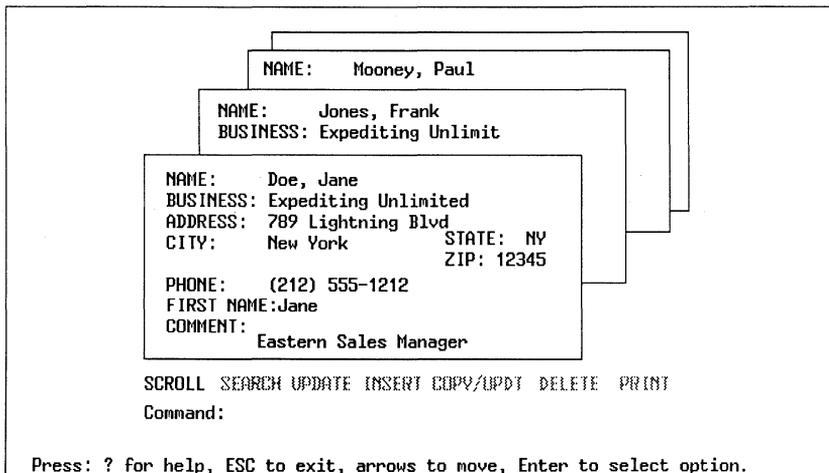


Figure 5-1. Cardfile Starting Display

ON-LINE HELP

Type a question mark to view a summary of Cardfile commands. Press any key to return to the main screen.

SELECTING A COMMAND

Use the spacebar or Right- and Left-arrow keys to move the highlighted bar to the command you want to select. As you move the highlight from command to command, the prompt line at the bottom of the screen tells you what to do. At startup, the SCROLL command is selected.

EXITING CARDFILE

To exit from Cardfile, press the Esc key. The Cardfile program responds with the following prompt:

```
Exit?          NO  YES
```

Use the Right-arrow key to highlight YES. Then press the Enter key to select YES. The Cardfile program stops and the Startup Menu, File Manager Menu, or command line prompt appears depending on where you started Cardfile.

CORRECTING TYPING ERRORS

To correct a typing mistake, use the Backspace key to back up the cursor to the error, and then type the correction over the error.

Use the Enter key to move from line to line within a card. If you are at the bottom of the card, use the Up-arrow key to move from line to line to the top of the card. In this way, you can change any entry in any card when you select UPDATE, INSERT, or COPY/UPDT.

ADDING A CARD

Use the INSERT command to add a brand new card. Use the COPY/UPDT (Copy and Update) command to copy an existing card, and then change the name, address, or other information to make a new card.

Using the INSERT Command

To add a new card using the INSERT command, use the Right-arrow key to highlight INSERT. If you move too far, use the Left-arrow key to back up. Press Enter to select the INSERT command. Cardfile displays a blank card.

The blinking bar cursor appears on the card where the first letter of the name goes. You can use the left, right, up, down, and Enter keys to move the cursor around the card.

Type the name on the first line of the card. It does not matter whether you begin with the first or last name, but you should enter all the names in the same way, so you can access the information on your cards in a consistent way.

When you finish typing the name, press Enter to move to the next line. If you do not want to fill a line, press Enter to move to the next line.

Continue until you have entered as much information as you want on the card. Press the Esc key. Cardfile displays the following message:

```
Save new card?          NO      YES
```

Select YES, then press Enter.

Cardfile displays the following message:

```
Saving, please wait
```

Cardfile saves your card, puts it in alphabetical order, and waits for you to select another command.

If you decide not to save the card, Cardfile returns to the command prompt and awaits your next selection.

Using the COPY/UPDT Command

The COPY/UPDT command allows you to make a copy of an existing card and update the information on it. To copy a card and update it, use the Left- or Right-arrow key to highlight COPY/UPDT. Press Enter to select the command.

Cardfile takes the card currently on display and places an exact copy in front of it in the card file. You can change the information and proceed as you do when adding a brand new card.

UPDATING A CARD

The UPDATE command allows you to change information on the card currently in view. Use the Left- or Right-arrow key to move the highlighted bar to UPDATE. Press Enter to select the UPDATE command.

Cardfile places the cursor under the first letter of the name. Proceed as you do when adding a card to the Cardfile file.

DELETING A CARD

The DELETE command lets you delete the card currently in view. Use the Left- or Right-arrow key to move the highlighted bar to DELETE. Press Enter to select the command. Cardfile displays the following prompt:

Remove? NO YES

Select YES, **r** : press Enter. Cardfile displays the following message:

```
Deleting, please wait
```

If you decide not to delete the card, leave the highlighted bar on NO and press Enter. The card remains and Cardfile awaits your next command.

SEARCHING FOR A CARD

Cardfile gives you two ways to search for a card. You can make the cards scroll past you, either continuously or one at a time, or you can search for a card with a particular name, phone number, first name, or business.

You can use the Up- and Down-arrow keys to move the cards one at a time in the direction of the arrow. You can move cards forward and backward any time you are not inserting or updating a card.

Using the SCROLL Command

Use the Left- or Right-arrow key to move the highlighted bar to SCROLL. Press Enter to select the command. Cardfile displays cards continuously one after another. After Cardfile displays the last card in the file it starts over and displays the first one again. To stop scrolling, press any key.

Using the SEARCH Command

Use the Left or Right-arrow key to move the highlighted bar to SEARCH. Press Enter to select the command. Cardfile displays the following message:

Select:

```
NAME    phone    firstname  business
```

Use the Right and Left-arrow keys to select NAME, PHONE, FIRSTNAME, or BUSINESS. For this example, assume PHONE is selected. Press Enter. Cardfile displays the following message on your screen:

```
Find: _____ :  
      name    PHONE    firstname  business
```

Type the phone number you want Cardfile to find, and press Enter. Cardfile displays the card on your screen. When typing a phone number, do not enter the parentheses around the area code. When Cardfile searches for a phone number, it automatically puts all the cards in numerical order, from lowest to highest, starting with the area code. If Cardfile does not find the number you specify, it displays the nearest card in numerical order. Similarly, if a Name, First Name, or Business entry does not exist in the card file, Cardfile displays the nearest card in alphabetical order. Cardfile can find a first name only if the name is typed on the FIRST NAME line in the card.

PRINTING CARDS AND LABELS

Cardfile lets you print one or more cards in alphabetical order on paper or mailing labels. Cardfile prints labels one across.

To print a card or label, make sure your printer is turned on, has paper or labels in it, and is working properly.

Use the Left- and Right-arrow keys to select the PRINT command, and press Enter. Cardfile displays the following message:

```
Print labels?      NO    YES
```

If you want to print labels, select YES and press Enter. Cardfile displays the following message:

```
Labels, print all?  NO    YES
```

If you want to print all the labels, select YES and press Enter. If you want to print only one label, or labels that are not next to each other, select NO and press Enter. Cardfile prints only the label corresponding to the card that is showing.

If you do not want to print a label, press Enter. Cardfile displays the following message:

Cards, print all? NO YES

Cardfile highlights NO to start. To print the currently selected card, press Enter. To print all the cards, use the Right-arrow key to select YES; then press Enter. You can stop printing at any time by pressing Esc.

End of Section 5

Printer Manager

The Printer Manager allows you to print multiple files using one or more printers. While Printer Manager prints a file, you can run another program in the same window. To use Printer Manager, you must know the numbers of your printers. See Section 1 for a description of printers, printer numbers, and the current printer.

You can specify up to 254 files to print. Printer Manager maintains a list of your requests, called the job queue, in a file on your system drive. Printer Manager updates this file continuously as jobs are printed, added, and deleted. Printer Manager also lets you format your printout while your file prints. This feature is especially convenient for files not previously formatted by a word-processing program.

There are two ways to run Printer Manager. This section describes the menu-driven method. You can also use command-line entries to run Printer Manager as described in the PRINTMGR command in the Reference Guide. If your system does not include a hard disk, refer to "Printer Manager from Floppy Disks" at the end of this section before proceeding.

PRINTER MANAGER SUMMARY

When you select Printer Manager from the Concurrent Startup Menu, your screen displays the Printer Manager Main Menu. Press the corresponding function key to select a command. Table 6-1 lists and defines the Printer Manager Main Menu commands.

Table 6-1. Printer Manager Main Menu Commands

Function Key	Purpose
F1	Help. Displays explanation of the commands and their options.
F2	Start The Printer Manager.
F3	Print file(s). Adds a file or files to the Printer Manager job queue.
F4	Printer Manager Status. Shows the status of the Printer Manager job queue.
F5	Delete a Job. Deletes a job from the Printer Manager job queue.
F6	Suspend/Stop Printer Manager. Halts Printer Manager operation, but saves the contents of the job queue. Stop halts operation entirely, erasing the contents of the job queue.

Press Esc to exit from a Printer Manager menu or from the Printer Manager program. Pressing Esc returns you to the previous menu.

OVERVIEW

To start Printer Manager, press F2 from the Printer Manager Main Menu. Next, select the printers you want Printer Manager to use. You can specify any or all printers you have.

Specify the files to print by selecting F3 from the Main Menu. You can specify files at any time after Printer Manager starts.

Each file you specify becomes a numbered job in the job queue. Printer Manager numbers jobs from 0 to 253, then starts from 0 again. The jobs print on a first-in, first-out basis. Press F4 to display the contents of the job queue.

To remove jobs from the queue, press F5. Note that you delete jobs by job number, not by file specification.

Press F6 from the Main Menu to terminate Printer Manager operation. Printer Manager offers two termination options: suspend and stop. Both options halt Printer Manager operation. Selecting the suspend option causes Printer Manager to save the contents of the job queue. Selecting the stop option causes Printer Manager to erase the job queue.

STARTING PRINTER MANAGER

Press function key F5 from the Concurrent Startup Menu to display the Printer Manager Main Menu. Then press F2 to start Printer Manager. The Start Menu replaces the Main Menu.

The Start Menu asks you to select the printer or printers you want Printer Manager to use. Press the function key corresponding to your printer. To use more than one printer, press F7.

When you select a printer, the screen clears, and Printer Manager displays a message to indicating that it set up the printer you selected. Press any key to return to the Start Menu list of printers. If the message indicates that Printer Manager failed to set up the printer you selected, confirm that the selected printer exists before trying again. Press Esc to return to the Main Menu.

When you press F7 to select multiple printers, the screen displays a new set of options.

Press F2 and the cursor appears next to the message:

```
>PRINTMGR START
```

in the lower left corner of the screen. Enter the numbers of all the printers you want the Printer Manager to use and press Enter. You can enter the numbers in any order but you must leave a space between each one.

The screen clears and displays a message for each printer you specify. This message indicates whether or not Printer Manager successfully set up that printer. Press any key to return to the Start-Multiple-Printers Menu. Press Esc to return to the Start Menu. Press Esc again to return to the Printer Manager Main Menu.

Printer Manager does not stop when it fails to set up one of the printers. You must therefore pay close attention to each printer message. If a printer selection fails, confirm that your system is equipped for output to that printer.

Note: Be careful to select printer numbers of printers actually attached to your computer. Because Printer Manager checks only your computer configuration options and not your actual connections, Printer Manager can display a success message for a printer that does not exist.

You cannot add or change printers once Printer Manager starts, without first suspending Printer Manager.

Note: Printer Manager invokes a program called SPL when started. It also invokes a program called DSP for each printer you specify. If you invoke the Concurrent STOP command, these programs appear in the display. Never terminate these programs with STOP; Printer Manager cannot work properly unless they are present. If you accidentally erase SPL or DSP, select the Printer Manager Stop command described in "Stopping Printer Manager" below, and then restart Printer Manager.

PRINTING FILES

Select F3 from the Printer Manager Main Menu to add one or more files to the job queue. Then press F2 from the Print Files Screen, and the cursor appears next to the message

```
>PRINTMGR PRINT
```

in the screen's lower lefthand corner. The current drive is also indicated.

Enter your file specifications and print options in the general form:

```
filespec filespec ... [option,option ... ]
```

and press Enter.

Printer Manager print options are explained in "Print Options Summary" and the task descriptions that follow.

You can enter as many file specifications and options as fit on the prompt line. Separate each file specification with a space and each option with a comma. You can use the ? and * wildcard characters in your file specifications.

Printer Manager applies any options you specify to all the files you enter.

After you press Enter, the screen clears, and Printer Manager summarizes the selected options. Following the summary, a message is displayed for each file you entered indicating the job number and whether the file was successfully entered in the job queue. Each file is treated separately, so one failure does not affect the other files.

Press any key to return to the Print Files Menu. Press F2 to specify more files, or press Esc to return to the Printer Manager Main Menu.

Jobs print in the order you enter the files. To display a list of the jobs printing and waiting to print, press F4.

PRINT OPTIONS SUMMARY

Table 6-2 lists Printer Manager options. Options are always enclosed in square brackets and separated by commas. A space must separate the left bracket from the last file specification. You can enter all options in abbreviated form.

Table 6-2. PRINT Options Syntax

Print Option	Short Form	Default Values	Explanation
COPIES=n	COP=n	1	Print n copies of each file specified.
FORMAT	FOR	off	When on, print file contents with 55 lines per page (page equals 66 lines).
FORMSIZE=n	FORM=n	66	Set paper length at n lines.
MARGIN=n	MAR=n	8	Set left margin at n spaces.
NOFEED	NOF	off	When on, do not send a formfeed to the printer between files.
NUMBER	NUM	off	When on, print file contents with 55 lines per page and number each page.

Table 6-2. (continued)

Print Option	Short Form	Default Values	Explanation
PAGESIZE=n	PAGE=n	66	Print n lines of file per page.
PRINTER=n	PRI=n	*	Send output to printer n.
TABS=n	TAB=n	8	Set tabs for every nth column.

* Default n=current printer.

Note: The print options in Table 6-2 assume that the paper in the printer is inserted with the left edge adjusted to column 0 and that the top-of-form is set correctly.

When you specify no options, the file prints as it appears on your screen, with the following exceptions: each line is offset by a margin of eight spaces, and tabs are set to every eighth column. No form feeds (page breaks) appear on the screen unless they are already in the file.

Printing Multiple Copies

You can print up to 254 copies of each file you specify by using the COPIES option.

Formatting the File Contents

You can control the appearance of your printed file with Printer Manager's options. Select the FORMAT or NUMBER option to print 55 lines of your file on each page. Both options center the printout so that the top and bottom margins are the same. The NUMBER option formats as well as numbers each page.

Note: The FORMAT and NUMBER options are not usually necessary for files formatted by a word-processing program.

If the FORMAT and NUMBER default page format is not suitable, specify different page characteristics with the MARGIN, FORMSIZE, and PAGESIZE options shown in Table 6-2.

Use the MARGIN option to set the left margin. Printer Manager uses a margin of eight spaces unless you specify another value. The minimum MARGIN value is 0; the maximum is 50.

The default FORMSIZE, 66 lines per page, is appropriate for a page 11 inches long and a printer that prints 6 lines per inch, both of which are standard values. Use the FORMSIZE option if you use nonstandard paper or if your printer does not print 6 lines per inch. To determine the correct FORMSIZE for your printer, multiply the paper length by the number of lines your printer prints per inch.

Use the PAGESIZE option to set the number of printed lines per page. The value you enter must be at least two lines less than the FORMSIZE.

Selecting a Printer

Unless you indicate otherwise, Printer Manager sends files to the current printer. Set the current printer with the Concurrent **PRINTER** command described in the Reference Guide. Use this command to select a printer before selecting Printer Manager from the Startup Menu.

To select a printer other than the current printer when Printer Manager is running, use the Print command's **PRINTER** option. You must specify the printer you select before you start Printer Manager. The **PRINTER** option does not change the current printer number.

TABS and NOFEED Options

Use the **TABS** option to set tab locations on the printout. The default value sets tabs at every eighth column.

Printer Manager automatically sends a form-feed character to the printer before each file prints. This ensures that the paper is properly positioned for each job. Use the **NOFEED** option if you want to stop Printer Manager from sending the form feed.

Examples

The following examples demonstrate file entry and option specification from the **>PRINTMGR PRINT** prompt. Each command line must be concluded by pressing Enter.

```
>PRINTMGR PRINT *.LTR [COP=3,MAR=5]
```

Notice the abbreviated forms of the **COPIES** and **MARGIN** options in the above example. This entry prints three copies of all files with the **LTR** extension, with a five-character left margin.

```
>PRINTMGR PRINT B:REPORT.TXT B:INCOME.DAT [NUM,PAGESIZE=44]
```

This entry prints the files **REPORT.TXT** and **INCOME.DAT** on drive **B**, with each page numbered. Both files have 44 lines per page.

Entering the command:

```
>PRINTMGR PRINT PHONELST [TABS=10]
```

prints the file PHONELST with tabs set for every tenth column.

VIEWING THE JOB QUEUE

Press F4 to display the contents of the job queue. Each job listing provides the following information:

- the job number
- the job status (printing or waiting)
- the destination printer number
- the number of copies remaining to print
- the size of the file in kilobytes

Press any key to return to the Printer Manager Main Menu.

Note that job numbers are assigned by file rather than by copy. Thus, you cannot delete a single copy from a job slated to print more than one copy. When you delete a job, you delete the entire entry.

DELETING A JOB FROM THE JOB QUEUE

Press F5 and the Delete-a-Job Menu replaces the Main Menu. Press F2 to specify a job number. The cursor appears next to the >PRINTMGR DELETE prompt in the lower lefthand corner. Enter one job number only and press Enter. You can find out the number of a print job by pressing F4, Printer Manager Status, from the Main Menu.

The screen clears and displays a message indicating whether the Printer Manager deleted the job. Press any key to return to the Delete-a-Job Menu.

To delete another job, press F2 again and enter the job number. Press Esc to return to the Printer Manager Main Menu.

STOPPING PRINTER MANAGER

You need not suspend or stop Printer Manager before you turn off or reset your computer. (You do, however, need to restart Printer Manager after your computer is turned on or reset.) Use the Suspend command to stop the printer or to add another printer. Use the Stop command to erase the job queue or to reset Printer Manager. Note that printers equipped with print buffers (internal memory) do not always stop immediately when you stop or suspend the Printer Manager. Instead, they continue until all characters in the buffer are printed.

Press F6 to select the Suspend or Stop command. The Suspend/Stop Menu then replaces the Main Menu.

The Suspend Command

Press F2 from the Suspend/Stop Menu to suspend Printer Manager operation. This command halts output to the printer and saves the contents of the job queue. Printer Manager displays a message indicating that it has been suspended. Press any key to return to the Suspend/Stop Menu. Press the Esc key to return to the Printer Manager Main Menu.

The Suspend command does not affect the status of the jobs in the queue. All jobs in the queue, including those printing when you enter the Suspend command, print in their entirety when you start Printer Manager again.

To use the Printer Manager after you suspend its operation, you must start it again. Press F2 from the Printer Manager Main Menu and select the printers to resume operation.

The Stop Command

Press F3 from the Suspend/Stop Menu to stop the Printer Manager. This command erases the job queue. Jobs printing or waiting to print are all stopped.

Select the Stop command when you want to erase the job queue. You also use the Stop command to reset Printer Manager. You must perform a Printer Manager reset if you terminate the SPL or DSP programs with the Concurrent STOP command. See "Starting Printer Manager" in this section.

When you press F3, Printer Manager displays a message indicating that the Stop command has been performed. Press any key to return to the Suspend/Stop Menu. Press Esc to return to the Printer Manager Main Menu.

To use Printer Manager after it stops, you must start it again. To resume operation, press F2 from the Printer Manager Main Menu and select your printers.

PRINTER MANAGER FROM FLOPPY DISKS

If your computer has only floppy-disk drives, you must prepare your disks to accommodate the menu-driven version of Printer Manager. Before you begin Printer Manager operation, copy the following files from your distribution disks onto a single DOS or CP/M formatted disk:

HDMENU.DAT
PRINTMGR.CMD
SPL.CMD
DSP.CMD

This disk becomes your Printer Manager working disk. When you start Concurrent, press Esc to exit the Concurrent Startup Menu and display the command-line prompt. Put your Printer Manager working disk in your system drive and the disk with the files you want to print in the other drive.

To display the Printer Manager Main Menu, type

```
A>RUNMENU HDMENU.DAT PRINTMGR
```

and press Enter.

Once the Printer Manager Main Menu is on screen, start Printer Manager and proceed. Do not remove the Printer Manager disk once Printer Manager starts. The Printer Manager uses the disk in the system drive to store information while it prints.

End of Section 6

Creating and Modifying Menus

A menu is a list of operations that appears on your screen. These operations can be Concurrent commands, application programs, or other menus. Each operation is associated with a particular key on your keyboard. Rather than enter a command line to perform a particular operation, you press the appropriate key. Creating menus to run your most frequently used commands and applications saves you time and keystrokes.

Figure 7-1 shows a sample menu. Beneath the menu title are two columns. The left column lists four keys and the right column describes the operations associated with each key. For example, when you press F1, Concurrent shows the space remaining on your disk.

In this section, you will use Concurrent commands to create the menu shown in Figure 7-1.



Figure 7-1. A Sample Menu

OVERVIEW

Creating a menu is a five-step process.

1. Create a file to store the menus you will create.
2. Create a menu and enter text. (The result looks similar to Figure 7-1.)
3. Assign function keys to the operations listed on your menu.
4. Save your menu.
5. Run your menu.

Commands Used

Creating and working with menus involves three commands: EDITMENU, RUNMENU, and COPYMENU. Table 7-1 summarizes these commands.

Table 7-1. EDITMENU, RUNMENU, and COPYMENU

Command	Description
EDITMENU	creates, modifies, copies, and deletes menus.
RUNMENU	runs a menu you have created.
COPYMENU	copies one or more menus from one menu file to another.

Menu Files and Menus

All three menu commands make a distinction between menu files and menu names.

Menu files are disk files that store the menus you create and run. A menu file can contain one or more menus. Each menu file must have a unique name of up to eight characters in the filename and one, two, or three characters in the optional filename extension. Each menu name in a menu file can contain up to eight characters. Do not confuse menu file names and menu names.

Your distribution disks contain a special menu file called MENU.DAT. MENU.DAT has the Startup Menu you see when you start Concurrent. You can modify MENU.DAT, but be sure to make backup copies of your distribution disks before making any changes.

When you start Concurrent, MENU.DAT is the default menu file for the EDITMENU and RUNMENU commands. When you enter either command at the command line prompt, both programs automatically look for the MENU.DAT file, unless you specify another menu file. Figure 7-2 illustrates the concept of menu files and menu names.

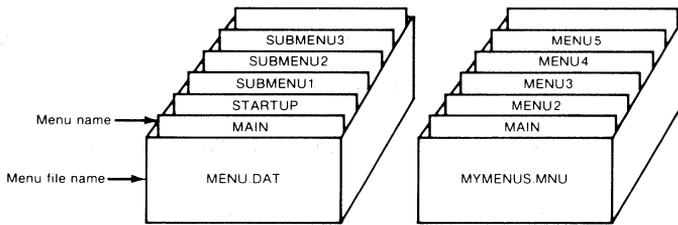


Figure 7-2. Menu File Names and Menu Names

Creating a Menu With EDITMENU

EDITMENU lets you create, change, copy, or delete a menu. This section explains EDITMENU by having you create an example menu file and menu. You use the same commands to create and modify menus.

If you are creating a complex menu or set of menus, especially if one or more menus call ("Go to") other menus, it is a good idea to design your menus on paper before you type them on your screen. A sketch of your menus keeps you from getting lost when you create them with EDITMENU.

Creating a Menu File and Menu

Make sure the file EDITMENU.COM is accessible from your current drive or your system drive. To enter EDITMENU and create a menu file, type the following at your command line prompt:

```
A>EDITMENU MYMENU.MNU
```

Press Enter. MYMENU.MNU is the name of a new menu file. When your menu file is on a different drive, include a drive specification before the filename.

EDITMENU responds with the following message telling you that there is no file called MYMENU.MNU, but that you can create one by pressing the F2 key.

File: MYMENU.MNU not found or Read Only
Enter Existing Menu File Name: _____

or Press F2 to create MYMENU.MNU
Press Esc to exit Editmenu

Press the F2 key to create MYMENU.MNU. EDITMENU creates the new menu file, then displays the Function Selection Menu.

You can make, change, copy, or delete a menu by selecting one of the indicated function keys. Press the F2 key to select Make New Menu. This display appears on your screen:

Enter New Menu Name: _____

or Press F2 to Show Existing Menus
Press Esc to Return to Previous Screen

MYMENU.MNU is a new menu file, so there are no existing menus. If there were other menus, press the F2 to review their titles and press any key to return to the New Menu prompt.

New menu names must differ from existing ones. Press the Esc key to return to the Function Selection Menu.

At the New Menu prompt, type

SAMPLE

SAMPLE is the name of the menu you are creating.

Press Enter. This displays the Menu Editing screen, which you use to create or change menus. The screen is blank except for three rows of menu editing commands at the bottom of the screen.

You can review these menu editing and cursor control key commands while creating or changing a menu by pressing the F1 (Help) key.

Press F1, read the screen, then press Enter to return to the Menu Editing screen.

The text you create goes on the blank part of your screen.

Although the editing commands cover the last three rows, you can use the full screen, twenty-four rows by eighty columns, to design your menu. When you want to insert or view text on the last three rows, Press Ctrl-Z to move the editing commands to the top of the screen. Press Ctrl-Z again to return them to the bottom of the screen.

Table 7-2 summarizes the menu editing commands:

Table 7-2. Menu Editing Commands

Command	Description
Ctrl-Z	Moves the display of menu editing commands to the top or bottom of the screen.
Esc	Returns to the previous EDITMENU screen without saving new edits. This does not affect what is already saved.
F1	Displays a help screen describing these commands.
F2	Displays the Special Effects Menu that lets you use reverse video, brightness, blinking, underline (monochrome display only), and foreground and background colors (any color monitor) in your menu.

Table 7-2. (continued)

Command	Description
F3	Inserts a blank line between the current cursor line and the line above.
F4	Deletes the line the cursor is on.
F5	Centers the text on the current cursor line.
F6	Allows you to copy one or more lines on your Menu Editing screen. The lines are referenced by starting and ending row numbers. If a row number is less than 10, you must supply a leading zero for the row number: 01, 02, 03, and so on.
F7	Displays the current row and column number of the cursor. This information is updated only when you press the F7 key. EDITMENU clears the cursor information when you perform your next command.
F8	Displays your new menu screen as it will appear without the editing commands. This allows you to preview your menu display.
F9	Displays the Special Character Menu, which allows you to select and use the special non-keyboard characters available on your computer.
F10	Ends the editing session and displays the Assign Function Key screen.

In addition to the menu editing commands, you can also use the cursor control key commands summarized in Table 7-3.

Table 7-3. EDITMENU Cursor Control Keys

Key	Action
↑ or Ctrl-E	moves cursor up one row
↓ or Ctrl-X	moves cursor down one row
→ or Ctrl-D	moves cursor right one character
← or Ctrl-H	moves cursor left one character
Del or Ctrl-G	deletes the character over the cursor
Ins or Ctrl-O	inserts a space before the cursor
Home	moves cursor to top left corner of screen
End	moves cursor to bottom right corner of screen
Tab	moves cursor to next tab stop
Shift Tab	moves cursor to previous tab stop

Table 7-3. (continued)

Key	Action
Enter	moves cursor to next line
Backspace	erases character to the left of the cursor as it moves left

Creating Menu Text

The following steps describe how to create the menu text shown in Figure 7-1:

1. Type

SAMPLE MENU

on the blank screen at the current cursor position. If you make a mistake, use the Backspace key to delete the previous character, then retype it.

2. Press the F5 key to center the line.
3. Press the F3 key three times to insert three blank lines above SAMPLE MENU.
4. Press the Enter key four times, then type 11 hyphens and press the F5 key to center them under the menu title. Press the Enter key twice.
5. Press the Tab key twice to move two tab stops to the right. Each tab stop equals eight spaces. Then type:

F1

6. Press the Tab key once after typing F1 and type:

Show Remaining Disk Space

7. Complete the rest of SAMPLE by typing
 - F2** **Display Directory of Files on Current Drive**
 - ESC** **Return To Previous Menu**
 - ENTER** **Enter a Command**
8. Press the Enter key, then press the F8 key to preview your menu as the user will see it. The text on your screen should now look like the text in Figure 7-1.
9. Press any key to return to editing your menu.
10. When you are finished entering text, press F10.

When you press F10, EDITMENU displays the Assign Function Key screen. You are now ready to assign function keys to your menu options.

Assigning Function Keys

Although you have finished typing the text for the menu SAMPLE, the function keys on the menu do not yet perform their intended operations. You must use the Assign Function Key Screen to associate each function key with the appropriate Concurrent command.

The Assign Function Key Screen is shown in Figure 7-3.

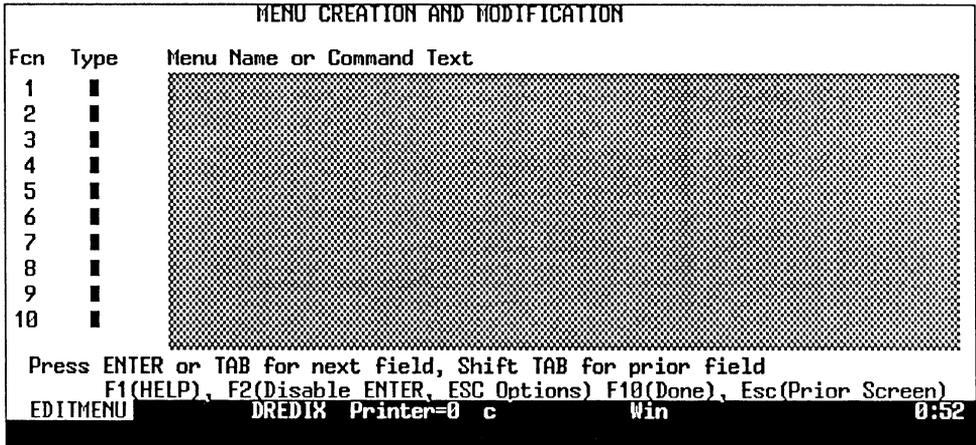


Figure 7-3. Assign Function Key Screen

The Assign Function Key screen has three columns: Fcn, Type, and Menu Name or Command Text. Fcn means function key. In the example, menu SAMPLE, the function keys F1 and F2 are associated with two operations. To make F1 and F2 perform their operations, you must fill in the information needed for Type and Menu Name columns next to the F1 and F2 entries under the Fcn column.

The Type column can contain any one of five letters or a blank. Each represents a menu or type of command associated with the function key in the Fcn column. Table 7-4 shows the six letters and their meanings.

Table 7-4. Types of Command Text or Menu

Letter	Meaning
A	complete command line for an Application program
O	command line requiring the user to enter Options to complete the command
M	name of another Menu in the same menu file
C	user enters the entire Command when prompted
E	Exit to the operating system
Blank	(blankspace) no command or menu is associated with this function key

To be able to assign the correct letter to the Type column, you need to know the kind of command or menu you want to associate with that particular menu option.

In the menu SAMPLE, the F1 key is used to show the space remaining on the current disk. The Concurrent command that performs this function is SHOW. Because SHOW is a complete command, type **A** in the Type column. The cursor automatically moves to the Menu Name or Command Text column. To associate the SHOW command with the F1 key, type

SHOW

in this column.

Press Tab or Enter to move the cursor to the Type column for F2. The F2 key is used to display the directory of files on the current drive. The DIR command performs this function. Because DIR is a complete

command, type A in the Type column, and DIR in the Menu Name or Command Text column.

Note: The command lines entered above assume that the commands are built-in or accessible from the current directory. If a command is not built-in or accessible from the current directory, you must include the proper drive name on the command line.

The Esc and Enter keys are also listed on the menu SAMPLE; however, you do not assign Concurrent commands to these keys. Esc and Enter are internally programmed.

Figure 7-4 shows how the Assign Function Key screen looks when you are finished.

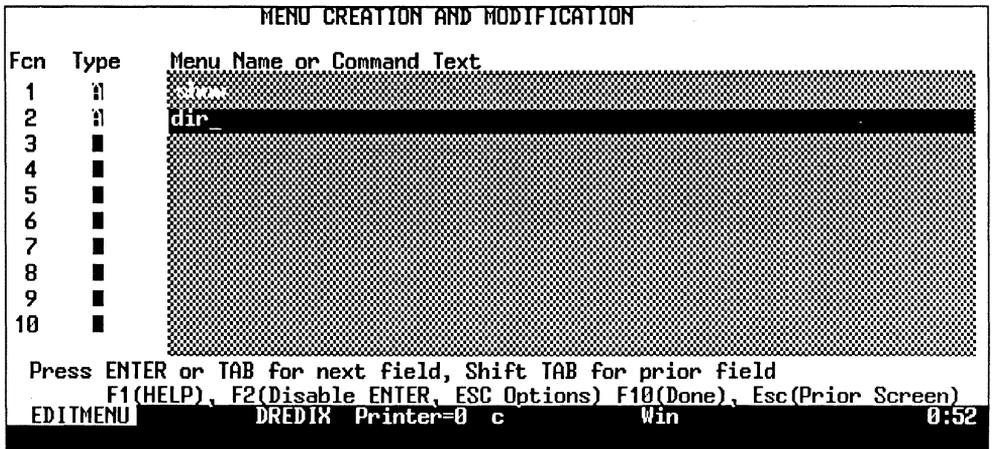


Figure 7-4. Completed Assign Function Key Screen

The function key assignments shown in Figure 7-5 now correspond to the text you typed in the menu SAMPLE. You are ready to save your work.

Saving a Menu and Exiting EDITMENU

When you are finished with the Assign Function Key screen, press F10. EDITMENU leaves the Assign Function Key screen and displays the following message:

```
Do you want to save this menu? (Y/N) Y
```

```
Press ESC to Return to Previous Screen
```

The letter Y is already in place for you. If you want to save the menu, press Enter, F10, or type the letter Y.

Caution: Do not type N unless you want to discard everything you typed on SAMPLE and on the Assign Function Key screen.

After you respond to the prompt, EDITMENU returns to the Function Selection Menu, and waits for your next selection.

From the Function Selection Menu, press the Esc key to exit the EDITMENU program. You now have a functioning menu called SAMPLE. You can test your menu with RUNMENU.

USING A MENU WITH RUNMENU

RUNMENU runs your menu file. Concurrent uses RUNMENU to run the menu you see when you start Concurrent. Although you can preview your menu with the F8 key as you create it with EDITMENU, you cannot test your function key assignments until you use RUNMENU.

RUNMENU is a built-in command and accessible from any drive and directory. Your menu file must be in your current directory.

The RUNMENU command forms are

```
RUNMENU  
RUNMENU filespec  
RUNMENU filespec menuname
```

Substitute the name of your menu file for filespec and the name of the menu to display first for menuname. To run the menu you just created, type the following at the command line prompt:

```
A>RUNMENU MYMENU.MNU SAMPLE
```

Press the Enter key. Test the various menu options.

If you do not specify a menu file name, RUNMENU looks for the default menu file called MENU.DAT to display.

If RUNMENU cannot find MENU.DAT or the menu file you specify, it displays the message:

```
Can't Open Menu File
```

If you do not specify a menu name, RUNMENU automatically looks for the default menu called MAIN to display first.

If RUNMENU cannot find the menu MAIN or the menu you specify, it displays the message:

```
Can't Find Specified Menu
```

When you specify a menu file name, or a menu file name and a menu name in the command line, these names become the new default names for RUNMENU. For instance, after you enter the command

```
A>RUNMENU MYMENU.MNU SAMPLE
```

MYMENU.MNU becomes the new default menu file name and SAMPLE becomes the new default menu name. To start the menu SAMPLE again, you only need to type

A>RUNMENU

because RUNMENU uses the new default names.

When you want RUNMENU to access a different menu file or menu, you must specify the new names. If RUNMENU cannot find the menu file or menu, it displays one of the error messages described above.

EDITMENU ADVANCED TECHNIQUES

So far you have learned the basics of creating and working with menus. This section teaches you the following advanced techniques for working with menus:

- how to use special characters and effects to make your menus more attractive
- how to copy menus from one menu file to another
- how to disable the Enter and Esc keys to limit the choices a user has when working with a menu

Special Characters

Special characters are optional in creating menus, but you can use them to create borders and designs that make your menus more interesting and attractive.

To add special characters to the menu SAMPLE, you must first start the EDITMENU program. Recall that SAMPLE is contained in the menufile MYMENU.MNU. Enter the following command line:

A>EDITMENU MYMENU.MNU

EDITMENU displays the Function Selection Menu. You will be adding characters to SAMPLE, so press F3, "Change Existing Menu."

When EDITMENU prompts you for a menu name, type SAMPLE.

EDITMENU displays the Menu Editing screen and the text you typed earlier. You are ready to enter special characters.

Press the Home key to position your cursor at the upper left of your screen. Press the Enter key to move the cursor to the second row. This leaves the first row empty for special effects commands that have an overall effect on the screen.

Press the F9 key to see the Special Characters Menu. The Special Characters Menu is at the bottom of the screen. Special characters are a group of symbols that the character generator inside your computer can display, even though they do not correspond to any of the keys on your keyboard. Note that you can only print these characters on paper if they are a part of your printer's character set.

Creating the Border for SAMPLE

Follow the steps below to create a menu border using special characters:

1. Select a special character by using the Spacebar or arrow keys to move through the special characters until you find the one you want to use to design the border. The selected special character is shaded. The menu SAMPLE shown in Figure 7-1 uses the heart special character, but you can use any character you like. To select the heart character, press the Spacebar twice to move two characters to the right of the initial special character. You can select a different special character at any point while creating the border.
2. Create a border for the menu by using F7 (up), F8 (down), F9 (left), and F10 (right) keys to move the cursor around the screen. Start the border on the second row. Your special effects symbols will

be in the first row. The special character is automatically inserted with each move of the cursor. Begin drawing the border by pressing the F10 key until a row of hearts is across the top of your screen. Use F8, then F9, then F7 (as you used F10) to complete the border.

Note: If you make an error in creating your border, do not spend much time in correcting it. You will refine your border drawing techniques with practice.

You can correct a mistake by pressing the Esc or Enter key to return to the Menu Editing screen. Erase the mistake with the space bar or backspace key and position your cursor where you want to begin again.

Press F9 to return to the Special Characters Menu and finish adding special characters.

3. When you have completed the border, press Esc or Enter to return to the Menu Editing screen.

To insert a single special character, place the cursor where you want the character to be in the Menu Editing screen. Press F9, select the character, then press Enter. This automatically returns you to the Menu Editing screen, with the special character in place. Stay in the Menu Editing screen and read the next section about special effects.

Special Effects

Like special characters, special effects are optional in making a menu. Special effects allow you to create menus that are more interesting and attractive. EDITMENU provides the following special effects:

- reverse video
- underline (monochrome display only)
- brightness
- blinking
- different foreground & background colors (color monitors)

Table 7-5 lists the symbols EDITMENU uses to make special effects.

Table 7-5. Symbols for Special Effects

Symbol	Action
\	begins and ends reverse video
_	begins and ends underline (monochrome display only)
}	begins and ends bright or bold display
{	begins and ends blinking display
c	sets background color starting at the vertical bar position (c can be any colorsymbol in Table 7-6)
C	sets background color starting after the color symbol (C can be any color symbol in Table 7-6)
~c	sets foreground color to C (See Table 7-6 for color indicator choices)

Note: The last three symbols have no effect on monochrome displays. If you have a monochrome display, ignore these symbols, and in the following practice session, substitute other symbols when these background and foreground color symbols are used.

Table 7-6 shows the letter codes (color indicators) you can use with vertical bars (|) or tildes (~) to determine background and foreground colors. You can use either lowercase or uppercase letter codes with the vertical bar, but use only lowercase letter codes with the tilde.

Table 7-6. Letter Codes for Foreground and Background Colors

Letter	Color
b	BLUE (Dark Blue)
c	CYAN (Light Blue)
g	GREEN
k	BLACK
m	MAGENTA (Purple)
r	RED
w	WHITE
y	YELLOW

Note: If you have monochrome display with a color graphics board, you will encounter problems trying to display color text. When Concurrent displays your text it will omit parts of letters. To correct this problem, go to the system prompt and enter the following command line:

```
A><Esc>a2
```

<Esc> stands for the Esc key. The letter "a" must be lower case. Be sure you press Enter after you type the command line.

Entering Special Effects

You can enter special effect symbols by typing them on the Menu Editing screen or by using the Special Effects Menu to insert them at the current cursor position.

We will enter the first two special effects symbols by typing them on the Menu Editing screen. Press the Home key to position your cursor at the beginning of row one. (Your border should begin in row two.) Type the special effect symbol |b to set the background color to dark blue. The blank portion of your screen is the background.

Type a space and then type the symbol ~c to set the foreground color to light blue. Your menu text and special characters form the foreground. Press F8 to see the results of your special effects entries. Press any key to return to the Menu Editing screen.

We will use the Special Effects Menu to insert the rest of the special effects characters. When you finish these steps and press F8, your menu will look exactly like the menu in Figure 7-1.

These are the steps to finish entering your special effects:

1. With your cursor still on line one, move the cursor a couple of spaces to the right.
2. Press the F2 (Spec. Effects) key. The Special Effects Menu appears at the bottom of the screen, as shown in Figure 7-5.



Figure 7-5. Special Effects Menu

3. One of the special effect options is highlighted, signaling that the option is ready to be selected.
4. Use the Spacebar or Left- and Right-arrow keys to select the Bright option.
5. Press F10 (Done) or Enter to place the Bright symbol on your menu. When you press F10, EDITMENU returns you to the Menu Editing screen. Notice the Bright symbol is now in place. Press F8 to see the menu as RUNMENU will display it. Press any key to return to the Menu Editing screen. If you make a mistake, erase the mistake with the Backspace key and repeat steps 1 through 4.
6. To enter the next special character, use the Down- and Right-arrow keys to position your cursor two spaces in front of the title SAMPLE MENU.
7. Press F2 to select the Special Effects Menu.
8. Use the Spacebar or Left- and Right-arrow keys to select the Foreground option. Press Enter or F10. A menu of possible Foreground colors is displayed. Use the Spacebar or Left- and Right-arrow keys to move through the submenu to select the Yellow option. Press F10 or Enter to cause EDITMENU to put the ~y symbol on your menu.
9. Position the cursor one space after the title SAMPLE MENU.
10. Press F2 to select the Special Effects Menu.
11. Use the foreground option to select cyan as the foreground color. This restricts yellow to just the title of your menu. After your selection, you are returned to the Menu Editing screen.
12. Use the cursor and the Special Effects Menu to place the red foreground (~r) before the string of hyphens and the cyan foreground (~c) after the string of hyphens.

You have finished entering your special effects so press F10. This returns you to the Assign Function Key screen. You do not have any function keys to assign, so press F10 again.

Concurrent asks you if you want to save your menu. Type Y, press Enter, or F10.

RESTRICTING MENU CHOICES

Sometimes you want to make sure a menu user uses only the choices shown in a particular menu. You can do this by disabling the Esc and/or Enter keys. For example, with Esc and Enter disabled, a user cannot exit to another menu or enter a command not listed on the menu.

The following steps disable the Esc and Enter keys on menu SAMPLE.

Enter the following command line to start EDITMENU:

```
A>EDITMENU MYMENU.MNU
```

EDITMENU displays the Function Selection Menu. Press F3, "Change Existing Menu."

When EDITMENU prompts you for a menu name, type SAMPLE. EDITMENU displays the Menu Editing screen.

You are not going to modify the text in SAMPLE, so press F10 to advance to the Assign Function Key screen.

The last line of the Assign Function Key screen reads:

```
F1(HELP), F2(Disable ENTER, ESC Options), F10(Done), Esc(Prior Screen)
```

Because you are going to disable the Enter and ESC keys, press F2.

The Assign Function Key screen disappears and the following prompts appear on your screen:

Disable ESC to return to prior menu level? (Y/N) N

Note: The prior menu level is the system prompt if this is the main menu.

Disable ENTER to enter a command in Concurrent DOS format? (Y/N) N

Save and restore default drive? (Y/N) N

Save and restore user number? (Y/N) N

Command to execute at start of menu:

Command to execute at end of menu:

Press F10 to continue

To move down through each line without changing the default values, press the Enter or Tab key. To move up the screen, hold down the Shift key and press the Tab key.

Each "N" on the far right stands for "No". "No" is the default setting for each of the conditions shown on your screen. To change "N" to "Y", type "Y" when the cursor is over the "N".

This screen also lets you type commands to start and end a menu session.

Here is what each condition means initially and what the values mean if you change them from "N" to "Y":

- The Esc key. The Esc key is usually enabled. When the value on the "Disable ESC" line is "N" a menu user can return to the previous menu by pressing the Esc key. The user can press the Esc key repeatedly to return to the command line prompt. If you want to prevent this, change the "N" to "Y".

- The Enter key. The Enter key is usually enabled. When the value on the "Disable ENTER" line is "N", a menu user can press Enter at any time to go to the command line prompt while in a menu. If you want to prevent this, change the "N" to "Y".
- Save and restore default drive. Some menu commands might change the current default drive. RUNMENU usually does not keep track of the drive where a user starts a menu session. If you want RUNMENU to return to the drive where a user starts a menu session, change the "N" to "Y".
- Save and restore User number. Some menu commands might change the current user number. RUNMENU usually does not keep track of the user number where a user starts a menu session. If you want RUNMENU to return to the user number where a user starts a menu session, change the "N" to "Y".
- Command to execute at start of menu and Command to execute at end of menu. To supply a command which you want to start or end a menu session, press the Enter key until your cursor is in the appropriate blank area. Then type a valid Concurrent command or the name of any program which runs on Concurrent. You do not have to begin and end a menu session with the same command.

If you change the "N" to "Y" for both the Esc key and for the Enter key, you restrict the menu user to whatever choices currently appear in the running menu.

Note: If you disable the Esc key, be sure to have a choice in the running menu which either lets the menu user go to another screen or exit to the operating system. If you do not provide some way for the user to get out of a running menu, the user has to either restart Concurrent or switch windows.

COPYING A MENU WITH COPYMENU

COPYMENU copies an entire menu file. COPYMENU allows you to do the following:

- make backup copies of menu files
- condense space in menu files
- copy menu files that you can then modify

The forms of the COPYMENU command are as follows:

COPYMENU

```
COPYMENU source-filespec destination-filespec all
COPYMENU source-filespec destination-filespec menulis
```

To use the first form of COPYMENU, type the following at the command line:

```
A>COPYMENU
```

The following prompts appear on your screen:

```
Enter Source Menu File Name: _____
```

```
and Destination Menu File Name: _____
```

```
    Press F10 to Execute
    or Press Esc to Exit Copy Menus
```

Both the source and destination menu files must exist when you use this form of COPYMENU. However, your destination menu should not have any function key assignments in it.

For example, to create a destination file called MYCOPY.MNU enter the following at the command line prompt:

```
A>EDITMENU MYCOPY.MNU
```

When the message appears telling you there is no menu file called MYCOPY.MNU, press the F2 key to create one. When EDITMENU shows you the Function Selection Menu, press the Esc key to return to the command line prompt. You now have both a source menu file and a blank menu file that you can use as a destination menu file.

Both your source and destination menu files exist; type the appropriate menu file names in the blanks, using the Enter key to change fields, and press the F10 key. In this example, enter MYMENU.MNU for the source menu file name and press Enter. The cursor moves to the next prompt. Enter MYCOPY.MNU for the destination menu file name. Press F10 to run the command. Your menu names can be in uppercase or lowercase letters.

COPYMENU displays the list of menus in your source file and prompts you to put an X next to each menu you want to copy. Put an X next to SAMPLE, then press F10.

COPYMENU displays the message:

Copying Menu: SAMPLE

If you copy more than one menu at a time, COPYMENU lists them as they are copied. When COPYMENU is finished, the system prompt is displayed.

When you use the longer command forms of COPYMENU, the following rules apply:

- If you do not enter a drive, COPYMENU looks on the current drive for your source and destination menu files.
- If you specify only one file, COPYMENU displays the prompts described above.
- If you specify both files on the command line, COPYMENU creates the destination menu if one does not exist.

- If you specify two files and no menulist, COPYMENU displays the menus in the source file and asks you to place an X next to each menu you want to copy.
- Menulist is a list of the menu names to copy. You can specify more than one menu name in the command line if you separate the names with commas.
- When you specify ALL for the menulist, all the menus are copied.
- The menu names can appear in any order. You must place at least one blank between each file name and menulist. You cannot place any blanks within a file name or menulist.
- If the menu name being copied exists in the destination file, the old menu is replaced by the new menu.
- COPYMENU displays the names of the menus it is copying and exits when done.

End of Section 7

Required Program Files

Except for Concurrent's built-in commands, each command requires a program file. When you enter a command, Concurrent searches for the corresponding program file, loads the program file into memory, and runs it.

STARTUP MENU PROGRAM FILES

The Startup Menu requires access to program files and specific data files.

If your computer has floppy-disk drives only, the disk's storage space is limited. You must plan carefully to ensure that the corresponding program and data files are present for the commands and applications you want to run. Table A-1 lists the files required to run the Startup Menu options. This table does not include supplementary files provided for tutorial purposes with some of these programs.

Table A-1. Startup Menu Option Program and Data Files

Function Key	Option	Required Files
F1	HELP	HELP.CMD HELP.HLP
F2	File Manager	FM.CMD FM.CFG USER.TXT

Table A-1. (Continued)

Function Key	Option	Required Files
F3	DR EDIX Editor	DREDIX.CMD HELP.EDX
F4	Cardfile	CARDFILE.DAT CARDFILE.DIS CARDFILE.TRM BUSS.IDX FIRST.IDX NAME.IDX PHONE.IDX
F5	Printer Manager	PRINTMGR.CMD SPL.CMD DSP.CMD

FILE MANAGER PROGRAM FILES

To run some File Manager commands, Concurrent must have access to corresponding program files. Table A-2 lists the File Manager Main Menu options and the program files that they require.

Table A-2. File Manager Supplementary Program Files

Option	Required Program Files
Help	HELP.CMD
File Directory	None
Subject of Files	None

Table A-2. (Continued)

Option	Required Program Files
Drive Selection	None
Type File(s)	None
Print File(s)	None
Copy File(s)	None
Rename File(s)	None
Delete File(s)	None
Backup File(s)	BR.CMD
Edit a File	DREDIX.CMD, HELP.EDX
Run a Program	The program file
Copy Diskette	DSKMAINT.CMD
Format Diskette	DSKMAINT.CMD
Free Memory	STOP.CMD
Size/Date ON/OFF	None
Set Up System	DSKMAINT.CMD, SET.CMD FUNCTION.CMD, SETUP.CMD SETPORT.CMD, HDMAINT.CMD

End of Appendix A

Error Messages

Starting on the second page of this appendix is a quick reference listing of Concurrent error messages in alphabetical order, with explanations and suggestions for correcting error conditions. Following this is a subsection, "Error Handling Procedures," which offers guidance in recovering from error conditions and explains the causes of certain types of errors.

SOURCES OF ERROR MESSAGES

- Each command supplied with Concurrent has its own set of error messages.
- Concurrent displays messages when error conditions occur during execution of file system operations. These messages include those originating in the Basic Disk Operating System (BDOS) and the Terminal Message Processor (TMP).
- Concurrent's Extended Input/Output System (XIOS) displays messages when certain hardware-related error conditions occur.

HARD DISK CAUTION

Reformatting a DOS or CP/M partition of a hard disk is mentioned as a corrective action for several hard-disk error conditions mentioned in this appendix. Keep in mind that using HDMAINT to recreate a CP/M partition is an extreme corrective measure, because it destroys all of the files within the partition. If possible, back up all of the files within the partition before reformatting.

If recreating a partition fails to correct the error condition, you have a hardware problem. Consult the dealer from whom you bought your personal computer.

PERFORMING A SYSTEM RESET

Error conditions that require you to perform a system reset, by pressing Ctrl-Alt-Del, are extremely rare. If such a condition occurs, make every attempt to exit a program normally, or as a second choice, switch windows and use the STOP command, before resetting your system. If you have no alternative but to reset your system, try to close any open files before doing so. The Concurrent status line at the bottom of your screen indicates whether there are programs running in any of the four windows.

ERROR MESSAGES

The following is a list of error messages in alphabetical order. The error messages appear in blue type followed by explanations and suggestions for correcting the error conditions.

A file system error was encountered while reading the file.

PRINTMGR error. The file might be stored on a defective medium. Use a backup copy of the file and try again.

Access Denied

ERASE, ERAQ, RENAME, TYPE Error. The file is either Read-Only, password protected, or in use by another user.

A Print Manager is already set up on this system.

PRINTMGR error. You entered PRINTMGR START after the Printer Manager system had already been started. You can proceed with Printer Manager use.

Backup Requires OS that supports subdirectories

BACKUP error. BACKUP runs under Concurrent DOS and DOS Plus only. You have attempted to run BACKUP under another operating system.

BAD DISK

DSKMAINT error. This message indicates a defective disk or a covered write-protect notch. Check to see that the write-protect notch is uncovered. If it is, you should use a different disk.

Bad pattern

DR EDIX error. The specified pattern contains an illegal combination of characters. Refer to Section 4 or use Alt-H for help.

Bad Sector on Disk

FUNCTION error. Message indicates a defective disk. Use a different disk.

Bad target

DR EDIX error. The target line for a copy or move is located within the marked lines.

Cannot execute under this operating system version

HDMAINT error. This message appears if you attempt to run HDMAINT with a different operating system or a different version of Concurrent. This version of HDMAINT runs only under the version of Concurrent with which it is shipped.

Cannot execute while any files are open

HDMAINT error. Be sure no other programs are running in other windows before you attempt to run HDMAINT.

Cannot execute without a hard disk

HDMAINT error. This message indicates that you have tried to use HDMAINT when you do not have a hard disk, or the hard disk is not correctly installed, or the hard-disk unit is not powered-up.

*** Cannot find CPM.SYS or CCPM.SYS ***

Try another diskette

Disk loader error. The disk loader could not locate an operating system file to read in. Try restarting the operating system from a different copy of the Concurrent Startup disk.

Cannot properly initialize the disk you inserted,
Please remove it and insert a new CP/M Media disk.
Touch RETURN key when ready ==>

BACKUP (BACK) error. Message indicates an unformatted or defective disk, or a disk with a covered write-protect notch. See "Disk Handling" at the end of this appendix. If you are using a DOS diskette, "CP/M" is replaced by "DOS" in this message.

Cannot write to reserved system area
Cannot read the reserved system area

HDMAINT error. This message indicates a hardware failure. The system area on the partition might be physically damaged. Any attempts to access the partition can have unpredictable results. If HDMAINT cannot read or write the system area, you might be able to redefine the partition limits and successfully avoid the defective areas. If this error occurs after a partition containing files already exists, remember that any attempt to create a new partition requires that you delete the existing partition.

Cannot write to Partition Table
Cannot read the Partition Table

HDMAINT error. The Partition Table is located in an area guaranteed to have no surface defects. This message indicates hardware failure. If HDMAINT cannot read or write the hard-disk Partition Table, check that your hard disk is turned on and correctly cabled if it is located in a separate unit. If this is not the problem, you might find that no access to the hard disk is possible. If this is the case, contact the dealer from whom you purchased your personal computer.

Can't Allocate Memory

RUNMENU error. You do not have enough memory to load the menu directory or an individual menu in the menu file. Switch windows and use STOP to terminate other programs if you want to run RUNMENU.

Can't create filename.ext

DR EDIX error. A new file cannot be created to perform an Alt-W command, probably because of a full directory or insufficient disk space. Try writing the file to another drive or change disks and reissue the command.

Can't Create New File.

EDITMENU error. Concurrent cannot create the file you specified in the EDITMENU command line. Your disk or directory is probably out of free space.

Can't delete filename.ext

DR EDIX error. The backup file, whose extension starts with a tilde (~), cannot be deleted. This is probably the result of a defective disk or, less likely, a problem with your disk drive hardware.

Can't find CCPM.SYS

SETUP error. This message indicates that CCPM.SYS is not on the current or specified drive.

Can't find DOS partition

LOADXM or Concurrent hard-disk system loader error. The system loader is unable to read DOS partition information in the Partition Table. You must restart Concurrent from the Startup disk to continue operation. Use HDMAINT to recreate the DOS partition on the hard disk.

Can't find file: CPM.SYS / CCPM.SYS

Concurrent hard-disk system loader error. CCPM.SYS is the file containing the Concurrent operating system. CPM.SYS is the file containing the CP/M-86 operating system. The file or files are not copied to the CP/M partition, or the filename is spelled incorrectly. You must restart Concurrent from the Startup disk to continue operation. Use PIP or COPY to copy CCPM.SYS or CPM.SYS to the CP/M partition.

Can't find DOS file: CCPM.SYS

Concurrent hard-disk system loader error. CCPM.SYS is the file containing the Concurrent operating system. The file is not copied to the DOS partition, or the filename is spelled incorrectly. You must restart Concurrent from the Startup disk to continue operation. Use PIP or COPY to transfer CCPM.SYS to the DOS partition.

Can't Find Specified Menu

RUNMENU error. RUNMENU cannot find the menu called MAIN, or the menu you specified in the command tail. If you do not specify a menu name in the command tail, RUNMENU looks for the last menu name specified, or for MAIN if no menu name has ever been specified.

CAN'T LOAD CCPM.SYS - Input/output devices are now in use by a MODE, ramdisk, or spooler command.

Try making "LOADXM ask" the FIRST command in your AUTOEXEC.BAT file.

LOADXM error. LOADXM cannot load Concurrent after other input/output device redirection commands have been executed. Use LOADXM to load the system before you enter any device commands.

Can't Open File

BACKUP error. A file you are trying to copy is already open. It might be being used by another program.

Can't open filename.ext

Can't open filename.ext; new file assumed

DR EDIX error. The file you are trying to read with Alt-R cannot be opened. If you have spelled the file's name correctly, the file must exist in a different directory. In the case of the second message, DR EDIX assumes that you are opening a new file.

Can't Open Menu File

RUNMENU error. Concurrent cannot find the menu file MENU.DAT, or the menu file you specified in the RUNMENU command line. Assuming you typed the filespec for the menu file correctly, use DIR to check the contents of other directories, to find out where MENU.DAT or the specified file is located.

Can't read CCPM.SYS

SETUP error. Message indicates a defective disk or defective hardware. See "Error Handling Procedures" at the end of this appendix.

Can't read from Boot disk!

Concurrent hard disk system loader error. The system loader is unable to read the operating system files on the DOS partition because of defective blocks. You must restart Concurrent to continue operation. This message might indicate hardware failure. Any attempts to access the DOS partition might produce unpredictable results. You may be able to recreate the DOS partition on the hard disk with HDMAINT. Remember that any attempt to create a new partition requires that you delete the existing partition.

Can't Read Menu

Can't Read Source Menu

COPYMENU or RUNMENU error. Concurrent cannot read MENU.DAT or the file you specified in the COPYMENU or RUNMENU command line. The copy of the file or the disk directory might be corrupted. Use a backup copy of your menu file.

Can't remove subdirectory

RMDIR error. RMDIR cannot erase the specified subdirectory because that subdirectory still contains files.

Can't Write Destination Menu

COPYMENU error. Concurrent cannot write to the destination menu file. Your disk might be out of free space, or you might have a defective disk.

Can't write to CCPM.SYS

SETUP error. Message indicates a defective disk or defective hardware. See "Error Handling Procedures" at the end of this appendix.

Concurrent Error: Bad Sector

REN, FSET error. This error message indicates a hardware error. Refer to the "Error Handling Procedures" at the end of this appendix for a discussion of possible hardware errors.

Concurrent Error: Bad File Spec

Concurrent Error: Bad Disk Drive|Filename|File Ext.|Password

TMP error. One or more elements of a file specification you entered are invalid. See Section 2 for rules for naming parts of a file specification.

Concurrent Error: Can't Find BATCH.CMD

TMP error. Concurrent cannot execute the commands contained in your batch file because it cannot locate the file BATCH.CMD. Store BATCH.CMD in your system drive (in User 0 if your system drive is a CP/M medium) and give it the SYS attribute so that you can use batch files from any directory in your system.

Concurrent Error: Can't Find Command

TMP error. Concurrent cannot find your command file. You might have mistyped the command. If not, the command file is not in the current directory or the root directory of the system drive. If the command file is stored in the system drive (in User 0 on CP/M media), it may not have the SYS attribute. See "System Drive Assignment" in Section 2 for a description of how Concurrent searches for commands.

Concurrent Error: CLI Abort

TMP error. The Command Line Interpreter (CLI) was stopped, typically by a Ctrl-C. If you did not intend to terminate the command, you must reenter the command line.

Concurrent Error: File not found

TMP error. Concurrent cannot locate the file specified in the command line. Check the spelling of the filespec. If your spelling was correct, use DIR to check the contents of other directories.

Concurrent Error: Invalid Drive Specification

TMP error. The drive selected is not part of your system. Concurrent supports up to eight drives, lettered A through H, plus drive M (MDISK), and the floating drives, N and O.

Concurrent Error: Load Error

TMP error. This message indicates a corrupted command file or an error of unknown origin. Refer to "Corrupted Files" in this appendix for a discussion of recovery procedures for corrupted command files. If this message recurs, replace the program file on disk with your backup copy. If you still receive the message, contact your technical support group for your personal computer for help in locating the cause of the error, or consult the vendor from whom you purchased your system.

Concurrent Error: Not Enough Memory

TMP error. There is not enough memory available to load the command file you specified. See "Insufficient Memory," at the end of this appendix. This error can also occur when the command file is corrupted. Refer to "Corrupted Files," at the end of this appendix, for more information.

Concurrent Error: PD Table Full

TMP error. You have reached the maximum number of processes possible with your personal computer. Wait until one or more programs are finished, or use STOP or Ctrl-C to terminate one or more programs. This error might affect more than just the program that received the error message. Check your other windows to see that other programs are still running.

Concurrent Error: Read Error

TMP error. This error message indicates a hardware error. Refer to the "Error Handling Procedures" at the end of this appendix for a discussion of possible hardware errors.

Concurrent Error: RSP Command Queue Full

TMP error. The command you specified is tied up right now, probably on another window. Retry later, or check your other windows to locate the command and wait for it to finish, or terminate the command with Ctrl-C or STOP.

Concurrent Error on d: Close Checksum Error

BDOS error. A file cannot be closed properly because the directory Concurrent finds on the disk does not match the one logged into memory. This error usually occurs when the disk has not been reset. Ensure that no other processes are running and restart the system. If the error recurs, it might mean that the application you are running is incompatible with Concurrent.

Concurrent Error on d: Disk I/O

BDOS error. This error message indicates a hardware error. Refer to the "Error Handling Procedures" at the end of this appendix for a discussion of possible hardware errors.

Concurrent Error on d: Disk reset denied

BDOS error. A program tries to reset a drive with an open file. Check your other windows to locate the program with the open file and either wait for it to finish or terminate the program with a Ctrl-C or the STOP command.

Concurrent Error on d: File Already Exists

BDOS error. You tried to create or rename a file when there is already a file of that filename and file extension in the current or specified directory.

Concurrent Error on d: File Currently Open

BDOS error. A program tried to delete, rename, or modify an attribute of a file currently opened by another program. Either wait until the other program is finished and the file is closed, or use the STOP command or Ctrl-C to stop the program. This error also occurs when a program tries to open a file that is already open and the new open mode is incompatible with the mode in which the file was opened previously.

Concurrent Error on d: File Opened in Read/Only Mode

BDOS error. A program attempted to write to a file opened in Read/Only mode. A file is opened in Read/Only mode if it resides in User 0 and is opened by another program from another user number. Locate the other program and either wait for it to finish, or terminate it with a Ctrl-C.

Concurrent Error on d: Illegal ? in FCB

BDOS error. You used a wildcard character, ? or *, where wildcard filespecs are not permitted.

Concurrent Error on d: Invalid Drive

BDOS error. The drive selected is not part of your system. Concurrent supports up to eight drives, A through H, plus drive M (MDISK), and the floating drives, N and O.

Concurrent Error on d: No Room in System Lock List

BDOS error. The Open File, Make File, and Access Drive functions return this error when no room for new entries exists within the system lock list.

Concurrent Error on d: Open File Limit Exceeded

BDOS error. A program has tried to open one or more files than the maximum number of open files per process that the system can accommodate.

Concurrent Error on d: Password Error

BDOS error. A password is incorrect or missing. Avoid this error with password-protected drives and files by setting a default password. See SET in the Reference Guide for an explanation of default passwords.

Concurrent Error on d: Read/Only File

BDOS error. A program tried to write to a file when that file was set to Read/Only. Use the SET command, SET d:filespec [RW], to set the file to Read/Write, then reenter the command line.

Concurrent Error on d: Read/Only Disk

BDOS error. A program tried to write to a file when the drive was set to Read/Only. Use the SET command, SET d:[RW], to set the drive to Read/Write, then reenter the command line.

Could not interpret parameters in WINDOW CHANGE command.

WINDOW error. This message appears when one of the fields in a WINDOW command line is misspelled or when unacceptable syntax is used in a WINDOW command line. See the Reference Guide for explanations and examples of correct WINDOW command lines.

Could not obtain access to a Print Manager in the system.

PRINTMGR error. Either the Printer Manager is not loaded on your system or you did not enable any printers. Run PRINTMGR START and try again.

Could not open file filename.ext.

PRINTMGR error. The Printer Manager could not find the file you requested or someone else is using the file. Make sure you typed the file's filespec correctly and the file is in the current or specified directory.

Could not protect or reset drive.

FSET error. This error message indicates a hardware error. Refer to the "Error Handling Procedures" at the end of this appendix for a discussion of possible hardware errors.

CP/M system area is defective

HDMAINT error. If Concurrent cannot access the CP/M partition, HDMAINT displays this flashing message as part of the description of the CP/M partition in the partition summary display. This message indicates hardware failure. You might not be able to access the CP/M partition. If this error occurs after a partition containing files already exists, remember that any attempt to create a new partition requires that you delete the existing partition.

Concurrent is already loaded

LOADXM error. Concurrent is already loaded into memory and operating from the partition specified. LOADXM cannot load Concurrent a second time. No action is necessary.

Defective DOS file: CCPM.SYS

Concurrent hard-disk system loader error. The file named CCPM.SYS on the DOS partition does not contain the Concurrent operating system. You must restart Concurrent from the Startup disk to continue operation. Use PIP or COPY to transfer a valid copy of the operating system to the DOS partition.

Defective hard disk CP/M partition

Concurrent hard-disk system loader error. The system loader is unable to read CP/M partition information in the Partition Table. You must restart Concurrent from the Startup disk to continue operation. Use HDMAINT to recreate the CP/M partition on the hard disk.

Destination is not a hard disk.

REDOS error. REDOS can only transfer DOS system files to a hard disk partition. Enter the command again, giving the correct destination drive specification.

DESTINATION IS R/O, DELETE (Y/N)?

PIP error. The destination file specified in a PIP command already exists and it is Read/Only. If you type Y (for Yes), the existing file is deleted and replaced with the file specified in the PIP command. If you do not want to delete the existing file, type N (for No). You can use the W option to avoid this message. Refer to PIP in the Reference Guide, for a discussion of PIP options.

Destination Menu Directory Full.
Press F10 to continue with the copy function.
or Press Esc to abort.

COPYMENU error. The directory of menus in the destination menu file is full. Delete a menu in the destination file, or make a new menu file.

Device full

DR EDIX error. The disk to which you are writing with Alt-W is full. The file has been restored to the way it was before the write. You must write to a different drive or make room on the disk by erasing unneeded files. Press Alt-H for instructions.

Directory already exists

MKDIR error. A subdirectory of the name you specified already exists on the medium in the current or specified drive.

Directory Full

FUNCTION error. FUNCTION is unable to write a PFK file because the directory of the destination disk is full. Erase one or more files from the disk or use a different disk.

Directory needs to be reformatted for time/date stamps.

FSET error. You attempted to set time/date stamps on an uninitialized directory. Refer to INITDIR in the Reference Guide for instructions on initializing a directory for time stamping.

Disk Error Drive d: Track 00 message Retry,Ignore,Accept?

This error originates in the XIOS. The XIOS is that portion of the operating system that handles input and output to and from disk drives and other peripheral devices. In the disk error message, d:

stands for the drive letter and "message" stands for a specific message that indicates the nature of the error condition.

In general, a disk error message indicates that Concurrent was unable to read from or write to a hard disk or disk in the specified drive. The various messages that can appear in the "message" portion of a disk error message are described at the end of this appendix, in "Disk Error Messages."

When you press R, I, or A for Retry, Ignore, or Accept, you get the following results:

The Retry option gives you the opportunity to correct an error condition. For example, if you invoke a DIR A: command and the A drive door is open, you receive a status line error message similar to the one above. After receiving the message you can close the drive door and press R for Retry. Your command then executes correctly.

The Ignore option returns you to the operating system level. Concurrent operation resumes just after the point where it encountered the error condition. If the error condition still exists, the error message can appear again.

The Accept option returns you to the operating system level. Concurrent gives you a message in the format: "Concurrent Error: message," where "message" is a description of the error condition. The various Concurrent errors are listed in this appendix.

Disk I/O Error

ERASE, ERAQ error. This error message indicates a hardware error. Refer to the "Error Handling Procedures" at the end of this appendix for a list of possible hardware errors and their solutions.

Disk error in reading CCPM.SYS (or CPM.SYS)

Concurrent hard-disk system loader error. CCPM.SYS is the file containing the Concurrent operating system. CPM.SYS is the file containing the CP/M-86 operating system. The system loader is unable to read those files on the CP/M partition because of defective blocks. You must restart Concurrent from the Startup disk to continue operation. This message might indicate hardware failure. Any attempts to access the CP/M partition can produce unpredictable results. You might be able to recreate the CP/M partition on the hard disk with HDMAINT.

Disk error reading DOS file: CCPM.SYS

Concurrent hard disk system loader error. The system loader is unable to read the CCPM.SYS file on the DOS partition because of defective blocks. You must restart Concurrent to continue operation. This message might indicate hardware failure. Any attempts to access the DOS partition might produce unpredictable results. You might be able to recreate the DOS partition on the hard disk with HDMAINT. If this error occurs after a partition containing files already exists, remember that any attempt to create a new partition requires that you delete the existing partition. The process destroys all files in the partition.

Disk error reading system loader

Concurrent hard-disk system loader error. The system loader is unable to read the operating system files on the CP/M partition because of defective blocks. You must restart Concurrent to continue operation. This message might indicate hardware failure. Any attempts to access the CP/M partition might produce unpredictable results.

You might be able to recreate the CP/M partition on the hard disk with HDMAINT. If this error occurs after a partition containing files already exists, remember that any attempt to create a new partition requires that you delete the existing partition. The process destroys all files in the partition.

Disk Full

FUNCTION error. Indicates that you must erase files from your destination disk or use a different disk.

Disk Not Ready

BackRest error. A disk is improperly inserted or a drive door was left open. See "Disk Handling" at the end of this appendix.

Divide interrupt from processname at address
Press any key to stop process

XIOS error. "processname" stands for the process running at the time the error condition is encountered. "address" stands for memory address. A program performs an illegal divide operation, such as a divide-by-zero operation. You must restart to resume using Concurrent.

Drive Read Only

REN error. You attempted to rename a file on a drive that is set to Read/Only. If you want to rename the file, use the FSET command to set the drive to Read/Write. Use the FSET [HELP] command for more information.

DSKMAINT cannot run in the background

DSKMAINT error. This message appears if you switch windows after invoking DSKMAINT. You cannot switch windows while you are running DSKMAINT.

DSKMAINT cannot run while there are open files on any of the drives

DSKMAINT error. Consult the open-file message area of the status line to see which drives have open files. Switch to these drives and close any open files before running DSKMAINT.

8087 not installed

8087 error. This message is returned when you enter an 8087=ON command when you do not have a properly installed 8087 chip.

Empty buffer

DR EDIX error. You have attempted to delete the only line in the buffer when the line consisted only of the end-of-line character. EDIX buffers can never get smaller than a single end-of-line.

Empty delete stack

DR EDIX error. You have issued an Alt-U (undo) command when there are no deleted lines in the undo stack.

Enable password protection first:FSET d:[protect=on]

FSET error. You attempted to set a password or protection on a file without first enabling protection for the disk or hard disk. Refer to FSET in the Reference Guide for a discussion of password protection.

Entry number too large

STOP error. The entry number for the program you want to terminate does not exist. Use entry numbers that are displayed in STOP's menu.

ERROR: BAD PARAMETER

PIP error. The command line contains an illegal parameter. Refer to the Reference Guide for an explanation and listing of the PIP command parameters.

ERROR: can't create directory Destination disk not empty.
Insert blank disk, hit any key

BACKUP error. You have used a floppy disk that already contains a BACKUP or is in use as an ordinary DOS disk. ERASE the files from the disk or reformat the disk before it can be used by BACKUP.

ERROR: CAN'T DELETE TEMP FILE - d:filespec

PIP error. This message indicates a possible damaged disk. See "Disk Handling" at the end of this appendix for possible recovery methods.

ERROR: CAN'T DELETE TEMP FILE INCOMPATIBLE MODE - d:filespec

PIP error. A temporary file, with the file extension \$\$\$, exists and cannot be deleted because it is currently opened by another program. Check your windows until you locate the program that has the file open and wait for it to finish or terminate it.

ERROR: CAN'T DELETE TEMP FILE INVALID PASSWORD - d:filespec

PIP error. You attempted to delete a password protected temporary file without providing the correct password. Type the correct password with the file specification, d:filename;password, and reenter the PIP command line.

ERROR: CAN'T DELETE TEMP FILE NONRECOVERABLE - d:filespec

PIP error. This error message indicates a hardware error. Refer to the "Error Handling Procedures" at the end of this appendix for a discussion of possible hardware errors.

ERROR: CAN'T DELETE TEMP FILE R/O DISK - d:filespec

PIP error. A temporary file, with the file extension .\$\$\$, exists and cannot be deleted because the drive is set to Read/Only. Use the FSET command, FSET d:[RW], to set the drive to Read/Write.

ERROR: CAN'T DELETE TEMP FILE R/O FILE - d:filespec

PIP error. A temporary file, with the file extension .\$\$\$, exists and cannot be deleted because it is set to Read/Only. Use the FSET command, FSET d:filespec [RW], to set the file to Read/Write, then reenter the PIP command.

ERROR: can't find disk label

BACKUP error. During a restore operation, BACKUP looks for a label on the floppy disk to identify the back-up version. You have probably put a blank floppy disk into the machine during a backup operation.

ERROR: CLOSE FILE - d:filespec

PIP error. This message indicates a possible damaged disk. See "Disk Handling," at the end of this appendix for possible recovery methods.

ERROR: CLOSE FILE FCB CHECKSUM - d:filespec

PIP error. This message indicates a possible problem with your media or hardware. Check your disk and connections to your computer and hard disk.

ERROR: CLOSE FILE INVALID DISK SELECT - d:filespec

PIP error. The drive selected is not part of your system. Concurrent supports up to eight drives, A through H, plus drive M (MDISK), and the floating drives N and O.

ERROR: CLOSE FILE NONRECOVERABLE - d:filespec

PIP error. This error message indicates a hardware error. Refer to the "Error Handling Procedures" at the end of this appendix for a discussion of possible hardware errors.

ERROR: CLOSE FILE R/O DISK - d:filespec

PIP error. PIP cannot write the file indicated to the drive because the drive is set to Read/Only. Use the FSET command, FSET d:[RW], to set the drive to Read/Write, then reenter the PIP command.

ERROR - Currently Opened

FSET error. You attempted to use FSET with a file that is currently open. Locate the program that has the file open and either wait for it to finish or terminate it.

ERROR: Destination Disk full, Restore not completed

BACKUP error. The hard disk drive to which you are restoring files is full. Remove any unwanted files from the drive first and try running BACKUP again.

ERROR: DISK READ - d:filespec

PIP error. This message indicates a possible damaged disk. See "Disk Handling," at the end of this appendix for possible recovery methods.

ERROR: DISK READ CAN'T CLOSE CURRENT EXTENT - d:filespec

PIP error. This message indicates a possible problem with your media or hardware. Check your disks and connections to your computer and hard disk.

ERROR: DISK READ FCB CHECKSUM - d:filespec

PIP error. This message indicates a possible problem with your media or hardware. Check your disks and connections to your computer and hard disk.

ERROR: DISK READ INVALID DISK SELECT - d:filespec

PIP error. The drive selected is not part of your system. Concurrent supports up to eight drives, A through H, plus drive M (MDISK), and the floating drives N and O.

ERROR: DISK READ INVALID FILENAME - d:filespec

PIP error. The filename specified is too long, or a delimiter was used as the first character. Filenames cannot be longer than eight characters. Refer to Section 2 for rules on naming files. Correct the filename and reenter the command line.

ERROR: DISK READ NONRECOVERABLE - d:filespec

PIP error. This error message indicates a hardware error. Refer to the "Error Handling Procedures" at the end of this appendix for a discussion of possible hardware errors.

ERROR: DISK READ RANDOM RECORD OUT OF RANGE - d:filespec

PIP error. This message indicates a possible problem with your media or hardware. Check your disks and connections to your computer and hard disk.

ERROR: DISK READ SEEK TO UNWRITTEN EXTENT - d:filespec

PIP error. This message indicates a possible problem with your media or hardware. Check your disks and connections to your computer and hard disk.

ERROR: DISK WRITE - d:filespec

PIP error. This message indicates a possible damaged disk. See "Disk Handling," at the end of this appendix for possible recovery methods.

ERROR: DISK WRITE CAN'T CLOSE CURRENT EXTENT - d:filespec

PIP error. This message indicates a possible problem with your media or hardware. Check your disks and connections to your computer and hard disk.

ERROR: DISK WRITE FCB CHECKSUM - d:filespec

PIP error. This message indicates a possible problem with your media or hardware. Check your disks and connections to your computer and hard disk.

ERROR: DISK WRITE INVALID DISK SELECT - d:filespec

PIP error. The drive selected is not part of your system. Concurrent supports up to eight drives, A through H, plus drive M (MDISK), and the floating drives N and O.

ERROR: DISK WRITE NO DATA BLOCK - d:filespec

PIP error. The disk or hard disk to which PIP is writing is full. The file indicated by filespec was not copied. Specify a different destination drive or use the ERASE command to erase any unnecessary files from the full disk. If the destination medium is a disk, you can replace the full disk before you reenter the PIP command line.

ERROR: DISK WRITE NO DIRECTORY SPACE - d:filespec

PIP error. The disk or hard disk to which PIP is writing has no directory space available. Specify a different destination drive or use the ERASE command to erase any unnecessary files from the full directory. If the destination medium is a disk, you can replace the disk before you reenter the PIP command line.

ERROR: DISK WRITE NONRECOVERABLE - d:filespec

PIP error. This error message indicates a hardware error. Refer to the "Error Handling Procedures" at the end of this appendix for a discussion of possible hardware errors.

ERROR: DISK WRITE R/O DISK - d:filespec

PIP error. The destination drive is set to Read/Only. Use the FSET command, FSET d:[RW], to set the drive to Read/Write, then reenter the PIP command.

ERROR: DISK WRITE R/O FILE - d:filespec

PIP error. The destination file is set to Read/Only. Use the FSET command, FSET d:filespec [RW], to set the file to Read/Write, then reenter the PIP command.

ERROR: DISK WRITE RANDOM RECORD OUT OF RANGE - d:filespec

PIP error. This message indicates a possible problem with your media or hardware. Check your disks and connections to your computer and hard disk.

ERROR: DISK WRITE RECORD LOCKED - d:filespec

PIP error. This message indicates a possible problem with your media or hardware. Check your disks and connections to your computer and hard disk.

ERROR - File not available

CHSET error. The file you specified in the CHSET command line is currently opened by another program. Check your other windows to locate the program that has the file open and either wait until it is finished or terminate it.

ERROR: FILE NOT FOUND - d:filespec

PIP error. The input file indicated by filespec does not exist in the current or specified directory. Ensure that you are typing the correct filename, drive specifier, and user number. Use DIR to check other directories for the location of the source file. This error can also occur when the file you are trying to copy with PIP has a system attribute. Use the R option with PIP to copy the file. Refer to PIP in the Reference Guide for more information.

ERROR: FILE NOT FOUND INVALID DISK SELECT - d:filespec

PIP error. The drive selected is not part of your system. Concurrent supports up to eight drives, A through H, plus drive M (MDISK), and the floating drives N and O.

ERROR: FILE NOT FOUND NONRECOVERABLE - d:filespec

PIP error. This error message indicates a hardware error. Refer to the "Error Handling Procedures" at the end of this appendix for a discussion of possible hardware errors.

ERROR: First FSET B:[protect=on]

FSET error. You tried to set or change a password before enabling password protection on the drive. FSET d:[protect=on] enables password protection on the drive and allows you to set and change passwords on the files on that disk. If the drive label itself has a password, you must provide the password to change protection. Refer to FSET in the Reference Guide for an explanation of password protection.

ERROR: HEX RECORD CHECKSUM - d:filespec

PIP error. A Hex record checksum error was encountered during the transfer of a Hex file. This message indicates a corrupted or truncated Hex file. Use the PIP command to copy the Hex file from your backup disks. If you do not have a backup, you must erase the damaged file and recreate it.

ERROR: Illegal command tail

SDIR error. SDIR does not recognize what you entered after the command. Enter HELP SDIR or see SDIR in the Reference Guide for the correct syntax.

ERROR: Illegal option or modifier

SDIR error. The option or modifier you supplied is not valid with SDIR. Enter HELP SDIR or see SDIR in the Reference Guide for a listing of the SDIR options and modifiers.

ERROR: Invalid Command Option

SDIR error. The option or modifier you supplied is not valid with SDIR. Enter HELP SDIR or see SDIR in the Reference Guide for a listing of the SDIR options and modifiers.

ERROR: INVALID DESTINATION - d:filespec

PIP error. The destination specified in your PIP command is illegal. You have specified an input device as a destination, or used a wildcard file specification. Refer to PIP in the Reference Guide for a discussion of the valid PIP destinations.

ERROR: INVALID FORMAT

PIP error. The format of your PIP command is incorrect. Refer to the PIP command for the correct syntax.

ERROR: INVALID FORMAT WITH SPARSE FILE - d:filespec

PIP error. This error usually occurs when you use PIP to concatenate or otherwise to change the format of a sparse file.

ERROR: INVALID HEX DIGIT - d:filespec

PIP error. An invalid Hex digit is encountered while reading a Hex file. This message indicates a truncated or corrupted Hex file. Use PIP or COPY to copy the file from your backup disk. If you do not have a backup, you must erase the damaged file and recreate it.

ERROR: INVALID SEPARATOR

PIP error. In a PIP command line, a comma is the only valid separator between input filenames.

ERROR: INVALID SOURCE

PIP error. The source specified in your PIP command is illegal. You have specified an output device as a source or used a wildcard filespec. Refer to PIP in the Reference Guide for a discussion of the legal sources for a PIP command.

ERROR: INVALID USER NUMBER

PIP error. You have specified a user number greater than 15 or less than 0. Valid user numbers are from 0 to 15.

Error loading operating system

Concurrent hard-disk system loader error. Unable to read operating system loader file. You must restart Concurrent from the Startup disk to continue operation of your personal computer. This message originates in software that IBM supplies with the hard disk. Use HDMAINT to write the system loader on the partition where the error occurred. If this does not correct the error condition, you have a hardware problem.

ERROR: MAKE FILE - d:filespec

PIP error. This message indicates a possible damaged disk. See "Disk Handling," at the end of this appendix for possible recovery methods.

ERROR: MAKE FILE ALREADY EXISTS - d:filespec

PIP error. This message indicates a possible problem with your media or hardware. Check your disks and connections to your computer and hard disk.

ERROR: MAKE FILE INVALID DISK SELECT - d:filespec

PIP error. The drive selected is not part of your system. Concurrent supports up to eight drives, A through H, plus drive M (MDISK), and the floating drives N and O.

ERROR: MAKE FILE INVALID FILENAME - d:filespec

PIP error. The filename specified is too long, or you used a delimiter as the first character. Filenames cannot be longer than eight characters. Refer to Section 2 for a list of the delimiters that cannot be used in filespecs.

ERROR: MAKE FILE LIMIT EXCEEDED - d:filespec

PIP error. There are too many files open for the Concurrent open file list. Check your other windows for programs with open files and either wait until they finish or terminate one or more programs.

ERROR: MAKE FILE NONRECOVERABLE - d:filespec

PIP error. This error message indicates a hardware error. Refer to the "Error Handling Procedures" at the end of this appendix for a discussion of possible hardware errors.

ERROR: MAKE FILE R/O DISK - d:filespec

PIP error. PIP cannot create the file indicated because the drive is set to Read/Only. Use the FSET command, FSET d:[RW], to set the drive to Read/Write, then reenter the PIP command.

ERROR: NO DIRECTORY SPACE - d:filespec

PIP error. The disk or hard disk to which PIP is writing has no directory space available. Specify a different destination drive or use the ERASE command to erase any unnecessary files from the full disk. If the destination medium is a disk, you can replace the full disk before you reenter the PIP command line.

ERROR: No HELP.HLP file on the current drive

HELP error. The HELP.HLP file must be on the current drive in order to access it.

ERROR: not enough extra memory for disk buffers.

BACKUP error. You have run out of memory. Try again shortly.

ERROR: OPEN FILE - d:filespec

PIP error. This message indicates a possible damaged disk. See "Disk Handling," at the end of this appendix for possible recovery methods.

ERROR: OPEN FILE INCOMPATIBLE MODE - d:filespec

PIP error. Some other program has the file indicated by d:filespec opened. Check your other windows to locate the program and either wait until it has finished or terminate it.

ERROR: OPEN FILE INVALID DISK SELECT - d:filespec

PIP error. The drive selected is not part of your system. Concurrent supports up to eight drives, A through H, plus drive M (MDISK), and the floating drives N and O.

ERROR: OPEN FILE INVALID FILENAME - d:filespec

PIP error. This message indicates a possible problem with your media or hardware. Check your disks and connections to your computer and hard disk.

ERROR: OPEN FILE INVALID PASSWORD - d:filespec

PIP error. You tried to copy a password-protected file without entering the password. Include the password in the file specification and reenter the command line.

ERROR: OPEN FILE LIMIT EXCEEDED - d:filespec

PIP error. There are too many files open in the Concurrent open file list. Check your other windows for programs with open files and either wait until they finish or terminate one or more programs.

ERROR: OPEN FILE NONRECOVERABLE - d:filespec

PIP error. This error message indicates a hardware error. Refer to the "Error Handling Procedures" at the end of this appendix for a list of possible hardware errors and their solutions.

ERROR: Out of memory too many files

BACKUP error. BACKUP copies the portion of a hard disk's file directory into memory that is needed to copy the selected files. This message might be displayed if the file directory is very large and the directory cannot all be loaded into memory at once. If this occurs, subdivide the backup operation into two stages.

ERROR: Parameter Required, try FSET [HELP]

FSET error. This message indicates a syntax error in the FSET command line. Enter a FSET [HELP] command for examples of correct FSET syntax.

ERROR: PRINTER BUSY

PIP error. This message indicates that the printer is in use by another program. Wait until it is available or locate the program using the printer in one of your other windows and terminate it. Some programs do not release the printer after the print job is complete. You must terminate such a program to make the printer available to programs in other windows.

ERROR: QUIT NOT FOUND

PIP error. The string argument to a Q parameter is not found in your input file. Ensure that you typed the correct string and retry the operation. This error can also occur when entering the Q option from the command line. Concurrent translates everything in the command line into uppercase. To avoid this problem, invoke PIP without a command tail and wait for the * prompt before entering the file specifications and Q option.

ERROR: RECORD TOO LONG

PIP error. A Hex record exceeds 80 characters in a file being copied with the [H] or [I] option.

ERROR: Some other process has an open file.

INITDIR error. INITDIR cannot be run when any program on any drive is accessing a file. Find the drive with the open file and either wait until the program is finished or terminate it.

ERROR: START NOT FOUND

PIP error. The string argument to an S parameter could not be found in the source file. Ensure that you are typing the correct string and retry the operation. This error can also occur when entering the S option from the command line. Concurrent translates everything in the command line into uppercase. To avoid this problem, invoke PIP without a command tail and wait for the * prompt before you type the file specifications and S option string.

**ERROR: Too many entries in Index Table.
Not enough memory**

HELP error. There is not enough memory available to hold the topic table while creating HELP.HLP. If you are running one or more large programs in other windows, wait until they are finished before reentering the HELP [Create] command line. If HELP is the only program you are running, refer to "Insufficient Memory" at the end of this appendix for more information on memory usage.

**ERROR: Unable to close HELP.DAT
Unable to close HELP.HLP**

HELP error. The disk to which the file is being written is either full or has no directory space available. Use PIP or COPY to copy HELP.DAT or HELP.HLP to a disk that has sufficient free space, then reenter the HELP[E] or HELP[C] command. After creating a new HELP.HLP, give the file the SYS attribute and store it in the system drive so that you can obtain help from any directory in your system.

**ERROR: Unable to Make HELP.DAT
Unable to Make HELP.HLP**

HELP error. There is not enough space on the disk for HELP.HLP or HELP.DAT, or the files are Read/Only. If the files are Read/Only, use the FSET command to set them to Read/Write. After creating a new

HELP.HLP, give the file the SYS attribute and store it in the system drive so that you can obtain help from any directory in your system.

ERROR: UNEXPECTED END OF HEX FILE - {filespec}

PIP error. The last Hex record was not as long as the character count indicated. The hex file is truncated. Use PIP to write a copy of the truncated file from your backup disk. If you do not have a backup, you must erase the damaged file and recreate it. Refer to "Corrupted Files" at the end of this appendix for more information on recovery procedures for corrupted files.

ERROR: USER ABORTED

PIP error. You terminated a PIP operation by entering a Ctrl-C or by pressing a key. If you did not intend to terminate the operation, you must reenter the PIP command line.

ERROR: Valid printer numbers are from 0 to 4.

PRINTMGR error. You entered a printer number greater than 4. Confirm which printers you want the Printer Manager to use and reenter the PRINTMGR START command.

ERROR: VERIFY - d:filespec

PIP error. When copying with the V option, PIP found a difference between the data just written and the data in its memory buffer. Usually, this message indicates a hardware error. Refer to the "Error Handling Procedures" at the end of this appendix for a discussion of possible hardware errors.

Error while closing file: filename.

CHSET error. This message means that you probably removed a disk containing the file you were modifying before CHSET had closed the file.

*** Error while reading System File ***
Try another diskette.

Disk loader error. The disk loader found the operating system file CCPM.SYS, but it could not read the file into memory correctly. Try restarting from a different copy of your Concurrent Startup disk.

Error while writing file, check disk. (press any key to continue)

WMENU error. This message appears when you attempt to write a window file in WMENU to a disk or hard disk that is full or write-protected. When you press any key you return to WMENU's main menu. WMENU writes files to the directory from which you invoke WMENU.

Error Writing Menu, COPYMENU Abort.
Error Writing Menu, EDITMENU Abort.

COPYMENU or EDITMENU error. There is not enough free space on the disk to write the menu you are making to the menu file. Use SHOW to determine how much free space you have on the destination disk. If there is sufficient free space, you might have a defective disk.

ERROR: Writing file, check disk

WINDOW error. This message appears when you attempt to write a window file to a disk that is full or write-protected. Make sure that the write-protect notch is uncovered. If it is, run the SHOW command to find out how much free space you have on the disk that was to receive the file.

ERROR: Writing file HELP.DAT

HELP error. Following a HELP[E] command, this message usually means that the destination disk is full. Erase any unnecessary files or copy the HELP.HLP file to a different disk and retry the operation.

ERROR: Writing file HELP.HLP

HELP error. Following a HELP[C] command, this message usually means that the destination disk is full. Erase any unnecessary files or copy the HELP.HLP file to a different disk and retry the operation.

ERROR: Wrong Password

FSET error. You tried to use FSET with a file or drive that is password protected. The first time this message appears, a prompt for the password appears under it. Enter the password. If it is incorrect, this message appears a second time and FSET returns you to the command line prompt.

ERROR: You have not enabled any printers for Print Manager output.
At least one printer must be specified.

PRINTMGR error. You entered the PRINTMGR START command without entering a printer number. Reenter PRINTMGR START and specify at least one printer number

ERROR: Your system does not support that printer number.

PRINTMGR error. You entered a printer number in your PRINTMGR START command that does not exist in your system. Confirm which of the five possible printers are available on your system and reenter your PRINTMGR START command.

File allocation table is defective

HDMAINT error. This message appears if HDMAINT cannot access the DOS partition's file allocation table (FAT) during a verify operation. If you retry the operation and the message reoccurs, the critical areas of the DOS partition might be physically damaged. Any attempts to access files in that partition can have unpredictable results. You might be able to redefine the DOS partition limits and successfully avoid the defective areas. Remember that any attempt to create a new partition requires that you delete the existing partition.

File creation error

COPY error. This message indicates that the destination disk has no more directory space and is therefore unable to receive a copy of the source file. Use ERASE to delete any unnecessary files from the destination disk or use a different destination disk.

File: d:filename.ext not found

EDITMENU error. Concurrent cannot find MENU.DAT or the menu file you specified in the command line. If you typed the file's name correctly, use DIR or SDIR to determine in which directory the file is located.

FILE IS READ/ONLY

CHSET error. CHSET cannot mark the command header of a file that is set to Read/Only. Use FSET to set the file to Read/Write.

File not found.

CHSET, DIR, ERASE, ERAQ, TYPE error. The command could not find the file specified in your command line. Check the spelling of the filespec. If the filespec was spelled correctly, use DIR or SDIR to check the contents of other directories for the location of the specified file.

Filename requested is not an acceptable filename.

WINDOW error. The filename you have chosen for your window file does not conform to the rules for naming files under Concurrent. See Section 2 for guidelines on how to name files.

Formsize and Pagesize must not differ by more than 100.

PRINTMGR error. You entered values for FORMSIZE and PAGESIZE that differ by more than 100. Change the values so that they do not exceed this range.

Formsize must be at least 2 lines greater than Pagesize.

PRINTMGR error. You entered a value for FORMSIZE that is not at least two lines more than PAGESIZE. Change one of the values and retry.

HDMAINT cannot create a partition beginning at cylinder nnn because of a bad block in the reserved operating system area.

HDMAINT error. HDMAINT cannot create a partition because physical surface defects have been detected in the system area at the specified starting cylinder number (nnn). If entering different starting cylinder number or completely relocating the partition does not correct the problem, the physical surfaces of your hard disk might be damaged or other system hardware might have failed.

HDMAINT cannot write a loader because:
No space is reserved for a system in this partition.

HDMAINT error. The Concurrent loader cannot be written to the DOS partition because the partition was formatted without system files (no /S) using the DOS FORMAT command. This partition cannot be made bootable. You must recreate the partition to enable starting Concurrent from the DOS partition.

HDMAINT cannot write a loader because:
A user file named "DRIBIO.COM" or "DRIDOS.COM" already exists.

HDMAINT error. The DOS system files IBMBIO.COM and IBMDOS.COM are renamed when HDMAINT writes the Concurrent system loader files on a DOS partition created using DOS hard disk utilities. HDMAINT cannot rename the DOS system files if other files named DRIBIO.COM or DRIDOS.COM already exist on the DOS partition. If this error occurs, you must rename or delete the existing files before you can write the Concurrent system loader to the DOS partition.

HELP.DAT not on current drive

HELP error. HELP.DAT must be stored in the same drive from which you enter the HELP [C] command. Change the current drive to the one with the HELP.DAT file and reenter the HELP [Create] command. The new HELP.HLP file is created on that drive.

Initialization failed, no memory. EDITMENU Abort.

COPYMENU or EDITMENU error. Concurrent does not have enough memory to load COPYMENU or EDITMENU. See "Insufficient Memory" at the end of this section.

Insert SYSTEM diskette in A:
then PRESS Ctrl/Alt/Del...

Concurrent hard-disk system loader error. This message follows any error message that arises from the hard-disk system loader. After encountering an error condition in the hard-disk system loader, you must restart Concurrent from disk.

Insufficient disk space

COPY error. This message indicates that there is not enough space on your destination disk to receive a copy of your source file. Erase any unnecessary files or use a different disk.

Invalid Additional Memory Allocation, IGNORED

ADDMEM error. This message indicates you have entered an invalid value in an ADDMEM command. See ADDMEM in the Reference Guide for legal values in an ADDMEM command.

Invalid Attribute

FSET error. You tried to FSET a drive attribute to a file; for example, time stamps, a label name, or protection. Refer to FSET [HELP] or FSET in the Reference Guide for a discussion and examples of the FSET options.

Invalid command

DR EDIX error. You have issued a command that is invalid in this context. An example is Alt-G given in response to a Pattern: prompt. To cancel the prompt, use Alt-X.

Invalid Command Option

CHSET, DIR, ERASE, ERAQ error. The option or modifier supplied is not valid. Refer to the HELP file for the command you are using or the appropriate subsection in the Reference Guide for a list and discussion of the command options and modifiers.

Invalid date

Enter new date: __

DATE error. You entered the DATE in an incorrect format. Enter the date in the format mm-dd-yy. Enter a HELP DATE command or see DATE in the Reference Guide for examples of the correct format.

Invalid Drive

Invalid Drive Specification

This error can originate in a number of different Concurrent commands. The message indicates that you specified a drive that does not exist in your system. Concurrent supports drives A through H, plus drive M (MDISK) and the floating drives, N and O.

Invalid drive or disk

BACKUP error. You have entered a disk drive name that does not exist on your computer. Try again.

Invalid 8087 State, IGNORED

8087 error. The 8087 command has two valid settings, ON or OFF. This message is displayed if you enter a value other than the valid settings.

Invalid entry number

STOP error. STOP assigns a number to each program it can terminate. The number you selected for termination does not correspond to any of the numbers in STOP's menu.

Invalid file name: filespec

Invalid Filespec.

Invalid Filespec (drive|filename|file extension|password)

CHSET, COPY, DIR, REN, TYPE error. The filename, file extension, password, or drive specifier for the file you requested is incorrect. Correct the filespec and reenter the command line. Refer to Section 2 for more information on the correct forms of filenames, file extensions, and passwords.

Invalid hard disk system partition

Concurrent hard-disk system loader error. The system loader is unable to read information in the Partition Table. You must restart Concurrent from disk to continue operation. Use HDMAINT to recreate the CP/M partition on the hard disk.

Invalid Memory Allocation Size, IGNORED

COMSIZE error. You receive this message after entering an invalid COMSIZE setting. COMSIZE can be set to any integer from 0 to 999. See the Reference Guide for a discussion of COMSIZE.

Invalid ORDER file type, IGNORED
Search Order = CMD,COM,EXE,BAT

ORDER error. You specified an invalid file extension for Concurrent's file extension search for program and batch files. See ORDER in Reference Guide for the correct use of ORDER.

Invalid Parameter

FSET error. The FSET option you specified must have a filespec entered with it. Enter FSET [HELP] or see FSET in the Reference Guide for the correct syntax.

Invalid Partition Table

Concurrent hard-disk system loader error. More than one partition is marked as bootable (able to start Concurrent), a nonexistent partition is marked as bootable, or there is a hard-disk failure. You must restart Concurrent from the Startup disk to continue operation. Use HDMAINT to clear the bootable partitions.

Invalid Path

CHDIR, MKDIR, RMDIR, or SYSDISK error. The sequence of directories you specified in a command is incorrect. Check the spelling of each directory in the path and that no directories have been omitted in the sequence. See the explanation of each of the above commands in the Reference Guide.

Invalid Printer Number, IGNORED

PRINTER error. You specified an invalid printer number. The command is ignored. Specify a valid printer number and reenter the command line. Refer to the PRINTER command in the Reference Guide or "Port and Printer Numbering" in Table 2-3 for the valid printer numbers for your particular system configuration.

Invalid response

DR EDIX error. Responses to a (y/n)? query must be an uppercase or lowercase y or n.

Invalid Suspend State, IGNORED

SUSPEND error. The SUSPEND command has two valid settings, ON or OFF. If you enter a value other than these two settings, you receive the above message.

Invalid syntax. Correct syntax is as follows:

```
B>chset filename [field=setting,field=setting,field=setting]
```

CHSET error. This message appears when you omit square brackets or otherwise deviate from correct CHSET command line syntax. In the message above, "filename" stands for the filename of a command file with the file extension CMD. See the Reference Guide for a description of CHSET.

Invalid time

Enter new time: ___

TIME error. You entered the time in an incorrect format. Enter the time in the format hh:mm:ss. Enter a HELP TIME command or see TIME in the Reference Guide for examples of the correct format.

Invalid User Number, IGNORED

Invalid user number

COPY or USER error. You have specified a user number greater than 15 or less than 0. User numbers are from 0 to 15. Reenter the command line using a valid user number.

Memory size set by COMSIZE is insufficient to load program.

Run **COMSIZE** again to increase the amount of memory allocated for the program.

Menu Corrupted

RUNMENU error. **RUNMENU** displays this message when the text, as defined in a menu record, does not fit on the screen. Use **EDITMENU** to check the menu. You might need to rewrite the menu.

Menu Directory Corrupted

RUNMENU error. **RUNMENU** cannot read the directory of menus in **MENU.DAT** or the specified menu file. You might need to edit or recreate your menu file.

Missing directory

CHDIR, MKDIR, RMDIR, or SYSDISK error. In specifying a subdirectory, you have omitted a directory from hierarchical sequence of directories.

Missing operating system

IBM hard-disk system loader error. The bootable partition has been found but the system is not bootable. You must restart Concurrent from disk to continue operation. This message originates in software that IBM supplies with the hard disk.

No buffer has that file

DR EDIX error. No buffer is associated with a file of the name you entered. Use Alt-P to see which files are associated with which buffers.

No communication options installed

SETPORT error. This message occurs when you attempt to designate, in a SETPORT command line, a port that is not there. Use the interactive version of SETPORT. This version tells you which serial ports are part of your system.

No CP/M label currently exists, and there is no room in the directory to make a new one.

HDMAINT error. HDMAINT cannot create a directory label on the CP/M partition because there is no directory space available. Use the ERASE command to erase unnecessary files, if any, from the partition.

No CPM.SYS or CCPM.SYS file on the hard disk

Concurrent hard-disk system loader error. The file or files are not copied to the partition, or the filename is spelled incorrectly. You must restart Concurrent from the Startup disk to continue operation. Use PIP to copy CCPM.SYS or CPM.SYS to the CP/M partition.

No DOS label currently exists, and there is no room in the directory to make a new one.

HDMAINT error. HDMAINT cannot create a directory label on the DOS partition because there is no directory space available. Use the ERAQ command to erase unnecessary files, if any, from the partition.

No help file

DR EDIX error. DR EDIX cannot find the file named HELP.EDX. To receive help, this file must be on the current drive or drive A.

No operation was taken

PRINTMGR error. Either the Printer Manager is not loaded on your system or you did not enable any printers. Run PRINTMGR START and try again.

No pattern

DR EDIX error. You have pressed Alt-F10 (continue search), but there is no previous pattern stored.

No source block

DR EDIX error. You have issued a block-oriented DR EDIX command, but there is no marked block. You must first use Alt-K to mark the lines to be copied or moved.

No space for directory

MKDIR error. There is insufficient free space on the specified medium to create a new subdirectory.

No space reserved for a system on d:

REDOS error. The destination disk specified was created using the DOS FORMAT utility without the /S command. You must recreate the partition using HDMAINT or FORMAT/S to enable starting DOS from this partition.

No system files found, try another disk
Mount a DOS system disk in A: then press any key

REDOS error. The source disk does not contain the DOS operating system files. Insert a bootable DOS system disk in drive A and press any key to continue.

NO SYSTEM or BAD SYSTEM on boot disk!

Concurrent hard-disk system loader error. Concurrent cannot be loaded from the DOS partition because the partition does not contain a copy of the system loader or the the system loader information is defective. Use HDMAINT to write new Concurrent system loader information to the DOS partition.

Not a valid CHSET field.
The valid fields are 8087, SHARED, and SUSPEND.

CHSET error. This message appears when you type an invalid field name in a CHSET command line. Consult the Reference Guide for information on CHSET.

Not a valid CHSET setting.

The valid fields are 8087, SHARED, and SUSPEND. The fields and their possible settings are:

8087=ON,OFF,or OPT
SHARED=ON or OFF
SUSPEND=ON or OFF

CHSET error. This message appears when you type an invalid setting in a CHSET command line. Consult the Reference Guide for information on CHSET.

Not allowed to change NUMBER field

WINDOW error. This message appears when you enter a second number field in a WINDOW CHANGE command. Use the WINDOW TOP command, not the WINDOW CHANGE command, to switch windows.

Not a valid window sub-command

WINDOW error. This message appears when you misspell a WINDOW subcommand. Valid subcommands are VIEW, TOP, FULL, WRITE, and CHANGE. You can abbreviate these to the first letter of each subcommand.

Not enough memory for DOS file: CCPM.SYS

Concurrent hard-disk system loader error. The file CCPM.SYS copied to the DOS partition cannot be loaded because your computer does not have enough memory. Use PIP or COPY to copy the correct version of CCPM.SYS to the DOS partition.

Not enough memory to load system

Concurrent hard-disk system loader error. The file CCPM.SYS copied to the CP/M partition cannot be loaded because your computer does not have enough memory. Use PIP or COPY to transfer the correct version of CCPM.SYS to the CP/M partition.

Not enough room for a system on d:

REDOS error. The operating system files on the source disk are larger than the reserved system area on the specified disk. Be sure that the operating system files on your source disk are the correct version.

Not found

DR EDIX error. The pattern you entered could not be matched. The cursor has not been repositioned.

No window sub-command given.

WINDOW error. This message appears when you omit a WINDOW subcommand from a WINDOW command line. Following this message, WINDOW gives you a list of valid WINDOW subcommands with the range of allowable values for each subcommand.

Number required

DR EDIX error. After pressing Alt-G (go), you must type a number following the Line: prompt. To cancel the Alt-G, press Alt-X.

One of the options is unknown or is not used correctly.

PRINTMGR error. You made a typing error or used an invalid option. Enter HELP PRINTMGR to verify the syntax.

Open files on drives d:

BDOS error. This error occurs when you press a Ctrl-C to terminate a program when there are open files on the drives mentioned. Because Ctrl-C terminates programs, this message is printed to warn you that you should not remove a disk until all files on that drive are closed.

Out of range

DR EDIX error. The line number you gave in response to an Alt-G (go) command must be between 1 and the number of lines in the buffer. Press Alt-X to cancel the Alt-G command or type a legal line number.

Overflow interrupt from "processname" at address nnnn:nnnn
Press any key to stop process.

XIOS error. "processname" stands for a running process; "address" is a memory address. This message occurs when a multiply or divide operation in a program generates an overflow. Press any key to continue using Concurrent.

Parity error from processname at address
**** MACHINE IS HALTED! ****

XIOS error. "processname" stands for a running process; "address" is a memory address. Some memory operation generated a parity interrupt, not necessarily in this process at this address. In order to resume operation of the personal computer, you must turn the power off and then on again. This message indicates a hardware problem. Take note of the situation when you receive the message and notify the dealer from whom you purchased your personal computer or an authorized service representative.

Physical disk error

CHDIR, MKDIR, RMDIR, or SYSDISK error. Concurrent was unable to read from or write to a disk because of a defective medium.

Please specify DOS disk!

BACKUP error. You have attempted to use a disk that is not formatted as a DOS medium. Only DOS formatted floppy disks are valid as backup media for BACKUP.

Printer busy

XIOS error. This message occurs when you attempt to use the printer when a program on a different window is using it already. Wait until the first program is finished with the printer or use STOP to end execution of that program.

Printer is being used by another program.

Cardfile error. A program in another window is using the printer. Wait until the first program is finished with the printer.

Printer n not on-line

XIOS error. The printer specified by the number n is not on-line. Check to make sure that the printer is connected and turned on.

Printer n out of paper

XIOS error. The printer specified by the number n is out of paper. Reload paper.

Read error

DR EDIX error. A read error occurred while DR EDIX was reading a file. This message can occur if a bad filespec is specified or if the file that DR EDIX is reading is not terminated with an end-of-file character (decimal 26).

Reading file HELP.HLP

Reading HELP.HLP index

HELP error. An error occurs while reading HELP.HLP. This message indicates a damaged disk. Ensure that the disk is in place and retry the operation. If the error persists, the disk is damaged and must be replaced. Use PIP to copy as much of the damaged disk as possible to a fresh disk, and copy the HELP.HLP file from your backup copy.

Read-only disk

FUNCTION, MKDIR, or RMDIR error. You cannot create or remove a directory on, or write a file to, a drive that is set to Read/Only. Use FSET to set the drive to Read/Write. Make sure the write-protect notch is uncovered.

Requires Concurrent

Requires Concurrent Version 5.0

Either one or the other of these messages originates in a number of Concurrent commands. The message indicates that this version of the command can be run only under the Concurrent version with which it was shipped. Check the sign-on message when you restart the system.

Reserved system area is defective

HDMAINT error. If new defects are found in the area reserved for system information during the HDMAINT verify operation, this message appears. If you repeat the verify operation and the same message occurs, you might be able to recreate the partition at a different starting cylinder location to avoid the defects. If repeating the operation produces very different results, your hard disk might not be damaged. Another part of your system hardware might be causing the error.

Response too long

DR EDIX error. The response you typed after a prompt has too many characters for that particular prompt. Press Alt-H to see which responses are appropriate.

Select Error

FSET error. This message indicates one of two errors:

- The drive specified is not part of your system. Concurrent supports up to eight physical drives, lettered A through H, plus the MDISK, drive M, and the floating drives, N and O. Reenter the command line with a valid drive specification.
- This error occurs when there is a hardware error. Refer to the "Error Handling Procedures" at the end of this appendix for a discussion of possible hardware errors.

SETUP can't be run from a serial terminal

SETUP error. This error occurs because SETUP uses the function keys on the computer keyboard.

Severe Error - Restart the system.

PRINTMGR error. An internal error occurred. Restart the Printer Manager system. Do not perform a system reset (Ctrl-Alt-Del). All files being spooled or waiting to be spooled when the error occurred will print when you restart the Printer Manager system.

Source and destination diskettes are not of the same type

DSKMAINT error. This message occurs when you attempt to copy between two disks that are not formatted in the same way and you chose not to format the destination disk.

Source block marked in some other buffer

DR EDIX error. Use Alt-P to see which buffer is marked. Make that buffer current (with Alt-B or with a window-switching command) and press Alt-K to clear the marks.

Source Menu File Contains No Menus.

COPYMENU error. There are no menus in the source menu file for COPYMENU to copy.

Sub-command requires NUMBER=<0-3>

WINDOW error. This message appears when you omit the number field in a WINDOW command or enter an invalid number. NUMBER refers to window number, which can be in the range from 1 to 4. You must include the number field with the TOP, FULL, WRITE, or CHANGE subcommands. NUMBER can be abbreviated to n.

System file is defective: CCPM.SYS (or CPM.SYS)

Concurrent hard-disk system loader error. File named CPM.SYS or CCPM.SYS on the CP/M partition does not contain the CP/M-86 or Concurrent operating system. You must restart Concurrent from the Startup disk to continue operation. Use PIP or COPY to transfer a valid copy of the operating system to the CP/M partition.

Text capacity exceeded

DR EDIX error. You have filled all allocated memory with text. You should at this point write all buffers to disk, exit from DR EDIX, and reinvoke DR EDIX. Although DR EDIX usually maintains the integrity of internal storage structures when memory is exhausted, it is safer to get a fresh start.

That job number does not refer to an active job.

PRINTMGR error. You referred to a job number that is not active. Use **STATUS** to find the job number you want to specify.

That printer could not be enabled for output.

PRINTMGR error. The associated printer is in the range of possible selections but for a variety of reasons, it could not be started. Check that the printer is properly connected and powered up and then reenter your **PRINTMGR START** command.

The acceptable values for `fieldname` are `valuename`

WINDOW error. In this message, `fieldname` can be **TRACKING**, **DISPLAY**, **FGCOLOR**, or **BGCOLOR**. `Valuename` stands for the acceptable values for each field. This message appears when you enter an illegal value for tracking, display, foreground color, or background color in a **WINDOW** command line. Use the appropriate acceptable value as it appears in this message to reenter the **WINDOW** command line.

WINDOW detects and reports errors as it finds them, reading from the left to the right, on a **WINDOW** command line. If you receive the above **WINDOW** message, check entries to the right of the illegal value on the command line to avoid receiving a similar message for a different field.

The CP/M label has been **PASSWORD** protected

HDMAINT error. **HDMAINT** cannot change the CP/M directory label because the previously created label has been password protected. Use the **FSET** command to assign the new directory label.

The destination is already a PC-DOS system disk.
If you need to update it, use the PC-DOS SYS command.

REDOS error. The destination disk you specified already contains the DOS system files IBMBIO.COM and IBMDOS.COM. Use the PC DOS SYS command to update the operating system files on the specified disk.

The file specified in the command line cannot be opened

FUNCTION error. Message indicates a defective disk or defective hardware. Use your backup copy of the specified file.

The file specified in the command line was not found

FUNCTION error. Check the spelling of the filespec as you entered it. If the spelling is correct, use DIR to locate the file in other directories. See "Search Path for Files" at the end of this appendix.

The Menu File: d:filename.ext is corrupted.

COPYMENU or EDITMENU error. Concurrent cannot read the directory to open the menu file MENU.DAT or the menu file you specified in the COPYMENU or EDITMENU command line. This message usually results from a defective disk.

The Menu File: filename.ext not found.

COPYMENU error. Concurrent cannot locate the menu file indicated in the message. Check your spelling of the file specification. If the spelling is correct, use DIR to locate the file in other directories.

The printer requested is not set up for Print Manager output.

PRINTMGR error. The printer is not enabled. Use **PRINTMGR TERMINATE**, then **PRINTMGR START n** to start the printer.

The Print Manager system job limit was exceeded.

PRINTMGR error. The Printer Manager currently has over 254 jobs waiting to be spooled. Try again later.

The source and destination diskettes are different.
Do you want to format the destination diskette. (Y or N)?

DSKMAINT error. The disks to be used in a copy operation have different formats. You can format the destination disk to have the same format as the source disk.

The range of acceptable values for fieldname is valuenumber

WINDOW error. In this message, fieldname can be **PROW**, **PCOL**, **NROW**, **NCOL**, **VROW**, or **VCOL**. Valuenumber stands for the acceptable values for each field. This message appears when you enter an illegal value for placement row, placement column, number of rows, number of columns, virtual row, or virtual column in a **WINDOW** command line. Use the appropriate acceptable value as it appears in this message to reenter the **WINDOW** command line.

WINDOW detects and reports errors as it finds them, reading from the left to the right, on a **WINDOW** command line. If you receive the above **WINDOW** message, check entries to the right of the illegal value on the command line to avoid receiving a similar message for a different field.

The selected program could not be stopped.

STOP error. This message indicates that the program you selected for termination is no longer running.

The system drive is off

SYSDISK error. Use SYSDISK to turn the system drive feature back on before assigning a drive as the system drive.

This command/option requires CP/M media.

INITDIR, FSET, and SHOW error. The selected command or option does not work with DOS media. For example, you cannot use INITDIR with a DOS disk, or use FSET to password protect a file on a DOS disk.

This DSKMAINT requires Concurrent 5.0

DSKMAINT error. DSKMAINT can be run only under the version of Concurrent with which it is shipped.

This FUNCTION requires Concurrent 5.0

FUNCTION error. FUNCTION can be run only under the version of Concurrent with which it is shipped.

This program cannot be run from the serial terminal.

DSKMAINT, FUNCTION, or SETPORT error. You cannot use interactive programs that use or program your computer function keys from the serial terminal. Only SETPORT can be used in its command line form from the serial terminal.

This SETPORT requires Concurrent 5.0

SETPORT error. SETPORT can be run only under the version of Concurrent with which it is shipped.

Too many bad blocks were found

HDMAINT error. HDMAINT detects more defective areas on the hard disk than expected. While testing the integrity of the hard-disk surface, HDMAINT reassigns flawed areas of the disk to alternate or spare blocks. An adequate number of these blocks is set aside for normal hard-disk operation. If the number of flawed areas found on the hard disk exceeds this number, the physical surfaces of the hard disk might be damaged. When HDMAINT finds too many bad blocks, you can try to run HDMAINT again. If the number of bad blocks remains the same, surface damage to the hard-disk platters is probably the cause. If the error does not occur again, or the number of bad blocks found is very different, your hard disk might not be damaged. Another part of your system hardware might be causing the error. In either event you should contact the person who sold you your hard-disk subsystem.

Too many jobs were trying to access the Print Manager, try again.

PRINTMGR error. This message usually indicates a condition of a few seconds' duration. Try again. You should be able to access the Printer Manager without receiving the message again.

Unable to continue: Type D for details

HDMAINT error. If HDMAINT encounters a hardware error during program execution, HDMAINT stops, the computer beeps, and this message is displayed in the status line at the bottom of the screen. Press D to display the details of the hardware error. The various messages that can appear when you request details are described in "Disk Error Messages" at the end of this appendix.

Unable to load file as generated

Concurrent hard-disk system loader error. File named CPM.SYS or CCPM.SYS does not contain the CP/M-86 or Concurrent Operating System. You must restart Concurrent from the Startup disk to continue operation. Use PIP to transfer a valid copy of the operating system to the CP/M partition.

Unable to make sense out of one of the options. See HELP.

PRINTMGR error. You have used incorrect command syntax. Type HELP PRINTMGR for examples of correct syntax.

Unable to Open

FUNCTION error. FUNCTION cannot open the specified file because of a defective disk or defective hardware. See "Error Handling Procedures" at the end of this appendix.

Unable to rename system files.

REDOS error. REDOS cannot rename the DOS system files transferred to the specified disk because of a write error. Retry the operation. If the message occurs again, use HDMAINT to verify that the reserved system area is not defective.

Unable to Write

FUNCTION error. Message indicates that the destination disk is defective. See "Error Handling Procedures" at the end of this appendix.

Unexpected Interrupt

XIOS error. This message occurs when Concurrent traps an interrupt it cannot deal with. In many cases such interrupts are generated by application programs' calls to the IBM ROS. ROS calls are not supported in Concurrent. You must restart Concurrent to resume use of your computer.

Unexpected System Error, Can't Continue.

COPYMENU or EDITMENU error. COPYMENU or EDITMENU has encountered an unexpected condition and cannot run. You will have to reinvoke COPYMENU or EDITMENU. You might have to restart Concurrent.

Unknown command. Press Alt-H for help.

DR EDIX error. You have typed an Alt-character combination that is unknown to DR EDIX.

Use CMD or blank filetype in CHSET command line.
With blank filetype, CHSET assumes a filetype of CMD.

CHSET error. This message appears when you enter a filetype (file extension) other than CMD in a CHSET command line. You can omit a file extension for a command file with a CMD file extension, in which case CHSET assumes the CMD file extension. When using CHSET to display settings for a file or files, CHSET accepts only wildcard filenames, not wildcard file extensions.

Value is too small

SETUP error. You cannot set the limit for the amount of memory that can be used by a single process below 64K.

Verification error

COPY error. This message follows use of the /V option. It indicates that the file copied to the destination disk does not match the file as read from the source disk. It usually indicates a defect in your destination disk.

Wildcards not allowed when using CHSET to change a setting.

CHSET error. When using CHSET, you can use wildcard filenames only when displaying settings for a file or files, not when changing settings.

Window Manager already installed

WMENU error. This message occurs when you enter WMENU after the Concurrent window manager has already been installed by a previous WMENU command.

WINDOW requires Concurrent system that supports windows.

WINDOW error. In order to use the WINDOW command you must be running a release of Concurrent, such as the present release, that supports windows. Check the serial number of your operating system in the sign-on message that appears when you start Concurrent.

WINDOW WRITE command requires FILE=<filename>

WINDOW error. This message appears when you omit the FILE field in a WINDOW WRITE command or type "file=" and omit a filename. WINDOW WRITE requires that you specify the type of file and that you provide a filename for that file. Reenter the WINDOW WRITE command with both type and filename fields.

WINDOW WRITE command requires TYPE=

WINDOW error. This message appears when you omit the TYPE field in a WINDOW WRITE command or when you misspell a term in a command. Reenter the WINDOW WRITE command with correctly spelled terms. You can abbreviate all terms in a WINDOW command.

WMENU requires Concurrent system that supports window management

WMENU error. In order to load the Concurrent window manager you must have a release of Concurrent that supports window management. Check the serial number of your operating system in the sign-on message that appears when you start Concurrent.

Write error (other than device full)

DR EDIX error. A write error occurred while DR EDIX was writing a file. This is probably the result of a defective disk.

Wrong version of CCPM.SYS

SETUP error. You either have the wrong version of Concurrent or the file CCPM.SYS does not contain the Concurrent operating system. SETUP can be run only with the version of Concurrent with which it is shipped.

Wrong volume...Please insert in drive d: disk volume: nn
Touch RETURN key when ready ==>

BackRest (REST) error. You have inserted a disk with the incorrect backup volume number during a restore operation. Insert the disk specified by the disk volume number in this message.

You must supply a job number with DELETE (0 to 253).

PRINTMGR error. You did not enter a job number with the DELETE option. Retype the option with a job number from 0 to 253. Use STATUS to determine the number of the job you want to delete.

You used a key word incorrectly. See HELP.

PRINTMGR error. You used a format option incorrectly. Try again with the correct format. Type HELP PRINTMGR for a list of examples.

ERROR HANDLING PROCEDURES

This subsection discusses several classes of errors, their causes, and some recovery procedures. The subsection is broken down into the following segments:

- Troubleshooting Checklist
- Search Path for Files
- Disk Handling
- Corrupted Files
- Disk Error Messages
- Insufficient Memory
- Unresolvable Errors

Troubleshooting Checklist

This checklist covers common error conditions whose origin might be unknown to you.

- Have you run HDMAINT to prepare a CP/M or DOS partition? If you have a hard disk as part of your system, you cannot access your hard-disk drive until you have prepared the hard disk with HDMAINT. See HDMAINT in the Reference Guide.
- Is your hard-disk unit turned on? If you have a (separate) hard-disk unit, it must be turned on before you can access that hard-disk drive.
- Are all electrical connections to and from all the peripheral devices connected properly to your computer and to electrical outlets?
- If a file is set to Read/Only, you can read the file, but you cannot write to the file. Use the FSET command to set the file to Read/Write.
- If the drive is set to Read/Only, you cannot write to files on that drive. This can occur when you exchange disks when files are still open on the disk you removed.
- If you type a Ctrl-S or press the Scroll Lock key, your keyboard is locked for that window until you Enter a Ctrl-Q to unlock it.
- Is the file set to DIR or SYS? If you do not understand file attributes, refer to FSET in the Reference Guide.
 - The SYS option can hide files from programs and utilities, such as DIR.
- Did you specify a drive when entering the command line? If you did not specify a drive, Concurrent looks for a file only in the current user number and User 0 of the specified drive. If the specified drive contains a DOS medium, Concurrent looks for the file only in the current directory of that drive.
- Did you specify a valid drive? Concurrent supports up to eight drives, lettered A through H, plus the MDISK, drive M, and the floating drives, N and O. See "Drive Designation," in Section 2, if you are unsure of how your drives are lettered.

- Does the drive have a label? (Refer to FSET in the Reference Guide if you do not understand labels.) If the drive has a label and password protection is turned on for the drive, then you need a password to access any password protected files on that drive.
- Is the password protection mode set to READ, WRITE, DELETE, or NONE? Refer to FSET in the Reference Guide if you do not understand the password protection modes. Use SDIR to show the password protection already set for your files.
- Are you running a program under the correct operating system version? Most Concurrent commands run only under the operating system with which they are shipped.

Search Path for Files

The path Concurrent uses to search for command and batch files is explained in "System Drive Assignment," in Section 2.

Concurrent looks in the current directory on DOS media for text files and overlay files. On CP/M media, the operating system looks in the current user number and User 0 of the current drive for these files. Files in User 0 must have the SYS attribute to be found. Concurrent can only open and read files it finds in User 0. It does not allow writing to those files.

Disk Handling

Many errors arise from the handling of disks. Either the disk is incorrectly inserted or the disk itself is damaged. Use the following checklist to locate the error.

- Is the disk correctly inserted?
 - If there is no disk in the drive, you might receive a BDOS Bad Sector, or Nonrecoverable error. Ensure that you have a disk in the drive before you continue.

- If the disk is not securely in place, or if the drive door is open, you also receive BDOS Bad Sector or Nonrecoverable errors. Ensure that the disk is correctly inserted and the drive door securely closed before you continue.
- This class of errors can also occur when the disk is not in the correct drive. If you are not quite sure which drive is the current drive and what the letter designation is (drive A, B, C, etc.), refer to "Drive Designation" in Section 2.
- Did you check the Concurrent status line before removing a disk?
 - The Concurrent status line tells you if there are files open on any drives in your system. If you remove a disk that has an open file and replace it with a different disk, you might lose data from the file that was open.
- Is the disk the correct number of sides for the drive?
 - Double-sided drives can read single- and double-sided disks. Single-sided drives can access only single-sided disks.
- Is the disk physically write-protected? 5 1/4-inch disks are write-protected in the absence of a notch on the upper-right disk edge. Check the documentation provided by the disk manufacturer for instructions on removing the write-protection on the disk.
- If the error is not caused by one of the above problems, the disk might be damaged. Use the PIP command to copy as much of the information on the disk as possible to a fresh disk. Replace any files you cannot copy with the files from your backup disk. If you have not maintained a backup disk, you must recreate the missing files.

You can use the DSKMAINT command to verify the integrity of your disks. Also, HDMAINT has a verify option to check the integrity of a hard disk. With both commands, the verification process is nondestructive. See the Reference Guide for instructions on using DSKMAINT. See the HDMAINT.DOC file for an explanation of HDMAINT.

If these directions fail to correct an error condition, you probably are faced with a hardware error. As far as you are able, reconstruct the exact situation that produced the error message, then consult the dealer from whom you purchased your system.

Corrupted Files

Files can be corrupted by unforeseen events. Power outages are the most common cause. Replace the damaged file from your backup copy. If you do not have a backup copy, you will have to recreate the file.

If you are writing your own programs, it is possible to create one that writes over other files on the disk, or which corrupts the directory or other Concurrent system tracks. If this class of error occurs after you have run a program of your own, debug your program carefully before attempting to run it again.

Disk Error Messages

Disk error messages originate in the XIOS. The XIOS is that portion of Concurrent that handles input and output to and from your hard disk and floppy-disk drives and other peripherals connected to your personal computer.

Disk error messages appear in the following format:

```
Disk Error Drive d: Track n message  Retry,Ignore,Accept?
```

"d:" stands for the drive that Concurrent is trying to access. "message" is the actual message from the XIOS. The "Retry,Ignore,Accept" options are explained earlier in this appendix, following "Disk Error".

The following are the messages that can appear in "message" portion of a "Disk Error" message.

Address mark missing	Illegal Command
Bad address mark	No address mark
Bad disk controller	No response
Bad track flag set	Operation timeout
Can't reset disk	Read CRC
Can't Sense Status	Read doesn't match
Controller Failed	Record not found
Data Corrected	Reset Failed
Data Error	ROS command error
DMA Address Error	Sector Not Found
DMA Chip Failure	Seek Failed
Drive setup error	Sense Op Failed
Drive Parameters	Track Flag Error
Error not defined	Uncorrectable data
Failed to Respond	Undefined Error
Head position error	Write-Protected

If the message "Data Corrected" appears, it indicates that the error correction logic of your system has located a data error in writing to a disk or hard disk. In this case, you can type I (Ignore) to return to normal system operation. Repeat the operation to see if the message reappears or if it is a soft (nonrecurring) error.

The "Data Error" message indicates that the error correction logic in your system has attempted, unsuccessfully, to correct an error condition. If the "Data Error" message appears while Concurrent is accessing a hard disk, it might indicate a new bad block on the hard-disk surface. If you receive this error message, you should back up all of the files within the CP/M partition of the hard disk and use HDMAINT to reformat the CP/M partition.

If the Data Error occurs while Concurrent is accessing a disk, you should copy all of the files on the disk to a different disk. Use DSKMAINT to verify the disk that produced the error.

If you receive a Disk Error message, go through the "Troubleshooting Checklist" and "Disk Handling," above. Check for the obvious: open drive doors, hard-disk units not turned on, upside-down disks, write-protect tabs on disks. If, after running through the two checklists, you still cannot discover the error condition, you probably have a problem with the disk medium. Copy as many files as you can to a formatted and verified diskette.

When absolutely nothing happens:

First, wait. Some programs take a long time to finish. Some errors, such as Disk I/O errors, cause Concurrent to retry the operation many times. With a little experience, you will know when a command is taking too long.

Insufficient Memory

You might receive a message indicating that you have insufficient memory to load a program. Such an error might also occur when there is space in memory, but the available memory is fragmented. If you encounter an insufficient memory message, you can terminate programs running in different windows to create more free space in memory. The STOP command lets you terminate programs running in any window from a single window.

If the window manager is present in memory--the letters Win appear in the status line--you can use WMENU to terminate the window manager and thereby create additional free space.

There are times when an insufficient memory message indicates that Concurrent's allocation for DOS programs is insufficient. Concurrent gives you two commands that allow you to change the memory available to DOS programs:

- **ADDMEM** – increases amount of memory Concurrent allocates to programs with an EXE file extension.
- **COMSIZE** – changes amount of memory Concurrent allocates to programs with a COM file extension.

Certain programs use all available memory, even beyond their needs. To allow you to run such "memory grabbers" along with other programs, SETUP has an option that allows you to set the maximum amount of memory available to any single program.

Unresolvable Errors

If you encounter an error condition that you are unable to correct, contact the dealer from whom you purchased your personal computer for assistance. Be prepared to provide the following information:

- Indicate the serial number of the operating system you are using. This number appears in the sign-on message when you start Concurrent.
- Describe your personal computer's configuration: the number of drives, quantity of memory, and additional equipment such as printers, modems, and so forth.
- Provide sufficient information to reproduce the error. Indicate which programs were running at the time the error occurred. If possible, provide a disk with a copy of the program.
- Provide the text of the error message you received.

End of Appendix B

Running Applications

This appendix contains brief guidelines for running the DOS applications listed in Table C-1.

Table C-1. Applications Tested Under Concurrent

Application	Publisher
Corporate MBA™	Context Management Systems
Crosstalk™	Microstuf, Inc.
dBASE II	Ashton-Tate
dBASE III	Ashton-Tate
Framework™	Ashton-Tate
Friday!™	Ashton-Tate
GEM Desktop™	Digital Research Inc.
GEM Draw™	Digital Research Inc.
GEM Graph™	Digital Research Inc.
GEM Paint™	Digital Research Inc.
GEM Wordchart™	Digital Research Inc.
GEM Write™	Digital Research Inc.
General Ledger	Peachtree Software Inc.
Harvard Project Manager™	Harvard Software, Inc.
Home Accountant Plus™	Arrays Inc./Continental Software
Lotus 1-2-3™	Lotus Development Corp.
Microsoft Project™	Microsoft Corporation
Microsoft Word™	Microsoft Corporation
MultiMate™	MultiMate International Corp.
Multiplane electronic worksheet	Microsoft Corporation
pfs:•File	Software Publishing Corp.
pfs:•Graph	Software Publishing Corp.

Table C-1. (Continued)

Application	Publisher
pfs:®Report	Software Publishing Corp.
pfs:®Write	Software Publishing Corp.
R:BASE 4000.	Microrim, Inc.
R:BASE Clout™	Microrim, Inc.
SuperCalc ® 2	Sorcim Corporation
SuperCalc ® 3	Sorcim Corporation
Supercalc ® 3 release 2	Sorcim Corporation
Symphony™	Lotus Development Corp.
ThinkTank™	Living Videotext, Inc.
Turbo Pascal	Borland International
VisiCalc	VisiCorp
Word Perfect	Satellite Software International
WordStar	MicroPro International
Wordstar®Professional	MicroPro International
Wordstar®2000	MicroPro International

GENERAL GUIDELINES

This section presents general guidelines for running the applications listed in Table C-1.

Using Windows

The default setting for Concurrent's SUSPEND command is ON and is appropriate for the listed applications. Using the default setting suspends the operation of applications in switched-out windows. Applications resume operation when their windows are switched-in.

There is no harm in setting SUSPEND to OFF; however, with SUSPEND set to OFF, applications running in switched-out windows can output characters that appear in other windows.

Until you become familiar with how your applications run, you should use SUSPEND's default setting.

Running GEM with a Hercules™ Card

You cannot switch screens when running GEM on a Hercules™ Adapter.

Running Multiple Applications

If you want to run multiple copies of an application, you must use Concurrent's FSET command to give the application's program and overlay files the R/O (Read-only) attribute. Multiple applications can read data files set to R/O from two different windows. Applications cannot write to a file when it is set to R/O.

Note: Concurrent allows only one graphics application to run at any time.

Setting ADDMEM and COMSIZE

At startup, Concurrent allocates 128K of memory to each window for DOS applications whose files have a COM file extension. The COMSIZE command lets you change the allocation for applications with a COM file extension. Use ADDMEM to increase Concurrent's memory allocation for applications with an EXE file extension. ADDMEM's default setting is 64K.

Running in Banked Memory

The BANK command controls how a program runs in banked memory. The default setting is BANK=ON. With BANK=OFF, Concurrent cannot page the program in and out of conventional memory. This means that the memory used by the program is removed from the total memory available for paging. Using BANK=OFF can severely limit system performance.

Using a Printer

Most of the listed applications do not release the printer after they finish printing. You must exit an application that has finished printing to give an application running in another window access to the same printer. If you have more than one printer, use Concurrent's PRINTER command to assign different printers to different windows.

Load Drive, L

Concurrent assigns drive L: as the directory path from which you load an application.

Using the 8087 Coprocessor

The default setting for Concurrent's 8087 command is (OFF) and is appropriate for most of the listed applications. If you have an 8087 math co-processor installed in your computer and run an application that uses the 8087, change the default setting from OFF to ON.

Using BASIC or BASICA

You cannot simultaneously run two programs that use BASIC.COM or BASICA.COM. Of the tested applications, Home Accountant Plus and Peachtree's General Ledger both use BASICA.COM and, therefore, cannot be run at the same time. If your system has multiple users, they should not run BASICA programs because BASICA reprograms the hardware in a way that disables multiuser capability.

Using COMMAND.COM

Concurrent does not allow an application to invoke COMMAND.COM. If you run an application that supports this capability under DOS, switch windows to accomplish the same task.

DOS Commands

Do not run DOS commands (utilities) under Concurrent. DOS commands use internal DOS functions that are not present in

Concurrent. For most DOS commands there is an equivalent Concurrent command.

The documentation for certain applications recommends using the DOS DISKCOPY or COPYDISK commands to backup floppy disks. These DOS commands do not run correctly under Concurrent; use Concurrent's DISKCOPY or DSKMAINT instead.

Using VSET

Some applications are "ill-behaved" because they were written to bypass DOS and directly manipulate hardware "interrupt" vectors. If such applications manipulate interrupt vectors, they cannot run under a multitasking operating system like Concurrent because they interfere with other running applications.

You can prevent an application from manipulating interrupt vectors by using the command:

```
VSET n1,n2,n3....
```

where **n1,n2,n3** are the numbers of the interrupt vectors that the application attempts to manipulate.

Use the command:

```
VSET OFF
```

to inhibit Concurrent from performing any check on an application's attempt to manipulate interrupt vectors. The command:

```
VSET
```

displays the current settings. The current settings apply only in the window in which they were executed. See for information regarding specific applications use of interrupt vectors.

Running Monitor-dependent Applications

If your system has both a color graphics and a non-graphics monochrome adapter, you must start an application on the monitor attached to the kind of adapter for which the application was designed or installed.

GUIDELINES FOR TESTED APPLICATIONS

This section gives brief guidelines for using each application with Concurrent. The applications are listed alphabetically with each listing giving a version number (if applicable), four information headings, and, in some cases, special notes.

Information headings and their definitions are as follows:

COMSIZE SETTING The setting for files with a COM file extension. In applications like SuperCalc or VisiCalc, you may need to increase the setting to load large spreadsheets.

ADDMEM SETTING The setting for files with an EXE file extension. Increasing the ADDMEM setting typically allows the application to accommodate larger files.

RUN MULTIPLE COPIES?

Can the application run in two or more windows?

RUN IN BANKED MEMORY?

Can the application run in banked memory?

Corporate MBA

ADDMEM setting: 64KB Run multiple copies? No

Run in banked memory? Yes

Special Notes:

- Corporate MBA does not recognize CP/M.. hard-disk partitions and CP/M-format floppy disks. Therefore, you must load Corporate MBA from a DOS partition or a DOS-format floppy disk. Also, you can perform Corporate MBA's "Initialize" procedure only on a DOS-format disk.
- You cannot load Corporate MBA from the quad-density floppy-disk drive or the hard disk on the PC/AT. To load Corporate MBA on a PC/AT, you must have a double-density floppy-disk drive. On a PC/AT, you must load or store data on a drive different from the one where you loaded Corporate MBA.

Crosstalk versions 3.41 and 3.5

ADDMEM setting: 64KB Run multiple copies? No

Run in banked memory? No

Special Notes:

- Make sure that your serial port is not configured for a serial terminal (multiuser terminal). Use Concurrent's SETUP command to display or change your serial port configuration.
- You can use Crosstalk to connect your system to a remote computer and then run programs on that computer. A program on a remote computer may use Concurrent's window-switching keys for its own purposes. If this is the case, use Concurrent's FUNCTION command to change your window-switching keys.

dBASE II version 2.4x

COMSIZE setting: 128KB Run multiple copies? Yes

Run in banked memory? Yes

Special Notes:

- To run two copies of dBASE II, use the FSET command to give the R/O attribute to the dBASE program files.
- While using dBASE II, pressing Ctrl-Numlock does not stop screen output. Use Ctrl-S/Ctrl-Q to start/stop screen output.
- The dBASE II editor, stored in the file SED.EXE, requires an ADDMEM setting of 64KB.

dBASE III version 1.0

ADDMEM setting: 90KB Run multiple copies? Yes

Run in banked memory? Yes

Special Notes:

- Use Concurrent's FUNCTION command to change your window-switching keys so you can use the Ctrl-1 (End), Ctrl-3 (PgDn), and Ctrl-4 (left-arrow) key combinations in dBASE III.
- To run multiple copies of dBASE III, use Concurrent's FSET command to give the files DBASE.EXE and DBASE.OVL the R/O attribute.

Framework version 1.1

COMSIZE setting: 256KB Run multiple copies? No

Run in banked memory? Yes

Special Notes:

- Use Concurrent's FUNCTION command to change your window-switching keys so that you can use the Ctrl-2 (down-arrow) key combination in Framework.

- To run Framework from a hard disk, you must load FW.COM from floppy-disk drive A.
- Concurrent does not support Framework version 1.0.

Framework II version 1.0

COMSIZE setting: 256KB Run multiple copies? No

Run in banked memory? Yes

Special Notes:

- Additional copies can only be run on a monochrome monitor.
- Increasing the COMSIZE setting beyond 256KB produces an "Out of Memory" error.

Friday! version 1.0

ADDMEM setting: 64KB Run multiple copies? No

Run in banked memory? Yes

GEM Desktop version 1.1

ADDMEM setting: 220KB Run multiple copies? No

Run in banked memory? No

Special Notes:

- You should increase the ADDMEM setting to run large applications.

GEM Draw version 1.0

ADDMEM setting: 220KB Run multiple copies? No

Run in banked memory? No

Special Notes:

- Increase the ADDMEM setting for GEM Desktop to 256KB to run GEM Draw. For large pictures, you may need to increase the ADDMEM setting.

GEM Graph version 1.0

ADDMEM setting: 360KB Run multiple copies? No
Run in banked memory? No

GEM Paint version 1.0

ADDMEM setting: 220KB Run multiple copies? No
Run in banked memory? No

GEM Wordchart version 1.0

ADDMEM setting: 220KB Run multiple copies? No
Run in banked memory? No

GEM Write version 1.0

ADDMEM setting: 220KB Run multiple copies? No
Run in banked memory? No

General Ledger by Peachtree version 1.1

COMSIZE setting: 128KB Run multiple copies? No
Run in banked memory? Yes

Special Notes:

- Use the COPY command to back up your files instead of the menu choices for backing up and restoring files provided by Peachtree's General Ledger.
- Use the version of BASIC.COM (version 1.1) shipped with General Ledger.

Harvard Project Manager version 1.16

ADDMEM setting: 64KB Run multiple copies? Yes
Run in banked memory? Yes

Special Notes:

- You cannot install Harvard Project Managar on a hard disk.
- To run multiple copies of Harvard Project Manager, use Concurrent's FSET command to set the files HPM.OVL and HPM.HLP to R/O.

Home Accountant Plus version 1.40

COMSIZE setting: 128KB Run multiple copies? No
Run in banked memory? Yes

Special Notes:

- Home Accountant Plus requires BASICA.COM from PC DOS version 1.1 for proper operation.

Informix version 1.10.05

ADDMEM setting: 300KB Run multiple copies? Yes
Run in banked memory? Yes

Special Notes:

- Multiple copies cannot use the same database files.

Lotus 1-2-3 versions 1.0 and 1.A

ADDMEM setting: 64KB for 123.EXE
COMSIZE setting: 128KB for LOTUS.COM
Run multiple copies? No Run in banked memory? Yes

Special Notes:

- Use Concurrent's FUNCTION command to change your window-switching keys if you use Ctrl-4 (left-arrow) instead of the Backtab key.

Lotus 1-2-3 version 2.0

COMSIZE setting: 200KB Run multiple copies? Yes
Run in banked memory? Yes

Microsoft Project version 1.0

ADDMEM setting: 64KB Run multiple copies? Yes
Run in banked memory? Yes

Microsoft Word version 3.0

COMSIZE setting: 200KB Run multiple copies? No
Run in banked memory? Yes

Special Notes:

- Before running Microsoft Word, use the command:
 VSET 9
- Microsoft Word must be installed under DOS. Also, the Dictionary and Spelling Checker only work under DOS.

MultiMate versions 3.30 and 3.31

ADDMEM setting: 64KB Run multiple copies? Yes
Run in banked memory? Yes

Special Notes:

- MultiMate must be the first program loaded when you run it with other applications.

- Use Concurrent's FUNCTION command to change your window-switching keys so that you can use the Ctrl-1 (End) and Ctrl-3 (PgDn) key combinations in MultiMate.
- If you encounter a "Write Protect" error while in MultiMate, select A (Abort) from the choices (A)abort/(R)etry/(I)gnore. You can also switch windows and then use Concurrent's STOP command to terminate MultiMate.
- The printer pause command, Ctrl-NumLock, does not work correctly.
- Do not use MultiMate with "floating drives".

MultiMate Advantage version 3.6

ADDMEM setting: 300KB for MM.EXE Run multiple copies? Yes

ADDMEM setting: 118KB for WP.EXE

Run in banked memory? Yes

Special Notes:

- Multiple copies cannot use the same database files.

Multiplan versions 1.00 and 1.01

COMSIZE setting: 128KB Run multiple copies? Yes

Run in banked memory? Yes

Special Notes:

- For version 1.1, you must load Multiplan from a floppy disk.
- To run multiple copies of Multiplan, use Concurrent's FSET command to set the file MP.SYS to R/O.

PFS:File version 1.0B

ADDMEM setting: 64KB Run multiple copies? Yes

Run in banked memory? Yes

PFS:Graph version 1.0

ADDMEM setting: 64KB Run multiple copies? No
Run in banked memory? Yes

PFS:Report version 1.0B

ADDMEM setting: 64KB Run multiple copies? Yes
Run in banked memory? Yes

Special Notes:

- The PFS:Report floppy disk must be in drive A even if you load PFS:Report from a hard disk.

PFS:Write version 1.0C

COMSIZE setting: 220KB Run multiple copies? Yes
Run in banked memory? Yes

Special Notes:

- Do not use the F1 function key on the PC/AT to access help screens.
- Use Concurrent's FUNCTION command to change your window-switching keys so that you can use the Ctrl-4 (left-arrow) key combination in PFS:Write.

R:base Clout version 1.01

ADDMEM setting: 64KB Run multiple copies? No
Run in banked memory? Yes

Special Notes:

- To run R:base Clout from a hard disk, the Clout floppy disk that was installed on the hard disk (2 or 3) must be in drive A.

R:base 4000 version 1.15

ADDMEM setting: 64KB Run multiple copies? Yes

Run in banked memory? Yes

Special Notes:

- To run multiple copies of R:base 4000, use Concurrent's FSET command to set the R:base 4000 program file to R/O.

R:BASE 5000 version 1.01

ADDMEM setting: 420KB for RB5000.EXE Run multiple copies? Yes

ADDMEM setting: 64KB for the individual component programs

Run in banked memory? Yes

Special Notes:

- Multiple copies cannot use the same database files.

SuperCalc 2 version 1.00

COMSIZE setting: 128KB Run multiple copies? Yes

Run in banked memory? Yes

Special Notes:

- Make the COMSIZE setting higher than 128KB for medium and large spreadsheets.
- To run multiple copies of SuperCalc 2, use the FSET command to set the SuperCalc 2 program files to R/O.

SuperCalc 3 version 1.00

COMSIZE setting: 128KB Run multiple copies? Yes

Run in banked memory? Yes

Special Notes:

- To run multiple copies of SuperCalc 3, use Concurrent's FSET command to set the SuperCalc 3 program files to R/O.

SuperCalc 3 Release 2

COMSIZE setting: 65KB Run multiple copies? Yes

Run in banked memory? Yes

Special Notes:

- To run multiple copies of SuperCalc 3, use Concurrent's FSET command to set the SuperCalc 3 program files to R/O.
- Use Concurrent's FUNCTION command to change your window-switching keys so that you can use Ctrl-4 (left-arrow) key combination in SuperCalc 3 Release 2.

Symphony version 1.10

COMSIZE setting: 300KB

Run multiple copies? No Run in banked memory? Yes

Special Notes:

- Use an ADDMEM setting of 144KB for Symphony's installation program.
- If you are using a given serial port for a serial terminal, do not install Symphony for a modem or an asynchronous communication port for that port.

ThinkTank versions 1.0 and 1.001

ADDMEM setting: 64KB Run multiple copies? Yes

Run in banked memory? Yes

Special Notes:

- Use Concurrent's FUNCTION command to change your window-switching keys so that you can use the Ctrl-1 (End) and Ctrl-4 (left-arrow) key combinations in ThinkTank's paragraph editor.

Turbo Pascal version 3.01A

COMSIZE setting: 64KB Run multiple copies? Yes

Run in banked memory? Yes

Special Notes:

- Use Concurrent's FUNCTION command to change your window-switching keys so you can use the Ctrl key combinations in Turbo Pascal.

VisiCalc version 1.20

COMSIZE setting: 128KB Run multiple copies? Yes

Run in banked memory? Yes

Special Notes:

- You can use a COMSIZE setting as low as 64KB for VisiCalc. However, for large spreadsheets VisiCalc might require more memory.
- To run on the PC/AT, you must load VisiCalc from a floppy-disk drive, and the COMSIZE setting must be 160KB.

Word Perfect version 3.0

ADDMEM setting: 64KB Run multiple copies? No

Run in banked memory? Yes

Special Notes:

- Use Concurrent's FUNCTION command to change your window-switching keys so you can use Ctrl and Number key combinations in Word Perfect.

- Do not use Word Perfect with "floating drives".

Word Perfect version 4.1

ADDMEM setting: 64KB Run multiple copies? Yes
Run in banked memory? Yes

Special Notes:

- Use Concurrent's FUNCTION command to change your window-switching keys so you can use Ctrl and Number key combinations in Word Perfect.
- The /R command line option allows more of WP.EXE to stay memory resident. Running WP.EXE with the /R option requires an increase in the ADDMEM setting to 140KB.
- Do not use Word Perfect with "floating drives".

WordStar version 3.30

COMSIZE setting: 60KB Run multiple copies? Yes
Run in banked memory? Yes

Special Notes:

- To run multiple copies of WordStar, use Concurrent's FSET command to set the WordStar program files to R/O.
- Do not use WORDSTAR's RUN command; switch screens instead.

WordStar Professional version 3.31P

COMSIZE setting: 60KB Run multiple copies? Yes
Run in banked memory? Yes

Special Notes:

- Increase the COMSIZE setting to 160KB to run auxiliary programs such as CorrectStar™ or MailMerge™.

- Do not use WORDSTAR's RUN command; switch screens instead.

WordStar 2000 version 1.01

ADDMEM setting: 64KB Run multiple copies? No

Run in banked memory? Yes

Special Notes:

- Increase the ADDMEM setting to 128KB to run auxiliary programs such as CorrectStar™ or MailMerge™.
- Use Concurrent's FUNCTION command to change your window-switching keys so you can use the Ctrl and Number key combinations in WordStar 2000.
- Do not use WORDSTAR's RUN command; switch screens instead.
- Install WordStar 2000 under PC DOS.
- Concurrent does not support WordStar 2000 version 1.0.

End of Appendix C

Installing Expanded Memory Boards

The documentation that accompanies most expanded memory boards contains information about configuring the board for systems that use the MS-DOS™ or PC-DOS™ operating system. This appendix supplements the manufacturers documentation and helps you install the board on a computer system that uses Concurrent.

QUADEMS+™ BOARDS

The Concurrent PC DOS Expanded Memory User's Guide for Quadram... Expanded Memory Boards (First edition: June 1986), contains instructions for installing and using QuadEMS+ expanded memory boards with Concurrent.

RAMPAGE!™ BOARDS

Generally, you should read and follow the RAMpage! documentation regarding the physical installation of the board in your computer. However, some information contained in Section 3, "Software Configuration and Installation", is not applicable to configuring the RAMpage! board with Concurrent. You should disregard those steps that deal with determining "user groups" and configuring the CONFIG.SYS and AUTOEXEC.BAT files because they do not apply to Concurrent. Instead, use the information contained in this appendix.

To make optimal use of a RAMpage! board under Concurrent, you should allow the board to supply as much as possible of the system's conventional memory in the range used by application programs*

* from approximately 200K to 640K depending on the size of the operating system

because Concurrent converts this conventional memory to paged memory when you start the system.

Table D-1 shows how having less memory installed on the system board means that more of the memory supplied by the RAMpage! board is capable of being converted to paged memory and used to swap large applications.

Table D-1. Expanded Memory Configurations

Installed memory	RAMpage! fills in
64K	576K
128K	512K
192K	448K *
256K	384K *
512K	128K
640K	0K

* optimum configurations

Note: The amount of memory that can be paged does not affect Concurrent's support for those programs such as Lotus 1-2-3TM (version 2.0), FrameworkTM, and others that access expanded memory above the 640K limit using the Expanded Memory Specification (EMS) specification.

CONFIGURING YOUR SYSTEM

To use a RAMpage! board with Concurrent you must perform the following steps:

1. Configure the RAMpage! board by setting the DIP switches to the proper values.

- DIP switch SW1 determines the amount of memory on the RAMpage! board to be used as conventional (non-paged) memory.
 - DIP switch SW2 determines the starting address of the conventional memory.
2. Set the DIP switches on your computer's system board to optimize the presence of the RAMpage! memory.
 3. Install the RAMpage! software device driver. When you start Concurrent, the command file named CONFIDD.COM, (CONFIDD is an acronym for Concurrent Field-installable Device Drivers) reads commands contained in an ASCII file named CCONFIG.SYS** and loads all the device drivers from disk. To install the EMM.SYS driver, use a text editor to create the CCONFIG.SYS file, and enter the command:

```
EMM = EMM.SYS
```

There are four options available to customize the operation of the Expanded Memory Manager. These options are normally of interest only to users running applications written to the EMS or EEMS specification. The options are:

```
EMM=EMM.SYS /P = n
EMM=EMM.SYS /D = n
EMM=EMM.SYS /C = n
EMM=EMM.SYS /X = hhhh-hhhh
```

where n is a decimal digit, and h is a hexadecimal digit.

** Under Concurrent, this initialization file is named CCONFIG.SYS not CONFIG.SYS as under DOS.

The /P option sets a limit on the number of Process IDs supported by the EMM. n is a decimal number from 2 to 256; the default is 32. Increasing this value sometimes allows more memory allocations to succeed, but does not increase or decrease the amount of memory which may be allocated.

The /D option specifies how many mapping register contexts may be saved per process ID. n is a decimal number from 1 to 32; the default is 5. The default should normally be sufficient.

The /C option specifies the total number of mapping register contexts that can be saved for all Process IDs. n is a decimal number greater than or equal to the value of Process IDs. The default is the value of the /D option + the /P option - 1 (D+P-1). The default should normally be sufficient.

The /X option specifies a range of memory (in paragraphs) to exclude from paging operations. There is no default.

Note 1: If you do not give a drive specifier, EMM.SYS must reside on the drive from which you start Concurrent.

Note 2: During installation, the EMM.SYS requires some memory allocation. If there is no memory available, the installation will fail. Should this occur, perform the following steps:

- a. Run the SETUP utility and select F2, the "Reserve System Space" menu.
- b. Increase the amount of memory reserved for device drivers.
- c. Update the CCPM.SYS file on your system disk, then restart Concurrent.

Repeat steps a-c until the amount of reserved memory is sufficient for a successful installation.

EXAMPLES

The following examples give the DIP switch settings for several common system configurations with different amounts of conventional memory installed on the system board. If your system configuration is different, you might need to interpolate the settings given below. Always keep in mind that the non-paged conventional memory installed on the system board, or on other memory boards, should ideally be in the range 192–256K in order to maximize the effectiveness of the RAMpage! memory.

Note: These examples assume you are installing **one** RAMpage! board with up to 2MB of memory. If you install more than one board, each board must have a different starting address. You should consult the RAMpage! documentation to determine the correct DIP switch settings in this case.

Example 1: IBM PC with 64K

Perform the following steps:

1. Set DIP switch SW2 on the IBM PC system board to specify the presence of 640K of conventional memory. The DIP switch settings are as follows:

SW2-1	SW2-2	SW2-3	SW2-4	SW2-5
ON	OFF	ON	ON	OFF

2. Set DIP switch SW1 (switches 5 and 6) on the RAMpage! board to make 768K available as conventional memory. You need to specify 768K because the RAMpage! board supplies memory in 256K increments, and since 576K (640K–64K) is needed, you must specify 3 banks of 256K each. Set the other switches according to the RAMpage! documentation. The DIP switch settings are as follows:

SW1-5	SW1-6
OFF	OFF

3. Set DIP switch SW2 on the RAMpage! board to start the conventional memory at 64K. The DIP switch settings are as follows:

SW2-1	SW2-2	SW2-3	SW2-4
ON	OFF	OFF	OFF

4. Install the RAMpage! software driver EMM.SYS in your CCONFIG.SYS file on the Concurrent system disk.
5. Start Concurrent. When EMM.SYS is loaded, it displays diagnostic information on the console screen verifying the proper installation of the paged memory.

Example 2: IBM PC/XT with 256K

Perform the following steps:

1. Set DIP switch SW1 on the IBM PC/XT to specify the presence of 256K of conventional memory on the system board. The DIP switch settings are as follows:

SW1-3	SW1-4
OFF	OFF

2. Set DIP switch SW1 (switches 5 and 6) on the RAMpage! board to make 512K available as conventional memory. Set the other switches according to the RAMpage! documentation. The DIP switch settings are as follows:

SW1-5	SW1-6
ON	OFF

3. Set DIP switch SW2 on the RAMpage! board to start the conventional memory at 256K. The DIP switch settings are as follows:

SW2-1	SW2-2	SW2-3	SW2-4
OFF	OFF	ON	OFF

4. Install the RAMpage! software driver EMM.SYS in your CCONFIG.SYS file on the Concurrent system disk.
5. Start Concurrent. When EMM.SYS is loaded, it displays diagnostic information on the console screen verifying the proper installation of the paged memory.

Example 3: IBM PC-AT

Perform the following steps:

1. Set the J18 jumper on the PC-AT system board (beneath the disk controller) on the 2 pins toward the rear of the machine to enable only the first 256K^{***} of memory on the system board.
2. Set DIP switch SW1 on the RAMpage AT to make 384K available as conventional memory on the system board. The DIP switch settings are as follows:

SW1-1	SW1-2	SW1-3	SW1-4
ON	ON	OFF	ON

3. Set DIP switch SW2 on the RAMpage AT board to start the non-paged memory at address = 256K, bypassing the 256K already on the PC-AT system board. The switch settings are as follows:

SW2-1	SW2-2	SW2-3	SW2-4	SW2-5	SW2-6	SW2-7
ON	ON	ON	ON	ON	OFF	ON

4. Set the remaining switches on the RAMpage AT board DIP switches to the **default** values as described in the RAMpage AT documentation.
5. Run SETUP on the PC-AT diagnostic diskette. Specify the following:

^{***}The PC-AT requires a minimum of 256K on the system board, so on a 512K machine you can disable only the second 256K.

- BASE memory = 640K (256K on system board + 384K on RAMpage AT board)
 - Expansion memory = 0K
6. Install the RAMpage AT software driver EMM.SYS in your CCONFIG.SYS file on the Concurrent system disk.
 7. Start Concurrent. When EMM.SYS is loaded, it displays diagnostic information on the console screen verifying the proper installation of the paged memory.

RUNNING SCEPTER

SCEPTER is the program that initializes the paged memory. After you have installed the RAMpage! board and started Concurrent, you should run SCEPTER before using any application program. Once SCEPTER has initialized the paged memory, Concurrent performs memory management that is completely transparent to the running application.

SCEPTER supports two command line options:

```
SCEPTER /M=hh  
SCEPTER /S=hhhh
```

where h is a hexadecimal digit.

The /M option supports applications written for the Expanded Memory Specification (EMS) also called the Lotus/Intel/Microsoft (LIM) specification. The /M option specifies how many available pages of memory are reported to the application. It is useful for preventing one application from using too much memory, thereby preventing other applications on other windows from having enough memory to run.

If you run SCEPTER without this option, the default is a maximum of 20H pages (512K). You can specify a 16K page count as two hexadecimal digits. For example, the command:

SCEPTER /M=18

specifies 18H pages, or 384K.

The /S option specifies the address where SCEPTER begins converting "conventional" memory to "banked" memory. The default is 4000H (256K). You can specify a paragraph address as four hexadecimal digits to start bankable memory windows at a different address.

Some applications may have been explicitly written to assume the presence of an expanded memory board such as the RAMpage!. Such applications communicate directly to the board through the EMM.SYS driver, and may be incompatible with Concurrent's memory paging scheme initialized by SCEPTER. In such a case, you may still install the EMM.SYS driver, but do not run SCEPTER prior to running these applications.

Note: Do not run SCEPTER with the BATCH command; always run it from the command line.

ABOVE™ BOARD/PC

Generally, you should read and follow the Above Board/PC documentation regarding the physical installation of the board in your computer. However, installing the Above Board/PC software is slightly different under Concurrent.

You should perform the following steps:

1. Run the SETUPAB program, following the directions in the Above Board/PC documentation. SETUPAB creates a file named CONFIG.SYS on your system disk.
2. Using any text editor, edit the CONFIG.SYS file as follows:

Change the command:

```
DEVICE=EMM.SYS
```

to the command:

```
EMM=EMM.SYS
```

Also, change any other DEVICE= commands to FIXED-DEVICE= commands. For example, change the command:

```
DEVICE=QUICKUF2.COM
```

to the command:

```
FIXED-DEVICE=QUICKUF2.COM
```

3. Rename the CONFIG.SYS file to CCONFIG.SYS****
4. Examine the contents of the AUTOEXEC.BAT file that SETUPAB creates. Concurrent does not use AUTOEXEC.BAT; instead it uses its own STARTUP files. Therefore, you must use your text editor to copy the commands from AUTOEXEC.BAT into Concurrent's STARTUP1.BAT file.

Note: Each time you run SETUPAB, it creates a new CONFIG.SYS file. Therefore, whenever you install a new board or make any changes that require you to run SETUPAB, you will need to perform the steps outlined above.

End of Appendix D

**** Under Concurrent, this initialization file is named CCONFIG.SYS not CONFIG.SYS as under DOS.

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