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999-801-000IS
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User's Guide

AT&T Personal Computer 6300

MS™-DOS By Microsoft®

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1 Introduction

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Some of the material in the Guide you may have seen in the User's Guide. If so, you will find yourself on familiar ground as you start to learn about MS-DOS.*

This Guide gives you the concepts and rationale behind the MS-DOS procedures you followed in the User's Guide. It presents the material in the natural sequence you follow when using MS-DOS.

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What Is MS-DOS?

MS-DOS stands for Microsoft-Disk Operating System. An operating system is the traffic director of your computer. Like the signals at a busy intersection directing cars, the computer's operating system is at the center of activity directing data. MS-DOS is the operating system designed to run your AT&T computer. It coordinates the flow of information between the screen, keyboard, memory, and storage disks. It also directs other devices attached to your computer, such as a printer or telephone coupler.

You can make your computer perform certain tasks with a set of MS-DOS commands. This guide teaches both the fundamental MS-DOS commands and the more advanced commands that will extend your computing power.

What Is Covered in This Guide?

Chapter 1 explains how to follow the examples in this Guide. It also contains a checklist of the diskettes containing MS-DOS and a list of the other manuals to help you use your computer.

Chapters 2 and 3 introduce you to the basic concepts of MS-DOS and some of the important practices you should follow when working with a computer. You will learn about diskettes and files, and the vital importance of making backup copies of your important program and data diskettes. For users of a fixed disk drive system, Chapter 3 helps you get MS-DOS started on the fixed disk.

In Chapter 4, the concepts you've learned are put into practice. Contained here is a step-by-step introduction to the most commonly used MS-DOS commands, some information about automatic processing, and a recap of some useful practices.

Chapters 5 and 6 are reference chapters. They contain alphabetic listings of each of the MS-DOS commands, their purpose, correct syntax, rules of usage, and examples that illustrate how each command is used.

At the end of this Guide are Appendices which contain information about messages that appear on your screen, EDLIN, the line editor program on your MS-DOS/GW BASIC Diskette, and some information for users of a single diskette drive system.

How to Enter Keystrokes

Later in this guide you will be provided with step-by-step procedures to follow. You are instructed to type certain words and characters and to press specific keys. It is important to type exactly what is shown in the indented example (only the boldface part):

A>**type this**

The specific keys or sequence of keys which you should press appear like this:

RETURN

or

CTRL   NUM LOCK.

In a sequence of two or more keys, as shown above, press and hold the first keys while you press the last key in the list.

All other punctuation — commas, colons, slash marks, equal signs — must be entered exactly as shown.

What Is Included with This Guide?

This MS-DOS Version 2.11 User's Guide comes with the following:

- MS-DOS/GW BASIC System Diskette
  This diskette contains MS-DOS and its related programs.

- MS-DOS Supplemental Programs Diskette
  This diskette contains the LINK Utility, EXE2BIN, and DEBUG.

Both diskettes are in the plastic pocket at the back of this guide. The MS-DOS diskette referred to throughout this guide is the MS-DOS/GW BASIC Systems Diskette.

2 Before You Start MS-DOS

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About Diskettes

This chapter introduces you to some of the important concepts and practices you must know before you start using MS-DOS. If you are unfamiliar with using a computer and diskettes, the section of this chapter **About Diskettes** must be read carefully. If you have experience with computers, the practices in this section are second nature to you. New and experienced users alike should read the **Files** section, as the information here describes the file naming rules needed to use MS-DOS.

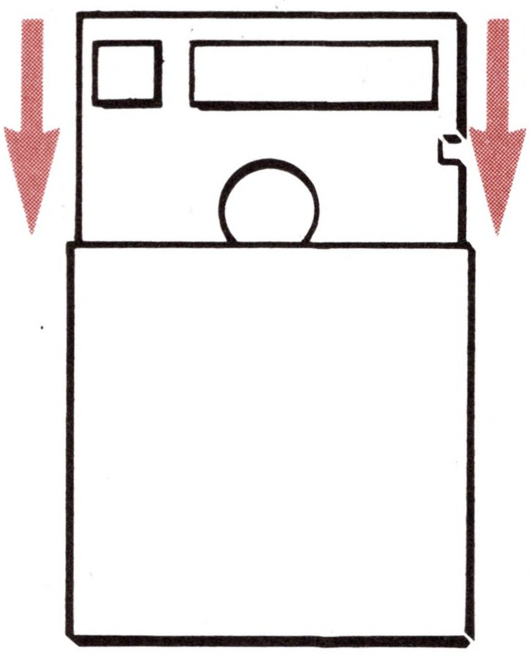
The following sections cover the basic information you need to know about diskettes. If you are new to using computers, you should read these sections carefully.

Caring For Diskettes

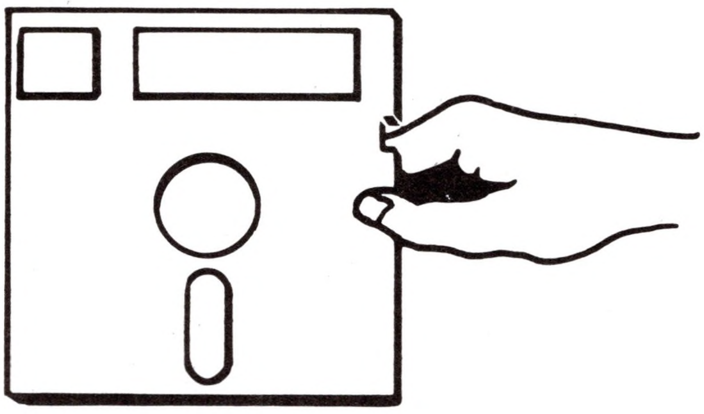
Your diskettes are very valuable. They contain information and data representing hundreds of hours of work. You must take care in their handling as well as follow prudent back up and archival practices.

Here are some rules and helpful hints to follow.

- Always keep the diskette in its envelope when it's not in use. The envelopes are specially treated to resist static electricity and dust accumulation.

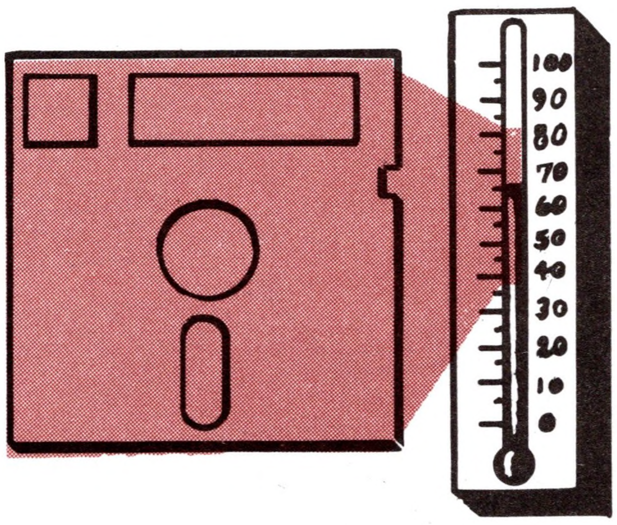


- Never touch the surface of the diskette. Handle the diskette by its protective cover.

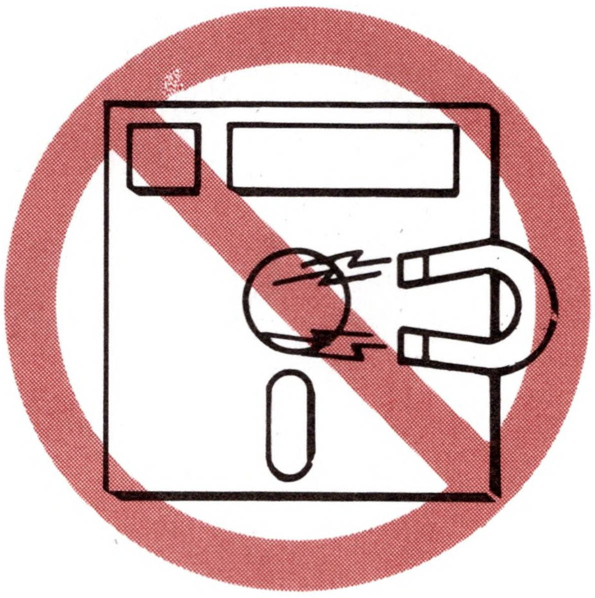


- Never bend or fold a diskette.

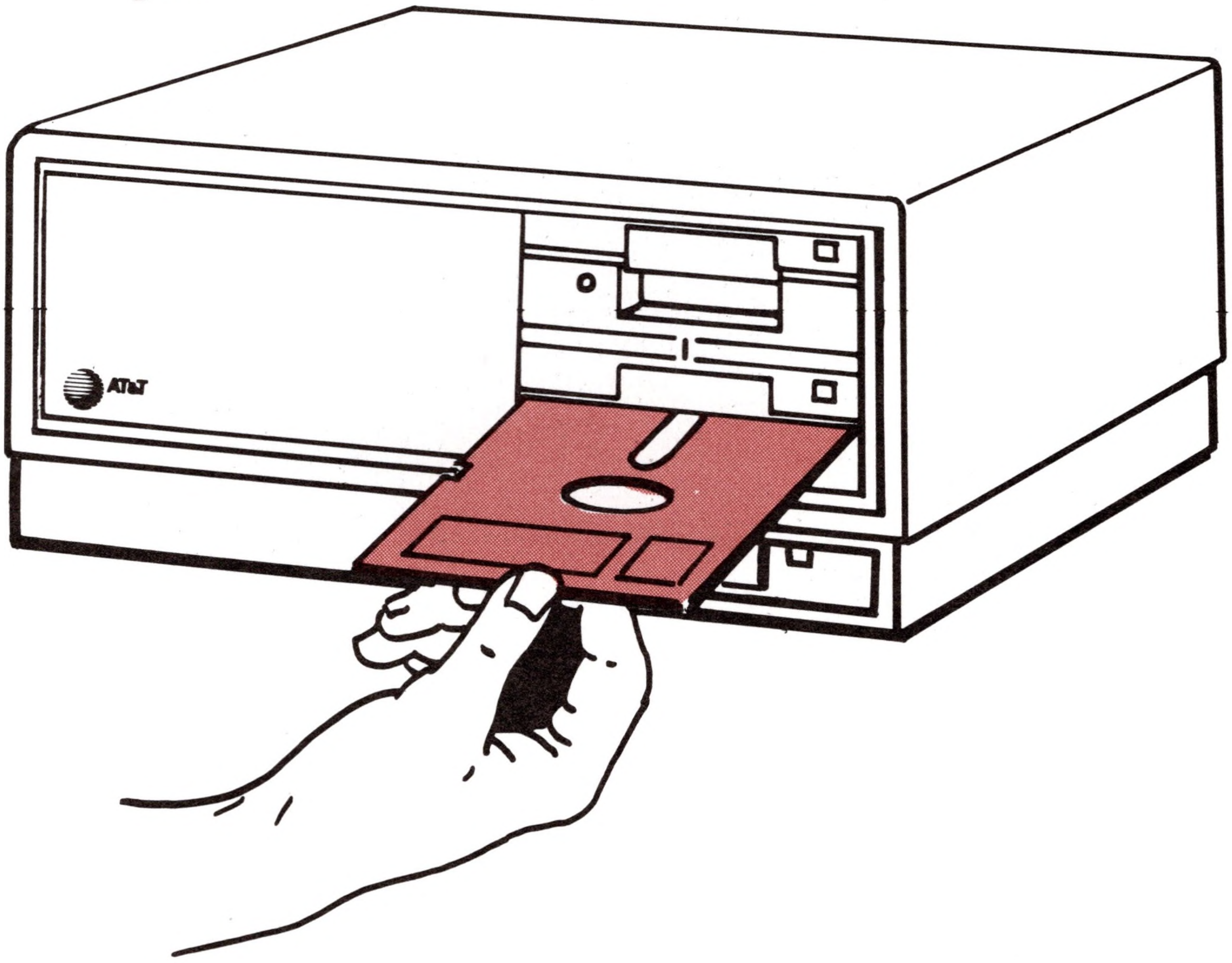
- Store and use diskettes in a safe environment. Don't let them get too cold or too hot. Keep them out of the sun or the trunks of automobiles.



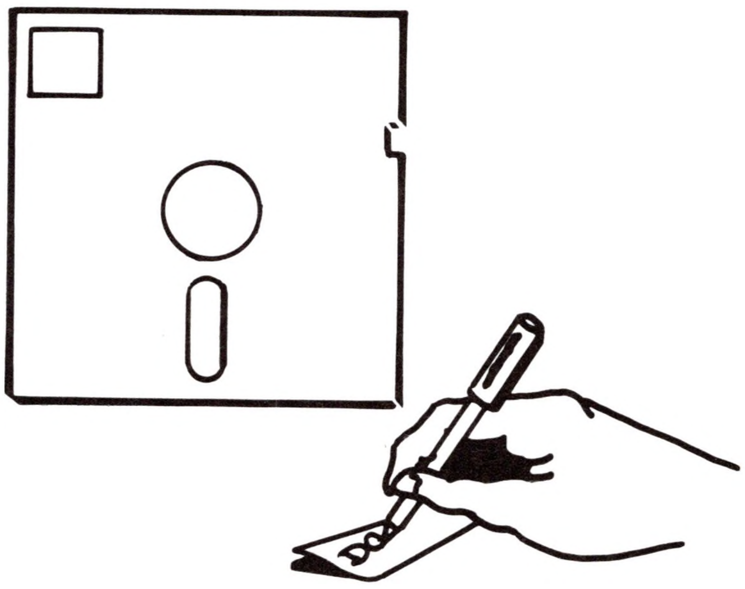
- Keep diskettes away from magnets or strong electrical fields. Keep diskettes away from your telephone. The information stored on the diskette can be damaged or erased.

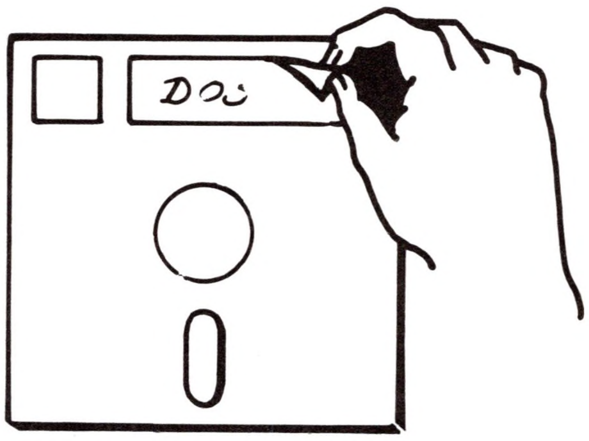


- Always be very careful when inserting the diskette into a drive. Push gently. Never force a diskette into place.

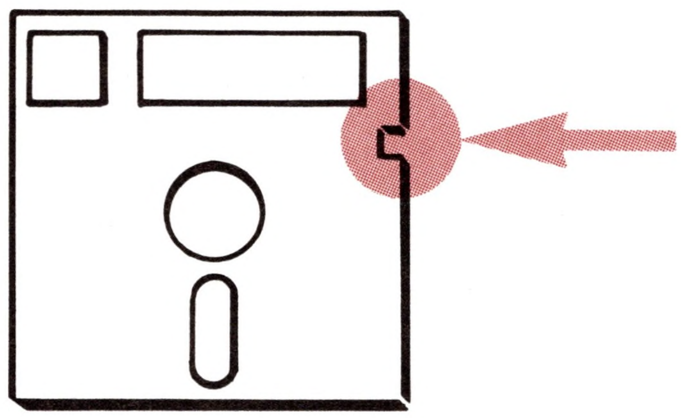


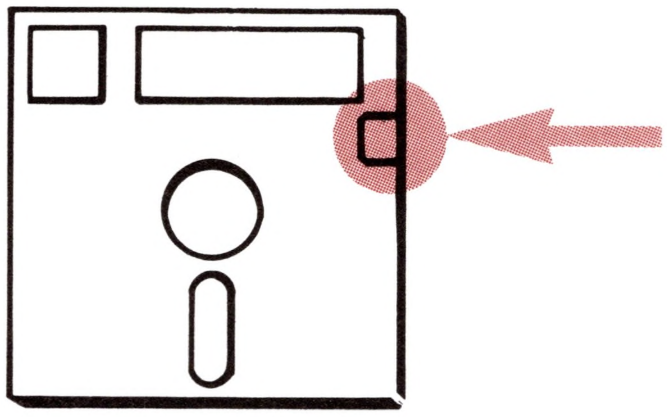
- Don't write on a diskette with a ball-point pen or pencil. Use only a soft felt-tipped marker. Better yet, prepare the diskette's label first, then apply it to the diskette.





Write-Protect Notch





Notice the small notch on a diskette below the label on the right. This is called the write-protect notch. If you cover the write-protect notch, information can only be read from the diskette. Data already on the diskette cannot be accidently erased or written over.

You can cover the notch with a tab supplied with the diskette or with a piece of opaque tape. You can remove the tape when you want to add or erase information.

It's a good idea to protect your important diskettes this way.

Many of the program diskettes you may buy have no notch. Such notchless diskettes are already "write-protected." The computer cannot write any information on a write-protected diskette.

Why Copy Your MS-DOS Diskettes?

Your MS-DOS Systems diskette holds all of the programs you need to make your computer operate. To protect it, make a “working” copy and save the original, or Master diskette, in a safe place. You should only use the Master diskette to make additional working copies.

This is very important.

Diskettes can be lost, physically damaged, and, on occasion, accidentally erased by sudden electrical surges in your computer or power systems. One of the first things you should do is make “backup” copies — duplicates — of your MS-DOS diskettes.

These copies become your day-to-day working copies of valuable master diskettes.

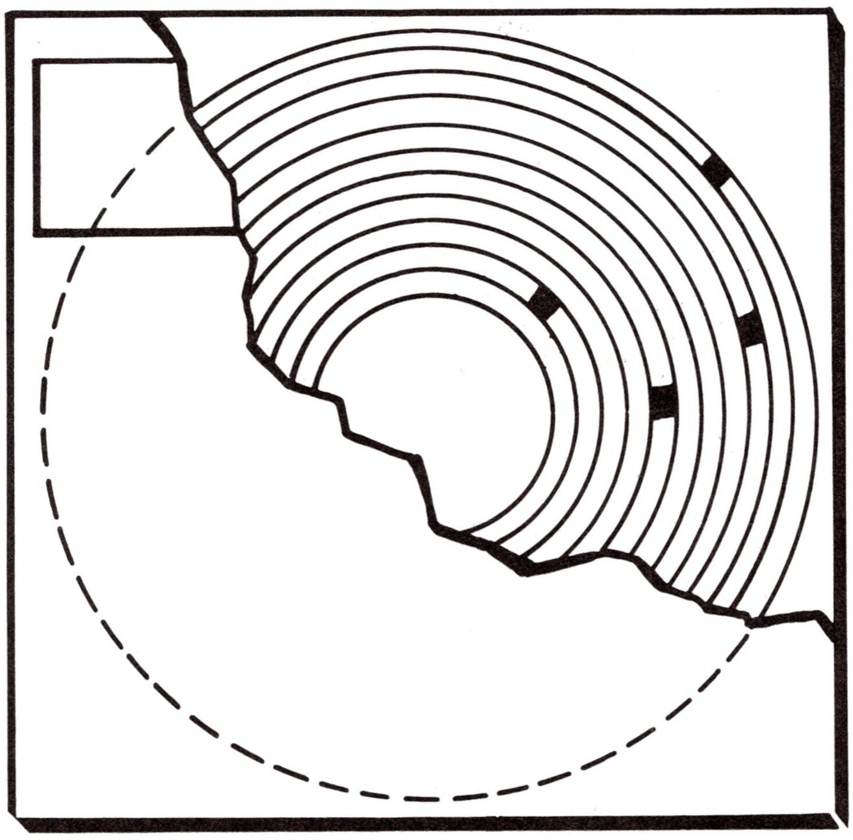
Be sure to:

- Use a felt-tip pen to label and date each backup diskette.
- Store the original or master diskettes in their paper envelopes in a safe place.
- Use the backup diskettes in your daily work.

Diskettes Need to Be Formatted

Before you can use a brand new or blank diskette with MS-DOS, you must FORMAT the diskette. You need only do this once — before you use a diskette for the first time.

FORMATing a diskette prepares it to receive and store data. Think of it this way. The FORMAT command is like putting lines on a newly paved parking lot so that cars can be parked in an orderly and efficient way. The FORMAT command writes "lines" (track and sector markers) on a new diskette. Data then is placed on the diskette in an orderly way and can be easily found and read.



What System Do You Have?

Your computer system unit operates with either:

- two diskette drives
- a fixed (non-removable) disk and a diskette drive.

In this book you learn how to use MS-DOS with these configurations. If you have a two-diskette drive system or a fixed disk and a diskette drive, the information you need to know is in this chapter.

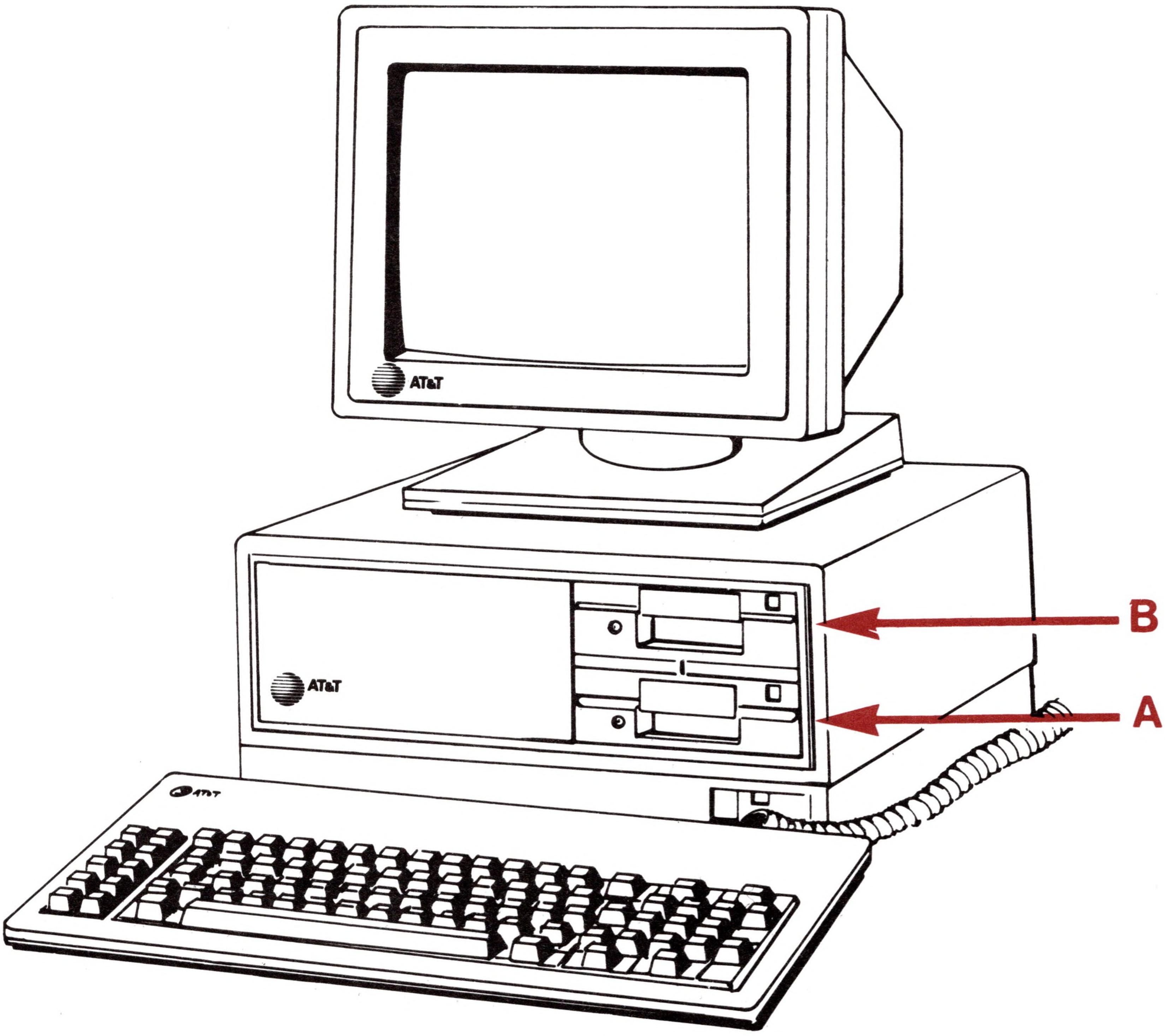
In our examples, we use the following conventions to distinguish between the drives in a two-drive system. These are common synonyms, used by the computer industry and by users alike.

Drive A **(or diskette A)** **is also called:**		**Drive B** **(or diskette B)** **is also called:**
Source	<———>	**Target**
Original	<———>	**Backup**
Master	<———>	**New or Blank**
First	<———>	**Second**

If You Have a Two-Diskette Drive System

If you have two diskette drives, identify them as drive A (the bottom drive) and drive B (the top drive).

If MS-DOS tells you to insert a diskette into drive A and, later, a diskette into drive B, you can insert diskettes into both drives. You don't have to exchange diskettes if you have two diskette drives.



If You Have a Fixed Disk Drive and a Diskette Drive System

A fixed disk is treated just like a diskette for most of the MS-DOS commands. Like a diskette, a fixed disk has a drive designation letter. You can read and write data from and to it. A fixed disk can hold millions of characters of information and can retrieve data much faster than data can be retrieved from a diskette drive.

Some MS-DOS commands are used only with a fixed disk drive. These are covered in Chapter 5, MS-DOS Commands.

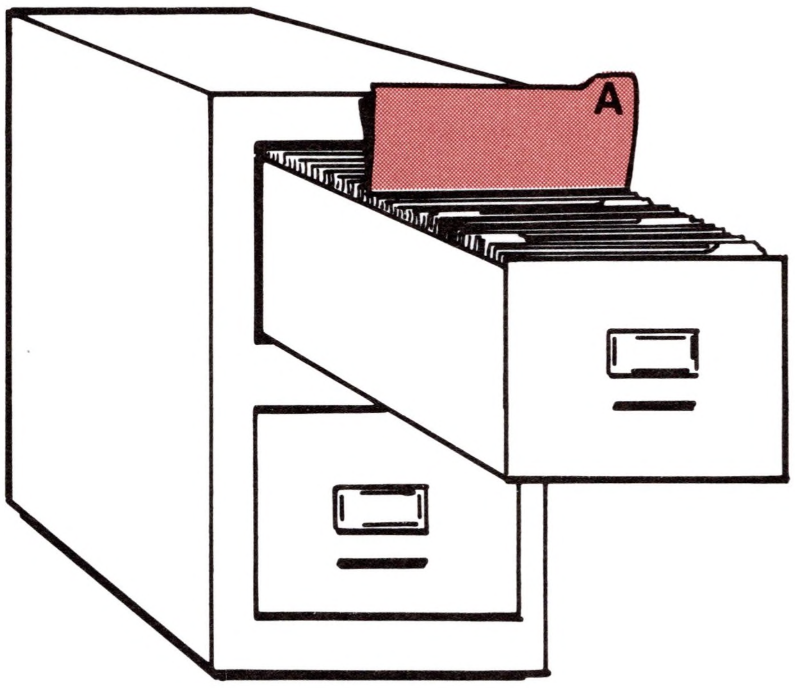
When you are copying the contents of a diskette to a fixed disk, the diskette drive is identified as drive A and the fixed disk is called drive C.

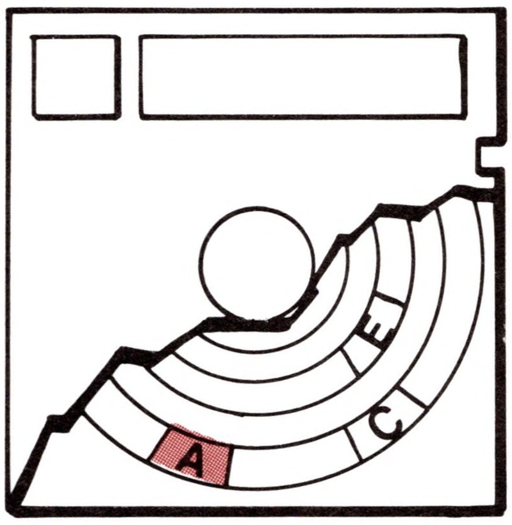
More information about setting up a fixed disk drive is found at the end of this chapter.

Files

Information is stored in files on your diskettes or fixed disk. A computer file is like a file folder in a conventional filing cabinet. It contains related data on a specific subject.

Every file has its own name called a "filename." MS-DOS uses filenames to locate stored files.





Naming files

Each file on a diskette must have its own unique filename. This way your computer can find the file you want.

You **can** use the same filename on two different diskettes or a fixed disk, but this may lead to problems later when you are COPYing a file from one disk to another.

A file's name is composed of:

- a **filename** of one to eight characters
- an **extension** of one to three characters (an extension is an optional identifier)
- a **period**, required as separator if an extension is used.

Legal characters in a filename and extension are:

- letters of the alphabet
- numbers 0 through 9
- these special characters:
  $ # & @ ! % ( ) - { ’ ‘ ~ ^ _ }

NOTE: Spaces between characters are not allowed.

Examples of legal filenames are:

```
PHDTHSIS.78
MOM&SIS.LTR
$$TAXES$.83
CH3PART1
##4^.!!!
```

Although the last filename on this list is legitimate, it doesn't give you much information about the contents of the file. A good filename reminds you what information is in the file.

To see what files are on a diskette, use the MS-DOS DIR command. Files are displayed on the screen similarly to this:

```
FC         EXE   2585    4-12-84    9:00a
FDISK      COM   4640    4-12-84    9:00a
FIND       EXE   6331    4-12-84    9:00a
FORMAT     COM   5776    4-12-84    9:00a
.
.
.
RESTORE    COM   4043    4-12-84    9:00a
       33 File(s)       150528 bytes free


A>
```

This list of files will become very familiar. You see this list on your screen every time you enter a DIR command for an MS-DOS Systems diskette.

The files on the MS-DOS Systems diskette are the programs that control your computer and perform important "housekeeping" tasks on your diskettes and files. Files on your diskettes contain many different types of information. There are simple text and data files — files that contain information that you create with a word processing or spreadsheet program. Other kinds of files are program files. These contain the instructions used by your computer to perform a task or complex operation. These are created using a programming language such as BASIC or Pascal — or other, specialized languages — and are meant to be used by a computer, rather than read by a person.

The files on your MS-DOS System diskette are program files.

This chart describes each of these MS-DOS Systems files and what they do.

File Name	**Function of File**
COMMAND.COM	MS-DOS command processor
EDLIN.COM	Line editor

DEBUG.COM	Debugger
LINK.EXE	Linker
CHKDSK.COM	Checks disks
FORMAT.COM	Formats disks
SYS.COM	Transfers system
DISKCOPY.COM	Backup utility
RECOVER.COM	Recovers disks
PRINT.COM	Print spooler
MORE.COM	Reviews text
SORT.EXE	Sorts text
FIND.EXE	Finds a string in a list of files or standard input
EXE2BIN.EXE	Converts .EXE files
CONFIG.SYS	System configuration file
RESTORE.EXE	Restores files
BACKUP.EXE	Backs up files

Even though the period is not displayed on the screen, you must use it when entering a filename and extension and when telling MS-DOS about that file.

Reserved Filenames and Extensions

Some filenames and extensions have a special meaning in MS-DOS. Some filenames identify the hardware parts of your computer or its accessories. Some extensions identify types of files handled in a special way by your computer.

Do not use the following reserved filenames when naming your own files.

Filename	Meaning
AUX	Refers to input or output to an auxiliary device — a printer or a modem
CON	Refers to keyboard input or displayed output
PRN	Refers to the printer
NUL	Used when you do not want to create a particular file, but requires an input or output filename.

The chart below shows some of the special file name extensions that you may use from time to time to identify program files that are used by a computer to perform some operation. For example, if you write a batch processing program that performs a series of MS-DOS commands, you use the extension .BAT to tell MS-DOS how to handle the file whenever you want to run that program.

Extension	**Meaning**
.COM	Command file - a program
.EXE	Command file - a program in binary format
.BAT	A batch program

Wild Card Characters

When you are using MS-DOS file commands, the wild card characters * and **?** can speed things up, particularly when you are working with multiple files. These characters provide flexibility in making choices about filenames and extensions.

The **?** character indicates that any valid character may occupy that position in a filename or extension. For example:

```
DIR INV???.84
```

lists all directory entries that begin with INV, have any three following characters, and end with the extension 84. For example, these files might be found:

```
INVENT.84
INV003.84
INVOIC.84
```

The * character in a filename or extension indicates that any valid character can be in that position, all remaining positions, or in the extension. For example:

```
DIR *.DAT
```

lists all the files with the extension .DAT. These files might be found:

```
84.DAT
INVENTRY.DAT
PAUL.DAT
Q184.DAT
```

The wild card characters * and **?** can be used together or interchangeably. They are powerful tools and should be used **very carefully**, particularly when using the DELete or ERASE commands.

File Specifications

When you want to call up a file, you must tell MS-DOS where to search for it — that is, you must specify what drive contains the diskette with that file. Type in:

```
A>MOM&SIS.LTR
```

Here, you provided only the filename and extension. Therefore, MS-DOS searches the current A drive.

These three parts — the drive letter, the filename, and the extension — are called the file specification.

Often, you need to fetch a file from a drive other than the current drive. In these cases you need to specify the drive.
For example, to specify a file on the B drive with a current A drive, type:

```
A>B: thisfile.onB
```

If your hard disk is the current drive, you may specify a file on A by typing:

```
C>A:thisfile.onA
```

The drive letter and the colon are called the drive specifier. Always type the colon (:) after the drive letter. Do not put any spaces between the three parts.

3 Starting MS-DOS

Loading MS-DOS

In this chapter you will learn about how to start your computer with MS-DOS and some of the basic techniques you will need to work with your operating system. Also, if you have a fixed disk drive in your computer, this chapter contains information about setting up MS-DOS on a fixed disk and some tips on using this type of disk drive.

If MS-DOS is already installed on your fixed disk, some of the information in this chapter may be familiar to you. Review each section in this chapter to be sure that you understand how to begin using MS-DOS with your computer.

There are two types of MS-DOS commands: internal and external.

Internal commands are placed into memory whenever you start your computer with MS-DOS. Internal commands are the MS-DOS operations you use most often. For example, **DIR** is an internal command.

External commands are the MS-DOS files on the System diskette placed in your computer's memory when you specifically need them to do some task. For example, the FORMAT command is an external command.

When you load or start MS-DOS, the MS-DOS internal commands are read from the COMMAND.COM file on the MS-DOS diskette and placed into the computer's memory.

After this process is completed, the MS-DOS prompt appears and you can enter a command.

Inserting Diskettes

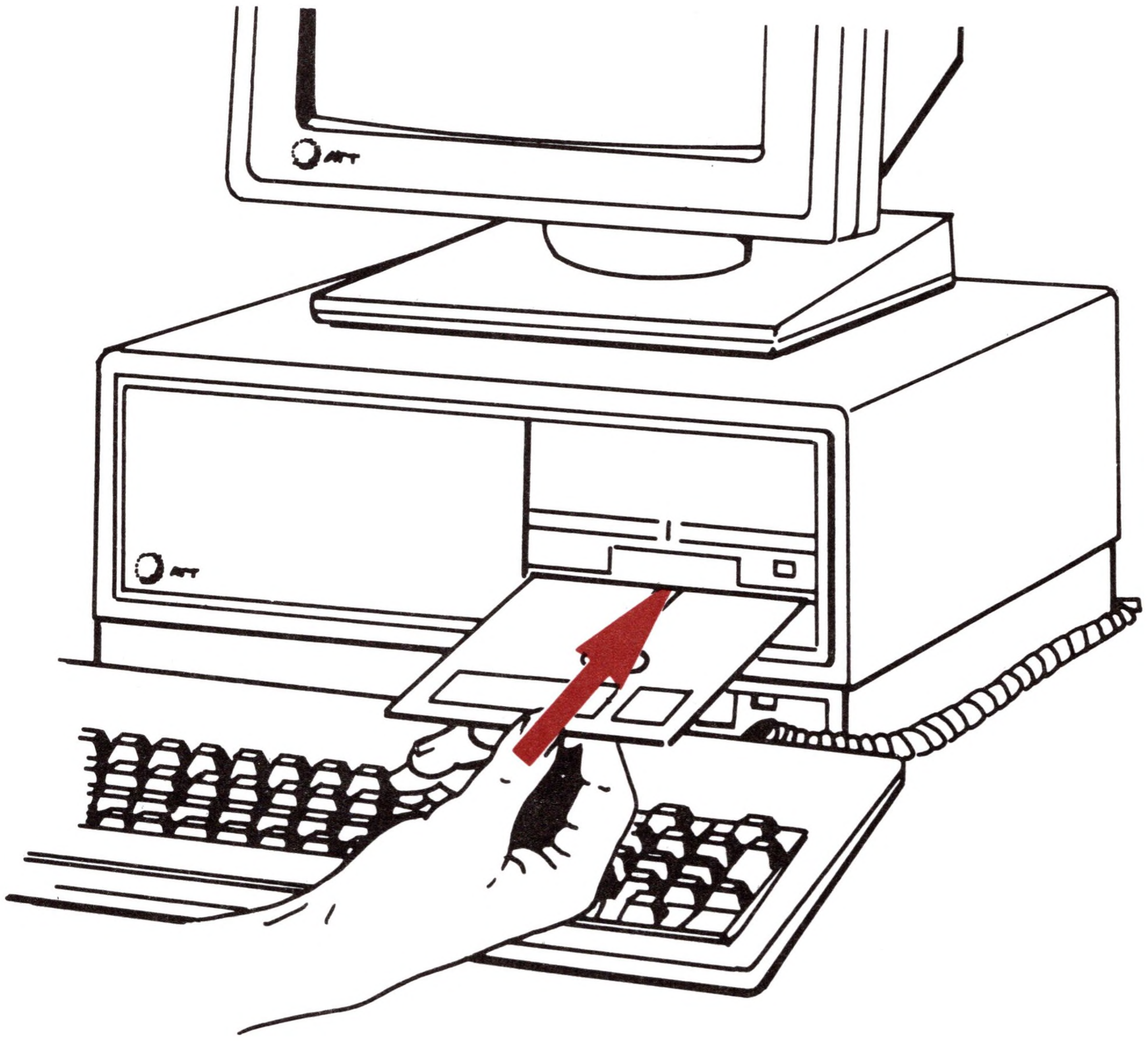
To insert the diskette properly:

1 Remove the diskette from its paper sleeve.

2 Open the diskette drive door.

3 Slide the diskette into drive A with the label side up. Do not force or bend the diskette.

4 Shut the drive door carefully.



If Your Computer Is OFF

1 Insert the MS-DOS diskette into drive A and shut the drive door.

2 Turn on your computer.

A few seconds elapse as the system checks itself. The more memory in your computer, the longer this check-out period lasts. The following messages appear on your screen. The exact wording or sequence may vary depending on your computer.

```
Resident Diagnostics
Rev 1.0 May 1984

CPU (i8086)           Pass
ROM Module            Pass
DMA Timer             Pass
DMA Control           Pass
Interrupts            Pass
128kb RAM             Pass
RT Clock              Pass
Fixed Disk            Not Present
Floppy (A:)           Ready

Primary Boot-Strap . . .

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Compatibility Software Copyright (c) 1984 by
Phoenix Software Associates, Ltd.

Microsoft MS-DOS version 2.11
Copyright 1981,82,83 Microsoft Corp.

Command v. 2.11

A>
A>
```
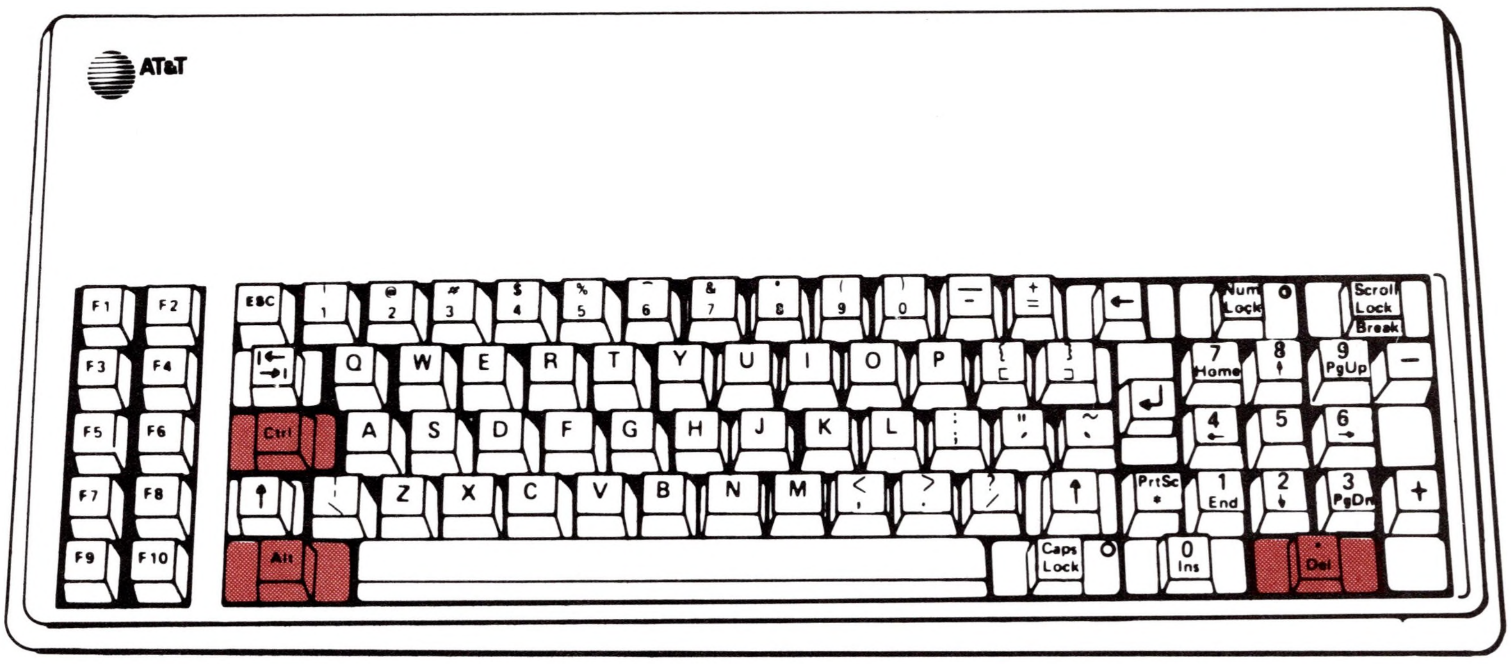

If Your Computer Is ON

1 Insert the MS-DOS diskette into drive A and shut the drive door.

2 Press and hold the System Reset keys:

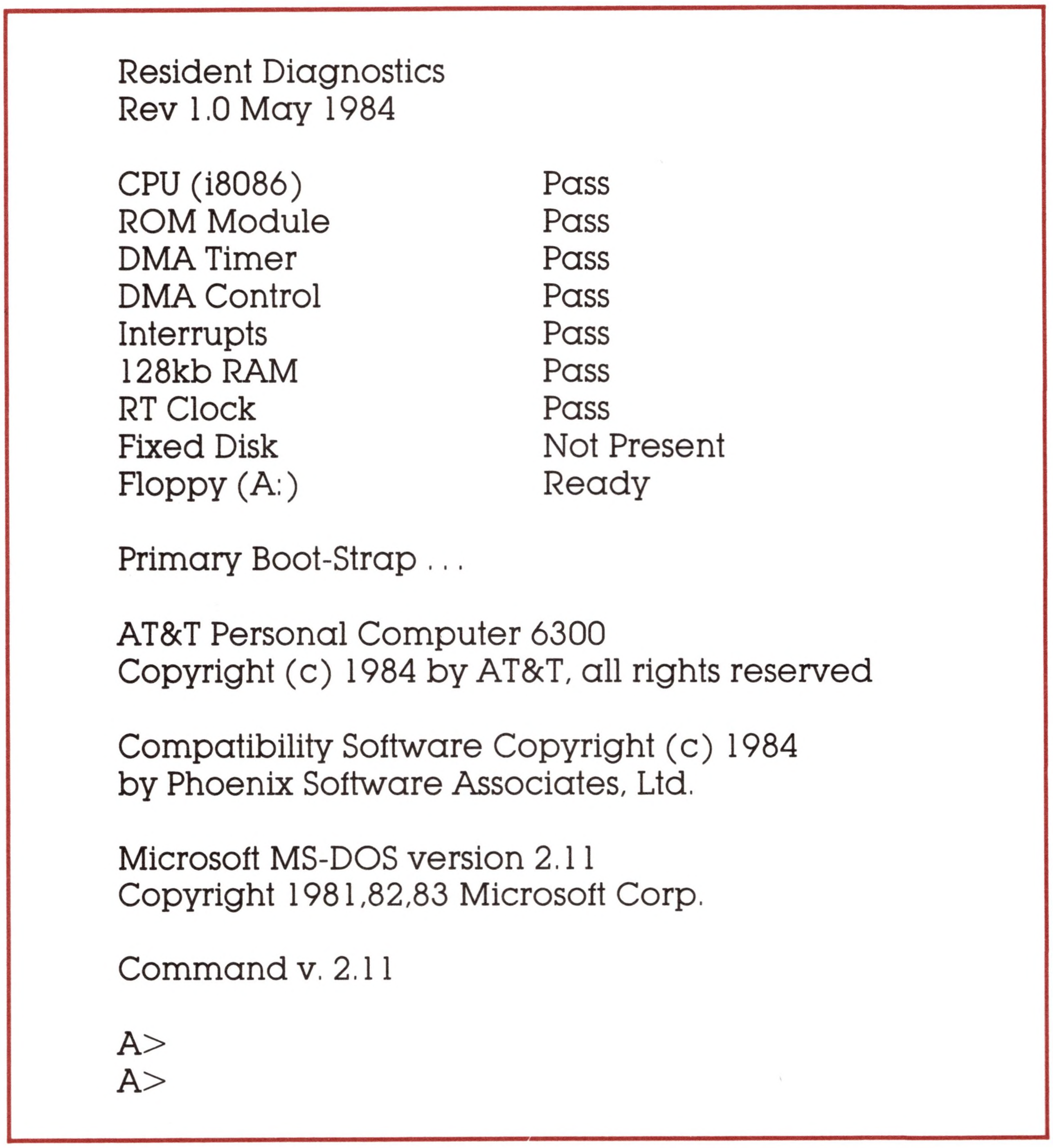


and then release them.

The diskette drive light comes on while MS-DOS is being read into memory.

When MS-DOS Is Ready: The Prompt

After MS-DOS is loaded into memory, your screen looks like this:



```
Resident Diagnostics
Rev 1.0 May 1984

CPU (i8086)            Pass
ROM Module             Pass
DMA Timer              Pass
DMA Control            Pass
Interrupts             Pass
128kb RAM              Pass
RT Clock               Pass
Fixed Disk             Not Present
Floppy (A:)            Ready

Primary Boot-Strap . . .

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Compatibility Software Copyright (c) 1984
by Phoenix Software Associates, Ltd.

Microsoft MS-DOS version 2.11
Copyright 1981,82,83 Microsoft Corp.

Command v. 2.11

A>
A>
```

The A> on the screen is the MS-DOS prompt. Whenever this prompt appears, you know that MS-DOS is ready to go. A> prompts you, indicating that you must tell MS-DOS what to do next by entering a command.

Entering Commands

To make your computer perform a task, you must tell it what to do. This is called entering a command. The various MS-DOS commands perform different tasks such as displaying a list of files on a diskette (the DIR command), or backing up a diskette (the DISKCOPY command).

Most MS-DOS commands do one thing. You tell your computer to do "this" or "that" with a single command.

To give MS-DOS a command:

Wait until the A> appears.

Enter the command and any other information required. For example, it's sometimes necessary to include a drive specifier or a file specification in a command.

Press **RETURN** and the command procedure begins.

Entering an MS-DOS command is easy. Here are some simple rules:

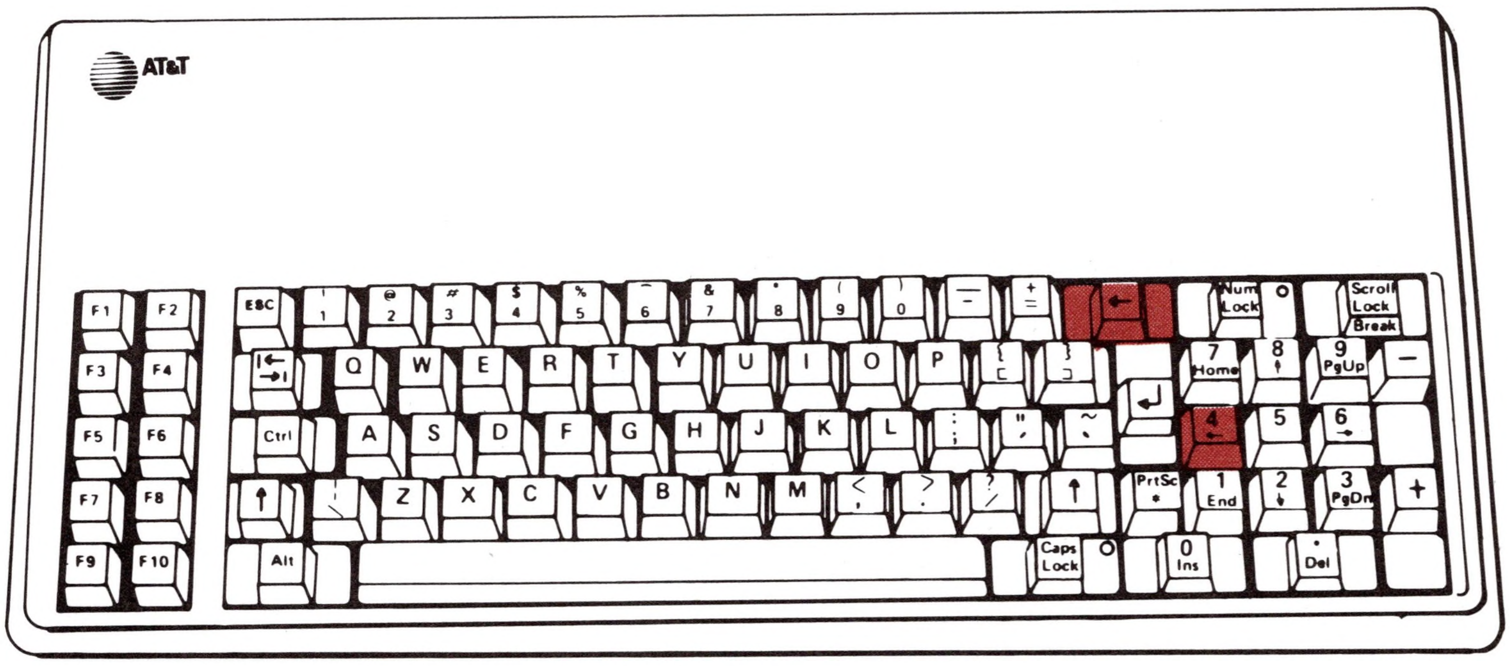
- A command can be entered in uppercase or lowercase or any combination.

- Use a blank space to separate the parts of the command from one another.

- The MS-DOS command must be the first thing you type.

If You Make a Mistake

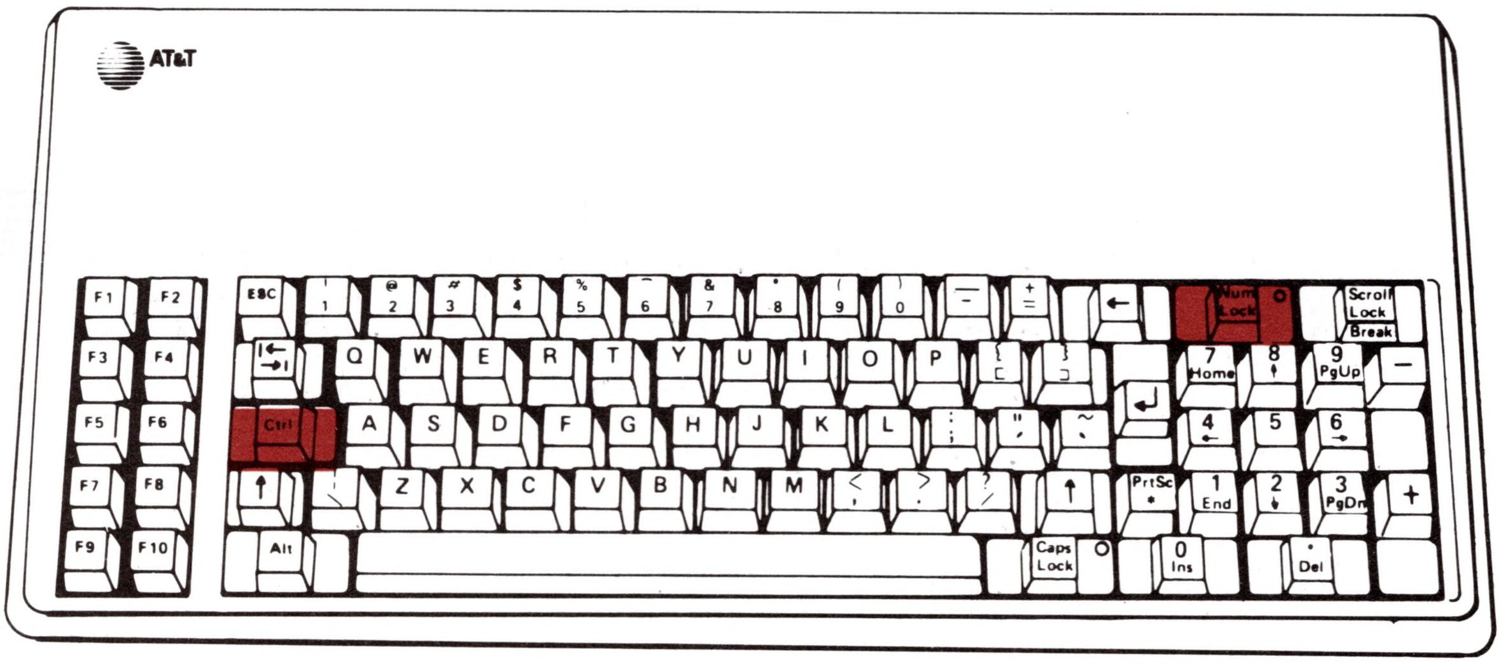
Sometimes you might make a mistake typing a command. You can correct an error two ways. You can press **BACKSPACE** which erases one letter at a time as it moves to the left, then retype your input. You can also use the **LEFT ARROW** to move the cursor to the left and make the necessary change.



Stopping the Screen to Read It

When the screen fills up with data, new information appears at the bottom, pushing what's at the top "up" and causing it to disappear from view. This process is called scrolling.

Some MS-DOS commands (for example, DIR and TYPE) cause text to be displayed on the screen at such a rapid rate that data may be scrolled out of sight before you get a chance to read it. In order to stop the display so that you can read what is on the screen, press and hold **CTRL** and then press **NUM LOCK**.

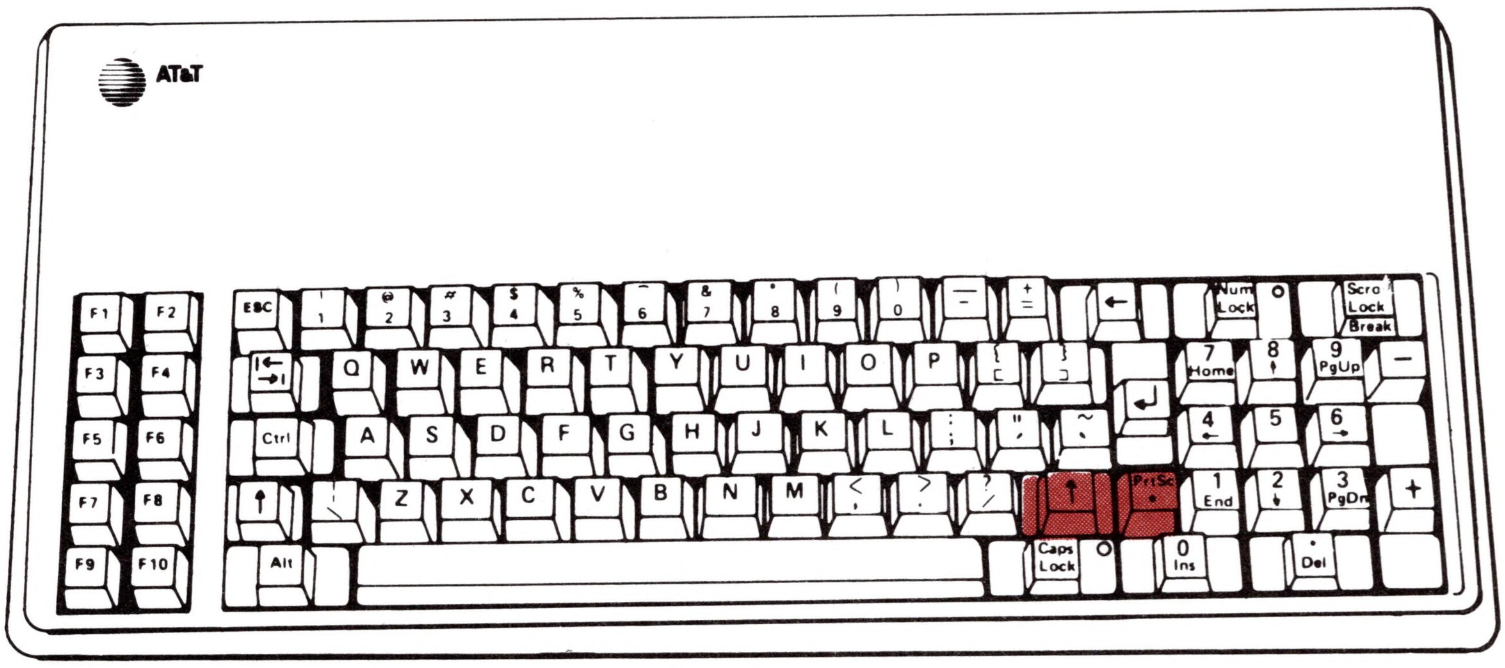


Press any key to resume the display of text.

Printing What Is on the Screen

You may want to have a printed copy of what is being displayed on the screen. For example, you may need a copy of a form or just one piece of information from a file.

If you have a printer attached to your computer you can get an exact copy of what is displayed on the screen by pressing and holding **SHIFT** and then pressing **PR SCR**.



The Default Drive

The "A" in the prompt indicates the default drive. The default drive is the diskette or fixed disk drive that MS-DOS uses to perform the command you've entered. When you enter a command or filename, MS-DOS automatically searches the diskette located in the default drive for this information, unless you indicate another drive in the file specification. For example:

```
A>DIR
```

searches drive A for a directory of files. Since no drive is specified, the default drive A is assumed. However:

```
A>DIR B:
```

searches drive B for a directory since drive B is specified.

It is possible to change the default drive in the prompt. Enter the new drive designation letter and follow with a colon. For example:

```
A>B:
```

If you press **RETURN** after this command, the new prompt appears:

```
B>
```

To find a directory on a diskette in drive A, you would now have to enter:

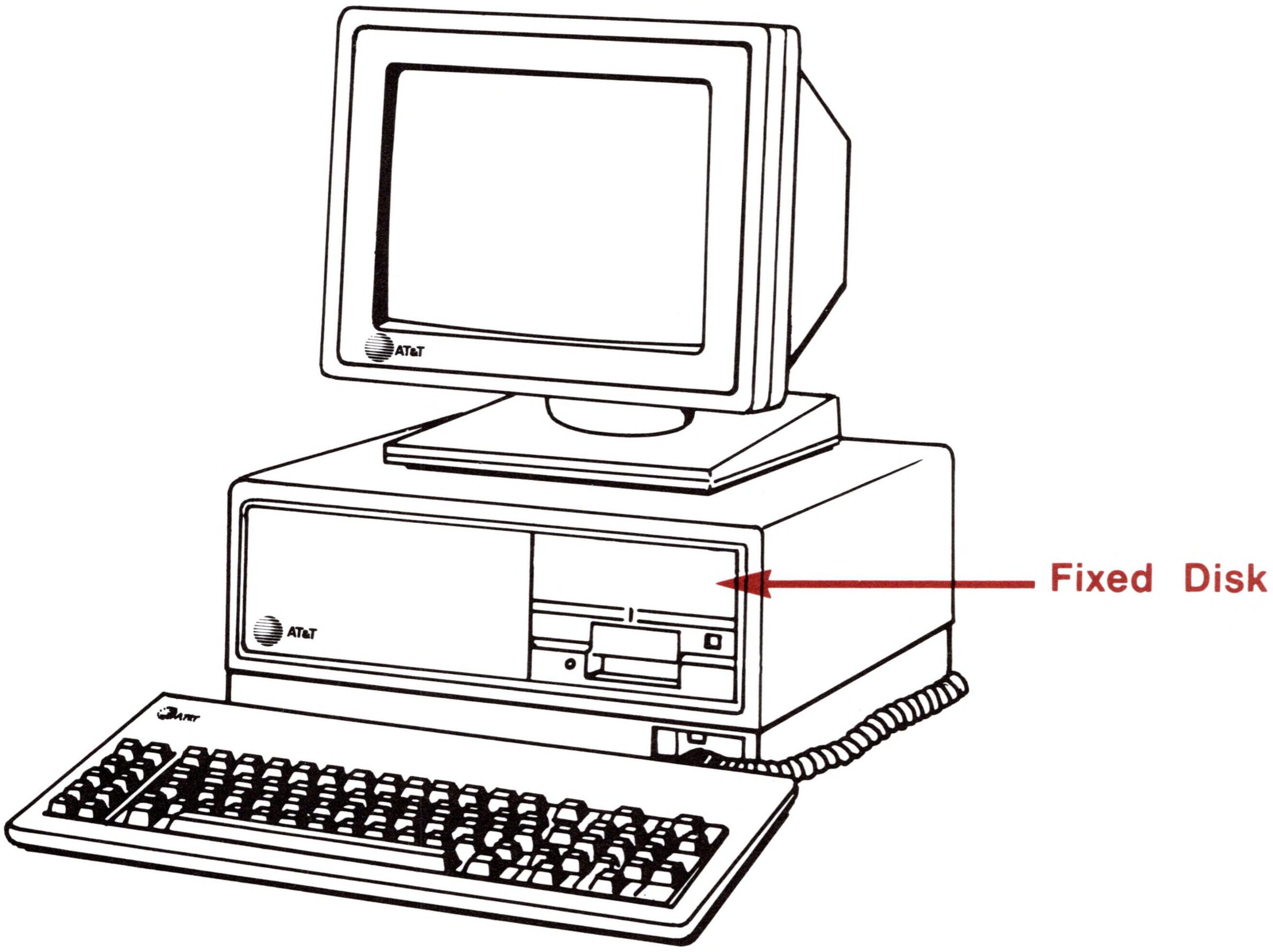
```
B>DIR A:
```

Using a Fixed Disk Drive

If your computer is equipped with a fixed disk drive you must carefully consider how to best use your fixed disk before you prepare it to receive program and data files.

If MS-DOS is the only operating system you are ever going to use, then the procedure is simple. Refer to the section in this chapter called **Using MS-DOS Only** for a step-by-step guide.

If you are planning to use more than one operating system, or **may** choose to do so in the future, read through this entire section before starting to set up your fixed disk. If you are going to use more than one operating system you must allocate storage space on the fixed disk for each operating system. This is called "partitioning" the disk. Each operating system resides in its own partition.



Some considerations:

- How many people will be using this computer? They may want to have their own subdirectory and may want to use another operating system.
- You **can** partition the fixed disk for other operating systems later. However, you must perform several steps to remove existing files onto backup diskettes, then reformat and partition the fixed disk, before you can replace the existing files back into the MS-DOS partition.
- Despite the seemingly unlimited amount of storage available with a fixed disk (10 million characters), partitioning the disk for two or more operating systems divides the available space. Be certain that having more than one operating system is what you want.
- To set up other operating systems on your fixed disk drive, refer to the appropriate documentation for the other systems.

Using MS-DOS Only

If you are going to use MS-DOS exclusively with your fixed disk, follow these steps.

1 Start the computer with a backup MS-DOS Systems diskette in drive A.

2 When the A> prompt appears, type:

```
FDISK
```

and press **RETURN**.

3 When the FDISK options menu appears choose #1 – Create MS-DOS Partition.

4 When you are asked “Do you wish to use the entire hard disk for MS-DOS (Y/N)?” Type

```
Y
```

and press **RETURN**.

The entire fixed disk is now allocated for MS-DOS operations.

5 You must now restart your computer with MS-DOS and prepare the fixed disk to receive data. Press and hold **ALT, CTRL**, then press **DEL** to restart the computer. MS-DOS now recognizes the fixed disk as drive C.

6 To format the fixed disk, wait for the A> prompt to appear, then type

```
FORMAT C:/S
```

and press **RETURN**.

NOTE: Formatting a fixed disk takes several minutes. The screen displays the message "Formatting .....". When the process is finished, a message appears and the hidden system files are also placed on the fixed disk so you can start the computer from the fixed disk.

7 Copy all of the external MS-DOS commands and related programs to the fixed disk by typing:

```
COPY *.* C:
```

and press **RETURN**.

Your fixed disk can now be used to start your computer. Whenever you turn your computer ON or press the RESET button, leave drive A open and MS-DOS selects drive C as the default drive.

Partitioning Your Fixed Disk

If you are using more than one operating system with your fixed disk, you must partition the disk. This allows each operating system to occupy space tailored to its exact needs for proper operation. You may also want to partition a fixed disk if several people are using the same computer. A partition can be set up for each individual user or category of users.

Each operating system that can be used with a fixed disk has its own commands for placing it on the disk. Refer to that operating system's user's guide for instructions on placing it in its own partition on a fixed disk.

The MS-DOS program that performs the partitioning of your fixed disk is FDISK.COM. It is on the MS-DOS System diskette.

The FDISK command allows you to:

- Set the size of the MS-DOS partition
- Set a partition's position on the disk
- Select the active partition used when the computer is started
- Delete the MS-DOS partition
- Display the partition map.

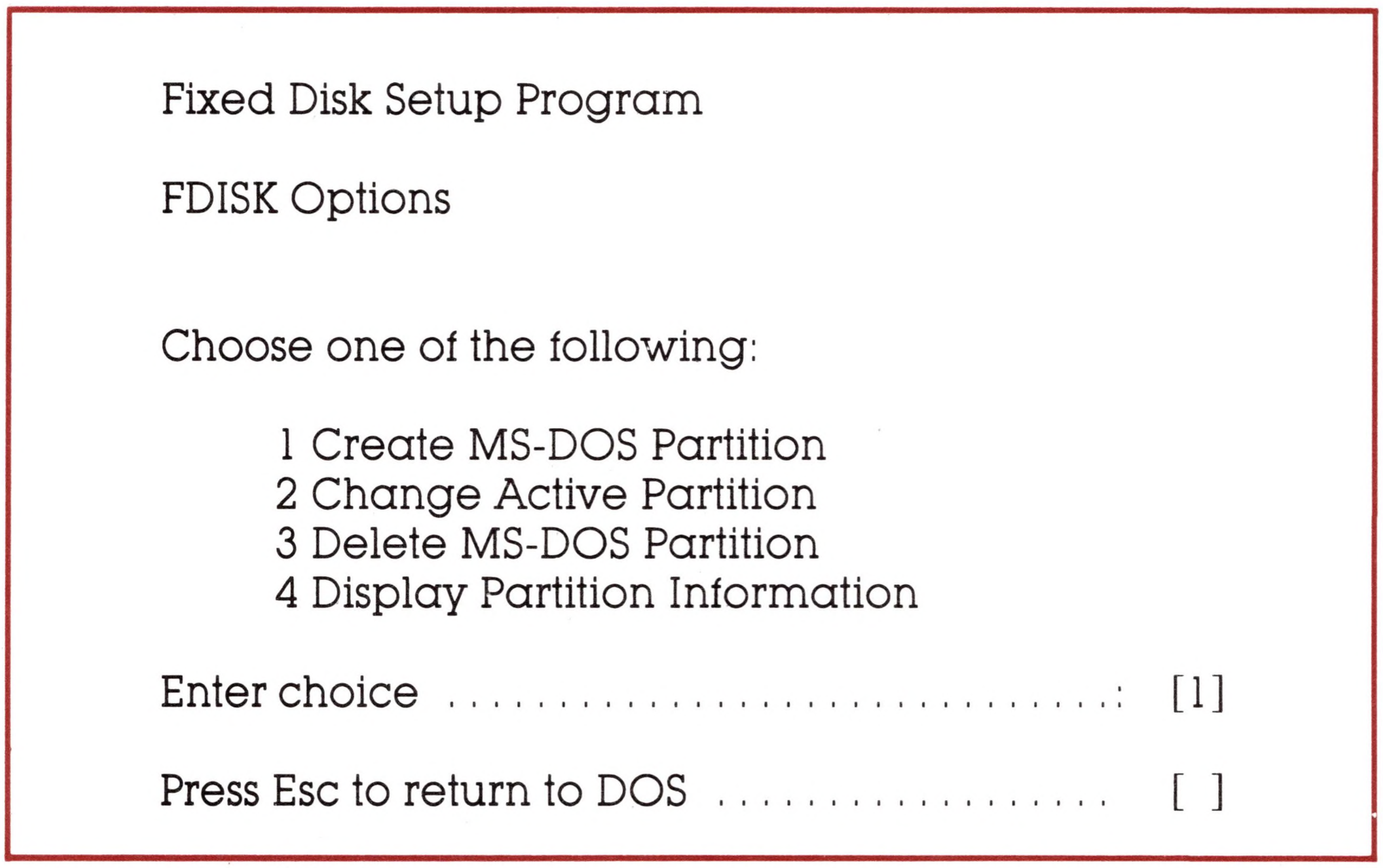
Creating the MS-DOS Partition

1 Type:

FDISK

and press **RETURN**.

In a few seconds, the FDISK menu appears on the screen.



```
Fixed Disk Setup Program

FDISK Options


Choose one of the following:

        1 Create MS-DOS Partition
        2 Change Active Partition
        3 Delete MS-DOS Partition
        4 Display Partition Information

Enter choice  . . . . . . . . . . . . . . . . . . . . . . . . . . . . . . :   [1]

Press Esc to return to DOS  . . . . . . . . . . . . . . . . . . .   [ ]
```

2 Choose #1 Create MS-DOS Partition from the FDISK menu.

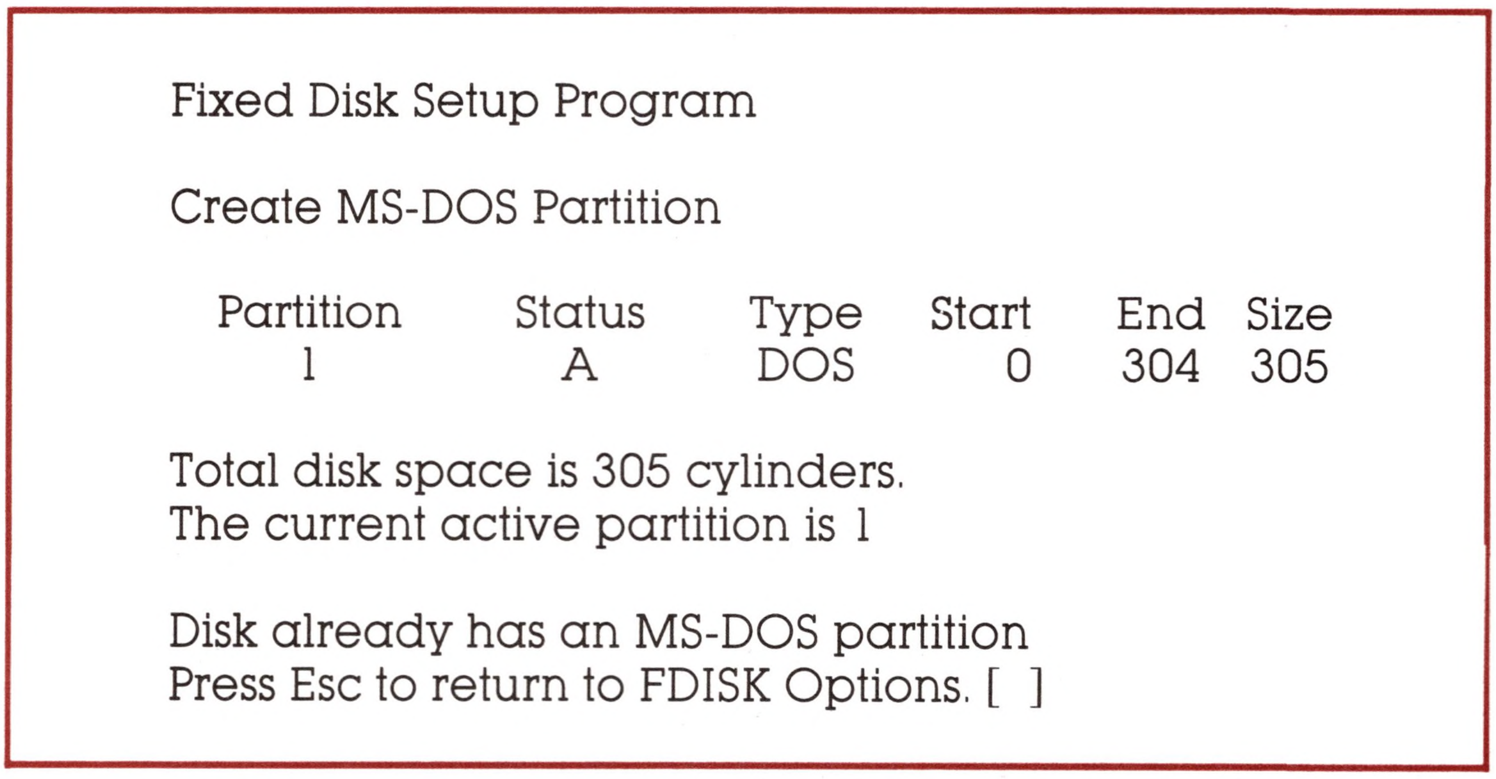
3 If the disk has not been already set up you are asked if you want to use the entire fixed disk for MS-DOS. Type:

```
N
```

and press **RETURN**. This causes a message describing the total number of cylinders your fixed disk has and the size and location of the contiguous cylinders. If there is nothing on the disk, these two amounts are the same.

NOTE: Space on a fixed disk is measured in cylinders. On your computer a cylinder is approximately 34,000 characters of storage space.

4 If your fixed disk **is already set up** this is displayed:



```
Fixed Disk Setup Program

Create MS-DOS Partition

   Partition      Status      Type    Start     End   Size
       1            A         DOS        0      304   305

Total disk space is 305 cylinders.
The current active partition is 1

Disk already has an MS-DOS partition
Press Esc to return to FDISK Options. [  ]
```

This shows a typical partition map with three partitions on the fixed disk. This information describes

- the partition status, Active or Non-active
- MS-DOS or non-MS-DOS contents
- the beginning and ending cylinder number of the partition
- the size of the partition
- total space on the fixed disk
- available space and location

5 Respond to the prompt

```
Enter partition size ......
```

by typing the number of cylinders you want to allocate for MS-DOS. Enter the number and press **RETURN**.

6 Respond to the prompt

```
Enter starting cylinder number ... nnn
```

by either pressing **RETURN** or entering another three-digit number. The default value displayed is the first cylinder of the smallest space that is large enough for the partition size you entered for step 5.

7 Respond to the prompt

```
Press RETURN to return to the FDISK Option
```

by pressing **RETURN** if you want to continue to use the FDISK command. Later you may want to check that the MS-DOS partition is active by going to the partition map display.

8 If you have not already set up your fixed disk with MS-DOS, you should now restart your system by pressing and holding **ALT, CTRL**, and then pressing **DEL**. Be sure to have the MS-DOS diskette in drive A.

9 Run FORMAT to format the MS-DOS partition on the fixed disk. Type:

```
FORMAT C:/S
```

10 When the format is complete, type:

```
COPY *.* C:
```

Steps 9 and 10 format the MS-DOS partition, move the hidden system files into the partition, then copy the MS-DOS external commands and related programs into the partition.

Your fixed disk is now ready to be used.

Changing the Active Partition

Enter the FDISK command and select #2 Change Active Partition from the menu. If you have more than two operating systems installed, be sure you know which one you want to make active.

Simply respond to the prompt

```
Enter the number of the partition you want to make
active .........................................
```

by typing the number of the partition you want to be the partition that starts your computer, and pressing **RETURN**. The displayed partition map is updated and the new partition is used as the startup file for your computer.

Deleting the MS-DOS Partition

Be careful. Deleting this partition destroys the contents of this part of the fixed disk. Be sure to make backup copies of the files. Use the MS-DOS command BACKUP before you continue.

To delete the MS-DOS partition, select #3 Delete MS-DOS partition from the FDISK menu. The partition map is displayed along with a "Warning" advisory.

To cancel the delete operation press **ESC**.

To proceed with the delete operation press **Y** and **RETURN**.

To restart your computer with MS-DOS after you have deleted the MS-DOS partition you must use an MS-DOS system diskette in drive A.

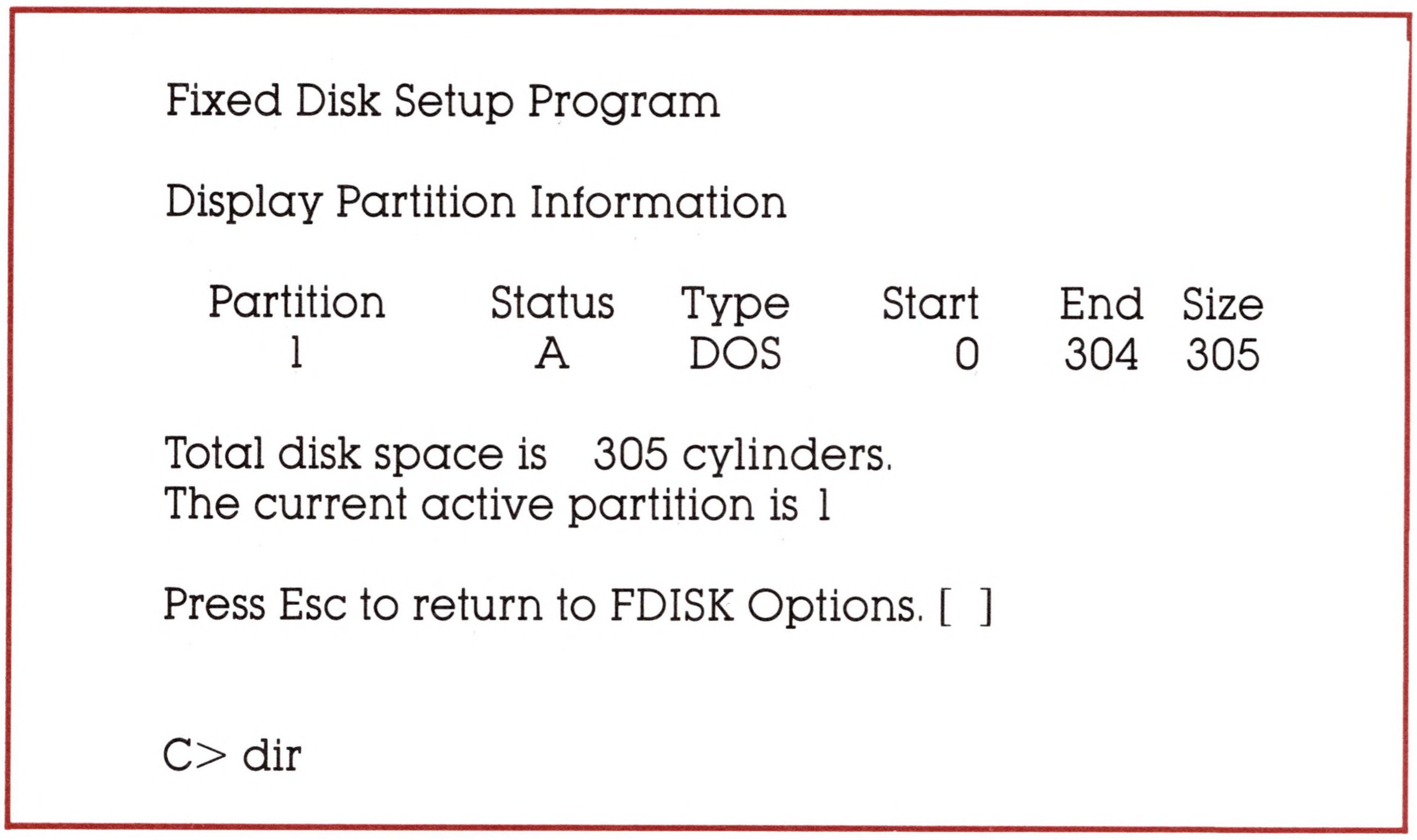
To restart your computer with another operating system you must either:

1. Select another active partition.

2. Use another system diskette in drive A.

Displaying the Partition Map

Option #4 Display Partition Data from the FDISK Option menu causes the partition map to appear on the screen.



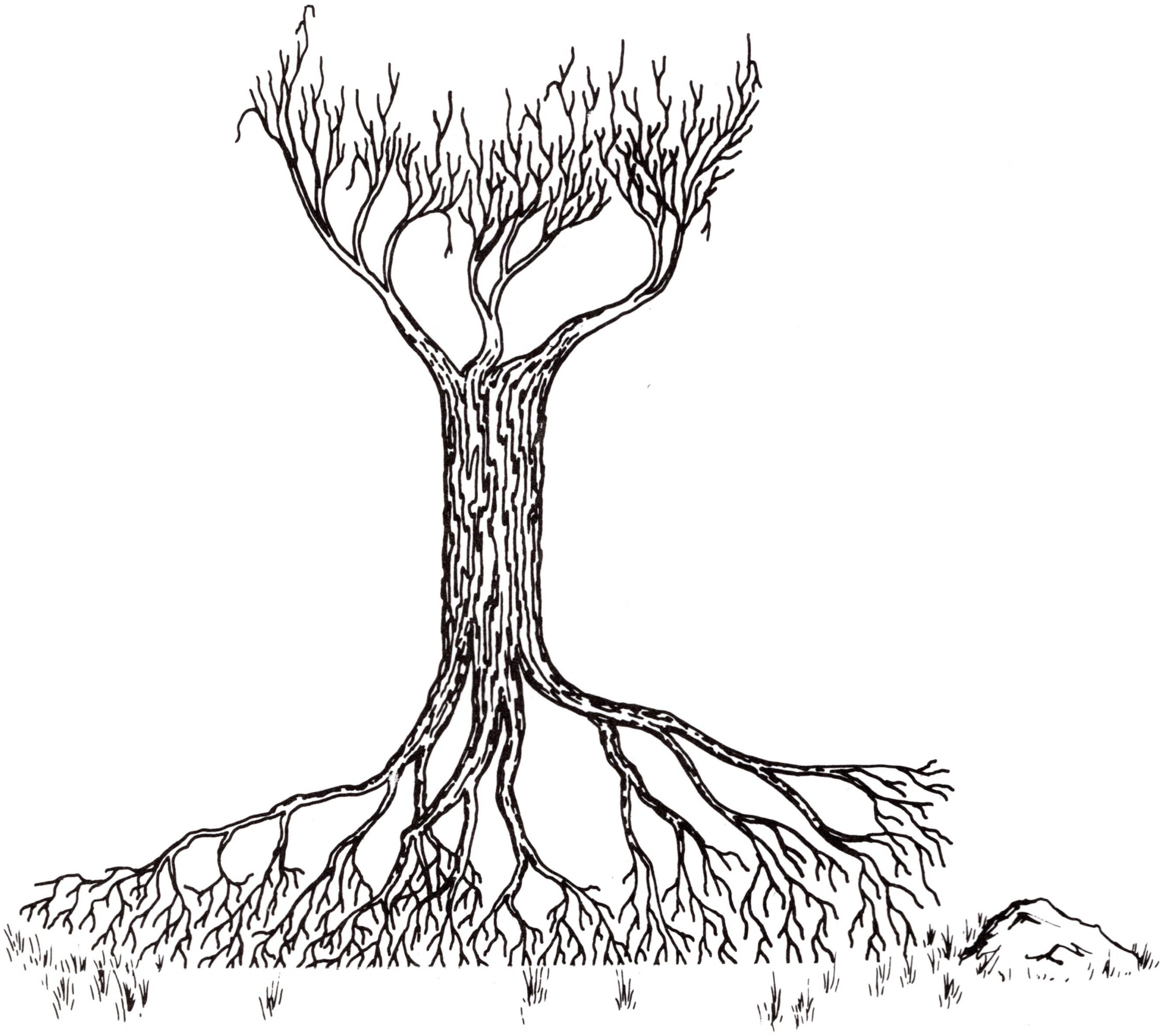
```
Fixed Disk Setup Program

Display Partition Information

  Partition        Status    Type       Start      End   Size
      1               A       DOS           0      304    305

Total disk space is   305 cylinders.
The current active partition is 1

Press Esc to return to FDISK Options. [  ]


C> dir
```

To return to the menu press **ESC**.

Organizing Your Fixed Disk

The information contained in this section is "helpful hints" about using a fixed disk drive. For new computer users, or users who haven't used fixed disks before, putting all available disk storage to best use can pose a challenge.

To help you, MS-DOS has the capability to create subdirectories and sub-subdirectories. Imagine an upside-down maple tree. (The trunk is in the air and the main branches and limbs are balancing all of this lightly on the ground. Got it?)



When you issue the MS-DOS **DIR** command, a complete listing of all the files on the specified drive appears on the screen. What is displayed are all of the files on that disk or diskette. If you've been using your fixed disk for storage for all of your work and program files, this can be a very, very long listing.

The DIR command is showing you **everything** in the "trunk" and branches of the tree. If you've got several hundred files on the disk — and this is not too difficult to do — it is both time consuming and tedious to locate a specific file if you've forgotten its exact name and extension.

What's more, if there are a large number of files in the directory, system performance slows down when your computer is looking for a specific file.

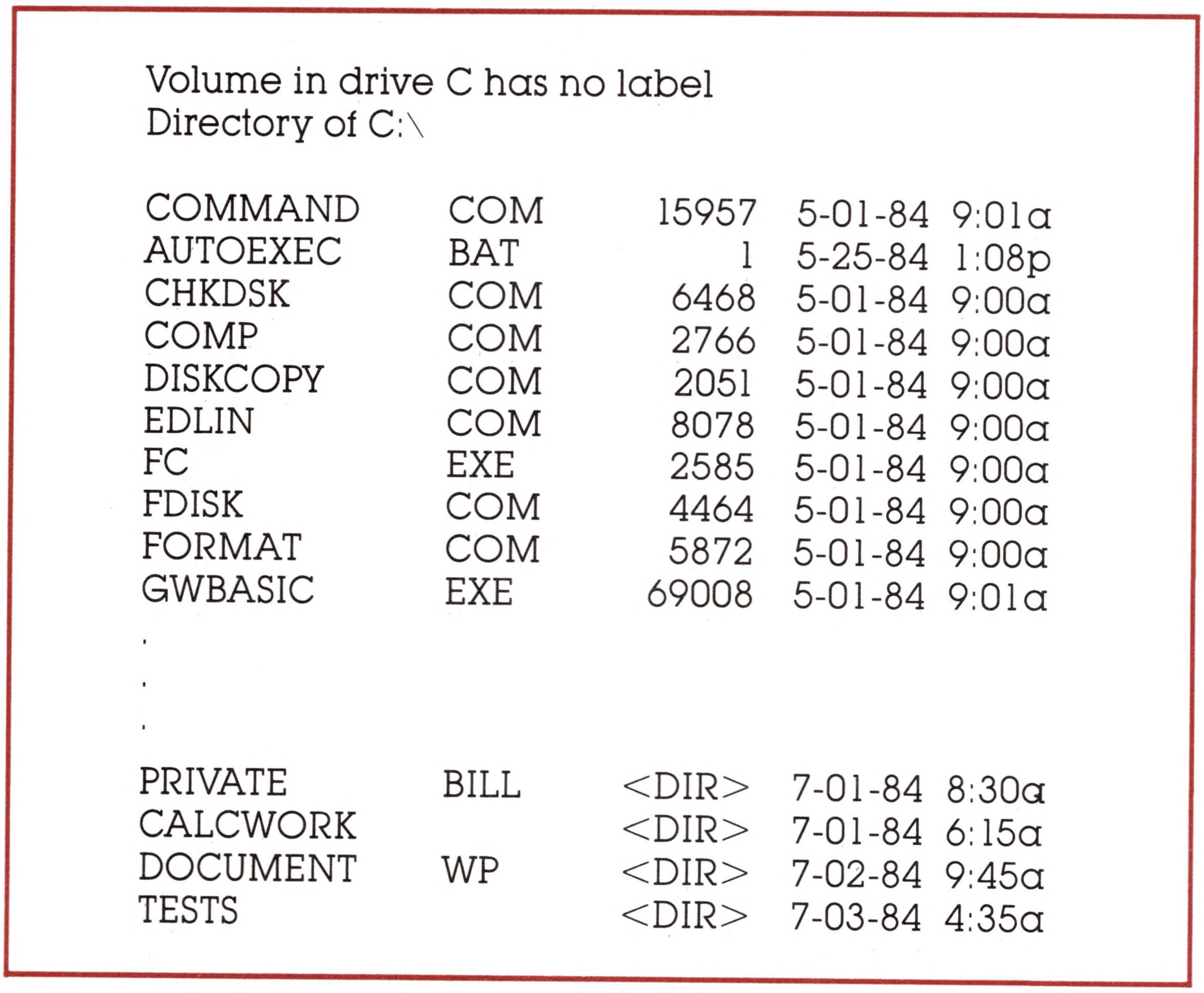
To solve these problems, you create subdirectories — branches and limbs of the main DIR tree. By establishing a path the DIR command can follow, you speed up processing. With faster processing you get your own work done more quickly.

A Sample Multi-level Directory

The following illustration shows how a fixed disk subdirectory structure might be set up.

Let's say this is Bill's computer and Mike and Sue work for Bill. They use his computer from time to time to prepare reports and budgets, so they have their own subdirectories. Mike is a financial analyst and does a lot of work with a spreadsheet program. Sue is a product manager and is involved with development and testing of new products.

Here is how Bill set up his disk directories.



```
Volume in drive C has no label
Directory of C:\

COMMAND    COM      15957  5-01-84  9:01a
AUTOEXEC   BAT          1  5-25-84  1:08p
CHKDSK     COM       6468  5-01-84  9:00a
COMP       COM       2766  5-01-84  9:00a
DISKCOPY   COM       2051  5-01-84  9:00a
EDLIN      COM       8078  5-01-84  9:00a
FC         EXE       2585  5-01-84  9:00a
FDISK      COM       4464  5-01-84  9:00a
FORMAT     COM       5872  5-01-84  9:00a
GWBASIC    EXE      69008  5-01-84  9:01a
.
.
.
PRIVATE    BILL     <DIR>  7-01-84  8:30a
CALCWORK            <DIR>  7-01-84  6:15a
DOCUMENT   WP       <DIR>  7-02-84  9:45a
TESTS               <DIR>  7-03-84  4:35a
```

In the main (ROOT) directory, Bill has placed all of the MS-DOS operating system and related programs. So, no matter who is using the computer, all of the MS-DOS functions are avaiable.

There are four subdirectories.

- A private directory for Bill
- The Spreadsheet directory that contains the spreadsheet program and two sub-subdirectories
- The Word Processing directory that contains the word processing program and two sub-subdirectories
- The Test subdirectory and two sub-subdirectories that contain files about the new products that Bill and Sue review.

Bill mapped out the fixed disk directories before he assigned them names. Then he used the MD (Make Directory) and CD (Change Directory) commands to create this structure. Here's how he did it:

1. Loaded MS-DOS into memory.

2. Created his personal directory by typing:

   MD RETURN

   This created the subdirectory BILL under the ROOT directory. Bill keeps his own programs and special files here.

   After he starts his computer and the MS-DOS prompt appears, he types

CD\BILL

to get into his own directory.

3 To create the SPREAD subdirectory for the spreadsheet program and **its** subdirectories Bill typed:

MD C:\SPREAD

First, he created the subdirectory SPREAD under the root directory. Then he changed directory (CD) to SPREAD by typing

CD\SPREAD

Next, Bill typed:

MD\SPREAD\BILL

and

MD\SPREAD\MIKE

to create a subdirectory for himself and for Mike. The MD command can also be entered as MKDIR.

4 Bill repeated this process for the word processing directory (WP) with the commands:

```
CD\      (return to ROOT directory)
```

Then he typed:

```
MD C:\WP
```

to make a directory on drive C: named “WP”. He then used the Change Directory command to enter the new WP directory by typing:

```
CD\WP
```

and created two subdirectories for his people who would be using the word processing directory, WP by typing in the commands:

```
MD\WP\BILL
```

and

```
MD\WP\SUE
```

5 To complete the directory-building process Bill typed in the following commands to create subdirectories under the directory named TEST:

```
CD\
MD C:\TEST
CD\TEST
MD\TEST\BILL
MD\TEST\SUE
```

Using Subdirectories

Whenever Sue wanted to get into the files she was keeping on the new products undergoing testing, she started the computer and issued the following commands:

```
CD\TEST\SUE
```

which identifies the path to her personal subdirectory under the TEST directory, and

```
DIR
```

which displayed a directory listing of all her files under that subdirectory so that she could select the file she wanted to work with.

By dividing up each user's files into subdirectories Bill provided an easy way for each computer user to access his or her own files out of the 200-odd files that were stored on the fixed disk. In this way, operation of the computer's file storage disk was speeded up, and making backup copies of each person's work files was made a good deal easier.

4 Using MS-DOS Commands

- MS-DOS Commands for Common Tasks
- Formatting a Diskette
- Finding Out What Files Are on a Diskette
- Copying a Diskette
- Comparing Diskettes
- Copying a File
- Comparing Files
- Looking at a File
- Changing a File Name
- Removing a File from a Diskette
- Processing a Series of Commands Automatically
- Helpful Hints

MS-DOS Commands for Common Tasks

In this chapter, you will learn about the most frequently used MS-DOS commands, what you need to carry out each of them, and how to proceed step-by-step. These MS-DOS commands are the commands that you are going to use so often that they become second nature.

What you learn in this chapter will help you on your own to learn to use all MS-DOS commands.

In the process of starting MS-DOS, some commands are loaded into memory where they stay until you need them. These are the internal commands. You don't need a copy of the MS-DOS Systems diskette in a drive in order to use one of them. The common internal commands and their functions are:

Command:	**Function:**
COPY	Copying a file
DIR	Finding out what files are on a diskette
TYPE	Looking at a file
RENAME	Changing a file's name
ERASE	Removing a file from a diskette

Most MS-DOS commands require that you have a copy of the MS-DOS Systems diskette in a drive. These are called external commands. The most common external commands and their functions are:

Command:	**Function:**
FORMAT	Getting a diskette ready for use
DISKCOPY	Copying a diskette
DISKCOMP	Comparing diskettes
COMP	Comparing files

Formatting a Diskette

The FORMAT command prepares a diskette to receive information. You only need to FORMAT a diskette once, when it is new. FORMAT sets up the "tracks" and "sectors" where data is written on the diskette or fixed disk by your computer. FORMAT also checks the diskette or fixed disk to make sure it has no flaws, then creates a directory to find the data you eventually write on it.

Be careful. FORMAT removes all of the information on a diskette or fixed disk. Be sure the diskette you are going to FORMAT does not contain information you want to keep.

What Is Needed

- the MS-DOS diskette
- the diskette you want to format

Procedure

If you have a single diskette drive, MS-DOS instructs you to switch diskettes. Do not remove or replace a diskette until you are told to do so.

1 Load MS-DOS and wait until A> appears.

2 Insert the MS-DOS diskette into drive A.

3 Type:

```
A>format b:
```

and press the **RETURN** key. If your drive is dual-sided, this creates a diskette for dual-sided use only. To format a diskette that can be used in either a single-sided or double-sided drive, type:

```
A>format b:/1
```

and press the **RETURN** key.

This message appears on the screen:

```
Insert new diskette for drive B: and strike any key
when ready
```

4 FOR TWO DRIVES: Insert the new diskette into drive B and press any key.

WITH ONE DRIVE: When the drive A light goes off, remove the MS-DOS diskette from drive A, insert the new diskette into drive A, and press any key.

5 While the diskette is being formatted,

```
Formatting ...
```

appears on the screen. After the procedure is finished, you see:

```
Formatting ... Format complete

   362496 bytes total disk space
   362496 bytes available on disk

Format another (Y/N)?
```

NOTE: The number of bytes on the disk may vary depending upon the version of MS-DOS or your computer.

6 If you have more diskettes to format, type **Y** for yes and repeat the above steps.

To stop formatting, type **N** for no. The MS-DOS prompt appears and you can remove the newly formatted diskette.

If you include /s after the command FORMAT, MS-DOS copies the system files to the target diskette as well as formatting the diskette. This type of FORMAT command is entered as:

```
A>format b:/s
```

The result is a disk that starts MS-DOS directly. If you add system files to a formatted diskette, the screen shows:

```
362496 bytes total disk space
 43008 bytes used by system
319488 bytes available on disk
```

NOTE: The number of bytes on the disk may vary depending upon the version of MS-DOS or your computer.

Finding Out What Files Are On a Diskette

The DIR command displays the names and file statistics of the files on a diskette. When you are looking for a specific file and you don't know on which of your diskettes it is found, the internal DIR command helps you find what you are looking for.

What Is Needed

- the diskette whose file directory you want to check

If MS-DOS is already in memory, you don't need the MS-DOS diskette for this procedure.

Procedure

1. Make sure MS-DOS is ready and A> is displayed.
2. Insert the diskette you want to check into drive A.
3. Type the command:

   ```
   A>dir
   ```

   and press the **RETURN** key.

4 The following is displayed on the screen:

- the volume label of the diskette (if it has one)
- the name of the directory that is being listed
- the directory's files — one line is displayed for each file with this information:
  - filename
  - extension
  - size (in bytes)
  - date and time that information was last written in the file
- the amount of free space left on the diskette (in bytes)

5 When all the files have been displayed, A> appears.

NOTES: If the screen is scrolling too fast for you to read the files, use **CTRL S** or **CTRL NUM LOCK** to stop it.

To print what appears on the screen, use the **SHIFT** and **PRT SC** keys.

If you type the DIR command with a /P modifier (DIR/P — /P means Page), the directory display halts as soon as the screen is full. Press any key to resume the listing.

If you type the command modifier /W (DIR/W — /W means Wide), only the file names are displayed, five to a line across the screen. This lets you look at a large directory at a glance.

Copying a Diskette

ALWAYS make backup copies of your important diskettes.

This is a rule that every computer user learns the hard way. To prevent the bother of having to re-do hours of work or replace vital programs, make copies of your files and put them away for a rainy day.

The DISKCOPY command makes a backup copy of an entire diskette on another diskette. As we told you in Chapter 1, it's a good idea to make backups of your program diskettes as soon as you get them. Use the backups for daily work.

NOTES: The date and time shown with a directory entry are the date and time of the last addition or change to that file. The date and time are not changed when you use the DISKCOPY command.

Use the internal command COPY to move files from a fixed disk to a diskette.

What Is Needed

- the MS-DOS diskette
- the original — or source — diskette
- the blank — or target — diskette that's going to become the backup copy

NOTE: If the backup diskette you use is not blank, but has files on it, all of these old files are wiped out during the procedure. That's because DISKCOPY makes an exact duplicate of the original onto the backup.

Procedure

If you have one diskette drive, MS-DOS treats it as both drive A and B. Switch diskettes each time MS-DOS tells you to exchange diskettes.

1 Load MS-DOS and wait for A> to appear.

2 Insert the MS-DOS diskette into drive A.

3 Type:

```
A>diskcopy a: b:
```

and press the **RETURN** key.

4 WITH TWO DRIVES: This message appears:

```
Insert source diskette in drive A:
Insert formatted target diskette in drive B:
Strike any key when ready
```

Remove the MS-DOS diskette, insert the source diskette into drive A and the target diskette into drive B. Press any key when ready.

WITH ONE DRIVE: This message appears:

```
Insert source diskette in drive A:
Strike any key when ready
```

Remove the MS-DOS diskette that is in drive A (unless you are making a backup of this diskette). Insert your source diskette into drive A and press any key.

5 WITH TWO DRIVES: You'll notice that the lights on drives A and B go on and off as the copying proceeds. Do not open either drive door at any time during the process. DISKCOPY is complete when the following appears:

```
Copying complete

Copy another (Y/N)?
```

WITH ONE DRIVE: The in-use light comes on while the source diskette is being read. When the computer has read the entire source diskette (or as much of it as can fit in memory), this is displayed:

```
Insert target diskette in drive A:
Strike any key when ready
```

Remove the source diskette, insert the target diskette, and press any key. The light is on while the backup copy is being written. Depending on the amount of memory in your computer, the message in display above may reappear. You may be required to repeat this diskette exchange process several times until you see:

```
Copying complete

Copy another (Y/N)?
```

6 If you have more diskettes to copy, type **Y** for yes and follow the steps again.

If you are finished, type **N** for no.

When the A> appears, remove the backup diskette, prepare an appropriate label, apply the label to the diskette and store it in its paper sleeve.

Comparing Diskettes

The DISKCOMP command makes sure that the backup diskette you've just made was copied accurately. In most cases the DISKCOPY command discovers any problems while it is performing the copy, but sometimes there is no warning that something has not worked out just right. The DISKCOMP command compares the source and destination disks to make sure they are exact duplicates. It is a good idea, particularly with important data files or valuable programs, to double check by using the DISKCOMP command.

What Is Needed

- the MS-DOS diskette
- the original diskette
- the new backup diskette

Procedure

If you have one drive, MS-DOS treats it as both drive A and B. Switch diskettes each time MS-DOS tells you to exchange diskettes.

For this procedure, the source or original diskette is the first diskette, and the destination or backup is the second diskette.

1 Load MS-DOS and wait for A> to appear.

2 Insert the MS-DOS diskette into drive A.

3 Type:

```
A>diskcomp a: b:
```

and press the **RETURN** key.

4 WITH TWO DRIVES: This message appears:

```
Insert first diskette in drive A:
Insert second diskette in drive B:
Strike any key when ready
```

Insert the first diskette into drive A, the second diskette into drive B, and press any key.

WITH ONE DRIVE: This message appears:

```
Insert first diskette in drive A:
Strike any key when ready
```

Remove the MS-DOS diskette from drive A, insert the source (original) diskette into drive A, and press any key.

5 WITH TWO DRIVES: The drive lights go on and off as the computer makes comparisons between the two diskettes. Do not open the drive doors during this process. When the process is complete, the following message appears:

```
A) diskcomp a:b:
Insert first diskette in drive A:
Insert second diskette in drive B:
Strike any key when ready
Comparing 2 side(s), 9 sectors per track

Compare Error(s)
Drive: B:    Track: 0    Side: 0

Compare Error(s)
Drive: B:    Track: 0    Side: 1

Compare Error(s)
Drive: B:    Track: 1    Side: 0

Compare Error(s)
Drive: B:    Track: 1    Side: 1

A>
```

WITH ONE DRIVE: The drive light comes on while the source diskette is being read, and then this message is displayed:

```
Insert second diskette in drive A:
Strike any key when ready
```

Remove the source diskette from drive A, insert the target (backup) diskette into drive A, and press any key.

The light comes on once again while the backup diskette is being compared.

Depending on the amount of memory in your computer, you may have to switch the diskettes several times until this message appears:

```
Diskettes compare ok

Compare more diskettes (Y/N)?
```

6 If you have more diskettes to compare, type **Y** for yes and repeat the procedure.

If you don't want to compare any more diskettes, type **N** for no.

You don't have to press the **RETURN** key. After the MS-DOS prompt appears you can remove the diskette(s) from the drive(s).

If the diskettes are not identical, go through the copying and comparing procedures again. If the diskettes do not compare successfully, use another target diskette. The first target diskette is probably bad and should be re-formatted. Format the troublesome diskette, then repeat the copy and compare procedures once again.

If this last attempt does not solve the problem, discard the bad diskette and use another one.

Copying a File

Use the COPY command when you want to copy one file instead of an entire diskette.

Sometimes copying a single file to a target disk is a good way of archiving your work. You might want to keep all of your backup copies of specific types of files on a special archive diskette. All the company memos are copied to the "Company Memos" diskette, your travel expense records are copied to the "T&E" diskette, etc. In another case, database files on a fixed disk should be copied onto archival diskettes after every update of the information in the entire file. The internal COPY command is the one to use.

NOTE: The date and time shown with each directory entry are not changed during a COPY.

What Is Needed

- MS-DOS loaded into your computer's memory
- the diskette that contains the file you want to copy (the source diskette)
- the diskette that is to receive the copy of the file (the target diskette)

Be careful. If files already exist on the backup diskette, COPY does not disturb these old files as long as their names aren't the same as files being copied. If you do copy a new file onto a diskette with an old file of the same name, the old file will be replaced.

If you COPY onto a diskette with other files, make sure in advance there is enough space (in bytes) left to hold the new file(s).

NOTES: The COPY command also lets you merge two or more files into a single target file. Refer to Chapter 5 for more information about merging files with the COPY command.

Use the COPY command with two wild cards (COPY A:*.* B:) to move all the files from a well-used diskette to a fresh one. COPY places each file on the target disk one after the other. The source disk can then be erased to recover space on the disk to receive new files.

Procedure

If you have one diskette drive, MS-DOS treats it as both drive A and drive B. Switch diskettes each time MS-DOS tells you to exchange diskettes.

1 Load MS-DOS and wait for the A> to appear.

2 Remove the MS-DOS diskette and insert the source diskette into drive A.

3 WITH TWO DRIVES: Insert the target diskette into drive B. Type:

```
A>copy <filename> b:(<newfilename>)
```

and press the **RETURN** key.

NOTES: The filename of the copy can be either the same as the original or given a new name.

Make sure you put in spaces where indicated in the command.

WITH ONE DRIVE: Enter the command:

```
A>copy <filename> b:
```

and press the **RETURN** key.

4 WITH TWO DRIVES: Wait until the screen message in Step 5 appears.

WITH ONE DRIVE: This message appears:

```
Insert diskette for drive B:
and strike any key when ready
```

Remove the source diskette from the drive, insert a formatted target diskette, and press any key.

Depending on the size of your computer's memory you may have to switch the diskettes several times to complete the procedure.

5 When the copy has been made, the following appears:

```
1 File(s) copied

A>
```

Remove the backup diskette from the drive, label it with a felt-tip pen, and store both diskettes in paper sleeves in a safe place.

Comparing Files

The COMP command lets you know that the file or group of files you just copied to a backup diskette is identical to the source file(s).

It is a good idea to check to make sure your archival copy of a file is the same as the original, particularly if the information in that file is important. Sometimes the diskette that you are copying files onto may have, or may have developed, a flaw since the last time you used it. The external COMP command checks to make sure your COPY command was successful.

This is different from the DISKCOMP command because COMP works on individual files rather than complete diskettes. COMP is faster than DISKCOMP.

What Is Needed

- the MS-DOS diskette
- the diskette containing the original file (the source)
- the diskette containing the copied file (the target)

Procedure

If you have one diskette drive, MS-DOS treats it as both drive A and B. Switch diskettes each time MS-DOS tells you to exchange diskettes.

1 Load MS-DOS and wait for A> to appear.

2 Insert the MS-DOS diskette into drive A if it isn't there already.

3 Type:

```
A>comp <filename> b:
```

and press the **RETURN** key.

If you get the message:

```
Insert diskette for drive A:
and strike any key when ready
```

insert the diskette to be compared and press any key.

4 When this message appears:

```
Enter primary file specification
```

remove the MS-DOS diskette from drive A, insert your source diskette into drive A, and enter the file's name from the source diskette, like this:

A>**a:**<**filename**>

Press the **RETURN** key.

5 The next message to appear is:

```
Enter secondary file specification
```

Enter the name of the file you copied to the backup diskette:

A>**b:**<**filename**>

6 WITH TWO DRIVES: Insert the target diskette into drive B (the original should already be in drive A) and press the **RETURN** key. The names of the files being compared are displayed.

WITH ONE DRIVE: With the source diskette in drive A, press the **RETURN** key. Shortly, this message appears:

```
Insert diskette for drive B:
and strike any key when ready
```

Remove the source diskette from drive A, insert the backup diskette into drive B, and press any key.

If the size of the files being compared is very large, you may have to switch diskettes several times and repeat steps 3 and 6. The files are placed in memory and some files may be larger than the portion of memory allocated during the compare process.

When the files have been compared and found to be identical, this message appears:

```
Files compare ok

Compare more files (Y/N)?
```

8 If you have more files to compare, type **Y** for yes and repeat the procedure.

If you are finished, type **N** for no.

The MS-DOS prompt is displayed and you can go on with the next operation.

If the files are not identical, a number of advisory messages appear on the screen, and the COMP program stops. Go through the copying and comparing steps again.

Looking at a File

The TYPE command lets you display the contents of a file on your screen. You may want to do this when you are uncertain about which file you want to do some work on. The internal TYPE command lets you quickly review the text of a file to check if it is the one you want. This way, you don't have to start another program (for example, a word processor) in order to check the contents of a file.

If you use the TYPE command with a program file, the results displayed on your screen may not be understandable. Because program files contain control characters or are in a format best used by a computer rather than read by a person, the contents of these files often are best examined by using the programming language with which they were created. Experimenting with program files and the TYPE command does not harm the program file, but you may need to RESET your computer to continue.

What Is Needed

- the diskette with the file you want to display

If MS-DOS is already loaded into your computer's memory, you don't need your MS-DOS diskette for this procedure.

Procedure

1 Make sure MS-DOS is ready and wait for A> to appear.

2 Insert the diskette into drive A.

3 Enter the name of your file with the command:

```
A>type <filename>
```

Press the **RETURN** key.

4 The command just entered and the file contents are now displayed.

To stop the scrolling hold **CTRL** and press **NUM LOCK**. Press any key to resume scrolling.

5 When A> reappears, you can remove the diskette.

Changing a File Name

The RENAME command lets you change a file's name — its filename, extension, or both. You may want to change a filename to more closely identify the contents of a file that started out to be one thing, but ended up another. Other times, the RENAME command can be used to identify groups of files with common attributes.

Another way of renaming a file is to use the COPY command. The command syntax is the same as RENAME, the difference being that you then have two copies of a file, one with the original name on one diskette, and another with the new name on another (or the same) diskette or fixed disk drive.

What Is Needed

- the diskette with the file you want to rename

If MS-DOS is already loaded, you don't need the MS-DOS diskette for this procedure.

Procedure

1 Make sure MS-DOS is ready and the A> appears.

2 Insert the diskette into drive A, if it's not already there.

3 Enter the command, plus the name of the old and new file name:

```
A>rename <old filename> <new filename>
```

Press the **RETURN** key.

NOTE: The current filename is first, followed by a space, and then the new filename.

4 Once the operation is finished, the MS-DOS prompt reappears. Remove the diskette from the drive and replace it in the paper sleeve.

Removing a File from a Diskette

Be careful with this command. Once a file has been ERASEd, it is gone forever from that diskette or fixed disk drive.

The ERASE command and the DELete command are identical. You can use one or the other and the file or files specified are removed from the directory. Make sure that ERASEing a file is what you want to do.

Be very careful about using the ERASE or DELete commands when using wild card characters.

It is a good idea to "clean up" your diskettes from time to time. Remove obsolete or duplicate files to make more room for new files. Also, if a diskette has had a lot of activity — files added and removed — the amount of space on the diskette may be broken into a number of 'empty' spots too small to receive new files. See the COPY command for a tip on recovering small spaces on a diskette.

NOTE: Use this command with great care. Always double check your typed entries before pressing the **RETURN** key. Once ERASEd, a file cannot be retrieved.

What Is Needed

- the diskette with the file you want to erase

If MS-DOS is already in your computer's memory, you don't need the MS-DOS diskette for this procedure.

Procedure

1 Make sure MS-DOS is ready and the A> prompt appears on the screen.

2 Insert the diskette with the file you plan to erase into drive A.

3 Enter the command, plus the name of the file to be deleted:

```
A>erase <filename>
```

Check your typed entry.

Press the **RETURN** key.

4 Shortly, the A> reappears. Remove the diskette from the drive, relabel it, and return it to its paper sleeve.

Processing a Series of Commands Automatically

MS-DOS allows you to create a file containing a series of MS-DOS commands that are immediately performed, one after another. This is called batch processing and the files used are called batch files.

You could use a batch file to start other programs on a diskette or to perform some routine startup tasks that you usually do whenever you turn on your computer. If you want your computer to do some regular task each time you turn it ON or whenever you restart it with the **ALT CTRL** and **DEL** keys, you create a file called AUTOEXEC.BAT.

The AUTOEXEC.BAT File

Whenever you power ON or restart your computer, MS-DOS looks on the startup drive for a file named AUTOEXEC.BAT. This file must be on the default drive. If you are using a two-diskette system, the file must be in drive A. If you have a computer with a fixed disk drive, MS-DOS looks on the fixed disk for AUTOEXEC.BAT. When found, MS-DOS automatically performs each of the commands in the file.

For example, you can redirect information being sent to the default printer port (LPT#1) over to a serial communications port (COM1:), then run a BASIC program called INVOICING with the following AUTOEXEC.BAT file:

```
MODE COM1:12,N,8,1,P
MODE LPT1:=COM1
BASIC INVOICING.BAS
```

The first line invokes the MS-DOS MODE command and defines the setup parameters for the serial printer attached to the serial port COM1:.

The second line uses the MODE command to redirect output from the parallel printer port LPT1: to COM1.

The third line loads BASIC from the default diskette then loads the program called INVOICING.

NOTES: When you modify the AUTOEXEC.BAT file MS-DOS does not prompt you for the date and time entries unless you include the DATE and TIME commands in the file.

An AUTOEXEC.BAT file may contain only one command or long series of commands.

See Chapter 6, **Batch Processing Commands,** for more information.

Helpful Hints

- Make backup copies of your important program and data diskettes regularly. Always date the label.

- Print a directory frequently and store the listing with the diskette.

- If a command does not work as it should:

  1. Check your typing.
  2. Make sure you have the correct diskette in the correct drive.
  3. Check the directory of the diskette with the DIR command.
  4. Make sure colons and spaces have been included where they should be and not where they don't belong.
  5. Make sure the filename is correctly spelled and includes the extension where appropriate.

- If a command still does not work the way you expect it to, refer to Chapter 5, **MS-DOS Commands,** for more information about that command.

5 MS-DOS Commands

This chapter describes the MS-DOS commands that are not specifically dedicated to batch processing files. The commands are in alphabetical order.

This chapter covers:

- **Command Syntax**
- **MS-DOS Commands**

Command Syntax

The following notation indicates how you should enter MS-DOS commands. Just like the rules of English grammar and usage, MS-DOS commands must be entered in an exact form — called command syntax — in order to have the correct action happen.

The following rules of command entry are used throughout this chapter to explain the proper way to express an MS-DOS command and all of its optional modifiers.

- You must enter any words shown in CAPITAL LETTERS. These words must be entered exactly as shown. MS-DOS accepts either upper or lowercase entries, but not misspellings.
- Anything enclosed in angle brackets < > must be entered. You supply the text. For example, enter the name of your file when <filename> is asked for in a command. Don't type the angle brackets. This would cause a problem.
- Items in square brackets [ ] are optional. Enter only the information asked for within the brackets.

Don't type the square brackets. This would cause a problem.

- Items in braces { } indicate that you must make a choice between two entries. You must enter one or the other unless those choices are enclosed in surrounding square brackets.

- An ellipsis (...) indicates that you may repeat an entry as many times as you need.

- Enter all punctuation shown (with the exception of angle and square brackets, ellipses, braces, or in special cases, vertical bars), such as commas, equal signs, question marks, colons, or slashes. These punctuation marks are essential and must be entered exactly as shown.

- A vertical bar (|) appearing in a command entry means one of two things. In one case, the | indicates a toggle switch. Where it appears one or the other choice can be made. It means "this" or "that" choice must be made. See the BREAK command for an example. In this case, the vertical bar is not typed in the command line.

  In another case the vertical bar is used in the command entry to pass the results from one command to the next command on the command line. When | is used in this way, the results from the first command are passed to the second MS-DOS command for further processing. The second MS-DOS command is a "filter." The | symbol is called a "pipe."

See the SORT command for an example of piping the output from one command to another.

```
DIR | SORT >DIREC.FIL
```

sends the results of a DIR command to the SORT command, then writes the SORT results into a file named DIREC.FIL. Note the use of the > symbol.

MS-DOS normally assumes that input comes from your keyboard and that output is displayed on your screen. You can redirect the flow of input and output using the < and > characters. Input can come from a file instead of the keyboard, and output can go to a file instead of the screen. The pipe character can also be used with redirection characters to make complex MS-DOS operations easier to do.

For example,

```
DIR
```

displays a directory listing on your screen.

If you enter

```
DIR >DIRFILE
```

the output of the DIR command is written into a file on the default drive named DIRFILE. If the file named DIRFILE is not already on the default drive, it is created. If it already exists, the output from the DIR command writes over the contents of the existing file.

MS-DOS Commands

The following MS-DOS commands are described in this chapter.

Note that synonyms for commands are enclosed in parentheses.

ASSIGN	Routes requests for one drive to another
BACKUP	Backs up files from a fixed disk
BREAK	Sets CONTROL-C check
CHDIR	Changes directories; prints working directory (CD)
CHKDSK	Scans the directory of the default or designated drive and checks for consistency
CLS	Clears screen
COMP	Compares files
COPY	Copies file(s) specified
CTTY	Changes console TTY
DATE	Displays and sets date
DEL	Deletes file(s) specified (ERASE)
DIR	Lists requested directory entries
DISKCOMP	Compares the contents of two diskettes
DISKCOPY	Copies disks
ECHO	On/off command for batch file processing echo feature
ERASE	Same as DELete
EXE2BIN	Converts executable files to binary format

EXIT	Exits command and returns to lower level
FC	Compares files
FDISK	Sets fixed disk partitions
FIND	Searches for a constant string of text
FOR	batch command for iterative processing of MS-DOS commands
FORMAT	Formats a disk to receive MS-DOS files
GOTO	Batch command directing jump to a specified location
GRAPHICS	Prints graphics from the screen on a graphics printer
IF	Batch command conditional
MKDIR	Makes a directory (MD)
MODE	Sets display, communications, and serial printer environments
MORE	Displays output one screen at a time
PATH	Sets a command search path
PAUSE	Batch command wait for input from keyboard
PRINT	Background print feature
PROMPT	Designates command prompt
RECOVER	Recovers a bad disk
REM	Displays a comment in a batch file
REN	Renames first file as second file (RENAME)
RESTORE	Restores files
RMDIR	Removes a directory (RD)
SET	Sets one string value to another
SHIFT	Batch command that increases the

	number of replaceable parameters
SORT	Sorts data alphabetically, forward or backward
SYS	Transfers MS-DOS system files from drive A: to the drive specified
TIME	Displays and sets time
TREE	Displays directories and their contents
TYPE	Displays the contents of file specified
VER	Prints MS-DOS version number
VERIFY	Verifies writes to disk
VOL	Prints volume identification number

ASSIGN

Purpose The ASSIGN command tells MS-DOS to direct all requests from one drive to another drive.

Syntax ASSIGN [drivespec1 = drivespec2]

Comments Enter only the drive letters. Do not enter the colons on the command line.

Drivespec1 is source drive, drivespec2 is the new destination drive.

Entering the ASSIGN command without any original or destination parameters resets the current assignments to the default values.

ASSIGN could be useful in an AUTOEXEC.BAT file.

ASSIGN works unpredictably when used with the PRINT command. Do not use in this combination.

DISKCOPY and DISKCOMP commands ignore drive assignments.

BACKUP

Purpose

The BACKUP command makes backup copies of one or more files from a fixed disk onto a diskette.

Syntax

BACKUP [<d:>][<path>][<filespec>]
d: [/S][/M][/A][/P][/D:<date>]
[/T:<time>][/L:fname]

Comments

Use this command when you want to recover unused space on your fixed disk drive or are going to create new partitions on the fixed disk.

The first parameter you enter is the fixed disk file(s) to back up.

The second parameter is the backup disk drive.

Be careful. Unless otherwise specified, the copies of the old files on the backup diskette are erased before the new files are written on it.

This backup program is compatible with those supplied by other manufacturers, except that the /P and /T options may cause imcompatibilities between files backed up with different versions of the backup program.

The BACKUP command sets exit codes that can be used in a batch processing file with an IF command. These exit codes are:

0	normal completion
1	no files found
2	BACKUP stopped by user
3	BACKUP stopped by error

Files duplicated with the BACKUP command can only be used by the RESTORE command to restore a fixed disk drive's files. Do not use BACKUP files for archival purposes.

Options

The following options may be used with the BACKUP command:

/S Back up subdirectories also.

/M Only back up those files that have changed since the last backup.

/A Add the files to be backed up to those already on the backup diskette. This does not erase old files on the diskette.

/P Pack as many files as possible onto each diskette. This creates a subdirectory on the diskette if it is the only way to fill the diskette.

This option may cause compatibility difficulties between files used on computers from different vendors.

/D Only back up those files that were last modified at or after a certain date.

/T Only back up those files that were last modified at or after a certain time.

/L Make a backup log entry in the file specified. If you don't give a file name for this log file, the default name BACKUP.LOG is entered in the root directory of the files being backed up.

The first line of the entry in this file is: [date time], the backup dates and times. Each subsequent line in the file entry contains the backed up file name and the number of the diskette that contains the file. This information is used when you need to restore a specific file from a diskette.

If a BACKUP log file already exists, the current entries are appended to that file. This way you will always know which diskette to use for a RESTORE command.

BREAK

Purpose

The BREAK command is an MS-DOS toggle that sets the CONTROL-C check.

Syntax

BREAK [ON|OFF]

Comments

You use this toggle option to prevent MS-DOS from being affected by a **CTRL C** entry when the program you are using uses these keystrokes for another purpose.

Select BREAK OFF to turn off CONTROL-C when you are running a program that uses these keystrokes. Select BREAK ON when you return to MS-DOS.

If you do not select ON or OFF, MS-DOS displays the current setting of BREAK.

Set BREAK ON to stop assemble or compile processes. See the *System Programmer's Guide* for more information.

CHDIR
(CHange DIRectory)

Purpose

The CHDIR command changes the current directory to another path or it displays the current subdirectory you are using.

Synonym

CD

Syntax

CHDIR [pathname]

Comments

If your working directory is \BIN\USER\JOE and you want to change your path to another directory (such as \BIN\USER\JOE\FORMS), type:

```
CHDIR \BIN\USER\JOE\FORMS
```

and MS-DOS puts you in the new directory.

There is a simpler notation you can use with this command:

```
CHDIR ..
```

This command puts you in the parent directory of your working directory.

If you enter CHDIR without a pathname, your working directory is displayed. For example, if your working directory is \BIN\USER\JOE on drive B:, and you type

```
CHDIR
```

and press the **RETURN** key, the screen displays:

```
B: \BIN\USER\JOE
```

CHDIR is useful if you forget the name of your working directory.

To return to your root directory, type either

```
CHDIR\
```

or

```
CD\
```

CHKDSK
(CHecK DiSK)

Purpose

The CHKDSK command scans the directory of a specified disk to check that it is consistant with the files on the disk.

Syntax

CHKDSK [d:] <filespec> [/F] [/V]

Comments

It is a good idea to use CHKDSK from time to time to check for errors in a diskette or fixed disk directory. If errors are found, CHKDSK may display error messages.

CHKDSK displays a status report.

This is a sample status report:

```
160256 bytes total disk space
  8192 bytes in 2 hidden files
   512 bytes in 2 directories
 30720 bytes in 8 user files
121344 bytes available on disk

 65536 bytes total memory
 53152 bytes free
```

Options

The following options may be used with the CHKDSK command:

/F Fix any errors found in the directory.

If you use the /F option, these errors are automatically corrected:

Invalid drive specification
Invalid parameter
Invalid subdirectory entry
Cannot CHDIR to root
Processing cannot continue
First cluster number is invalid
entry truncated
Allocation error, size adjusted
Has invalid cluster, file truncated
Disk error reading FAT
Disk error writing FAT
<filename> contains non-contiguous
blocks

/V Display messages on the screen while CHKDSK operates.

You can redirect the output from CHKDSK to a file. Simply type:

```
CHKDSK A:>filename
```

The errors are sent to the filename specified. Don't use the /F switch if you send the CHKDSK error messages to a file.

CLS

Purpose The CLS command clears the display screen.

Syntax CLS

Comments The CLS command is often used in batch processing files to clear the display before another command is begun.

The CLS command causes MS-DOS to send the ANSI escape sequence ESC[2J (to clear your screen) to your display.

Purpose

The COMP command compares the contents of a file or group of files with others to verify that they are identical.

Syntax

COMP [<pathname1> [<pathname2>]]

Comments

<pathname1> is the file or group of files that are to be compared with those specified in <pathname2>.

More than one file may be specified if you use wild card characters. Only files that have matching names to those specified in <pathname1> are compared.

Files may be on either the same or different drives. Files may be in the same or different directory.

If the files to be compared are identical, the following message appears on your screen:

```
Files compare OK
Compare more files (Y/N)?
```

Press **N** to stop the COMP command.
Press **Y** to repeat the procedure with another set of files.

If more than a single file is being compared, the COMP process continues until all files have been compared.

The COMP command displays an error message if one of these problems occurs:

- a specified directory path is invalid
- two files to be compared are of a different size
- a file specified by pathname2 cannot be found.

An advisory message is displayed if in the same location of two compared files the data does not match. The message indicates the offset in bytes (within the files) and the contents of those sections of the files.

If ten data mismatches are found, the COMP command halts and displays this message:

```
10 mismatches - ending compare
```

If an End-Of-File marker is not found at the end of a COMP command process, this message appears on your screen:

```
Eof mark not found
```

Some applications programs use files that are recorded in exact 128 byte multiples. Sometimes the actual data in these files may be less than exactly 128 bytes and the COMP program finds mismatches at the end of these types of files.

If the EOF message appears on your screen, it does not necessarily mean that there is a problem. It may be telling you that compare errors may not have occurred in the usable data portion of that file.

COPY

Purpose

The COPY command copies one or more files to another disk.

The COPY command also lets you add the contents of one or more files to the end of another file. This is called concatenating (joining) files.

Syntax

To COPY a file:

COPY [<pathname>] [<pathname>] [/V] [/A] [/B]

To CONCATENATE a file:

COPY <filespec> + <filespec> ... <filespec>

Comments

To COPY files:

If the source and destination files are in the working directory, you do not need to specify a complete pathname.

If the second pathname option is not given, the copy is sent to the default drive using the original file name (first pathname option). If the first pathname is on the default drive and you don't specify the second pathname, COPY halts. You may not copy a file to itself.

MS-DOS displays the error message:

```
File cannot be copied onto itself
0 File(s) copied
```

If the second pathname entry is a drive designation, the file is copied using the original filename.

If the second pathname entry is a filename without a drive specifier, the original file is copied on the default drive with a different filename.

If the second pathname option is a complete file specification, the file is copied to the destination drive using the specified filename.

Options

/V MS-DOS verifies that the file is being correctly copied on destination disk.

When you use the /V option, the COPY command runs more slowly because of the verification process.

You would use this option whenever you want to be certain that important data is being correctly recorded.

/A Indicates that the file is an ASCII file. This option entry applies to the file specification it precedes and to all subsequent file specifications on the command line until a /B is encountered.

In a source file specification /A allows data to be copied up to, but not including an End-Of-File marker. (In EDLIN, this is a **CTRL Z**. No more data in the file is copied after a CTRL-Z is encountered.

In a destination file specification /A adds an End-Of-File character to the end of the copied file.

/B Indicates that the file is a binary data file. This option refers to the preceding file specification and remains in effect until /A is encountered.

In a source file specification /B copies the entire file, including an End-Of-File marker.

In a destination file specification /B causes no End-Of-File marker to be added to the copied file.

To CONCATENATE files:

The COPY command lets you join files (concatenation) while copying. This is done by simply listing any number of files as options in the COPY command entry, each separated by a plus sign (+).

For example,

```
COPY  MON.TX+TUE.TX APR22.TX
```

joins the files MON.TX and TUE.TX, copying them into the file APR22.TX on the default drive.

You can also use wild card characters to combine several files into a single file.

For example,

```
COPY *.LST COMBIN.PRN
```

takes all of the files with the extension .LST and combines them into the file named COMBIN.PRN.

You can use wild card characters for more complicated file joinings. For example, the COPY command entry

```
COPY *.LST + *.REF *.PRN
```

joins each file with the extension .LST with a **corresponding** file with the extension .REF. A file named FILE1.LST is combined with a file named FILE1.REF (and so on) into a file named FILE1.PRN; a file named ABC.LST is combined with a file named ABC.REF to make a file named ABC.PRN.

This same technique can be used to combine all of the files with the extension .LST and the extension .REF into a single file by entering this command:

```
COPY *.LST + *.REF COMBIN.PRN
```

The resulting file is named COMBIN.PRN.

Be careful not to enter a concatenate COPY command where the destination file has the same extension as one of the source files. For example,

```
COPY *.REF ALL.REF
```

would result in an undetected error if ALL.REF already existed on the destination disk. At the point the error would be detected, the ALL.REF file would have been destroyed.

COPY compares the source filename with the destination filename. If they are the same, that single source file is skipped over. This error message is displayed:

```
Content of destination lost before copy
```

and the file joining process continues normally.

You can also "sum" files. For example,

```
COPY ALL.LST + *.LST
```

appends all *.LST files, except ALL.LST itself, to ALL.LST. This command entry is the correct way to append files with the COPY command. No error message is displayed.

CTTY

Purpose

The CTTY command lets you change the device used by MS-DOS to accept command input. ("TTY" is what MS-DOS calls your keyboard.)

Syntax

CTTY <device>

Comments

The <device> is the device from which commands are to be sent to MS-DOS. You use this command if you want to change the device where you are working.

For example, the entry

```
CTTY AUX
```

moves all command I/O (input/output) from the display keyboard to the AUX device such as a printer. The command

```
CTTY CON
```

returns command I/O back to the display keyboard. The valid legal device names are described in Chapter 2, **Reserved Filenames and Extensions.**

DATE

Purpose

The DATE command is used to enter or change the date used by MS-DOS to note in a directory when a file was recorded.

Syntax

DATE [<mm>-<dd>-<yy>]

Comments

If you type DATE, this message appears:

```
Current date is <mm>-<dd>-<yy>
Enter new date:_
```

Press the **RETURN** key to leave the displayed date as shown.

If you type DATE followed by a date entry, the new date is used by MS-DOS. For example,

```
DATE 3-9-81
```

makes your computer use the date March 9, 1981.

A DATE entry must be entered using numerals only; letters are not permitted. The allowed options are:

```
<mm>  = 1-12
<dd>  = 1-31
<yy>  = 80-99 or 1980-2099
```

You can use hypens (-) or slashes (/) to separate the date, month, and year entries. MS-DOS handles months and years correctly, whether the month has 31, 30, 29, or 28 days, including leap years.

Note

You can change the date from within a batch processing file.

Purpose

DELete is the same as ERASE. This command removes designated files from a directory.

Synonym

ERASE

Syntax

DEL [pathname]

Comments

Be careful. If you use wild card characters to describe a pathname, you may DELete more files than you intended. For example, the pathname

```
DEL A:*.*
```

causes the message

```
Are you sure?
```

to be displayed. If you type Y or y as a response, then **all** the files on that diskette are removed.

You can use ERASE instead of DELete.

DIR

Purpose

The DIR command displays all of the files in a specified directory.

Syntax

DIR [pathname][/P][/W]

Comments

All the directory entries on the default drive are displayed if you only enter DIR.

If you enter a drive specification (DIR d:), all directory entries from the specified drive are displayed.

If you enter a filename without an extension (DIR filename), then all of the files in the directory with that filename are displayed.

If you enter a complete file specification (DIR d:filename.ext), each file in the directory that has that exact file specification is displayed.

Files are always displayed with their size in bytes, the time, and the date they were last modified.

You can use wild card characters with the

DIR command. See the chart below.

Command:	Equivalent
DIR	DIR *.*
DIR FILENAME	DIR FILENAME.*
DIR .EXT	DIR *.EXT

Options

There are two options with the DIR command.

/P selects Page Mode. With the /P option the directory pauses after the screen is filled (A “page” is displayed.) To restart the display of the directory, press any key.

/W selects Wide Display. With the /W option only the filenames are displayed, five filenames per line. No other file information is displayed.

DISKCOMP

Purpose

Compares the contents of the diskette in the first specified drive to the contents of the diskette in the second specified drive. Usually, you would run DISKCOMP after a DISKCOPY operation to ensure that the two diskettes are identical.

This command is used only for comparing diskettes. If a fixed disk drive letter is specified, an error message is displayed.

This command compares two *entire diskettes*; the COMP command compares two *files*

Syntax

```
DISKCOPY [d:] [d:] [/1] [/8]
```

Remarks

You can specify the same drive or different drives in this command. If you specify the same drive, a single-drive comparison is performed. You are prompted to insert the diskettes at the appropriate time. DISKCOMP waits for you to press any key before it continues.

DISKCOMP compares all tracks on a track-for-track basis and issues a messsage if the tracks are not equal. The message indicates the track number and the side (0 or 1) where the mismatch was found.

After completing the comparison, DISKCOMP prompts:

```
Compare more diskettes (Y/N)?_
```

To end the command, press N.

If you omit the second parameter, the default drive is used as the secondary drive. If you specify the default drive in the first parameter, this also results in a single-drive comparison.

DISKCOMP automatically determines the number of sides and sectors per track to be compared, based on the diskette that is to be read first (the first drive parameter entered).

Options

/L The /l parameter forces DISKCOMP to compare only the first side of the diskettes, even if the diskettes and drives are dual-sided.

/8 The /8 parameter causes DISKCOMP to compare only 8 sectors per track, even if the first diskette contains 9 sectors per track.

DISKCOPY

Purpose

The DISKCOPY command copies all of the files on the source disk to a destination disk. The diskettes must be in separate drives unless you have a single diskette drive computer.

Syntax

DISKCOPY [d:] [d:]

Comments

The first modifier is the source drive, the second is the the destination drive.

WITH A SINGLE DRIVE COMPUTER: You are prompted to insert diskettes at the appropriate times. DISKCOPY pauses between insertions until you press any key before continuing.

After copying, DISKCOPY prompts:

```
Copy complete
Copy another (Y/N)?_
```

To copy another diskette, press Y.

To end the COPY, press N.

Notes

1. If you omit both options, a single-drive copy operation is performed on the default drive.

2. If you omit the second option, the default drive is used as the destination drive.

3. Both disks must have the same number of physical sectors and those sectors must be the same size.

4. Disks that have had a lot of file activity (add and delete) are fragmented, because space on the disk is no longer sequential. The first free sector found is the next sector allocated regardless of its location.

   A fragmented disk performs slowly due to delays from finding, reading, or writing a file. Use the COPY command to copy a diskette that has had a lot of activity.

   For example:

   ```
   COPY A:*.* B:
   ```

   copies all files from the disk in drive A: to the disk in drive B: sequentially, eliminating the fragmentation of space.

5. DISKCOPY automatically determines the number of sides to copy, based on the source drive and disk.

EXE2BIN

Purpose The EXE2BIN command converts .EXE (executable) files to binary file format. Using EXE2BIN results in faster program loading and conserves space on the disk.

Syntax EXE2BIN <filespec> [d:][<filename>[<.ext>]]

Comments Refer to the MS-DOS *System Programmer's Guide* for more information.

EXIT

Purpose

The EXIT command lets you leave MS-DOS and return to the application program you are running on your computer. Where your program permits, you must enter **COMMAND.COM** first.

Syntax

EXIT

Comments

EXIT is used when you are in an application program and need to use the MS-DOS command processor (COMMAND.COM), then return to your program.

For example, to examine a directory on drive B: when you are running a program, you type COMMAND at the A> prompt, then use the DIR B: command to look at the directory of the files on drive B:.

```
A>COMMAND
A>DIR B:
```

(listing appears)

To return to your program you enter the EXIT command.

FDISK

Purpose	The FDISK command lets you set up a fixed disk drive to receive multiple operating systems.
Syntax	FDISK
Comments	FDISK lets you create and define the operating system partitions on your fixed disk. Refer to Chapter 3, **Using a Fixed Disk,** for complete information.

(F)ile (C)ompare

Purpose

The File Compare utility compares the contents of two files.

Syntax

FC [/#][/B][/C][/W] filename1 filename2

Comments

If you have copied a file and modified the copy, you may later want to compare copies to check the changes you have made. You can use File Compare to do this and direct that the differences between the two files be output to the screen or to a third file.

The files being compared may be either source files (files containing source statements of a programming language) or binary files (output from the MACRO-86 assembler, the MS-LINK linker utility, or a high-level language compiler).

The comparisons are either on a line-by-line or a byte-by-byte basis. Line-by-line comaprison isolates blocks of lines that are different between the two files and prints those blocks of lines. This is the default method. If there are too many differences (too many lines), the program simply reports that the files are different and stops.
If no matches are found after the first difference, FC displays:

```
*** Files are different ***
```

and returns to MS-DOS default drive prompt.

The byte-by-byte comparison displays the bytes that are different between the two files. For binary files larger than available memory, FC compares both files completely, overlaying the portion in memory with the next portion from disk. All differences are output in the same manner as those files that fit completely in memory.

Options

The following options are used with FC.

/# Number of lines required to match for the files to be considered as matching again after a difference has been found. # can be any number from 1 to 9. Default is 3. Use only in source comparisons.

/B Binary comparison of both files is performed. The two files are compared byte-by-byte with no attempt to re-synchronize after a mismatch. Mismatches are printed as follows:

```
--ADDRS----F1----F2-
xxxxxxx    yy    zz
```

where xxxxxxx is the relative address of the pair of bytes from the beginning of the file. Addresses start at 00000000; yy and zz are the mismatched bytes from file1 and file2 respectively.

If one of the files contains less data than the other, a message appears. If, for example, F1 ends before F2:

```
***Data left in F2***
```

/C Ignore case of letters. All letters in the files are considered upper case. Use only in source comparisons.

/W Compress whitespace (tabs and spaces) during comparison. Multiple contiguous whitespace in any line is considered as a single white space. Only beginning and ending whites are ignored. Use only in source comparisons.

Examples

Assume these two ASCII files are on disk:

```
ALPHA.ASM     BETA.ASM
    A             A
    B             B
    C             C
    D             G
    E             H
    F             I
    G             J
    H             1
    I             2
    M             P
    N             Q
    O             R
    P             S
    Q             T
    R             U
    S             V
    T             4
    U             5
    V             W
    W             X
    X             Y
    Y             Z
    Z
```

One way to compare them is:

```
FC ALPHA.ASM BETA.ASM<cr>
```

FC compares the two files and displays the differences on the screen. All defaults remain intact. The output appears as follows.

```
------------ALPHA.ASM
D                          NOTE: ALPHA file contains
E                          DEFG, BETA contains G
F
G

---------------BETA.ASM
G
```

```
------------ALPHA.ASM
M                          NOTE: ALPHA contains MNO
N                          where BETA contains J12
O
P

------------BETA.ASM
J
1
2
P
```

```
------------ALPHA.ASM
W                          NOTE: ALPHA contains W
                           where BETA contains 45W

------------BETA.ASM
4
5
W
```

If you use:

```
FC /B ALPHA.ASM BETA.ASM<cr>
```

The following binary comparison appears.

```
—ADDRS——F1——F2—
00000009    44    47
0000000C    45    48
0000000F    46    49
00000012    47    4A
00000015    48    31
00000018    49    32
0000001B    4D    50
0000001E    4E    51
00000021    4F    52
00000024    50    53
00000027    51    54
0000002A    52    55
0000002D    53    56
00000030    54    34
00000033    55    35
*** DATA left in F1 ***
```

FIND

Purpose

The FIND command searches for a specified string of text in a file or files.

Syntax

FIND [/V /C /N] <“string”> [<filename...>]

Comments

FIND is an MS-DOS filter. A filter discards all characters or values except those that match its selection criteria.

FIND accepts entries that are the object of the search (the text string) and the place or places (the file or files) where it is to look for matching data. The term for one of these entries is “argument.”

FIND displays all lines that contain the data being sought from the files specified in the command line.

If no files are specified, FIND takes the input on the screen and displays all lines that contain the specified string.

Options

/V causes FIND to display all lines not containing the specified string.

/C causes FIND to print only the count of lines that contained a match in each of the files.

/N causes each line to be preceded by its relative line number in the file.

The text string must be enclosed in quotes. If a text string you are looking for is already enclosed in quotes, the entry on the command line must be in double quotes.

Examples

```
FIND “Fool’s Paradise” BOOK1.TXT BOOK2.TXT
```

displays all lines from BOOK1.TXT and BOOK2.TXT (in that order) that contain the string “Fool’s Paradise.” The command

```
DIR B: | FIND /V “DAT”
```

causes MS-DOS to display all names of the files on the disk in drive B: that do not contain the string DAT.

FORMAT

Purpose FORMAT prepares diskettes or a fixed disk to receive data from your computer. Diskettes or a fixed disk must be formatted before they can be used.

Syntax FORMAT [d:][/O][/V][/S]

Comments FORMAT initializes the directory and file allocation tables on the specified drive. If no drive is specified, the diskette in the default drive is formatted.

Options

/O causes FORMAT to produce a PC DOS version 1.X compatible disk. The /O option causes FORMAT to reconfigure the directory with an OE5 hex byte at the start of each entry so that the disk may be used with 1.X versions of PC DOS, as well as MS-DOS 1.25/2.00 and PC DOS 2.00.

This option should only be given when needed because it takes a fair amount of time for FORMAT to perform the conversion, and it noticeably decreases 1.25 and 2.00 performance on disks with few directory entries.

/V causes FORMAT to prompt for a volume label after the disk is formatted.

/S If this option is used, it must be the last entry on the command line. /S copies the hidden SYS files onto the diskette or fixed disk.

The files are copied in the following order:

```
IO.SYS
MSDOS.SYS
COMMAND.COM
```

GRAPHICS

Purpose The GRAPHICS command lets you print any graphics displayed on the screen if you have a graphics-compatible printer attached to your computer.

Syntax GRAPHICS

Comments After loading GRAPHICS into the memory of your computer, press and hold **SHIFT,** then press **PR SCR** to direct the graphics displayed on the screen to the graphics-compatible printer.

The GRAPHICS command defaults to a standard printer. Use the MODE command to set other parameters that are required for your own printer.

If color graphics are used, the screen image is printed in up to 4 shades of gray.

Use interrupt #5 (INT5) to print the screen from a program. Refer to the *System Programmer's Guide* for more information.

MKDIR

Purpose

The MKDIR (MaKe DIRectory) command creates a new directory on the specified pathname.

Syntax

MKDIR <pathname>

Synonym

MD

Comments

You use MKDIR to create a hierarchical directory structure on your fixed disk. You create subdirectories from your root (top) directory by using the MKDIR command.

For example, the command entry

```
MKDIR \USER
```

creates a subdirectory\USER in your root directory. To create a directory named JOE under **USER**, you enter:

```
MKDIR \USER\JOE
```

Refer to Chapter 3, **Using a Fixed Disk,** for more information about different ways to use directories and subdirectories to your best advantage.

MODE

Purpose

The MODE command lets you define some of the operating characteristics of your computer. There are three different uses of MODE.

Syntax

To set communication protocol for the RS-232C serial interface port:

```
MODE COMn:baud[,parity[,databits[,stopbits[,p]]]]
```

To set the type of display you are using and how many characters are displayed on a single line:

```
MODE n[[,R|L],T]
```

To set printer parameters or to redirect printer output to the RS-232C serial interface port:

```
MODE LPT#: [chars][,spacing]
```

or

```
MODE LPT#=COMn
```

Comments

Setting Communication Protocols

```
MODE COMn:baud[,parity[,databits[,stopbits[,p]]]]
```

When you are setting the communication protocol for your serial interface port you must specify which port you are setting and the speed (baud rate) you want to use. Parity, databits, and stopbits entries are optional. You may also specify that the serial port continuously attempts to make and maintain contact with a printer or telephone coupler following time-out errors.

The syntax element **n** must be entered as either **1** or **2**. 1 is the built-in serial interface port. 2 is an optional second serial interface port.

The syntax element **baud** is the baud rate that the serial port uses to communicate. Only the first two digits of the baud rate need to be entered. The baud rates are: 110, 300, 600, 1200, 2400, 4800, or 9600.

Parity setting is optional. The entry may be either **e** (even parity), **o** (odd parity), or **n** (no parity). The default value if no entry is made is even parity.

Data bits are an optional entry. If no entry is made, the default value is 7. You may enter either 7 or 8 for the number of data bits in a character.

Stopbits are an optional entry. You may enter either 1 or 2 for the number of stopbits at the end of a character. If no stopbits entry is made, the default value is 2 stopbits if the baud rate is 110. The default value for all other baud rates is 1 stopbit.

The **p** entry in the command line is optional. If it is included, your serial interface port will continuously retry to send if time-out errors occur. Some types of printers may not match the timing requirements of your serial port. In most cases, the **p** option overcomes this problem.

Examples

```
MODE COM1:96
```

The form of the MODE command sets the baud rate to 9600 for the built-in serial interface port. All other entries are set to their default values.

```
MODE COM1:1200,N,1,P
```

This form of the MODE command sets the built-in serial port to 1200 baud, no parity, one stop bit, and continuous retry on time-outs. This command format might be used with a high-speed telephone coupler.

Comments

Setting Display Characteristics

```
MODE n[[,R|L],T]
```

Depending upon the type of display you are using with your computer, or if you have more than one display attached to your computer, you use this form of the MODE command to set the display type and format.

This form of the command requires an entry called an argument. Arguments are values that tell the computer what option you want.

Options

40	Sets the width of the display line to 40 characters. This is used with a color display only.
80	Sets the width of the display line to 80 characters. This is used with a color display only.

BW40 If you have a monochrome and a color display attached to your computer, this selects the color monitor to be active, sets the display mode to black and white and to 40 characters per line.

BW80 Same as above, only 80 characters per line.

CO40 Same as BW40, only sets the display mode to color and to 40 characters per line.

CO80 Same as BW80, but color mode is set.

MONO If you have a monochrome and a color display attached to your computer, this selects the monochrome display to be active. The display width for monochrome displays is always 80 characters per line.

R Shifts display one character to right.

L Shifts display one character to left

T displays a test pattern and queries the user if alignment is correct

Comments

Setting the Printer Characteristics and Selecting the Printer Port

```
MODE LPT#: [chars][,spacing]
MODE LPT# = COMn
```

LPT# is the device name for the parallel printer port(s) in your computer. The # is the printer port number you enter to select which printer port you are setting. The number you enter may be either 1, 2, or 3. Port #1 is the built-in parallel port in your computer and is the default port for all printing activity.

The first example above lets you set the number of characters per inch that your printer will print and the vertical spacing between lines of output. For example,

```
MODE LPT1: 12,6
```

sets parallel port #1, then passes the instructions to your printer to print 12 characters per inch and 6 vertical lines per inch.

Some printers do not accept this type of command. Check the user guide that came with your printer for more information.

In the second example above, you reassign the printer output port to be a serial interface port in your computer. You may want to do this if you have a special printer attached to your computer that you use for correspondence-quality output or for graphics.

For example,

```
MODE LPT1=COM2
```

redirects all printer output to an optional second serial interface port attached to your computer. COM1 is the name of the built-in serial port in your computer. COM2 would be an extra interface port that you may have added at a later time.

Note

In some cases you may need two MODE commands to set up the serial interface port for use with a printer. For example,

```
MODE LPT1: 2400,E,1,P
MODE LPT1=COM1
```

would be required to set the printer port baud rate to 2400, even parity, 1 stop bit and continuous retry. The second MODE command redirects the output using the new settings to the built-in serial port in your computer.

MORE

Purpose

The MORE command limits the amount of information displayed on the screen to a single page at a time.

Syntax

MORE

Comments

The MORE command is an MS-DOS filter. A filter is a special program that takes the output from another command and modifies it.

The MORE command takes input (such as a command from your keyboard) and displays one screen of information at a time. — MORE — is displayed at the bottom of your screen and the display pauses until you press **RETURN**.

This process continues until all of the input data has been read from the source file.

In the example below the vertical bar (|) is used to pipe the output from the text file to the MORE filter.

You use the MORE command to view a long file one screen at a time. For example

```
TYPE MYFILES.COM | MORE
```

displays the file MYFILES.COM (on the default drive) one screen at a time.

The MORE command can also be used with the output redirection character (>) to create a text file from the default device CON, your keyboard.

For example, the command entry

```
more> <filename>
```

opens the specified file on the default drive and lets you enter text from the keyboard. Pressing **CTRL C** ends the text entry and writes the text you've entered into the file.

PATH

Purpose

The PATH command sets a search path for all MS-DOS file commands.

Syntax

PATH [<pathname>[;<pathname>]...]

Comments

The PATH command lets you define where MS-DOS searches for external commands after it searches your working directory.

The default value is no path.

To tell MS-DOS to search your \BIN\USER\JOE directory for external commands, type:

```
PATH \BIN\USER\JOE
```

Every time you ask for an external MS-DOS command, MS-DOS searches \BIN\USER\JOE directory for external commands until you set another path or finish the current MS-DOS session.

MS-DOS will search more than one path if you separate the pathnames with semicolons. For example,

```
PATH \BIN\USER\JOE;\BIN\USER\SUE;\BIN\DEV
```

tells MS-DOS to search the \JOE subdirectory first, then the \SUE subdirectory, and last to search the \BIN\DEV\ subdirectory for the external commands.

MS-DOS searches the pathnames in the order specified in the PATH command.

The command PATH with no options displays the current path.

If you use a semicolon to specify PATH, MS-DOS searches only the working directory for the external commands.

PRINT

Purpose

The PRINT command lets you print a text file on your printer while you are working with other MS-DOS commands. This is called “background printing” which means that the printing is being done in the background while the other work you are doing with MS-DOS is going on in the foreground.

Syntax

```
PRINT [[filespec][/T][/C][/P]]...
```

Comments

Use the PRINT command only if you have a line printer attached to your computer.

Options

The following options are used with the PRINT command.

/T TERMINATE stops the printing session and removes all files from the print queue that have not yet been printed.

/C CANCEL suspends printing of the specified file and all subsequent files until a /P option is entered.

/P PRINT begins printing. The preceding file and all subsequent files are added to the print queue until you enter a /C option.

PRINT with no options displays the contents of the print queue on your screen without affecting the queue.

Examples

```
PRINT /T
```

empties the print queue.

```
PRINT A:TEMP1.TST /C A:TEMP2.TST A:TEMP3.TST
```

the /C cancels the printed output of the TEMP1.TST file and suspends the operation of the print queue until the /P is entered.

```
PRINT TEMP1.TST /C TEMP2.TST /P TEMP3.TST
```

/C removes TEMP1.TST from the queue, /P adds TEMP2.TST and TEMP3.TST to the queue.

PROMPT

Purpose The PROMPT command lets you assign the characters or phrase used as the MS-DOS prompt.

Syntax PROMPT [<prompt-text>]

Comments The PROMPT command lets you set the MS-DOS system prompt (A>) to any other text you want.

If you don't enter any text with the PROMPT command, the prompt is reset to its default value, A>.

You can set the prompt to a special prompt, such as the current time, by using the characters indicated below.

The following characters can be used in the prompt command to specify special prompts. They must all be preceded by a dollar sign ($) in the prompt command:

Specify This Character	To Get This Prompt:
$	The '$' character
t	The current time
d	The current date
p	The current directory of the default drive
v	The version number
n	The default drive
g	The '>' character
l	The '<' character
b	The '|' character
_	A CR LF sequence
s	A space (leading only)
h	A backspace
e	ASCII code X'1B' (escape)

Examples

```
PROMPT $n
```

Sets the default drive letter prompt.

```
PROMPT Time = $t$_Date = $d
```

Sets a two-line prompt that prints:

```
Time = (current time)
Date = (current date)
```

ANSI Escape sequences used by programmers can be used in the MS-DOS prompt. For example,

```
PROMPT $e[7m$n:$e]m
```

Sets the prompts in inverse video mode yet keeps text in normal video mode.

RECOVER

Purpose

The RECOVER command lets you recover a file or an entire diskette or fixed disk drive that has bad sectors.

Syntax

RECOVER <filename | d:>

Comments

If a sector on a disk is bad, you can recover either the file containing that sector (without the bad sector) or the entire diskette or fixed disk drive (if the bad sector was in the directory).

To recover a particular file, you enter

```
RECOVER <filename>
```

causing MS-DOS to read the file sector by sector and to skip the bad sector(s). If MS-DOS finds bad sector(s), the sector(s) are marked so that MS-DOS no longer puts any data in that sector.

To recover a diskette or fixed disk, enter

```
RECOVER <d:>
```

where d: is the letter of the drive containing the disk to be recovered.

The vertical bar (|) pipes the output from the file to a specified drive.

REM

Purpose

The REM command lets you see any text that is on the same line as the REM command when a batch processing file is being run.

Syntax

REM [comment]

Comments

Use only the space, tab, and comma characters in the text of a REM comment. Other punctuation may be interpreted as a drive specifier or part of an MS-DOS command.

Example:

```
REM This file checks new disks
REM It is named NEWDISK.BAT
PAUSE Insert new disk in drive B:
FORMAT B:/S
DIR B:
CHKDSK B:
```

REN

Purpose

The REName command lets you change a file name to another file name.

Synonym

RENAME

Syntax

REN <pathname> <filename>

Comments

The first modifier <pathname> is the name of the file you want to change. The second modifier <filename> is the new filename you want to give to the file.

The first file specification must include a drive designation if the file is on another drive than the default drive. The new file name is always created on the same drive or pathname as the source file.

You can use wild card characters in either option. All files matching the first file specification are renamed. If wild card characters appear in the second filename, corresponding character positions are not changed.

For example, this command changes the names of all files with the .LST extension to similar names with the .PRN extension:

```
REN *.LST *.PRN
```

With this command, REN renames the file FLYER on drive B: to CRYER:

```
REN B:FLYER CR???
```

The file remains on drive B:.

RESTORE

Purpose

The RESTORE command puts the files backed up using the BACKUP command back on the diskette or fixed disk drive from which they came.

Syntax

RESTORE <d:>
[<d:][<path>][<filespec>][/S][/P]
[/B:<date>][/A:<date>][/E:<time>]
[/L:<time>][/M][/N]

Comments

The first modifier you specify is the drive designator of the disk containing the backed up files. The second parameter is the file specification indicating the files you want to restore.

The RESTORE command may not operate in the way you expect with files created with the BACKUP program supplied by other vendors.

Options

/S Restore subdirectories also.

/P If any hidden or read-only files match the file specification, prompt for permission to restore them.

If omitted, all hidden and read-only files are copied.

/B Only restore those files that were last modified on or before the given date.

/A Only restore those files that were last modified on or after the given date.

/E Only restore those files that were last modified at or earlier than the given time.

/L Only restore those files that were last modified at or later than the given time.

/M Only restore those files that have been modified since the last backup.

/N Only restore those files that no longer exist on the destination disk.

RMDIR

Purpose The RMDIR command removes a subdirectory from a hierarchical directory structure.

Synonym RD

Syntax RMDIR <pathname>

Comments You use the RMDIR command to remove an **empty** directory. All the files must be first DELeted or ERASEd, except for the subdirectory shorthand symbols . and .. .

The single period (.) means the current directory. Double periods (..) mean the parent directory.

To remove the \BIN\USER\JOE directory, you first check the directory with a DIR and pathname to check that there aren't any important files that you want to keep, then you enter:

```
RMDIR \BIN\USER\JOE
```

The directory has been deleted from the directory structure.

SET

Purpose

The SET command is used to set one string value to be equivalent to another string for use by later programs.

Syntax

SET [<string=string>]

Comments

The SET command is only used if you want to set values that will be used by programs you have written.

An application program checks the values that have been set with the SET command by issuing a SET with no options.

For example,

```
SET TTY=VT100
```

sets your TTY value to VT100 until you change it with another SET command.

More information about using the SET command appears in Chapter 6, **Batch Processing Commands**.

SORT

Purpose

The SORT command is used to sort the contents of a file and send the result to a device or file you select. The file sorted can also be a directory or information that would be displayed on your screen.

Syntax

SORT [/R] [/+n]

Comments

Use the symbols < and > to direct how SORT is to accept and send information. The symbol "<" means "accept data from this file" and the symbol ">" means "send the output data from the command to this file."

You can use SORT to alphabetize a file by a specified column, such as one of the file statistic columns in a DIRectory listing.

Options

The following options are used with the SORT command.

/R SORT is done in ASCII order unless you specify the /R option. This option reverses the sort; that is, sorts from Z to A.

/+n SORT starts with column n where n is some number. If you do not specify this option, SORT begins sorting with the first column of input.

Examples

The following command reads the file UNSORT.TXT, reverses the sort order, then writes the result to a file named SORT.TXT:

```
SORT /R <UNSORT.TXT >SORT.TXT
```

The following example sends (using the "pipe" symbol |) the DIR command listing to the SORT filter. The SORT command sorts the directory listing starting with column 14 (the column that contains file size in the DIR listing), then sends the result to the screen.

The result of this command is a directory sorted by file size:

```
DIR | SORT /+14
```

The command

```
DIR | SORT /+14 | MORE
```

does the same thing as the previous example, except that the MORE filter lets you read the sorted directory listing one screen at a time.

SYS

Purpose The SYS command sends MS-DOS system files to the specified disk drive from the default drive.

Syntax SYS <d>:

Comments You use SYS to update MS-DOS or to place system files on a formatted disk that does not already have any files on it.

You must enter a drive designation (d:) with the SYS command.

Be careful. Diskettes that contain an earlier version of the MS-DOS SYS files are probably not the same size as the system files you transfer using the SYS command.

It is safer to use the /S option with the FORMAT command to place a current version of the SYS files on a new diskette, then COPY all data and program files over to the new diskette.

Your destination disk must be completely blank or already have the MS-DOS files IO.SYS and MSDOS.SYS. The files are copied in the following order:

```
IO.SYS
MSDOS.SYS
```

IO.SYS and MSDOS.SYS are both hidden files that don't appear when the DIR command is performed. COMMAND.COM (the command processor) is **not** transferred with a SYS command. Use the COPY command to move the COMMAND.COM file to the destination diskette.

TIME

Purpose

The TIME command lets you display and set the time of day used by your computer to mark when files were last written or changed.

Syntax

TIME [<hh>[:<mm>]]

Comments

If only the TIME command is entered without any values for the current time, your computer displays:

```
Current time is <hh>:<mm>:<ss>.<cc>
Enter new time:_
```

If you don't want to change the time shown, press the **RETURN** key.

You may enter a new value for the time of day at any time by simply typing the TIME command and a value. For example,

```
TIME 8:20
```

sets the new time of day to 8:20am.

The value for TIME is entered using numerals only; letters are not allowed. The valid values are:

```
<hh>   = 00-24
<mm>  = 00-59
```

The hour and minute entries must be separated by colons. You cannot set the <ss> (seconds) or <cc> (hundredths of seconds) values.

MS-DOS uses the time entered as the new time if the values and separators are valid. If the values or separators are not valid, MS-DOS displays the message:

```
Invalid time
Enter new time:_
```

Make a valid entry for the current time and press the **RETURN** key.

TREE

Purpose The TREE command lets you view the directories and paths on a specified drive. TREE also lists the files in each directory.

Syntax TREE [drivespec:][/F]

Comments The command modifier [drivespec:] is the drive that contains the diskette or fixed disk that contains the directories to be displayed.

For each directory on the specified drive, TREE displays:

- the directory path starting from the root directory
- the subdirectories within the directory
- optionally, the files in each directory

Options **/F** The /F option displays the filenames and file specifications in each directory.

TYPE

Purpose The TYPE command displays the contents of a file on the screen.

Syntax TYPE <filespec>

Comments You use the TYPE command to check the contents of a file without modifying it or needing to use another program to display the contents of a file.

The file that you process with a TYPE command should be an ASCII text file, otherwise the results of this command are unpredictable and usually result in a garbled display that does not give you enough information to determine what the file contains. Binary files that contain control characters will produce this type of garbled display.

Use the MORE command with a TYPE command to view a screen page at a time.

The only screen formatting command that the TYPE command recognizes and acts upon is TAB. TABs are expanded to eight spaces for each time a TAB is encountered in the file.

VER

Purpose The VER command displays the revision level of MS-DOS that is in memory in your computer.

Syntax VER

Comments If you are working with different revision levels of MS-DOS you use the VER command to determine which level of MS-DOS you are currently using.

Some MS-DOS commands (DISKCOPY and DISKCOMP, for example) require that the diskettes be the same MS-DOS revision level in order to perform the task you request.

VERIFY

Purpose

The VERIFY command is a toggle option that determines if a COPY command automatically confirms that a file has been correctly copied.

Syntax

VERIFY [ON|OFF]

Comments

The VERIFY command is the same as the /V option in the COPY command. If you want to verify that all of the files you copy are correctly written to the destination diskette or fixed disk drive, set the VERIFY command to an ON status.

When you set VERIFY to ON MS-DOS performs a VERIFY each time you use a COPY command. An error message is displayed if MS-DOS is unable to successfully write the file to the destination diskette or fixed disk.

If you want to know the current setting of VERIFY is, type VERIFY with no modifier.

VOL

Purpose

The VOL command displays the label, if any, of the specified diskette.

Syntax

VOL [d:]

Comments

VOL [d:] displays the volume label of the disk in drive d:. If you don't specify [d:] MS-DOS displays the label of the diskette in the default drive.

A diskette or fixed disk volume label is initially set with the /V option of the FORMAT command.

6 Batch Processing Commands

- Batch Processing Commands
- Stopping Batch Processing
- Parameters in Batch Files

Batch Processing Commands

Batch processing commands are special MS-DOS commands. Batch processing commands are usually only used in a batch processing file that you create. Some of these commands are used in interactive MS-DOS commands — the commands you enter directly at your keyboard to begin some task.

Batch processing files are programs that perform MS-DOS functions automatically. **.BAT** is the file extension MS-DOS reserves for batch processing files. AUTOEXEC.BAT is an example of a program that begins automatically — whenever you start or re-start your computer. AUTOEXEC.BAT is the file that MS-DOS searches for on the default drive, then sequentially performs each of the commands found in that file.

You use batch processing files to perform repetitive MS-DOS tasks. A .BAT file may contain any MS-DOS command. The special MS-DOS commands described in this chapter let you more closely control the tasks your batch processing files perform.

These commands add flexibility and power to your batch processing programs.

If you are not writing batch programs, you do not need to read this section.

Stopping Batch Processing

Batch processing files are stopped by pressing **CTRL C** or **CTRL SCR LOCK**. When you stop a batch file, the message

```
Abort batch job? (Y/N)
```

appears on your screen. If you want to stop the batch file, press **Y**. If not, press **N**, and the task the batch file is performing continues.

Parameters in Batch Files

Often you have repetitive tasks which are quite similar—perhaps differing only by the file being processed. A parameter is used to provide a file name to the .BAT file. This way, a batch file can immediately perform a task for you without having to be specially edited to match your current needs.

Thus UPDATE, a .BAT file, could be run twice weekly. On Wednesday night:

```
A>UPDATE.BAT MON.SLS TUES.SLS WEDS.SLS
```

And on Saturday night:

```
A>UPDATE.BAT THURS.SLS FRI.SLS SAT.SLS
```

Up to 10 parameters may be used. They are named %0,%1 . . . . %9. Parameter values are located on the .BAT command line. Parameters must be separated by spaces.

```
A>%0[.BAT] %1 %2 . . . . %9
```

%0 is always the name of the .BAT file.

Variables in Batch Files

Variables provide another way of passing specific data to a batch processing file.

There is an important difference between variables and parameters. A variable, once declared, retains its value until you either reset it or turn the computer off. Thus .BAT files pass values to other .BAT files and to the system.

A variable is a text string (a name) enclosed by % signs. For example, %variable%.

Values are given to variables with the MS-DOS SET command. For example, if your batch file contains the statement

```
LINK %FILE%
```

you can set the name that MS-DOS uses for that variable with the SET command. By entering

```
SET FILE=DOMORE
```

the %FILE% parameter is replaced with the filename DOMORE.

ECHO

Purpose

The batch command ECHO is a toggle command. ECHO lets you choose whether or not to have the commands in your batch file displayed on your screen as each command is performed.

Syntax

ECHO [ON|OFF|<message>]

Comments

Commands in a batch file are normally displayed as they are performed by your computer. If you enter ECHO OFF into a batch file the commands are not displayed as they are performed. ECHO ON causes the commands to be displayed when they are performed.

If neither ON or OFF is specified, entering ECHO displays the current setting on your screen.

If ECHO is set to OFF, you can use ECHO <message> to display text on your screen. You use this only in a batch processing file.

FOR

Purpose

The FOR command is used to expand the power of a batch or interactive command.

Syntax

Batch processing:

```
FOR %%<c> IN <set> DO <command>
```

Interactive processing:

```
FOR %<c> IN <set> DO <command>
```

Comments

<c> is a variable parameter. <c> can be any character except 0,1,2,3...,9. This avoids confusion with the %0-%9 batch parameters.

<set> is a list of items separated by spaces and enclosed in parentheses. For example

```
(item1 item2 item3 ... itemN)
```

is a <set>.

The %%<c> variable is set sequentially to each member of <set>, and then <command> is performed. If a member of <set> is an expression involving either * or ?, or both, then the variable is set to each matching pattern from the file.

In this case, only one such <item> may be in the set. Any <item> other than the first <item> is ignored.

Examples

```
FOR %%f IN ( *. ASM ) DO MASM %%f;

FOR %%f IN (BAK ART BUDGT) DO REM %%f
```

The '%%' is needed so that after batch parameter (%0-%9) processing is complete, a '%' remains. If only '%f' was entered, the MS-DOS batch parameter processor sees the first '%', looks at 'f', decides that '%f' is a bad parameter reference, and discards the '%f'. The FOR command would never receive this parameter. In a batch file, you must use the expression '%%'.

If you are in interactive MS-DOS processing mode, only **one** '%' is needed.

You cannot nest FOR commands in MS-DOS like a FOR-NEXT command is used in BASIC. If you try to do this, the message

```
FOR cannot be nested
```

appears when you are running your batch program. The program will not perform as you expected.

GOTO

Purpose

The GOTO command is a batch file-only command used to direct your program to perform the command following the item described in the command modifier.

Syntax

GOTO <label>

Comments

A <label> must be included in the GOTO command entry. <label> is the place in your batch file that you want the program to jump to, then perform the commands that **follow** that command.

For example,

```
:spot
REM This is a loop
GOTO spot
```

causes an infinite sequence of messages to be displayed:

```
A>REM This is a loop

A>GOTO spot

A>REM This is a loop

A>GOTO spot

A>REM This is a loop
.
.
.
etcetera
```

If you do not include <label> in the GOTO command, the batch processing file stops.

Any line in a batch processing file that begins with ':' is ignored.

IF

Purpose

The IF command allows conditional processing of MS-DOS commands.

Syntax

IF <condition> <command>

Comments

When <condition> is true, then the MS-DOS <command> is performed.

When <condition> is not true, the <command> is ignored and the next line in the batch processing file is performed.

<condition> must be one of the following:

ERRORLEVEL <number>

True if and only if the previous program executed by COMMAND had an exit code of <number> or higher.

<string1> = = <string2>

True if and only if <string1> and <string2> are identical after parameter substitution. Strings may not contain any punctuation marks that MS-DOS uses for other purposes.

EXIST <filename>

True if and only if <filename> exists.

NOT <condition>

True if and only if <condition> is false.

Examples

```
IF NOT EXIST MYFILE
ECHO Can't find file

IF NOT ERRORLEVEL 3 LINK $1,,;
```

PAUSE

Purpose

The PAUSE command lets you stop the batch processing until some action has happened.

Syntax

PAUSE [comment]

Comments

Use the PAUSE command to suspend processing of a batch file. For example, you may want to change diskettes. A PAUSE command stops your program to allow you to do so.

When the command processor encounters PAUSE, it displays:

```
Strike a key when ready . . .
```

If you press **CTRL C** or **CTRL SCR LOCK**, this prompt appears:

```
Abort batch job (Y/N)?
```

Type Y to stop the batch file and return to MS-DOS command level. You can use the PAUSE command to segment a batch file into segments that can be stopped at any appropriate point.

<comment> is optional and should be entered on the same line as PAUSE. <comment> is used to prompt — with a meaningful message — the batch file user to take some action when the file pauses.

The <comment> is displayed **before** the "Strike a key when ready . . ." message.

SHIFT

Purpose

The SHIFT command lets your batch file access more than 10 replaceable parameters or variables.

Syntax

SHIFT

Comments

MS-DOS allows 10 parameters (%0-%9) to be used by a batch file. SHIFT lets you move more parameters into a queue, discarding the first parameter.

Additional parameters (more than ten) should be on the same command line in order to be shifted into the queue.

The SHIFT command works like this:

```
if %0 = "bak"
%1 = "art"
%2 = "budgt"
%3...%9 are empty
```

then a SHIFT results in the following:

```
%0 = "bak"
%1 = "budgt"
%2...%9 are empty
```

The %0 parameter is always the name of the current batch processing file and is not affected by a SHIFT command.

If there are more than 10 parameters given on a command line, those appearing after the 10th (%9) are shifted one at a time into %9 by successive shifts.

A Error Messages

This appendix contains an alphabetical listing of the messages that MS-DOS displays when it is unable to perform a requested task.

Most of the messages you may encounter when using MS-DOS refer to problems in reading from or writing to devices such as disk drives or printers. These messages are called device errors.

Another form of message appears as a result of problems with a diskette or disk drive. These are called disk errors.

Other messages that you may encounter from time to time are related to the specific command or task that you are trying to perform. Included in the following list of messages, is the name of the command associated with the displayed message.

Device Errors

Device error messages all take the same form. They are displayed as:

```
<type> error reading/writing <device>
Abort, Retry, Ignore?_
```

where <type> represents one of the following:

Bad call format
Bad command
Bad unit
Data
Disk
No paper
Non-DOS disk
Not ready
Read fault
Sector not found
Seek
Write fault
Write protect

When you receive one of these messages, you have the choice of doing one of the following:

- enter **A** for abort. This ends the program that requested the read or write.
- enter **R** for Retry. This causes your computer to reattempt the operation. Correct the problem that caused this message, if you can, and press **R** for Retry.
- enter **I** for Ignore. This causes your computer to ignore the problem and attempt to continue the program. If you choose this option, you may lose some data. Be careful.

These device error messages are described along with the rest of the error messages in the following list of MS-DOS messages.

Disk Errors

If a disk read or write error occurs at any time during a command process or when you are running an application program, MS-DOS displays an error message in the following format:

```
<yyy> ERROR WHILE <I/O action> ON DRIVE x
Abort, Ignore, Retry:_
```

In this format, <yyy> may be one of the following:

WRITE PROTECT
BAD UNIT
NOT READY
BAD COMMAND
DATA
BAD CALL FORMAT
SEEK
NON-DOS DISK
SECTOR NOT FOUND
NO PAPER
WRITE FAULT
READ FAULT
DISK

<I/O action> is either READING or WRITING

The drive designation <x> is the drive where the problem occurred.

Enter either **A, I,** or **R** as noted above in order to proceed with your choice of action.

Allocation error, size adjusted (CHKDSK)

The file allocation table contains an invalid sector number. The file is truncated at the end of the last valid sector. CHKDSK has automatically performed the only remedy available at this point.

Bad call format error (device error)

A request header of incorrect length was passed to a device driver. Contact your dealer for more information.

Bad command error (device error)

A device driver has issued an invalid command to the named device. Contact your dealer for more information.

Bad unit error (device error)

An invalid subunit number has been sent to a device driver. Contact your dealer for more information.

Cannot CHDIR to root
Processing cannot continue (CHKDSK)

The disk you are checking is faulty. Restart MS-DOS and try to RECOVER the disk.

Cannot do binary reads from a device (COPY)

You have tried to use the /B option with the name of a device. Place an /A option after the device name to copy in ASCII mode.

Cannot edit .BAK file - rename file (EDLIN)

You have tried to edit a file that has a .BAK extension. Either edit instead the more up to date version of the file, or rename the .BAK file before attempting to edit it.

Data error (device error)

Data could not be read/written correctly because of a faulty disk. Restart MS-DOS and try to RECOVER the disk.

Disk error (device error)

An error has occurred reading from or writing to a disk. Attempt to correct the problem and reattempt this operation.

Disk error writing FAT (CHKDSK)

An error occurred while CHKDSK was trying to update the file allocation table. Copy the diskette and reattempt the procedure. If this does not work, try to RECOVER the disk. If this does not work, the diskette is irreparably damaged.

Disk full - file write not completed (EDLIN)

The diskette you are using does not have enough space to save all of the file. Part of the file may have been saved on the diskette, but the remainder that has not been saved is lost. This is an unrecoverable error. Repeat your edit using a diskette with sufficient storage space.

Drive not ready (PRINT)

If this message appears while PRINT attempts a disk access, PRINT keeps trying until the drive is ready. Any other error cancels the current file. In this case, an error message is printed on your printer.

Duplicate file name or file not found (RENAME)

An attempt has been made to rename a file with a filename that already exists on the destination disk, or the file to be renamed could not be found on the specified disk drive.

Entry error (EDLIN)

You have incorrectly entered an EDLIN command. Reenter the command.

File cannot be copied into itself (COPY)

A request was made to COPY a file and place the copy (with the same name) in the same directory as the source file. Either change the name given to the copy or put it on another diskette or directory.

File creation error (MS-DOS and commands)

An unsuccessful attempt was made to add a new file to the directory. Run CHKDSK to determine the cause of the error.

Filename is cross linked on cluster (CHKDSK)

You have two files cross linked. Make a copy of the file you want to keep, and then delete both files that are cross linked.

Filename must be specified (EDLIN)

You did not specify a filename when you started EDLIN. Specify a filename.

File not found (EDLIN)

The file you named in the Transfer command does not exist. Check your file name selection and try again.

File not found (MS-DOS and commands)

The file named in a command does not exist on the disk in the specified drive. Check your filename entry or drive selection and try again.

FIND: File not found <filename> (FIND)

The file you specified does not exist on the drive. Check your filename entry or drive selection and try again.

FIND: Invalid number of parameters (FIND)

A string was omitted when specifying a FIND command. Reenter the command with the search string.

FIND: Invalid parameter <option-name> (FIND)

An invalid parameter was entered with the FIND command. Reenter the command with a valid parameter.

FIND: Read error in <filename> (FIND)

An error occurred when FIND tried to read the file specified in the command. Reattempt the command after correcting an obvious problem (disk drive door open, no disk, etc.). Try to RECOVER the file.

FIND: Syntax error (FIND)

You entered an illegal string with the FIND command. Reenter the correct string.

First cluster number is invalid, entry truncated (CHKDSK)

An invalid pointer to the data area has been found in the file whose name precedes this message. If /F was specified, the file is truncated to zero length. This is an irrecoverable error.

Fixups needed-base segment (hex): (EXE2BIN)

The source (.EXE) file contained information indicating that a load segment is required for the file. Specify the absolute segment address at which the finished module is to be located.

Incompatible system size (SYS)

The hidden files IO.SYS and MSDOS.SYS do not take up the same amount of space on the target diskette as the new system needs. Use the same version of MS-DOS to move these files.

Insufficient disk space (MS-DOS and commands)

There is not enough free space on the diskette to save the file or perform the MS-DOS operation. Use another diskette. You may have lost some data as a result of the operation that caused this message to appear.

Insufficient room in root directory
Erase files in root and repeat CHKDSK

CHKDSK cannot create an entry in the root directory for saving lost chains as files (see message "X lost clusters found in Y chains/ Convert lost chains to files(Y/ N)?") because the root directory is full. You should copy some files from the root directory to another disk, then enter another CHKDSK command.

Invalid current directory
Processing cannot continue (CHKDSK)

CHKDSK has found an error in the disk's current directory. Restart your computer and rerun CHKDSK.

Invalid date (DATE)

You have tried to enter an invalid date. Review the DATE command parameters in Chapter 5 and reenter the date.

Invalid drive name or file (EDLIN)

You did not specify a valid drive or filename when you started EDLIN. Check your entry and try again.

Invalid drive specification (MS-DOS and commands)

You have entered an invalid drive specifier in a command. Check your entry and try again.

Invalid number of parameters (commands)

You have entered the wrong number of parameters on the command line. Refer to the syntax of the command you have selected and try again.

Invalid parameter (commands)

You have entered an incorrect parameter. Refer to the syntax of the command you have selected and try again.

Invalid subdirectory (CHKDSK)

The subdirectory contains invalid information. Rerun the CHKDSK command with the /V option for further information.

Invalid time (TIME)

You have entered an invalid time or the wrong punctuation mark. Refer to the TIME command syntax and try again.

Line too long (EDLIN)

During the (R)eplace command operation, the string given as the replacement caused the line to expand beyond the 253-character limit. The (R)eplace command has not been properly performed. Break the long line into shorter lines and try again.

List output is not assigned to a device (PRINT)

You have specified an invalid device. Specify a valid list device.

Must specify destination number (EDLIN)

You have not specified a destination number for a (C)opy or (M)ove command. Enter a destination number when you try again.

No files match <filespec> (PRINT)

You have entered a file specification for files to add to the print queue, but no files match your entry. Check your filenames and try again. NOTE: If there are no files in the print queue, a message does not appear.

Non DOS disk error (device error)

The file allocation table on the diskette contains invalid information. If you have inserted the correct diskette, it must be reFORMATted. Attempt to copy important files from this diskette to another before you FORMAT this diskette.

No paper error (device error)

Your printer is not powered ON or it is out of paper. Check your printer and try again.

No room for system on destination disk (SYS)

There is not enough room on the target diskette for the IO.SYS and MS-DOS.SYS files. You are using different versions of MS-DOS. Use the same version for this operation.

No room in directory for file (EDLIN)

The directory of the specified disk is already full, or the specified disk drive or file name is illegal. Use another diskette or check your entry and try again.

Not enough room to merge the entire file (EDLIN)

There is not enough room in your computer's memory to enable a Transfer command to merge the entire contents of the files. Break the files into smaller files and try again.

Not ready error (device error)

The device you've selected is not ready for the read/write operation you've requested. Check the device and try again.

Out of environment space

You have attempted to access the PATH command from BASIC. This is not allowed.

PRINT queue is empty (PRINT)

There are no files in the print queue. Files must be placed in the print queue before they can be printed.

PRINT queue is full (PRINT)

You cannot place more than ten files in a print queue.

Probable non-DOS disk
Continue (Y/N)? (CHKDSK)

The disk you are using is a non-MS-DOS diskette. Indicate whether or not you want CHKDSK to continue.

Read fault error (device error)

MS-DOS cannot read the requested data from the named device. Check your entry and try again.

Read error in <filename> (commands)

The command you've entered could not read the entire file. Try again. If the problem persists, try to RECOVER the file.

Sector not found error (device error)

The sector containing the requested data cannot be found or cannot be read. This is usually due to a bad sector on the diskette or disk. Try to RECOVER the diskette. If this does not solve the problem, the data is lost.

Seek error (device error)

The diskette drive cannot find the proper track on the diskette. Try again. If the problem persists, the diskette is probably damaged and cannot be recovered.

Unrecoverable error in directory
Convert directory to file (Y/N)? (CHKDSK)

To convert the problem directory to a file, press **Y**. You can then repair or delete the directory at a later time.

Write fault error (device error)

MS-DOS cannot successfully write data from or to the named device. Check your entry and try again.

Write protect error (device error)

You have tried to write data onto a diskette that is write-protected. Check the diskette to be sure that you want to write to or change information on this diskette.

X lost cluster found in y chains
Convert lost chains to files (Y/N)?

CHKDSK has found lost clusters on your diskette. These may be parts of data files that have somehow been separated from their original files. If you press **Y**, these clusters are written into files that are placed in the root directory under the name(s) FILEnnnnnn. You can then attempt to repair damaged files or delete these safety files.

CHKDSK then displays:

```
X bytes disk space freed
```

If you select **N** and have not specifed the /F option of CHKDSK, the clusters are freed (deleted), and the message

```
X bytes disk space would be freed
```

appears on your screen.

B

EDLIN
The Line Editor

- Introduction
- Command Information
- How To Start EDLIN
- Using EDLIN Commands
- Special Editing Keys
- Command Options
- Error Messages

Introduction

This appendix is a function and command reference to the EDLIN program on your System diskette. EDLIN is provided for use by persons with prior experience in programming computers. EDLIN is not intended for novice users. If you are new to using computers, you will find that a dedicated word processing program may be easier to use. The information in this appendix does not include a tutorial for use by beginners.

If you are an experienced computer user you may choose to use EDLIN to create, change, and display files, whether they are source program or text files.

You can use EDLIN to:

- Create new source files and save them
- Update existing files and save both the updated and original files
- Delete, edit, insert, and display lines
- Search for, delete, or replace text within one or more lines.

The text in files created or edited by EDLIN is divided into lines, each up to 253 characters long. Line numbers are generated and displayed by EDLIN during the editing process, but are not actually present in the saved file.

When you insert lines, all line numbers following the inserted text advance automatically by the number of lines being inserted.

When you delete lines in a file, all line numbers following the deleted text decrease automatically by the number of lines deleted. As a result, lines are always numbered consecutively in your file.

EDLIN

EDLIN commands perform editing functions on lines of text. The following list contains information you should read before you use EDLIN commands.

1 Pathnames are acceptable as options to commands.

For example, typing EDLIN \BIN\USER\JOE \TEXT.TXT allows you to edit the TEXT.TXT file in the subdirectory \JOE.

2 You can reference line numbers relative to the current line (the line with the asterisk). Use a minus sign with a number to indicate lines before the current line. Use a plus sign with a number to indicate lines after the current line.

Example:

```
-10,+10L
```

This command lists 10 lines before the current line, the current line, and 10 lines after the current line.

3 Multiple commands may be issued on one command line. When you issue a command to edit a single line using a line number (<line>), a semicolon must separate commands on the line. Otherwise, one command may follow another without any special separators. In the case of a Search or Replace command, the <string> may be ended by a **CTRL Z** instead of a **RETURN**.

Examples:

The following command line edits line 15 and then displays lines 10 through 20 on the screen.

```
15;-5,+5L
```

The command line in the next example searches for "This string" and then displays 5 lines before and 5 lines after the line containing the matched string. If the search fails, then the displayed lines are those line numbers relative to the current line.

SThis string **CTRL Z**-5,+5L

4 You can type EDLIN commands with or without a space between the line number and command.

For example, to delete line 6, the command 6D is the same as 6 D.

5 It is possible to insert a control character (such as CONTROL-C) into text by using the quote character CONTROL-V before the capital letter associated with it while in insert mode. CONTROL-V tells MS-DOS to recognize the next capital letter typed as a control

character. It is also possible to use a control character in any of the string arguments of Search or Replace by using the special quote character. For example:

```
S CTRL V    Z
```

finds the first occurrence of CONTROL-Z in a file

```
R CTRL V Z CTRL Z foo
```

replaces all occurrences of CONTROL-Z in a file by foo

```
S CTRL V C CTRL    Z bar
```

replaces all occurrences of CONTROL-C by bar

It is possible to insert CONTROL-V into the text by typing CONTROL-V-V.

6 The CONTROL-Z character ordinarily tells EDLIN, “This is the end of the file.” If you have CONTROL-Z characters elsewhere in your file, you must tell EDLIN that these other control characters do not mean end-of-file. Use the /B option to tell EDLIN to ignore any CONTROL-Z characters in the file and to show you the entire file.

EDLIN Commands

The EDLIN commands are summarized in the following table. They are also described in further detail following the description of command options.

Command	**Purpose**
<line>	Edits line no.
A	Appends lines
C	Copies lines
D	Deletes lines
E	Ends editing
I	Inserts lines
L	Lists text
M	Moves lines
P	Pages text
Q	Quits editing
R	Replaces lines
S	Searches text
T	Transfers text
W	Writes lines

How To Start EDLIN

To start EDLIN, type:

```
EDLIN <filespec>
```

If you are creating a new file, the <filespec> should be the name of the file you wish to create. If EDLIN does not find this file on a drive, EDLIN creates a new file with the name you specify. The following message and prompt are displayed:

```
New file
*_
```

Notice that the prompt for EDLIN is an asterisk (*).

You can now type lines of text into your new file. To begin entering text, you must enter an I (Insert) command to insert lines. The I command is discussed later in this chapter.

If you want to edit an existing file, <filespec> should be the name of the file you want to edit. When EDLIN finds the file you specify on the designated or default drive, the file is loaded into memory.

If the entire file can be loaded, EDLIN displays the following message on your screen:

```
End of input file
*
```

You can then edit the file using EDLIN editing commands. If the file is too large to be loaded into memory, EDLIN loads lines until memory is 3/4 full, then displays the * prompt. You can then edit the portion of the file that is in memory.

To edit the remainder of the file, you must save some of the edited lines on disk to free memory; then EDLIN can load the unedited lines from disk into memory. Refer to the Write and Append commands in this Appendix for more information.

When you complete the editing session, you can save the original and the updated (new) files by using the End command. The End command is discussed in this appendix in the section **EDLIN Commands**. The original file is renamed with an extension of .BAK, and the new file has the filename and extension you specify in the EDLIN command.

The original .BAK file is not erased until the end of the editing session, or until disk space is needed by the editor (EDLIN).

Do not try to edit a file with a filename extension of .BAK because EDLIN assumes that any .BAK file is a backup file.

If you find it necessary to edit such a file, rename the file with another extension (using the MS-DOS RENAME command discussed in Chapter 5), then start EDLIN and specify the new <filespec>.

Special Editing Keys

The table below describes some of the commands, codes, and functions that are assigned to the special editing keys.

The "command line" is the line on your screen where you enter the text and EDLIN commands for the line you are editing. A "template" is the line you create, in part, from the line you are editing.

Special Editing Keys

Function	Key	Description
Copy 1 character	**F1**	Copies 1 character from the template to the new line.
Copy up to character	**F2**	Copies all characters from the template to the new line, up to the character specified.
Copy template	**F3**	Copies all remaining characters in the template to the screen.
Skip one character	**DEL**	Does not copy (skips over) a character.

Skip up to character	**F4**	Does not copy (skips over) the characters in the template, up to the character specified.
Quit input	**ESC**	Voids the current input; leaves the template unchanged.
Insert mode	**INS**	Enters/exits insert mode.
Replace mode	**INS F3**	Turns insert mode off; this is the default.
New template	**F5**	Makes the new line the new template.

The EDLIN Keys

Key **F1**

Purpose Copies one character from the template to the command line.

Comments Pressing the **F1** key copies one character from the template to the command line. When the **F1** key is pressed, one character is inserted in the command line and the insert key is disabled.

Example Assume that the screen shows:

```
1:*This is a sample file.
1:*_
```

At the beginning of the editing session, the cursor (indicated by the underline) is positioned at the beginning of the line. Pressing the **F1** key copies the first character (T) to the second of the two lines displayed:

```
   1:*This is a sample file
F1 1:*T_
```

Each time the **F1** key is pressed, one more character appears:

```
F1 1:*Th_
F1 1:*Thi_
F1 1:*This_
```

Key **F2**

Purpose Copies multiple characters up to a given character.

Comments Pressing the **F2** key copies all characters up to a given character from the template to the command line. The given character is the next character typed after **F2**; it is not copied or displayed on the screen.

Pressing the **F2** key causes the cursor to move to the single character that is specified in the command. If the template does not contain the specified character, nothing is copied. Pressing **F2** also disables the insert key.

Example Assume that the screen shows:

```
1:*This is a sample file.
1:*_
```

At the beginning of the editing session, the cursor (indicated by the underline) is positioned at the beginning of the line.

Pressing the **F2** key copies all characters up to the character specified immediately after the **F2** key.

```
   1:*This is a sample file
F2p 1:*This is a sam_
```

Key **F3**

Purpose Copies template to command line.

Comments Pressing the **F3** key copies all remaining characters from the template to the command line. Regardless of the cursor position at the time the **F3** key is pressed, the rest of the line appears, and the cursor is positioned after the last character on the line.

The insert key is disabled.

Example Assume that the screen shows:

```
1:*This is a sample file.
1:*_
```

At the beginning of the editing session, the cursor (indicated by the underline) is positioned at the beginning of the line.

Pressing the **F3** key copies all characters from the template cursor.

```
    1:*This is a sample file (template)
F3  1:*This is a sample file._ (command line)
```

Key **DEL**

Purpose Skips over one character in the template.

Comments Pressing the **DEL** key skips over one character in the template. Each time you press the **DEL** key, one character is not copied from the template. The action of the **DEL** key is similar to the **F1** key, except that **DEL** skips a character in the template rather than copying it to the command line.

Example Assume that the screen shows:

```
1:*This is a sample file.
1:*_
```

At the beginning of the editing session, the cursor (indicated by the underline) is positioned at the beginning of the line. Pressing the **DEL** key skips over the first character (T).

```
    1:*This is a sample file
DEL 1:*_
```

The cursor position does not change and only the template is affected. To see how much of the line has been skipped over, press the **F3** key, to move the cursor beyond the last character of the line.

```
    1:*This is a sample file.
DEL 1:*_
F3  1:*his is a sample file._
```

Key **F4**

Purpose Skips multiple characters in the template up to the specified character.

Comments Pressing the **F4** key skips over all characters up to a given character in the template. This character is not copied and is not shown on the screen. If the template does not contain the specified character, nothing is skipped over.

The action of the **F4** key is similar to the **F2** key, except that **F4** skips over characters in the template rather than copying them to the command line.

Example Assume that the screen shows:

```
1:*This is a sample file.
1:*_
```

At the beginning of the editing session, the cursor (indicated by the underline) is positioned at the beginning of the line. Pressing the **F4** key skips over all the characters in the template up to the character pressed after the **F4** key:

```
    1:*This is a sample file
F4p 1:*_
```

The cursor position does not change. To see how much of the line has been skipped over, press the **F3** key to copy the template. This moves the cursor beyond the last character of the line:

```
      1:*This is a sample file:
F4pF3 1:*ple file._
```

Key **ESC**

Purpose Quits input and empties the command line.

Comments Pressing the **ESC** key empties the command line, but it leaves the template unchanged. **ESC** also prints a backslash (\), carriage return, and line feed, and turns insert mode off. The cursor (indicated by the underline) is positioned at the beginning of the line. Pressing the **F3** key copies the template to the command line and the command line is identical to the original template.

Example Assume that the screen shows:

```
1:*This is a sample file.
1:*_
```

At the beginning of the editing session, the cursor (indicated by the underline) is positioned at the beginning of the line. Assume that you want to replace the line with “Sample File:”

```
1:*This is a sample file.
1:*Sample File:_
```

To cancel the line you just entered (Sample File), and to keep "This is a sample file.", press **ESC**. Notice that a backslash appears on the Sample File line to tell you it has been cancelled.

```
    1:*This is a sample file.
ESC 1:*Sample File    \
    1:_
```

Press **RETURN** to keep the original line, or to perform any other editing functions. If **F3** is pressed, the original template is copied to the command line:

```
F3 1: This is a sample file._
```

Key **INS**

Purpose Enters/exits insert mode.

Comments Pressing the **INS** key causes EDLIN to enter or exit insert mode. The current cursor position in the template is not changed. The cursor moves as each character is inserted. However, when you have finished inserting characters, the cursor is positioned at the same character as it was before the insertion began. Thus, characters are inserted **in front of** the character that the cursor points to.

Example Assume that the screen shows:

```
1:*This is a sample file.
1:*_
```

At the beginning of the editing session, the cursor (indicated by the underline) is positioned at the beginning of the line. Assume that you press the **F2** and **f** keys:

```
    1:*This is a sample file
F2f 1:*This is a sample _
```

Now press the **INS** key and insert the characters “edit” and a space:

```
1:*This is a sample file.
F2f 1:*This is a sample _
INSedit 1:*This is a sample edit _
```

If you now press the **F3** key, the rest of the template is copied to the line:

```
1:*This is a sample edit _
F3 1:*This is a sample edit file._
```

If you pressed the **RETURN** key, the remainder of the template would be truncated, and the command line would end at the end of the insert:

```
INSedit RETURN 1:*This is a sample edit _
```

To exit insert mode, simply press the **INS** key again.

Key **INS F3**

Purpose Enters replace mode.

Comments Pressing the **INS** and **F3** keys simultaneously causes EDLIN to exit insert mode and enter replace mode.

All the characters you type replace characters in the template. When you start to edit a line, replace mode is in effect.

If the **RETURN** key is pressed, the remainder of the template is deleted.

Example Assume that the screen shows:

```
1:*This is a sample file.
1:*_
```

At the beginning of the editing session, the cursor (indicated by the underline) is positioned at the beginning of the line.

Assume that you then press **F2**m, **INSlary, INS F3 tax, and then F3:**

```
1:*This is a sample file.
F2m 1:*This is a sa_
INSlary 1:*This is a salary_
INS F3 tax 1:*This is a salary tax_
F3 1:*This is a salary tax file._
```

Notice that you inserted **lary** and replaced **mple** with tax. If characters on the command line extend beyond the length of the template, the remaining characters in the template are automatically appended when you press **F3**.

Key **F5**

Purpose Creates a new template.

Comments Pressing the **F5** key copies the current command line to the template. The contents of the old template are deleted. Pressing **F5** outputs an @ ("at sign" character), a carriage return, and a line feed. The command line is also emptied and insert mode is turned off.

NOTE **F5** performs the same function as the **ESC** key, except that the template is changed and an @ ("at sign" character) is printed instead of a \.

Example Assume that the screen shows:

```
1:*This is a sample file.
1:*_
```

At the beginning of the editing session, the cursor (indicated by the underline) is positioned at the beginning of the line.

Assume that you enter **F2**m, **INS**lary, **INS F3** tax, and then **F3**:

```
     1:*This is a sample file.
F2m 1:*This is a sa_
INSlary 1:*This is a salary_
INS F3 tax 1:*This is a salary tax_
F3 1:*This is a salary tax file._
```

At this point, assume that you want this line to be the new template, so you press the **F5** key:

```
F5 1:*This is a salary tax file.@
```

The @ indicates that this new line is now the new template. Additional editing can be done using the new template.

Command Options

Several EDLIN commands accept one or more options. The effect of a command option varies, depending on with which command it is used. The following list describes each option.

<line>

<line> indicates a line number that you type. Line numbers must be separated by a comma or a space from other line numbers, other options, and from the command.

<line> may be specified one of three ways:

Number

Any number less than 65534. If a number larger than the largest existing line number is specified, then <line> means the line after the last line number.

Period (.)

If a period is specified for <line>, then <line> means the current line number. The current line is the last line edited, and is not necessarily the last line displayed. The current line is marked on your screen by an asterisk (*) between the line number and the first character.

Pound (#).

The pound sign indicates the line after the last line number. If you specify # for <line>, this has the same effect as specifying a number larger than the last line number.

RETURN A carriage return entered without any of the <line> specifiers listed above directs EDLIN to use a default value appropriate to the command.

? The question mark option directs EDLIN to ask you if the correct string has been found. The question mark is used only with the Replace and Search commands. Before continuing, EDLIN waits for either a **Y** or **RETURN** for a yes response, or for any other key for a no response.

<**string**> <string> represents text to be found, to be replaced, or to replace other text. The <string> option is used only with the Search and Replace commands. Each <string> must be ended by a **CTRL Z** or a **RETURN** (see the Replace command for details). No spaces should be left between strings or between a string and its command letter, unless you want those spaces to be part of the string.

(A)ppend

Purpose

Adds the specified number of lines from disk to the file being edited in memory. The lines are added at the end of lines that are currently in memory.

Syntax

[<**n**>**A**]

Comments

This command is meaningful only if the file being edited is too large to fit into memory. As many lines as possible are read into memory for editing when you start EDLIN.

To edit the remainder of the file that does not fit into memory, lines that have already been edited must be written to disk. Then you can load unedited lines from disk into memory with the Append command.

Refer to the Write command in this appendix for information on how to write edited lines to disk.

NOTES

1. If you do not specify the number of lines to append, lines are appended to memory until available memory is 3/4 full. No action is taken if available memory is already 3/4 full.

2. The message “End of input file” is displayed when the Append command has read the last line of the file into memory.

(C)opy

Purpose

Copies a range of lines to a specified line number. The lines can be copied as many times as you want by using the <count> option.

Syntax

[<**line**>]**,**[<**line**>]**,**<**line**>[**,**<**count**>]**C**

Comments

If you do not specify a number in <count>, EDLIN copies the lines one time. If the first or the second <line> is omitted, the default is the current line. The file is renumbered automatically after the copy.

The line numbers must not overlap or an "Entry error" message appears. For example, **3,20,15C** would result in an error message.

Examples

Assume that the following file exists and is ready to edit:

```
1: This is a sample file
2: used to show copying lines.
3: See what happens when you use
4: the Copy command
5: (the C command)
6: to copy text in your file.
```

You can copy this entire block of text by issuing the following command:

```
1,6,7C
```

The result is:

```
 1: This is a sample file
 2: used to show copying lines.
 3: See what happens when you use
 4: the Copy command
 5: (the C command)
 6: to copy text in your file.
 7: This is a sample file
 8: used to show copying lines.
 9: See what happens when you use
10: the Copy command
11: (the C command)
12: to copy text in your file.
```

If you want to place the text within other text, the third <line> option should specify the line before which you want the **copied** text to appear. For example, assume that you want to copy lines and **insert** them within the following file:

```
1: This is a sample file
2: used to show copying lines.
3: See what happens when you use
4: the Copy command
5: (the C command)
```

```
6: to copy text in your file.
7: You can also use COPY
8: to copy lines of text
9: to the middle of your file.
10: End of sample file.
```

The command **3,6,10C** results in the following file:

```
1: This is a sample file
2: used to show copying lines.
3: See what happens when you use
4: the Copy command
5: (the C command)
6: to copy text in your file.
7: You can also use COPY
8: to copy lines of text
9: to the middle of your file.
10: See what happens when you use
11: the Copy command
12: (the C command)
13: to copy text in your file.
14: End of sample file.
```

(D)elete

Purpose Deletes a specified range of lines in a file.

Syntax [<**line**>][,<**line**>]**D**

Comments If the first <line> is omitted, that option defaults to the current line (the line with the asterisk next to the line number). If the second <line> is omitted, then just the first <line> is deleted. When lines have been deleted, the line immediately after the deleted section becomes the current line and has the same line number as the first deleted <line> had before the deletion occurred.

Examples Assume that the following file exists and is ready to edit:

```
 1: This is a sample file
 2: used to show dynamic line numbers.
 3: See what happens when you use
 4: Delete and Insert
    .
    .
    .
25: (the D and I commands)
26: to edit the text
27:*in your file.
```

To delete multiple lines, type

```
<line>,<line>D:
5,24D
```

The result is:

```
1: This is a sample file
2: used to show dynamic line numbers.
3: See what happens when you use
4: Delete and Insert
5: (the D and I commands)
6: to edit text
7:*in your file.
```

To delete a single line, type

```
6D
```

The result is:

```
1: This is a sample file
2: used to show dynamic line numbers.
3: See what happens when you use
4: Delete and Insert
5: (the D and I commands)
6:*in your file.
```

Next, delete a range of lines from the following file:

```
1: This is a sample file
2: used to show dynamic line numbers.
3:*See what happens when you use
4: Delete and Insert
5: (the D and I commands)
6: to edit text
7: in your file.
```

To delete a range of lines beginning with the current line, type:

,6D

The result is:

```
1: This is a sample file
2: used to show dynamic line numbers.
3:*in your file.
```

Notice that the lines are automatically renumbered.

<line> Edit

Purpose

Edits line of text.

Syntax

[<**line**>]

Comments

When a line number is typed, EDLIN displays the line number and text; then, on the line below, EDLIN reprints the line number. The line is now ready for editing. You may use any of the EDLIN editing commands to edit the line. The existing text of the line serves as the template until the **RETURN** key is pressed.

WARNING

If the **RETURN** key is pressed while the cursor is in the middle of the line, the remainder of the line is deleted.

Example

Assume that the following file exists and is ready to edit:

```
1: This is a sample file.
2: used to show
3: the editing of line
4:*four.
```

To edit line 4, type:

```
4
```

The contents of the line are displayed with a cursor below the line:

```
4:* four.
4:*_
```

Now, using the **F3** special editing key, type:

```
INSnumber 4: number_
F3 RETURN 4: number four.
5:*_
```

(E)nd

Purpose

Ends the editing session.

Syntax

E

Comments

This command saves the edited file on disk, renames the original input file <filename>.BAK, and then exits EDLIN. If the file was created during the editing session, no .BAK file is created.

The E command takes no options. When you begin EDLIN, you must enter the file specification for the output file. If the drive is not selected when EDLIN is started, the file is saved on the disk in the default drive. It is still possible to COPY the file to a different drive using the MS-DOS COPY command.

You must be sure that the disk contains enough free space for the entire file. If the disk does not contain enough free space, the write is aborted and the edited file lost, although part of the file might be written out to the disk.

Example

E RETURN
After execution of the E command, the MS-DOS default drive prompt (for example, A>) is displayed.

(I)nsert

Purpose

Inserts text immediately before the specified <line>.

Syntax

[<**line**>]**I**

Comments

If you are creating a new file, the I command must be given before text can be typed (inserted). Text begins with line number 1. Successive line numbers appear automatically each time **RETURN** is pressed.

EDLIN remains in insert mode until **CTRL Z** is typed.

When the insert is completed and insert mode is finished, the line immediately following the inserted lines becomes the current line. All line numbers following the inserted section are incremented by the number of lines inserted.

If <line> is not specified, the default is the current line number and the lines are inserted immediately before the current line.

If <line> is any number larger than the last line number, or if a pound sign (#) is specified as <line>, the inserted lines are appended to the end of the file. In this case, the last line inserted becomes the current line.

Examples

Assume that the following file exists and is ready to edit:

```
1: This is a sample file
2: used to show dynamic line numbers.
3: See what happens when you use
4: Delete and Insert
5: (the D and I commands)
6: to edit text
7:*in your file.
```

To insert text before a specific line that is **not** the current line, type <line>I:

7I

The result is:

```
7:_
```

Now, type the new text for line 7:

7: **and renumber lines**

Then to end the insertion, press **CTRL Z** on the **next** line:

8: **CTRL Z**

Now type L to list the file. The result is:

```
1: This is a sample file
2: used to show dynamic line numbers.
3: See what happens when you use
4: Delete and Insert
5: (the D and I commands)
6: to edit text
7: and renumber lines
8:*in your file.
```

To insert lines immediately before the current line, type:

I

The result is:

```
8: _
```

Now, insert the following text and terminate with a **CTRL Z** on the next line:

```
8: so they are consecutive
9: CTRL Z
```

Now to list the file and see the result, type

L

The result is:

```
 1: This is a sample file
 2: used to show dynamic line numbers.
 3: See what happens when you use
 4: Delete and Insert
 5: (the D and I commands)
 6: to edit text
 7: and renumber lines
 8: so they are consecutive
 9:*in your file.
```

To append new lines to the end of the file, type:

10I

This produces the following:

```
10: _
```

Now, type the following new lines:

```
10: The insert command can place new lines
11: in the file; there's no problem
12: because the line numbers are dynamic;
13: they'll go all the way to 65533.
```

End the insertion by pressing **CTRL Z** on line 14. The new lines appear at the end of all previous lines in the file. Now type the List command, L:

The result is:

```
1: This is a sample file
2: used to show dynamic line numbers.
3: See what happens when you use
4: Delete and Insert
5: (the D and I commands)
6: to edit text
7: and renumber lines
8: so they are consecutive
9: in your file.
10: The insert command can place new lines
11: in the file; there's no problem
12: because the line numbers are dynamic;
13: they'll go all the way to 65533.
```

(L)ist

Purpose

Lists a range of lines, including the two lines specified.

Syntax

[<**line**>][**,**<**line**>]**L**

Comments

Default values are provided if either one or both of the options are omitted. If you omit the first option, as in:

,<**line**>**L**

the display starts 11 lines before the current line and ends with the specified <line>. The beginning comma is required to indicate the omitted first option.

NOTE

If the specified <line> is more than 11 lines before the current line, the display is the same as if you omitted both options. If you omit the second option, as in

<**line**>**L**

23 lines are displayed, starting with the specified <line>.

If you omit both parameters, as in

L

23 lines are displayed — the 11 lines before the current line, the current line, and the 11 lines after the current line. If there are less than 11 lines before the current line, more than 11 lines after the current line are displayed to make a total of 23 lines.

Examples

Assume that the following file exists and is ready to edit:

```
1: This is a sample file
2: used to show dynamic line numbers.
3: See what happens when you use
4: Delete and Insert
5: (the D and I commands)
   .
   .
   .
15:*The current line contains an asterisk.
    .
    .
    .
26: to edit text
27: in your file.
```

To list a range of lines without reference to the current line, type <line>,<line>L:

2,5L

The result is:

```
2: used to show dynamic line numbers.
3: See what happens when you use
4: Delete and Insert
5: (the D and I commands)
```

To list a range of lines beginning with the current line, type ,<line> L:

,26L

The result is:

```
15:*The current line contains an asterisk.
    .
    .
    .
26: to edit text
```

To list a range of 23 lines centered around the current line, type only L:

```
L
```

The result is:

```
4: Delete and Insert
5: (the D and I commands)
   .
   .
   .
3: The current line is listed in the middle of the
   range.
4: The current line remains unchanged by the L
   command.
5:*The current line contains an asterisk.
   .
   .
   .
6: to edit text.
```

(M)ove

Purpose Moves a range of text to the line specified.

Syntax [<**line**>],[<**line**>],<**line**>**M**

Comments Use the Move command to move a block of text (from the first <line> to the second <line>) to another location in the file.

Text is inserted before the target line.

The lines are renumbered according to the direction of the move. For example,

```
,+25,100M
```

moves the text from the current line plus 25 lines to line 100. If the line numbers overlap, EDLIN displays an "Entry error" message.

(P)age

Purpose	Pages through a file 23 lines at a time.
Syntax	[<**line**>][**,**<**line**>]**P**
Comments	If the first <line> is omitted, that number defaults to the current line plus one. If the second <line> is omitted, 23 lines are listed. The new current line becomes the last line displayed and is marked with an asterisk.

(Q)uit

Purpose Quits the editing session, does not save **any** editing changes, and exits to the MS-DOS operating system.

Syntax **Q**

Comments EDLIN prompts you to make sure you don't want to save the changes.

Type **Y** if you want to quit the editing session.

No editing changes are saved and no .BAK file is created. Refer to the End command in this Appendix for information about the .BAK file.

Type **N** or any other character except Y if you want to continue the editing session.

NOTE When started, EDLIN erases any previous copy of the file with an extension of .BAK to make room to save the new copy. If you reply **Y** to the Abort edit (Y/N)? message, your previous backup copy no longer exists.

Example

```
Q
Abort edit (Y/N)?Y      RETURN
A>_
```

(R)eplace

Purpose

Replaces all occurrences of a string of text in the specified range with a different string of text or blanks.

Syntax

[<**line**>][**,**<**line**>][**?**]**R**<**string1**> **CTRL Z** <**string2**>

Comments

As each occurrence of <string1> is found, it is replaced by <string2>. Each line in which a replacement occurs is displayed. If a line contains two or more replacements of <string1> with <string2>, then the line is displayed once for each occurrence.

When all occurrences of <string1> in the specified range are replaced by <string2>, the R command terminates and the asterisk prompt reappears.

If a second string is to be given as a replacement, then <string1> must be separated from <string2> with a **CTRL Z**. <String2> must end with a **CTRL Z RETURN** combination or with a simple **RETURN**.

If <string1> is omitted, then Replace takes the old <string1> as its value. If there is no old <string1>, i.e., this is the first replace done, then the replacement process ends immediately.

If the first <line> is omitted in the range argument (as in ,<line>) then the first <line> defaults to the line **after** the current line. If the second <line> is omitted (as in <line> or <line>,), the second <line> defaults to #. Therefore, R<string1> <string2> is the same as <line> + 1,#. Remember that # indicates the line after the last line of text.

If <string1> is ended with a **CTRL Z** and there is no <string2>, <string2> is taken as an empty string and becomes the new replace string. For example,

R<string1> **CTRL Z RETURN**

deletes all of <string1>, but

R<string1> **RETURN**

and

R **RETURN**

both use the old <string2> and the later example also uses the old <string1>. Note that “old” here refers to a previous string specified either in a Search or a Replace command.

If the question mark (?) option is used, the Replace command stops at each line with a string that matches <string1>, displays the line with <string2> in place, and then displays the prompt O.K.?. If you press **Y** or the **RETURN** key, then <string2> replaces <string1>, and the next occurrence of <string1> is found.

Again, the O.K.? prompt is displayed. This process continues until the end of the range or until the end of the file. After the last occurrence of <string1> is found, EDLIN displays the asterisk prompt.

If you press any key besides **Y** or **RETURN** after the O.K.? prompt, <string1> is left as it was in the line, and Replace goes to the next occurrence of <string1>. If <string1> occurs more than once in a line, each occurrence of <string1> is replaced individually, and the O.K.? prompt is displayed after each replacement. In this way, only the desired <string1> is replaced, and you can prevent unwanted substitutions.

Examples

Assume that the following file exists and is ready for editing:

```
 1: This is a sample file
 2: used to show dynamic line numbers.
 3: See what happens when you use
 4: Delete and Insert
 5: (the D and I commands)
 6: to edit text
 7: in your file.
 8: The insert command can place new lines
 9: in the file; there's no problem
10: because the line numbers are dynamic;
11: they'll go all the way to 65533.
   *
```

To replace all occurrences of <string1> with <string2> in a specified range, type:

```
2,12 Rand CTRL Z or RETURN
```

The result is:

```
4: Delete or Insert
5: (the D or I commors)
8: The insert commors can place new lines
```

Note that in the above replacement, some unwanted substitutions have occurred. To avoid these and to confirm each replacement, the same original file can be used with a slightly different command.

In the next example, to replace only certain occurrences of the first <string> with the second <string>, type:

2? Rand CTRL Z or RETURN

The result is:

```
4: Delete or Insert
   O.K.? Y
5: (The D or I commands)
   O.K.? Y
5: (The D or I commors)
   O.K.? N
8: The insert commor can place new lines
   O.K.? N
   *_
```

Now, type the List command **(L)** to see the result of all these changes:

```
   .
   .
4: Delete or Insert
5: (The D or I commands)
   .
8: The insert command can place new lines
   .
   .
```

(S)earch

Purpose

Searches the specified range of lines for a specified string of text.

Syntax

[<**line**>][**,**<**line**>][**?**]**S**<**string**> **RETURN**

Comments

The <string> must be ended with a **RETURN**. The first line that matches <string> is displayed and becomes the current line. If the question mark option is not specified, the Search command ends when a match is found. If no line contains a match for <string>, the message "Not found" is displayed.

If the question mark option (?) is included in the command, EDLIN displays the first line with a matching string; it then prompts you with the message O.K.?. If you press either the **Y** or **RETURN** key, the line becomes the current line and the search ends.

If you press any other key, the search continues until another match is found, or until all lines have been searched (and the Not found message is displayed). If the first <line> is omitted (as in first <line> defaults to the line **after** the current line. If the second <line> is omitted (as in <line> S<string> or <line>, S<string>), the second <line> defaults to # (line after last line of file).

This is the same as typing <line>, #S <string>.

If <string> is omitted, Search takes the old string if there is one. (Note that "old" here refers to a string specified in a previous Search or Replace command.) If there is not an old string (i.e., no previous search or replace has been done), the command ends immediately.

Examples

Assume that the following file exists and is ready for editing:

```
 1: This is a sample file
 2: used to show dynamic line numbers.
 3: See what happens when you use
 4: Delete and Insert
 5: (the D and I commands)
 6: to edit text
 7: in your file.
 8: The insert command can place new lines
 9: in the file; there's no problem
10: because the line numbers are dynamic;
11:*they'll go all the way to 65533.
```

To search for the first occurrence of the string "and", type

1,12 Sand RETURN

The following line is displayed:

```
4: Delete and Insert
```

To get the "and" in line 5, modify the search command by typing:

DEL   F3 ,12 Sand RETURN

The search then continues from the line after the current line (line 4), since no first line was given. The result is:

```
5: (the D and I commands)
```

To search through several occurrences of a string until the correct string is found, type:

1, ? Sand

The result is:

```
4: Delete and Insert
   O.K.?_
```

If you press any key (except **Y** or **RETURN**), the search continues, so type N here:

```
O.K.? N
```

Continue:

```
5: (the D and I commands)
   O.K.?_
```

Now press **Y** to terminate the search:

```
O.K.? Y
*_
```

To search for string XYZ from the line after the current line to the end without the verification (O.K.?), type:

```
SXYZ
```

EDLIN reports a match and continues to search for the same string when you issue the S command:

```
S
```

Transfer

Purpose

Inserts (merges) the contents of <filespec> into the file currently being edited at <line>. If <line> is omitted, then the current line is used.

Syntax

[<**line**>]**T**<**filespec**>

Comments

This command is useful if you want to put the contents of a file into another file or into the text you are typing. The transferred text is inserted at the line number specified by <line> and the lines are renumbered.

(W)rite

Purpose

Writes a specified number of lines to disk from the lines that are being edited in memory. Lines are written to disk beginning with line number 1.

Syntax

[<**n**>]**W**

Comments

This command is meaningful only if the file you are editing is too large to fit into memory. When you start EDLIN, EDLIN reads lines into memory until memory is 3/4 full.

To edit the remainder of your file, you must write edited lines in memory to disk. Then you can load additional unedited lines from disk into memory by using the Append command.

NOTE

If you do not specify the number of lines, lines are written until memory is 3/4 full. No action is taken if available memory is already less than 3/4 full. All lines are renumbered, so that the first remaining line becomes line number 1.

Error Messages

When EDLIN finds an error, one of the following error messages is displayed:

Cannot edit .BAK file—rename file

You attempted to edit a file with a filename extension of .BAK. .BAK files cannot be edited because this extension is reserved for backup copies.

If you need the .BAK file for editing purposes, you must either RENAME the file with a different extension; or COPY the .BAK file and give it a different filename extension.

No room in directory for file

When you attempted to create a new file, either the file directory was full or you specified an illegal disk drive or an illegal filename.

Check the command line that started EDLIN for illegal filename and illegal disk drive entries. If the command is no longer on the screen and if you have not yet typed a new command, the EDLIN start command can be recovered by pressing the **F3** key. If this command line contains no illegal entries, run the CHKDSK program for the specified disk drive. If the status report shows that the disk directory is full, remove the disk. Insert and format a new disk.

Entry Error

The last command typed contained a syntax error.

Retype the command with the correct syntax and press **RETURN**.

Line too long

During a Replace command, the string given as the replacement caused the line to expand beyond the limit of 253 characters. EDLIN aborted the Replace command.

Divide the long line into two lines, then try the Replace command.

Disk Full—file write not completed

You gave the End command, but the disk did not contain enough free space for the whole file. EDLIN aborted the E command and returned you to the operating system. Some of the file may have been written to the disk.

Only a portion (if any) of the file has been saved. You should probably delete that portion of the file and restart the editing session. The file is not available after this error. Always be sure that the disk has sufficient free space for the file to be written to disk **before** you begin your editing session.

Incorrect DOS version

You attempted to run EDLIN under a version of MS-DOS that was not 2.0 or higher.

You must make sure that the version of MS-DOS that you are using is 2.0 or higher.

Invalid drive name or file

You have not specified a valid drive or filename when starting EDLIN.

Specify the correct drive or filename.

Filename must be specified

You did not specify a filename when you started EDLIN.

Specify a filename.

Insufficient memory

There is not enough memory to run EDLIN.

You must free some memory by saving the contents of memory to disk or by clearing memory before restarting EDLIN.

File not found

The filename specified during a Transfer command was not found.

Specify a valid filename when issuing a Transfer command.

Must specify destination number

A destination line number was not specified for a Copy or Move command.

Reissue the command with a destination line number.

Not enough room to merge the entire file

There was not enough room in memory to hold the file during a Transfer command.

You must free some memory by writing some files to disk or by deleting some files before you can transfer this file.

File creation error

The EDLIN temporary file cannot be created.

Check to make sure that the directory has enough space to create the temporary file. Also, make sure that the file does not have the same name as a subdirectory in the directory where the file to be edited is located.

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