Microsoft Windows

User's Guide

Microsoft

Contents

Book 3: Microsoft Windows Paint User's Guide

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Microsoft® Windows User's Guide

Version 2.0

Contents

Welcome

Microsoft® Windows is an extension of the DOS operating system. Windows allows you to integrate the different tasks you perform on your personal computer, increasing your efficiency.

With Windows, you can work with several programs at once. You can switch between programs with a couple of keystrokes or a click of a mouse, reducing the time required to move from one application to another. And since you never have to quit a program, you can continue from where you left off.

Windows is powerful

Windows provides an easy way to transfer information between applications. You can transfer text and even graphics between applications designed especially for Windows. You can also transfer information to your Windows applications from your standard DOS applications, such as Microsoft Word and Multiplan®.

Windows is versatile

Microsoft® Windows

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About Windows
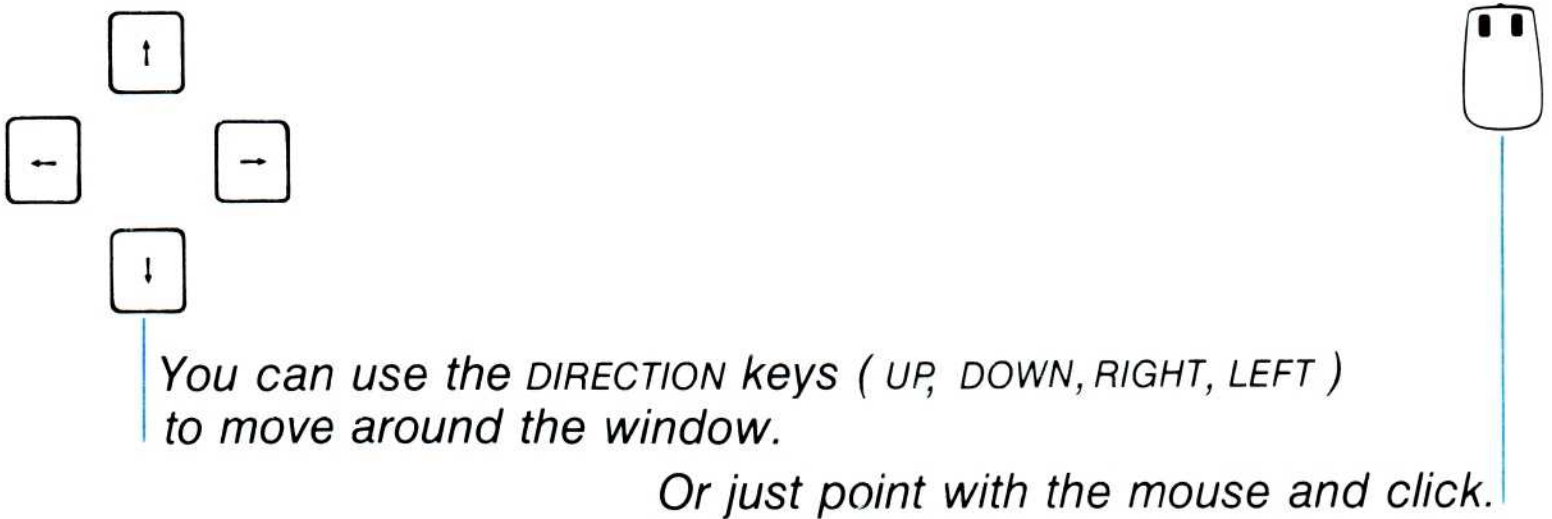
With Windows, you can run several different applications at once, and switch from one to another without quitting any of them.

Microsoft Windows gives you a new and more visual way of working by organizing your work in windows — rectangular areas on your screen in which you use applications. Many standard applications and all Windows applications can appear in windows on the screen at the same time.

```
┌──────────────────────────────────────────────┐
│ ▭        Notepad - MEMO.TXT          ⬇ ⬆     │
├──────────────────────────────────────────────┤
│ File  Edit  Search                             │
│ To  : George                                   │
│ From: John         ┌───────────────────────────────┐
│ Date: 5-12-87      │ ▭        Multiplan      ⬇ ⬆  │▲
│ Re  : Sales data   ├───────────────────────────────┤
│                    │ 5                             │
│ George:            │ 6 Sales by Region (1,000's    │
│                    │ 7                             │
│ As you can by the recently compile│ 8 Region        1985    1986 │
│ included below, the company increa│ 9 ─────────────────── ───── │
│ regions.  The western region, howe│10 North          124     133 │
│ I think it would be appropriate to│11 South           54      67 │
│                    │12 East           101     109 │
│                    │13 West            42      89 │
│                    │14 ═══════════════════ ═════ │
│                    │15 Total          321     398 │
│                    │16                            │
│                    │17                            │
│                    │18                            │
│                    │19                            │
│                    │20                            │
│ ←  ▭▭▭▭▭▭▭▭▭▭▭▭     │COMMAND: Alpha Blank Copy Delete Edit │
│                    │        Name Options Print Quit Run S│
│                    │Select option or type command letter │
│                    │R1C1                          ▼│
│                    │ ←  ▭▭▭▭▭▭▭▭▭▭▭▭▭▭▭▭▭▭  →  │
└────────────────────┴───────────────────────────────┘
```

Windows provides an easy method for running your applications, including drop-down menus, icons, and the choice of using your keyboard, a mouse, or both together.

```
┌──────────────────────────────────────────────────────────────┐
│ ▭             MS-DOS Executive                          ⬇ ⬆   │
├──────────────────────────────────────────────────────────────┤
│ File │ View  Special                                          │
├─────────────────────────┬────────────────────────────────────┤
│ Run...                  │  \WINDOWS                           │
│ Load...                 │ T                                   │
│ Copy...                 │ XE                                  │
│ Get Info                │                                     │
│ Delete...               │ N                                   │
│ Print...                │ XE                                  │
│ Rename...               │ EXE                                 │
│                         │                                     │
│ Exit                    │                                     │
│ About MS-DOS Exec...    │                                     │
│ DOTHIS.TXT    WIN200.BIN                                      │
│ HELVA.FON     WIN200.OVL                                      │
│ MODERN.FON    WINOLDAP.GRB                                    │
│ MSDOS.EXE     WINOLDAP.MOD                                    │
│ NOTEPAD.EXE   WRITE.EXE                                       │
│ PAINT.EXE                                                     │
│ PRACTICE.WRI                                                  │
│                                                              │
├──────────────────────────────────────────────────────────────┤
│                                                              │
│   ⬚  📚 🖩  📄                                                 │
└──────────────────────────────────────────────────────────────┘
```
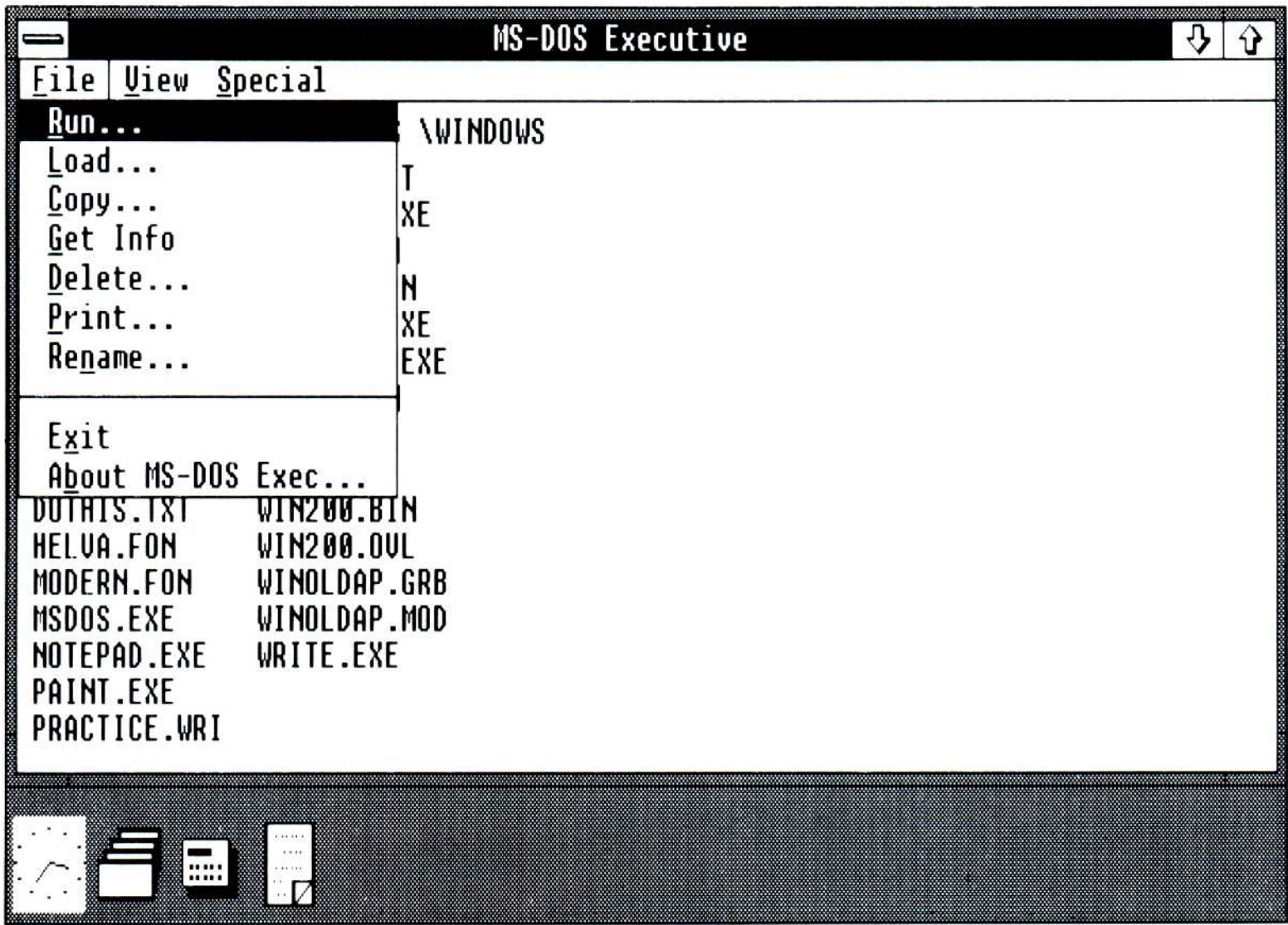
You can use the DIRECTION *keys (* UP, DOWN, RIGHT, LEFT *) to move around the window.*

Or just point with the mouse and click.

Windows provides several useful Desktop applications.

```
┌───────────────────────────────────────────┐
│ ▬   Cardfile - BUSCARDS.CRD      ⇩  ⇧      │
├───────────────────────────────────────────┤
│ File  Edit  View  Card  Search            │
│        Wava Irene's Flowers               │
│        Walden Travel, Inc. ┌─────────────────────────────┐
│       LaPorte, Morton      │ ▬        Calculator     ⇩   │
│      Isabel Rose Daycare   ├─────────────────────────────┤
│     Brass Enterprises      │ Edit                        │
│    Barnett, J. (dentist)   │                             │
│                            │      ┌──────────────┐       │
│ 555-1215                   │      │   27500.     │       │
│ 100 Medical-Dental Bldg., Sea│    └──────────────┘       │
│                            │  MC   7   8   9   /   √     │
│ - Works fast               │                             │
│ - Rates within insurance guid│ MR   4   5   6   *   %    │
│ - Call 3-4 weeks ahead     │  M+   1   2   3   -   C     │
│ - Short wait in waiting room│ M-   0   .   ±   +   =     │
│   magazines)               └─────────────────────────────┘
│                                           │
│ ←                                      →  │
└───────────────────────────────────────────┘
```
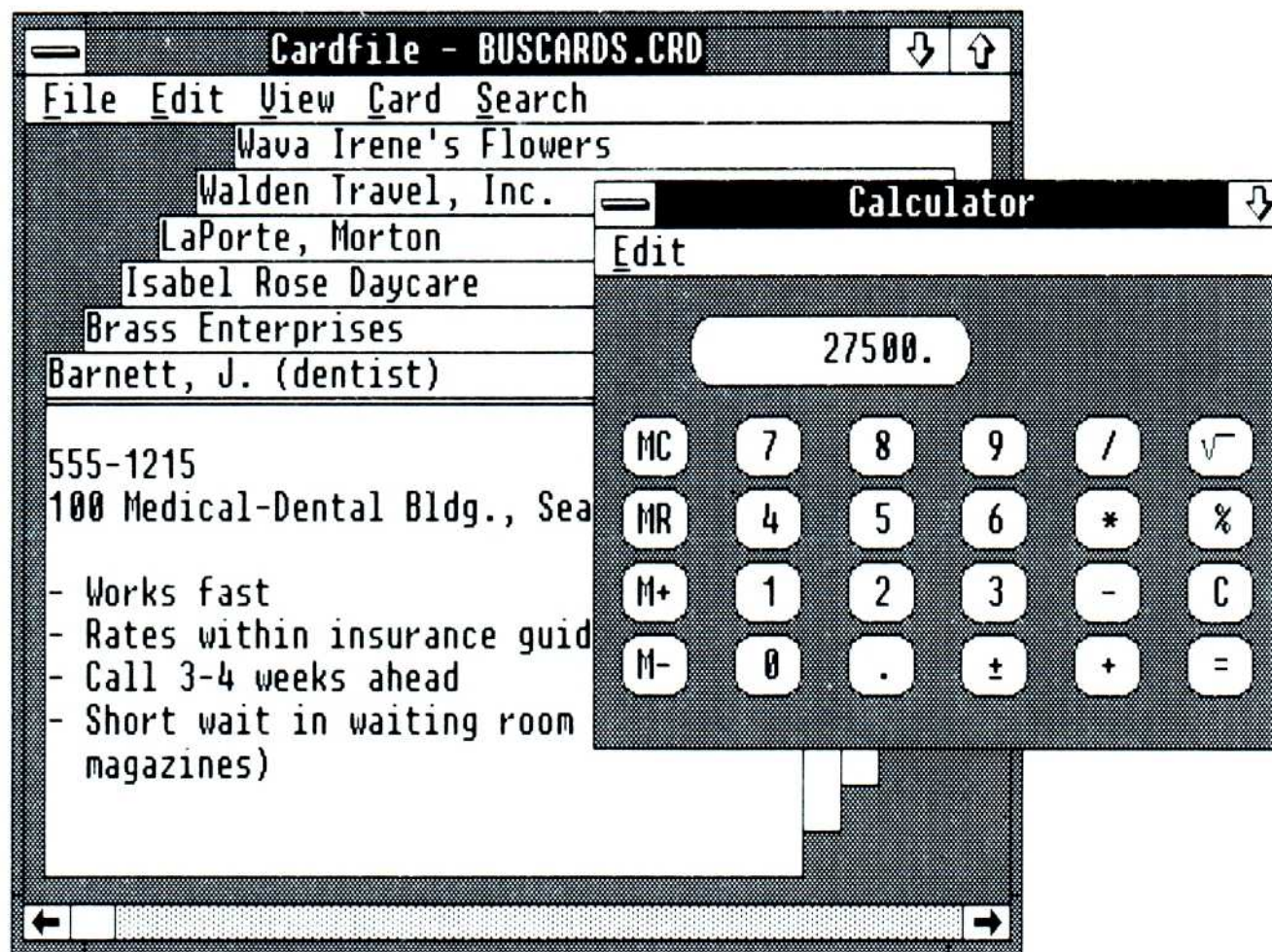
Windows makes it easy to combine information from several applications. You can work in one application,

```
┌───────────────────────────────────────────────────┐
│ ▬          Write - PARTY.WRI              ⇩  ⇧     │
├───────────────────────────────────────────────────┤
│ File  Edit  Search  Character  Paragraph  Document│
│ You're Invited                                  ⬆ │
│                                                   │
│ Jesse and I are staging another of our famous parties, this time in │
│ our new home. We have a huge yard (which, thank goodness, the previous│
│ owners put in), with lots of lawn for volleyball, croquet, or loafing│
│ as suits your fancy.                              │
│                                                   │
│ We'll provide hamburgers and hot dogs with all the trimmings, plus │
│ soft drinks, plates, tableware, and such. Please bring a hot dish, │
│ salad, or munchies, and anything else you want to drink. Particulars│
│ are below; we're off the beaten track so there's a map too.        │
│                                                   │
│ Hope you can make it.                             │
│                                                   │
│ Date: 6/27/87                                     │
│ Time: noon to ?                                   │
│ Place: 123 Star Road, Snohomish (new home of Jesse & Rebecca)      │
│ Phone: 555-1215                                 ⬇ │
│ Page 1        ←                               →   │
└───────────────────────────────────────────────────┘
```

then you can open another application and work in it,

```
┌──────────────────────────────────────────────────────────────┐
│ ▬           Paint  -  MAP1.MSP                          ⇩ ⇧    │
├──────────────────────────────────────────────────────────────┤
│ File  Edit  Character  Size  Style  Palette  Options          │
└──────────────────────────────────────────────────────────────┘
```

Our house is about 1.2 miles from turnoff.
Watch for the white sign
with our name on it.

North

I-5

Highway 9

Star Road

stop
sign

Exit 59-A

(approx. 3 miles)

(map not to
scale)

Highway 22 (east)
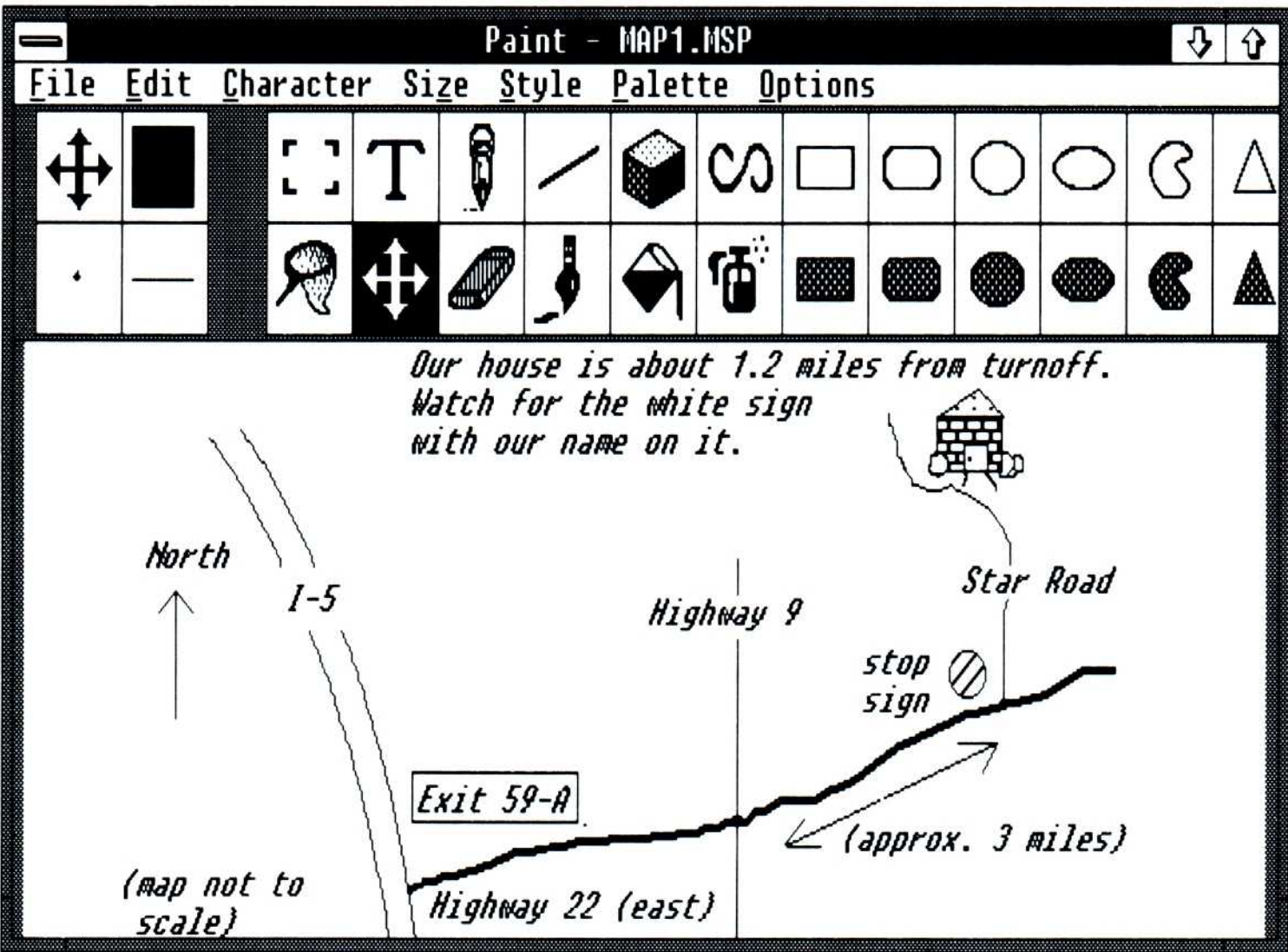
and finally, you can integrate the information from one application
into the other.

```
┌──────────────────────────────────────────────────────────────┐
│ ▬           Write  -  PARTY.WRI                         ⇩ ⇧    │
├──────────────────────────────────────────────────────────────┤
│ File  Edit  Search  Character  Paragraph  Document            │
└──────────────────────────────────────────────────────────────┘
```

Time: noon to ?
Place: 123 Star Road, Snohomish (new home of Jesse & Rebecca)
Phone: 555-1215

Our house is about 1.2 miles from turnoff.
Watch for the white sign
with our name on it.

North

I-5

Highway 9

Star Road

stop
sign

Exit 59-A

(approx. 3 miles)

(map not to
scale)

Highway 22 (east)

Page 1
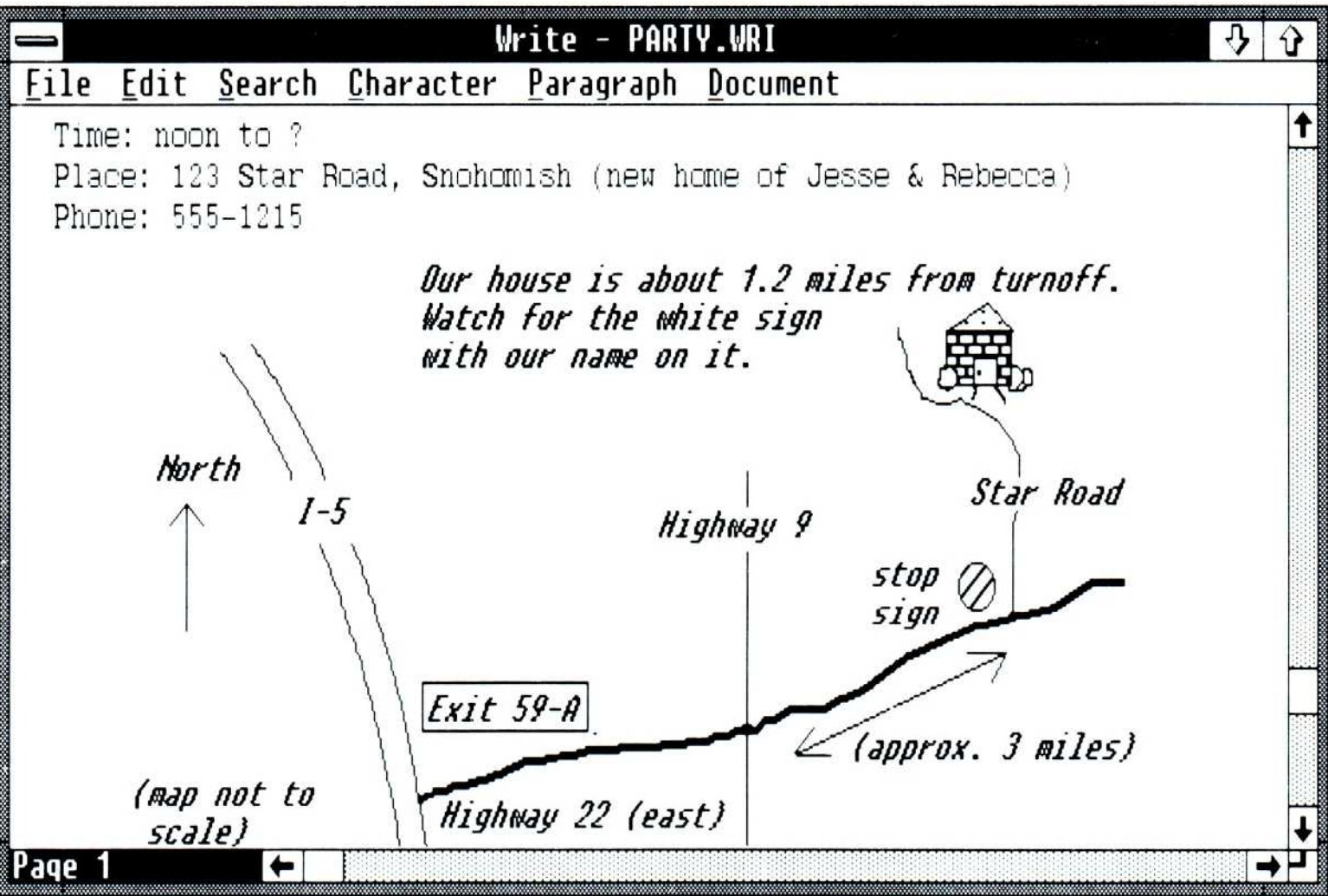
The Microsoft Windows Package

The Microsoft Windows package includes the following items:

- The Microsoft Windows Setup disk
- The Microsoft Windows Build disk
- Microsoft Windows Displays disk
- The Microsoft Windows Utilities disk(s), which contain printer device drivers
- The Microsoft Windows Fonts disk(s), which contain font files for a variety of printers and graphics adapters
- The Microsoft Windows Desktop Applications disk, which contains Windows applications
- The Microsoft Windows Write Program disk, which contains the Windows Write writing program files
- The *Microsoft Windows User's Guide*
- The *Microsoft Windows Desktop Applications User's Guide*
- The *Microsoft Windows Paint User's Guide*
- The *Microsoft Windows Write User's Guide*
- The *Microsoft Windows Quick Reference Guide*

Program information (PIF) files for a number of DOS applications are included on your Windows disks.

Note The number and names of disks included in your Windows package may vary depending on the type of disk drives on your computer.

What You Need

To use Microsoft Windows, you need the following:

- A personal computer running the DOS operating system with two double-sided disk drives or a hard disk (recommended)
- At least 512 kilobytes (K) of memory (to run multiple applications, 640K of memory is recommended)
- DOS 2.0 or later version
- A monochrome graphics monitor or color monitor
- A graphics adapter card. Windows supports many different graphics adapter cards; however, not all graphics adapter cards

display Windows in color. For example, the IBM Color Graphics Adapter (CGA) card does not display color in the high-resolution mode required for Windows.

Using pointing devices and printers

Windows supports a number of optional pointing devices (including the Microsoft Serial Mouse and Bus Mouse) and printers. The Setup program will list the available options. See the hardware manual for your device for instructions on how to install it on your microcomputer.

Using the README.TXT file

Note Be sure to read the README.TXT file on the Microsoft Windows Write Program disk. README.TXT contains updated Windows information unavailable in this guide.

About This Guide

This guide is designed to help you explore and use Microsoft Windows. The following list outlines the chapters in this guide and their contents.

Chapter outline

- Chapter 1, "Getting Started," tells you how to set up and start Windows on your computer. This chapter also explains the parts of a window, and gives you some basic pointers on using a mouse.

- Chapter 2, "Learning Windows," gives you a step-by-step, hands-on introduction to using Windows with the keyboard.

- Chapter 3, "Learning Windows with the Mouse," gives you a step-by-step, hands-on introduction to using Windows with the mouse.

- Chapter 4, "Techniques," outlines the way Windows functions and describes the basic techniques you'll use in working with Windows.

- Chapter 5, "Using MS-DOS Executive," describes how you can work in the MS-DOS Executive window to run applications; copy, print, or delete files; create directories; make a Windows system disk; and have access to other DOS commands.

- Chapter 6, "Using Clipboard," explains how Clipboard lets you move or copy information within an application or between applications.

- Chapter 7, "Using Control Panel," provides information on how you can use Control Panel to adjust Windows system settings such as date and time, printer assignments, and screen colors.

- Chapter 8, "Using Spooler," describes how Spooler allows you to print files and to view and control the jobs in the print queue.

- Chapter 9, "Using Standard Applications," provides information on how to run applications that were not designed specifically for Windows, such as Microsoft Word and Lotus 1-2-3.

- Chapter 10, "Using PIF Editor," describes how to use PIF Editor to create or revise program information (PIF) files so that you can run standard applications with Windows in the most efficient way.

- Chapter 11, "Commands," describes some of the commands you'll use most often in working with Windows.

- Appendix A, "Customizing Your WIN.INI File," explains how to work directly in your WIN.INI file to change system settings.

- Appendix B, "System Messages," lists the messages that may appear in the middle of your window to indicate that Windows is having a problem in carrying out a specific action. A diagnosis of each message is given along with suggestions for solving the problem.

- Appendix C, "Speeding Up Windows with SMARTDrive," describes how to use the SMARTDrive disk-caching program with your computer's expanded or extended memory to help Windows work more efficiently.

- Appendix D, "Using Special Characters," provides information on how to use special characters such as fractions, accented letters, or foreign currency symbols in the documents you create with Windows.

- Appendix E, "Special Notes on Running Windows," contains additional information on using certain hardware and standard applications, expanded memory, the CHKDSK program, and SHIFT+PRINTSCREEN with Windows.

- "Terms" contains definitions of some of the Windows, DOS, and general computer terms used in this guide.

Notational Conventions

Understanding terms and typography

Here are a few notes about the terms and typographic conventions used in this manual.

Keynames

The names of keys are spelled out in this guide (for example, ESCAPE, ENTER, CONTROL) and appear in small capital letters. On your keyboard the key caps may abbreviate the names or represent them a little differently.

Key Combinations and Sequences

A plus sign (+) used between two keynames indicates that those keys must be pressed at the same time. For example, "Press ALT + ESCAPE" means that you should press the ALT key and hold it down while you press the ESCAPE key and release it. Then release the ALT key.

A comma between two keynames indicates that those keys must be pressed sequentially. For example, "Press ALT, SPACEBAR" means that you should press the ALT key and release it, then press the SPACEBAR and release it.

DIRECTION Keys

The DIRECTION keys are the four arrow keys on your computer's keypad. The name of the individual DIRECTION key refers to the direction the arrow points: the UP key, the DOWN key, the RIGHT key, or the LEFT key. You use the DIRECTION keys to move the selection, the pointer, or the insertion point on your screen.

What You Type

In this guide, anything that you should type verbatim is printed in italic. For example, in a procedure, if you're asked to type a file called MYLIST.TXT, what you actually type is shown in italic: *mylist.txt*. (This filename is also shown in lowercase letters since it doesn't matter whether you type the letters in capitals or not.)

Syntax Statements

In later chapters you'll find examples of syntax statements, which show you the format to use when you type a particular command line. There are two kinds of information in a syntax statement, and they're printed in this guide in two kinds of type. Everything that's literal — that is, exactly as you would use it in a specific command — is printed in italic. Everything that is a placeholder — a generic word where a specific word would appear in an actual command line (for example, the word "filename" instead of an actual, specific filename) — is printed in bold.

c: **\directory***memo.txt*

The preceding example designates a pathname for the MEMO.TXT file on a hard-disk drive (C:). Since **directory** is in bold, you would need to provide your own name for the directory that you want the MEMO.TXT file to be in; everything else is in italic, so you would type it literally.

Mouse Procedures

In this guide, the mouse procedure for a particular task follows the keyboard procedure. Mouse procedures are generally indicated by a mouse icon that appears in the margin.

Terms

Many of the Windows, DOS, and general computer terms used in this guide are defined in "Terms," which follows the appendixes.

1 Getting Started

Before you start using Microsoft® Windows, you should be familiar with your computer and its user's manual. You need to know how to turn the computer on, which disk drive is drive A, and what keys you press to reset, or "boot," your computer.
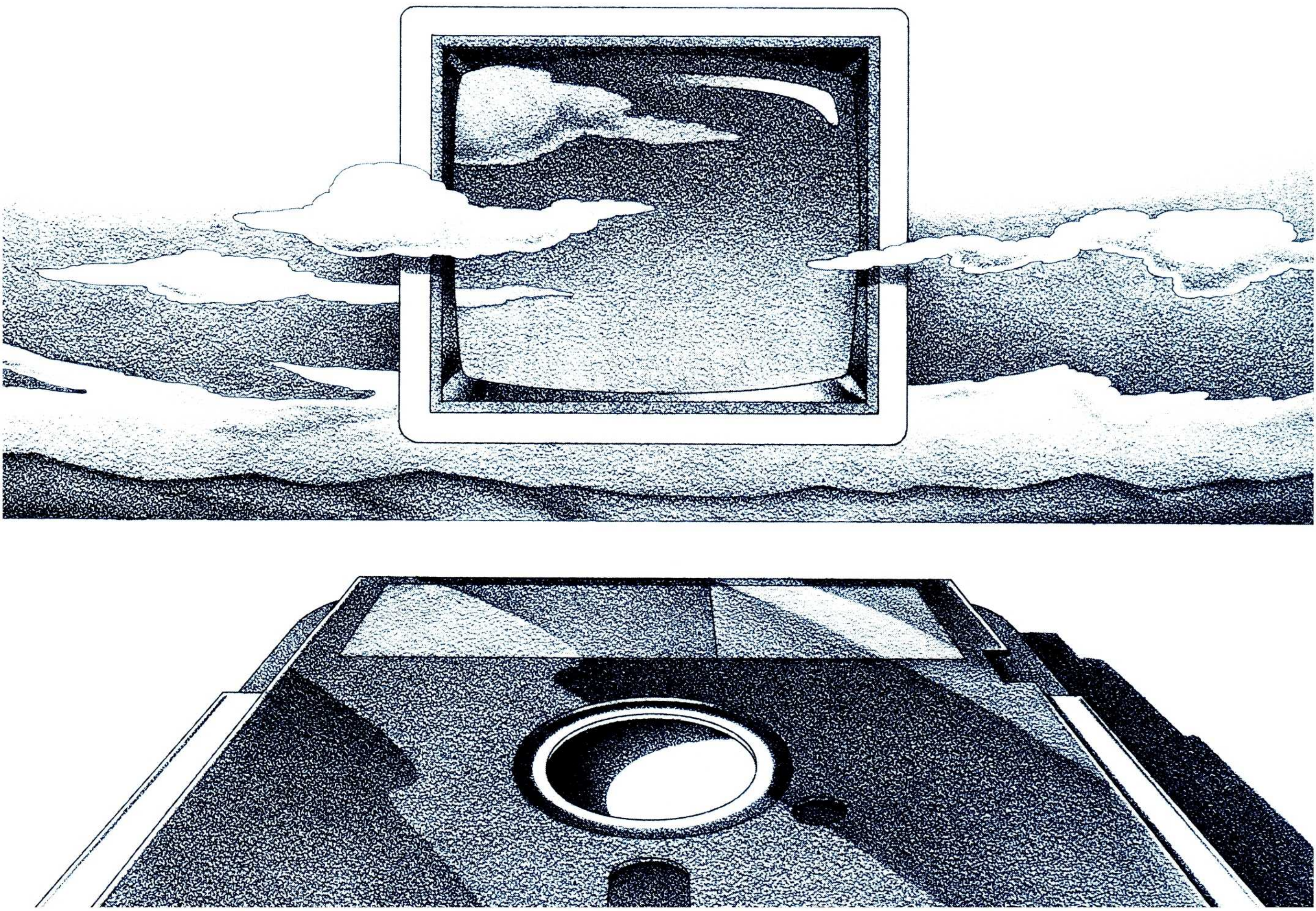
Setting Up Windows

You will use the Setup program to create a version of Windows tailored to your computer. If you have a hard disk, Setup will put this version of Windows in the directory you specify. If you have two floppy-disk drives, Setup will put Windows on the floppy disks you supply.

To Set Up Windows on a Two-Drive System

Setting up Windows on a two-drive system

To set up Windows on a system with two floppy-disk drives, you will need the following:

- Two blank, unformatted disks
- Microsoft Windows Setup disk
- Microsoft Windows Build disk
- Microsoft Windows Displays disk
- Microsoft Windows Utilities disk(s)
- Microsoft Windows Fonts disk(s)

To set up Windows, follow these steps:

1. Put the DOS disk in drive A and close the door.
2. Turn on the computer. (If your computer is already on, you can simply reboot it.)
3. Enter the date and time if DOS prompts for them.
4. Replace the DOS disk with the Windows Setup disk. Close the door.
5. Type *setup* and press the ENTER key.
6. Follow the instructions on the screen.

The Setup program creates two disks, the startup disk and the system disk. You'll use these disks to start and run Windows on your two-drive system.

Setup also copies DOS to your startup disk. You may want to copy other startup files, such as AUTOEXEC.BAT and CONFIG.SYS, to this disk as well.

Making work disks

The Windows Desktop Applications disk contains applications for you to use with Windows. When you start working in Windows, you may want to have a work disk for each application that you use (for example, Paint, Notepad, or Cardfile). A work disk contains a copy of a single application; you can create and save files

for that application on the work disk. This gives you more room to save files in each application. See Chapter 5, "Using MS-DOS® Executive," for information on copying files.

To Set Up Windows on a Hard-Disk System

To set up Windows on a hard disk, you will need the following:

Setting up Windows on a hard disk

- Microsoft Windows Setup disk
- Microsoft Windows Build disk
- Microsoft Windows Displays disk
- Microsoft Windows Utilities disk(s)
- Microsoft Windows Fonts disk(s)
- Microsoft Windows Desktop Applications disk
- Microsoft Windows Write Program disk

Here's how to set up Windows on a hard-disk system:

1. Turn on the computer.
2. Enter the date and time if DOS prompts for them.
3. Put the Windows Setup disk in drive A and close the door.
4. Type *a:* and press the ENTER key.
5. Type *setup* and press the ENTER key.
6. Follow the instructions on the screen.

After running Setup, store your original Windows disks in a safe place; if Windows is ever damaged, you'll need to copy the disks again.

Note Windows requires approximately 1.5 megabytes of space on your hard disk. Before you install Windows, use the DOS CHKDSK command to see how many bytes of memory are available on your hard disk. (It is recommended that you not use CHKDSK in Windows. See Appendix E, "Special Notes on Running Windows," for more information on CHKDSK.)

If you make a mistake when you run Setup, such as selecting the wrong graphics adapter, just start Setup again and repeat the procedure.

If you make a mistake

You need to run the Setup program whenever you add new hardware, such as a mouse card or a new graphics card, to your computer system.

Setting Up Expanded Memory for Windows

If your computer has expanded memory, you may be able to use it to store and run Windows and Windows applications. You can use your computer's expanded memory with Windows if you have an expanded memory manager that supports Windows. For more information about expanded memory and how to use it with Windows, see the section called "Using Expanded Memory with Windows" in Appendix E, "Special Notes on Running Windows."

Starting Windows
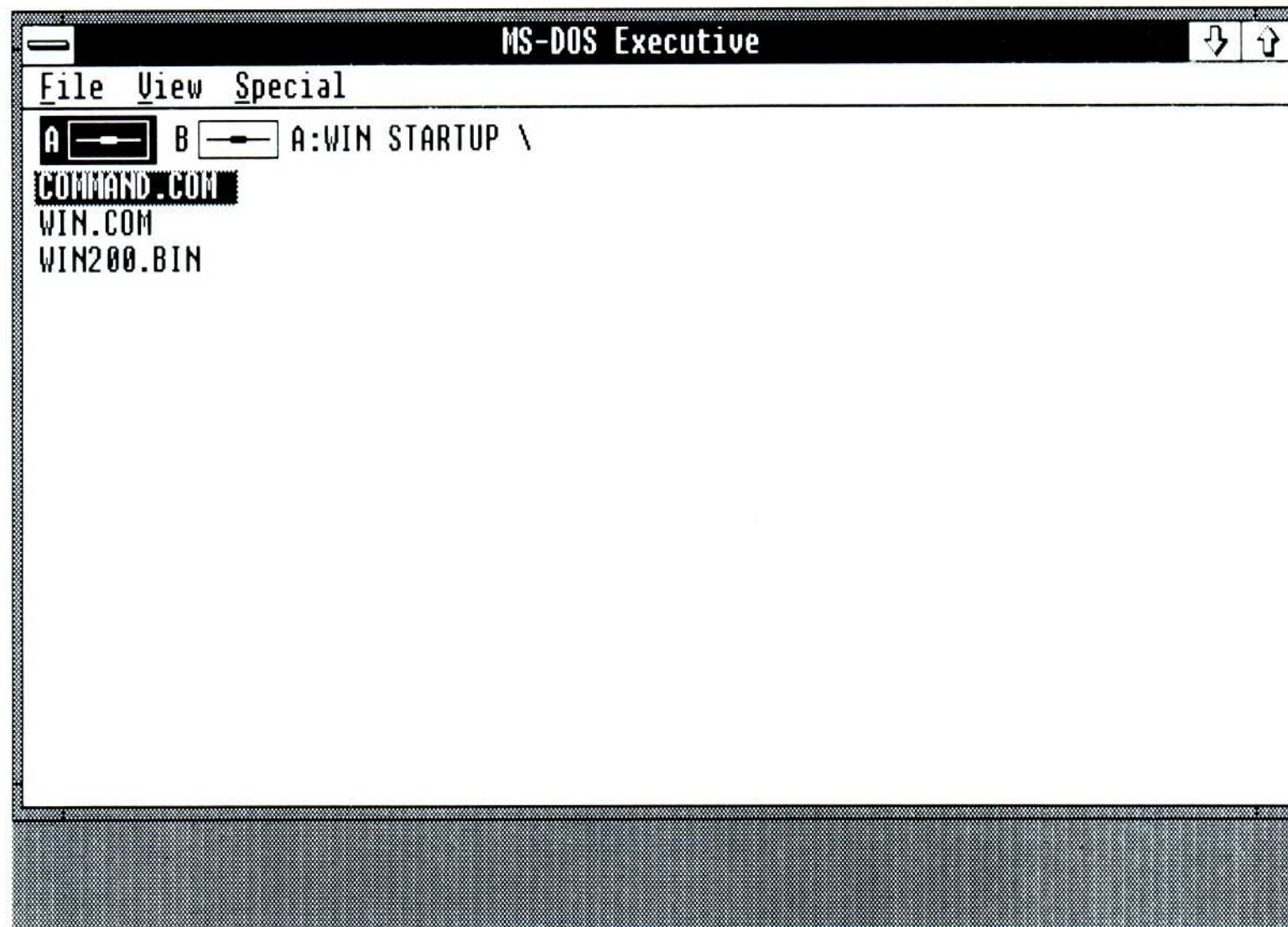
Once you have set up Microsoft Windows on your computer, you can start learning to use Windows.

Starting Windows on a two-drive system

To start Windows on a two-drive system, follow these steps:

1. Insert your Windows startup disk in drive A.
2. Insert your Windows system disk in drive B.
   (Both disks are created with the Setup program.)
3. Turn on your computer.
4. Enter the date and time if you are prompted.
5. Type *win* and press the ENTER key.

When you first start Windows on your two-drive system, your screen should look something like this:

```
┌─────────────────────────────────────────────────────────────┐
│ ▬          MS-DOS Executive                          ⇩ ⇧     │
├─────────────────────────────────────────────────────────────┤
│ File  View  Special                                          │
├─────────────────────────────────────────────────────────────┤
│ A▭─── B ├──┤ A:WIN STARTUP \                                 │
│ COMMAND.COM                                                  │
│ WIN.COM                                                      │
│ WIN200.BIN                                                   │
│                                                              │
│                                                              │
└─────────────────────────────────────────────────────────────┘
```

To start Windows on a hard-disk system, do the following:

Starting Windows on a hard disk

☐1 Turn your computer on.

☐2 Enter the date and time if you are prompted.

☐3 At the system prompt, type *cd* and a space followed by the pathname of the directory where you have set up your Windows files, and press the ENTER key.

☐4 Type *win* and press the ENTER key.

Your computer starts running Windows. Your screen will look something like the following:

Maximize box
Minimize box

Highlighted selection   *Title bar*
  Control-menu box   *Menu bar*

```
╓─────────────────────── MS-DOS Executive ──────────────── ⬇ ⬆
 File  View  Special
 A ⟷  C ⟷  C:CHRIS \WINDOWS
 PIF              REVERSI.EXE
 ABC.TXT          ROMAN.FON
 CALC.EXE         SCRIPT.FON
 CALENDAR.EXE     SPOOLER.EXE
 CARDFILE.EXE     TERMINAL.EXE
 CLIPBRD.EXE      TMSRA.FON
 CLOCK.EXE        WIN.COM
 CONTROL.EXE      WIN.INI
 COURA.FON        WIN200.BIN
 DOTHIS.TXT       WIN200.OVL
 HELVA.FON        WINOLDAP.GRB
 MODERN.FON       WINOLDAP.MOD
 MSDOS.EXE        WRITE.EXE
 NOTEPAD.EXE
 PAINT.EXE
 PRACTICE.WRI
 README.TXT
```

Disk-drive icons   *Work area*

Definitions

Here are some terms that will help you learn about and use Windows:

- The **highlighted selection** shows where you are on the screen. If you have a mouse installed, you will also see an arrow pointer.

- The **work area** displays the contents of a file, such as an application, document, or drawing. The MS-DOS Executive window runs automatically when you start Windows.

- The **title bar** displays the name of the application in that window.

- The **menu bar** contains the names of the command menus in an application.

- The **Control-menu box** can be used to display the Control menu. This menu is common to all Windows applications.

- The **Maximize box** can enlarge your window if you have a mouse. If you don't have a mouse, you use the Maximize command from the Control menu to do the same thing.

- The **Minimize box** can shrink your window to an icon if you have a mouse. If you don't have a mouse, you use the Minimize command from the Control menu to do the same thing.

- The **disk-drive icons** represent your disk drives. The icon of the currently-selected drive is highlighted.

- **Scroll bars** may appear in windows that have more information than can be displayed in the window. (See Chapter 4, "Techniques," for an example of scroll bars and an explanation of how to use them.)

You can find information on other Windows terms in "Terms" at the end of this manual.

Your screens may look slightly different from those in the illustrations, because Windows adapts to your computer system when you run the Setup program.

When you start Windows for the first time, all files in your MS-DOS Executive window will be part of Microsoft Windows. Do not delete or rename any of them. The files you need for the following exercises may appear in slightly different places on your screen than they do in the illustrations.

Note As you run Windows, some applications may create temporary files. These filenames generally begin with a tilde character (˜) and end with the .TMP extension. Do not delete these files while Windows is running, because an application may be using them. If you quit Windows using the End Session command, any temporary files are automatically deleted. (They are also deleted if you quit Windows by double-clicking the Control-menu box.) If you quit Windows without using this command (for example, turning off your computer while Windows is running), some temporary files may remain; you can safely delete these files.

Temporary files

You can change your DOS AUTOEXEC.BAT file so that these temporary files are stored in a special directory. See Chapter 5, "Using MS-DOS Executive," for more information on creating a directory for temporary files.

Going On from Here

To learn how to work with Windows using the keyboard, go on to Chapter 2, "Learning Windows." To learn how to work with Windows using the mouse, read the next section, "Using a Mouse with Windows," then go on to Chapter 3, "Learning Windows with the Mouse." If you just want a summary of the basic techniques and features of Windows, see Chapter 4, "Techniques."

Using a Mouse with Windows

A mouse is a small pointing device designed to fit comfortably under your hand. You use the mouse to move icons, expand and shrink windows, and choose commands. Using the mouse is as easy as pointing and clicking.

Which button to press?

Microsoft Windows can be used with either a single-button or a multiple-button mouse. If you have a mouse with more than one button, use the *leftmost* button. The applications you use may respond to the other buttons, but Windows uses only the leftmost button. (You can change which button you use with Windows. See Chapter 7, "Using Control Panel.")

Moving the mouse

Moving the mouse across a flat surface moves the pointer, which is the arrow on the screen.

If you run out of room for the mouse—by going off the edge of the table, for instance—lift the mouse and put it back down where you have more room. Lifting the mouse does not move the pointer.

The following definitions will help you begin to use your mouse:

To	Do this
Mouse techniques	
Point	Move the mouse until the tip of the pointer rests on what you want to point to.
Click	Quickly press and release the mouse button.
Drag	Press the mouse button and hold it down while moving the mouse.
Double-click	Click the mouse button twice in rapid succession.

To click an object means to point to that object on the screen (an icon or a menu name, for instance) and click the mouse button.

Mouse icon

In this manual, wherever procedures are given for both the keyboard and the mouse, the keyboard procedure comes first. The mouse procedure comes second, and you'll find a mouse icon in the margin next to the beginning of the mouse procedure.

Now go on to Chapter 3, "Learning Windows with the Mouse," for an introduction to working with Windows using your mouse.

2 Learning Windows

The exercises in this chapter will give you hands-on experience using Microsoft Windows with a keyboard.

If you are a new user, you will find this chapter especially helpful. The step-by-step instructions and the illustrations will tell you exactly what to do. The chapter is divided into three exercises, which you can complete all at once or one at a time. (If you have a mouse, see Chapter 3, "Learning Windows with the Mouse," for exercises designed for mouse users.)

If you're an experienced user, you'll probably want to read this chapter to learn the new direct-access technique for selecting menus and choosing commands with the keyboard.

In this chapter, you will learn and practice the following skills:

- Selecting command menus
- Choosing commands from menus
- Starting a Windows application
- Opening a file in Windows
- Using dialog boxes
- Saving an application document
- Quitting an application
- Moving between windows
- Changing the size of a window
- Moving windows on the screen
- Shrinking a window to an icon
- Ending your Windows session

Exercise 1: Beginning a Windows Session

In this exercise, you'll learn the basics of how to select menus and choose commands in any Windows application. Then you'll learn the direct-access method that you can use with some Windows applications.

First, start Windows. (If you need to review how to get started on your system, see Chapter 1, "Getting Started.")

If you have a two-drive system

On a two-drive system, the files you need for the first exercise are on the Windows startup disk that you created, and they appear in your MS-DOS Executive window when you start Windows. Your screen will look something like this:

```
┌─────────────────────────────────────────────────────────┐
│ ▭           MS-DOS Executive                    ⇩ ⇧      │
├─────────────────────────────────────────────────────────┤
│ File  View  Special                                      │
├─────────────────────────────────────────────────────────┤
│ A▐──▌ B┌──┐ A:WIN STARTUP \                              │
│ ▓COMMAND.COM▓                                            │
│ WIN.COM                                                  │
│ WIN200.BIN                                               │
│                                                          │
│                                                          │
│                                                          │
└─────────────────────────────────────────────────────────┘
```

On a hard-disk system, the files you need for these exercises are on your hard disk, and they appear in your MS-DOS Executive window when you start Windows. After you start Windows, your screen will look something like this:

If you have a hard-disk system

```
┌─────────────────────────────────────────────────────────┐
│ ▭           MS-DOS Executive                    ⇩ ⇧      │
├─────────────────────────────────────────────────────────┤
│ File  View  Special                                      │
├─────────────────────────────────────────────────────────┤
│ A┌──┐ C▐──▌ C:CHRIS \WINDOWS                             │
│ ▓PIF▓         REVERSI.EXE                                │
│ ABC.TXT        ROMAN.FON                                 │
│ CALC.EXE       SCRIPT.FON                                │
│ CALENDAR.EXE   SPOOLER.EXE                               │
│ CARDFILE.EXE   TERMINAL.EXE                              │
│ CLIPBRD.EXE    TMSRA.FON                                 │
│ CLOCK.EXE      WIN.COM                                   │
│ CONTROL.EXE    WIN.INI                                   │
│ COURA.FON      WIN200.BIN                                │
│ DOTHIS.TXT     WIN200.OVL                                │
│ HELVA.FON      WINOLDAP.GRB                              │
│ MODERN.FON     WINOLDAP.MOD                              │
│ MSDOS.EXE      WRITE.EXE                                 │
│ NOTEPAD.EXE                                              │
│ PAINT.EXE                                                │
│ PRACTICE.WRI                                             │
│ README.TXT                                               │
└─────────────────────────────────────────────────────────┘
```

The first window you see is the MS-DOS Executive window. MS-DOS Executive is the application program that you'll use to start other applications, to organize your files and windows, and to do things like change directories and format disks.

All Windows commands are organized in menus on the menu bar. A menu shows the names of a group of commands. Each application has its own menus, but one, the Control menu, is common to all applications. The action of picking a menu is called *selecting* the menu. In Windows, you select the items that commands will affect — for example, a filename or an area of the screen — and you choose the commands that carry out the action.

Selecting the Control Menu

The Control menu is represented by a box in the upper-left corner of every window. You use the Control menu's commands to arrange windows on the screen. The commands allow you to move the windows, change their size, and close them.

Highlighted selection

Control-menu box   *Title bar*   *Menu bar*

```
┌─────────────────────────────────────────────────────────────┐
│ ▭              MS-DOS Executive              ·        ▸ ⇩ ⇧ │
├─────────────────────────────────────────────────────────────┤
│ File  View  Special                                         │
│  A ▭──▭  C ▭──▭  C:CHRIS \WINDOWS                           │
│  ▐▐▐▐▐▐▐      REVERSI.EXE                                    │
│  ABC.TXT      ROMAN.FON                                      │
│  CALC.EXE     SCRIPT.FON                                     │
│  CALENDAR.EXE SPOOLER.EXE                                    │
│  CARDFILE.EXE TERMINAL.EXE                                   │
│  CLIPBRD.EXE  TMSRA.FON                                      │
│  CLOCK.EXE    WIN.COM                                        │
│  CONTROL.EXE  WIN.INI                                        │
│  COURA.FON    WIN200.BIN                                     │
│  DOTHIS.TXT   WIN200.OVL                                     │
│  HELVA.FON    WINOLDAP.GRB                                   │
│  MODERN.FON   WINOLDAP.MOD                                   │
│  MSDOS.EXE    WRITE.EXE                                      │
│  NOTEPAD.EXE                                                 │
│  PAINT.EXE                                                   │
│  PRACTICE.WRI                                                │
│  README.TXT                                                  │
└─────────────────────────────────────────────────────────────┘
```

The Control menu

The first step in selecting a menu is to press the ALT key. ALT is the menu-access key — it lets Windows know that you are about to select a menu. Selecting the Control menu is simple — just press the SPACEBAR. Try it now:

1. Press the ALT key.
2. Press the SPACEBAR.

The Control menu appears on your screen. The first command in the list, Restore, is highlighted, to show that this command is selected.

Control menu

```
┌──────────────────────────────────────────────────────┐
│ ▬        MS-DOS Executive                        ⇩ ⇧  │
├──────────────────────────────────────────────────────┤
│ Restore    Alt+F5                                      │
│ Move       Alt+F7    S  WINDOWS                        │
│ Size       Alt+F8    EXE                               │
│ Minimize   Alt+F9    N                                 │
│ Maximize   Alt+F10   ON                                │
│                      EXE                               │
│ Close      Alt+F4    .EXE                              │
│ CLIPBRD.EXE    TMSRA.FON                               │
│ CLOCK.EXE      WIN.COM                                 │
│ CONTROL.EXE    WIN.INI                                 │
│ COURA.FON      WIN200.BIN                              │
│ DOTHIS.TXT     WIN200.OVL                              │
│ HELVA.FON      WINOLDAP.GRB                            │
│ MODERN.FON     WINOLDAP.MOD                            │
│ MSDOS.EXE      WRITE.EXE                               │
│ NOTEPAD.EXE                                            │
│ PAINT.EXE                                              │
│ PRACTICE.WRI                                           │
│ README.TXT                                             │
└──────────────────────────────────────────────────────┘
```
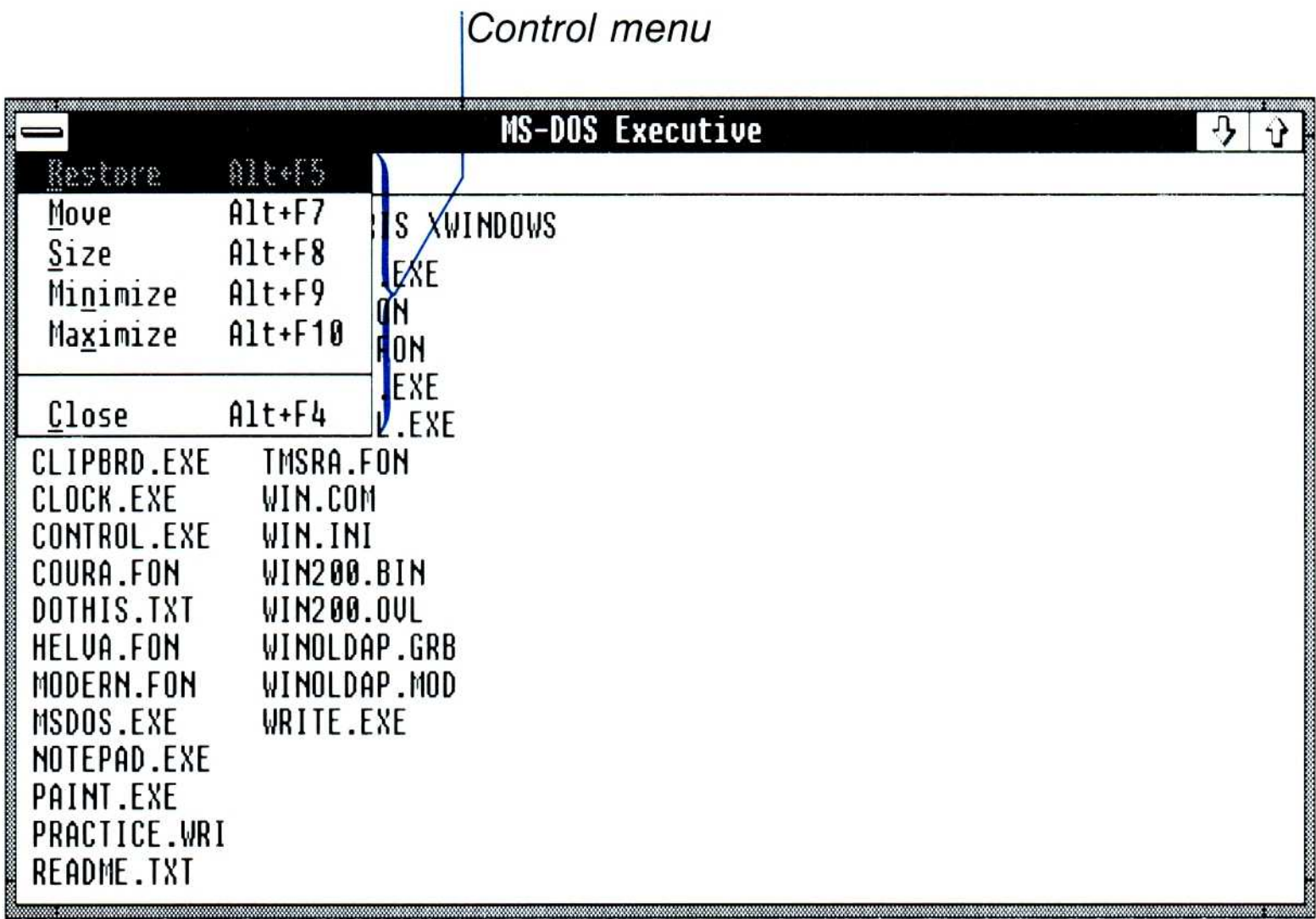
Here's how to cancel the Control menu, or any menu:

Canceling the Control menu

▪ Press the ESCAPE key.

The menu disappears.

Selecting Menus and Choosing Commands

There are two ways to use the keyboard to select menus on the menu bar and choose commands from the menus. First you'll be introduced to the basic method that works with any Windows application. Once you're familiar with the basic method, you'll learn the direct-access method, which uses the underlined letters you see in the command and menu names. You don't need to memorize anything. Chapter 4, "Techniques," provides a reference to both methods.

The basic method of selecting menus and choosing commands uses the DIRECTION keys to move across the Windows menu bar and up and down the menus.

The basic method

The first step is always the same: press the ALT key. Then press the RIGHT or LEFT keys to select a menu on the menu bar. Try this now:

Moving across the menu bar

1. Press the ALT key.

2. Press the RIGHT key to select each menu on the menu bar.

3. Press the LEFT key to select the menus in reverse order.

Moving within a command list

To choose commands, you use the UP and DOWN keys. Try selecting a menu and using the UP and DOWN keys to move up and down the command list:

1. Press the ALT key.

2. Press the RIGHT or LEFT keys to select a menu on the menu bar.

3. Press the ENTER key to display the menu.

4. Press the UP or DOWN keys to move up or down the command list.

5. Press the ESCAPE key to cancel the menu selection.

To choose a command from a menu, first you use the UP or DOWN keys to select the command name, then you press the ENTER key.

Try using the View menu's Programs command. The commands on the View menu let you change the way MS-DOS Executive displays the files in your current directory. The viewing options are divided into three groups, and the checkmarks show which option in each group is in effect now. You can change an option by choosing it from the menu.

Choosing commands

Here's what to do:

1. Press the ALT key.

2. Press the RIGHT key until you select the View menu.

3. Press the ENTER key to display the menu.

View menu

```
┌─────────────────────────────────────────────────────────────┐
│ ▬               MS-DOS Executive                        ⇩ ⇧  │
├─────────────────────────────────────────────────────────────┤
│ File  View  Special                                          │
│ A  ┌──────────────┐ CHRIS \WINDOWS                           │
│ │ │√Short        │ SI.EXE                                    │
│ PIF│ Long         │ .FON                                     │
│ ABC.T│            │ .FON                                     │
│ CALC.│√All        │ .FON                                     │
│ CALEN│ Partial... │ ER.EXE                                   │
│ CARDF│ Programs   │ NAL.EXE                                  │
│ CLIPB├────────────┤ .FON                                     │
│ CLOCK│√By Name    │ OM                                       │
│ CONTR│ By Date    │ NI                                       │
│ COURA│ By Size    │ O.BIN                                    │
│ DOTHI│ By Kind    │ O.OVL                                    │
│ HELVA.FON    WINOLDAP.GRB                                    │
│ MODERN.FON    WINOLDAP.MOD                                   │
│ MSDOS.EXE     WRITE.EXE                                      │
│ NOTEPAD.EXE                                                  │
│ PAINT.EXE                                                    │
│ PRACTICE.WRI                                                 │
│ README.TXT                                                   │
└─────────────────────────────────────────────────────────────┘
```
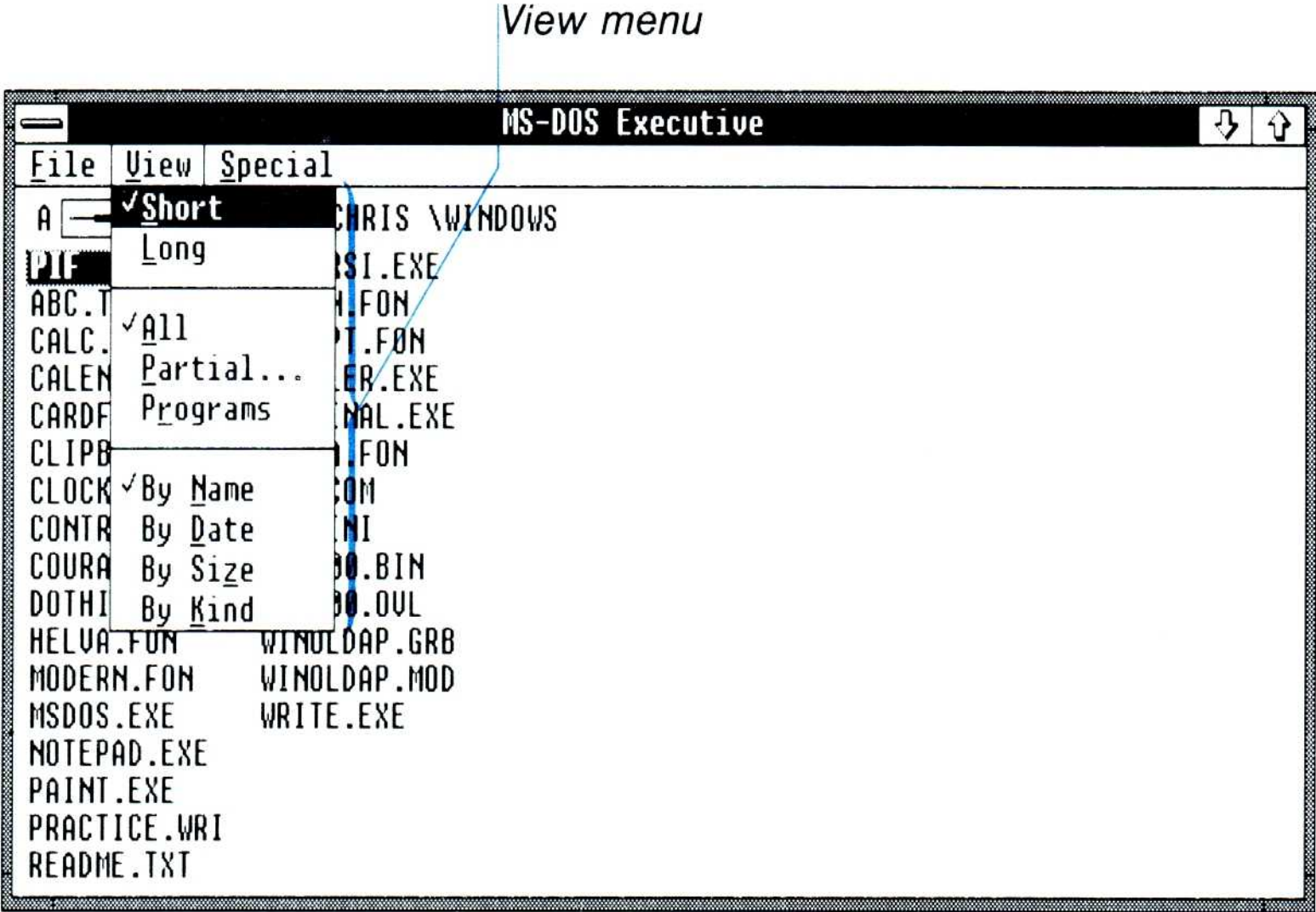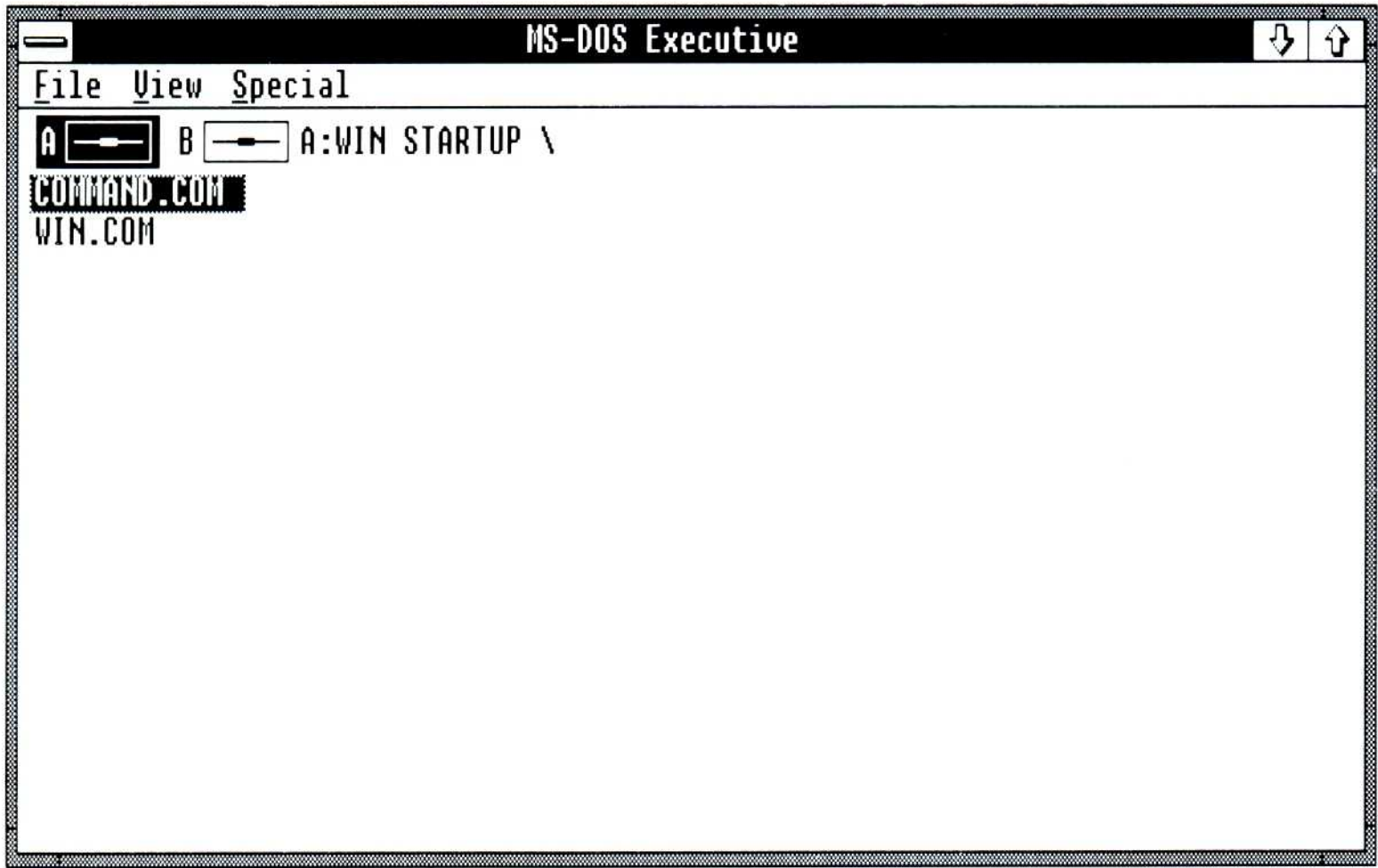
4   Press the DOWN key until the Programs command is selected.

```
┌──────────────┐
│ View         │
├──────────────┤
│√Short        │
│ Long         │
│              │
│√All          │
│ Partial...   │
│ ▐Programs▌   │
│              │
│√By Name      │
│ By Date      │
│ By Size      │
│ By Kind      │
└──────────────┘
```
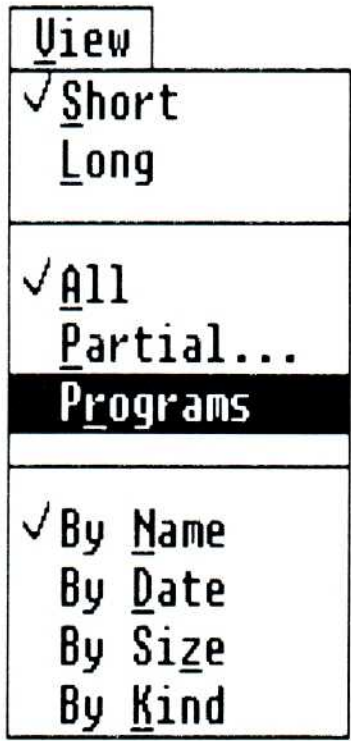
5   To choose the Programs command, press the ENTER key.

The file listing in your MS-DOS Executive window changes, and only files with a .EXE, .COM, or .BAT extension are displayed.

If you have a two-drive system, your screen should look something like the following:

```
┌──────────────────────────────────────────────────────────┐
│ ▭              MS-DOS Executive                      ⇩ ⇧ │
├──────────────────────────────────────────────────────────┤
│ File  View  Special                                       │
├──────────────────────────────────────────────────────────┤
│ A▭──  B▭──  A:WIN STARTUP \                              │
│ COMMAND.COM                                               │
│ WIN.COM                                                   │
│                                                           │
│                                                           │
│                                                           │
│                                                           │
│                                                           │
│                                                           │
│                                                           │
└──────────────────────────────────────────────────────────┘
```
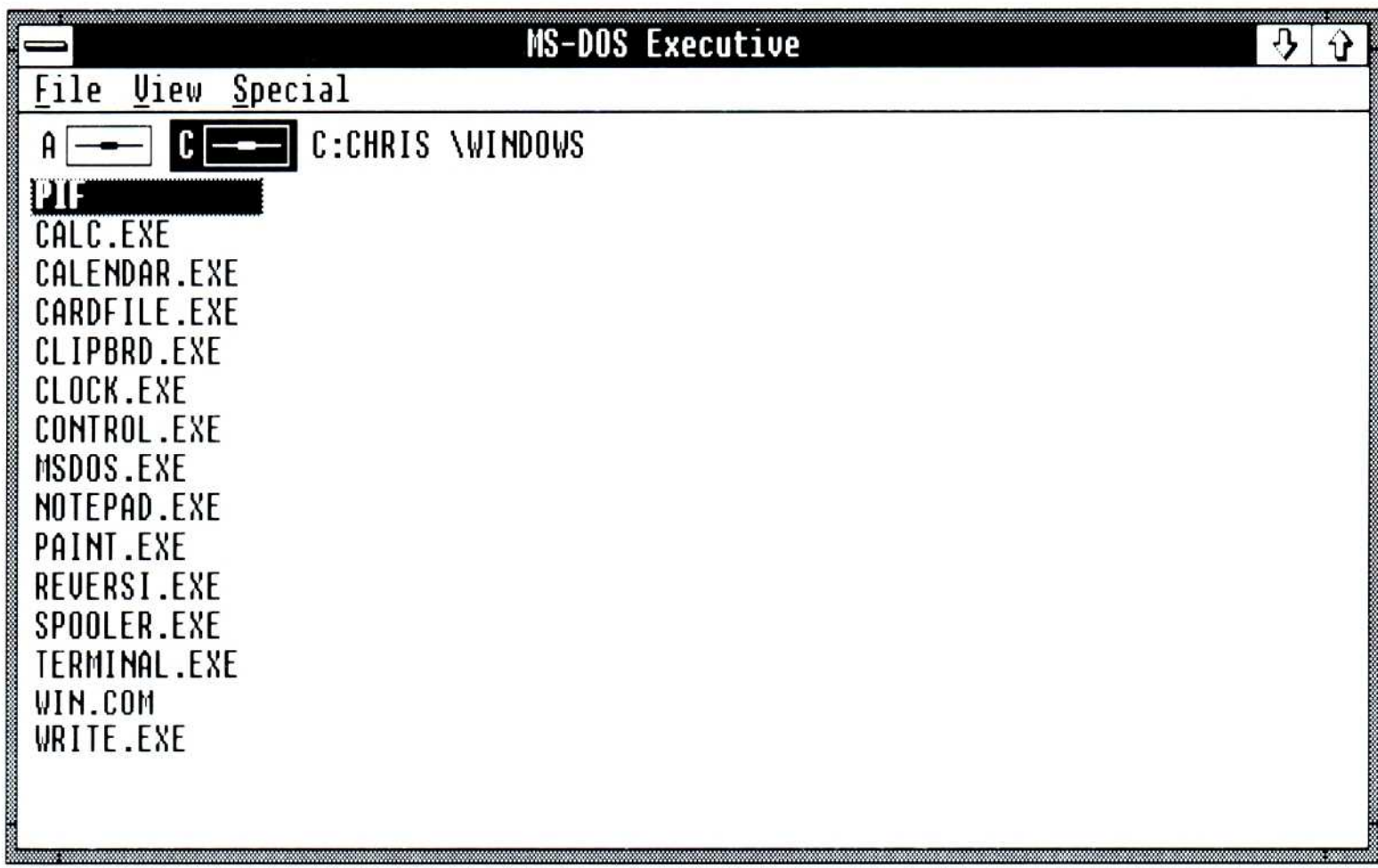
If you have a hard-disk system, your screen should look something like this:

```
┌──────────────────────────────────────────────────────────┐
│ ▭              MS-DOS Executive                      ⇩ ⇧ │
├──────────────────────────────────────────────────────────┤
│ File  View  Special                                       │
├──────────────────────────────────────────────────────────┤
│ A▭──  C▭──  C:CHRIS \WINDOWS                             │
│ PIF                                                       │
│ CALC.EXE                                                  │
│ CALENDAR.EXE                                              │
│ CARDFILE.EXE                                              │
│ CLIPBRD.EXE                                               │
│ CLOCK.EXE                                                 │
│ CONTROL.EXE                                               │
│ MSDOS.EXE                                                 │
│ NOTEPAD.EXE                                               │
│ PAINT.EXE                                                 │
│ REVERSI.EXE                                               │
│ SPOOLER.EXE                                               │
│ TERMINAL.EXE                                              │
│ WIN.COM                                                   │
│ WRITE.EXE                                                 │
└──────────────────────────────────────────────────────────┘
```

The DIRECTION-key method works with any Windows application.

Now you'll learn the direct-access method for choosing commands. This technique works with any Windows application that shows the underlined letters in menu and command names.

With the direct-access method, you can select any of the menus on the menu bar by using the ALT key with the underlined letter in the menu name. (You select the Control menu the same way as before.) For example, take a look at the File menu:

1 Press the ALT key.

2 Press the F key, the underlined letter in the File-menu name.

The File menu drops down from the menu bar.

```
File
 Run...
 Load...
 Copy...
 Get Info
 Delete...
 Print...
 Rename...

 Exit
 About MS-DOS Exec...
```

Take a look at the other menus listed in the menu bar. Remember to press the ESCAPE key to clear a menu from your screen.
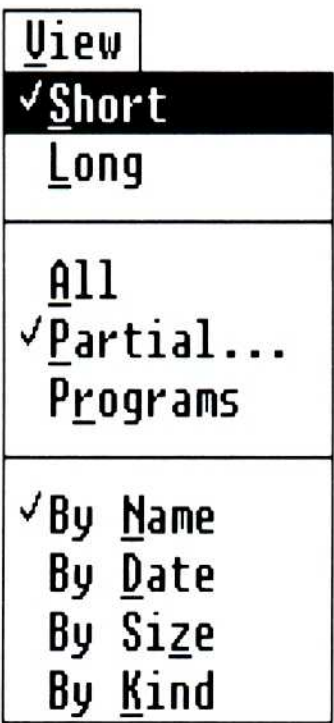
Now try using the commands in the menus. After you have selected a menu, just press the letter that is underlined in the command's name. To try this out, choose the All command from the View menu to show all your files once again in the MS-DOS Executive window:

1 Press the ALT key.

2 Press the underlined letter, V, to select the View menu.

```
┌─────────┐
│ View    │
├─────────┤
│✓Short   │
│ Long    │
├─────────┤
│ All     │
│✓Partial...│
│ Programs│
├─────────┤
│✓By Name │
│ By Date │
│ By Size │
│ By Kind │
└─────────┘
```
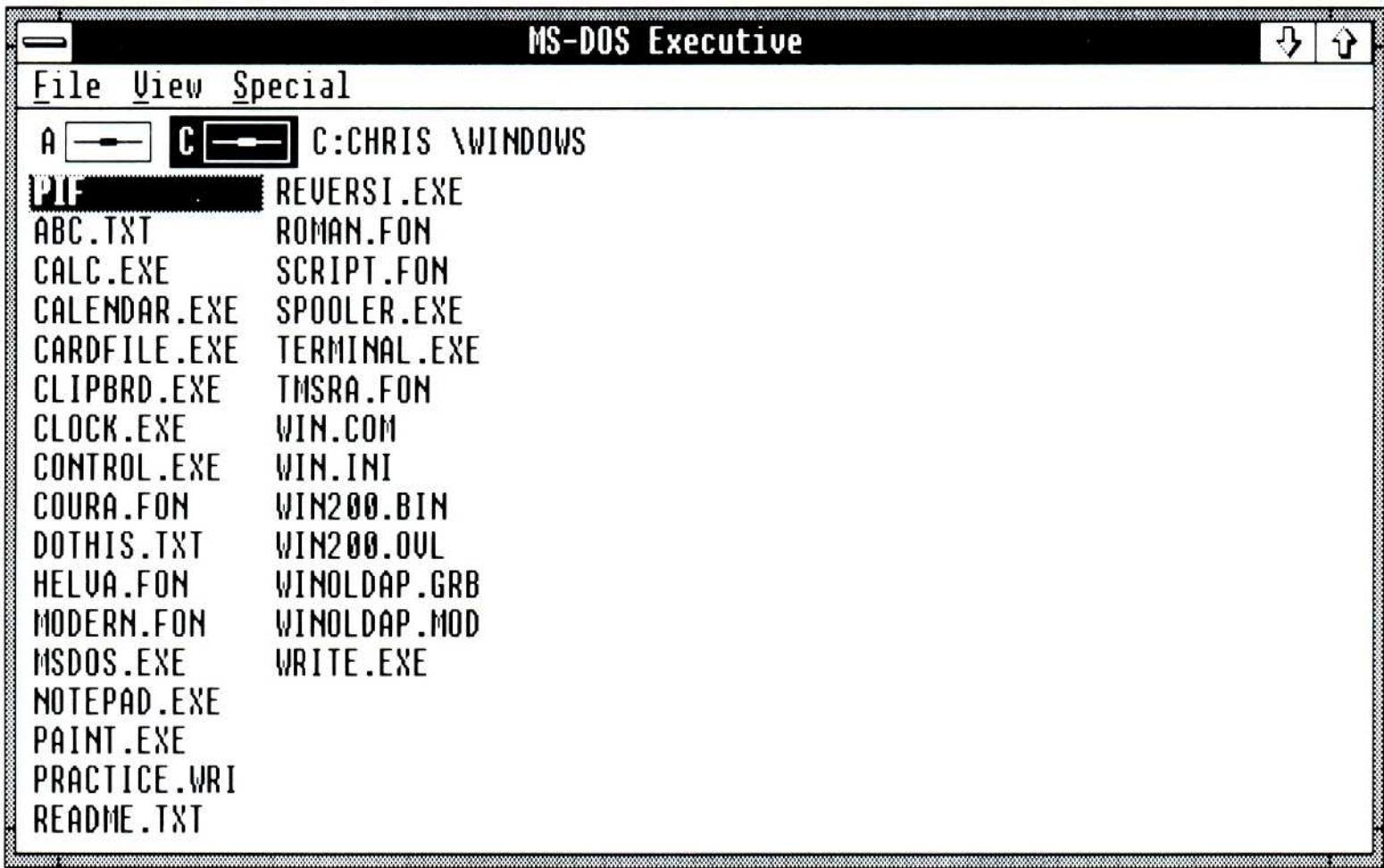
③ Press the underlined letter, A, to choose the All command.

MS-DOS Executive now shows all your files, not just the program files.

```
┌────────────────────────────────────────────────────────────┐
│ ═    │              MS-DOS Executive              │    ⇩  ⇧ │
├────────────────────────────────────────────────────────────┤
│ File  View  Special                                        │
├────────────────────────────────────────────────────────────┤
│ A ═══  C ═══  C:CHRIS \WINDOWS                             │
│ PIF▓▓▓▓▓▓▓▓   REVERSI.EXE                                   │
│ ABC.TXT       ROMAN.FON                                     │
│ CALC.EXE      SCRIPT.FON                                    │
│ CALENDAR.EXE  SPOOLER.EXE                                   │
│ CARDFILE.EXE  TERMINAL.EXE                                  │
│ CLIPBRD.EXE   TMSRA.FON                                     │
│ CLOCK.EXE     WIN.COM                                       │
│ CONTROL.EXE   WIN.INI                                       │
│ COURA.FON     WIN200.BIN                                    │
│ DOTHIS.TXT    WIN200.OVL                                    │
│ HELVA.FON     WINOLDAP.GRB                                  │
│ MODERN.FON    WINOLDAP.MOD                                  │
│ MSDOS.EXE     WRITE.EXE                                     │
│ NOTEPAD.EXE                                                 │
│ PAINT.EXE                                                   │
│ PRACTICE.WRI                                                │
│ README.TXT                                                  │
└────────────────────────────────────────────────────────────┘
```

With the direct-access method, you press the underlined letter in the menu name to select the menu, then you press the underlined letter in the command name to choose the command. Your commands are started right away. You don't need to press the ENTER key.
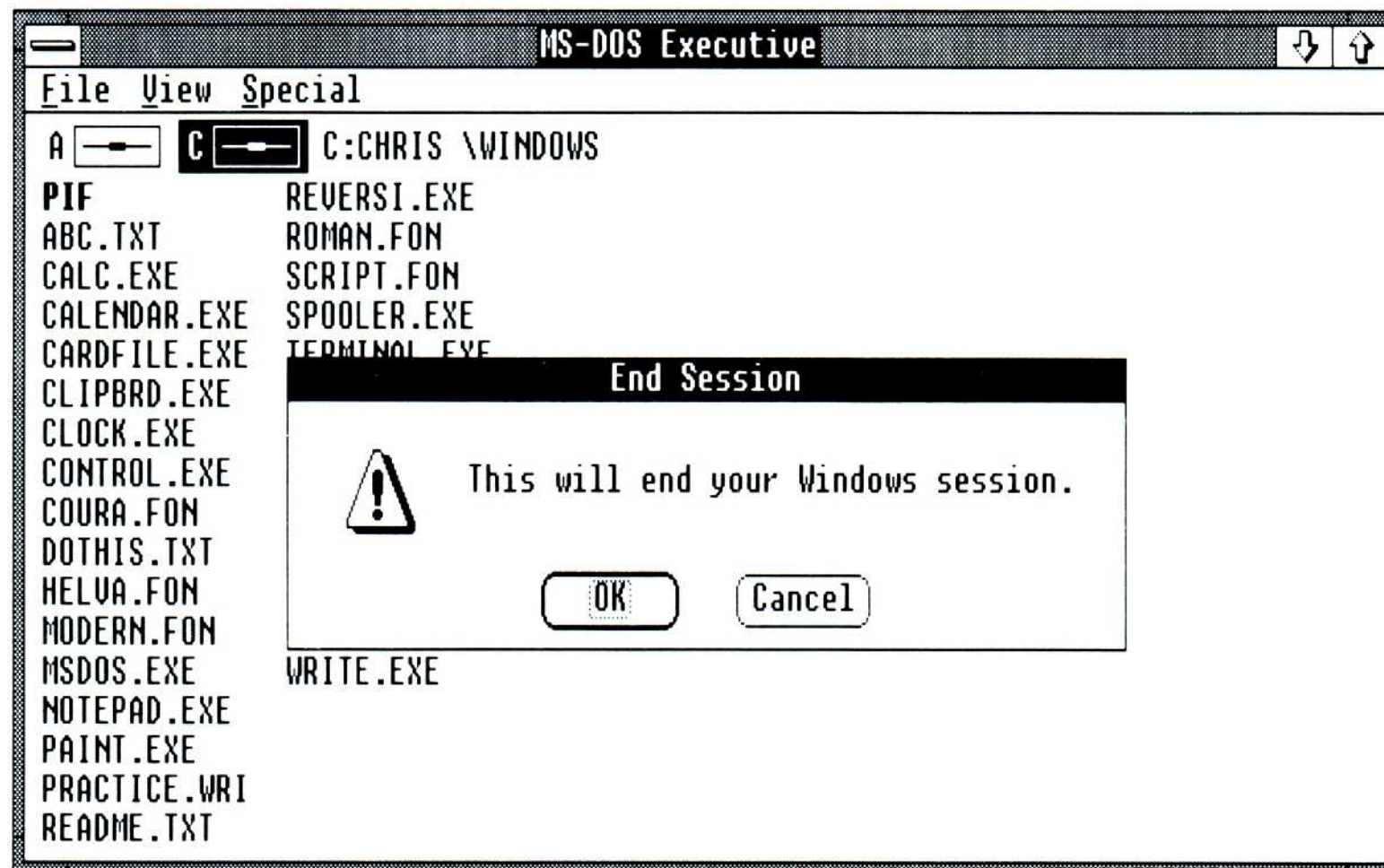
Ending Your Windows Session

You can end your Windows session now or go on to the next exercise. Ending your session is as easy as choosing a command:

1. Press the ALT key.
2. Press the S key to select the Special menu.

```
┌Special┐
│ End Session        │
│ Create Directory...│
│ Change Directory...│
│ Format Data Disk...│
│ Make System Disk...│
│ Set Volume Name... │
└────────────────────┘
```

3. The End Session command is already selected. You can press E or just press the ENTER key to choose it.

A message appears on your screen asking if you want to end the session. The OK button is already selected.

```
┌─────────────────────── MS-DOS Executive ───────────────────────┐
│ File  View  Special                                            │
├────────────────────────────────────────────────────────────────┤
│ A ═══  C ═══  C:CHRIS \WINDOWS                                  │
│ PIF           REVERSI.EXE                                       │
│ ABC.TXT       ROMAN.FON                                         │
│ CALC.EXE      SCRIPT.FON                                        │
│ CALENDAR.EXE  SPOOLER.EXE                                       │
│ CARDFILE.EXE  TERMINAL EXE                                      │
│ CLIPBRD.EXE   ┌────────── End Session ──────────┐              │
│ CLOCK.EXE     │                                  │              │
│ CONTROL.EXE   │  /!\  This will end your Windows session.       │
│ COURA.FON     │                                  │              │
│ DOTHIS.TXT     │        ┌──OK──┐   ┌Cancel┐      │              │
│ HELVA.FON     │        └──────┘   └──────┘      │              │
│ MODERN.FON    └──────────────────────────────────┘              │
│ MSDOS.EXE     WRITE.EXE                                         │
│ NOTEPAD.EXE                                                     │
│ PAINT.EXE                                                       │
│ PRACTICE.WRI                                                    │
│ README.TXT                                                      │
└────────────────────────────────────────────────────────────────┘
```

If you want to end your Windows session now, here's what to do:

■ Press the ENTER key to choose the OK button.

If you want to go on to the next exercise, do this:

■ Press the ESCAPE key to cancel the command.

In this exercise, you've covered the basics of selecting menus and choosing commands. In the next exercise, you'll sharpen these skills, and you'll learn to start a Windows application, open a file, use dialog boxes, and save a document.

Exercise 2: Using Notepad

In this exercise, you'll start a Windows application, Notepad, and use it to edit a sample file included on your Windows Desktop Applications disk.

First start Windows, if you need to. (If you need a refresher, see Chapter 1, "Getting Started.")

Two-drive system

If you have a two-drive system, you need to insert another disk and select drive A to do this exercise:

1 Remove the startup disk from drive A.
2 Insert the Windows Desktop Applications disk in drive A.
3 Press and hold down the CONTROL key.
4 Press the A key.
5 Release the CONTROL key.

The drive A icon is highlighted, which shows that this drive is selected. MS-DOS Executive lists the files for the Desktop Applications disk.
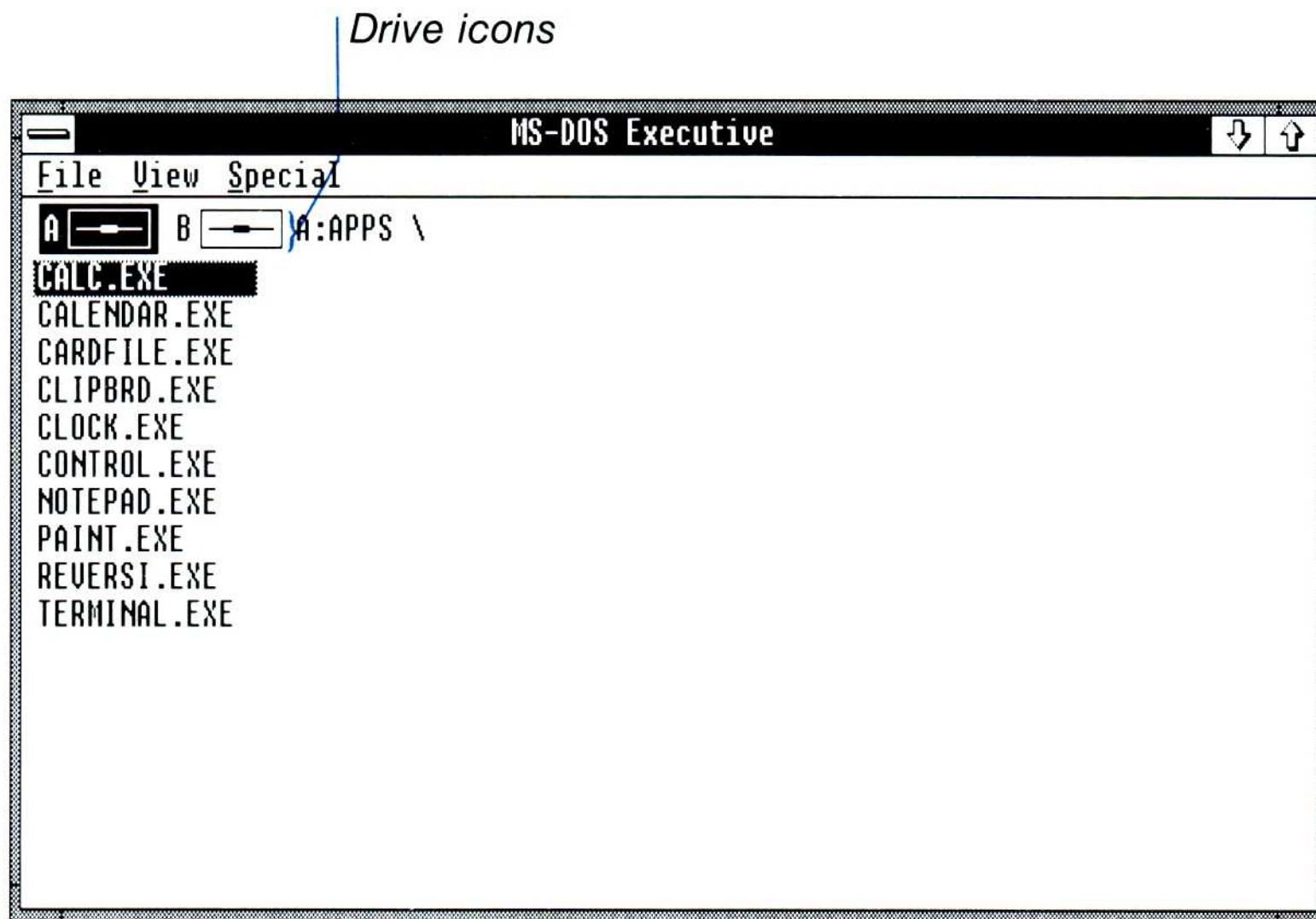
Drive icons

```
┌─────────────────────────────────────────────────────┐
│ ▭            MS-DOS Executive                  ⬇ ⬆   │
├─────────────────────────────────────────────────────┤
│ File  View  Special                                  │
├─────────────────────────────────────────────────────┤
│ A ═══   B ═══  A:APPS \                              │
│ CALC.EXE                                             │
│ CALENDAR.EXE                                         │
│ CARDFILE.EXE                                         │
│ CLIPBRD.EXE                                          │
│ CLOCK.EXE                                            │
│ CONTROL.EXE                                          │
│ NOTEPAD.EXE                                          │
│ PAINT.EXE                                            │
│ REVERSI.EXE                                          │
│ TERMINAL.EXE                                         │
│                                                      │
│                                                      │
└─────────────────────────────────────────────────────┘
```

If you have a hard-disk system, the application file for Notepad (and all the Windows applications) is on your hard disk and appears in the MS-DOS Executive window.

Hard-disk system

Now you're ready to begin. Remember, if you select the wrong menu or decide you don't want to choose a command, just press the ESCAPE key and start over again.

Starting Notepad

You always start applications from the MS-DOS Executive window. To start an application, you need to select the application file — in this case, NOTEPAD.EXE. When you first start Windows, the first file listed in the MS-DOS Executive window is highlighted, which shows that this file is selected. You use the DIRECTION keys — RIGHT, LEFT, DOWN, and UP — to select the filename you want. Try starting Notepad:

Starting an application

1 Press the DIRECTION keys until the filename NOTEPAD.EXE is selected.

```
┌─────────────────────────────────────────────────────────────┐
│ ▬                    MS-DOS Executive                   ⇩  ⇧ │
├─────────────────────────────────────────────────────────────┤
│ File  View  Special                                          │
│ ┌───────────────────────────────────────────────────────────│
│ A ▭───▭  C ▬───▬  C:CHRIS \WINDOWS                           │
│ PIF              REVERSI.EXE                                  │
│ ABC.TXT          ROMAN.FON                                   │
│ CALC.EXE         SCRIPT.FON                                  │
│ CALENDAR.EXE     SPOOLER.EXE                                 │
│ CARDFILE.EXE     TERMINAL.EXE                                │
│ CLIPBRD.EXE      TMSRA.FON                                   │
│ CLOCK.EXE        WIN.COM                                     │
│ CONTROL.EXE      WIN.INI                                     │
│ COURA.FON        WIN200.BIN                                  │
│ DOTHIS.TXT       WIN200.OVL                                  │
│ HELVA.FON        WINOLDAP.GRB                                │
│ MODERN.FON       WINOLDAP.MOD                                │
│ MSDOS.EXE        WRITE.EXE                                   │
│ NOTEPAD.EXE                                                  │
│ PAINT.EXE                                                    │
│ PRACTICE.WRI                                                 │
│ README.TXT                                                   │
└─────────────────────────────────────────────────────────────┘
```
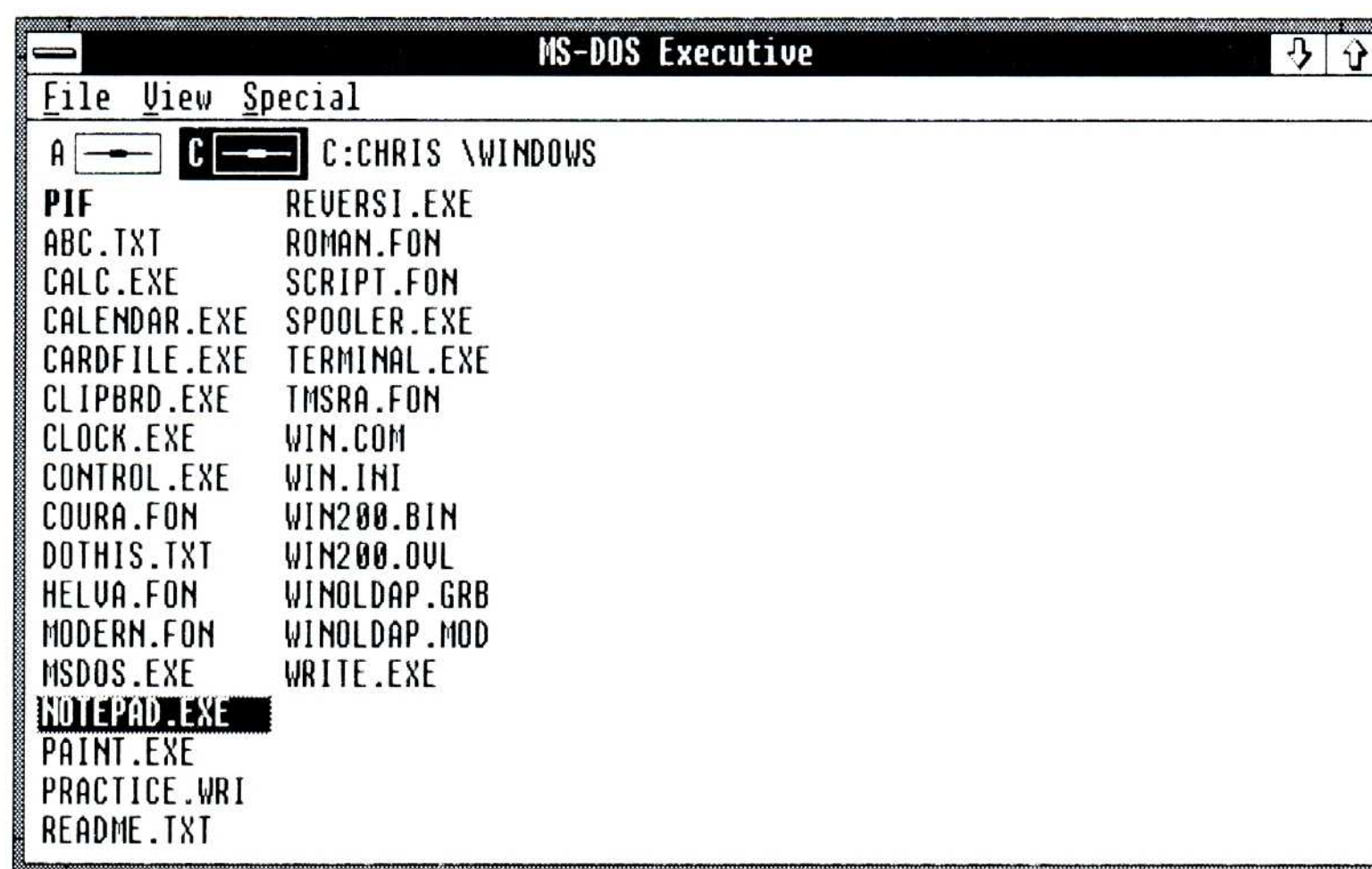
2️⃣ Press the ENTER key.

Notepad appears in front of the MS-DOS Executive window.

```
┌─────────────────────────────────────────────────────────────┐
│ ▬                    MS-DOS Executive                   ⇩  ⇧ │
├──┬──────────────────────────────────────────────────────────┤
│Fi│ ▬              Notepad - (untitled)               ⇩  ⇧   │
│ A├────────────────────────────────────────────────────────┬─┤
│PI│ File  Edit  Search                                     │↑│
│AB│ |                                                      ├─┤
│CA│                                                        │ │
│CA│                                                        │ │
│CA│                                                        │ │
│CL│                                                        │ │
│CL│                                                        │ │
│CO│                                                        │ │
│CO│                                                        │ │
│DO│                                                        │ │
│HE│                                                        │ │
│MO│                                                        │ │
│MS│                                                        │ │
│NO│                                                        │ │
│PA│                                                        │ │
│PR│                                                        ├─┤
│RE│ ←                                                    → │↓│
└──┴────────────────────────────────────────────────────────┴─┘
```
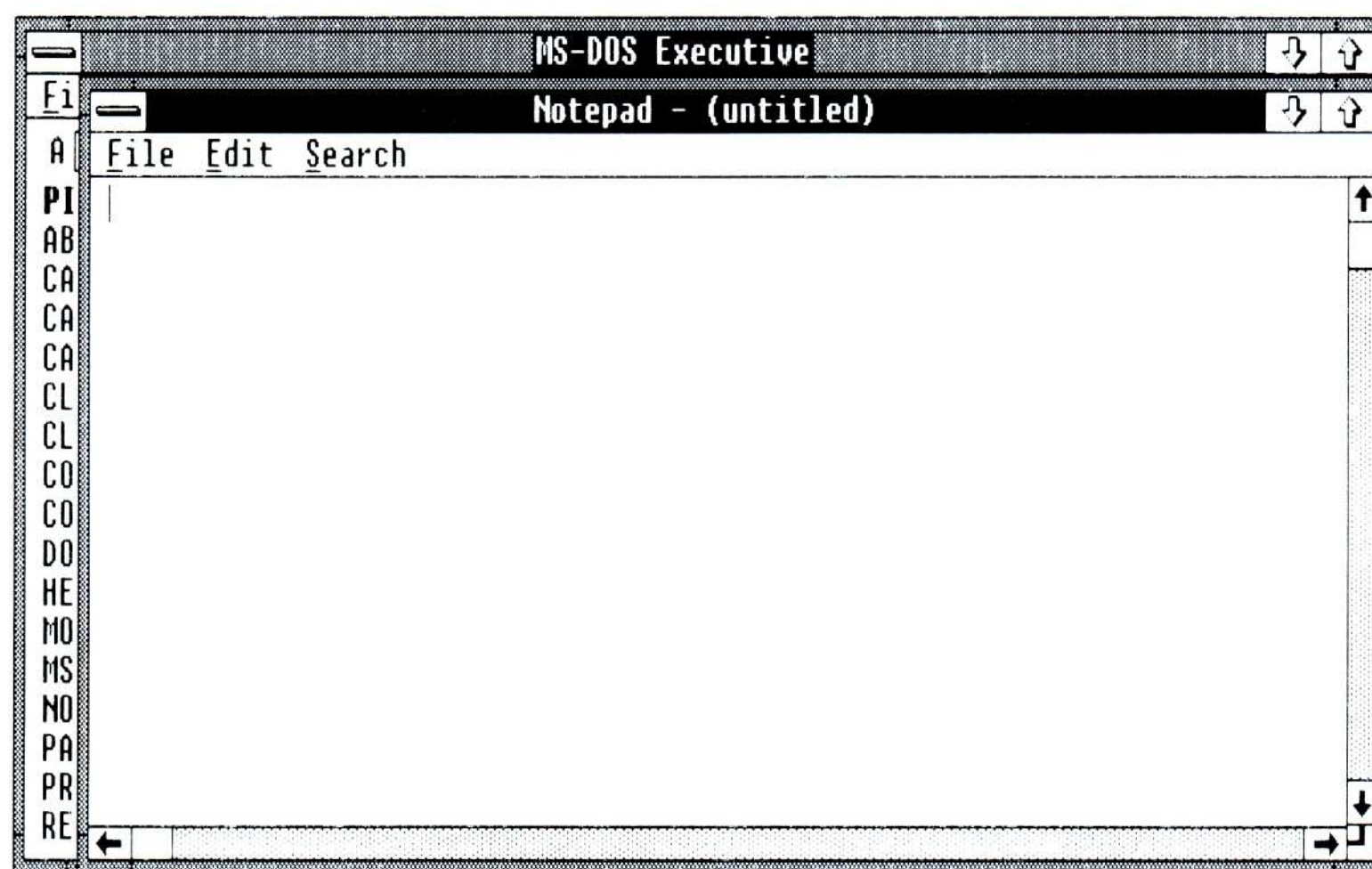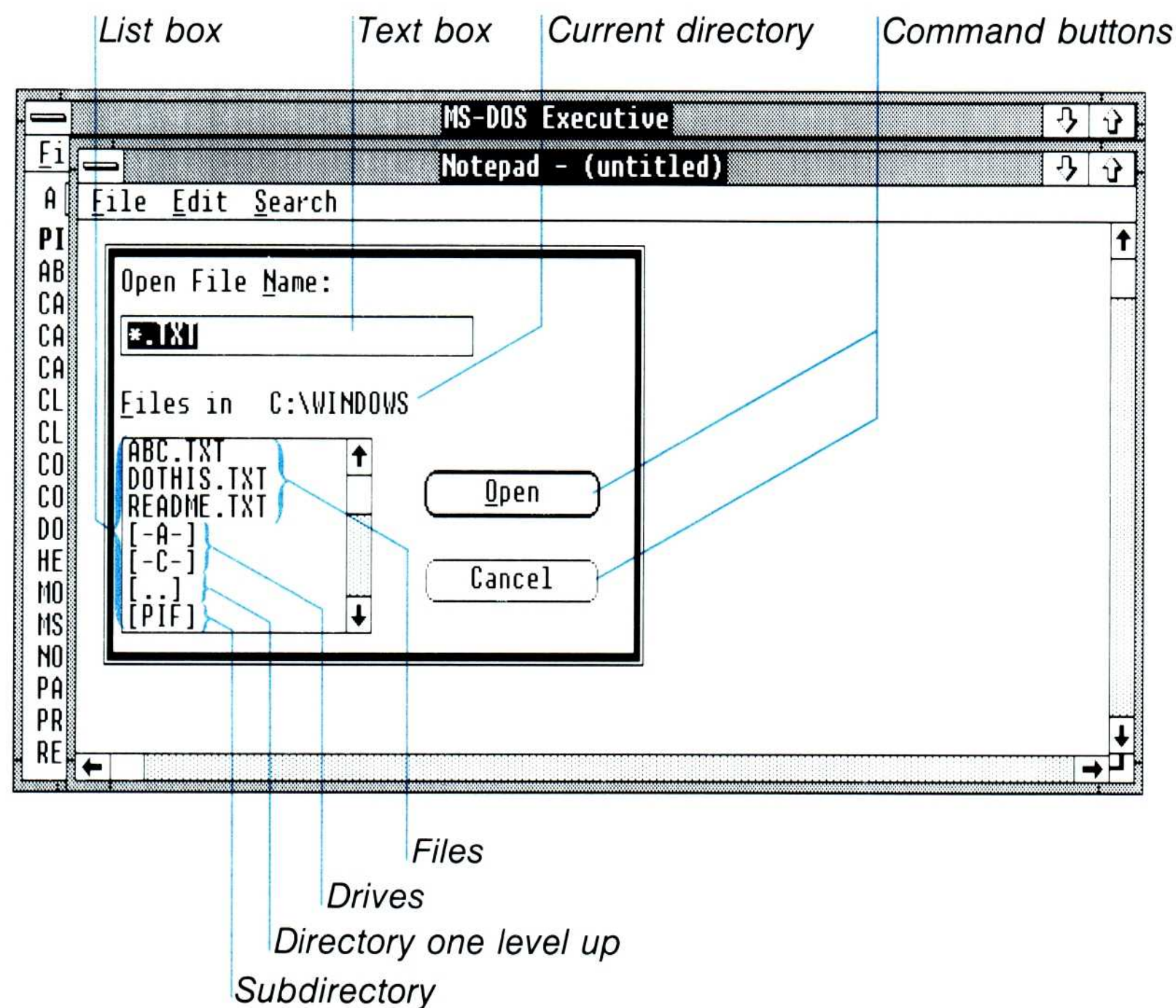
Opening a File

To open files for editing with Notepad, you choose the Open command from the File menu:

1. Press the ALT key.
2. Press F, the underlined letter in File, to select the File menu.
3. Press the underlined letter, O, to choose the Open command.

The Open command's dialog box is displayed on your screen. Windows uses dialog boxes to give you messages and to ask you for any additional information — in this case, a filename — needed to carry out a command. You can type the name of the file you want to open in the text box, or you can select the filename from the list box.

The list box contains a list of all the Notepad files (files with a .TXT extension). It also shows the disk drives, the directory one level up from your current directory (symbolized by [..]), and any subdirectories (directories in your current directory). You use the Open button or the Cancel button to complete the Open command.

List box   Text box   Current directory   Command buttons

Files
Drives
Directory one level up
Subdirectory

As with menus and commands, there are two ways to move and select in dialog boxes: the basic keyboard method (which works with any Windows application) and the direct-access method (which works with applications that have underlined letters in the names of the items in the dialog box).

If you make a mistake

If you make a mistake while completing the information in a dialog box, press the ESCAPE key, just as you would to cancel a menu. The ESCAPE key cancels the dialog box and you can start over again.

Using the basic method

First, experiment with using the basic keyboard method:

▪ Press the TAB key several times to move from area to area in the dialog box.

Note that the area you select with the TAB key is always marked — usually with a dotted box. The text box is marked by a flashing vertical line. This is the insertion point, and it shows you where you can begin typing text. The text box shows the filename extension for a Notepad file, .TXT.

Using the direct-access method

Now try the direct-access method:

1. Press and hold down the ALT key.
2. Press F, the underlined letter in the list-box title.

```
Open File Name:

*.TXT

Files in   C:\WINDOWS

ABC.TXT                 ↑
DOTHIS.TXT
README.TXT               Open
[-A-]
[-C-]
[..]                    Cancel
[PIF]                   ↓
```
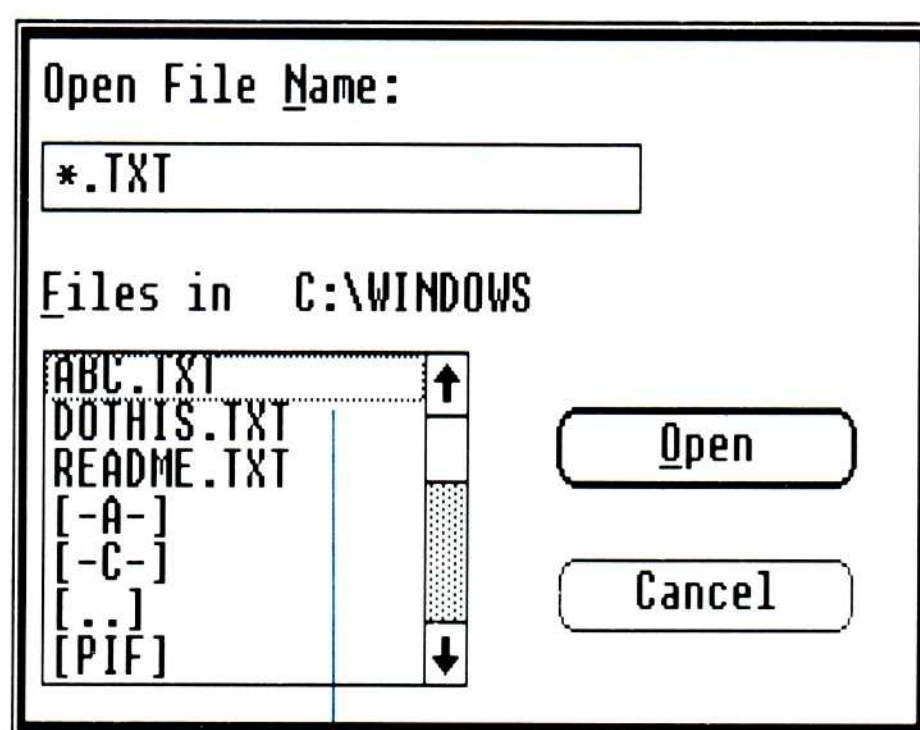
Dotted box

3. Press N, the underlined letter in the text-box title.
4. Release the ALT key.
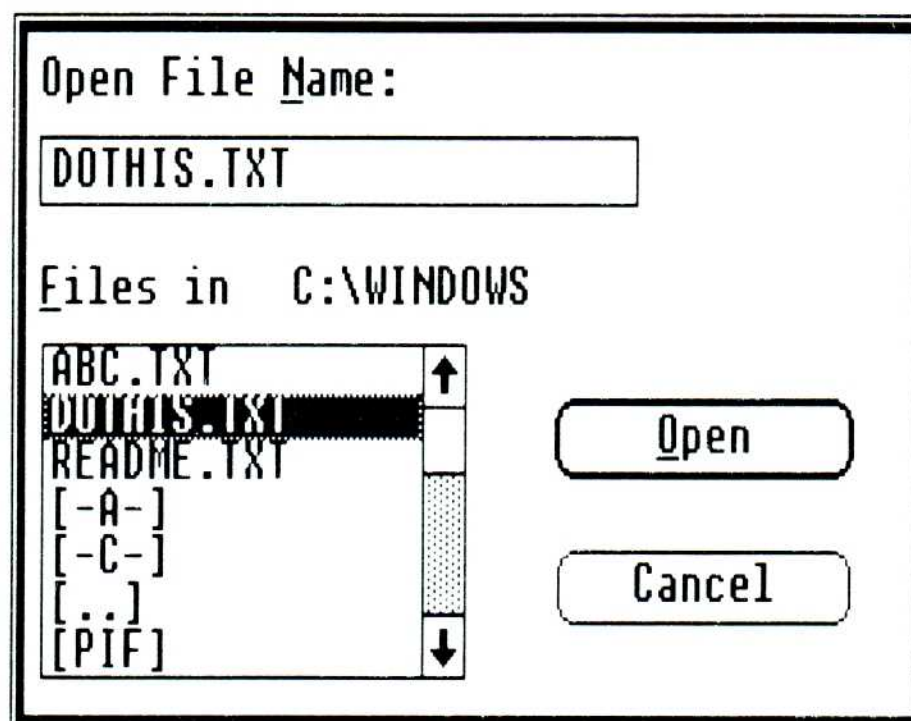
As you press the underlined letters, each area in turn is selected. The direct-access method works with applications that show underlined letters in names of the items in the dialog box.

You can use either method to move in dialog boxes. The examples in this exercise use the direct-access method, but you can also use the TAB key. Don't worry about learning exact key sequences now. You can refer to Chapter 4, "Techniques," if you need a review later.

Now use the File menu's Open dialog box to open a sample file, DOTHIS.TXT:

Opening a sample file

1. Press and hold down the ALT key.
2. Press F to move to the list box, which shows the files in your directory.
3. Release the ALT key.
4. Press the DOWN key to select DOTHIS.TXT. When you select a filename in the list box, the filename is highlighted, and it also appears in the text box.

```
┌─────────────────────────────────────────┐
│ Open File Name:                          │
│ ┌──────────────────────────────┐         │
│ │DOTHIS.TXT                    │          │
│ └──────────────────────────────┘         │
│                                          │
│ Files in  C:\WINDOWS                     │
│ ┌────────────────┬─┐                     │
│ │ABC.TXT         │↑│   ╭──────────────╮  │
│ │DOTHIS.TXT      │ │   │     Open     │  │
│ │README.TXT      │ │   ╰──────────────╯  │
│ │[-A-]           │ │                     │
│ │[-C-]           │ │   ╭──────────────╮  │
│ │[..]            │ │   │    Cancel    │  │
│ │[PIF]           │↓│   ╰──────────────╯  │
│ └────────────────┴─┘                     │
└─────────────────────────────────────────┘
```

5. Press and hold down the ALT key.
6. Press O, to choose the Open button.
7. Release the ALT key.

The sample text file, DOTHIS.TXT, appears in the Notepad window, and you're ready to edit it with Notepad.

Insertion point

```
┌─────────────────────────────────────────────────────────────┐
│ ▬                    MS-DOS Executive              ⇩  ⇧      │
│ ┌─┬──────────────────────────────────────────────────────┐ │
│ │Fi│ ▬           Notepad - DOTHIS.TXT            ⇩  ⇧    │ │
│ │ A│ File  Edit  Search                                  │ │
│ │PI│TO DO              PRIORITY                        ▲  │ │
│ │CA│Shop for new suit        B                           │ │
│ │CA│Phone dentist            C                           │ │
│ │CA│Take car in for tuneup   A                           │ │
│ │CL│Make plane reservation   B                           │ │
│ │CL│Pick up theater tickets  B                           │ │
│ │CO│    How much?                                        │ │
│ │CO│Contact realtor          B                           │ │
│ │DO│Clean garage             C                           │ │
│ │HE│Mow lawn                 B                           │ │
│ │MO│Plan spring garden       B                           │ │
│ │MS│Schedule vacation        A                           │ │
│ │NO│Read "War and Peace"     C                           │ │
│ │PA│Write Grandma            C                           │ │
│ │PR│Buy present for Martha   B                           │ │
│ │RE│Talk to Fred             B                         ▼  │ │
│ │RE│←│▓▓▓▓▓▓▓▓▓▓▓▓▓▓▓▓▓▓▓▓▓▓▓▓▓▓▓▓▓▓▓▓▓▓▓▓▓▓▓▓│→│      │ │
│ └──┴──────────────────────────────────────────────────────┘ │
└─────────────────────────────────────────────────────────────┘
```
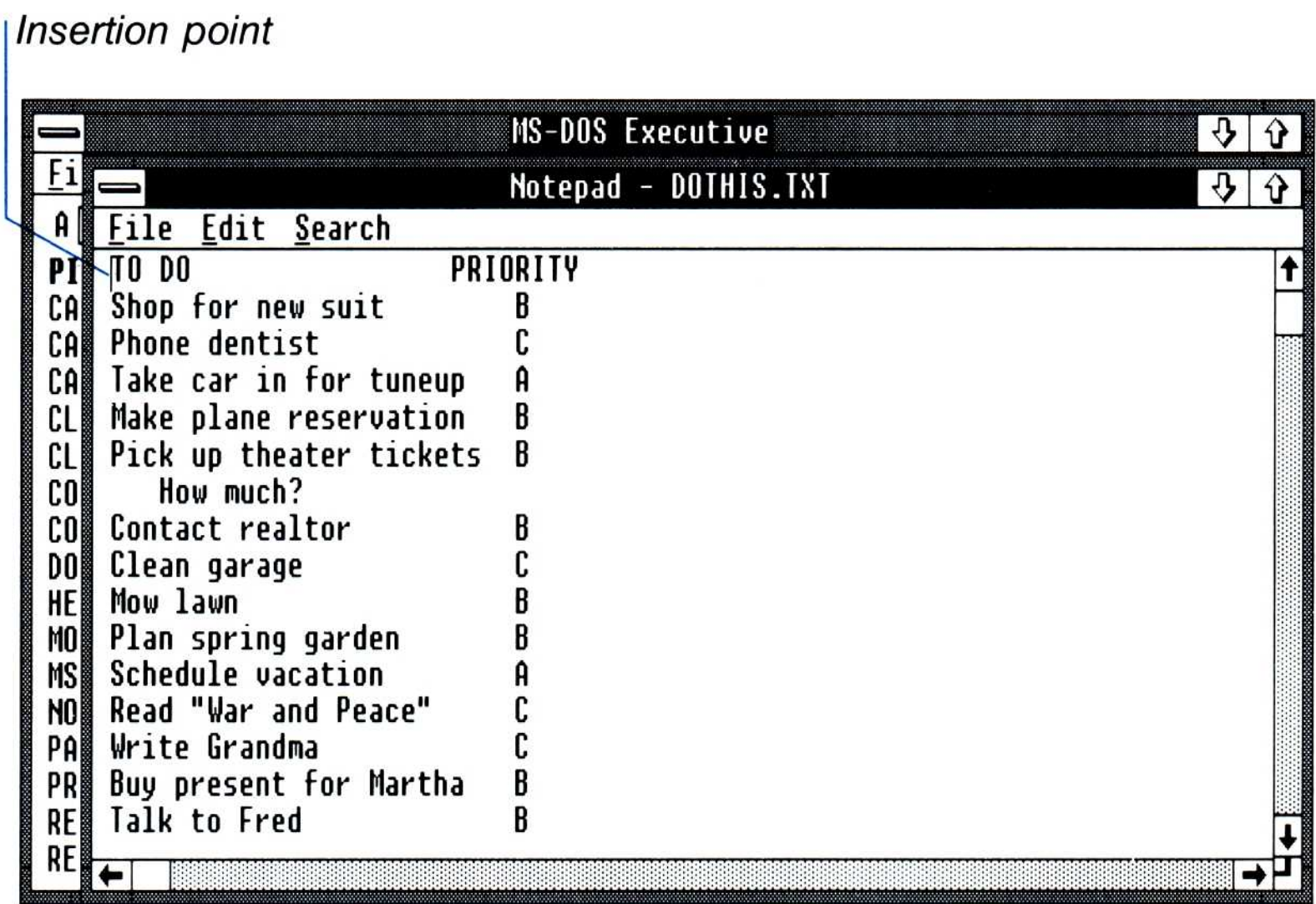
Working in a File

Inserting text

The insertion point shows where you can start working in the file. When you start Notepad, the insertion point is at the top of the file. To move the insertion point, use the DIRECTION keys. You can move to any point in the file and start typing.

For example, move the insertion point to the third line in the file and add another item to your list:

1 Press the DOWN key twice to move the insertion point to the line beginning "Phone dentist."

2 Type your new item, *Pay dentist.*

```
┌────────────────────────────────────────────────────────────────┐
│ ▬            ░░░░░░░░░MS-DOS Executive░░░░░░░░░            ⬇  ⬆ │
├─────────────────────────────────────────────────────────────────┤
│ Fi │ ▬            Notepad - DOTHIS.TXT                  ⬇  ⬆ │
├────┼────────────────────────────────────────────────────────────┤
│ A  │ File  Edit  Search                                          │
│ PI │ TO DO              PRIORITY                              ▲  │
│ AB │ Shop for new suit       B                                   │
│ CA │ Pay dentist Phone dentist              C                    │
│ CA │ Take car in for tuneup  A                                   │
│ CA │ Make plane reservation  B                                   │
│ CL │ Pick up theater tickets B                                   │
│ CL │     How much?                                               │
│ CO │ Contact realtor         B                                   │
│ CO │ Clean garage            C                                   │
│ DO │ Mow lawn                B                                   │
│ HE │ Plan spring garden      B                                   │
│ MO │ Schedule vacation       A                                   │
│ MS │ Read "War and Peace"    C                                   │
│ NO │ Write Grandma           C                                   │
│ PA │ Buy present for Martha  B                                   │
│ PR │ Talk to Fred            B                               ▼  │
│ RE │ ←                                                      → │
└────┴────────────────────────────────────────────────────────────┘
```
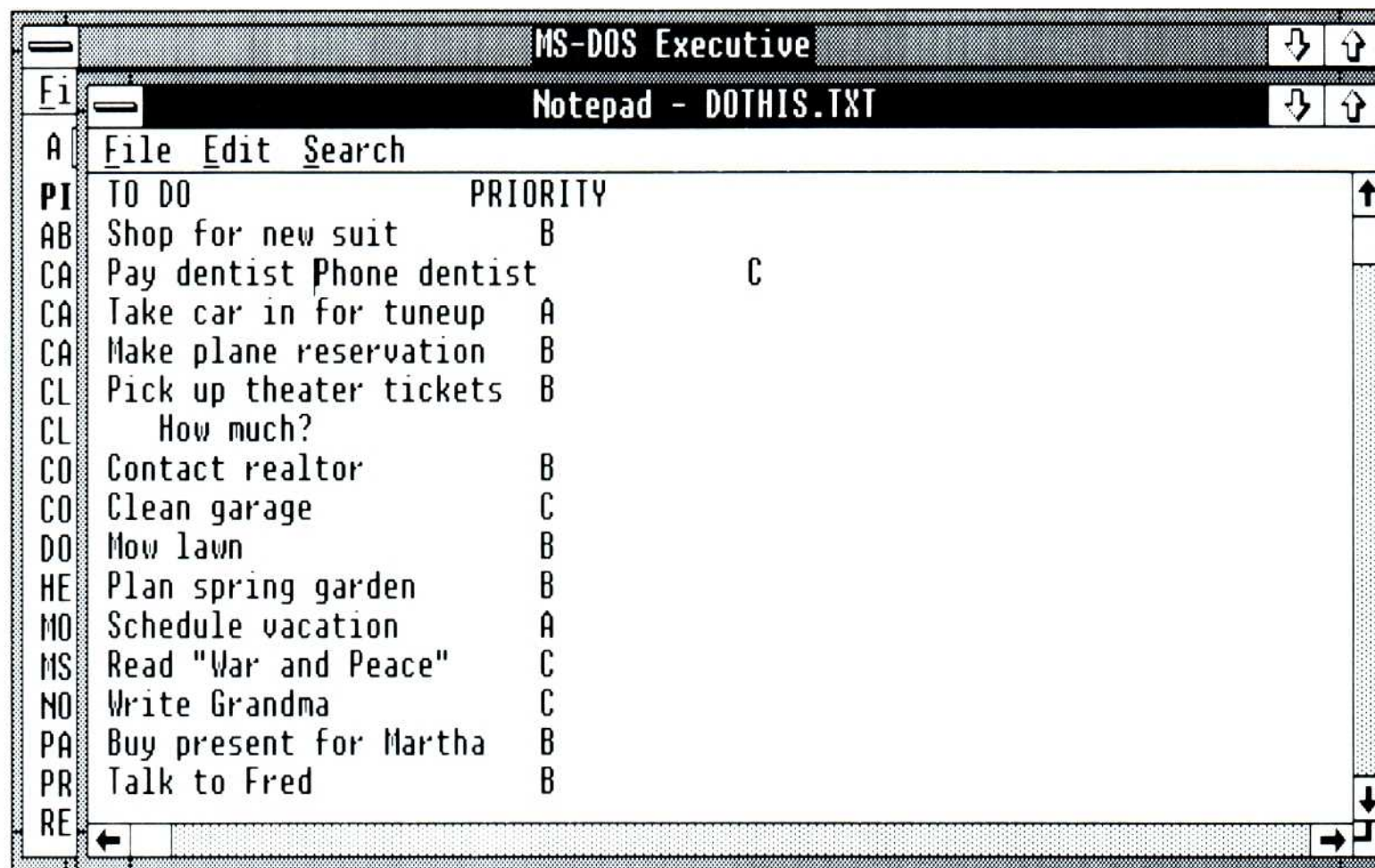
3. Use the SPACEBAR to move the insertion point over to the right-hand column, and give the new item a priority of D.

4. Press the ENTER key to move the line beginning "Phone dentist" to the next line.

```
┌────────────────────────────────────────────────────────────────┐
│ ▬            ▓▓▓▓▓▓▓▓▓MS-DOS Executive▓▓▓▓▓▓▓▓▓            ⬇  ⬆ │
├─────────────────────────────────────────────────────────────────┤
│ Fi │ ▬            Notepad - DOTHIS.TXT                  ⬇  ⬆ │
├────┼────────────────────────────────────────────────────────────┤
│ A  │ File  Edit  Search                                          │
│ PI │ TO DO              PRIORITY                              ▲  │
│ AB │ Shop for new suit       B                                   │
│ CA │ Pay dentist             D                                   │
│ CA │ Phone dentist           C                                   │
│ CA │ Take car in for tuneup  A                                   │
│ CL │ Make plane reservation  B                                   │
│ CL │ Pick up theater tickets B                                   │
│ CO │     How much?                                               │
│ CO │ Contact realtor         B                                   │
│ DO │ Clean garage            C                                   │
│ HE │ Mow lawn                B                                   │
│ MO │ Plan spring garden      B                                   │
│ MS │ Schedule vacation       A                                   │
│ NO │ Read "War and Peace"    C                                   │
│ PA │ Write Grandma           C                                   │
│ PR │ Buy present for Martha  B                               ▼  │
│ RE │ ←                                                      → │
└────┴────────────────────────────────────────────────────────────┘
```

Selecting text to delete

Now delete some of the tasks on your list. To do this, you need to select the text that you want your command to affect. Try selecting and deleting the next four items on your list:

1 Use the DIRECTION keys to move the insertion point to the line beginning "Clean garage."

2 Press and hold down the SHIFT key.

3 Use the DIRECTION keys to move the insertion point up and down and to the right and left.

As you move the insertion point, the selected text is highlighted.

4 After you have selected all the text you want to delete, release the SHIFT key.

```
=                          MS-DOS Executive                    ⤴ ⤵
Fi =                       Notepad - DOTHIS.TXT                 ⤴ ⤵
A  File  Edit  Search
PI   TO DO              PRIORITY                                          ↑
AB   Shop for new suit      B
CA   Pay dentist            D
CA   Phone dentist          C
CA   Take car in for tuneup A
CL   Make plane reservation B
CL   Pick up theater tickets B
CO       How much?
CO   Contact realtor        B
DO   Clean garage           C
HE   Mow lawn               B
MO   Plan spring garden     B
MS   Schedule vacation      A
NO   Read "War and Peace"   C
PA   Write Grandma          C
PR   Buy present for Martha B                                            ↓
RE   ←                                                                →
```

If you make a mistake

If you make a mistake in selecting the right text, it's easy to correct:
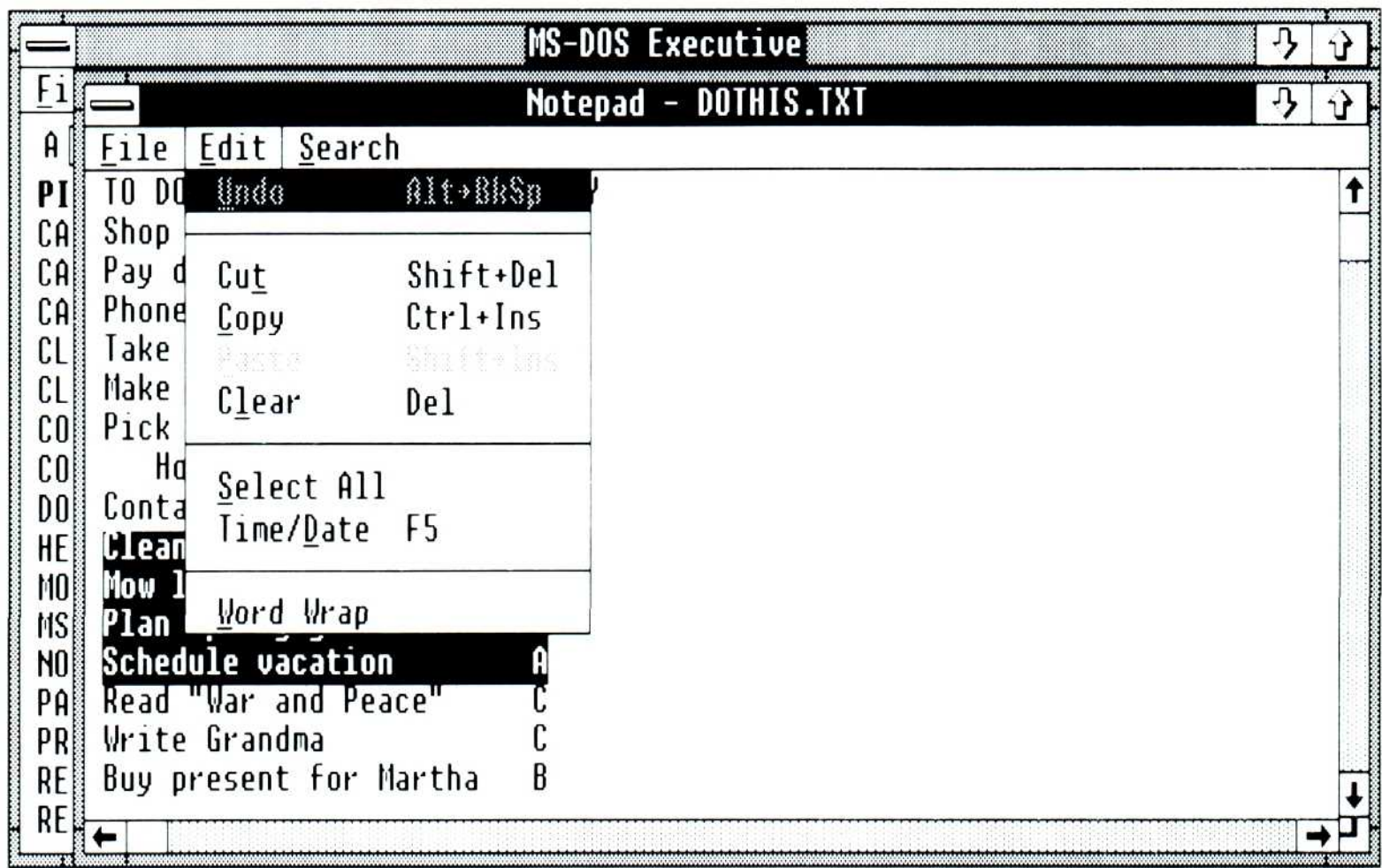
■ After you release the SHIFT key, press any DIRECTION key.

The text is no longer selected.

Deleting selected text

Once you have selected the lines, delete them by choosing the Edit menu's Cut command:

1 Press the ALT key.

2 Press the underlined letter, E, to select the Edit menu.

```
┌─────────────────────────────────────────────────────────────────┐
│ ═              MS-DOS Executive                          ⟱ ⟰ │
│┌───────────────────────────────────────────────────────────────┐│
││ ═            Notepad - DOTHIS.TXT                        ⟱ ⟰ ││
│A││─────────────────────────────────────────────────────────────││
│PI││ File  Edit  Search                                          ││
│CA││ TO DO Undo        Alt+BkSp                                 ↑││
│CA││ Shop ─────────────────                                      ││
│CA││ Pay d Cut         Shift+Del                                 ││
│CA││ Phone Copy        Ctrl+Ins                                  ││
│CL││ Take  Paste       Shift+Ins                                 ││
│CL││ Make  Clear       Del                                       ││
│CO││ Pick ─────────────────                                      ││
│CO││   Ha  Select All                                            ││
│DO││ Conta Time/Date   F5                                        ││
│HE││ Clean─────────────────                                      ││
│MO││ Mow l                                                       ││
│MS││ Plan  Word Wrap                                             ││
│NO││ Schedule vacation        A                                  ││
│PA││ Read "War and Peace"     C                                  ││
│PR││ Write Grandma            C                                  ││
│RE││ Buy present for Martha   B                                 ↓││
│RE││←                                                          →││
└─────────────────────────────────────────────────────────────────┘
```

3 Press the underlined letter, T, to choose the Cut command.

The selected lines are deleted from your file.

Saving your changes

After you complete your changes to the Notepad file, you need to save your edited document. Notepad has two commands for saving files: Save and Save As. The Save command saves your edited document under the existing filename. The Save As command saves your version under a new name that you supply, while the original version remains unchanged. (Windows uses the DOS file-naming convention that limits filenames to eight characters.)

Using the Save As command

In this exercise, use the Save As command from the File menu:

1 Press the ALT key.
2 Press F to select the File menu.
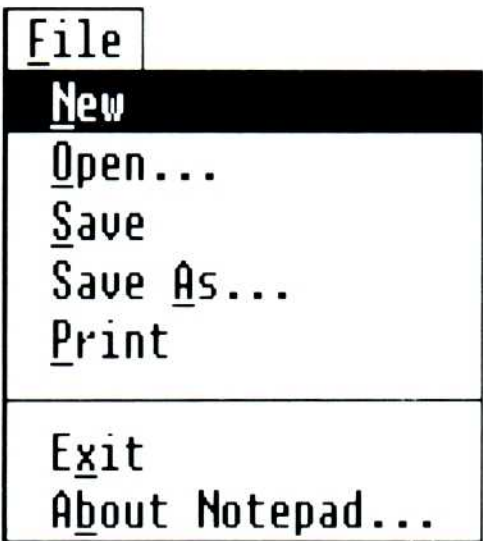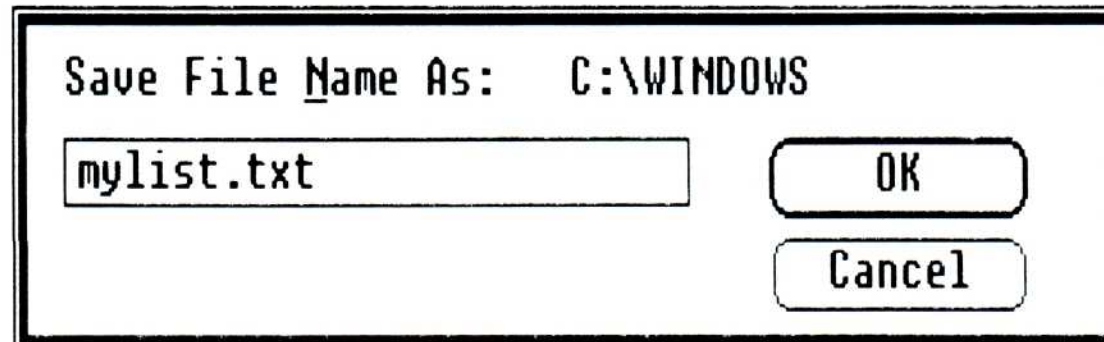
```
┌──────────────────────┐
│ File                 │
│ New                  │
│ Open...              │
│ Save                 │
│ Save As...           │
│ Print                │
│──────────────────────│
│ Exit                 │
│ About Notepad...     │
└──────────────────────┘
```

③ To choose the Save As command, press the underlined letter, A.

A dialog box appears. The current name of the file, DOTHIS.TXT, is in the text box.

④ Type the new filename, *mylist.txt*, in the text box.

```
┌─────────────────────────────────────────────┐
│  Save File Name As:    C:\WINDOWS            │
│  ┌───────────────────────┐   ╭──────────╮    │
│  │mylist.txt             │   │    OK    │    │
│  └───────────────────────┘   ╰──────────╯    │
│                              ╭──────────╮    │
│                              │  Cancel  │    │
│                              ╰──────────╯    │
└─────────────────────────────────────────────┘
```

⑤ Press the ENTER key.

Windows saves the revised file under the new name. The original DOTHIS.TXT remains intact.

Quitting an application

After you're finished working with an application, you can use the Exit command to quit the application and return to MS-DOS Executive. Use this command to quit Notepad:

① Press the ALT key.

② Press F to select the File menu.

③ Press X, the underlined letter, to choose the Exit command.

The Notepad window closes and you can once again see the entire MS-DOS Executive window.

In this exercise, you learned to start a Windows application, Notepad, and you used it to edit and save a file. You also learned how to use a dialog box and how to quit an application, and you reviewed selecting menus and choosing commands.

You can end your Windows session now or go on to the final exercise, in which you'll learn to move windows and change their size.

Exercise 3: Using Clock

In this exercise, you'll start another Windows application, Clock, and learn to arrange and manipulate the windows on your screen.

If you quit Windows at the end of the last exercise, start Windows again.

If you have a two-drive system, insert the Desktop Applications disk in drive A, then press CONTROL+A to select drive A. (In this manual, a plus sign (+) used with two or more keynames indicates a key combination: you should press and hold down the first key, then press the next key or keys. After pressing all the keys, release the first key.)

Two-drive system

If you have a hard-disk system, the file for Clock, CLOCK.EXE, is on your hard disk and appears in your Windows directory in the MS-DOS Executive window.

Hard-disk system

First, start Clock:

Starting Clock

1 Use the DOWN key to select CLOCK.EXE in the MS-DOS Executive window.

```
┌─────────────────────────────────────────────────────────────┐
│ ▬            MS-DOS Executive                          ⬇ ⬆ │
│ File  View  Special                                          │
│ A ▭══▭  C ▅══▅  C:CHRIS \WINDOWS                             │
│ PIF           README.TXT                                     │
│ ABC.TXT       REVERSI.EXE                                    │
│ CALC.EXE      ROMAN.FON                                      │
│ CALENDAR.EXE  SCRIPT.FON                                     │
│ CARDFILE.EXE  SPOOLER.EXE                                    │
│ CLIPBRD.EXE   TERMINAL.EXE                                   │
│ █CLOCK.EXE█   TMSRA.FON                                      │
│ CONTROL.EXE   WIN.COM                                        │
│ COURA.FON     WIN.INI                                        │
│ DOTHIS.TXT    WIN200.BIN                                     │
│ HELVA.FON     WIN200.OVL                                     │
│ MODERN.FON    WINOLDAP.GRB                                   │
│ MSDOS.EXE     WINOLDAP.MOD                                   │
│ MYLIST.TXT    WRITE.EXE                                      │
│ NOTEPAD.EXE                                                  │
│ PAINT.EXE                                                    │
│ PRACTICE.WRI                                                 │
│                                                              │
└─────────────────────────────────────────────────────────────┘
```
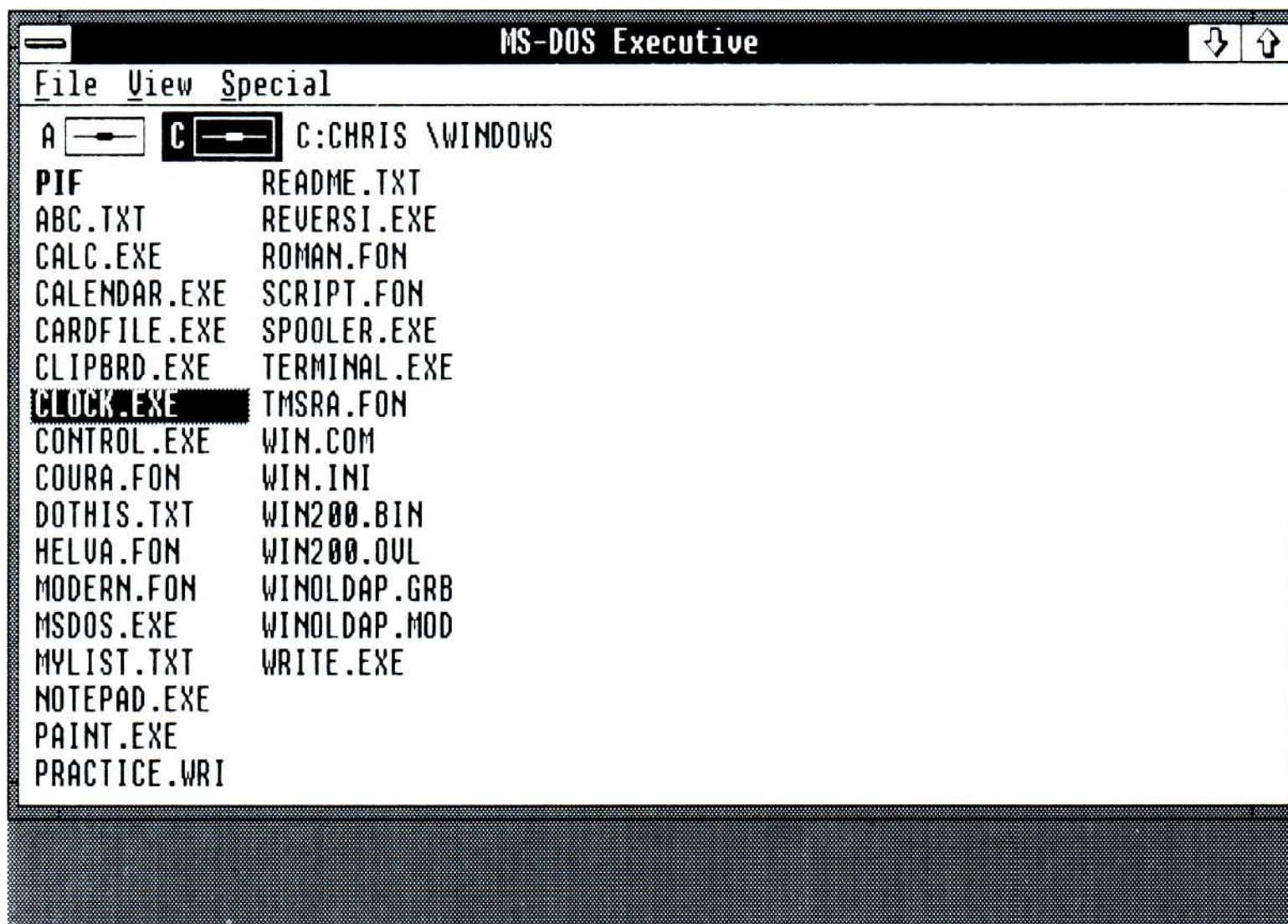
2 Press the ENTER key.

Clock appears on your screen.

Active-window title bar

```
┌─────────────────────────────────────────────────────────────┐
│ ▭    │              MS-DOS Executive              │  ⇩  ⇧     │
│ Fi┌──────────────────────────────────────┐                   │
│ A │ ▭         Clock          ⇩  ⇧ │OWS                        │
│ PI│                              │                            │
│ AB│        ■         ■           │                            │
│ CA│    ■                  ■      │                            │
│ CA│                              │                            │
│ CA│  ■      ╱╲_____         ■ │                         │
│ CL│         ╲   ╲                 │                           │
│ CL│  ■       ╲   ╲        ╲       ■ │                         │
│ CO│           ╲                   │                           │
│ CO│    ■         ■           ■    │                           │
│ DO│        ■         ■           │                            │
│ HELVA.FON        WIN200.OVL                                   │
│ MODERN.FON       WINOLDAP.GRB                                 │
│ MSDOS.EXE        WINOLDAP.MOD                                 │
│ MYLIST.TXT       WRITE.EXE                                    │
│ NOTEPAD.EXE                                                   │
│ PAINT.EXE                                                     │
│ PRACTICE.WRI                                                  │
│                                                               │
└─────────────────────────────────────────────────────────────┘
```
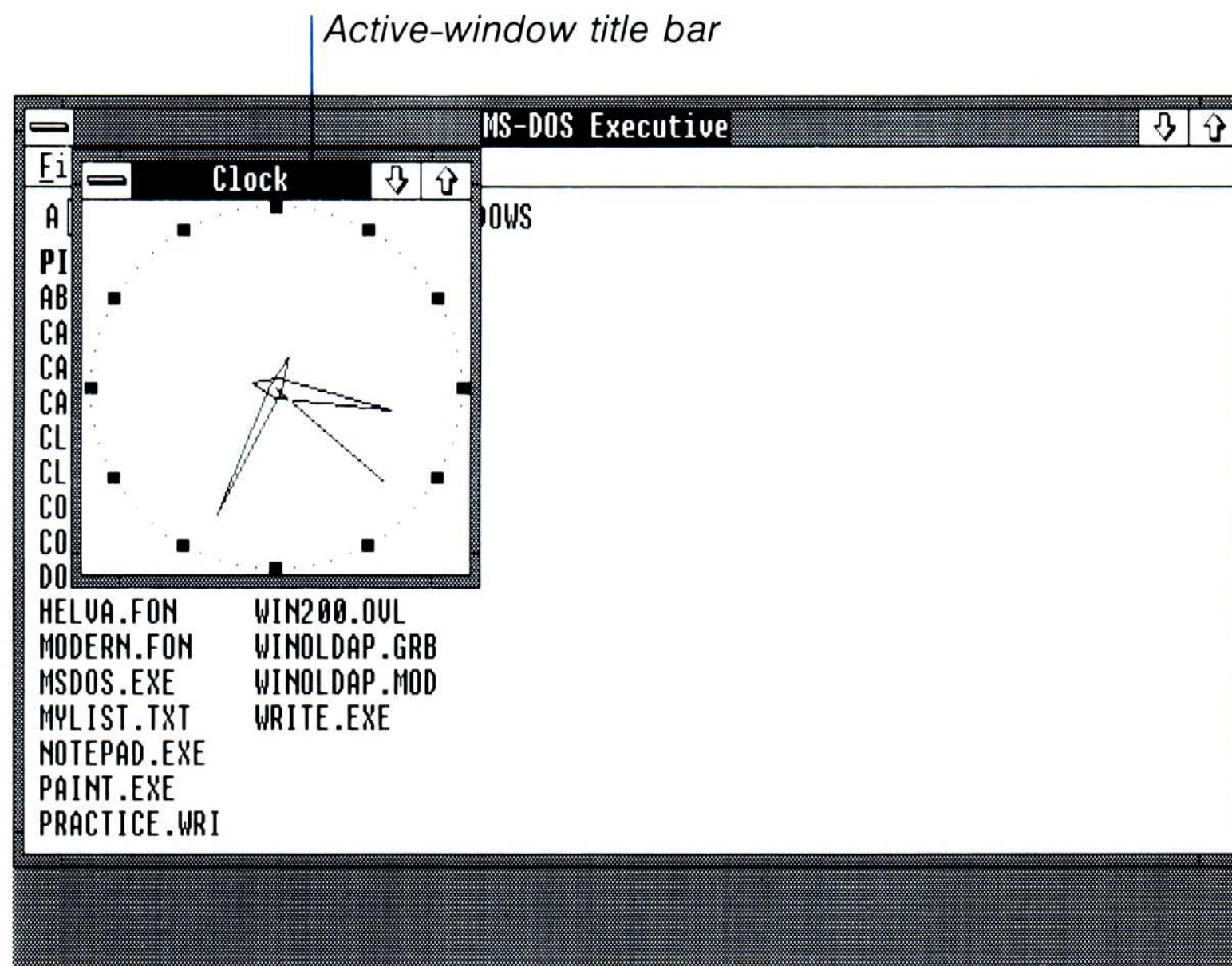
Notice that the title bar of Clock is darkened. This shows that Clock is the active window — the window that your commands will affect. The title bar of the MS-DOS Executive window is gray, showing that it is no longer active. When you have more than one window open, you need to select one of them as your active window.

Changing Active Windows

Selecting a window

Try changing your active window to MS-DOS Executive:

◼ Press ALT + ESCAPE.

```
┌─────────────────────────────────────────────────────────────┐
│ ▬         │           MS-DOS Executive            │ ⬇ ⬆ │
│ File  View  Special                                         │
├─────────────────────────────────────────────────────────────┤
│  A ▭─▪  C ▭─▪  C:CHRIS \WINDOWS                              │
│ PIF            README.TXT                                    │
│ ABC.TXT        REVERSI.EXE                                   │
│ CALC.EXE       ROMAN.FON                                     │
│ CALENDAR.EXE   SCRIPT.FON                                    │
│ CARDFILE.EXE   SPOOLER.EXE                                   │
│ CLIPBRD.EXE    TERMINAL.EXE                                  │
│ CLOCK.EXE      TMSRA.FON                                     │
│ CONTROL.EXE    WIN.COM                                       │
│ COURA.FON      WIN.INI                                       │
│ DOTHIS.TXT     WIN200.BIN                                    │
│ HELVA.FON      WIN200.OVL                                    │
│ MODERN.FON     WINOLDAP.GRB                                  │
│ MSDOS.EXE      WINOLDAP.MOD                                  │
│ MYLIST.TXT     WRITE.EXE                                     │
│ NOTEPAD.EXE                                                  │
│ PAINT.EXE                                                    │
│ PRACTICE.WRI                                                 │
└─────────────────────────────────────────────────────────────┘
```
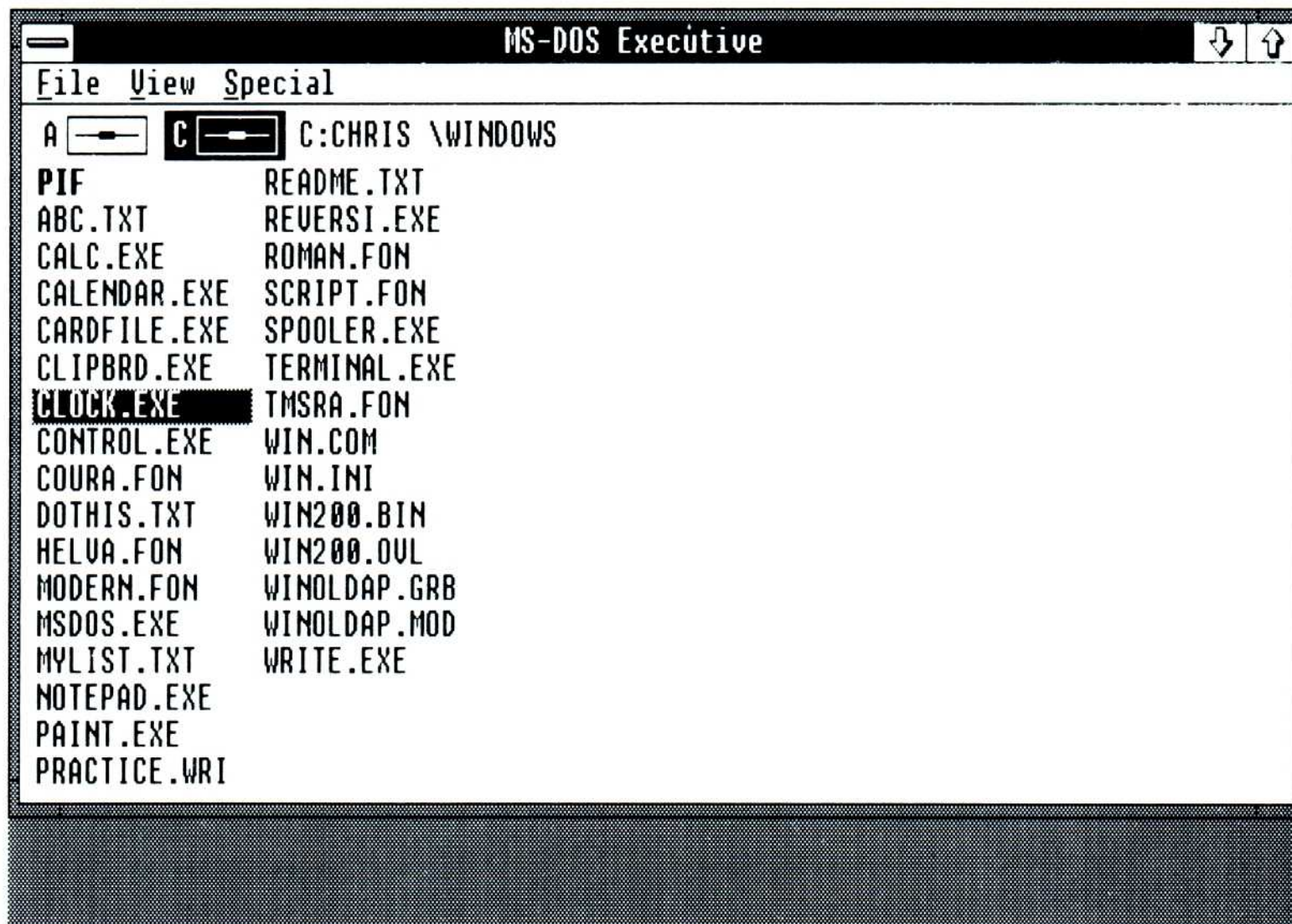
MS-DOS Executive appears in front of Clock, and its title bar is
darkened.

Each time you press ALT + ESCAPE, the next open window is brought
to the front. If you have several applications started, pressing
ALT + ESCAPE brings windows to the front in the order that they
were started in. The window that was active goes to the back.

If you have several windows sharing the screen, check the title
bar to see which one is dark. That's your active window.

Try switching back and forth several times between Clock and
MS-DOS Executive.

Changing a Window's Size

You can change the size of a window in several ways. First, bring
MS-DOS Executive to the front if it's not your active window:

▣ Press ALT + ESCAPE.

MS-DOS Executive appears in front of Clock, and its title bar is
darkened.

Using the Size command

One way to change the size of a window is by using the Size command on the Control menu. Try this:

1. Press the ALT key and then the SPACEBAR.
2. Press S to choose the Size command.

The MS-DOS Executive borders darken and a four-headed arrow appears in the middle of the window.

Four-headed arrow

```
┌─────────────────────────────────────────────────────────────┐
│ ▬              MS-DOS Executive                        ⇩  ⇧  │
├─────────────────────────────────────────────────────────────┤
│ File  View  Special                                          │
├─────────────────────────────────────────────────────────────┤
│ A ▭═══  C ▬═══  C:CHRIS \WINDOWS                              │
│ PIF            README.TXT                                     │
│ ABC.TXT        REVERSI.EXE                                    │
│ CALC.EXE       ROMAN.FON                                      │
│ CALENDAR.EXE   SCRIPT.FON                                     │
│ CARDFILE.EXE   SPOOLER.EXE                                    │
│ CLIPBRD.EXE    TERMINAL.EXE                                   │
│ CLOCK.EXE      TMSRA.FON                        ⬧             │
│ CONTROL.EXE    WIN.COM                         ⬧✛⬧            │
│ COURA.FON      WIN.INI                          ⬧             │
│ DOTHIS.TXT     WIN200.BIN                                     │
│ HELVA.FON      WIN200.OVL                                     │
│ MODERN.FON     WINOLDAP.GRB                                   │
│ MSDOS.EXE      WINOLDAP.MOD                                   │
│ MYLIST.TXT     WRITE.EXE                                      │
│ NOTEPAD.EXE                                                   │
│ PAINT.EXE                                                     │
│ PRACTICE.WRI                                                  │
└─────────────────────────────────────────────────────────────┘
```

Moving a border

Now use the DIRECTION keys to change the size of your window. The first DIRECTION key you press selects the border you will move. The DIRECTION keys move the selected border up and down, to the right or to the left. Try moving the right border of MS-DOS Executive:

1. Select the right border by pressing the RIGHT key.
2. Make the window narrower by pressing the LEFT key a few times.

```
┌──────────────────────────────────────────────────────────┬───┬───┐
│ ▭                    MS-DOS Executive                     │ ⬇ │ ⬆ │
├──────────────────────────────────────────────────────────┴───┴───┤
│ File  View  Special                                               │
├───────────────────────────────────────────────────────────────────┤
│ A ═──  C ═──  C:CHRIS \WINDOWS                                    │
│ PIF              README.TXT                                        │
│ ABC.TXT          REVERSI.EXE                                       │
│ CALC.EXE         ROMAN.FON                                         │
│ CALENDAR.EXE     SCRIPT.FON                                        │
│ CARDFILE.EXE     SPOOLER.EXE                                       │
│ CLIPBRD.EXE      TERMINAL.EXE                                      │
│ CLOCK.EXE        TMSRA.FON                             ⬌           │
│ CONTROL.EXE      WIN.COM                                           │
│ COURA.FON        WIN.INI                                           │
│ DOTHIS.TXT       WIN200.BIN                                        │
│ HELVA.FON        WIN200.OVL                                        │
│ MODERN.FON       WINOLDAP.GRB                                      │
│ MSDOS.EXE        WINOLDAP.MOD                                      │
│ MYLIST.TXT       WRITE.EXE                                         │
│ NOTEPAD.EXE                                                        │
│ PAINT.EXE                                                          │
│ PRACTICE.WRI                                                       │
│                                                                   │
└───────────────────────────────────────────────────────────────────┘
```

3 Now press the DOWN key. The arrow pointer moves to the lower-right corner.

```
┌──────────────────────────────────────────────────────────┬───┬───┐
│ ▭                    MS-DOS Executive                     │ ⬇ │ ⬆ │
├──────────────────────────────────────────────────────────┴───┴───┤
│ File  View  Special                                               │
├───────────────────────────────────────────────────────────────────┤
│ A ═──  C ═──  C:CHRIS \WINDOWS                                    │
│ PIF              README.TXT                                        │
│ ABC.TXT          REVERSI.EXE                                       │
│ CALC.EXE         ROMAN.FON                                         │
│ CALENDAR.EXE     SCRIPT.FON                                        │
│ CARDFILE.EXE     SPOOLER.EXE                                       │
│ CLIPBRD.EXE      TERMINAL.EXE                                      │
│ CLOCK.EXE        TMSRA.FON                                         │
│ CONTROL.EXE      WIN.COM                                           │
│ COURA.FON        WIN.INI                                           │
│ DOTHIS.TXT       WIN200.BIN                                        │
│ HELVA.FON        WIN200.OVL                                        │
│ MODERN.FON       WINOLDAP.GRB                                      │
│ MSDOS.EXE        WINOLDAP.MOD                                      │
│ MYLIST.TXT       WRITE.EXE                                         │
│ NOTEPAD.EXE                                                        │
│ PAINT.EXE                                                          │
│ PRACTICE.WRI                                            ⬊          │
│                                                                   │
└───────────────────────────────────────────────────────────────────┘
```

You can now move the corner up and down or to the right and to the left. (If, after you select a border, you decide that you don't want to change your window size, it's easy to cancel the Size command by pressing the ESCAPE key.)

④ Use the UP key to move the corner up.

⑤ When you finish moving the borders, press the ENTER key to choose the new size.

Your window assumes the new size.

Experiment with the Size command to see how you can use it to adjust the size of your window.
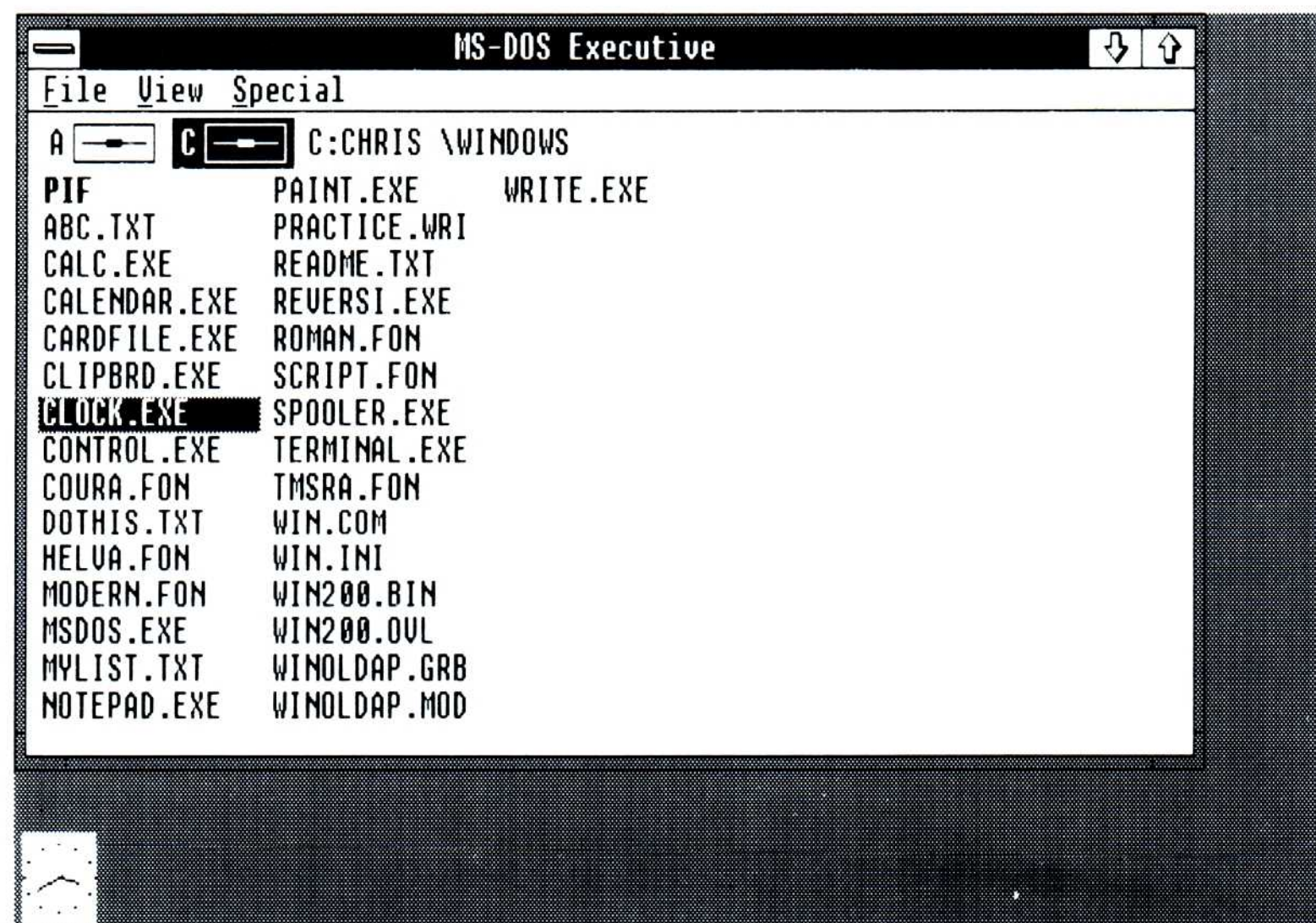
Shrinking a Window to an Icon

Using the Minimize command

Another way you can change the size of a window is by using the Minimize command. This command shrinks a window and turns it into an icon. The application is still running but it doesn't take up as much space on the screen. Try using the Minimize command on Clock:

① Press ALT + ESCAPE to select Clock as your active window.

② Press ALT and then the SPACEBAR to select Clock's Control menu.

③ Press N, the underlined letter in the Minimize command.

Clock becomes an icon in the lower-left corner of your screen.

```
┌─────────────────────────────────────────────────────────┐
│ ▭            MS-DOS Executive                    ⇩ ⇧      │
│ File  View  Special                                       │
│ A ▭─▭  C ▭─▭  C:CHRIS \WINDOWS                            │
│ PIF         PAINT.EXE      WRITE.EXE                       │
│ ABC.TXT     PRACTICE.WRI                                   │
│ CALC.EXE    README.TXT                                     │
│ CALENDAR.EXE REVERSI.EXE                                   │
│ CARDFILE.EXE ROMAN.FON                                     │
│ CLIPBRD.EXE  SCRIPT.FON                                    │
│ CLOCK.EXE    SPOOLER.EXE                                   │
│ CONTROL.EXE  TERMINAL.EXE                                  │
│ COURA.FON    TMSRA.FON                                     │
│ DOTHIS.TXT   WIN.COM                                       │
│ HELVA.FON    WIN.INI                                       │
│ MODERN.FON   WIN200.BIN                                    │
│ MSDOS.EXE    WIN200.OVL                                    │
│ MYLIST.TXT   WINOLDAP.GRB                                  │
│ NOTEPAD.EXE  WINOLDAP.MOD                                  │
│                                                           │
│ ┌──┐                                                      │
│ │╱╲│                                                      │
└─────────────────────────────────────────────────────────┘
```

Windows puts applications in the lower portion of the screen when they have been shrunk to icons. Clock continues to run, and the time is still visible.

You can select icons the same way you select windows, and you can display the icons' menus as well. MS-DOS Executive is your active window now. Select Clock:

■ Press ALT + ESCAPE.

The icon's title appears.

```
═══════════════════════ MS-DOS Executive ═══════════ ⇩ ⇧

 File  View  Special
───────────────────────────────────────────────────────
 A ──  C ──  C:CHRIS \WINDOWS
 PIF            PAINT.EXE      WRITE.EXE
 ABC.TXT        PRACTICE.WRI
 CALC.EXE       README.TXT
 CALENDAR.EXE   REVERSI.EXE
 CARDFILE.EXE   ROMAN.FON
 CLIPBRD.EXE    SCRIPT.FON
 CLOCK.EXE      SPOOLER.EXE
 CONTROL.EXE    TERMINAL.EXE
 COURA.FON      TMSRA.FON
 DOTHIS.TXT     WIN.COM
 HELVA.FON      WIN.INI
 MODERN.FON     WIN200.BIN
 MSDOS.EXE      WIN200.OVL
 MYLIST.TXT     WINOLDAP.GRB
 NOTEPAD.EXE    WINOLDAP.MOD




 ┌───┐
 │   │
 └───┘
 Clock
```
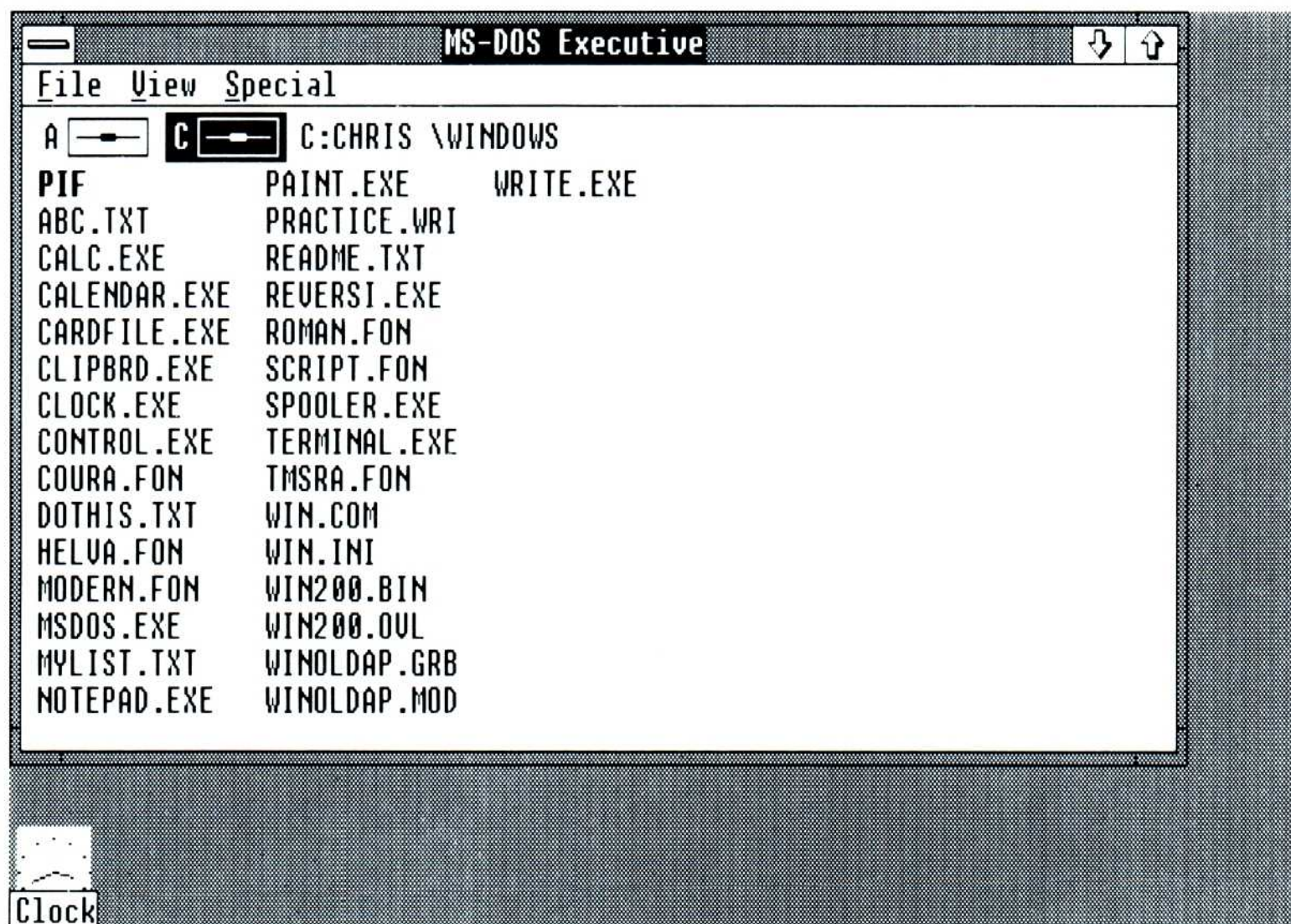
Moving a Window or an Icon

Another command in the Control menu, Move, lets you move windows or icons on your screen.

Try using the Move command to move the Clock icon:

1 Select the Control menu by pressing ALT, SPACEBAR. (In this manual, a keyname followed by a comma and another keyname indicates a key sequence: you should press and release the first key, then press and release the second key.)

```
┌─────────────────────────────────────────────────────────────┐
│ ═       │░░░░░░░░│ MS-DOS Executive │░░░░░░░░│  ⇩  ⇧         │
├─────────────────────────────────────────────────────────────┤
│ File  View  Special                                          │
│ A ──■  C ──■  C:CHRIS \WINDOWS                                │
│ PIF           PAINT.EXE      WRITE.EXE                        │
│ ABC.TXT       PRACTICE.WRI                                    │
│ CALC.EXE      README.TXT                                      │
│ CALENDAR.EXE  REVERSI.EXE                                     │
│ CARDFILE.EXE  ROMAN.FON                                       │
│ CLIPBRD.EXE   SCRIPT.FON                                      │
│ CLOCK.EXE     SPOOLER.EXE                                     │
│ CONTROL.EXE   TERMINAL.EXE                                    │
│ COURA.FON     TMSRA.FON                                       │
│  ┌──────────────────────────┐                                │
│  │ Restore       Alt+F5      │                               │
│  │ Move          Alt+F7      │                               │
│  │ Size          Alt+F8      │                               │
│  │ Minimize      Alt+F9      │                               │
│  │ Maximize      Alt+F10     │                               │
│  │                           │                               │
│  │ Close         Alt+F4      │                               │
│  │ About Clock...            │                               │
│  └──────────────────────────┘                                │
│  ┌────┐                                                       │
│  │ ◠  │                                                       │
│ │Clock│                                                       │
└─────────────────────────────────────────────────────────────┘
```
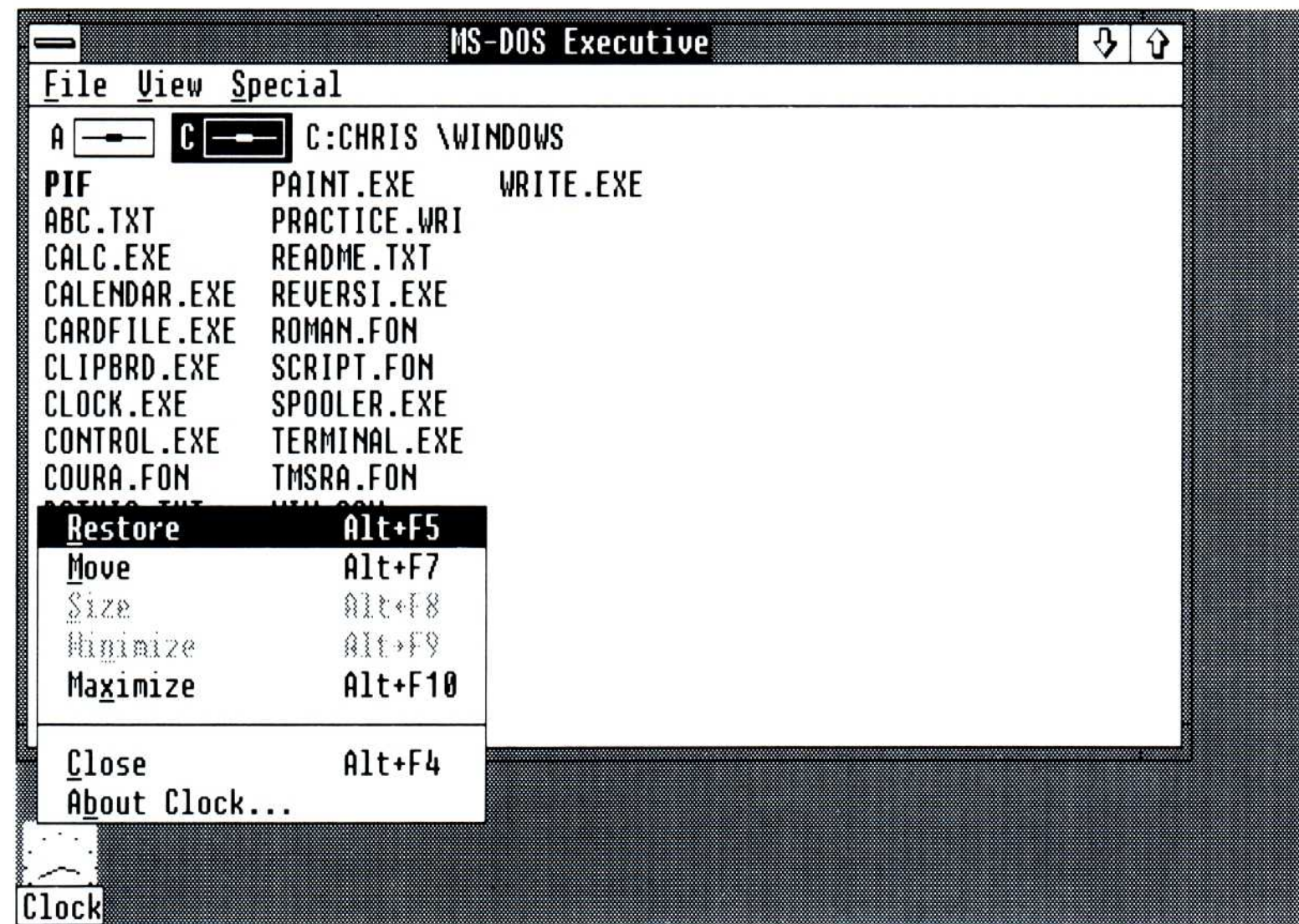
2. Choose the Move command by pressing the underlined letter, M.

3. Use the DIRECTION keys to move the icon on your screen. (If, after you move the icon, you decide that you don't want it moved after all, it's easy to cancel the Move command by pressing the ESCAPE key.)

   The icon becomes an empty rectangle while you move it.

```
┌─────────────────────────────────────────────────────────┐
│ ▭            MS-DOS Executive              ⬇ ⬆ │
├─────────────────────────────────────────────────────────┤
│ File  View  Special                                      │
├─────────────────────────────────────────────────────────┤
│ A ▭─▭  C ▬─▬ C:CHRIS \WINDOWS                            │
│ PIF          PAINT.EXE     WRITE.EXE                     │
│ ABC.TXT      PRACTICE.WRI                                │
│ CALC.EXE     README.TXT                                  │
│ CALENDAR.EXE REVERSI.EXE                                 │
│ CARDFILE.EXE ROMAN.FON                                   │
│ CLIPBRD.EXE  SCRIPT.FON                                  │
│ CLOCK.EXE    SPOOLER.EXE                                 │
│ CONTROL.EXE  TERMINAL.EXE                                │
│ COURA.FON    TMSRA.FON                                   │
│ DOTHIS.TXT   WIN.COM                                     │
│ HELVA.FON    WIN.INI                                     │
│ MODERN.FON   WIN200.BIN                                  │
│ MSDOS.EXE    WIN200.OVL                                  │
│ MYLIST.TXT   WINOLDAP.GRB                                │
│ NOTEPAD.EXE  WINOLDAP.MOD                                │
└─────────────────────────────────────────────────────────┘
                         ┌───┐
                         │   │
                         └───┘
```

4. When you have positioned the icon where you want it, press the ENTER key.

   The title of the icon appears.

```
┌─────────────────────────────────────────────────────────┐
│ ▭            MS-DOS Executive              ⬇ ⬆ │
├─────────────────────────────────────────────────────────┤
│ File  View  Special                                      │
├─────────────────────────────────────────────────────────┤
│ A ▭─▭  C ▬─▬ C:CHRIS \WINDOWS                            │
│ PIF          PAINT.EXE     WRITE.EXE                     │
│ ABC.TXT      PRACTICE.WRI                                │
│ CALC.EXE     README.TXT                                  │
│ CALENDAR.EXE REVERSI.EXE                                 │
│ CARDFILE.EXE ROMAN.FON                                   │
│ CLIPBRD.EXE  SCRIPT.FON                                  │
│ CLOCK.EXE    SPOOLER.EXE                         ┌────┐  │
│ CONTROL.EXE  TERMINAL.EXE                        │ ◷  │  │
│ COURA.FON    TMSRA.FON                           └────┘  │
│ DOTHIS.TXT   WIN.COM                            ┌─────┐  │
│ HELVA.FON    WIN.INI                            │Clock│  │
│ MODERN.FON   WIN200.BIN                         └─────┘  │
│ MSDOS.EXE    WIN200.OVL                                  │
│ MYLIST.TXT   WINOLDAP.GRB                                │
│ NOTEPAD.EXE  WINOLDAP.MOD                                │
└─────────────────────────────────────────────────────────┘
```

Enlarging a Window
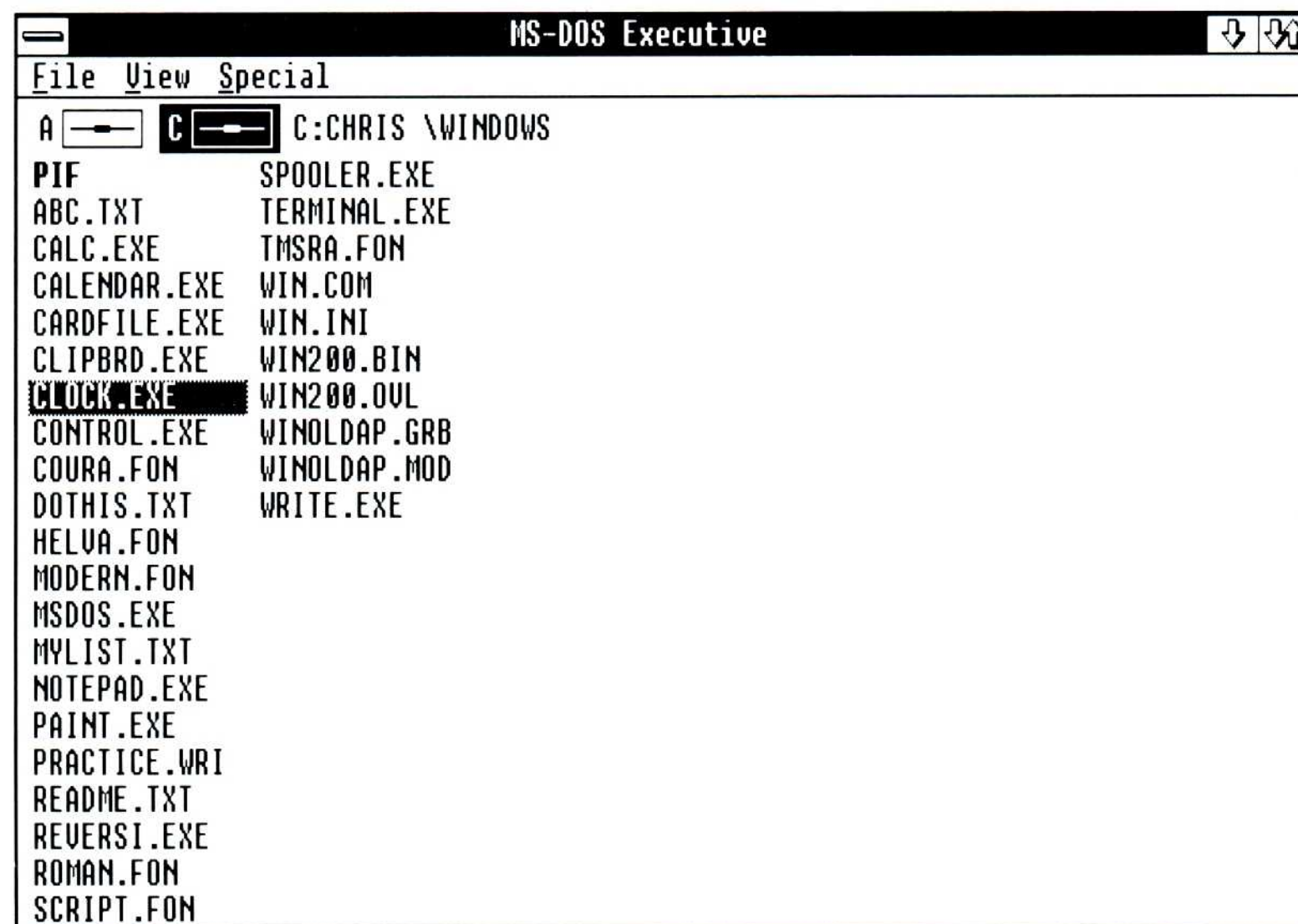
If you want to work in one window, you can use the Maximize command to enlarge a window so that it fills the entire screen.

Try selecting the MS-DOS Executive's Control menu and choosing the Maximize command:

1. If you need to, press ALT + ESCAPE to select MS-DOS Executive as your active window.

2. Press ALT, SPACEBAR to display the Control menu.

3. Press X, the underlined letter, to choose the Maximize command.

MS-DOS Executive expands to take up your entire screen.

```
┌───────────────────────────────────────────────────────────┬─────┐
│ ▬            MS-DOS Executive                               │ ⇩ ⇩⇧ │
├───────────────────────────────────────────────────────────┴─────┤
│ File  View  Special                                              │
├──────────────────────────────────────────────────────────────────┤
│ A ▭─▬─  C ▬─▬─  C:CHRIS \WINDOWS                                  │
│ PIF            SPOOLER.EXE                                        │
│ ABC.TXT        TERMINAL.EXE                                       │
│ CALC.EXE       TMSRA.FON                                          │
│ CALENDAR.EXE   WIN.COM                                            │
│ CARDFILE.EXE   WIN.INI                                            │
│ CLIPBRD.EXE    WIN200.BIN                                         │
│ CLOCK.EXE      WIN200.OVL                                         │
│ CONTROL.EXE    WINOLDAP.GRB                                       │
│ COURA.FON      WINOLDAP.MOD                                       │
│ DOTHIS.TXT     WRITE.EXE                                          │
│ HELVA.FON                                                         │
│ MODERN.FON                                                        │
│ MSDOS.EXE                                                         │
│ MYLIST.TXT                                                        │
│ NOTEPAD.EXE                                                       │
│ PAINT.EXE                                                         │
│ PRACTICE.WRI                                                      │
│ README.TXT                                                        │
│ REVERSI.EXE                                                       │
│ ROMAN.FON                                                         │
│ SCRIPT.FON                                                        │
└──────────────────────────────────────────────────────────────────┘
```

Take a look at the Control menu:

▪ Press ALT, SPACEBAR.

```
┌──────────────────────────────┐
│ ▭                            │
├──────────────────────────────┤
│ █Restore       Alt+F5█       │
│  Move          Alt+F7        │
│  Size          Alt+F8        │
│  Minimize      Alt+F9        │
│  Maximize      Alt+F10       │
│                              │
│  Close         Alt+F4        │
└──────────────────────────────┘
```

The Maximize command is grayed, showing that you can't use it now. The Restore command is no longer grayed. This command lets you restore a window to its previous size and location on the screen.

Restoring a Window

Use the Restore command to reduce MS-DOS Executive to its previous size:

Using the Restore command

▣ Press R or the ENTER key to choose the Restore command.

MS-DOS Executive shrinks to the size you made it when you used the Size command.

```
┌──────────────────────────────────────────────────────────┐
│ ▭            MS-DOS Executive                    ⇩  ⇧     │
├──────────────────────────────────────────────────────────┤
│ File  View  Special                                      │
├──────────────────────────────────────────────────────────┤
│ A ▭═══  C ▭═══  C:CHRIS \WINDOWS                          │
│ PIF           PAINT.EXE      WRITE.EXE                    │
│ ABC.TXT       PRACTICE.WRI                                │
│ CALC.EXE      README.TXT                                  │
│ CALENDAR.EXE  REVERSI.EXE                                 │
│ CARDFILE.EXE  ROMAN.FON                                   │
│ CLIPBRD.EXE   SCRIPT.FON                                  │
│ CLOCK.EXE     SPOOLER.EXE                                 │
│ CONTROL.EXE   TERMINAL.EXE                                │
│ COURA.FON     TMSRA.FON                                   │
│ DOTHIS.TXT    WIN.COM                                     │
│ HELVA.FON     WIN.INI                                     │
│ MODERN.FON    WIN200.BIN                                  │
│ MSDOS.EXE     WIN200.OVL                                  │
│ MYLIST.TXT    WINOLDAP.GRB                                │
│ NOTEPAD.EXE   WINOLDAP.MOD                                │
│                                                          │
└──────────────────────────────────────────────────────────┘
```
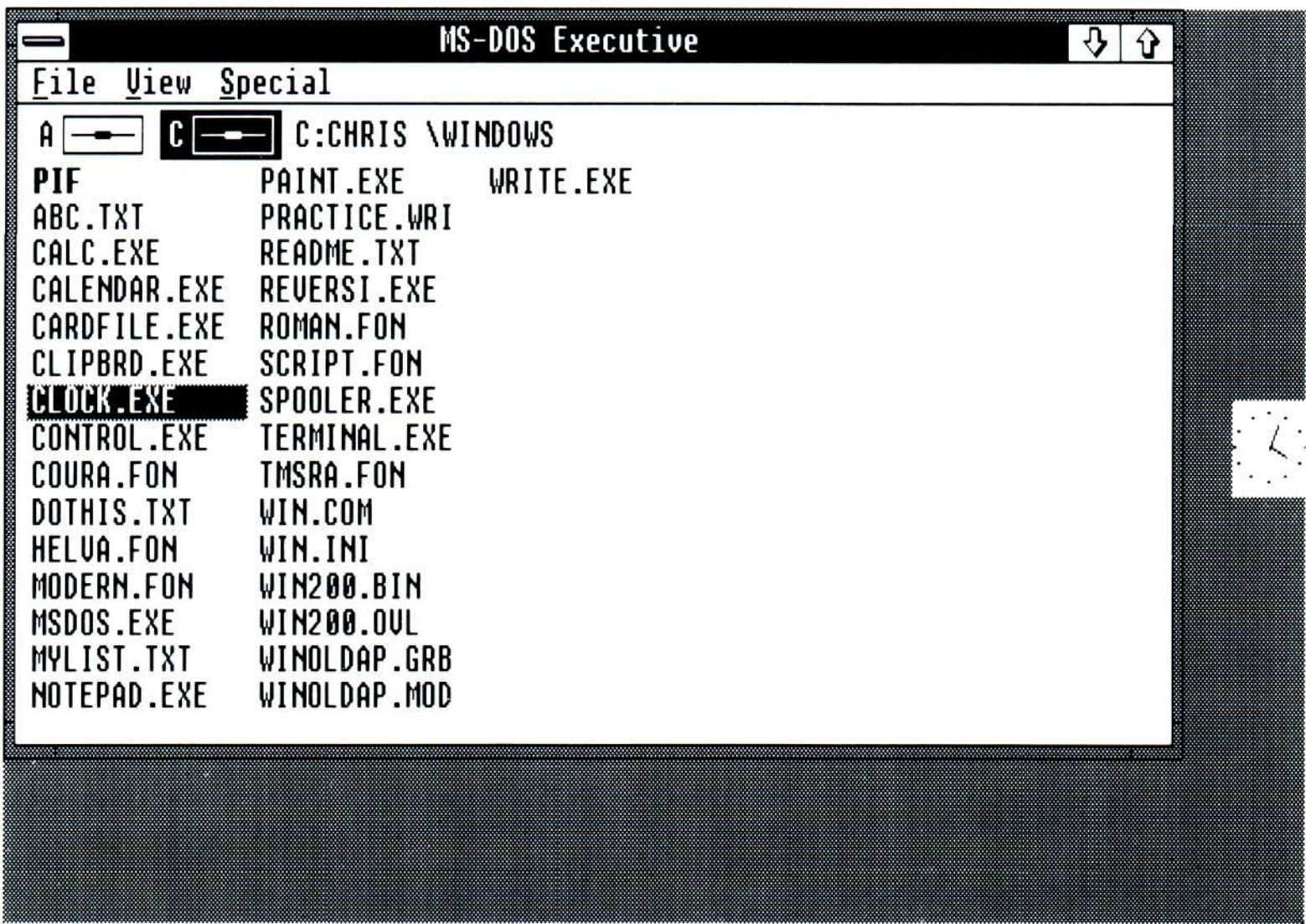
Restoring the Clock window

Now use the Restore command to restore the Clock window:

1. Select the Clock icon by pressing ALT + ESCAPE.
2. Select the Control menu by pressing ALT, SPACEBAR.
3. Press R or the ENTER key to choose the Restore command.

Clock is restored to its previous size.
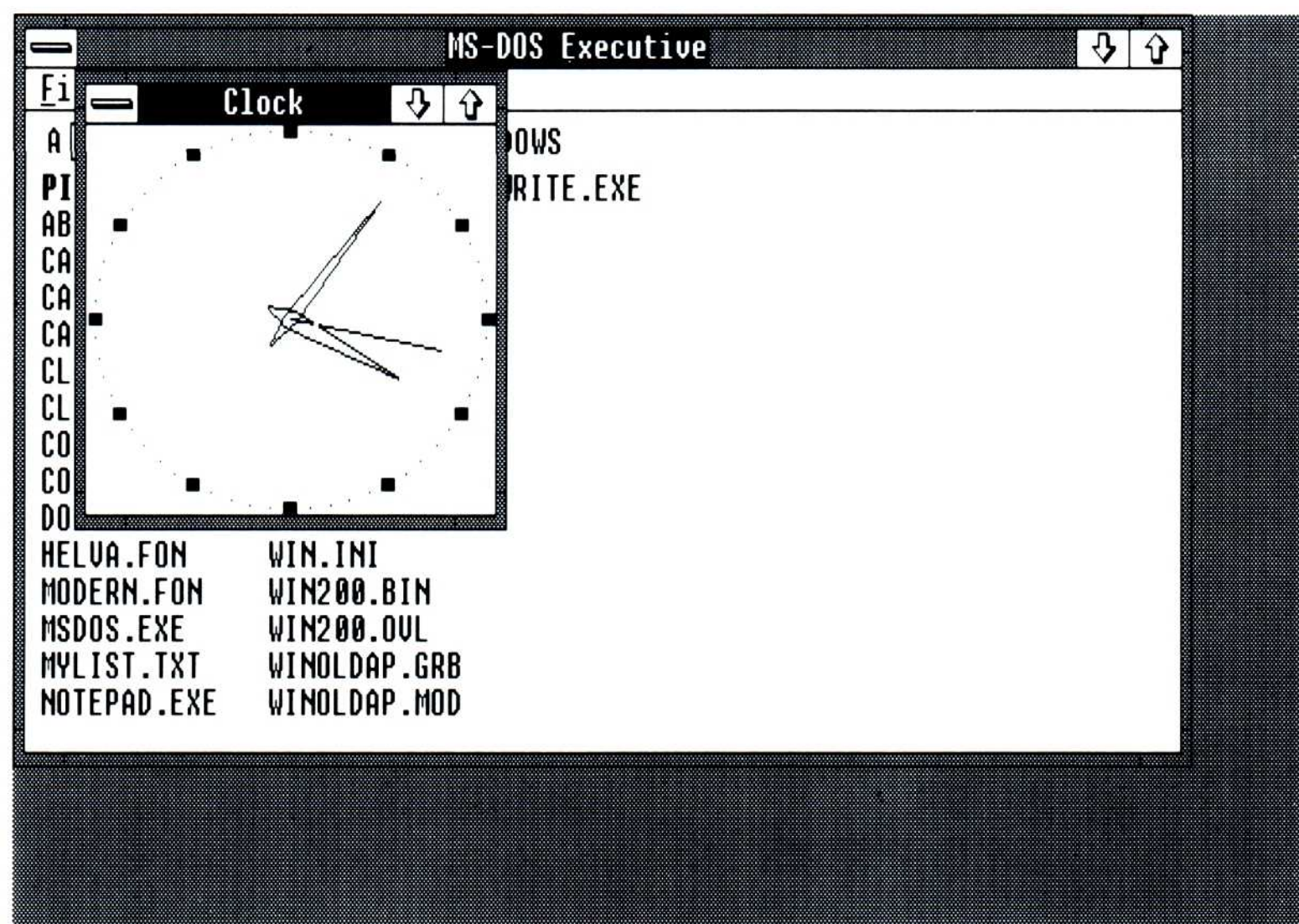
Now choose the End Session command from the Special menu to end your Windows session:

Ending your session

1. Select the MS-DOS Executive window as your active window by pressing ALT + ESCAPE.

2. Press ALT and then S to select the Special menu.

```
┌─────────────────────────────────────────────────────────────┐
│ ▬          MS-DOS Executive                          ⇩ ⇧      │
│ ┌────┬────┬───────┬─────────────────────────────────────────┐│
│ │File│View│Special│                                          ││
│ ├────┴────┴───────┴─────────┐                                │
│   A ▭─■─ C │ End Session     │                                │
│            │ Create Directory... │  .EXE                      │
│ PIF        │ Change Directory... │                            │
│ ABC.TXT    │ Format Data Disk... │                            │
│ CALC.EXE   │ Make System Disk... │                            │
│ CALENDAR.EX│ Set Volume Name...  │                            │
│ CARDFILE.EX└─────────────────────┘                            │
│ CLIPBRD.EXE    SCRIPT.FON                                     │
│ CLOCK.EXE      SPOOLER.EXE                                    │
│ CONTROL.EXE    TERMINAL.EXE                                   │
│ COURA.FON      TMSRA.FON                                      │
│ DOTHIS.TXT     WIN.COM                                        │
│ HELVA.FON      WIN.INI                                        │
│ MODERN.FON     WIN200.BIN                                     │
│ MSDOS.EXE      WIN200.OVL                                     │
│ MYLIST.TXT     WINOLDAP.GRB                                   │
│ NOTEPAD.EXE    WINOLDAP.MOD                                   │
└─────────────────────────────────────────────────────────────┘
```

3. The End Session command is selected because it is listed first, so press E or the ENTER key to choose it.

A dialog box appears, warning you that this will end your Windows session.

```
┌─────────────────────────────────────────────────────────────┐
│ ▬              MS-DOS Executive                        ⇩ ⇧    │
│ File  View  Special                                          │
│ A ⊏━⊐ C ⊏━⊐  C:CHRIS \WINDOWS                                │
│ PIF          PAINT.EXE      WRITE.EXE                         │
│ ABC.TXT      PRACTICE.WRI                                     │
│ CALC.EXE     README.TXT                                       │
│ CALENDAR.EXE REVERSI.EXE                                      │
│ CARDFILE.EXE ┌──────────────────────────────────┐           │
│ CLIPBRD.EXE  │          End Session              │           │
│ CLOCK.EXE    │                                   │           │
│ CONTROL.EXE  │  ⚠   This will end your Windows session. │    │
│ COURA.FON    │                                   │           │
│ DOTHIS.TXT   │                                   │           │
│ HELVA.FON    │      ╭────╮      ╭──────╮          │           │
│ MODERN.FON   │      │ OK │      │Cancel│          │           │
│ MSDOS.EXE    │      ╰────╯      ╰──────╯          │           │
│ MYLIST.TXT   └──────────────────────────────────┘           │
│ NOTEPAD.EXE  WINOLDAP.MOD                                     │
└─────────────────────────────────────────────────────────────┘
```
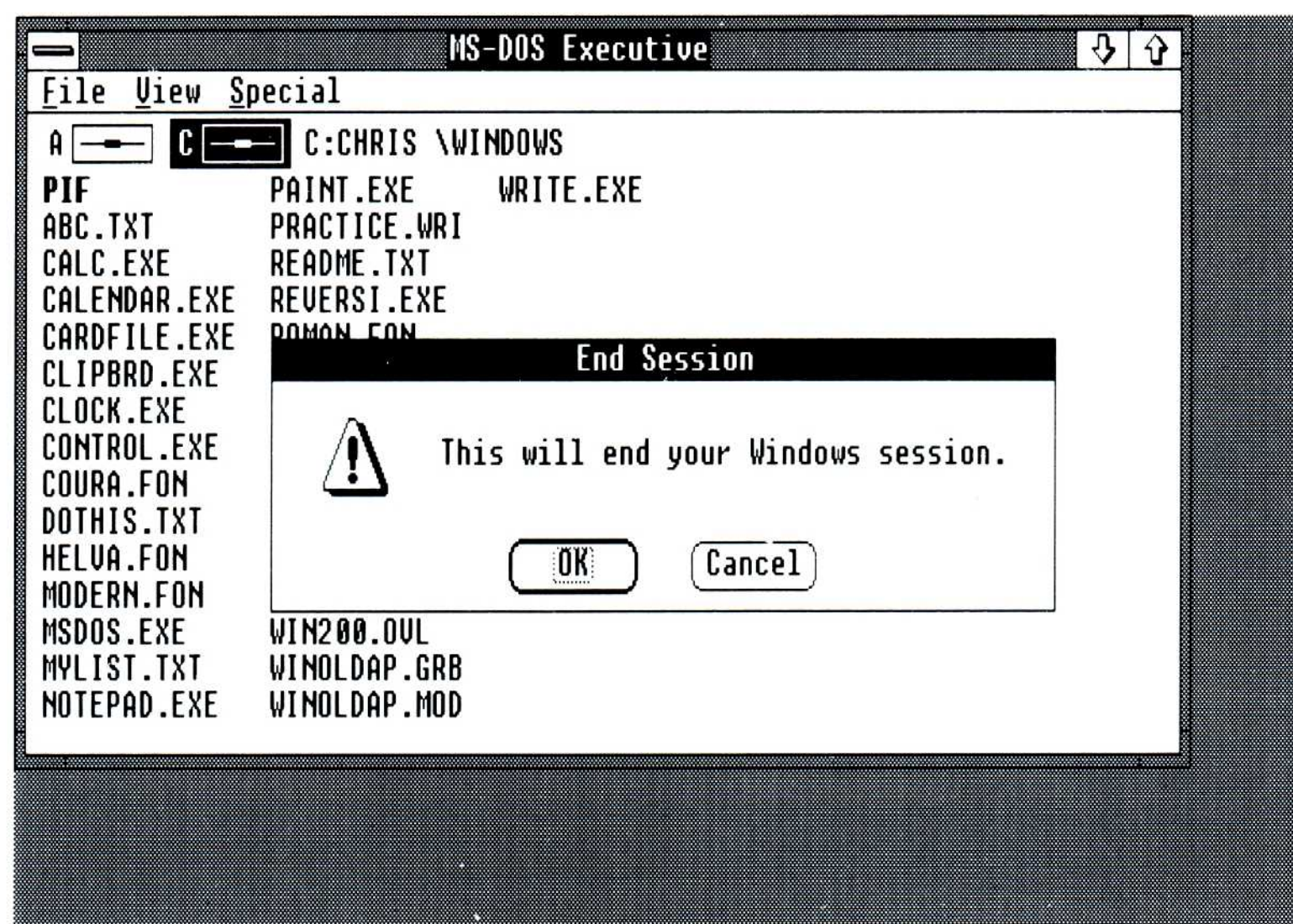
The OK button is already selected. To end your session, do the
following:

■ Press the ENTER key to choose OK.

If you want to continue working in Windows, do the following:

■ Press the ESCAPE key.

In this exercise, you reviewed selecting menus, choosing com-
mands, and starting applications. You learned how to select the
active window when you have more than one application started.
You used the Move command. You also changed the size of win-
dows, using four different commands: Size, Minimize, Maximize,
and Restore.
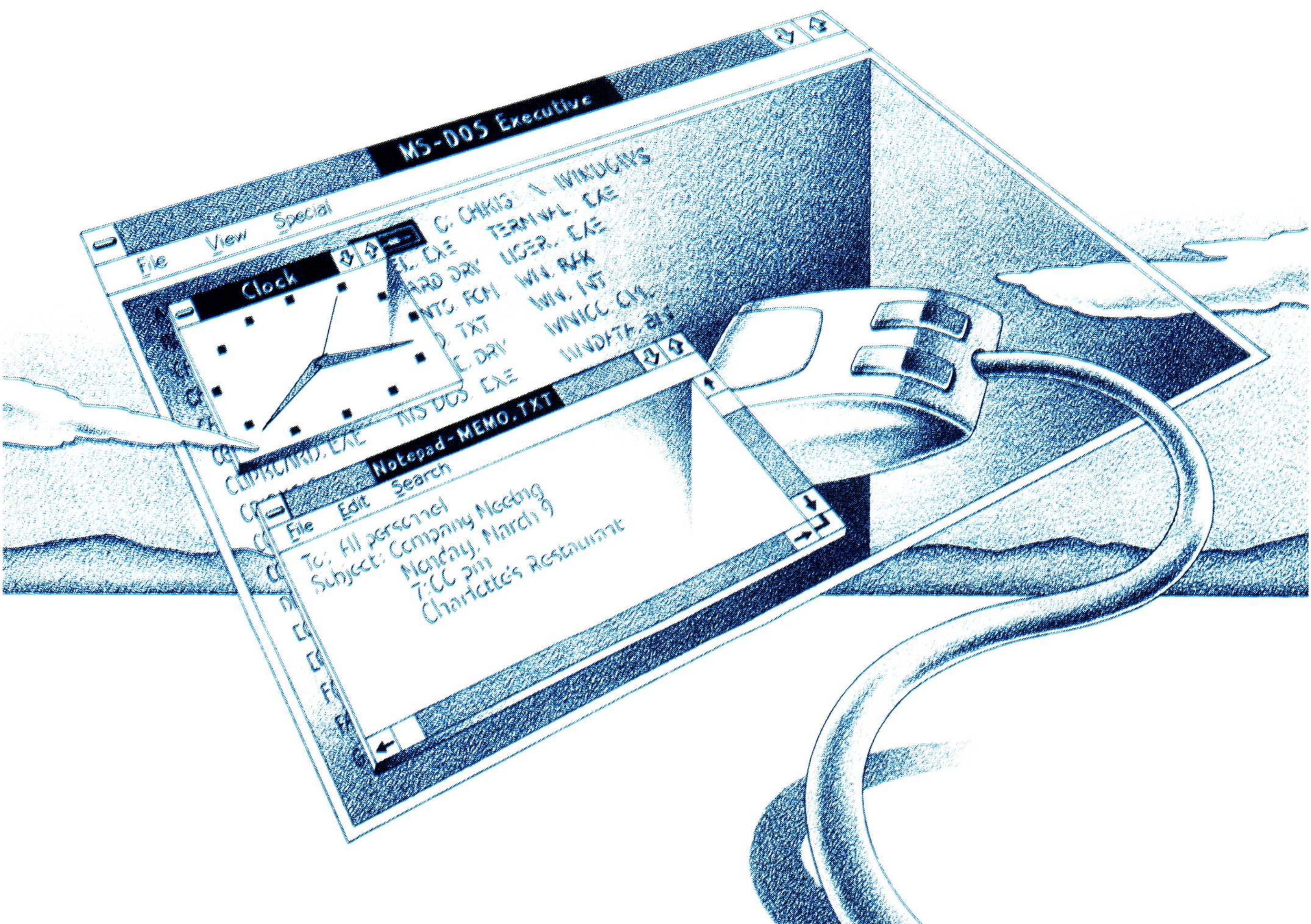
You've mastered all the basic skills you need in order to use
Windows with the keyboard. Go ahead and start working with
Windows, or read further in this manual. The next chapter repeats
these exercises for users who have a mouse. Chapter 4, "Tech-
niques," reviews the things you've learned here, and provides
more advanced techniques and some shortcut commands for
accomplishing common tasks.

3 Learning Windows with the Mouse

These exercises will give you hands-on experience using Microsoft Windows with a mouse. Using a mouse makes many tasks faster and easier to learn.

If you are a new user, you will find this chapter especially helpful. The step-by-step instructions and the illustrations will tell you exactly what to do.

If you have a mouse installed, you can still use the keyboard techniques. See Chapter 2, "Learning Windows," for more information on working from the keyboard.

In this chapter, you will learn and practice the following skills:

- Using the mouse
- Selecting command menus
- Choosing commands from menus
- Starting a Windows application
- Opening a file in Windows
- Using dialog boxes
- Saving an application document
- Quitting an application
- Moving between windows
- Changing the size of a window
- Moving windows on the screen
- Shrinking a window to an icon
- Ending your Windows session

Exercise 1: Beginning a Windows Session

In this exercise, you'll learn the basics of how to select menus and choose commands in any Windows application.

First, start Windows. (If you need to review how to get started on your system or how to use your mouse, see Chapter 1, "Getting Started.")

If you have a two-drive system

On a two-drive system, the files you need for the first exercise are on the Windows startup disk that you created, and they appear in your MS-DOS Executive window when you start Windows. Your screen will look something like this:

```
┌─────────────────────────────────────────────────────────────┐
│ ═      ▐           MS-DOS Executive            ▐   ⬇  ⬆      │
├─────────────────────────────────────────────────────────────┤
│ File  View  Special                                         │
├─────────────────────────────────────────────────────────────┤
│ ▐A▌══  B ══  A:WIN STARTUP \                                │
│ COMMAND.COM                                                  │
│ WIN.COM                                                      │
│ WIN200.BIN                                                   │
│                                                             │
│                                                             │
│                                 ▯                           │
│                                                             │
└─────────────────────────────────────────────────────────────┘
```

On a hard-disk system, the files you need for these exercises are on your hard disk, and they appear in your MS-DOS Executive window when you start Windows. After you start Windows, your screen will look something like this:

If you have a hard-disk system

```
┌─────────────────────────────────────────────────────────────┐
│ ═      ▐           MS-DOS Executive            ▐   ⬇  ⬆      │
├─────────────────────────────────────────────────────────────┤
│ File  View  Special                                         │
├─────────────────────────────────────────────────────────────┤
│ A ══  ▐C▌══  C:CHRIS \WINDOWS                               │
│ PIF          REVERSI.EXE                                     │
│ ABC.TXT      ROMAN.FON                                       │
│ CALC.EXE     SCRIPT.FON                                      │
│ CALENDAR.EXE SPOOLER.EXE                                     │
│ CARDFILE.EXE TERMINAL.EXE                                    │
│ CLIPBRD.EXE  TMSRA.FON                                       │
│ CLOCK.EXE    WIN.COM                                         │
│ CONTROL.EXE  WIN.INI                                         │
│ COURA.FON    WIN200.BIN                                      │
│ DOTHIS.TXT   WIN200.OVL                                      │
│ HELVA.FON    WINOLDAP.GRB                                    │
│ MODERN.FON   WINOLDAP.MOD          ▯                        │
│ MSDOS.EXE    WRITE.EXE                                       │
│ NOTEPAD.EXE                                                  │
│ PAINT.EXE                                                    │
│ PRACTICE.WRI                                                 │
│ README.TXT                                                   │
└─────────────────────────────────────────────────────────────┘
```

The first window you see is the MS-DOS Executive window. MS-DOS Executive is the application program that you'll use to start other applications, to organize your files and windows, and to do things like change directories and format disks.

All Windows commands are organized in menus on the menu bar. A menu shows the names of a group of commands. Each application has it own menus, but one, the Control menu, is common to all applications. The act of picking a menu is called selecting the menu. In Windows, you select the items that a command will affect — for example, a filename or an area of the screen — and you choose the commands that carry out the action.

Selecting the Control Menu

The Control menu is represented by a box in the upper-left corner of every window. You use the Control menu's commands to arrange windows on the screen. The commands allow you to move the windows, change their size, and close them.

Highlighted selection
Control-menu box   *Title bar*   *Menu bar*

```
┌─────────────────────────────────────────────────────────────┐
│  ▭              MS-DOS Executive                    ⬆  ⬇    │
├─────────────────────────────────────────────────────────────┤
│ File  View  Special                                         │
├─────────────────────────────────────────────────────────────┤
│ A ▭  C ▭  C:CHRIS \WINDOWS                                  │
│ PIF▓▓▓▓▓▓▓▓▓     REVERSI.EXE                                │
│ ABC.TXT         ROMAN.FON                                   │
│ CALC.EXE        SCRIPT.FON                                  │
│ CALENDAR.EXE    SPOOLER.EXE                                 │
│ CARDFILE.EXE    TERMINAL.EXE                                │
│ CLIPBRD.EXE     TMSRA.FON                                   │
│ CLOCK.EXE       WIN.COM                                     │
│ CONTROL.EXE     WIN.INI                                     │
│ COURA.FON       WIN200.BIN                                  │
│ DOTHIS.TXT      WIN200.OVL                                  │
│ HELVA.FON       WINOLDAP.GRB                                │
│ MODERN.FON      WINOLDAP.MOD                                │
│ MSDOS.EXE       WRITE.EXE                                   │
│ NOTEPAD.EXE                                                 │
│ PAINT.EXE                                                   │
│ PRACTICE.WRI                                                │
│ README.TXT                                                  │
└─────────────────────────────────────────────────────────────┘
```

The Control menu

Here's how to select the Control menu:

1. Point to the Control-menu box.
2. Click the menu box.

The Control menu appears on your screen. The first command in the list, Restore, is highlighted, to show that this command is selected.

Control menu

```
┌─────────────────────────────────────────────────────────────┐
│ ▬ │                MS-DOS Executive                  │ ⇩ │ ⇧ │
├──────────────────────┬────────────────────────────────────────┤
│ Restore      Alt+F5  │                                         │
│ Move         Alt+F7  │  IS WINDOWS                             │
│ Size         Alt+F8  │ .EXE                                    │
│ Minimize     Alt+F9  │ ON                                      │
│ Maximize     Alt+F10 │ FON                                     │
│                      │ .EXE                                    │
│ Close        Alt+F4  │ .EXE                                    │
│ CLIPBRD.EXE    TMSRA.FON                                       │
│ CLOCK.EXE      WIN.COM                                         │
│ CONTROL.EXE    WIN.INI                                         │
│ COURA.FON      WIN200.BIN            ▷                         │
│ DOTHIS.TXT     WIN200.OVL                                      │
│ HELVA.FON      WINOLDAP.GRB                                    │
│ MODERN.FON     WINOLDAP.MOD                                    │
│ MSDOS.EXE      WRITE.EXE                                       │
│ NOTEPAD.EXE                                                    │
│ PAINT.EXE                                                      │
│ PRACTICE.WRI                                                   │
│ README.TXT                                                     │
└─────────────────────────────────────────────────────────────┘
```
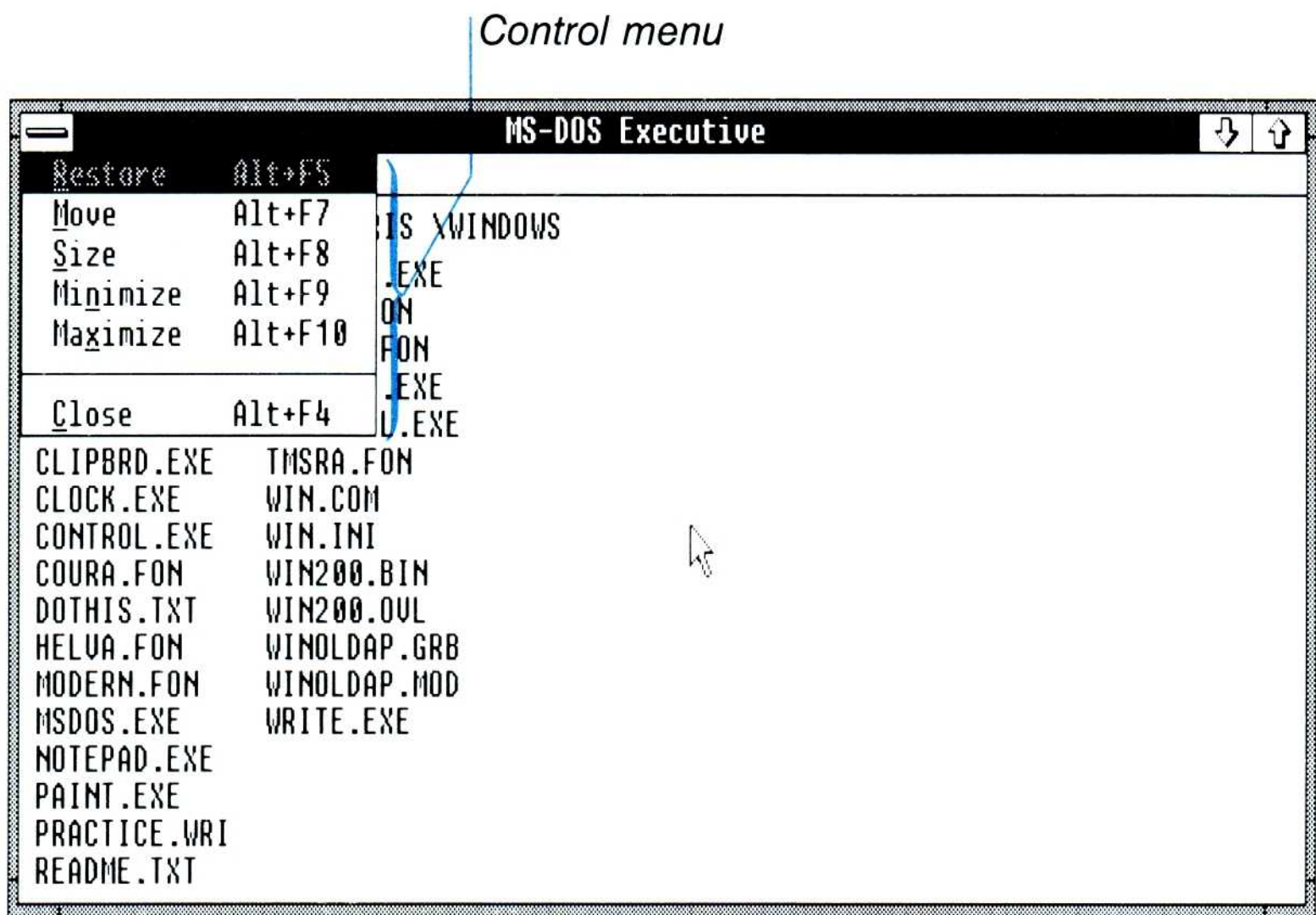
Try canceling the Control-menu display:

Canceling the Control menu

1 Point to a blank part of the screen outside the menu.

2 Click the mouse button.

The Control menu disappears. You can also cancel menu displays by pressing the ESCAPE key.

Selecting Menus and Choosing Commands

You use the same technique to select menus on the menu bar. Try selecting the View menu:

Selecting menus

1 Point to the View menu on the menu bar. (Just point to any part of the word "View.")

2 Click the menu name.

```
┌─────────────────────────────────────────────────────────────┐
│ ▭                    MS-DOS Executive                    ⬇ ⬆ │
├─────────────────────────────────────────────────────────────┤
│ File  View  Special                                          │
│ A   √Short        CHRIS \WINDOWS                             │
│ PIF  Long         SI.EXE                                     │
│ ABC.T             1.FON                                      │
│ CALC.  √All       T.FON                                      │
│ CALEN  Partial... ER.EXE                                     │
│ CARDF  Programs   NAL.EXE                                    │
│ CLIPB             1.FON                                      │
│ CLOCK √By Name    OM                          ▷              │
│ CONTR  By Date    NI                                         │
│ COURA  By Size    0.BIN                                      │
│ DOTHI  By Kind    0.OVL                                      │
│ HELVA.FON       WINOLDAP.GRB                                 │
│ MODERN.FON      WINOLDAP.MOD                                 │
│ MSDOS.EXE       WRITE.EXE                                    │
│ NOTEPAD.EXE                                                  │
│ PAINT.EXE                                                    │
│ PRACTICE.WRI                                                 │
│ README.TXT                                                   │
└─────────────────────────────────────────────────────────────┘
```
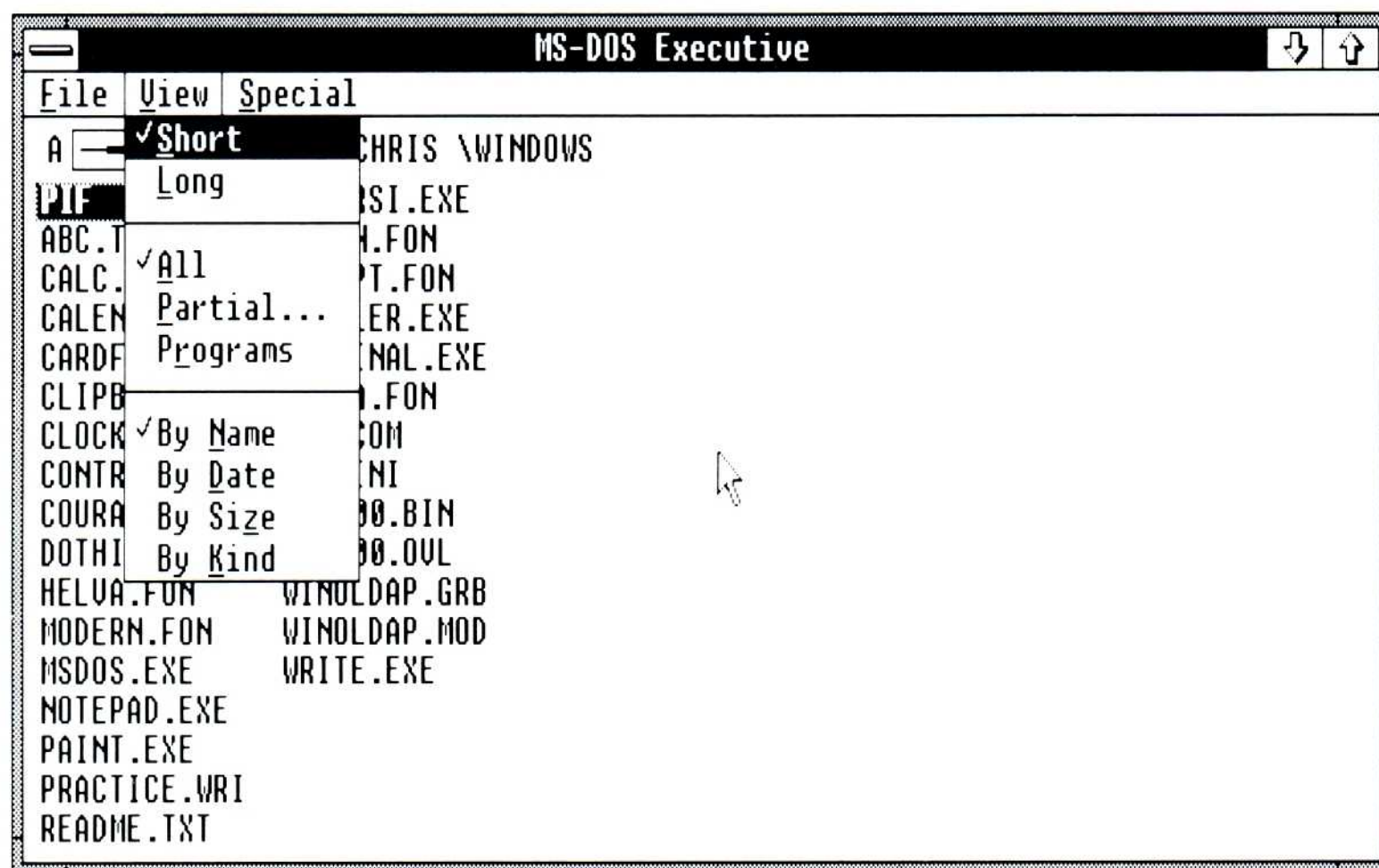
The View menu lets you choose how MS-DOS Executive displays your current directory. Try selecting the other menus on the menu bar. To make a menu disappear, click anywhere outside the menu.

Choosing commands

Choosing commands from menus is simple. Try choosing the Programs command from the View menu:

1. Point to the Programs command.
2. Click the command name.

The file listing in your MS-DOS Executive window changes, and only files with a .EXE, .COM, or .BAT extension are displayed.

If you have a two-drive system, your screen should look something like the following:

```
┌─────────────────────────────────────────────────────────────┐
│ �       MS-DOS Executive              ⇩ ⇧ │
├─────────────────────────────────────────────────────────────┤
│ File  View  Special                                          │
├─────────────────────────────────────────────────────────────┤
│ A█──█ B──█ A:WIN STARTUP \                                   │
│ COMMAND.COM                                                  │
│ WIN.COM                                                      │
│                                                              │
│                                                              │
│                                                              │
│                                                              │
│                                    ⬚                         │
│                                                              │
│                                                              │
│                                                              │
│                                                              │
└─────────────────────────────────────────────────────────────┘
```
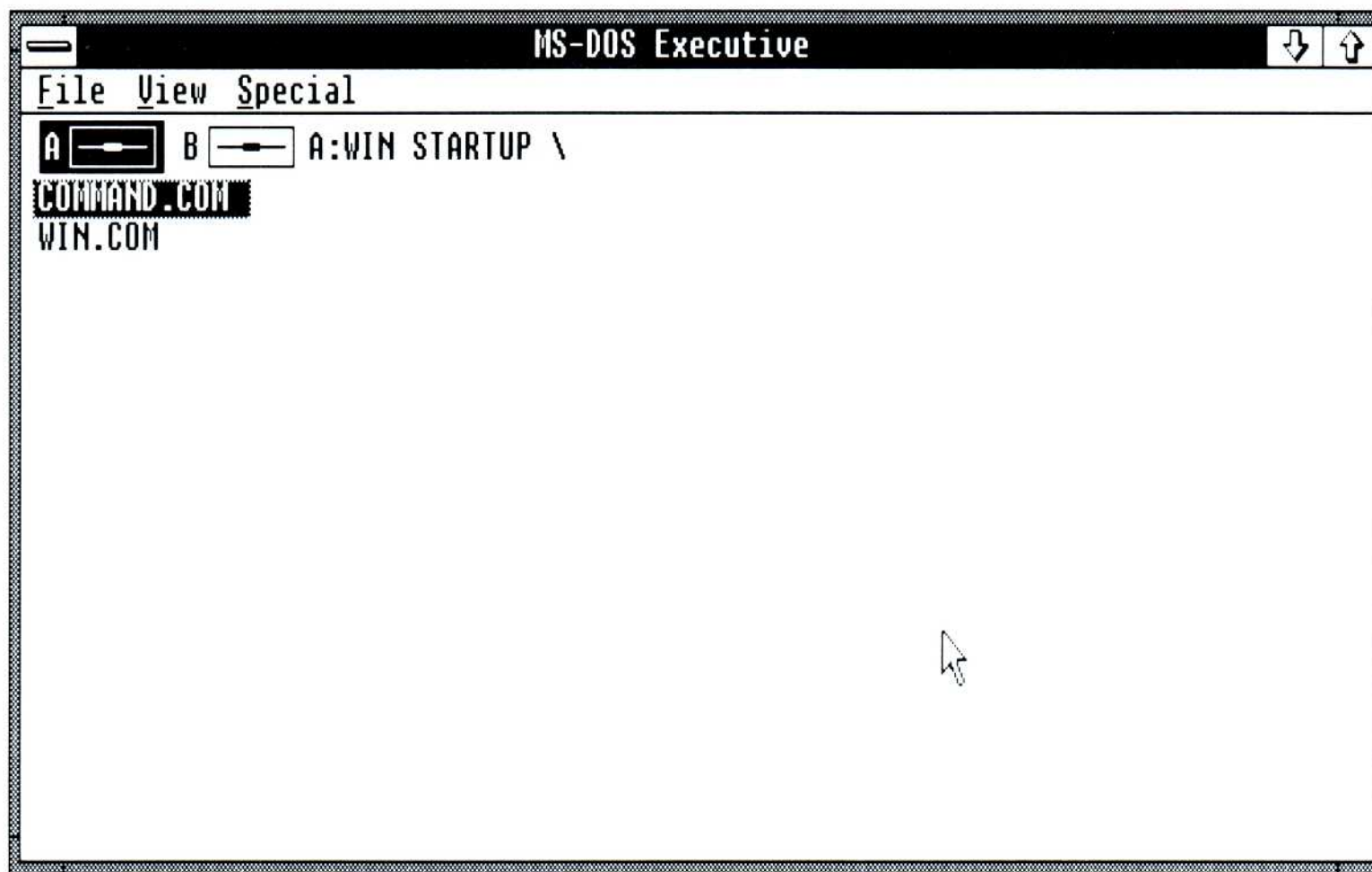
If you have a hard-disk system, your MS-DOS Executive window
should look something like this:

```
┌─────────────────────────────────────────────────────────────┐
│ ▬              MS-DOS Executive              ⇩ ⇧ │
├─────────────────────────────────────────────────────────────┤
│ File  View  Special                                          │
├─────────────────────────────────────────────────────────────┤
│ A──█ C█──█ C:CHRIS \WINDOWS                                  │
│ PIF                                                          │
│ CALC.EXE                                                     │
│ CALENDAR.EXE                                                 │
│ CARDFILE.EXE                                                 │
│ CLIPBRD.EXE                                                  │
│ CLOCK.EXE                                                    │
│ CONTROL.EXE                                                  │
│ MSDOS.EXE                                                    │
│ NOTEPAD.EXE                                                  │
│ PAINT.EXE                                                    │
│ REVERSI.EXE                                                  │
│ SPOOLER.EXE                                                  │
│ TERMINAL.EXE              ⬚                                  │
│ WIN.COM                                                      │
│ WRITE.EXE                                                    │
│                                                              │
└─────────────────────────────────────────────────────────────┘
```
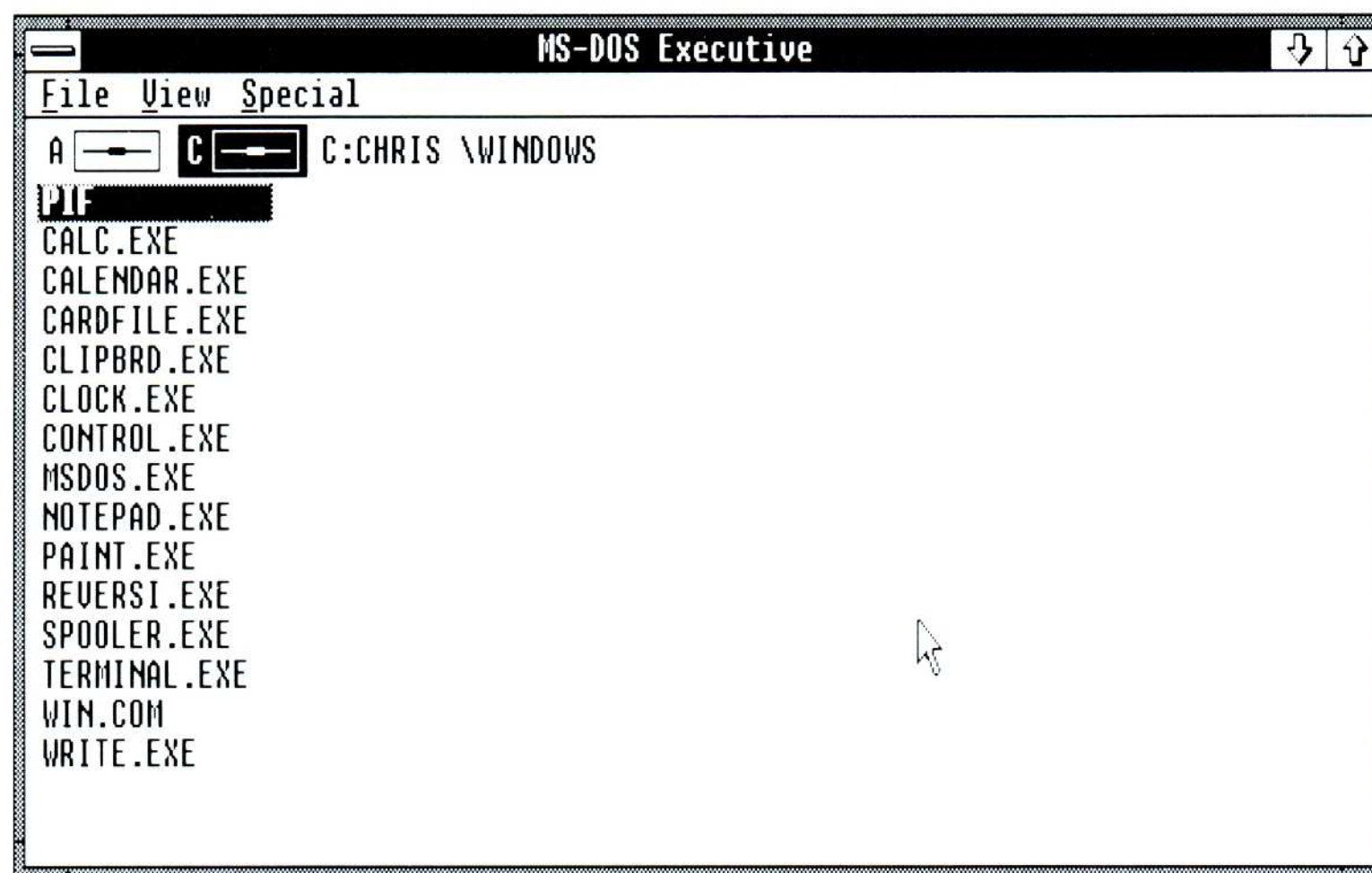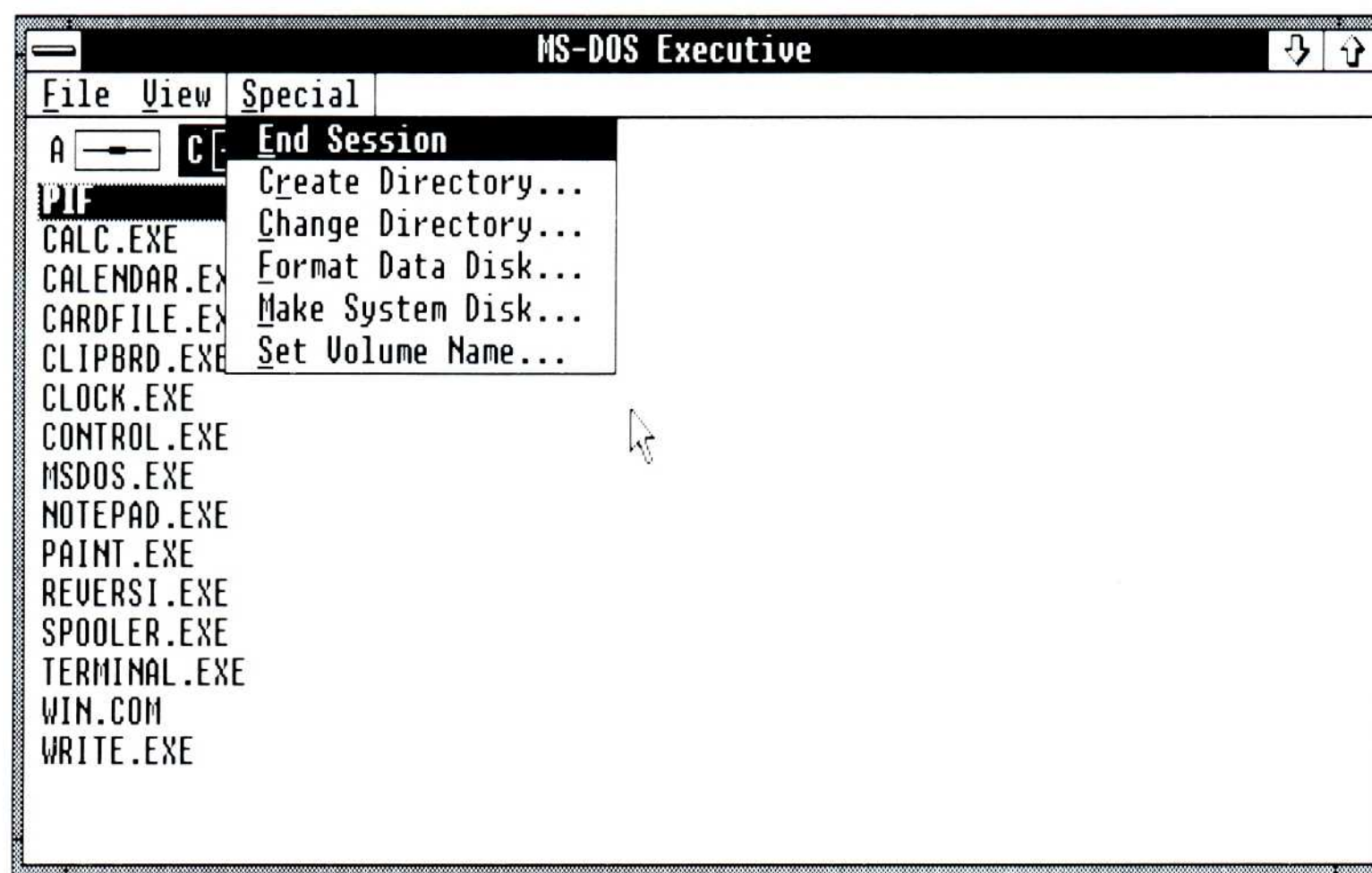
Experiment by choosing some of the other commands in the
View menu.

Ending Your Windows Session

Quitting Windows

You can end your Windows session now or go on to the next exercise. Ending your session is as easy as choosing a command:

1 Point to the Special menu.

2 Click the menu name.

```
┌────────────────────────────────────────────────────────────────┐
│ ▭              MS-DOS Executive                          ⇩ ⇧    │
├────────────────────────────────────────────────────────────────┤
│ File  View  Special                                            │
│ A ▭  C  End Session                                            │
│ PIF    Create Directory...                                     │
│ CALC.EXE   Change Directory...                                 │
│ CALENDAR.EX Format Data Disk...                                │
│ CARDFILE.EX Make System Disk...                                │
│ CLIPBRD.EXE Set Volume Name...                                 │
│ CLOCK.EXE                                                      │
│ CONTROL.EXE                                                    │
│ MSDOS.EXE                              ▷                       │
│ NOTEPAD.EXE                                                    │
│ PAINT.EXE                                                      │
│ REVERSI.EXE                                                    │
│ SPOOLER.EXE                                                    │
│ TERMINAL.EXE                                                   │
│ WIN.COM                                                        │
│ WRITE.EXE                                                      │
│                                                                │
└────────────────────────────────────────────────────────────────┘
```

3 Point to the End Session command.

4 Click the command name.

A message appears on your screen asking if you want to end the session.

```
━                    MS-DOS Executive                    ⬇ ⬆
File  View  Special
A ⟨━⟩  C ⟨━⟩  C:CHRIS \WINDOWS
PIF
CALC.EXE
CALENDAR.EXE
CARDFILE.EXE
CLIPBRD.EXE
CLOCK.EXE          ┌─────────── End Session ───────────┐
CONTROL.EXE        │                                   │
MSDOS.EXE          │  ⚠   This will end your Windows session. │
NOTEPAD.EXE        │  /!\                              │
PAINT.EXE          │                                   │
REVERSI.EXE        │     ( OK )      ( Cancel )         │
SPOOLER.EXE        └───────────────────────────────────┘
TERMINAL.EXE                      ⬉
WIN.COM
WRITE.EXE
```
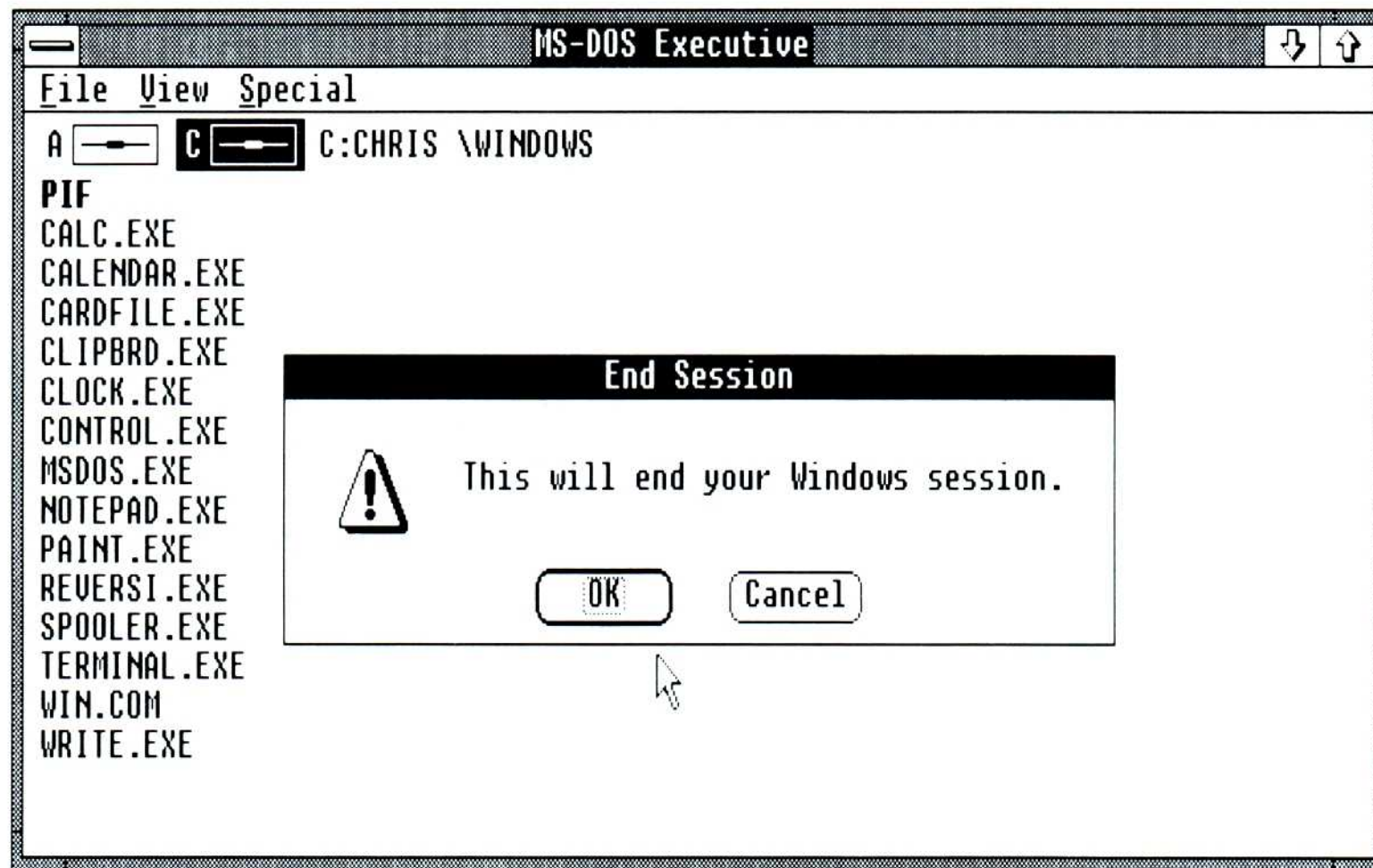
If you want to end your Windows session, here's what to do:

☐ Point to the OK button.
☐ Click the button.

If you want to go on to the next exercise, do this:

☐ Point to the Cancel button.
☐ Click the button.

In this exercise, you've covered the basics of selecting menus and choosing commands with the mouse. In the next exercise, you'll sharpen these skills, and you'll learn to start a Windows application, open a file, use dialog boxes, and save a document.

Exercise 2: Using Notepad

In this exercise, you'll start a Windows application, Notepad, and use it to edit a sample file included on your Windows Desktop Applications disk.

First start Windows, if you need to. (If you need a refresher, see Chapter 1, "Getting Started.")

Two-drive system

If you have a two-drive system, you need to insert another disk to do this exercise:
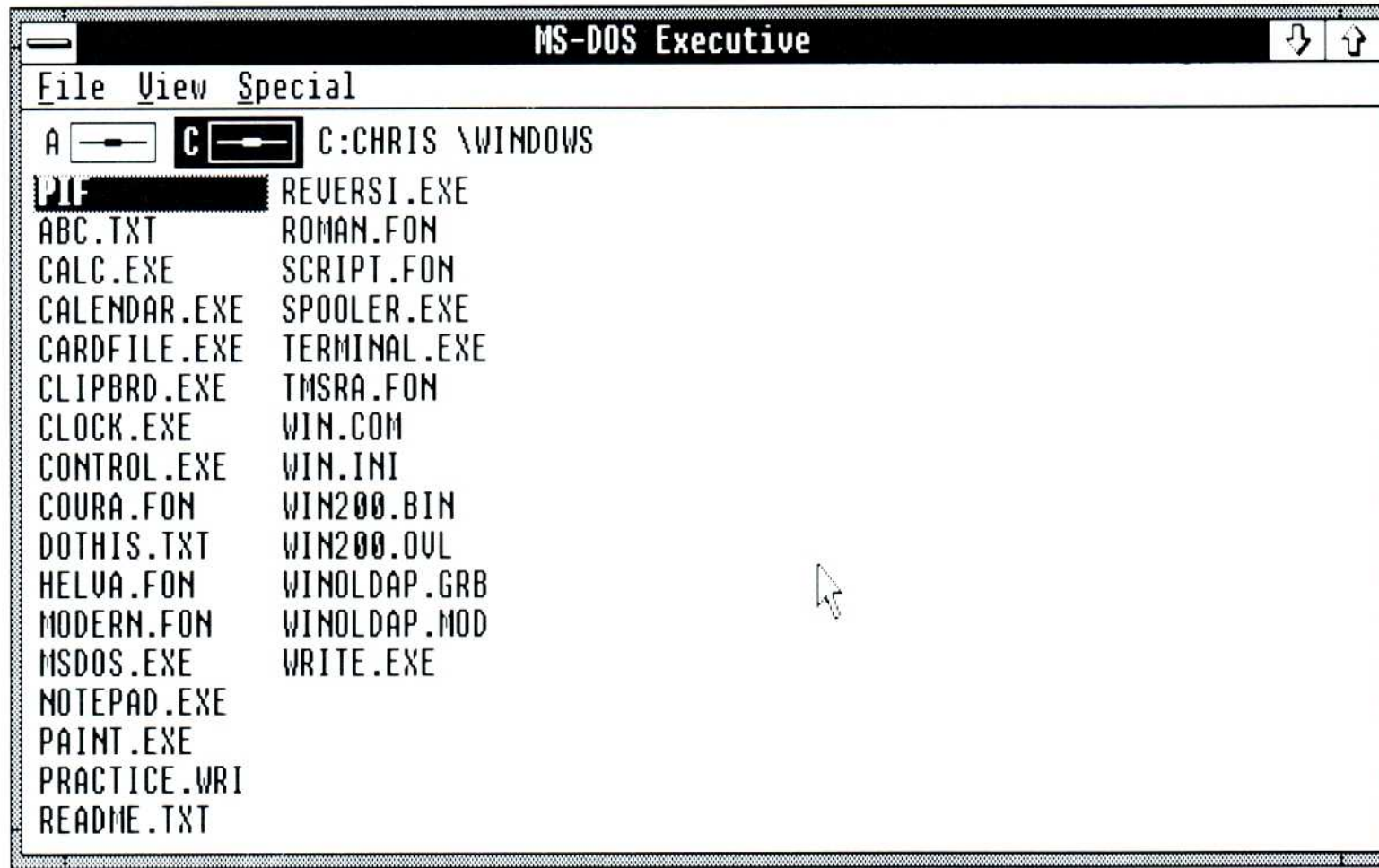
1   Remove the startup disk from drive A.

2   Insert the Windows Desktop Applications disk in drive A.

3   Click the drive A icon.

MS-DOS Executive displays the directory listing for the Desktop Applications disk in drive A. The drive A icon is highlighted, showing that it is selected. Your screen should look like this:
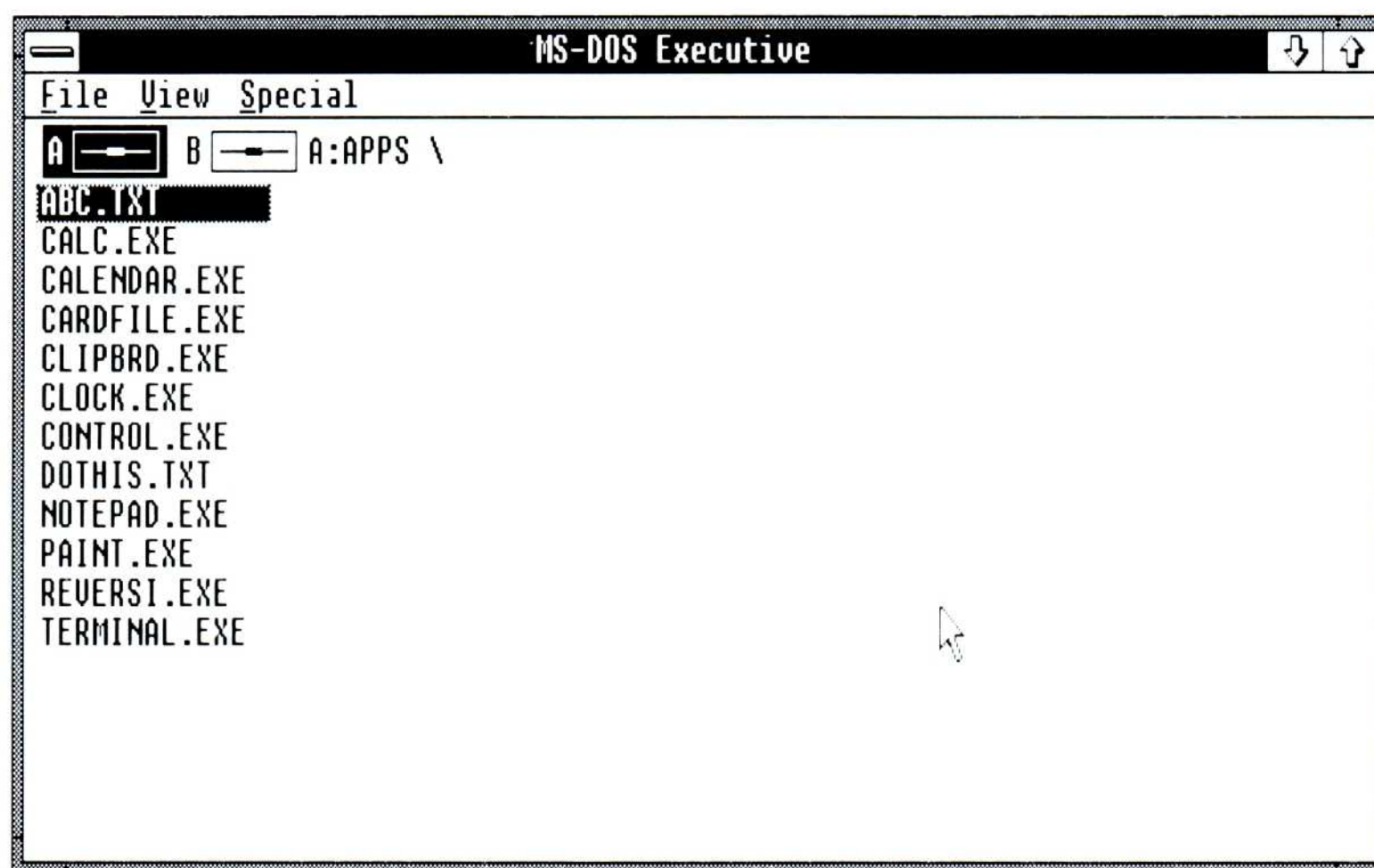
```
┌─────────────────────────────────────────────────────────────────────┐
│ ▬              ·MS-DOS Executive                              ⇩  ⇧   │
│ File  View  Special                                                   │
├─────────────────────────────────────────────────────────────────────┤
│ A ▭══▭  B ▭═▭ A:APPS \                                                │
│ ▉▉▉▉▉▉▉▉                                                              │
│ CALC.EXE                                                              │
│ CALENDAR.EXE                                                          │
│ CARDFILE.EXE                                                          │
│ CLIPBRD.EXE                                                           │
│ CLOCK.EXE                                                             │
│ CONTROL.EXE                                                           │
│ DOTHIS.TXT                                                            │
│ NOTEPAD.EXE                                                           │
│ PAINT.EXE                                                             │
│ REVERSI.EXE                                                           │
│ TERMINAL.EXE                                          ▚               │
│                                                                       │
│                                                                       │
│                                                                       │
└─────────────────────────────────────────────────────────────────────┘
```

If you have a hard-disk system, the application file for Notepad (and all the Windows applications) is on your hard disk and appears in the MS-DOS Executive window. The drive C icon is highlighted, showing that it is selected. If you quit Windows at the end of the last lesson, your screen should look something like the following:

Hard-disk system

```
┌─────────────────────────────────────────────────────────────┐
│ ▬                    MS-DOS Executive                  ⇩ ⇧   │
├─────────────────────────────────────────────────────────────┤
│ File  View  Special                                          │
├─────────────────────────────────────────────────────────────┤
│ A ▭─■─ │C│▭─■─│ C:CHRIS \WINDOWS                             │
│ PIF          REVERSI.EXE                                     │
│ ABC.TXT      ROMAN.FON                                       │
│ CALC.EXE     SCRIPT.FON                                      │
│ CALENDAR.EXE SPOOLER.EXE                                     │
│ CARDFILE.EXE TERMINAL.EXE                                    │
│ CLIPBRD.EXE  TMSRA.FON                                       │
│ CLOCK.EXE    WIN.COM                                         │
│ CONTROL.EXE  WIN.INI                                         │
│ COURA.FON    WIN200.BIN                                      │
│ DOTHIS.TXT   WIN200.OVL                                      │
│ HELVA.FON    WINOLDAP.GRB             ⍓                      │
│ MODERN.FON   WINOLDAP.MOD                                    │
│ MSDOS.EXE    WRITE.EXE                                       │
│ NOTEPAD.EXE                                                  │
│ PAINT.EXE                                                    │
│ PRACTICE.WRI                                                 │
│ README.TXT                                                   │
└─────────────────────────────────────────────────────────────┘
```

If you did not quit Windows at the end of the last lesson, then the directory listing in your MS-DOS Executive window will still show only the program files. You can use the View menu's All command to display the full directory list.
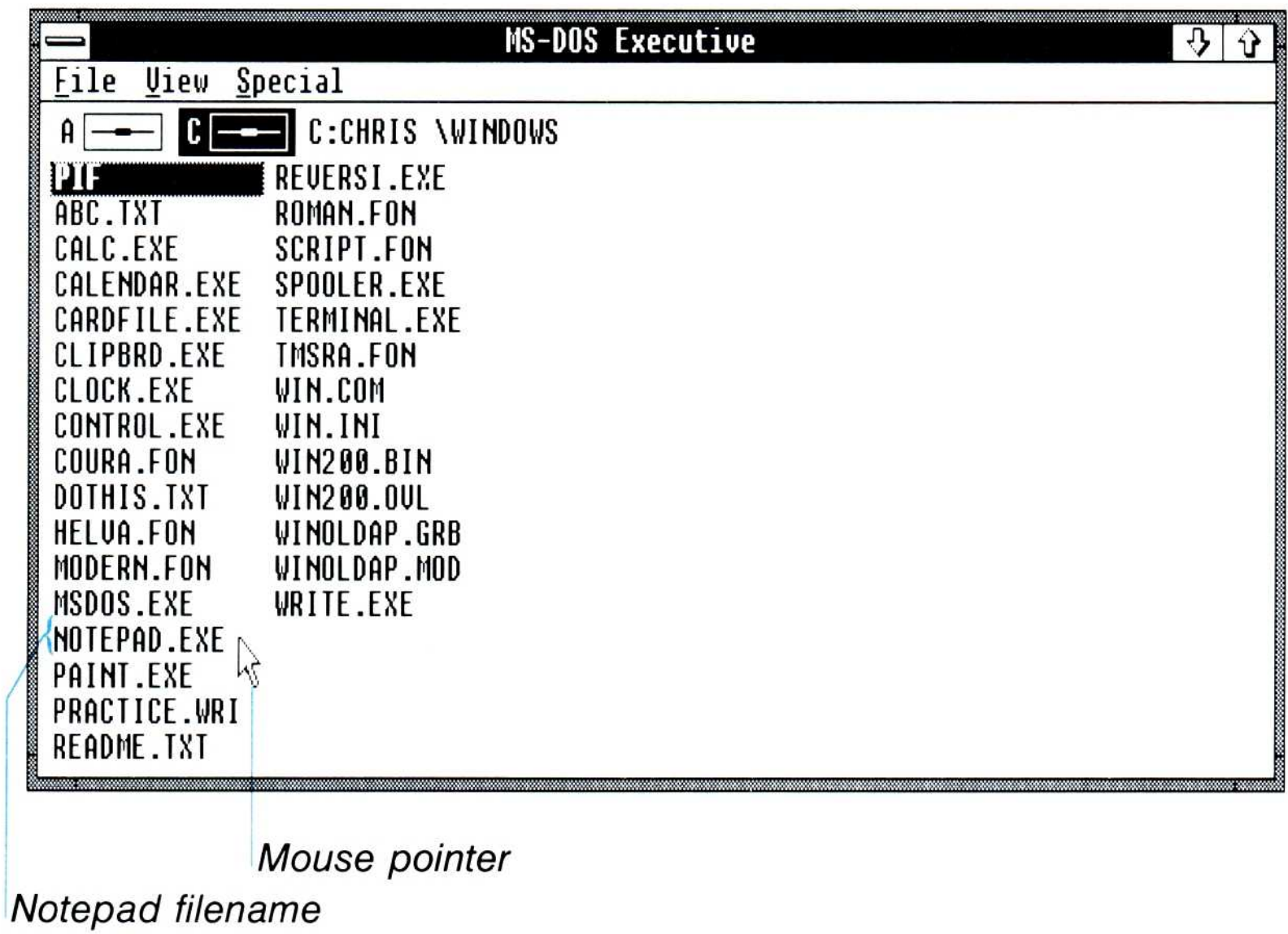
Now you're ready to begin. Remember, if you select the wrong menu or decide you don't want to choose a command, just point to the screen area outside the menu and click the mouse button. The menu disappears and you can start over again.

Starting Notepad
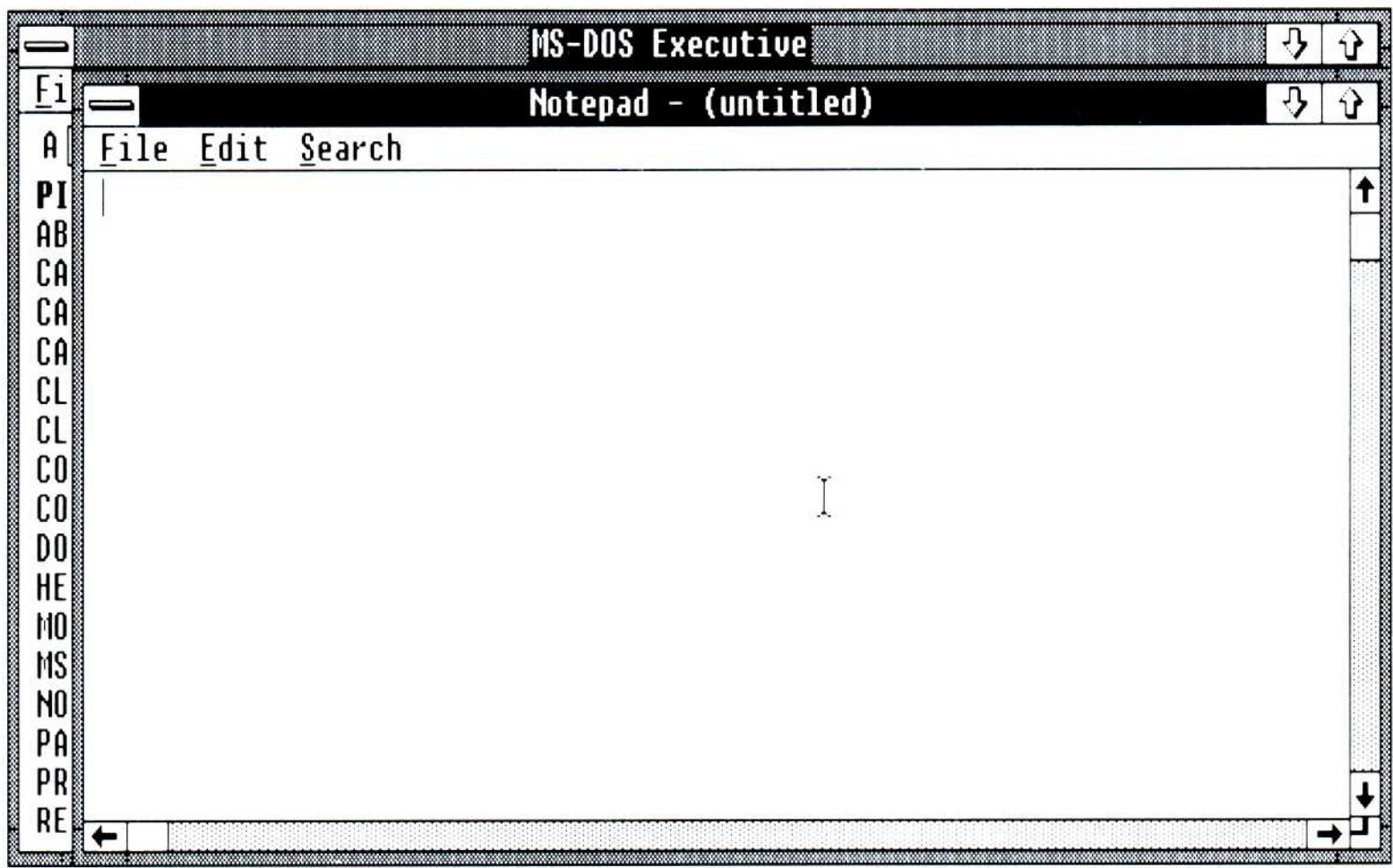
You always start applications from the MS-DOS Executive window. You can use the mouse to start applications. Start Notepad now:

Starting an application

▣ Double-click the application filename, NOTEPAD.EXE.

```
┌─────────────────────────────────────────────────────────────┐
│ ▬                    MS-DOS Executive                  ⇩  ⇧  │
├─────────────────────────────────────────────────────────────┤
│  File  View  Special                                         │
├─────────────────────────────────────────────────────────────┤
│  A ─── C ─── C:CHRIS \WINDOWS                                │
│  PIF          REVERSI.EXE                                    │
│  ABC.TXT      ROMAN.FON                                      │
│  CALC.EXE     SCRIPT.FON                                     │
│  CALENDAR.EXE SPOOLER.EXE                                    │
│  CARDFILE.EXE TERMINAL.EXE                                   │
│  CLIPBRD.EXE  TMSRA.FON                                      │
│  CLOCK.EXE    WIN.COM                                        │
│  CONTROL.EXE  WIN.INI                                        │
│  COURA.FON    WIN200.BIN                                     │
│  DOTHIS.TXT   WIN200.OVL                                     │
│  HELVA.FON    WINOLDAP.GRB                                   │
│  MODERN.FON   WINOLDAP.MOD                                   │
│  MSDOS.EXE    WRITE.EXE                                      │
│  NOTEPAD.EXE  ⤡                                              │
│  PAINT.EXE                                                   │
│  PRACTICE.WRI                                                │
│  README.TXT                                                  │
└─────────────────────────────────────────────────────────────┘
```

Mouse pointer

Notepad filename

Notepad appears in front of the MS-DOS Executive window.

```
┌─────────────────────────────────────────────────────────────┐
│ ▬                    MS-DOS Executive                  ⇩  ⇧  │
├──┬──────────────────────────────────────────────────────────┤
│Fi│ ▬              Notepad - (untitled)            ⇩  ⇧  │    │
│A ├──────────────────────────────────────────────────────┤    │
│PI│ File  Edit  Search                                   │    │
│AB│ |                                                  ↑ │    │
│CA│                                                    ▓ │    │
│CA│                                                    ▓ │    │
│CA│                                                      │    │
│CL│                                                      │    │
│CL│                                                      │    │
│CO│                                                      │    │
│CO│                     I                                │    │
│DO│                                                      │    │
│HE│                                                      │    │
│MO│                                                      │    │
│MS│                                                      │    │
│NO│                                                      │    │
│PA│                                                      │    │
│PR│                                                    ↓ │    │
│RE│ ←                                                →   │    │
└──┴──────────────────────────────────────────────────────────┘
```

Opening a File

To open files for editing, you select the File menu and choose the Open command:

Opening files

1 Click the File menu.

2 Click the Open command.

The Open command's dialog box is displayed on your screen. Windows uses dialog boxes to send you messages and to ask you for additional information — in this case, a filename — needed to carry out a command. You can use your mouse to supply the information to Windows.

The Open dialog box
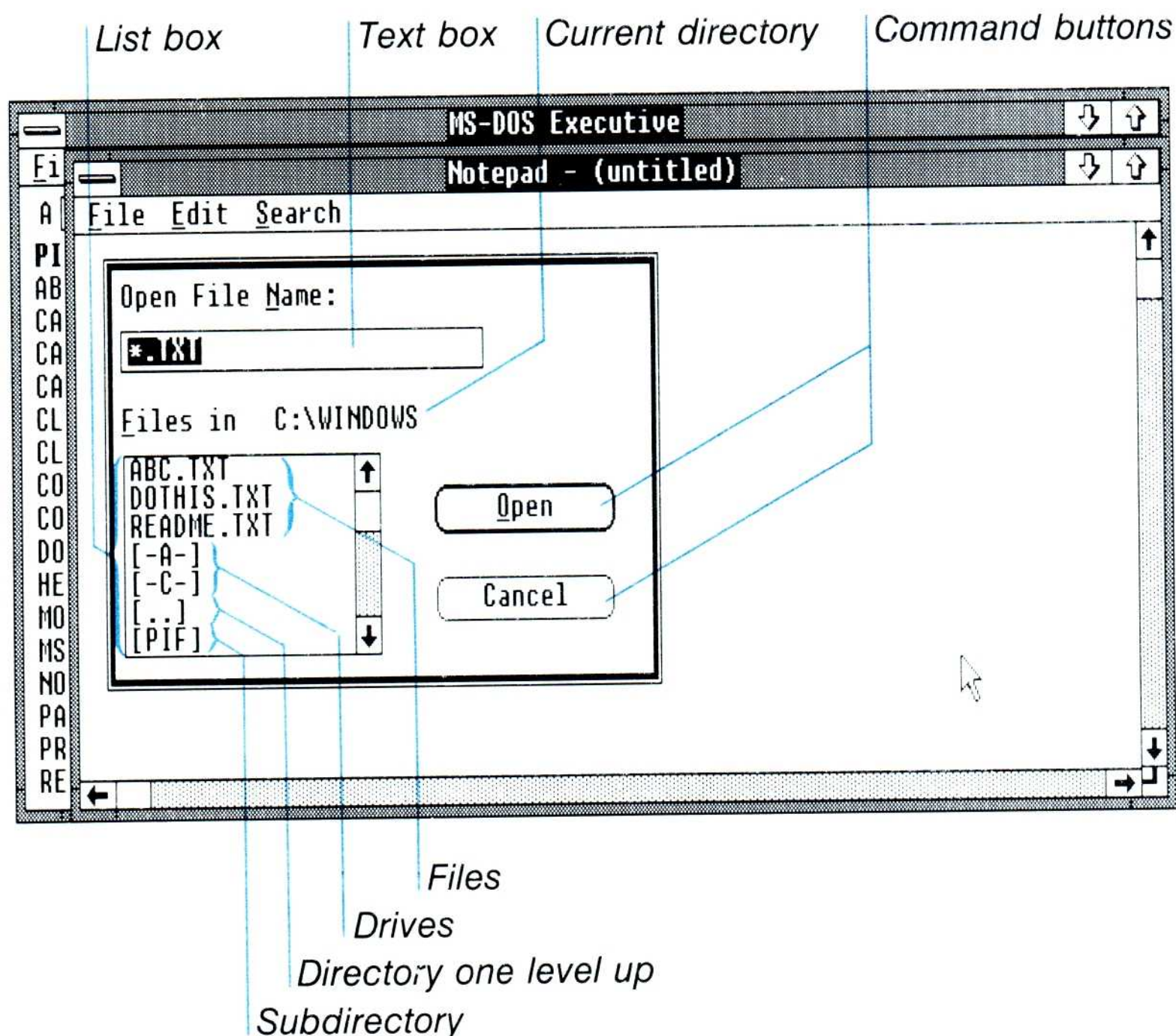
List box   *Text box*   *Current directory*   *Command buttons*

```
┌──────────────────────────────────────────────────┐
│ ═          MS-DOS Executive              ⇩  ⇧     │
│ Fi ┌──────     Notepad - (untitled)      ⇩  ⇧ ──┐ │
│ A  │ File  Edit  Search                         ↑│ │
│ PI │                                             │ │
│ AB │  Open File Name:                            │ │
│ CA │  ┌──────────────────────┐                   │ │
│ CA │  │ *.TXT                │                   │ │
│ CA │  └──────────────────────┘                   │ │
│ CL │  Files in   C:\WINDOWS                       │ │
│ CL │  ┌────────────┐ ↑                            │ │
│ CO │  │ABC.TXT     │                              │ │
│ CO │  │DOTHIS.TXT  │     ┌──────────────┐         │ │
│ DO │  │README.TXT  │     │    Open      │         │ │
│ HE │  │[-A-]       │     └──────────────┘         │ │
│ MO │  │[-C-]       │                              │ │
│ MS │  │[..]        │     ┌──────────────┐         │ │
│ NO │  │[PIF]       │ ↓   │   Cancel     │         │ │
│ PA │  └────────────┘     └──────────────┘      ⇲ │ │
│ PR │                                             ↓│ │
│ RE ← ──────────────────────────────────────────→  │
└──────────────────────────────────────────────────┘
```

Files
Drives
Directory one level up
Subdirectory

The list box contains a list of all the Notepad files (files with a .TXT extension). It also shows the disk drives, the directory one level up from your current directory (symbolized by [..]), and any subdirectories (directories in your current directory). You use the Open button or the Cancel button to complete the Open command.

Opening a sample file

Here's how to select the file you want to open from the dialog box:

1. Click the filename DOTHIS.TXT in the list box.

   The filename is highlighted, to show that it's selected, and it is surrounded by a dotted box, to show that the list box itself is selected. DOTHIS.TXT now appears in the Open File Name text box, too.

Dotted box
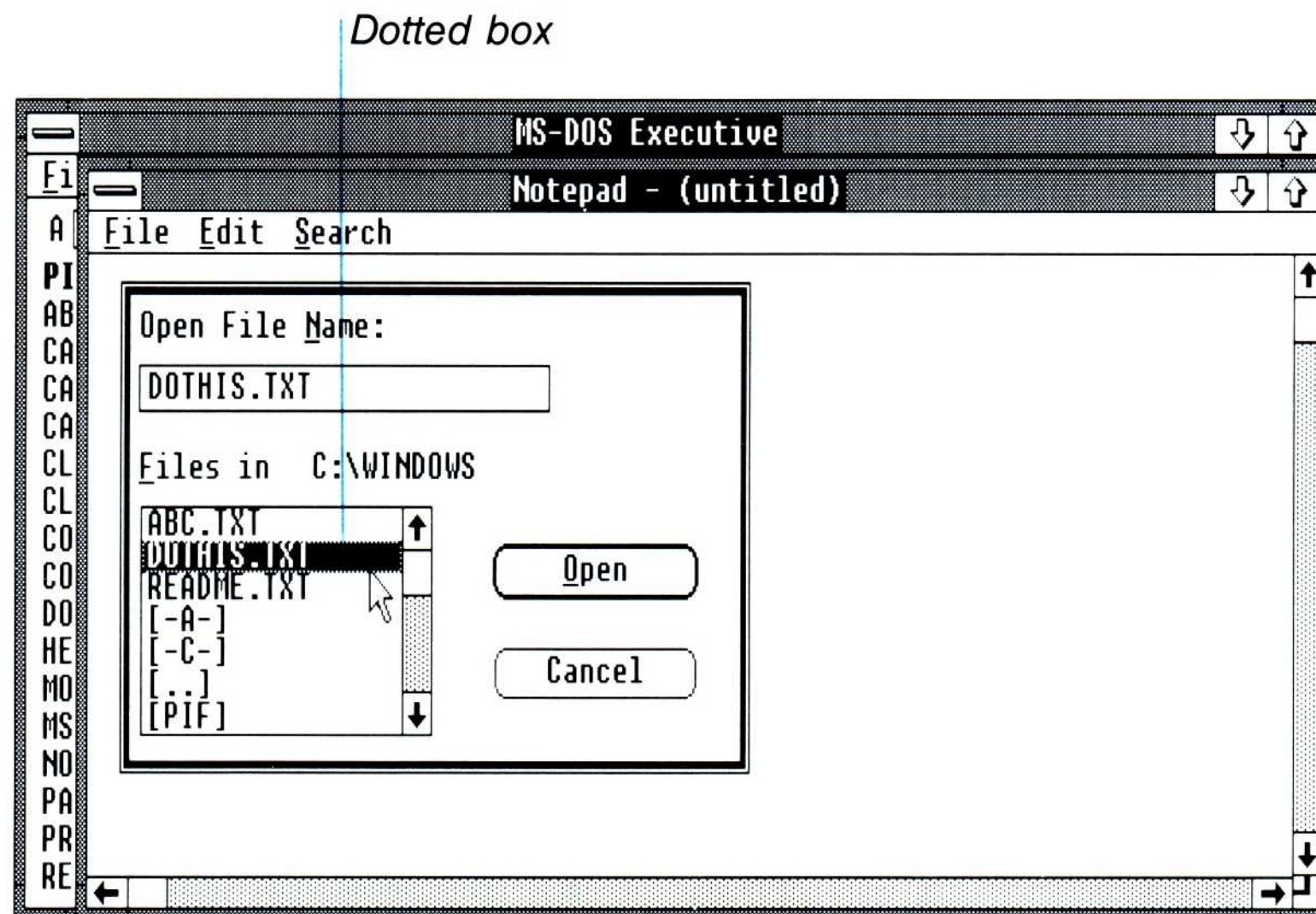
2. Click the Open button.

The sample text file, DOTHIS.TXT, appears in the Notepad window, and you're ready to edit it with Notepad.

Insertion point   I-beam

```
┌──────────────────────────────────────────────────────────┐
│ ▭           MS-DOS Executive                       ⇩  ⇧   │
│Fi┌───────────────────────────────────────────────────┐   │
│ A│ ▭         Notepad - DOTHIS.TXT                ⇩  ⇧ │   │
│PI│ File  Edit  Search                                │   │
│AB│TO DO              PRIORITY                        ↑│   │
│CA│Shop for new suit      B                           ▓│   │
│CA│Phone dentist          C                           ▓│   │
│CA│Take car in for tuneup A                            │   │
│CL│Make plane reservation B                            │   │
│CL│Pick up theater tickets B                           │   │
│CO│    How much?                                       │   │
│CO│Contact realtor        B                            │   │
│DO│Clean garage           C                            │   │
│HE│Mow lawn               B          I                 │   │
│MO│Plan spring garden     B                            │   │
│MS│Schedule vacation      A                            │   │
│NO│Read "War and Peace"   C                            │   │
│PA│Write Grandma          C                            │   │
│PR│Buy present for Martha B                            │   │
│RE│Talk to Fred           B                           ↓│   │
│  └─←──────────────────────────────────────────────→──┘   │
└──────────────────────────────────────────────────────────┘
```
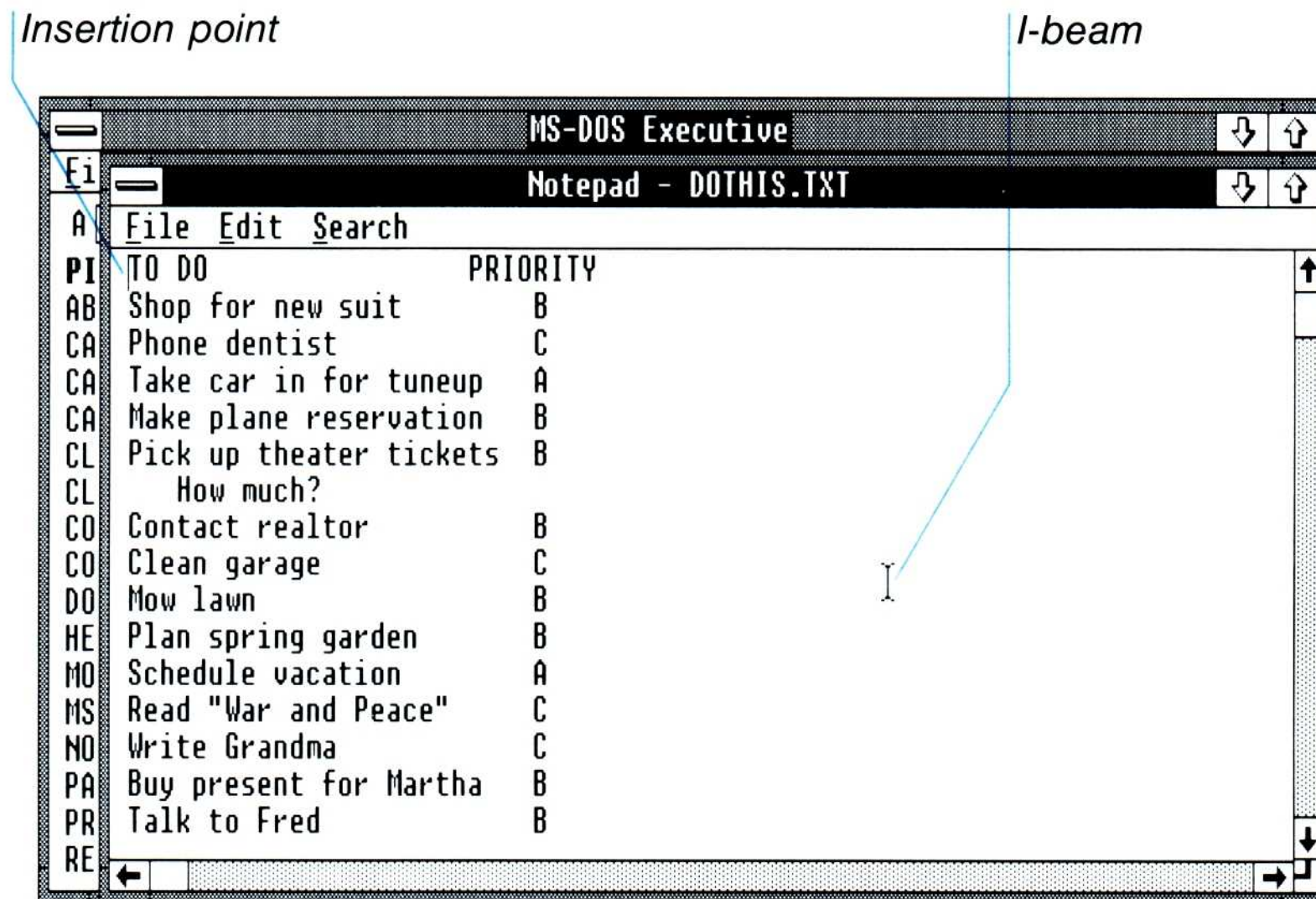
Working in a File

Move your pointer around in the Notepad screen. Notice that when the mouse pointer is in the work area, it changes from an arrow to an I-beam. The flashing vertical line at the top of the file is the insertion point, the point at which new text can be typed. You can move the insertion point to any place in the file with your mouse.

For example, move the insertion point to the third line in the file and add another item to your list:

1 Click the line beginning "Phone dentist."

2 Type your new item, *Pay dentist*.

Inserting text
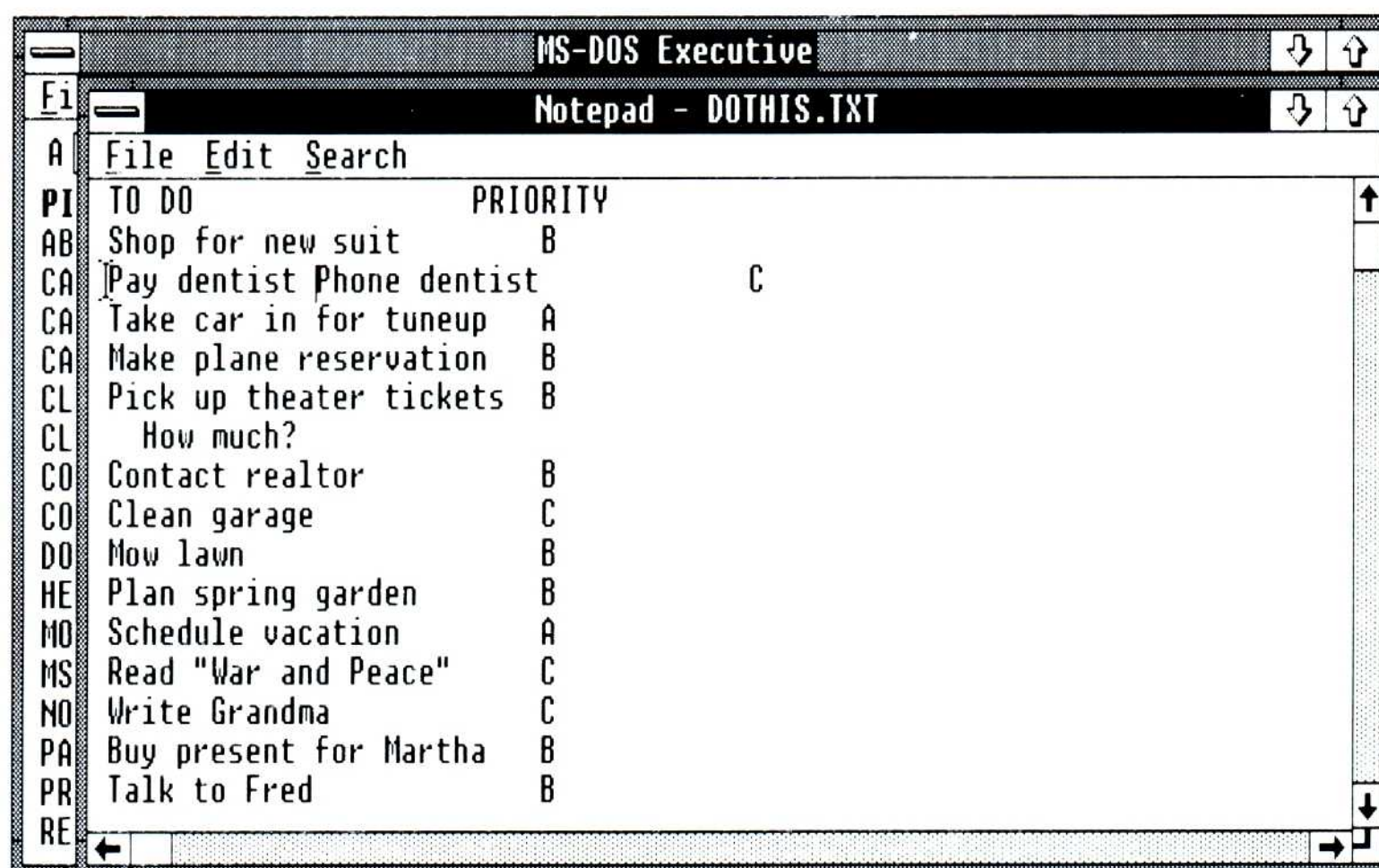
```
┌────────────────────────────────────────────────────────────────┐
│ ▬           MS-DOS Executive                              ⇩ ⇧   │
├─┬──────────────────────────────────────────────────────────────┤
│Fi│ ▬          Notepad - DOTHIS.TXT                        ⇩ ⇧   │
│ A│ File  Edit  Search                                           │
│PI│ TO DO              PRIORITY                                 ↑│
│AB│ Shop for new suit        B                                  ▒│
│CA│ ▏Pay dentist Phone dentist            C                     ▒│
│CA│ Take car in for tuneup   A                                  ▒│
│CA│ Make plane reservation   B                                  ▒│
│CL│ Pick up theater tickets  B                                  ▒│
│CL│    How much?                                                ▒│
│CO│ Contact realtor          B                                  ▒│
│CO│ Clean garage             C                                  ▒│
│DO│ Mow lawn                 B                                  ▒│
│HE│ Plan spring garden       B                                  ▒│
│MO│ Schedule vacation        A                                  ▒│
│MS│ Read "War and Peace"     C                                  ▒│
│NO│ Write Grandma            C                                  ▒│
│PA│ Buy present for Martha   B                                  ▒│
│PR│ Talk to Fred             B                                  ↓│
│RE│ ←                                                         →⌐┘│
└──┴──────────────────────────────────────────────────────────────┘
```

3. Use the SPACEBAR to move the insertion point over to the right-hand column, and give the new item a priority of D.

4. Press the ENTER key to move the line "Phone dentist" to the next line.
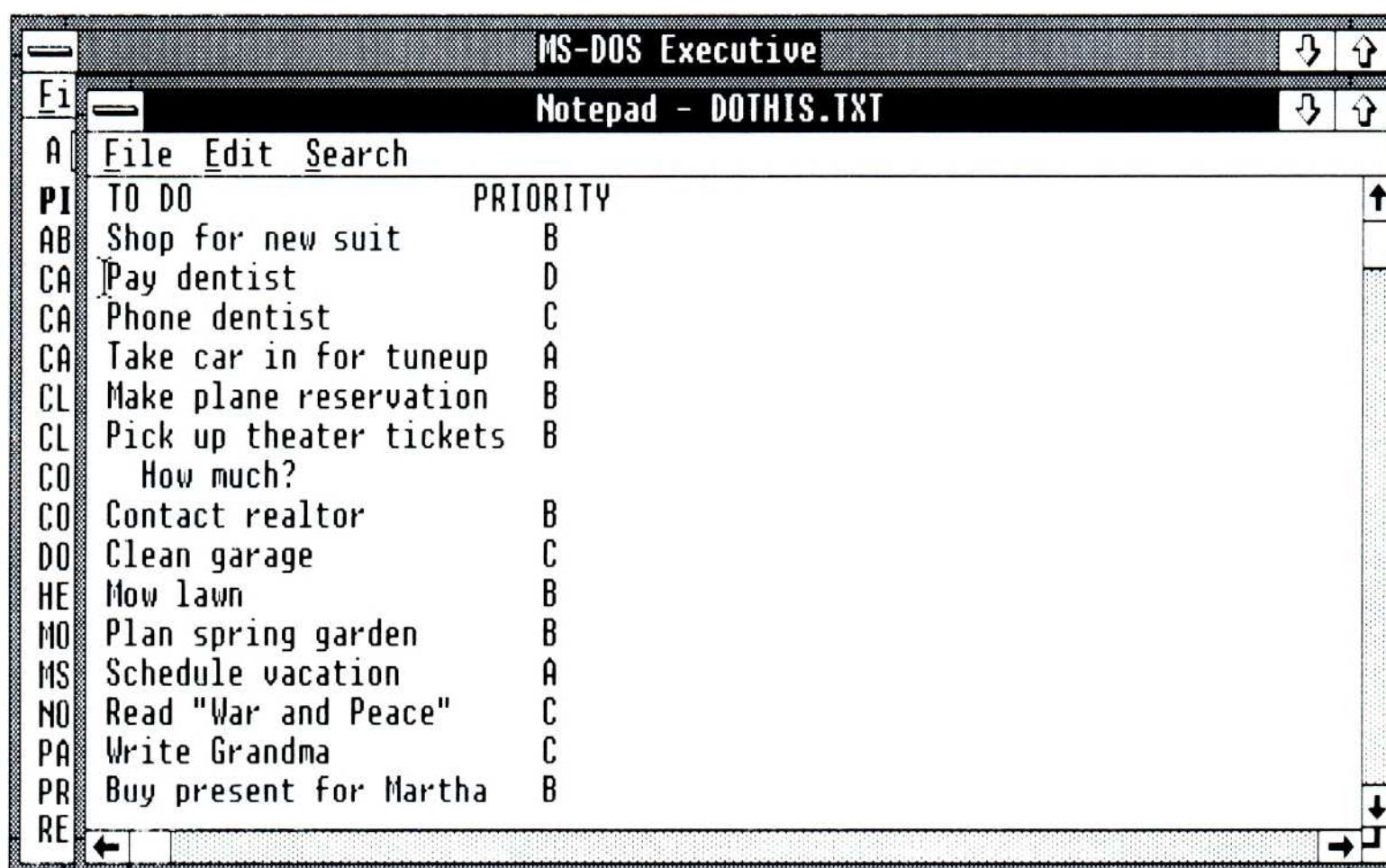
```
┌────────────────────────────────────────────────────────────────┐
│ ▬           MS-DOS Executive                              ⇩ ⇧   │
├─┬──────────────────────────────────────────────────────────────┤
│Fi│ ▬          Notepad - DOTHIS.TXT                        ⇩ ⇧   │
│ A│ File  Edit  Search                                           │
│PI│ TO DO              PRIORITY                                 ↑│
│AB│ Shop for new suit        B                                  ▒│
│CA│ ▏Pay dentist             D                                  ▒│
│CA│ Phone dentist            C                                  ▒│
│CA│ Take car in for tuneup   A                                  ▒│
│CL│ Make plane reservation   B                                  ▒│
│CL│ Pick up theater tickets  B                                  ▒│
│CO│    How much?                                                ▒│
│CO│ Contact realtor          B                                  ▒│
│DO│ Clean garage             C                                  ▒│
│HE│ Mow lawn                 B                                  ▒│
│MO│ Plan spring garden       B                                  ▒│
│MS│ Schedule vacation        A                                  ▒│
│NO│ Read "War and Peace"     C                                  ▒│
│PA│ Write Grandma            C                                  ▒│
│PR│ Buy present for Martha   B                                  ↓│
│RE│ ←                                                         →⌐┘│
└──┴──────────────────────────────────────────────────────────────┘
```

Now delete some of the tasks on your list. To do this, you need to select the text that you want your command to affect. Try selecting and deleting the next four items on your list:

Selecting text to delete

1. Point to the line beginning "Phone dentist."
2. Drag the I-beam pointer down five lines.
3. Release the mouse button.

As you drag the I-beam pointer, the selected text is highlighted.

```
┌──────────────────────────────────────────────────────────────┐
│ ▬        │        MS-DOS Executive        │           ⇩  ⇧    │
├──┬──────────────────────────────────────────────────┬──┬──────┤
│Fi│ ▬           Notepad - DOTHIS.TXT              ⇩  ⇧│  │      │
│A │ File  Edit  Search                               │  │      │
│PI│ TO DO              PRIORITY                      ↑│  │      │
│AB│ Shop for new suit      B                         ││  │      │
│CA│ Pay dentist            D                         ││  │      │
│CA│ Phone dentist          C                         ││  │      │
│CA│ Take car in for tuneup A                         ││  │      │
│CL│ Make plane reservation B                         ││  │      │
│CL│ Pick up theater tickets B                        ││  │      │
│CO│    How much?                                     ││  │      │
│CO│ Contact realtor        B                         ││  │      │
│DO│ Clean garage           C                         ││  │      │
│HE│ Mow lawn               B                         ││  │      │
│MO│ Plan spring garden     B            I            ││  │      │
│MS│ Schedule vacation      A                         ││  │      │
│NO│ Read "War and Peace"   C                         ││  │      │
│PA│ Write Grandma          C                         ││  │      │
│PR│ Buy present for Martha  B                        ↓│  │      │
│RE│ ←                                                →│  │      │
└──┴──────────────────────────────────────────────────┴──┴──────┘
```

If you make a mistake, it's easy to correct:

If you make a mistake

- Click the mouse button.

The text is no longer selected.

Once you have selected the lines, delete them by choosing the Edit menu's Cut command:

Deleting selected text

1. Click the Edit menu.

```
┌─────────────────────────────────────────────────────────────┐
│ ═    │                 MS-DOS Executive              │ ⇩│⇧│  │
│─┬────│────────────────────────────────────────────────────┐  │
│Fi│ ═ │              Notepad - DOTHIS.TXT             │⇩│⇧││  │
│──│───┬──────┬────────┬──────────────────────────────────┐│  │
│A │ File │ Edit │ Search │                              │↑││  │
│PI│ TO DO│ Undo        Alt+BkSp                          │ ││  │
│AB│ Shop ├───────────────────────────┐                   │ ││  │
│CA│ Pay d│ Cut          Shift+Del     │                   │ ││  │
│CA│Phone │ Copy ⋀      Ctrl+Ins       │                   │ ││  │
│CA│ Take │ Paste       Shift+Ins      │                   │ ││  │
│CL│ Make │ Clear        Del           │                   │ ││  │
│CL│ Pick ├───────────────────────────┤                   │ ││  │
│CO│  How │ Select All                 │                   │ ││  │
│CO│ Conta│ Time/Date    F5            │                   │ ││  │
│DO│ Clean├───────────────────────────┤                   │ ││  │
│HE│ Mow l│ Word Wrap                  │                   │ ││  │
│MO│ Plan └────────────────────────────┘                   │ ││  │
│MS│ Schedule vacation          A                          │ ││  │
│NO│ Read "War and Peace"       C                          │ ││  │
│PA│ Write Grandma              C                          │ ││  │
│PR│ Buy present for Martha     B                          │⇩││  │
│RE│←──                                                  →│  │
└──┴──────────────────────────────────────────────────────────┘
```
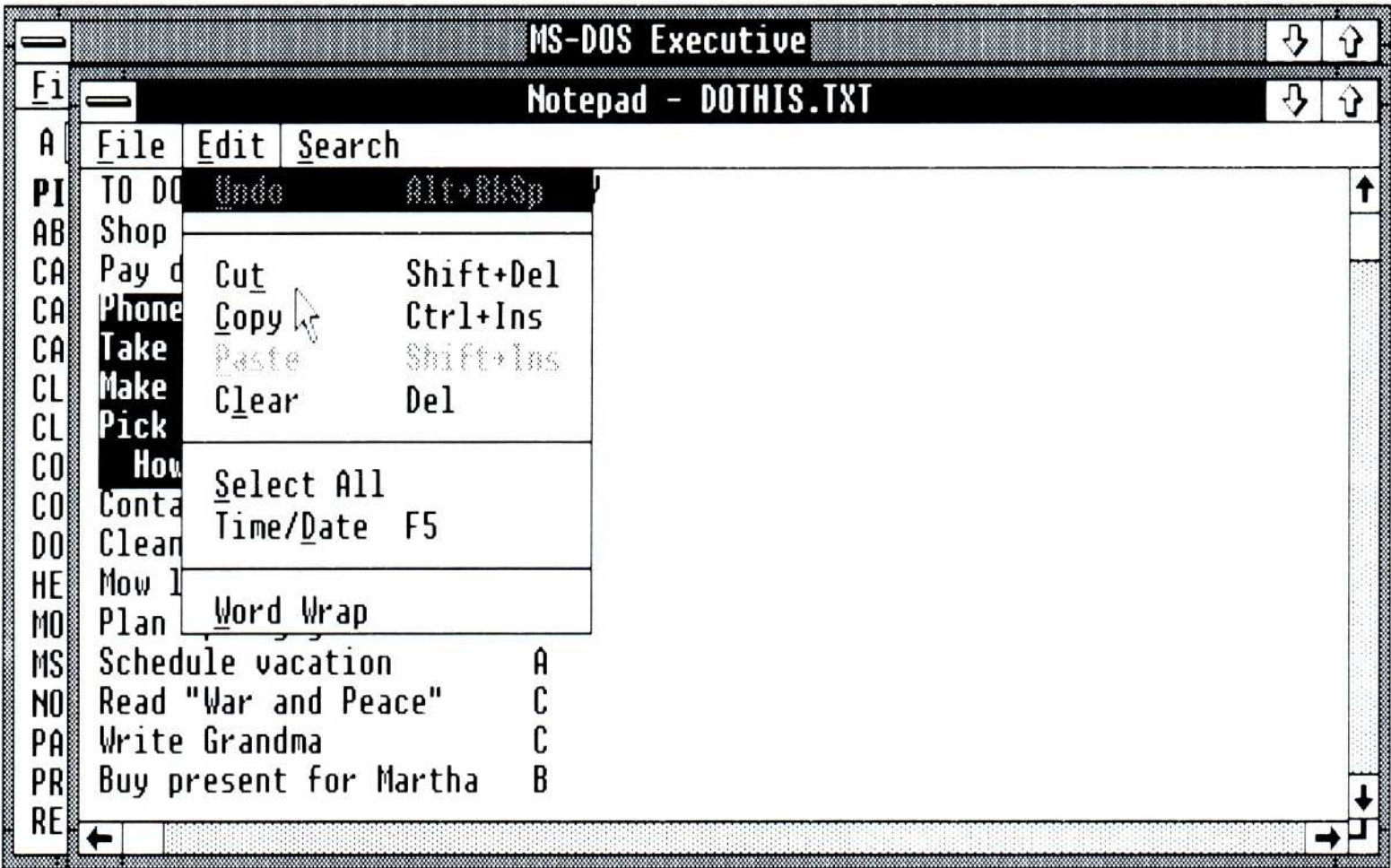
2 Click the Cut command.

The lines you selected are deleted from your file.

Saving your changes

The next step is to save the changes you made with Notepad. Notepad has two commands to save documents: Save and Save As. The Save command saves the edited version of your document under the existing filename. The Save As command saves your edited version under a new filename, while the original version remains unchanged. (Windows uses the DOS file-naming convention that limits filenames to eight characters.)
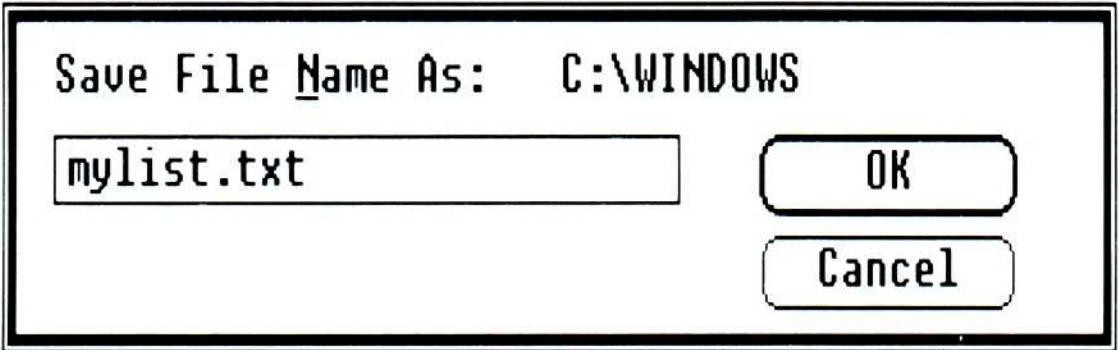
Using the Save As command

In this exercise, use the Save As command from the File menu:

1 Click the File menu.

```
┌──────────────────┐
│ File             │
├──────────────────┤
│ New              │
│ Open...          │
│ Save             │
│ Save As...⋀      │
│ Print            │
├──────────────────┤
│ Exit             │
│ About Notepad... │
└──────────────────┘
```

2 Click the Save As command.

A dialog box appears. The current name of the file, DOTHIS.TXT, is in the text box.

3 Type the new filename, *mylist.txt*, in the text box.

```
Save File Name As:    C:\WINDOWS

 mylist.txt                          (    OK    )

                                     (  Cancel  )
```
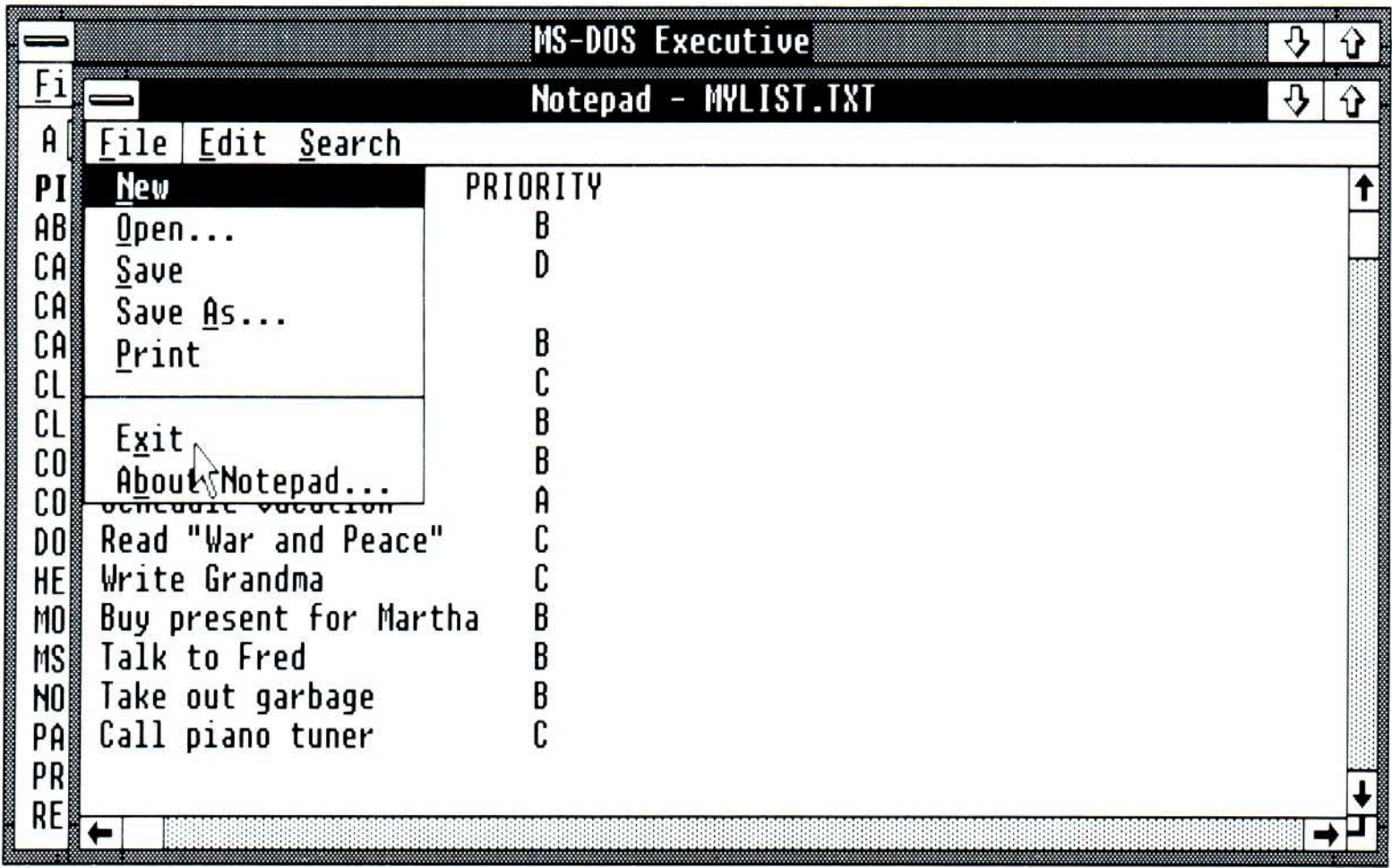
4 Click the OK button.

Windows saves the revised file under the new name. The original DOTHIS.TXT remains intact.

After you're finished working with an application, you can use the Exit command to quit the application and return to MS-DOS Executive. Use this command to quit Notepad:

Quitting an application

1 Click the File menu.

```
MS-DOS Executive
Notepad - MYLIST.TXT
File  Edit  Search
New          PRIORITY
Open...         B
Save            D
Save As...
Print           B
                C
Exit            B
About Notepad...B
                A
Read "War and Peace"  C
Write Grandma         C
Buy present for Martha B
Talk to Fred          B
Take out garbage      B
Call piano tuner      C
```

2 Click the Exit command.

The Notepad window closes and you can once again see the entire MS-DOS Executive window.

In this exercise, you learned to start a Windows application, Notepad, and you used it to edit and save a file. You also learned how to use a dialog box and how to quit an application, and you reviewed selecting menus and choosing commands.

You can end your Windows session now or go on to the final exercise, in which you'll learn to move windows and change their size.

Exercise 3: Using Clock

In this exercise, you'll start another Windows application, Clock, and learn to arrange and manipulate windows on your screen.

If you quit Windows at the end of the last exercise, start Windows again.

Two-drive system

If you have a two-drive system, insert the Desktop Applications disk in drive A. To select drive A, click the drive A icon.

Hard-disk system

If you have a hard-disk system, the file for Clock, CLOCK.EXE, appears in your Windows directory in the MS-DOS Executive window.

Starting Clock

The first step is to start Clock:

■ Double-click the application filename for Clock, CLOCK.EXE.

Clock appears on your screen.

Active-window title bar

```
 ═     ▓▓▓▓▓▓▓▓▓▓▓▓▓▓▓MS-DOS Executive▓▓▓▓▓▓▓▓▓▓▓▓▓▓▓   ⇩ ⇧
 ┌───────────────────────────┐
 │Fi│  ═     Clock     ⇩ ⇧ │
 │ A│                  │0WS
 │PI│     ·        ·    │
 │AB│  ■              ■ │
 │CA│                   │
 │CA│                   │
 │CA│  ■              ■ │
 │CL│                   │
 │CL│  ■              ■ │
 │CO│                   │
 │CO│     ·        ·    │
 │DO│                   │
 │  └───────────────────┘            ▛
 │HELVA.FON     WIN200.OUL
 │MODERN.FON    WINOLDAP.GRB
 │MSDOS.EXE     WINOLDAP.MOD
 │MYLIST.TXT    WRITE.EXE
 │NOTEPAD.EXE
 │PAINT.EXE
 │PRACTICE.WRI
```
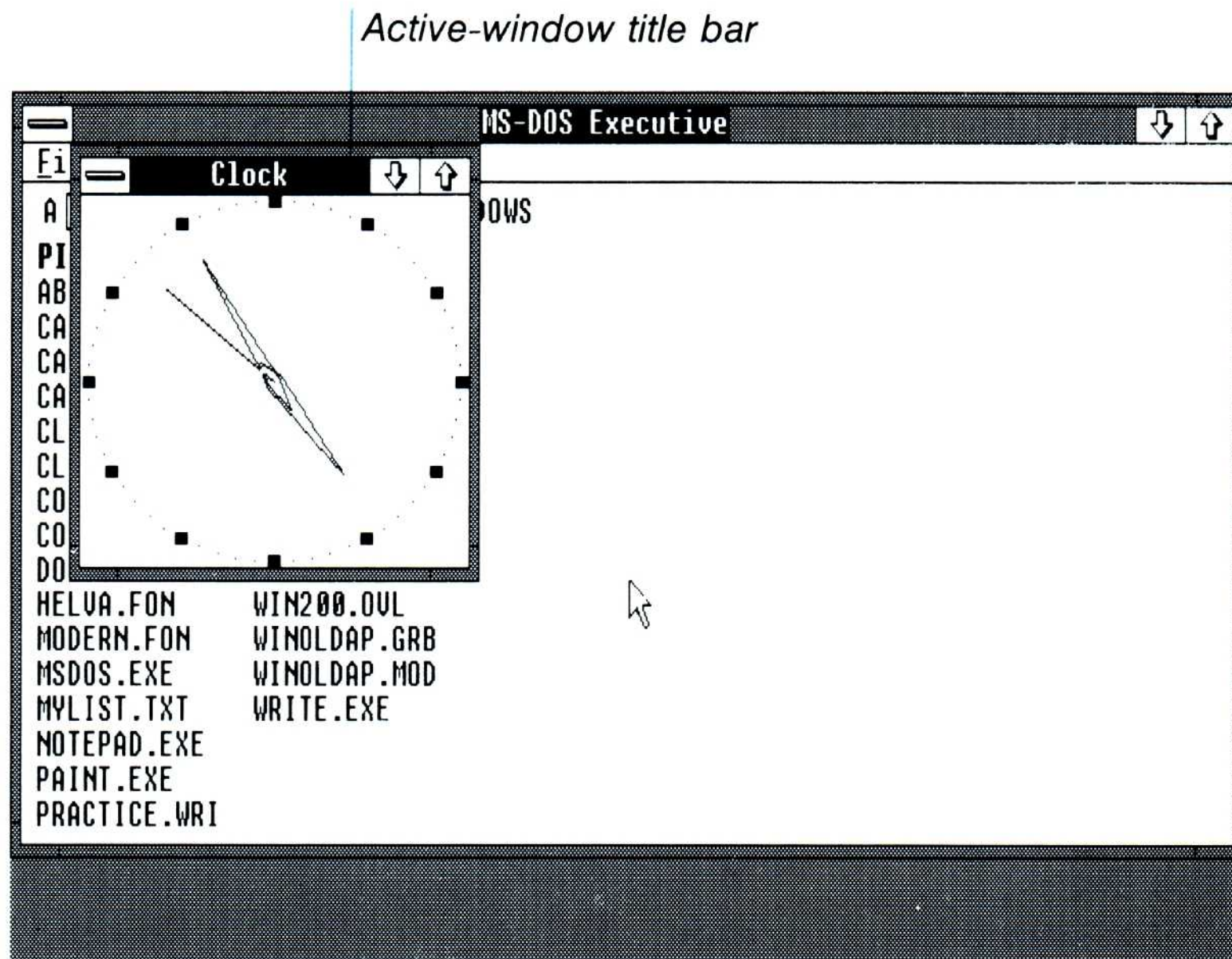
Notice that the title bar is darkened. This shows that Clock is the active window — the window that your commands will affect. The title bar of the MS-DOS Executive window is gray, showing that the window is no longer active. When you have more than one window open, you need to select one of them as your active window.

Changing the Active Window

Try changing your active window to MS-DOS Executive:

Selecting a window

◻ Click a blank area in the MS-DOS Executive window.

```
┌─────────────────────────────────────────────────────────────┐
│ ▭                      MS-DOS Executive               ⇩ ⇧    │
├─────────────────────────────────────────────────────────────┤
│ File  View  Special                                          │
├─────────────────────────────────────────────────────────────┤
│ A ▭──▭  C ▭──▭  C:CHRIS \WINDOWS                              │
│ PIF           README.TXT                                     │
│ ABC.TXT       REVERSI.EXE                                    │
│ CALC.EXE      ROMAN.FON                                      │
│ CALENDAR.EXE  SCRIPT.FON                                     │
│ CARDFILE.EXE  SPOOLER.EXE                                    │
│ CLIPBRD.EXE   TERMINAL.EXE                                   │
│ CLOCK.EXE     TMSRA.FON                                      │
│ CONTROL.EXE   WIN.COM                                        │
│ COURA.FON     WIN.INI                                        │
│ DOTHIS.TXT    WIN200.BIN                                     │
│ HELVA.FON     WIN200.OVL                          ▭          │
│ MODERN.FON    WINOLDAP.GRB                                   │
│ MSDOS.EXE     WINOLDAP.MOD                                   │
│ MYLIST.TXT    WRITE.EXE                                      │
│ NOTEPAD.EXE                                                  │
│ PAINT.EXE                                                    │
│ PRACTICE.WRI                                                 │
│                                                              │
└─────────────────────────────────────────────────────────────┘
```
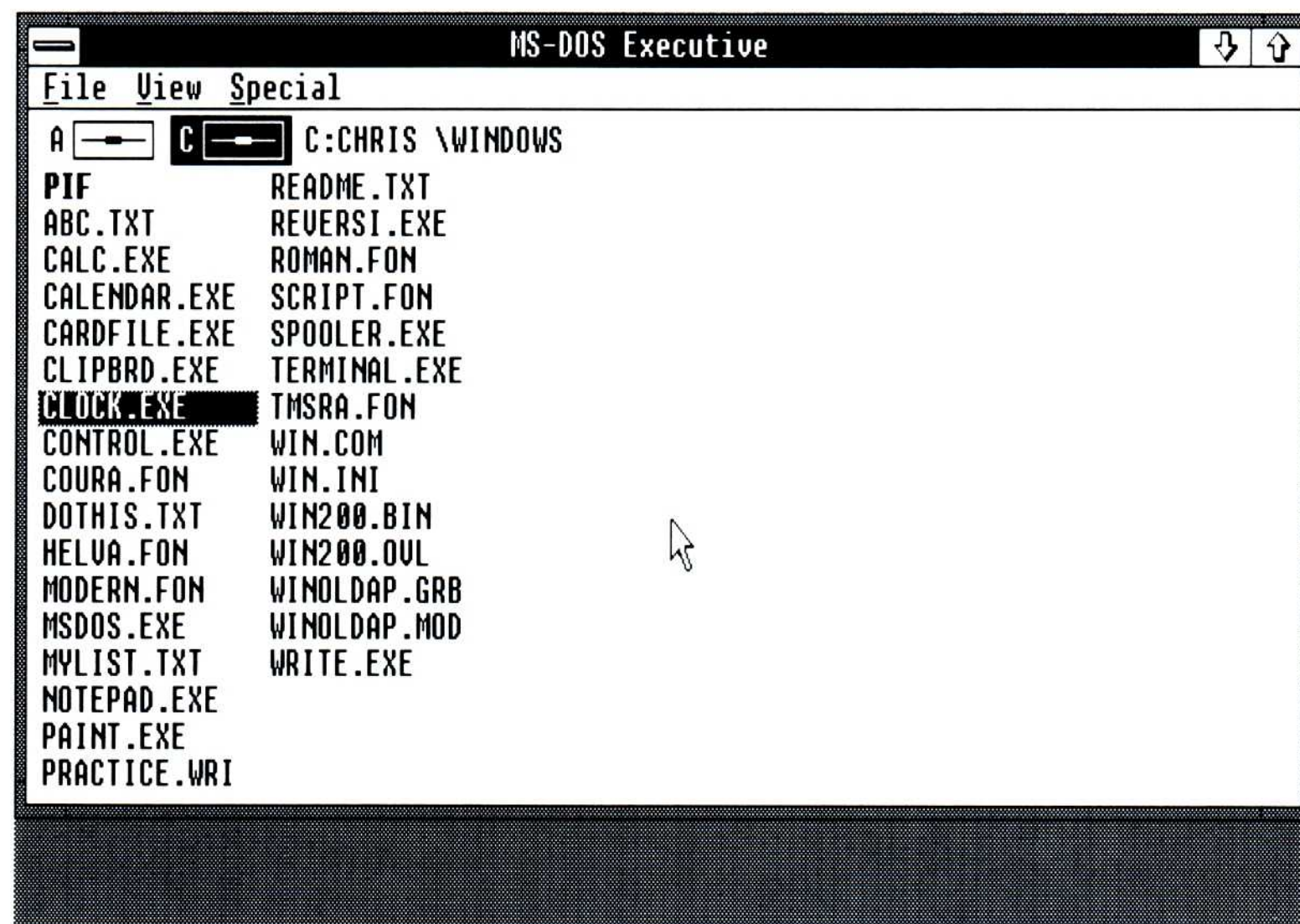
MS-DOS Executive appears in front of Clock, and its title bar is darkened.

Changing a Window's Size

If you want to select a window with the mouse, part of the window must be visible on the screen. You can make Clock visible by moving the borders of the MS-DOS Executive window. Moving the borders with the mouse is also an easy way to change a window's size.

Moving a window's borders

To move the window's borders and select Clock, do this:

[1] Point to the left border of the window. The pointer becomes a two-headed arrow.

[2] Drag the border to the right until Clock is revealed.

[3] Release the mouse button.

```
┌─────────────────────────────────────────────────────────┐
│ ▬              MS-DOS Executive                      ⇩ ⇧ │
├─────────────────────────────────────────────────────────┤
│ File  View  Special                                      │
│ A ═▬═  C ═▬═    C:CHRIS \WINDOWS                          │
│ PIF            README.TXT                                 │
│ ABC.TXT        REVERSI.EXE                                │
│ CALC.EXE       ROMAN.FON                                  │
│ CALENDAR.EXE   SCRIPT.FON                                 │
│ CARDFILE.EXE   SPOOLER.EXE                                │
│ CLIPBRD.EXE    TERMINAL.EXE                               │
│ CLOCK.EXE      TMSRA.FON                                  │
│ CONTROL.EXE    WIN.COM                                    │
│ COURA.FON      WIN.INI                                    │
│ DOTHIS.TXT     WIN200.BIN                                 │
│ HELVA.FON      WIN200.OVL                                 │
│ MODERN.FON     WINOLDAP.GRB                               │
│ MSDOS.EXE      WINOLDAP.MOD        ▷                      │
│ MYLIST.TXT     WRITE.EXE                                  │
│ NOTEPAD.EXE                                               │
│ PAINT.EXE                                                 │
│ PRACTICE.WRI                                              │
└─────────────────────────────────────────────────────────┘
```
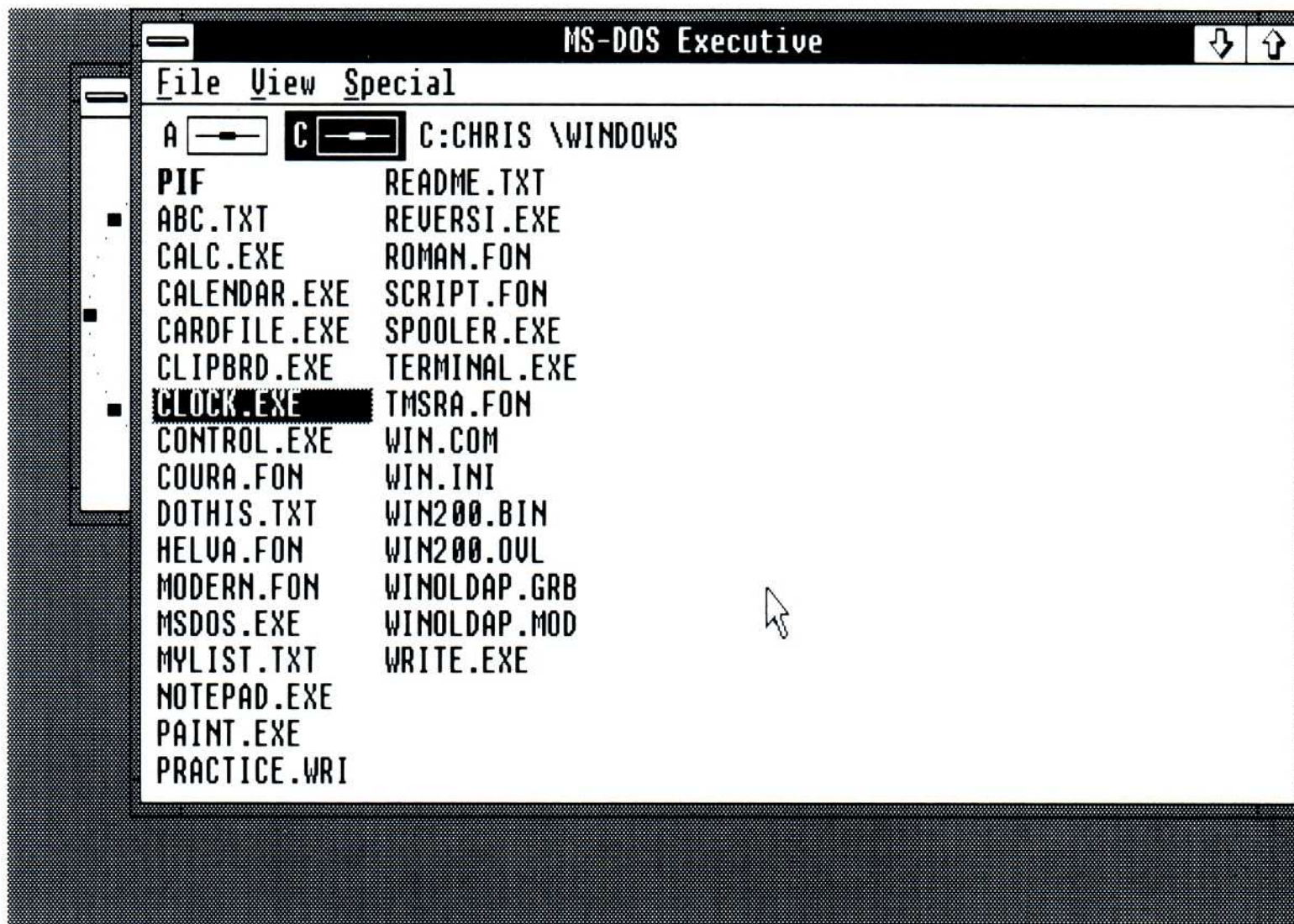
[4] Click the Clock window.

Clock appears in front of MS-DOS Executive, and its title bar is darkened.

```
┌─────────────────────────────────────────────────────────┐
│ ▬                 MS-DOS Executive                   ⇩ ⇧ │
├──────────────────────────────┬──────────────────────────┤
│ ▬        Clock        ⇩  ⇧   │                          │
│ ┌──────────────────────────┐ │IS \WINDOWS               │
│ │    ▪    · · ·    ▪        │ │TXT                       │
│ │  ·                 ·      │ │.EXE                      │
│ │ ▪         │         ▪     │ │ON                        │
│ │ ·         │         ·     │ │FON                       │
│ │ ▪          ╲        ▪     │ │.EXE                      │
│ │  ·          ╲      ·      │ │L.EXE                     │
│ │    ▪    · · ·    ▪        │ │ON                        │
│ │         ▪    ▪           │ │                          │
│ └──────────────────────────┘ │BIN                       │
│ HELVA.FON     WIN200.OVL      │                          │
│ MODERN.FON    WINOLDAP.GRB    │                          │
│ MSDOS.EXE     WINOLDAP.MOD    │      ▷                   │
│ MYLIST.TXT    WRITE.EXE       │                          │
│ NOTEPAD.EXE                   │                          │
│ PAINT.EXE                     │                          │
│ PRACTICE.WRI                  │                          │
└──────────────────────────────┴──────────────────────────┘
```
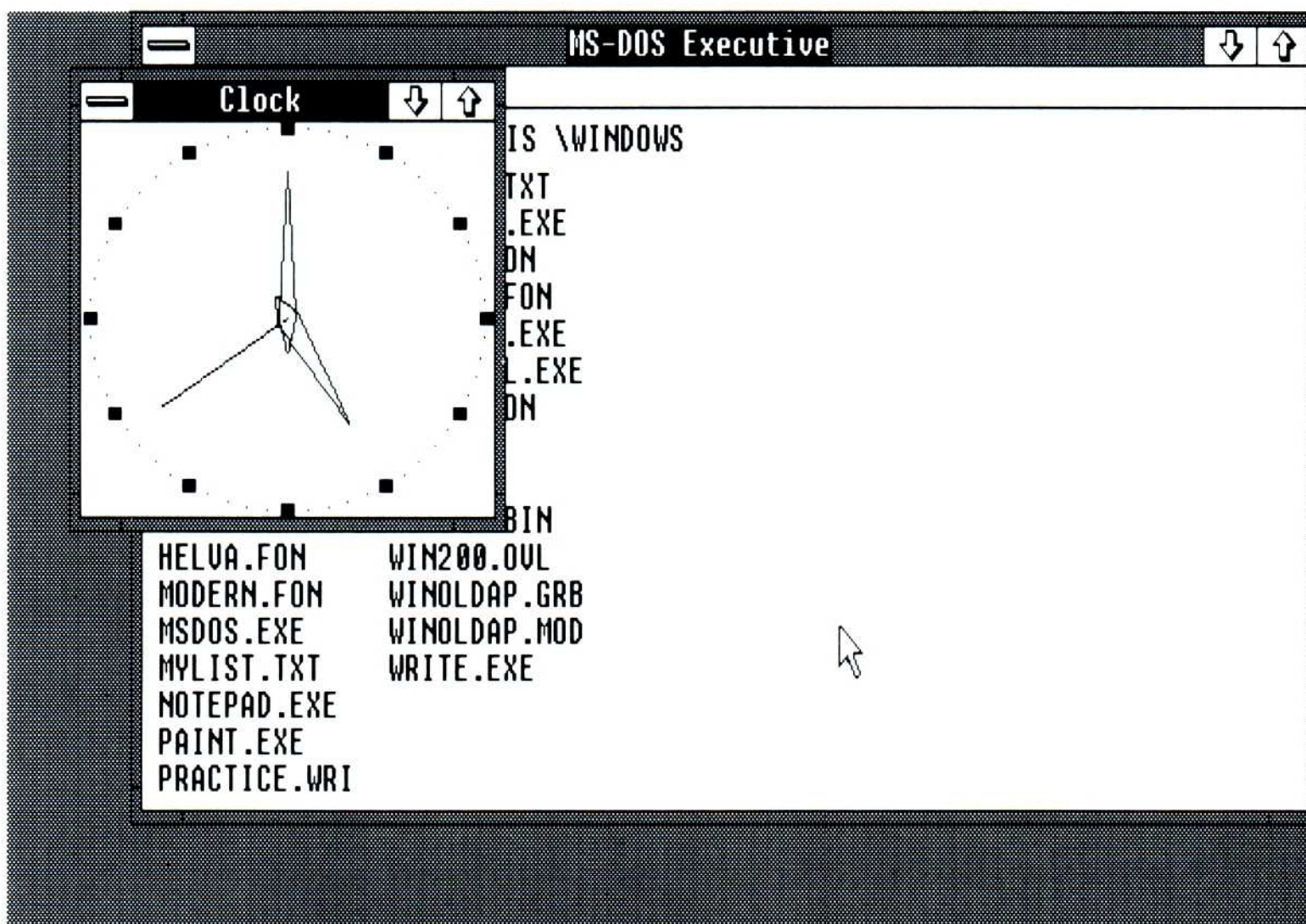
Another way to select a window

An alternative way to select the active window is to use the keyboard. Try this technique to select MS-DOS Executive:

1 Press and hold down the ALT key.

2 Press the ESCAPE key.

3 Release the ALT key.

MS-DOS Executive appears in front of Clock.

```
┌──────────────────────────────────────────────────────────────┐
│ ═      ▐         MS-DOS Executive              ⇩ ⇧ │
│ ┌─┐  File  View  Special                                       │
│ │ ║  ═                                                         │
│ │ ║  A ─■─  C ═■═  C:CHRIS \WINDOWS                            │
│ │ ║  PIF          README.TXT                                   │
│ ■    ABC.TXT      REVERSI.EXE                                  │
│ │    CALC.EXE     ROMAN.FON                                    │
│ │    CALENDAR.EXE SCRIPT.FON                                   │
│ ■    CARDFILE.EXE SPOOLER.EXE                                  │
│ │    CLIPBRD.EXE  TERMINAL.EXE                                 │
│ ■    CLOCK.EXE    TMSRA.FON                                    │
│      CONTROL.EXE  WIN.COM                                      │
│      COURA.FON    WIN.INI                                      │
│      DOTHIS.TXT   WIN200.BIN                                   │
│      HELVA.FON    WIN200.OVL                                   │
│      MODERN.FON   WINOLDAP.GRB                                 │
│      MSDOS.EXE    WINOLDAP.MOD                                 │
│      MYLIST.TXT   WRITE.EXE              ▧                     │
│      NOTEPAD.EXE                                               │
│      PAINT.EXE                                                 │
│      PRACTICE.WRI                                              │
│                                                                │
└──────────────────────────────────────────────────────────────┘
```
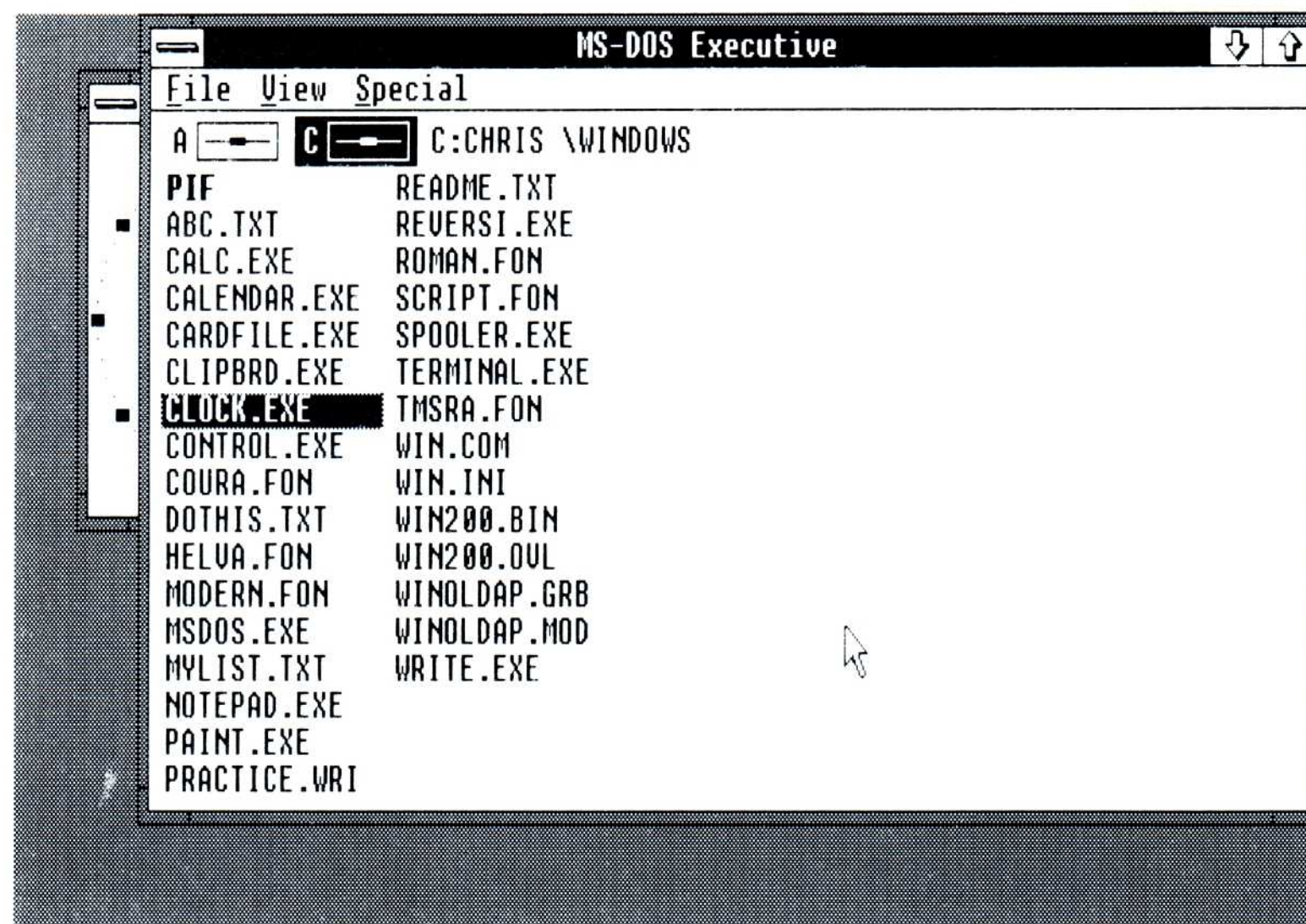
If your windows overlap, the one in front is the active window. If you have several windows sharing the screen, check the title bar to see which one is dark. That's your active window.

Moving the corners of a window

You can change the size of a window in several ways. One way is to drag the window borders, as you did with the MS-DOS Executive window. You can also move the corners of the window. Try making MS-DOS Executive smaller by moving the lower-left corner:

1 Point to the lower-left corner. The mouse pointer becomes a two-headed arrow.

2 Drag the corner up and to the right.

```
┌──────────────────────────────────────────────────────────┐
│  ▭           MS-DOS Executive              ⇩ ⇧            │
│┌─────────────────────────────────────────────────────────┐
││ Fil  View  Special                                       │
││─────────────────────────────────────────────────────────│
││  A ▭─ C▭── C:CHRIS \WINDOWS                              │
││  PIF          README.TXT                                 │
││■ ABC .TXT     REVERSI.EXE                                │
││  CAL  .EXE    ROMAN.FON                                  │
││  CAL NDAR.EXE SCRIPT.FON                                 │
││■ CAR FILE.EXE SPOOLER.EXE                                │
││  CLI BRD.EXE  TERMINAL.EXE                               │
││■ CLOCK.EXE    TMSRA.FON                                  │
││  CON ROL.EXE  WIN.COM                                    │
││  COU A.FON    WIN.INI                                    │
││  DOT IS.TXT   WIN200.BIN                                 │
││  HEL A.FON    WIN200.OVL                                 │
││  MOD RN.FON   WINOLDAP.GRB                               │
││  MSD S.EXE    WINOLDAP.MOD                               │
││  MYL ST.TXT   WRITE.EXE                                  │
││  NOT PAD.EXE                                             │
││  PAI T.EXE                                               │
││  PRACTICE.WRI                                            │
```
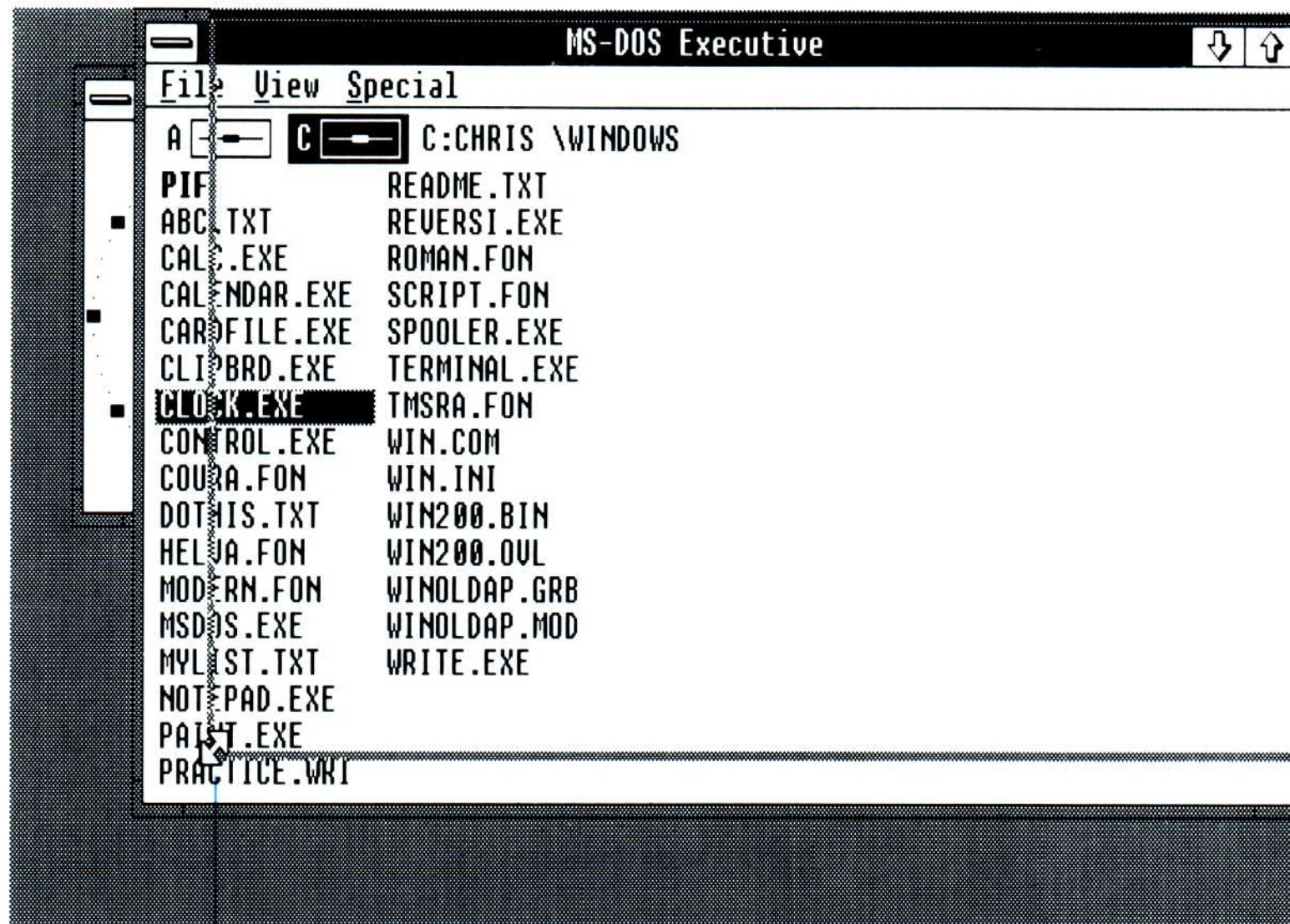
Two-headed arrow

[3] Release the mouse button.

Your window assumes the new size.

Shrinking a Window to an Icon

Another way you can change the size of a window is by using the Minimize box to shrink the window and turn it into an icon. The application is still running but it doesn't take up as much space on the screen. Try using Clock's Minimize box:

Using the Minimize box

[1] Select Clock with the mouse (click anywhere inside the Clock window).

[2] Click the Minimize box.

Minimize box
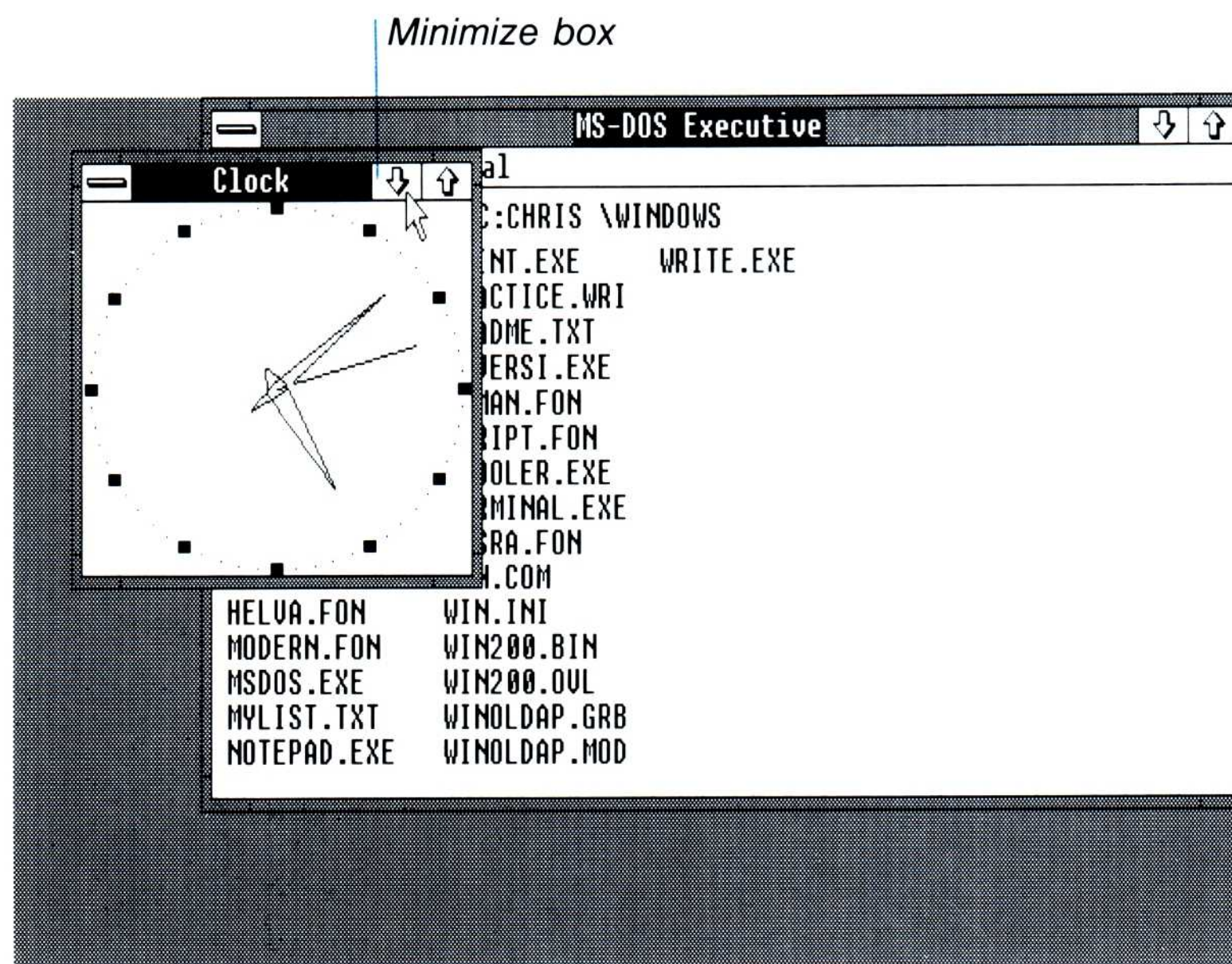
Clock becomes an icon.
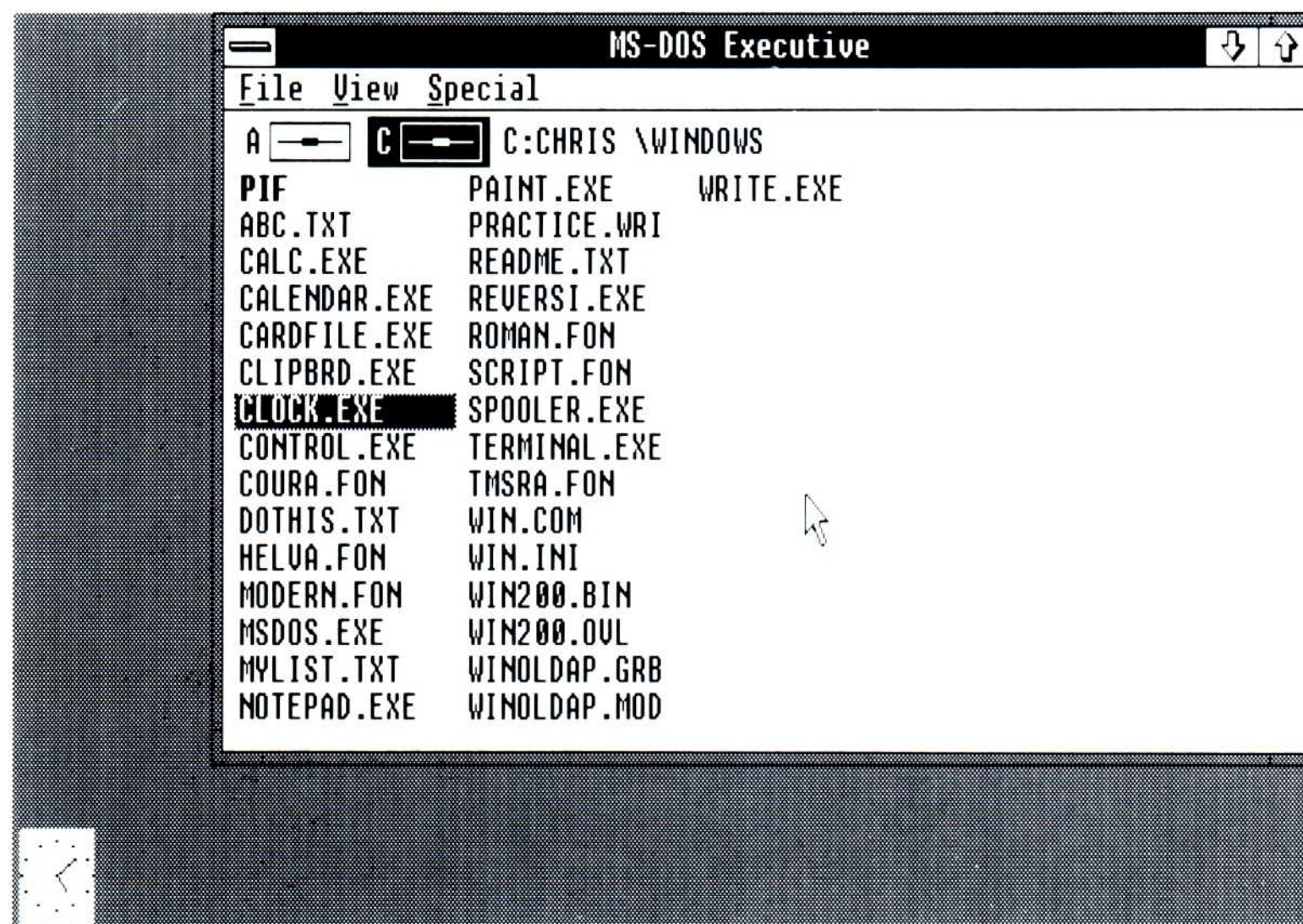
Windows puts applications in the lower portion of the screen
when they are shrunk to icons. Clock continues to run, and the
time is still visible.

Moving a Window or an Icon

You can move icons and windows to any part of the screen.
Here's how to move the Clock icon:

Moving icons

1 Point to the Clock icon.

2 Drag the icon up the left side of the screen. The icon becomes
an empty rectangle when you drag it.

```
┌─────────────────────────────────────────────────────────┐
│ ▭                  MS-DOS Executive                  ⇩ ⇧ │
│ File  View  Special                                       │
│ A ▭──▭  C▭──▭  C:CHRIS \WINDOWS                           │
│ PIF          PAINT.EXE      WRITE.EXE                     │
│ ABC.TXT      PRACTICE.WRI                                 │
│ CALC.EXE     README.TXT                                   │
│ CALENDAR.EXE REVERSI.EXE                                  │
│ CARDFILE.EXE ROMAN.FON                                    │
│ CLIPBRD.EXE  SCRIPT.FON                                   │
│ CLOCK.EXE    SPOOLER.EXE                                  │
│ CONTROL.EXE  TERMINAL.EXE                                 │
│ COURA.FON    TMSRA.FON                                    │
│ DOTHIS.TXT   WIN.COM                                      │
│ HELVA.FON    WIN.INI                                      │
│ MODERN.FON   WIN200.BIN                                   │
│ MSDOS.EXE    WIN200.OVL                                   │
│ MYLIST.TXT   WINOLDAP.GRB                                 │
│ NOTEPAD.EXE  WINOLDAP.MOD                                 │
└─────────────────────────────────────────────────────────┘
```
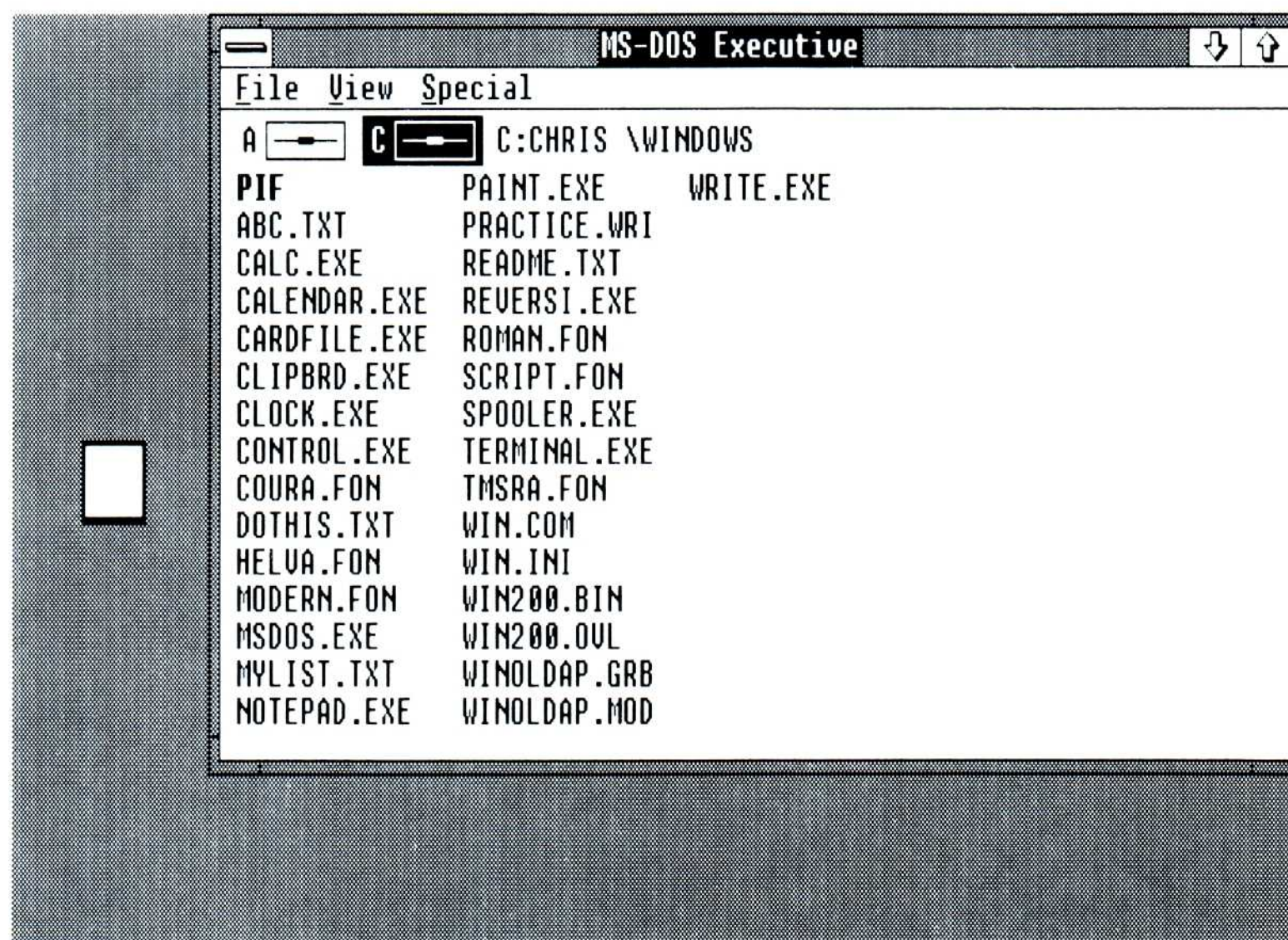
3 Release the mouse button.
The title bar appears underneath the Clock icon, showing that
the icon is selected.

```
┌─────────────────────────────────────────────────────────────┐
│ ▄▄    MS-DOS Executive              ⇩ ⇧ │
├─────────────────────────────────────────────────────────────┤
│ File  View  Special                                          │
│ ┌──────────────────────────────────────────────────────────┐│
│ A │──│ C │──│ C:CHRIS \WINDOWS                               │
│                                                              │
│ PIF              PAINT.EXE       WRITE.EXE                    │
│ ABC.TXT          PRACTICE.WRI                                 │
│ CALC.EXE         README.TXT                                   │
│ CALENDAR.EXE     REVERSI.EXE                                  │
│ CARDFILE.EXE     ROMAN.FON                                    │
│ CLIPBRD.EXE      SCRIPT.FON                                   │
│ CLOCK.EXE        SPOOLER.EXE                                  │
│ CONTROL.EXE      TERMINAL.EXE                                 │
│ COURA.FON        TMSRA.FON                                    │
│ DOTHIS.TXT       WIN.COM                                      │
│ HELVA.FON        WIN.INI                                      │
│ MODERN.FON       WIN200.BIN                                   │
│ MSDOS.EXE        WIN200.OVL                                   │
│ MYLIST.TXT       WINOLDAP.GRB                                 │
│ NOTEPAD.EXE      WINOLDAP.MOD                                 │
└─────────────────────────────────────────────────────────────┘
```

Clock

Moving windows

You move windows in a different way, by pointing to the title bar and dragging it. Move the MS-DOS Executive window down the screen:

1 Point to the title bar.
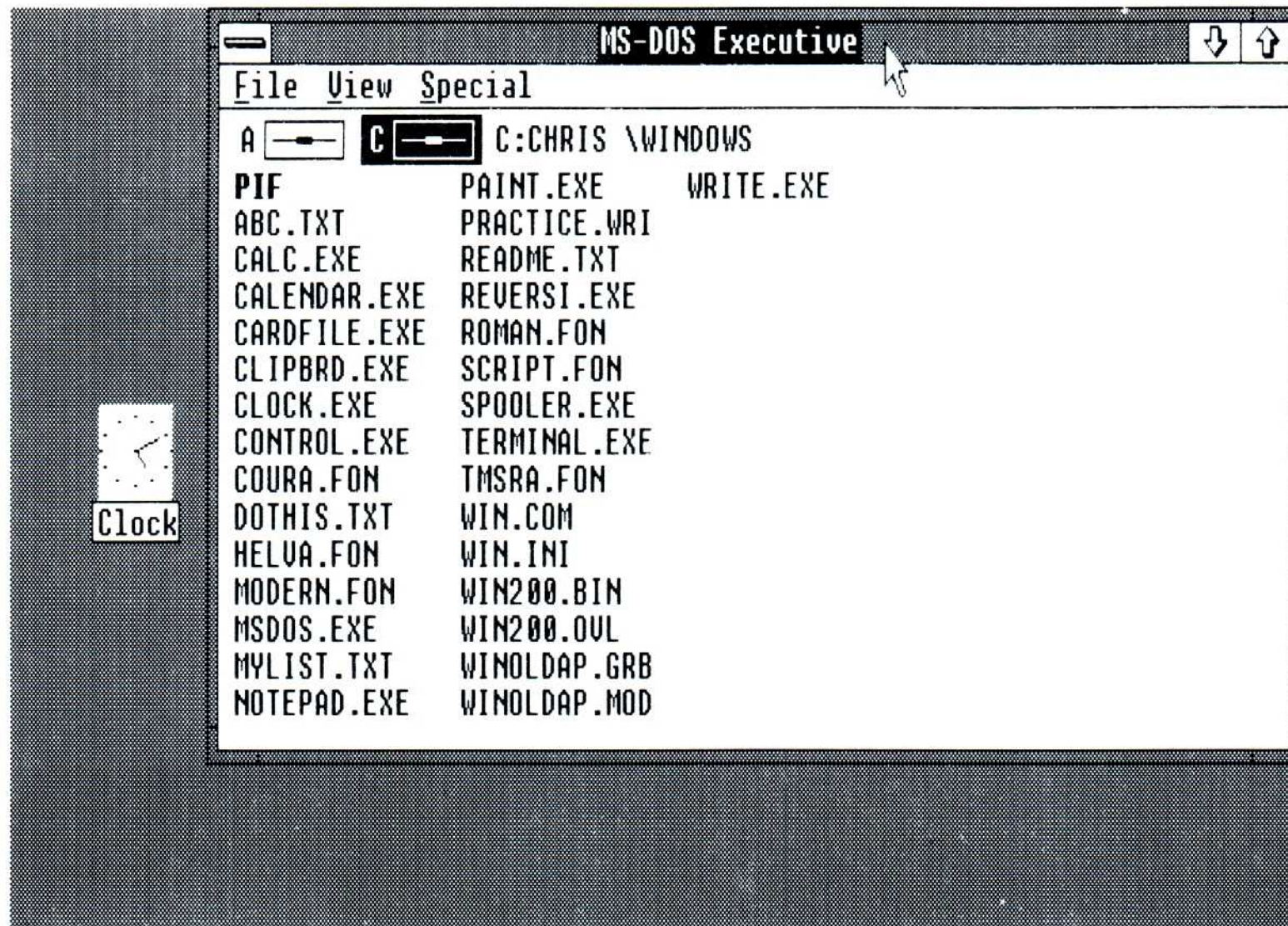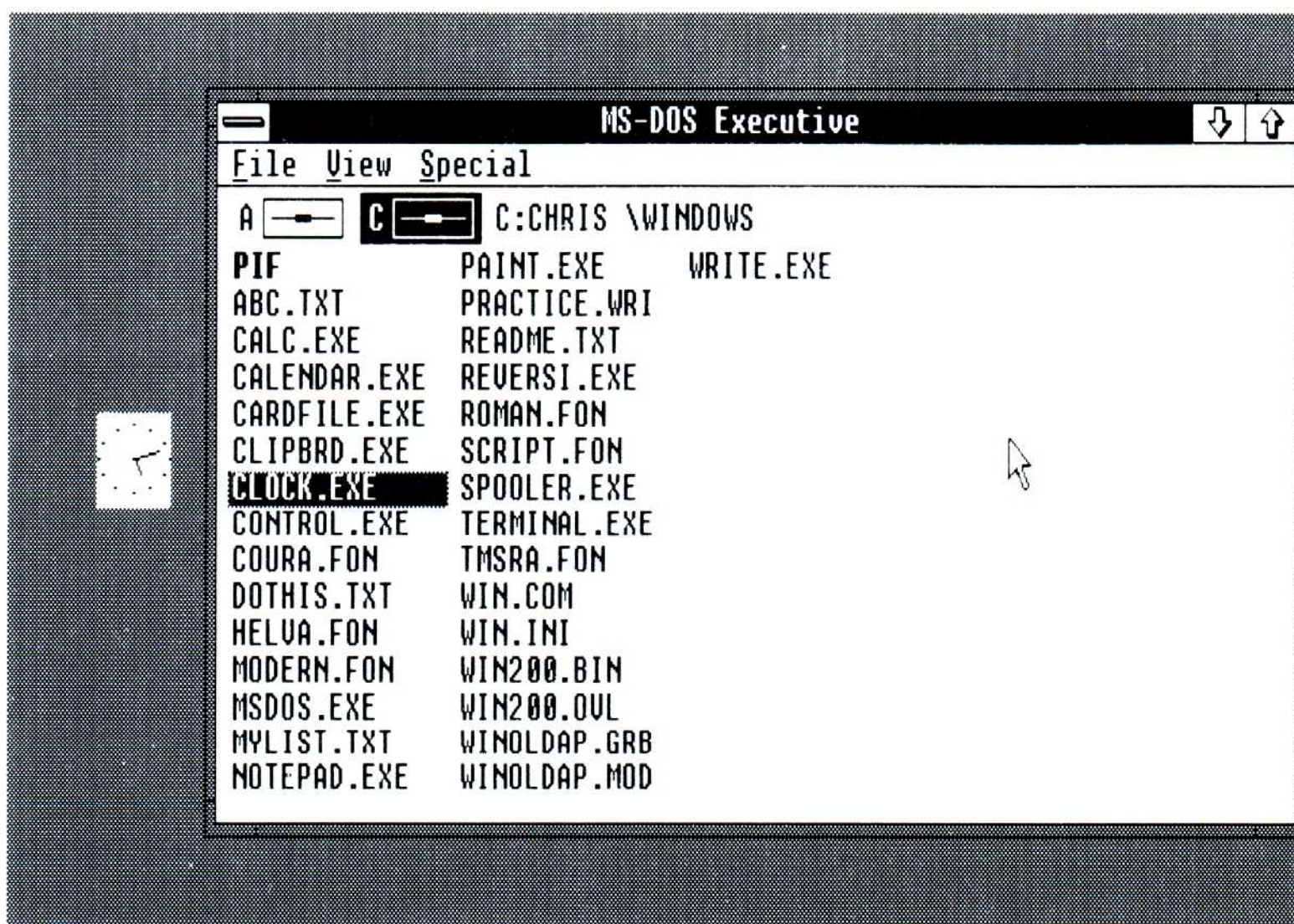
2 Drag the title bar down the screen.

You can see the new location of the window outlined as you move.

3 Release the mouse button.

MS-DOS Executive is displayed in its new location.

Enlarging a Window
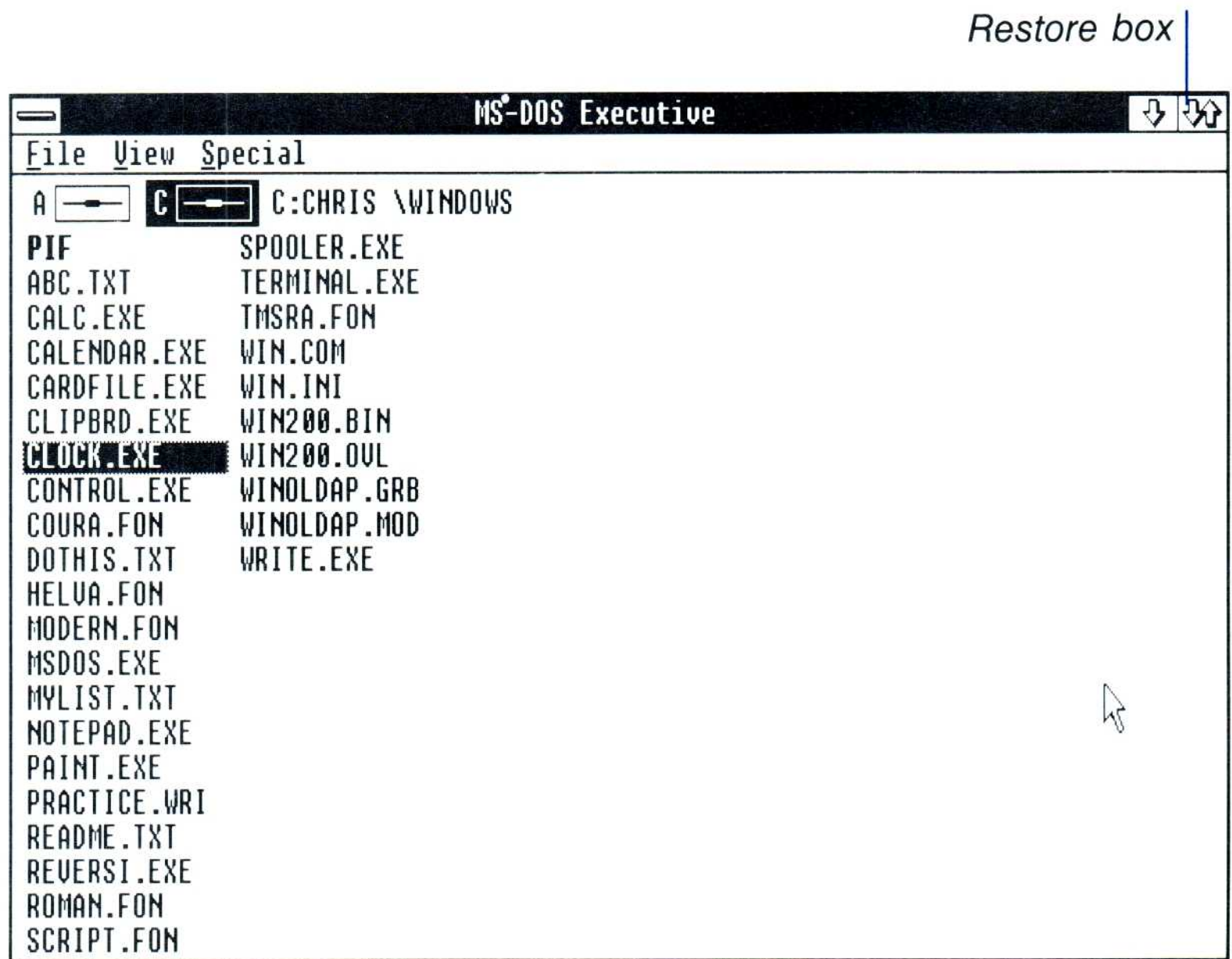
Using the Maximize box

If you want to work in one window, you can use the Maximize box to expand a window to fill the entire screen. The Maximize box is in the upper-right corner of a window, and you use it in much the same way you use the Minimize box. (Some applications with windows of a fixed size have no Maximize box.) Try using the Maximize box in the MS-DOS Executive window:

◼ Click the Maximize box.

Maximize box


```
┌──────────────────────────────────────────────────────┐
│ ▭              MS-DOS Executive              ⬇  ⬆     │
│ File  View  Special                              ↖    │
│ A ▭──  C ▭──  C:CHRIS \WINDOWS                        │
│ PIF          PAINT.EXE      WRITE.EXE                 │
│ ABC.TXT      PRACTICE.WRI                             │
│ CALC.EXE     README.TXT                               │
│ CALENDAR.EXE REVERSI.EXE                              │
│ CARDFILE.EXE ROMAN.FON                                │
│ CLIPBRD.EXE  SCRIPT.FON                               │
│ CLOCK.EXE    SPOOLER.EXE                              │
│ CONTROL.EXE  TERMINAL.EXE                             │
│ COURA.FON    TMSRA.FON                                │
│ DOTHIS.TXT   WIN.COM                                  │
│ HELVA.FON    WIN.INI                                  │
│ MODERN.FON   WIN200.BIN                               │
│ MSDOS.EXE    WIN200.OVL                               │
│ MYLIST.TXT   WINOLDAP.GRB                             │
│ NOTEPAD.EXE  WINOLDAP.MOD                             │
└──────────────────────────────────────────────────────┘
```

MS-DOS Executive enlarges to fill your entire screen. The Maximize box is gone and is replaced by a box with an up and a down arrow. This is the Restore box.

Restore box

```
┌─────────────────────────────────────────────────────────────┐
│ ──     MS-DOS Executive                              ⇩ ⋙     │
├─────────────────────────────────────────────────────────────┤
│ File  View  Special                                          │
│ ┌───────────────────────────────────────────────────────────│
│ A ──  C ──  C:CHRIS \WINDOWS                                 │
│ PIF          SPOOLER.EXE                                     │
│ ABC.TXT      TERMINAL.EXE                                    │
│ CALC.EXE     TMSRA.FON                                       │
│ CALENDAR.EXE WIN.COM                                         │
│ CARDFILE.EXE WIN.INI                                         │
│ CLIPBRD.EXE  WIN200.BIN                                      │
│ CLOCK.EXE    WIN200.OVL                                      │
│ CONTROL.EXE  WINOLDAP.GRB                                    │
│ COURA.FON    WINOLDAP.MOD                                    │
│ DOTHIS.TXT   WRITE.EXE                                       │
│ HELVA.FON                                                    │
│ MODERN.FON                                                   │
│ MSDOS.EXE                                                    │
│ MYLIST.TXT                                            ⋗       │
│ NOTEPAD.EXE                                                  │
│ PAINT.EXE                                                    │
│ PRACTICE.WRI                                                 │
│ README.TXT                                                   │
│ REVERSI.EXE                                                  │
│ ROMAN.FON                                                    │
│ SCRIPT.FON                                                   │
└─────────────────────────────────────────────────────────────┘
```

Restoring a Window

The Restore box restores your window to its previous size and location. You can restore a window after you've enlarged it to its maximum size or after you've shrunk it to an icon. The procedure is slightly different for each case.

Using the Restore box

First, use the Restore box in MS-DOS Executive:

Restoring a window

■ Click the Restore box.

MS-DOS Executive is restored to its previous size and location on the screen.

```
┌──────────────────────────────────────────────────────────┐
│ ═  │           MS-DOS Executive              │  ⇩ │ ⇧ │
├──────────────────────────────────────────────────────────┤
│ File   View   Special                                    │
│ ─────────────────────────────────────────────────────── │
│ A ▐──▌  C ▐──▌  C:CHRIS \WINDOWS                          │
│ PIF            PAINT.EXE      WRITE.EXE                   │
│ ABC.TXT        PRACTICE.WRI                               │
│ CALC.EXE       README.TXT                                │
│ CALENDAR.EXE   REVERSI.EXE                               │
│ CARDFILE.EXE   ROMAN.FON                                 │
│ CLIPBRD.EXE    SCRIPT.FON                                │
│ CLOCK.EXE      SPOOLER.EXE                               │
│ CONTROL.EXE    TERMINAL.EXE                              │
│ COURA.FON      TMSRA.FON                                 │
│ DOTHIS.TXT     WIN.COM                                   │
│ HELVA.FON      WIN.INI                                   │
│ MODERN.FON     WIN200.BIN                                │
│ MSDOS.EXE      WIN200.OVL                                │
│ MYLIST.TXT     WINOLDAP.GRB                              │
│ NOTEPAD.EXE    WINOLDAP.MOD                              │
└──────────────────────────────────────────────────────────┘
```
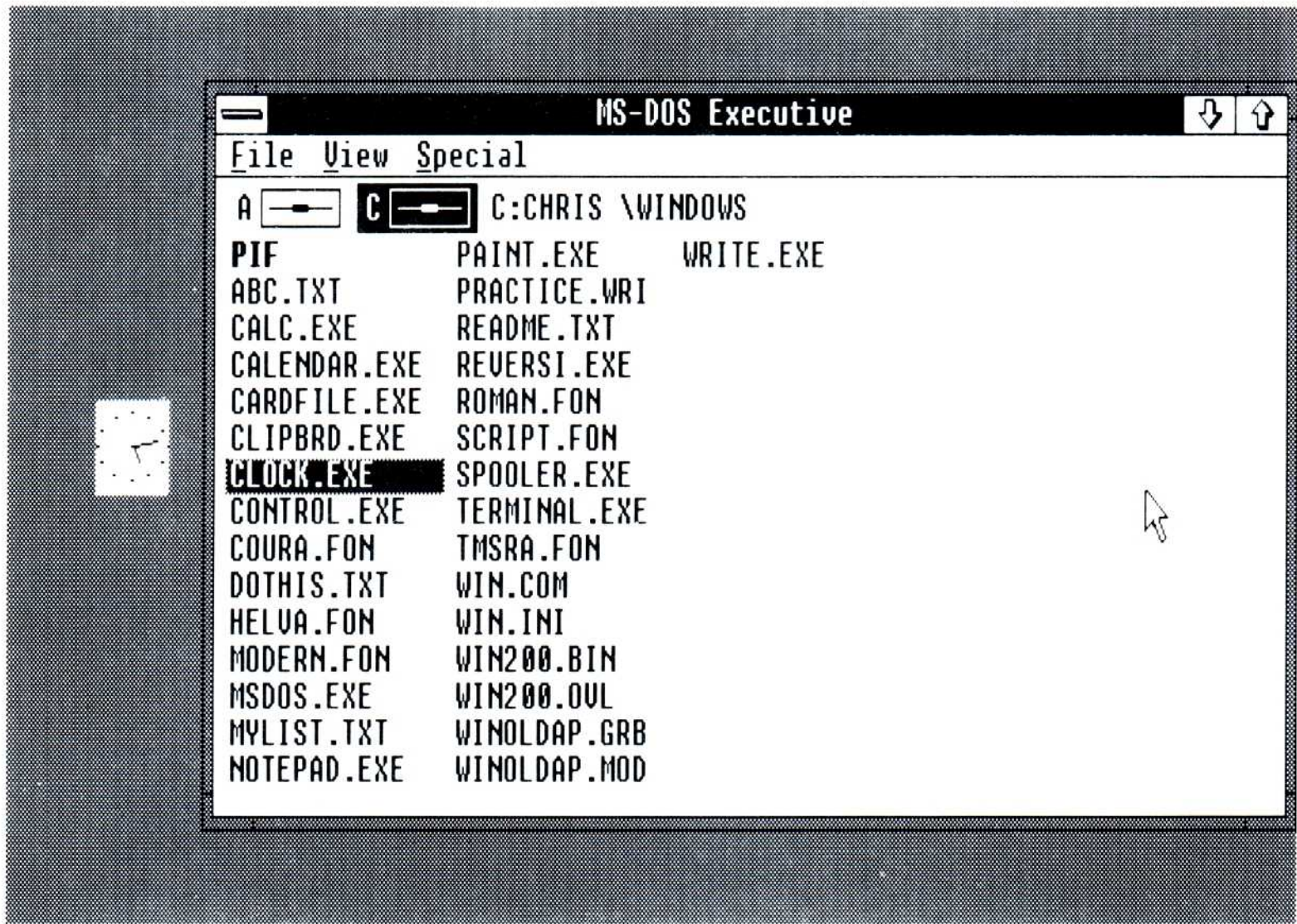
Restoring an icon

To restore an icon, you double-click it. Try this with the Clock icon:

◻ Double-click the Clock icon.

Clock is restored to its original size and location.
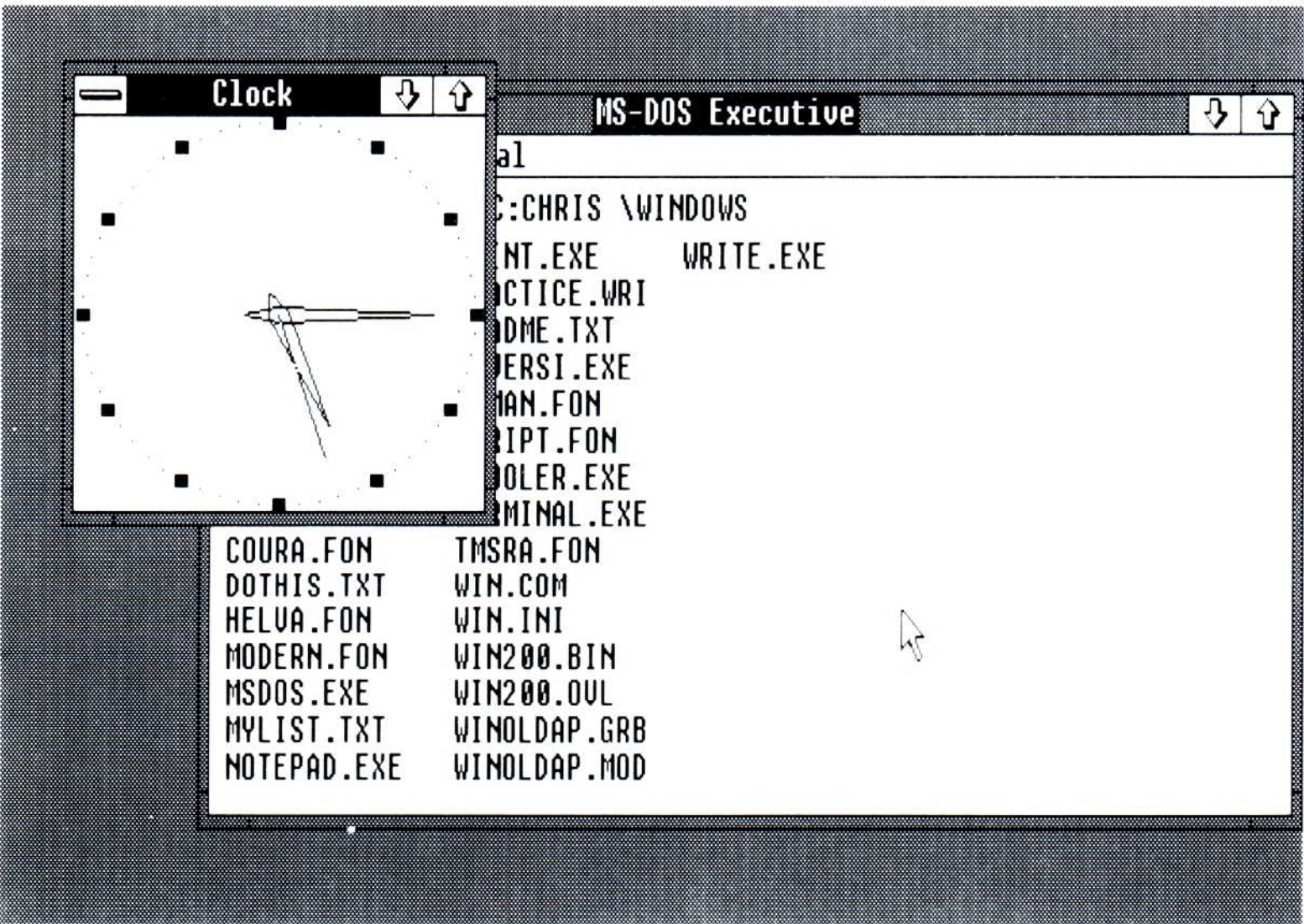
```
┌───────────────────────────┐─────────────────────────────┐
│ ═  │  Clock      │ ⇩ │ ⇧ │       MS-DOS Executive    ⇩ ⇧ │
├───────────────────────────┤  al                         │
│                           │                             │
│                           │:CHRIS \WINDOWS              │
│            ▪              │NT.EXE      WRITE.EXE        │
│                           │CTICE.WRI                   │
│     ▪                ▪    │DME.TXT                     │
│                           │ERSI.EXE                    │
│                           │AN.FON                      │
│        ╲                  │IPT.FON                     │
│   ▪      ╲───────    ▪    │OLER.EXE                    │
│           ╲               │MINAL.EXE                   │
│            ╲              │                             │
│     ▪                ▪    │                             │
│                           │                             │
│            ▪              │                             │
└───────────────────────────┘                             │
│        COURA.FON    TMSRA.FON                            │
│        DOTHIS.TXT   WIN.COM                              │
│        HELVA.FON    WIN.INI                              │
│        MODERN.FON   WIN200.BIN                           │
│        MSDOS.EXE    WIN200.OVL                           │
│        MYLIST.TXT   WINOLDAP.GRB                         │
│        NOTEPAD.EXE  WINOLDAP.MOD                         │
└──────────────────────────────────────────────────────────┘
```

Now choose the End Session command from the Special menu, to end your Windows session:

Ending your session

1 Click the MS-DOS Executive window.

2 Click the Special menu.

```
┌─────────────────────┐
│ Special             │
├─────────────────────┤
│ End Session         │
│ Create Directory... │
│ Change Directory... │
│ Format Data Disk... │
│ Make System Disk... │
│ Set Volume Name...  │
└─────────────────────┘
```
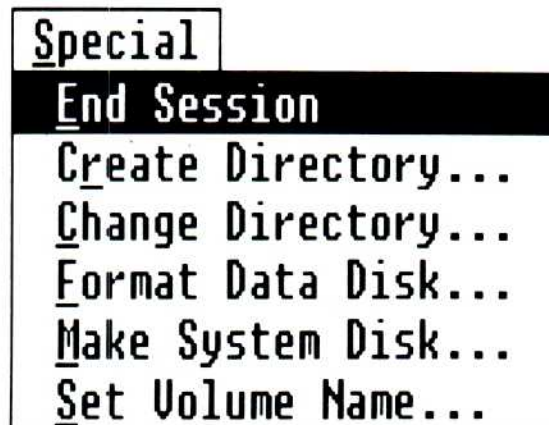
3 Click the End Session command.

A dialog box appears warning you that this will end your Windows session.

```
╔══════════════════════════════════════════════╗
║ ═             MS-DOS Executive          ⇩  ⇧  ║
╟──────────────────────────────────────────────╢
║ File  View  Special                          ║
║ A ▭──▭  C ▭──▭  C:CHRIS \WINDOWS             ║
║ PIF        PAINT.EXE     WRITE.EXE           ║
║ ABC.TXT    PRACTICE.WRI                      ║
║ ┌──────────────── End Session ─────────────┐ ║
║ │                                          │ ║
║ │  ⚠   This will end your Windows session. │ ║
║ │                                          │ ║
║ │      ┌────┐   ┌────────┐                 │ ║
║ │      │ OK │   │ Cancel │                 │ ║
║ │      └────┘   └────────┘                 │ ║
║ └──────────────────────────────────────────┘ ║
║ HELVA.FON   WIN.INI                          ║
║ MODERN.FON  WIN200.BIN                       ║
║ MSDOS.EXE   WIN200.OVL                       ║
║ MYLIST.TXT  WINOLDAP.GRB                      ║
║ NOTEPAD.EXE WINOLDAP.MOD                      ║
╚══════════════════════════════════════════════╝
```
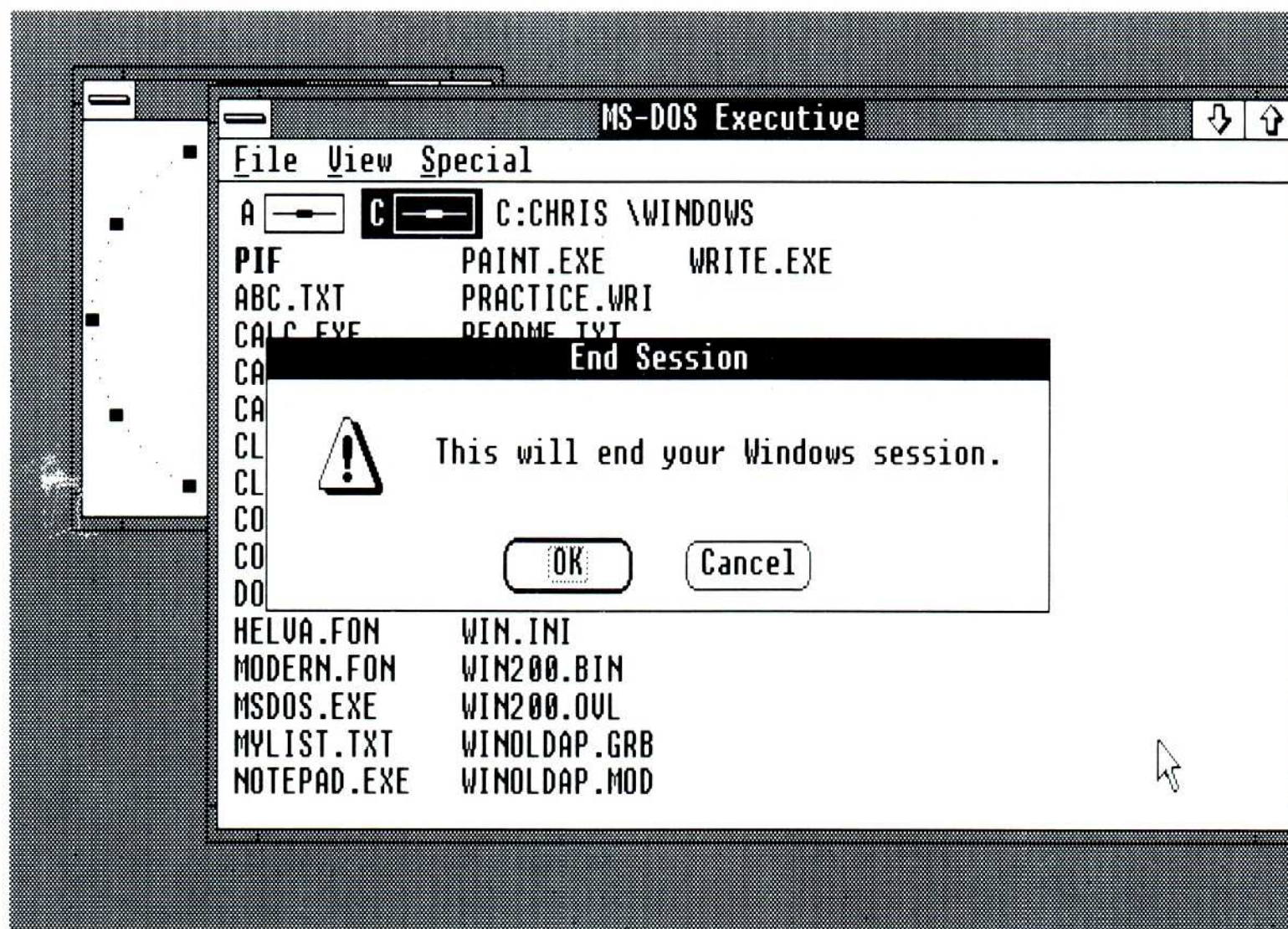
4 Click the OK button to end your Windows session, or click the Cancel button if you want to continue working in Windows.

In this exercise, you reviewed selecting menus, choosing commands, and starting and closing applications. You learned how to select the active window when you have more than one window open and to move windows and icons. You also practiced different ways of changing the size of windows: moving borders, moving corners, and using the boxes on the window's title bar.

You've mastered all the basic skills you need in order to use Windows with a mouse. Go ahead and start working with Windows, or read further in this manual. Chapter 4, "Techniques," reviews the things you've learned here, and provides more advanced techniques and some shortcuts for accomplishing common tasks.

4 Techniques

This chapter describes basic techniques for working with Microsoft Windows and gives information about some Windows features.

Applications designed for Windows may have additional or alternate ways of doing some tasks. Some Windows applications have shortcuts for commands, options, and procedures. See your application's manual for details.

If you have a mouse, you can mix mouse and keyboard techniques to find the easiest way to perform a task.
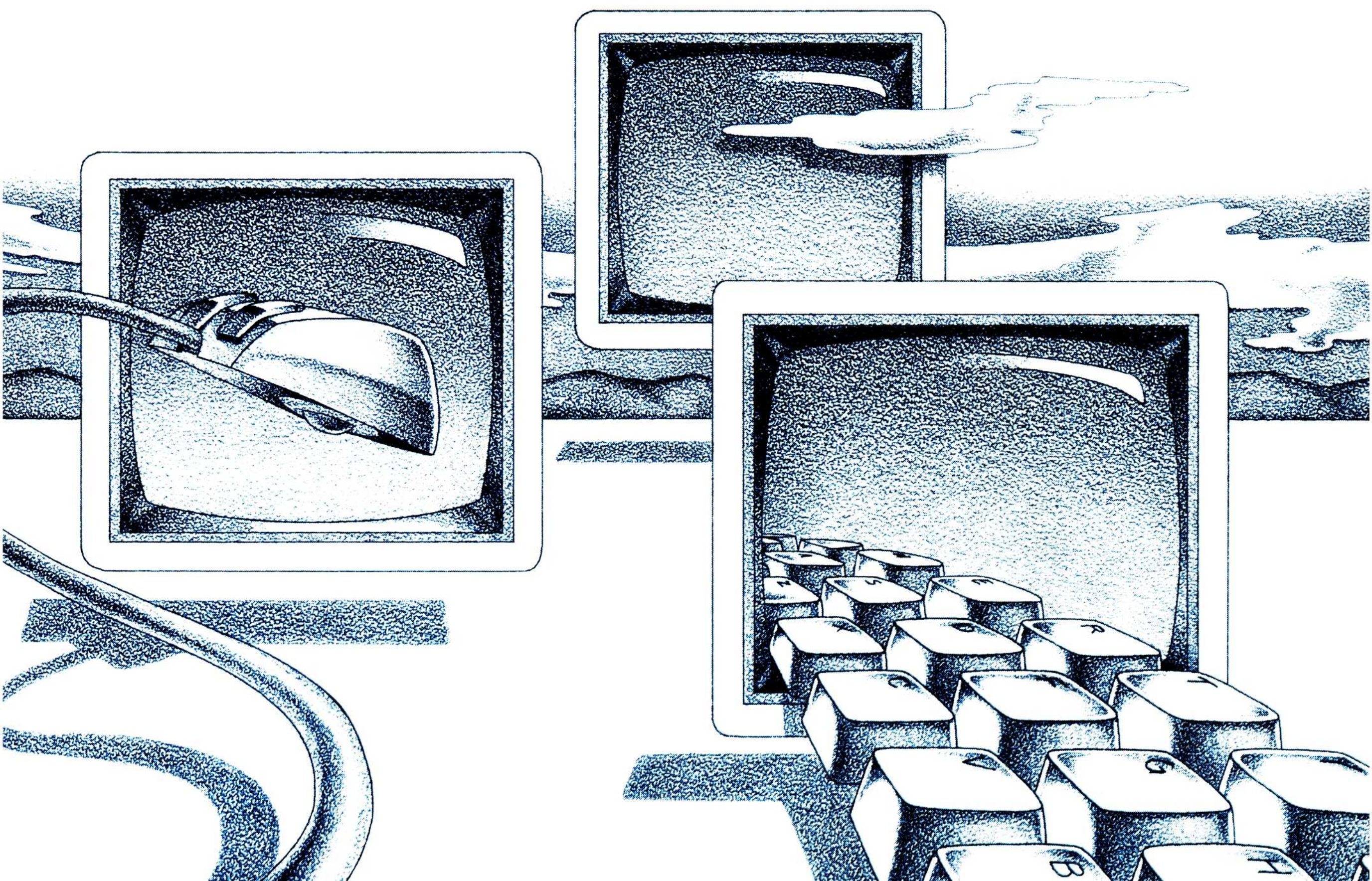
Starting Windows

If you have a two-drive system

To start Windows, you use the WIN command. If you have a two-drive system, do the following:

1. Insert your Windows startup disk in drive A.
2. Insert your Windows system disk in drive B.
3. Turn on your computer.
4. Type the date and time if you are prompted to.
5. Type *win* and press the ENTER key.

If you have a hard-disk system

If your computer is a hard-disk system, do the following:

1. Turn on your computer.
2. Type the date and time if you are prompted to.
3. Type *cd* and a space, followed by the pathname of the directory that your Windows files are in. (The Setup program created a directory named WINDOWS unless you specified another directory.)
4. Type *win* and press the ENTER key.

When you start Windows, MS-DOS Executive is displayed on your screen.

Starting an Application

Usually you start an application program from the MS-DOS Executive window. (If you have a two-drive system, you should insert your application disk in drive A.)

Starting applications

To start an application with the keyboard, follow these steps:

1. Use the DIRECTION keys to move to the filename in the MS-DOS Executive window. (The filename will probably have a .EXE or .COM extension.)
2. Press the ENTER key.

The application window appears on your screen.

To start an application with a mouse, do the following:

▪ Double-click the filename of the application you want to run. (This filename usually has a .EXE or .COM extension.)

The application window appears on your screen.

Note   Windows uses the leftmost mouse button. You can switch this function to the right button by using Control Panel. See Chapter 7, "Using Control Panel," for instructions.

See Chapter 5, "Using MS-DOS Executive," for information on the different ways you can run applications.

Selecting

In Windows, you always have to select what your next action is going to affect. You select a window and then work in it, you select a command and then execute it, you select an area within a file and then do something to it. The way you select varies, depending on what you're doing and in what context, and the way Windows shows that something is selected also varies. But it's useful to remember the basic concept: first you select, then you do something to what you've selected.

Windows will always show you in some way what you've selected. For example, if you've selected a filename in MS-DOS Executive, the filename will appear highlighted. If you've selected an icon, the icon's Control menu will appear and its title bar will be visible. If you've selected a window, the window's title bar will be darkened.

Selecting the Active Window or Icon

If you have started more than one application, you need to select the one that you want your commands to affect. The selected application's window is your active window (or icon — you select windows and icons the same way). You can tell which window is active: its title bar is darkened and it is in front of any other windows you have opened.

Active window

```
┌─────────────────────────────────────────────────────────────┐
│ ▬          MS-DOS Executive                          ⬇ ⬆ │
│ Fi ┌──────────────────────────────────────────────────────┐ │
│ A  │ ▬          Notepad - DOTHIS.TXT                ⬇ ⬆ │ │
│ PI │ File  Edit  Search                                    │↑│
│ AB │ TO DO                 PRIORITY                        │ │
│ CA │ Shop for new suit        B                            │ │
│ CA │ Phone dentist            C                            │ │
│ CA │ Take car in for tuneup   A                            │ │
│ CL │ Make plane reservation   B                            │ │
│ CL │ Pick up theater tickets  B                            │ │
│ CO │     How much?                                         │ │
│ CO │ Contact realtor          B                            │ │
│ DO │ Clean garage             C                            │ │
│ HE │ Mow lawn                 B                            │ │
│ MO │ Plan spring garden       B                            │ │
│ MS │ Schedule vacation        A                            │ │
│ NO │ Read "War and Peace"     C                            │ │
│ PA │ Write Grandma            C                            │ │
│ PR │ Buy present for Martha   B                            │ │
│ RE │ Talk to Fred             B                            │↓│
│    │ ←                                                  → │ │
└─────────────────────────────────────────────────────────────┘
```

If you select an icon rather than a window, the icon's Control menu appears and its title bar is visible.

```
┌─────────────────────────────────────────────────────────────┐
│ ▬          MS-DOS Executive                          ⬇ ⬆ │
│ File  View  Special                                          │
│ A ▬   C ▬  C:CHRIS \WINDOWS                                  │
│ PIF          PAINT.EXE      WRITE.EXE                        │
│ ABC.TXT      PRACTICE.WRI                                    │
│ CALC.EXE     README.TXT                                      │
│ CALENDAR.EXE REVERSI.EXE                                     │
│ CARDFILE.EXE ROMAN.FON                                       │
│ CLIPBRD.EXE  SCRIPT.FON                                      │
│ CLOCK.EXE    SPOOLER.EXE                                     │
│ CONTROL.EXE  TERMINAL.EXE                                    │
│ COURA.FON    TMSRA.FON                                       │
│ ┌──────────────────────────┐                                │
│ │ Restore       Alt+F5     │                                │
│ │ Move          Alt+F7     │                                │
│ │ Size          Alt+F8     │                                │
│ │ Minimize      Alt+F9     │                                │
│ │ Maximize      Alt+F10    │                                │
│ │                          │                                │
│ │ Close         Alt+F4     │                                │
│ │ About Clock...           │                                │
│ └──────────────────────────┘                                │
│ ┌──┐                                                         │
│ Clock                                                        │
└─────────────────────────────────────────────────────────────┘
```
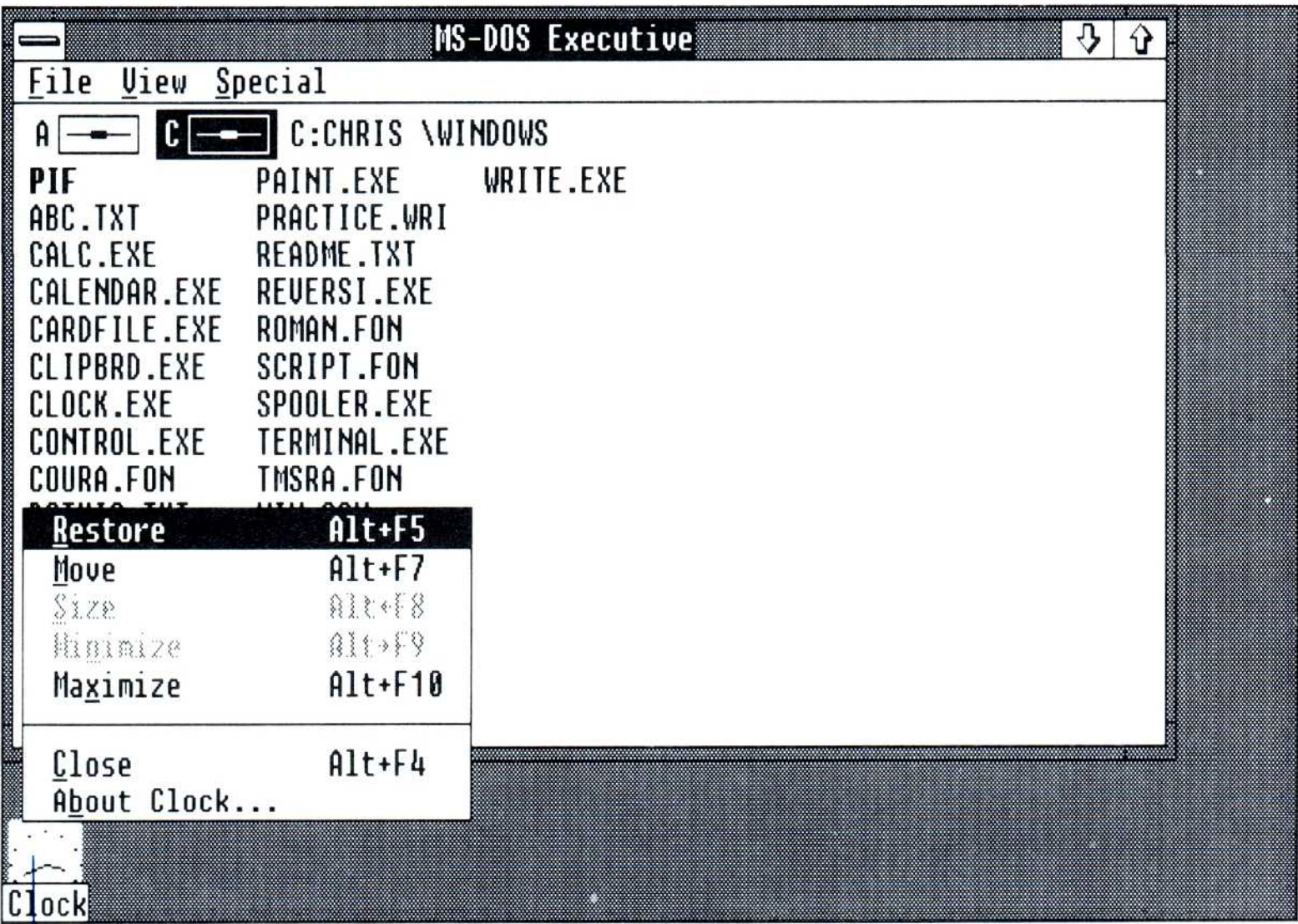
Active icon

You can select a window or icon using either the keyboard or the mouse.

To select your next active window or icon with the keyboard, just do this:

■ Press ALT + ESCAPE. (In this manual, a plus sign (+) used with two or more keynames indicates a key combination: you should press and hold down the first key, then press the next key or keys. After pressing all the keys, release the first key.)

Repeat this step until the window or icon you want appears in front. Windows and icons are selected in the order in which you started them.

You can use the SHIFT key to select windows in reverse:

■ Press ALT + SHIFT + ESCAPE.

Here's how to select windows or icons with the mouse:

■ Click anywhere within the window or icon.

If the window you want to select isn't visible, you can either use the keyboard method, or move or size the other windows until the window you want becomes visible.

Previewing Windows or Icons

You can also preview the windows and icons you've started, without selecting them. The frame and title bar of each application appear, but you don't have to wait for the entire window to appear. This is useful if you have some windows or icons hidden by other windows or icons, and you want to flip through them quickly without taking the time to select each one in turn.

To preview the windows and icons on your screen, do this:

1 Press and hold down the ALT key.
2 Press the TAB key to preview each active window or icon in order.
3 When you reach the window or icon you want to select, release ALT.

The rest of your active window fills in, and the window appears in front of the other windows. If it's an icon that you selected, the icon is restored to its previous size and position as a window.

When you preview windows and icons, they appear in the order in which they were started. If you want to preview them in reverse order, do the same thing but use the SHIFT key as well:

1 Press and hold down the ALT key and the SHIFT key.

2 Press the TAB key to preview each window and icon.

3 When you find the window or icon you want to select, release ALT and SHIFT.

Choosing Commands from Menus

Windows commands are organized into menus. Each application has its own menus, and one — the Control menu — is common to all applications. The Control menu is symbolized by a box at the upper-left corner of each window; all the other menus are represented by their names in the menu bar, which runs across the top of each window underneath its title bar.

In Windows, you select a menu, then choose a command from that menu. Choosing the command carries out the action. (Some applications use a shortcut method of referring to commands that reflects this process: the "File Open command," for instance, refers to the Open command from the File menu.)

Menu names

Control-menu box

Menu bar

```
┌──────────────────────────────────────────────────────────────┐
│ ▭              MS-DOS Executive                        ⇩ ⇧ │
├──────────────────────────────────────────────────────────────┤
│ File  View  Special                                          │
│ A ▭━━  C ━━━ C:CHRIS \WINDOWS                               │
│ PIF            REVERSI.EXE                                    │
│ ABC.TXT        ROMAN.FON                                     │
│ CALC.EXE       SCRIPT.FON                                    │
│ CALENDAR.EXE   SPOOLER.EXE                                   │
│ CARDFILE.EXE   TERMINAL.EXE                                  │
│ CLIPBRD.EXE    TMSRA.FON                                     │
│ CLOCK.EXE      WIN.COM                                       │
│ CONTROL.EXE    WIN.INI                                       │
│ COURA.FON      WIN200.BIN                                    │
│ DOTHIS.TXT     WIN200.OVL                                    │
│ HELVA.FON      WINOLDAP.GRB                                  │
│ MODERN.FON     WINOLDAP.MOD                                  │
│ MSDOS.EXE      WRITE.EXE                                     │
│ NOTEPAD.EXE                                                  │
│ PAINT.EXE                                                    │
│ PRACTICE.WRI                                                 │
│ README.TXT                                                   │
└──────────────────────────────────────────────────────────────┘
```
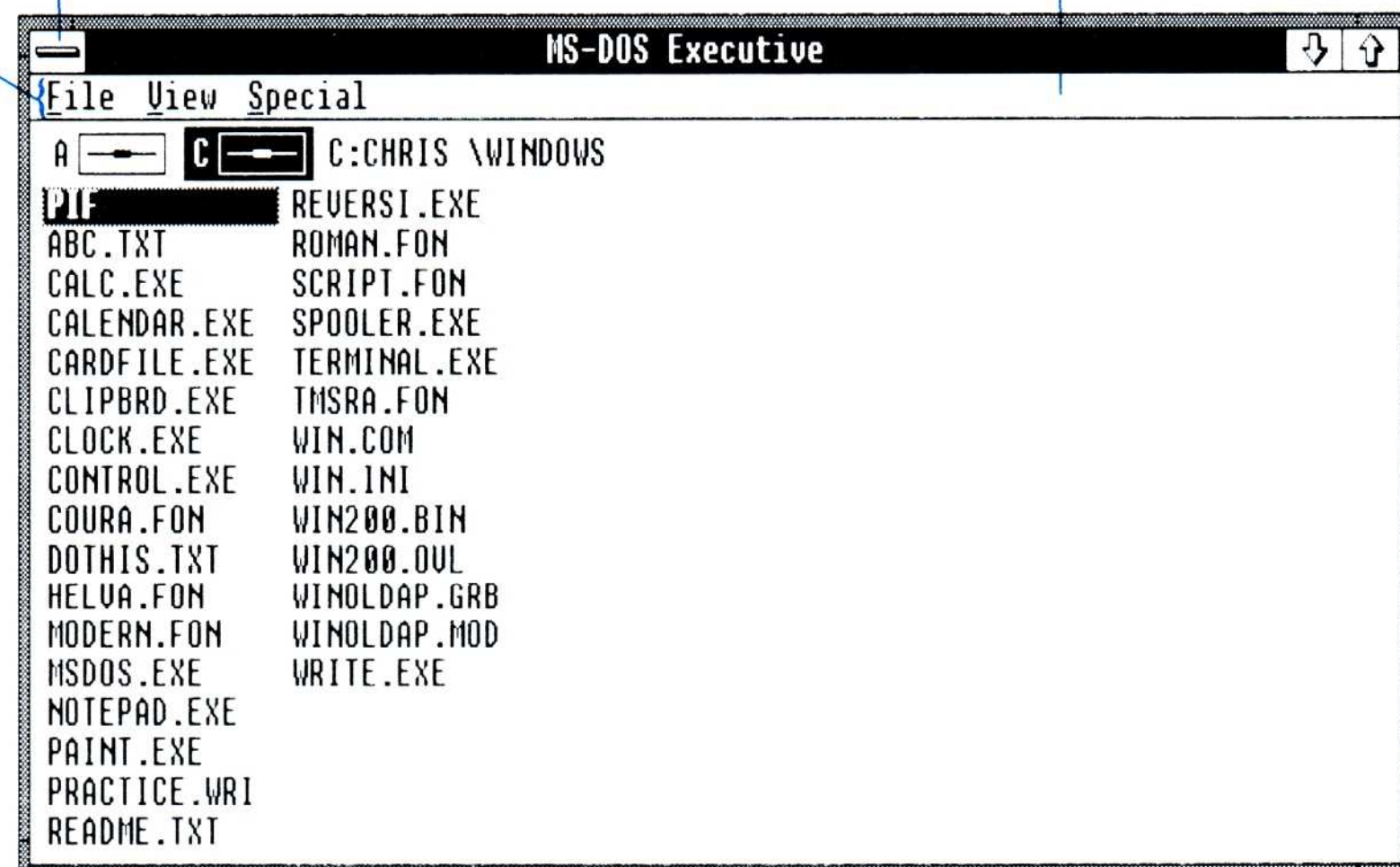
Choosing a Command

If you're using the keyboard, you have two ways to choose commands from menus: the basic method, which works for all Windows applications, and the direct-access method.

The basic method uses the DIRECTION keys. To choose a command using the DIRECTION keys, do this:

Basic method
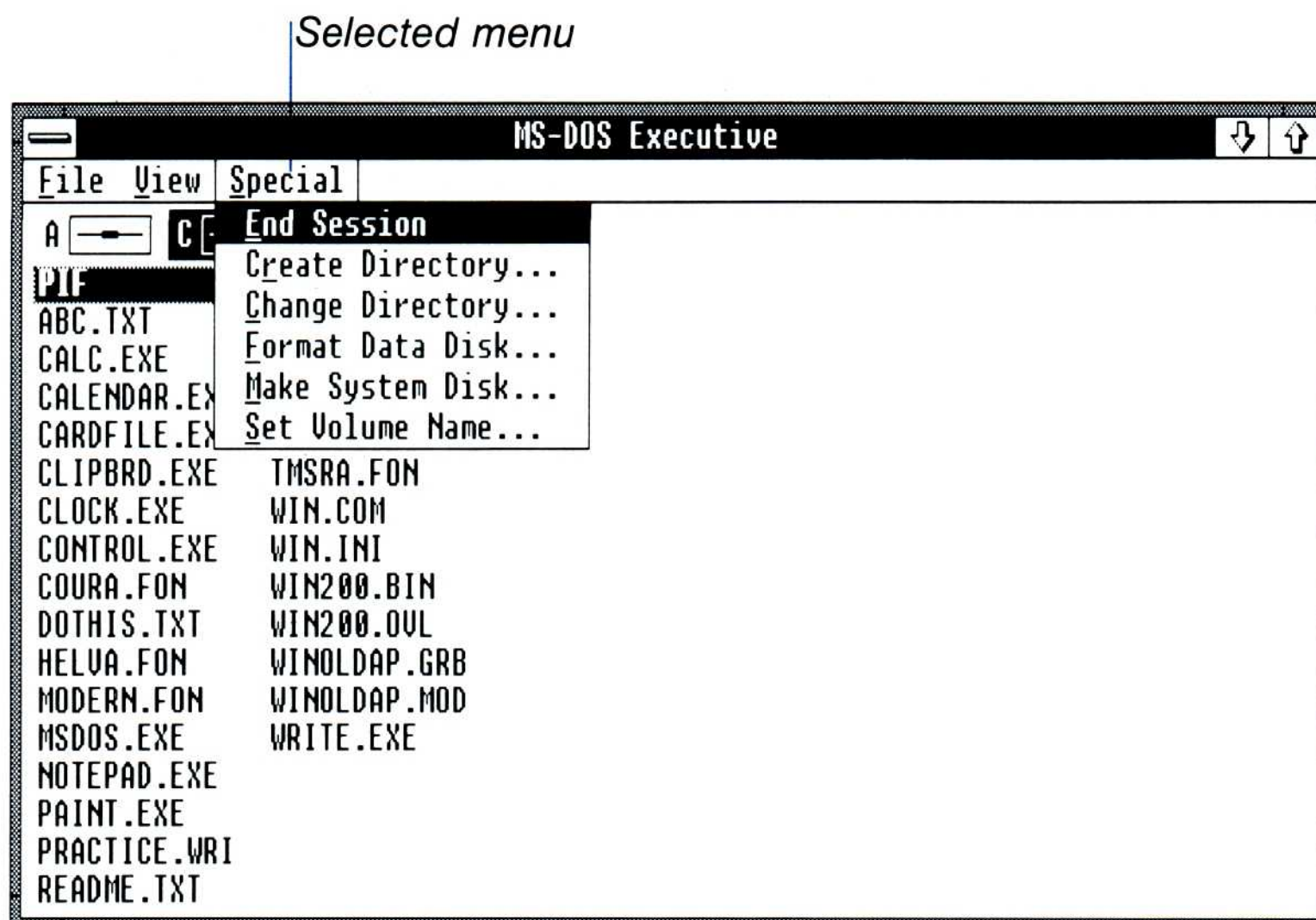
1. Press the ALT key. (You can use the F10 key instead of the ALT key.)
2. Use the LEFT or RIGHT keys to select a menu name on the menu bar.
3. Press the ENTER key to display the menu.
4. Use the UP or DOWN keys to select the command you want.
5. Press ENTER to choose the command.

If your application shows underlined letters in command and menu names, you can use the direct-access method. To choose a command using the direct-access method, follow these steps:

Direct-access method

1. Press the ALT key.
2. Press the underlined letter in the menu name.

Selected menu

File	View	Special

MS-DOS Executive

End Session
Create Directory...
Change Directory...
Format Data Disk...
Make System Disk...
Set Volume Name...

ABC.TXT
CALC.EXE
CALENDAR.EX
CARDFILE.EX
CLIPBRD.EXE   TMSRA.FON
CLOCK.EXE   WIN.COM
CONTROL.EXE   WIN.INI
COURA.FON   WIN200.BIN
DOTHIS.TXT   WIN200.OVL
HELVA.FON   WINOLDAP.GRB
MODERN.FON   WINOLDAP.MOD
MSDOS.EXE   WRITE.EXE
NOTEPAD.EXE
PAINT.EXE
PRACTICE.WRI
README.TXT

3 Press the underlined letter in the command name.

Note If more than one command or menu share the same under-lined letter, Windows will select the first menu or command listed. Press the underlined letter again to select the next menu or command. To display the menu or choose the command, press the ENTER key.

Canceling a menu

If you decide after you've selected the menu that you don't want to choose a command, you can cancel the menu:

■ Press ESCAPE.

Choosing a command

If you're using the mouse, it's easy to choose a command from a menu:

1 Click the menu name on the menu bar.
2 Click the command name.

Canceling a menu

If you decide after you've selected the menu that you don't want to choose a command, you can cancel the menu:

■ Click anywhere outside the menu.

Clicking in a blank area of the window is best, so that you don't select something else in the window without meaning to.

Checked options

Some menus show commands that you choose in order to set options. Checkmarks in the menu indicate which options are active.

Active options

```
 ┌──────┐
 │ View │
 ├──────┴──────────┐
 │√Short            │
 │ Long             │
 │                  │
 │ All              │
 │√Partial...       │
 │ Programs         │
 │                  │
 │√By Name          │
 │ By Date          │
 │ By Size          │
 │ By Kind          │
 └──────────────────┘
```
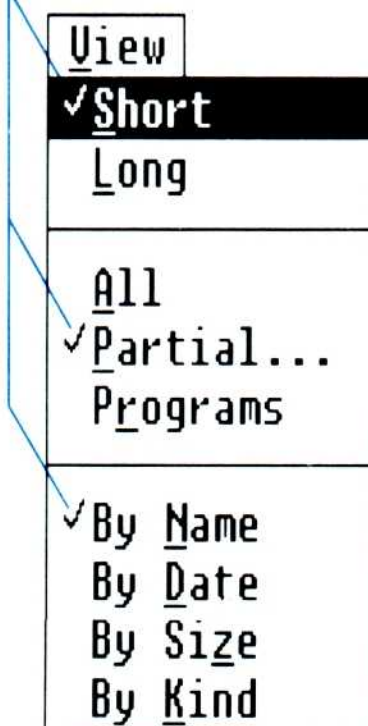
The Control Menu

In addition to the menus for each application, the Control menu appears in all windows, and you select it a little differently. You use its commands to manipulate windows — for example, to change their size or move them on the screen. (Some dialog boxes also have Control menus.)

Although you choose commands from the Control menu as you would from any other, you select the Control menu in a different way.

Control menu

```
┌───────────────────────────────────────────────────────────────┐
│ ▬   │              MS-DOS Executive                    │ ⇩ │ ⇧ │
├─────┴──────────┬──────────────────────────────────────┴───────┤
│ Restore  Alt+F5│ )                                             │
│ Move     Alt+F7│ IS WINDOWS                                    │
│ Size     Alt+F8│ .EXE                                          │
│ Minimize Alt+F9│ ON                                            │
│ Maximize Alt+F10│ FON                                          │
│                │ .EXE                                          │
│ Close    Alt+F4│ .EXE                                          │
├────────────────┴──────────────────────────────────────────────┤
│ CLIPBRD.EXE    TMSRA.FON                                       │
│ CLOCK.EXE      WIN.COM                                         │
│ CONTROL.EXE    WIN.INI                                         │
│ COURA.FON      WIN200.BIN                                      │
│ DOTHIS.TXT     WIN200.OVL                                      │
│ HELVA.FON      WINOLDAP.GRB                                    │
│ MODERN.FON     WINOLDAP.MOD                                    │
│ MSDOS.EXE      WRITE.EXE                                       │
│ NOTEPAD.EXE                                                    │
│ PAINT.EXE                                                      │
│ PRACTICE.WRI                                                   │
│ README.TXT                                                     │
└───────────────────────────────────────────────────────────────┘
```
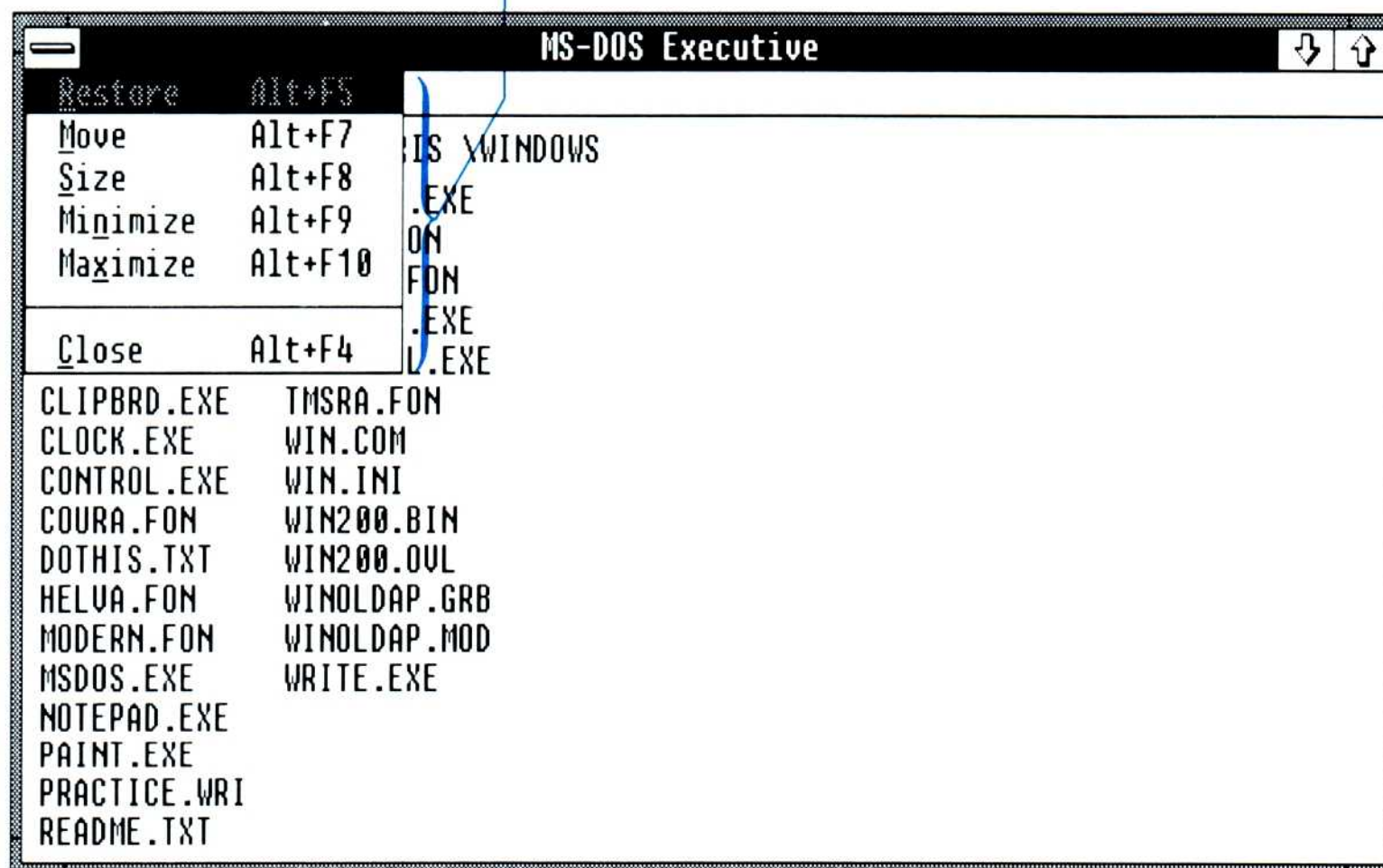
Using the Control menu

To select the Control menu from the keyboard, do this:

■ Press ALT, SPACEBAR. (In this manual, a keyname followed by a comma and another keyname indicates a key sequence: you should press the first key, then press the second key.)

You can use SHIFT+ESCAPE instead of ALT, SPACEBAR.

You can then use either the basic method or the direct-access method to choose the command you want.

To select the Control menu with the mouse, do this:

■ In a window, click the Control-menu box, in the upper-left corner of the window; in an icon, just click the icon.

You can then simply click the name of the command you want to choose, as you would on any other menu.

If you choose the Size or Move commands with the mouse, you have to complete the command by moving or sizing the window.

Inactive Commands

Inactive commands

When you see a command name grayed on the menu, it means that the command is inactive and you can't currently use it.

Grayed commands
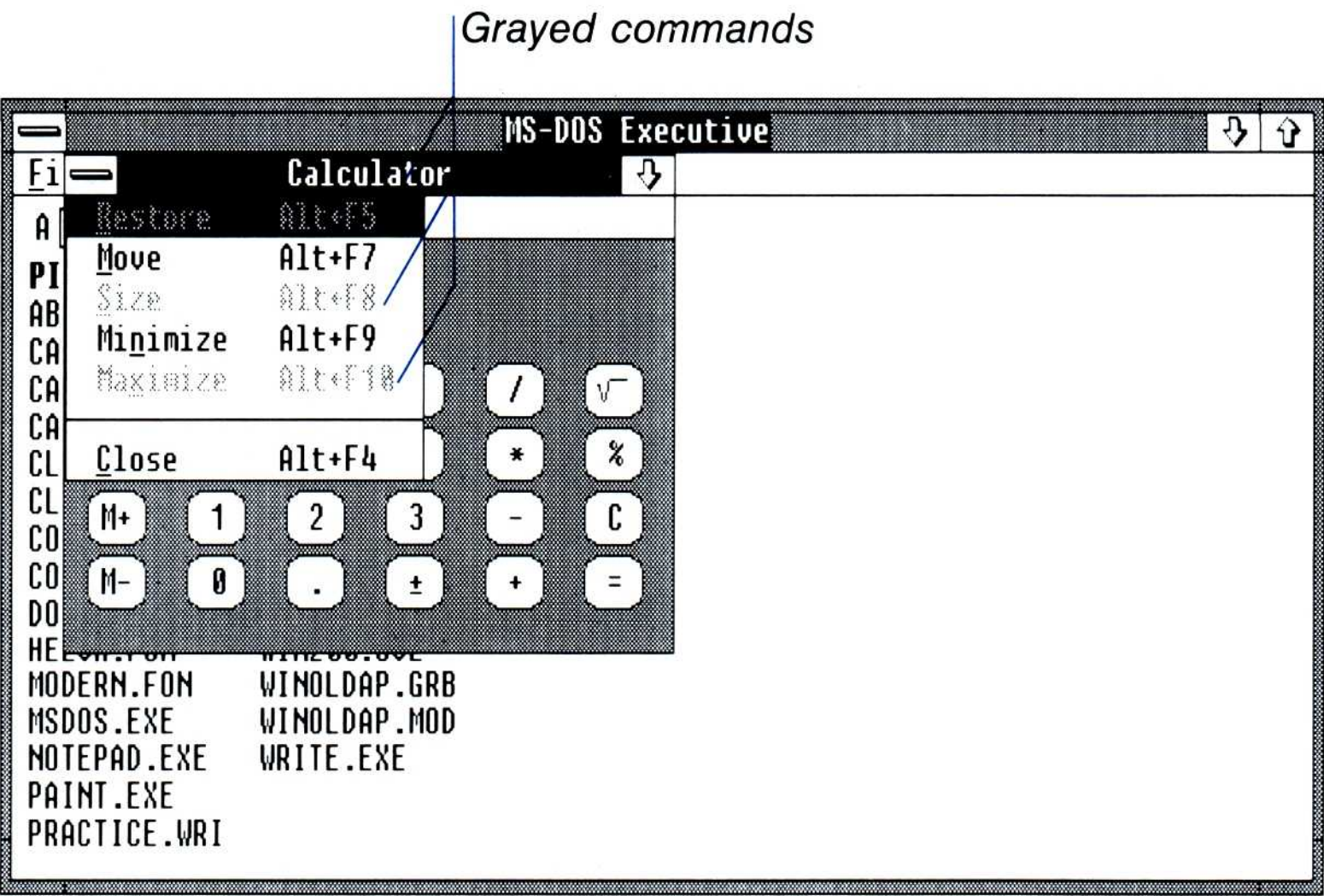
You may have to select something before you can use the command, or it may be that the command cannot be used with your application — for example, the Calculator window has a fixed size, so you can't use the Maximize or Size commands on the Control menu.

Shortcut Keys

Some menus have shortcut keys, usually listed to the right of the command name. Often these keys are combinations of the ALT or CONTROL keys and a function key. You use these keys to choose a command without selecting the command's menu. The following list shows the shortcut keys for the Control menu:
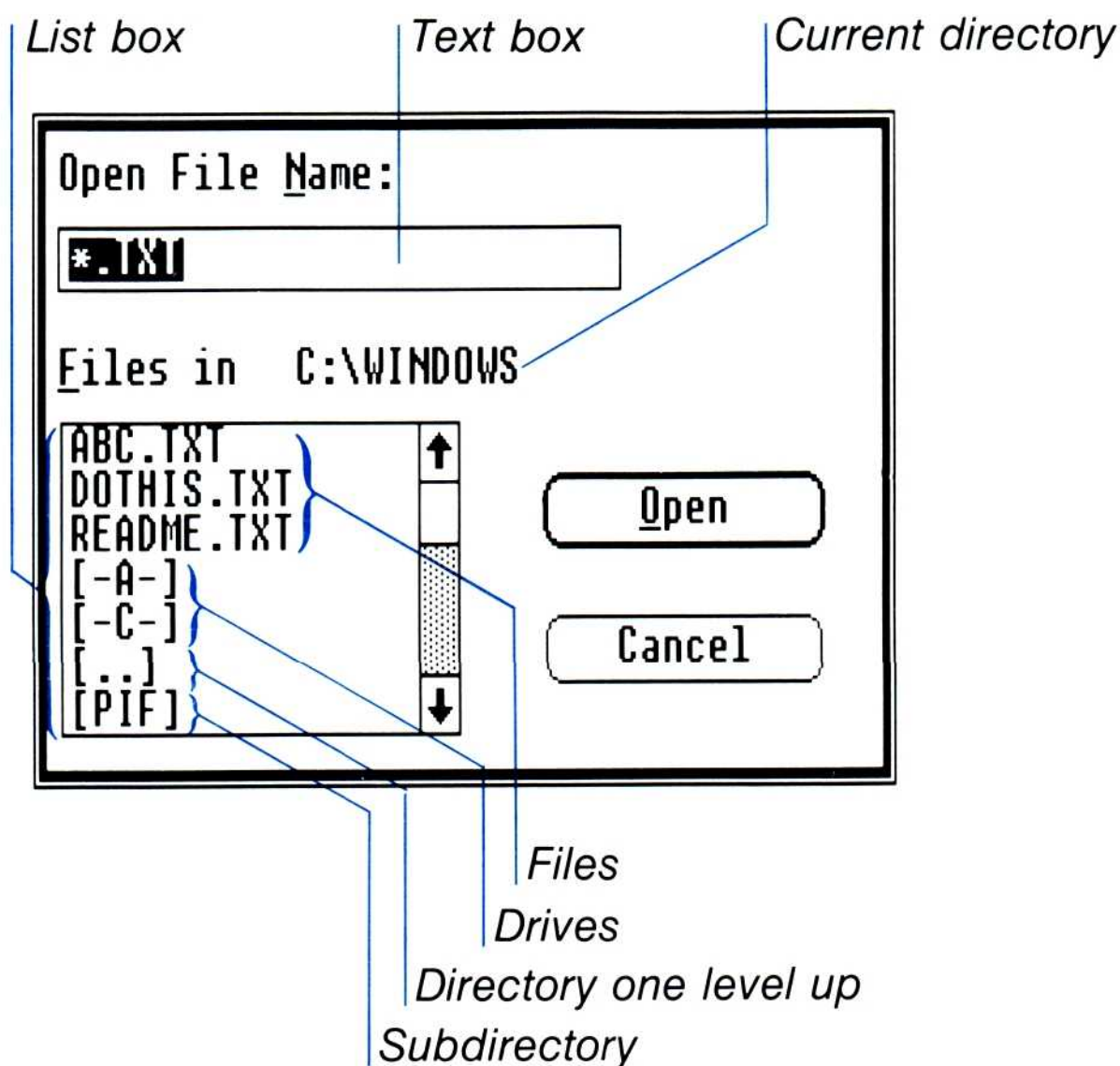
Shortcut keys

Command	Shortcut key
Restore	ALT + F5
Move	ALT + F7
Size	ALT + F8
Minimize	ALT + F9
Maximize	ALT + F10
Close	ALT + F4

For example, if you wanted to use the shortcut keys to enlarge a window with the Maximize command, you would simply select the window and press ALT + F10.

Using a Dialog Box

Windows displays a dialog box when it needs additional information to carry out a command. The dialog box contains areas where you enter the information; there are different kinds of areas depending on what kind of information is needed.

List box   Text box   Current directory

```
Open File Name:

 *.TXT

Files in   C:\WINDOWS

ABC.TXT          ↑
DOTHIS.TXT                    ( Open )
README.TXT
[-A-]
[-C-]                        ( Cancel )
[..]
[PIF]            ↓
```

Files
Drives
Directory one level up
Subdirectory

Dialog-box areas

Here are some definitions and descriptions of the different areas that a dialog box may have:

- The **text box** is where you type information. The text you type appears to the left of the insertion point, a flashing vertical line, which pushes any existing text to the right as you type.

- The **list box** contains the names of available choices — in the preceding illustration, the names of files and directories on the disk, and the disk drives. Files in a dialog box are listed by filename. Drives and subdirectories are indicated with brackets; hyphens distinguish drives from directories. For example, [-A-] represents drive A; [PIF] represents a subdirectory named PIF. The parent directory (one level up) is represented by two periods within brackets ([..]). The list box may have scroll bars if all available choices don't fit in the list box.

- **Command buttons** carry out commands when they are chosen; these buttons have labels — OK, Cancel, Open, Reset, for example — to indicate what the buttons do.

Dotted box | Check box | Option button | Scroll bar

```
Terminal Settings

Terminal Type  ◉ VT52        ○ ANSI

☐ New Line    ☐ Local Echo  ⊠ Auto Wraparound

Text size     ◉ Large        ○ Small

Lines in Buffer: 50

Translation:  ┌─────────────────┬─┐
              │None             │↑│
              │United Kingdom   │▓│
              │Denmark/Norway   │↓│
              └─────────────────┴─┘

     ( OK )            ( Cancel )
```
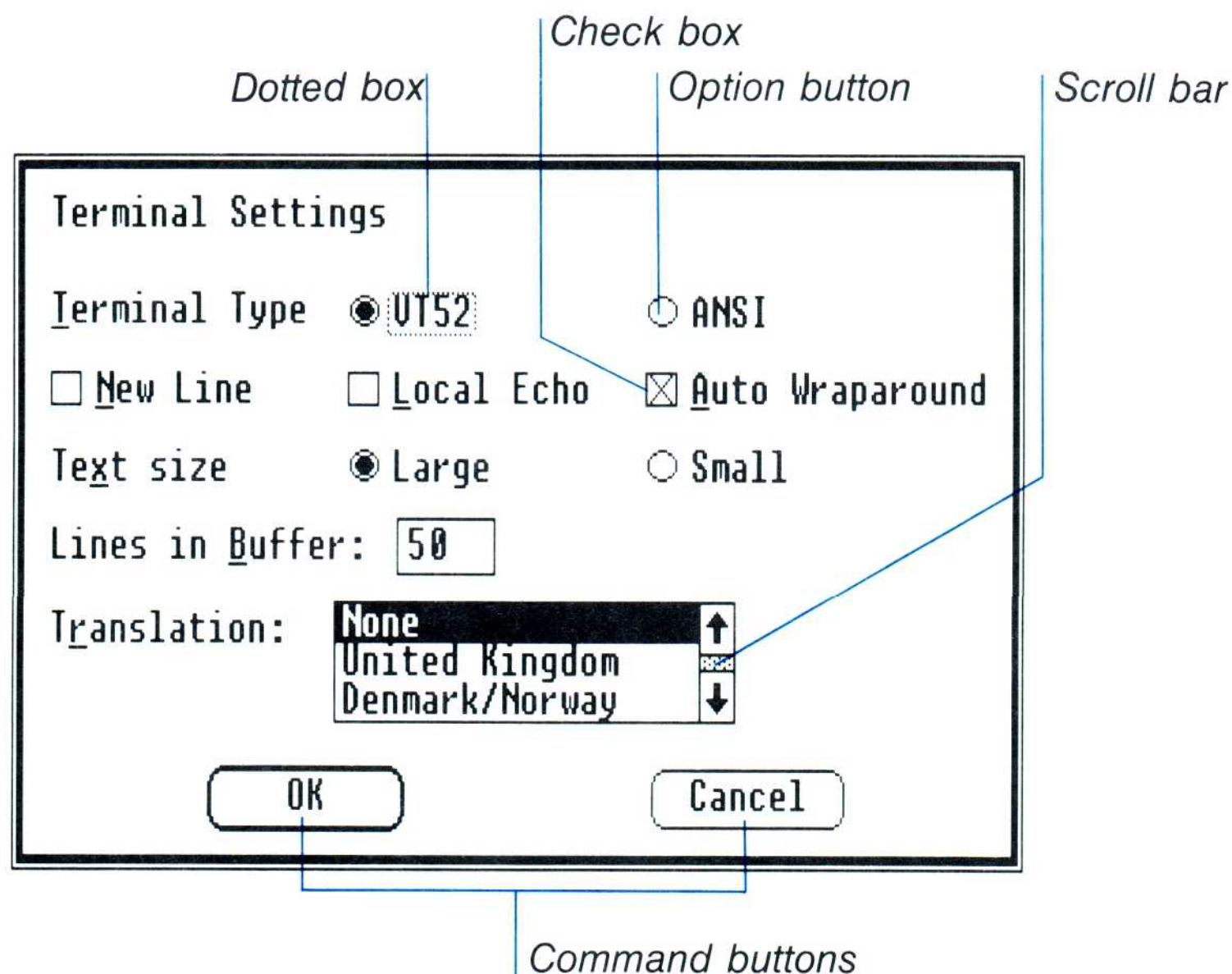
Command buttons

■ Circular **option buttons** let you select options for a particular command. In a group of option buttons, only one option at a time can be selected. Windows treats the whole group of option buttons as a single area within the dialog box.

■ Square **check boxes** also let you select options for a particular command. In a group of options with check boxes, several options can be selected at the same time. Windows treats each check box as a separate area within the dialog box.

■ **Grayed commands or options** are inactive, which means that you can't currently use them.

Often a dialog box appears with information already in it reflecting what you've selected on the screen (for example, a filename from your MS-DOS Executive window). It can also display options you selected earlier, or the default options preset in Windows.

Moving in a Dialog Box

Moving from one area of a dialog box to another selects that area. The area you select is always marked somehow — most often with a dotted box.

Moving in dialog boxes

In some cases, you'll move within an area in order to select one of a group of items within that area — for instance, a filename within a list box, or one option button in a group of option buttons.

Selecting Areas with the Keyboard

The basic method

If you're using the keyboard, you can use either of two methods, depending on your application. Just as you do with menus and commands, you can use a basic keyboard method that works with any Windows application:

■ Press the TAB key to move from area to area in a dialog box.

You can use the same method in reverse:

■ Press SHIFT+TAB to move through the dialog box in the opposite direction.

The direct-access method

If the items in your dialog box show underlined letters in their names, you can use the direct-access method to move directly to them:

1 Press and hold down the ALT key.
2 Press the underlined letter in the item name.
3 Release the ALT key.

Selecting Areas with the Mouse

If you're using a mouse, you can select any area in a dialog box easily:

■ Click the area.

When the area has a number of items within it, the item you click will be selected.

Selecting Items Within an Area

Moving within an area in a dialog box is a little different from moving between areas:

■ Use the DIRECTION keys to move from item to item within an area.

If you've selected an item in an area and you then move to another area, the item remains selected.

The following are the areas that you may want to move in.

Text Box

In a text box, you use the DIRECTION keys to move to the right or to the left in the line. The HOME key moves to the beginning of the line; the END key moves to the end of the line.

Moving and selecting in a text box are not the same thing. To select text in a text box, do this:

▣ Press and hold down the SHIFT key and use a DIRECTION key to extend the selection. Selected text is highlighted.

You can use the mouse with the keyboard to select text in a text box:

① Press and hold down the SHIFT key.

② Drag the pointer across the text you want to select.

③ Release SHIFT.

List Box

In a list box, you use the DIRECTION keys to move up and down in the list. As you move in a list box, the item you move to is highlighted, to show that it's selected.

The HOME key moves to the top of the list and selects the first item; the END key moves to the bottom of the list and selects the last item.

You can also use the PAGE UP and PAGE DOWN keys to move within a list box. These keys will move the list up or down by the "page" — that is, as much as will fit in the visible portion of the list box at one time — without selecting a new item. When you're moving through the list using the PAGE UP and PAGE DOWN keys, you may not be able to see the item that's actually selected, if it isn't in the "page" that's visible.

To select an item that you've moved to, just do this:

▣ Press the SPACEBAR.

When you move to another area in the dialog box, whatever item you selected in the list box remains selected.

Selecting in a list box

You can use the mouse to select items in a list box:

◼ Click the item you want to select.

If the item isn't visible, use the scroll bar to make it visible.

Group of Option Buttons

Moving in a group of option buttons

You can use the DIRECTION keys to move through a group of option buttons. Windows treats a group of option buttons as a single area in the dialog box, and only one option button in the group can be selected at a time. Moving to an item selects that item.

You can select an option button easily with the mouse by clicking the option button.

Choosing a Command Button

Command buttons with bold borders are defaults — options that you're most likely to want to choose.

```
┌─────────────────────────────────────────┐
│              End Session                 │
├─────────────────────────────────────────┤
│                                          │
│   ⚠    This will end your Windows session.│
│                                          │
│                                          │
│        ( OK )    ( Cancel )              │
│                                          │
└─────────────────────────────────────────┘
```

Choosing the default command button

You can automatically choose the default command button:

◼ Press the ENTER key.

Note Even if you have moved to another area of the dialog box, pressing the ENTER key will still choose the default.

You can also choose a command button with the mouse:

◼ Click the command button.

Some dialog boxes have Control menus. You can use the Close command from the Control menu to close a dialog box that has no OK or Cancel button.

You can always cancel a dialog box:

Canceling dialog boxes

■ Press the ESCAPE key.

Moving a Window or an Icon

You can move a window or an icon using your keyboard or your mouse.

Here's how to move a window or icon using the keyboard:

Moving windows and icons

1. Select the window or icon you want to move by pressing ALT + ESCAPE or ALT + TAB.
2. Select the Control menu by pressing ALT, SPACEBAR.
3. Press M to choose the Move command. A four-headed arrow appears in your window.
4. Use the DIRECTION keys to move the window.

    An outline of the window borders moves as you press the DIRECTION keys.
5. After you have moved the window to its new location, press the ENTER key to complete the move.

Follow these steps to move a window with the mouse:

Moving windows

1. Point to the title bar of the window you want to move.
2. Drag the title bar. The highlighted borders mark the position of the window.
3. After you have moved the window to its new location, release the mouse button.

You move an icon with a mouse differently:

Moving icons

1. Point to the icon you want to move. (Point at the icon itself, not the title bar.)
2. Drag the icon to the new location on the screen.
3. Release the mouse button.

Changing the Size of a Window

There are several easy ways to arrange the windows on your screen. If you're using the keyboard, the Control-menu commands let you change the size and shape of your windows. If you're using a mouse, you can directly manipulate each window border to change sizes. (You can also manipulate windows by using the Maximize, Minimize, and Restore boxes, which are explained later in this chapter.)

|Control-menu box   *|Window border*   *Maximize box|*
                                                Minimize box|

```
┌───────────────────────── MS-DOS Executive ──────────────────┬──┬──┐
│ ▭                                                            │▼ │▲ │
├──────────────────────────────────────────────────────────────────┤
│ File  View  Special                                                │
├────────────────────────────────────────────────────────────────── │
│ A ▭──▭ C▭──▭ C:CHRIS \WINDOWS                                       │
│ PIF          REVERSI.EXE                                            │
│ ABC.TXT      ROMAN.FON                                              │
│ CALC.EXE     SCRIPT.FON                                             │
│ CALENDAR.EXE SPOOLER.EXE                                            │
│ CARDFILE.EXE TERMINAL.EXE                                           │
│ CLIPBRD.EXE  TMSRA.FON                                              │
│ CLOCK.EXE    WIN.COM                                                │
│ CONTROL.EXE  WIN.INI                                                │
│ COURA.FON    WIN200.BIN                                             │
│ DOTHIS.TXT   WIN200.OVL                                             │
│ HELVA.FON    WINOLDAP.GRB                                           │
│ MODERN.FON   WINOLDAP.MOD                                           │
│ MSDOS.EXE    WRITE.EXE                                              │
│ NOTEPAD.EXE                                                         │
│ PAINT.EXE                                                           │
│ PRACTICE.WRI                                                        │
│ README.TXT                                                          │
└────────────────────────────────────────────────────────────────────┘
```

Note   Some applications, such as Calculator and Control Panel, have a fixed size. The Size and Maximize commands appear grayed on the Control menu. The application window doesn't have a Maximize box or adjustable borders. You can only shrink these applications to icons and restore them.

Fixed-size window

```
┌───────────────────────────────────────────────────────────────────┐
│ ═══           MS-DOS Executive                              ⇩  ⇧   │
├───────────────────────────────────────────────────────────────────┤
│ File  View  Special                                                 │
├───────────────────────────────────────────────────────────────────┤
│ A ═══  C ═══  C:CHRIS \WINDOWS                                       │
│ PIF            REVERSI.EXE      ┌──────────────────────────────────┐│
│ ABC.TXT        ROMAN.FON        │ ═══        Calculator        ⇩  ││
│ CALC.EXE       SCRIPT.FON       ├──────────────────────────────────┤│
│ CALENDAR.EXE   SPOOLER.EXE      │ Edit                             ││
│ CARDFILE.EXE   TERMINAL.EXE     ├──────────────────────────────────┤│
│ CLIPBRD.EXE    TMSRA.FON        │        ┌─────────────────┐       ││
│ CLOCK.EXE      WIN.COM          │        │           0.    │       ││
│ CONTROL.EXE    WIN.INI          │        └─────────────────┘       ││
│ COURA.FON      WIN200.BIN       │  MC   7   8   9   /   √          ││
│ DOTHIS.TXT     WIN200.OVL       │  MR   4   5   6   *   %          ││
│ HELVA.FON      WINOLDAP.GRB     │  M+   1   2   3   -   C          ││
│ MODERN.FON     WINOLDAP.MOD     │  M-   0   .   ±   +   =          ││
│ MSDOS.EXE      WRITE.EXE        └──────────────────────────────────┘│
│ NOTEPAD.EXE                                                         │
│ PAINT.EXE                                                           │
│ PRACTICE.WRI                                                        │
│ README.TXT                                                          │
└───────────────────────────────────────────────────────────────────┘
```

You can change the size and shape of your windows by using the Size command or by directly moving the borders with a mouse.

If you're using the keyboard, the Size command lets you change the size of your windows. Here's what to do:

1. Select the active window by pressing ALT + ESCAPE or ALT + TAB.
2. Select the Control menu by pressing ALT, SPACEBAR.
3. Press S to choose the Size command.
   A four-headed arrow appears in the middle of your window.

Changing windows' sizes

Four-headed arrow

```
┌────────────────────────────────────────┐
│ ═══       Clock            ⇩  ⇧        │
├────────────────────────────────────────┤
│                                        │
│     ■        ·····        ■            │
│                                        │
│  ■              │             ■        │
│                 │                      │
│  ■        ╲     ✛             ■        │
│              ╲                         │
│  ■              ╲             ■        │
│                    ╲                   │
│     ■              ╲      ■            │
│              ■           ■             │
│                                        │
└────────────────────────────────────────┘
```
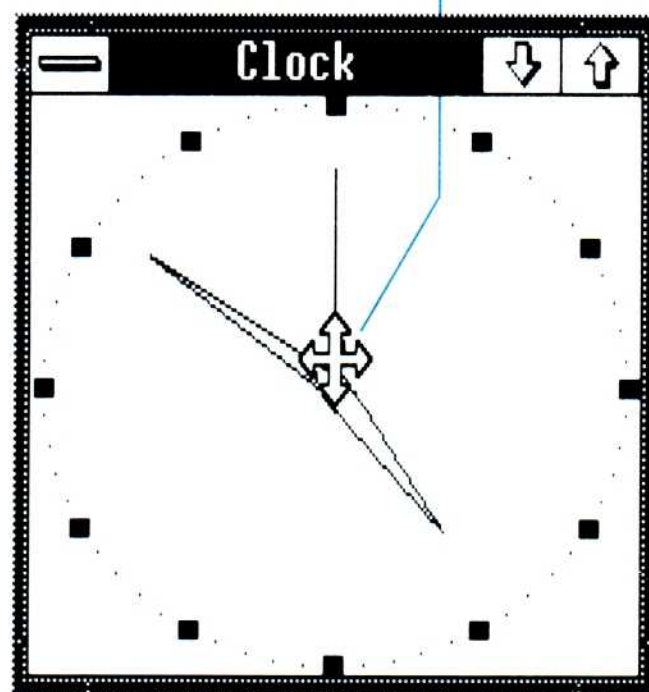
4 Press one of the DIRECTION keys to select the border you want to move.

5 Use the DIRECTION keys to move the border up and down, or right and left.

6 When you finish adjusting the border, press the ENTER key.

The window assumes its new size.

Changing windows' sizes

You can directly adjust the size of any window with borders by using the mouse. Follow these steps:

1 Select the window you want to size.

2 Point to a border or corner that you want to move. The mouse pointer becomes a two-headed arrow.

Two-headed arrow

⊟	Calendar – (untitled)	⇩ ⇧
File Edit View Show Alarm Options		

6:04 AM	←	→	Friday, February 20, 1987

```
        8:00 AM                                    ↑
        9:00
       10:00
       11:00
       12:00 PM
        1:00
        2:00
        3:00
        4:00                                       ↓
```
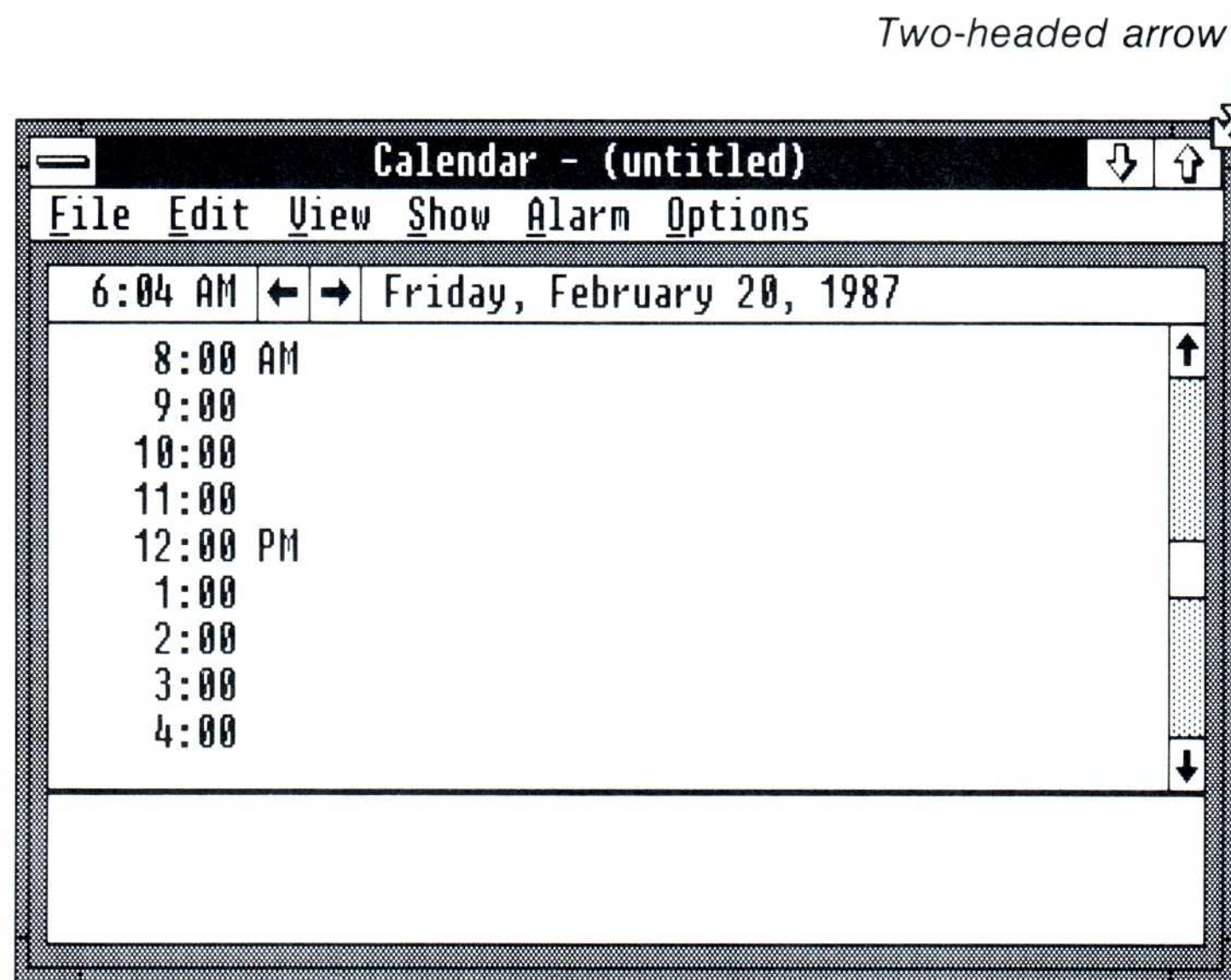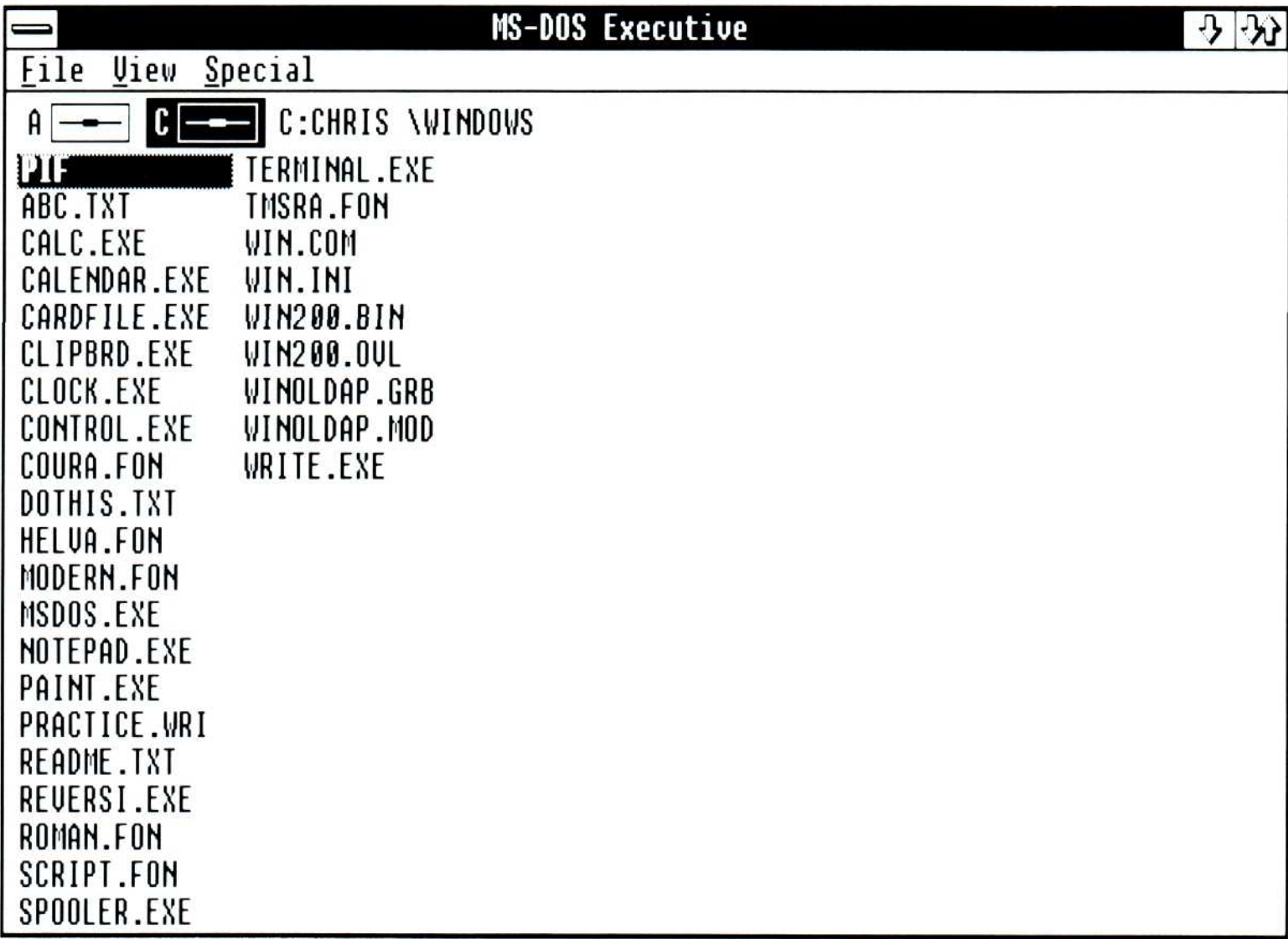
3 Drag the corner or border until the window is the size you want.

4 Release the mouse button.

Using the Size command or moving the borders of the windows allows you to reduce your window to almost the size of its title bar or to enlarge it to fill almost the entire screen.

Enlarging a Window or an Icon

You can enlarge windows and icons to fill the entire screen.

```
┌─────────────────────────────────────────────────────────────┐
│ ▬               MS-DOS Executive                      ⇩ ⇗     │
├─────────────────────────────────────────────────────────────┤
│ File  View  Special                                          │
├─────────────────────────────────────────────────────────────┤
│ A ═══  C ═══  C:CHRIS \WINDOWS                                │
│ ▐██████████    TERMINAL.EXE                                   │
│ ABC.TXT        TMSRA.FON                                      │
│ CALC.EXE       WIN.COM                                        │
│ CALENDAR.EXE   WIN.INI                                        │
│ CARDFILE.EXE   WIN200.BIN                                     │
│ CLIPBRD.EXE    WIN200.OVL                                     │
│ CLOCK.EXE      WINOLDAP.GRB                                   │
│ CONTROL.EXE    WINOLDAP.MOD                                   │
│ COURA.FON      WRITE.EXE                                      │
│ DOTHIS.TXT                                                    │
│ HELVA.FON                                                     │
│ MODERN.FON                                                    │
│ MSDOS.EXE                                                     │
│ NOTEPAD.EXE                                                   │
│ PAINT.EXE                                                     │
│ PRACTICE.WRI                                                  │
│ README.TXT                                                    │
│ REVERSI.EXE                                                   │
│ ROMAN.FON                                                     │
│ SCRIPT.FON                                                    │
│ SPOOLER.EXE                                                   │
└─────────────────────────────────────────────────────────────┘
```

Enlarging windows and icons

If you're using the keyboard, use the Maximize command from the Control menu. Here's what to do:

1. Select the window or icon you want to enlarge by pressing ALT + ESCAPE or ALT + TAB.

2. Press ALT, SPACEBAR to select the Control menu.

3. Press X to choose the Maximize command.

Your window enlarges to fill the entire screen.
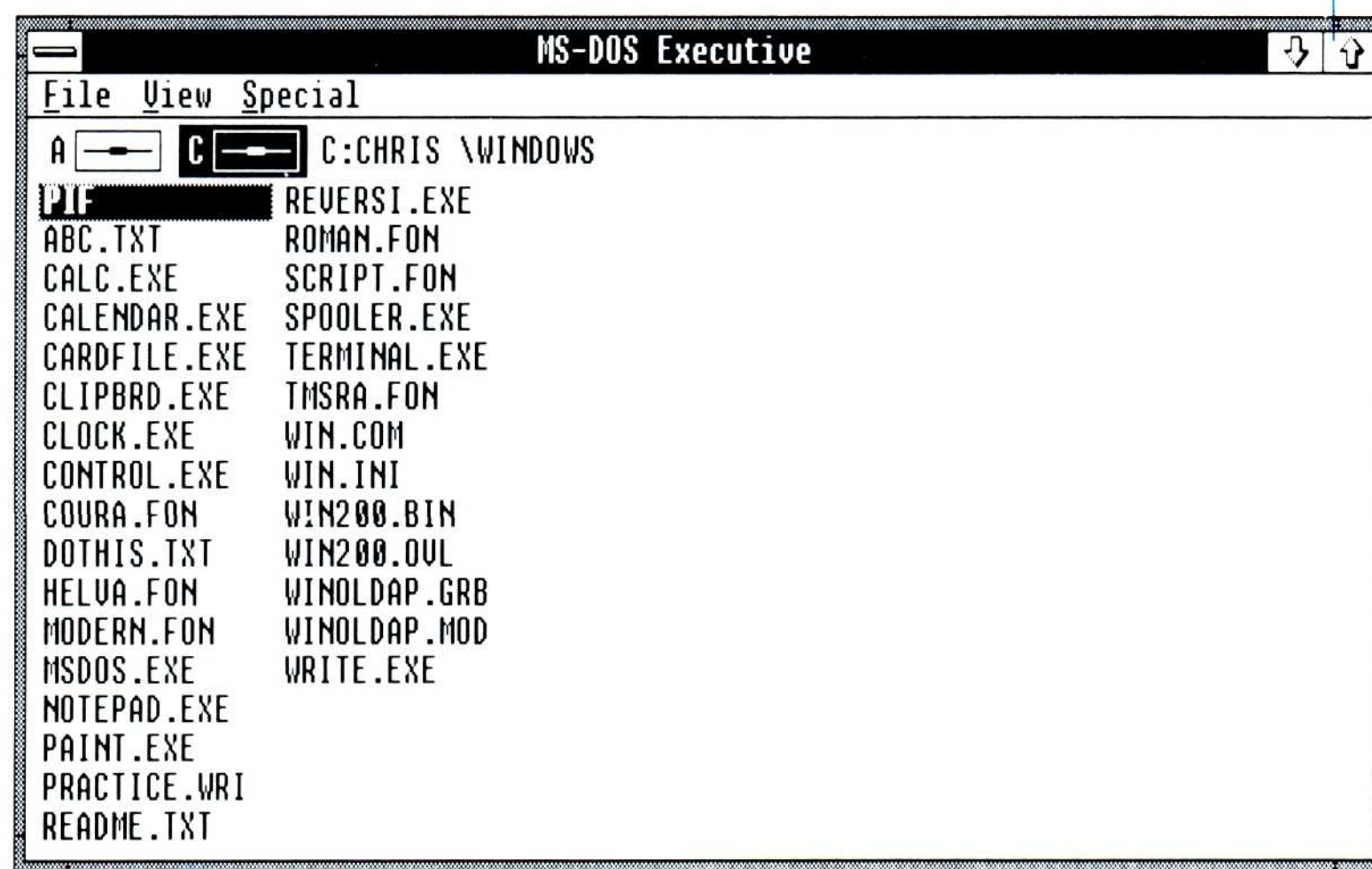
Here's how to enlarge a window to its maximum size with the mouse:

1. Select the window you want to enlarge.

2. Click the Maximize box in the upper-right corner of the window.

Maximize box

```
┌──────────────────────────────────────────────────────────────────┐
│ ▤                    MS-DOS Executive                        ⬇ ⬆  │
├──────────────────────────────────────────────────────────────────┤
│  File  View  Special                                              │
│                                                                   │
│  A ▭─▭  C ▭─▭  C:CHRIS \WINDOWS                                   │
│  ▐PIF▌         REVERSI.EXE                                        │
│  ABC.TXT       ROMAN.FON                                          │
│  CALC.EXE      SCRIPT.FON                                         │
│  CALENDAR.EXE  SPOOLER.EXE                                        │
│  CARDFILE.EXE  TERMINAL.EXE                                       │
│  CLIPBRD.EXE   TMSRA.FON                                          │
│  CLOCK.EXE     WIN.COM                                            │
│  CONTROL.EXE   WIN.INI                                            │
│  COURA.FON     WIN200.BIN                                         │
│  DOTHIS.TXT    WIN200.OVL                                         │
│  HELVA.FON     WINOLDAP.GRB                                       │
│  MODERN.FON    WINOLDAP.MOD                                       │
│  MSDOS.EXE     WRITE.EXE                                          │
│  NOTEPAD.EXE                                                      │
│  PAINT.EXE                                                        │
│  PRACTICE.WRI                                                     │
│  README.TXT                                                       │
│                                                                   │
└──────────────────────────────────────────────────────────────────┘
```

The window fills your entire screen. Note that the Maximize box
has disappeared and the Restore box has taken its place.

Enlarging an icon

You enlarge an icon with the mouse a little differently:

1 Click the icon you want to enlarge.
   The Control menu appears.
2 Click the Maximize command.

The application window fills the entire screen.

Shrinking a Window to an Icon

You shrink a window to an icon when you are finished working with it, but want it easily available to use later. The application is still running in memory (represented by the icon), but it's not taking up space in your work area. You can do many of the same things with an icon that you can do with a window, such as selecting it or moving it on the screen. And when you want to work in the window again, you can use the Maximize or Restore commands to enlarge it. You can shrink windows to icons using either the keyboard or the mouse.

If you are using a keyboard, follow these steps to shrink your window to an icon:

Shrinking windows to icons

1. Select the window you want to shrink by pressing ALT + ESCAPE.
2. Select the Control menu by pressing ALT, SPACEBAR.
3. Choose the Minimize command by pressing N.
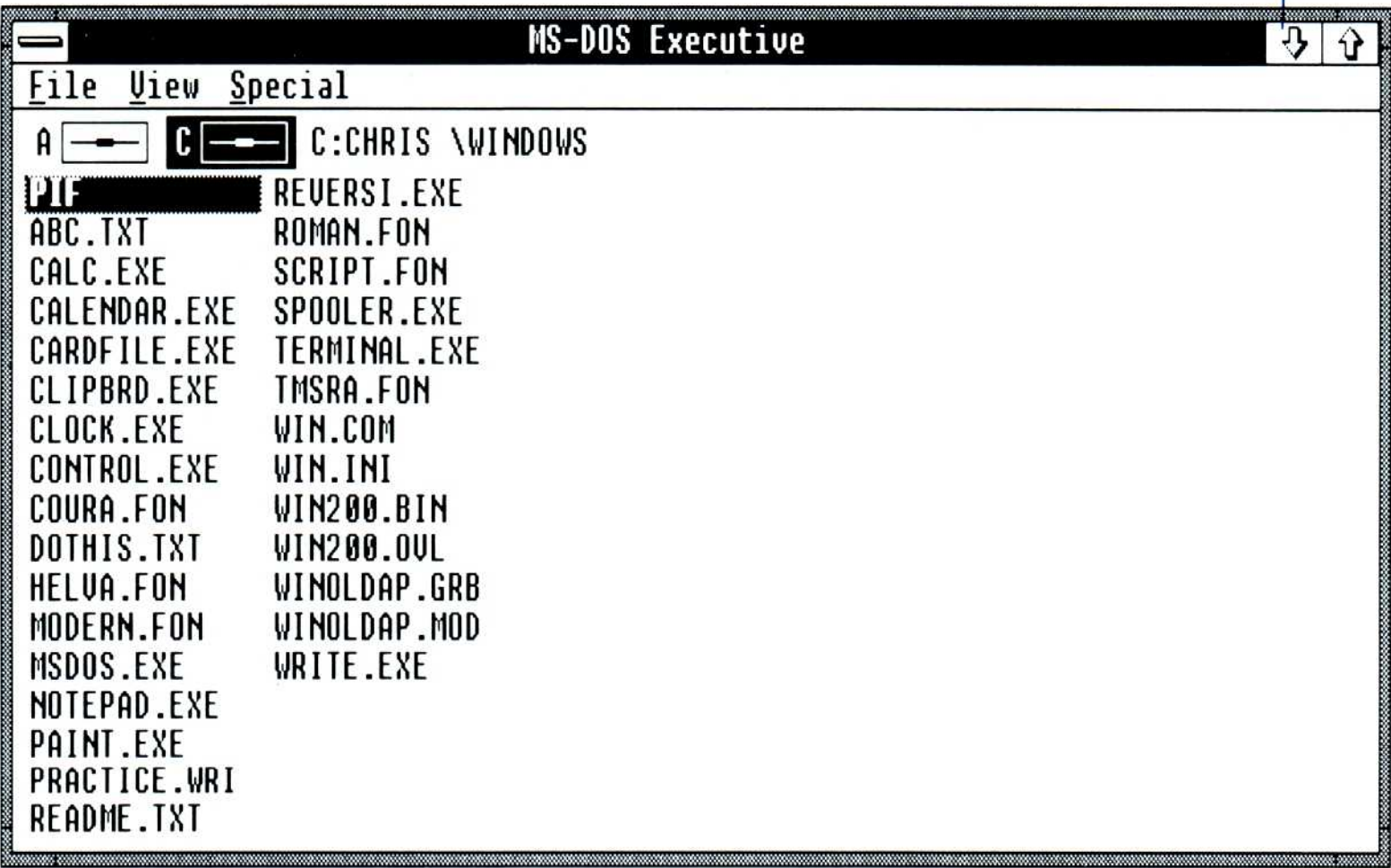
To shrink a window with the mouse, use the Minimize box in the upper right-corner of the window. Here's how to do it:

1. Select the window you want to shrink.
2. Click the Minimize box.

Minimize box

```
┌──────────────────────────────────────────────────────┐
│ ▭          MS-DOS Executive                    ⇩  ⇧   │
├──────────────────────────────────────────────────────┤
│ File  View  Special                                    │
├──────────────────────────────────────────────────────┤
│ A ▭─▭  C ▭──▭  C:CHRIS \WINDOWS                        │
│ PIF            REVERSI.EXE                              │
│ ABC.TXT        ROMAN.FON                               │
│ CALC.EXE       SCRIPT.FON                              │
│ CALENDAR.EXE   SPOOLER.EXE                             │
│ CARDFILE.EXE   TERMINAL.EXE                            │
│ CLIPBRD.EXE    TMSRA.FON                               │
│ CLOCK.EXE      WIN.COM                                 │
│ CONTROL.EXE    WIN.INI                                 │
│ COURA.FON      WIN200.BIN                              │
│ DOTHIS.TXT     WIN200.OVL                              │
│ HELVA.FON      WINOLDAP.GRB                            │
│ MODERN.FON     WINOLDAP.MOD                            │
│ MSDOS.EXE      WRITE.EXE                               │
│ NOTEPAD.EXE                                            │
│ PAINT.EXE                                              │
│ PRACTICE.WRI                                           │
│ README.TXT                                             │
└──────────────────────────────────────────────────────┘
```

Restoring a Window or an Icon

You can restore a window to its previous size and place on your screen with the Restore command (if you're using the keyboard) or with the Restore box (if you're using a mouse). Restore returns your window to its original size, or to the size you last made it. The Restore command also returns your window to its original place on the screen, or to the place you last moved it to.

Restoring windows and icons

If you're using the keyboard, follow these steps to choose the Restore command:

1. Select the window that you want to restore by pressing ALT + ESCAPE or ALT + TAB. (Selecting an icon with ALT + TAB automatically restores it.)

2. Select the Control menu by pressing ALT, SPACEBAR.

```
┌─────────────────────┐
│ ▬                   │
├─────────────────────┤
│ Restore    Alt+F5   │
│ Move       Alt+F7   │
│ Size       Alt+F8   │
│ Minimize   Alt+F9   │
│ Maximize   Alt+F10  │
├─────────────────────┤
│ Close      Alt+F4   │
└─────────────────────┘
```
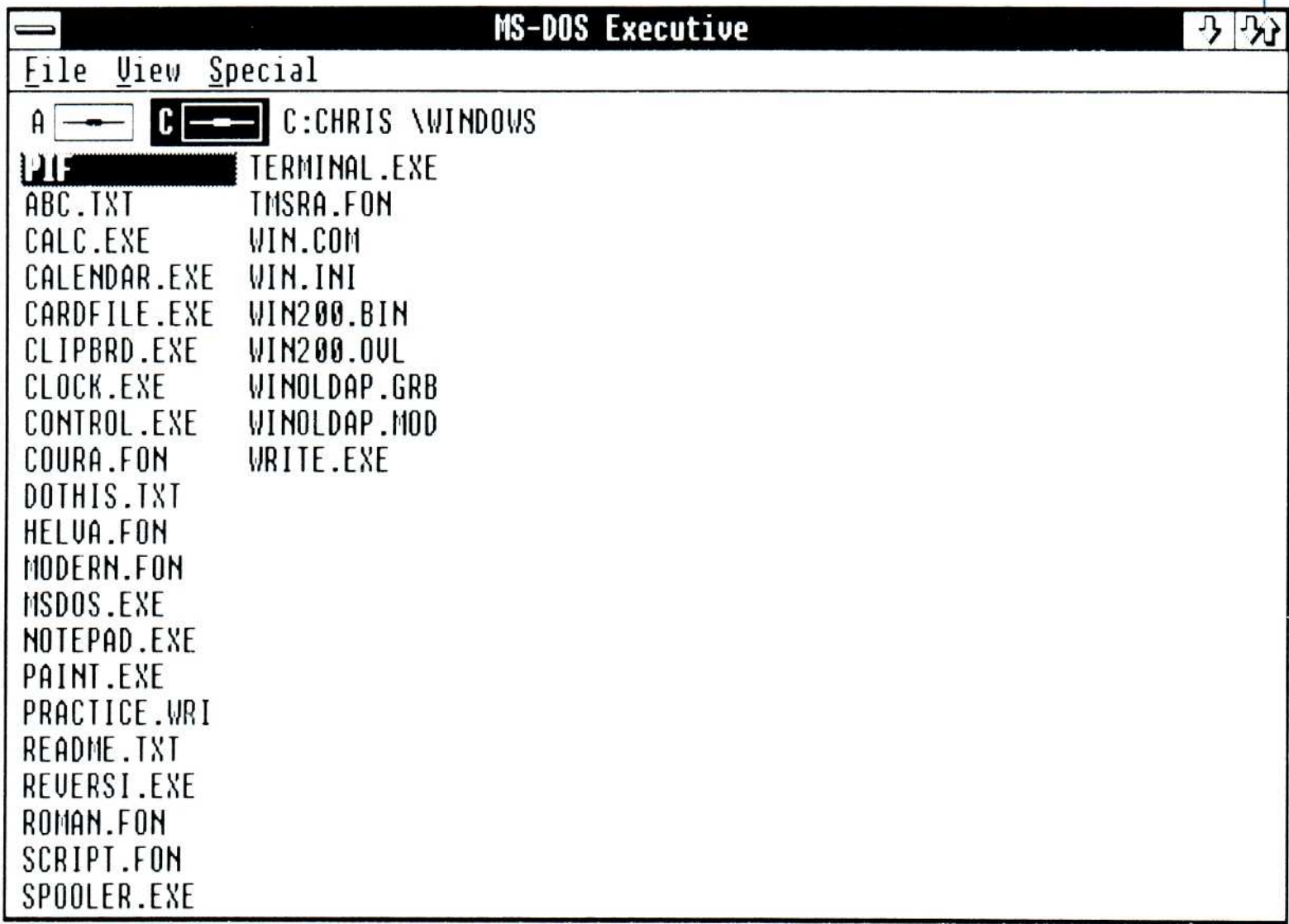
3. The Restore command is highlighted when you select the Control menu, so you can either press R or press the ENTER key to choose it.

You can use the Restore box to return a window to its previous size if you're using a mouse. Follow these steps:

1. Select the window that you want to restore to its original size. The Restore box is in the upper-right corner of the window.

Restore box

```
┌────────────────────────────────────────────────────────────┐
│ ▭            MS-DOS Executive                          ⤴ ⤢ │
│ File  View  Special                                          │
├────────────────────────────────────────────────────────────┤
│ A ▭═══  C ▭═══  C:CHRIS \WINDOWS                             │
│ DIR          TERMINAL.EXE                                    │
│ ABC.TXT      TMSRA.FON                                       │
│ CALC.EXE     WIN.COM                                         │
│ CALENDAR.EXE WIN.INI                                         │
│ CARDFILE.EXE WIN200.BIN                                      │
│ CLIPBRD.EXE  WIN200.OVL                                      │
│ CLOCK.EXE    WINOLDAP.GRB                                    │
│ CONTROL.EXE  WINOLDAP.MOD                                    │
│ COURA.FON    WRITE.EXE                                       │
│ DOTHIS.TXT                                                   │
│ HELVA.FON                                                    │
│ MODERN.FON                                                   │
│ MSDOS.EXE                                                    │
│ NOTEPAD.EXE                                                  │
│ PAINT.EXE                                                    │
│ PRACTICE.WRI                                                 │
│ README.TXT                                                   │
│ REVERSI.EXE                                                  │
│ ROMAN.FON                                                    │
│ SCRIPT.FON                                                   │
│ SPOOLER.EXE                                                  │
└────────────────────────────────────────────────────────────┘
```

2 Click the Restore box.

To restore an icon to its previous size, do the following:

▣ Double-click the icon.

Using Scroll Bars

Some application windows and dialog boxes have scroll bars, which let you view information that won't fit in the window.

Scroll box
Up scroll arrow

```
┌──────────────────────────────────────────────────────┐
│ ▭              Notepad - DOTHIS.TXT              🔱 🔃 │
├──────────────────────────────────────────────────────┤
│ File  Edit  Search                                     │
├────────────────────────────────────────────────────┬──┤
│ TO DO             PRIORITY                          │ ↑│
│ Shop for new suit      B                            │▓▓│
│ Phone dentist          C                            │▓▓│
│ Take car in for tuneup A                            │  │
│ Make plane reservation B                            │  │
│ Pick up theater tickets B                           │  │
│    How much?                                        │  │
│ Contact realtor        B                            │  │
│ Clean garage           C                            │  │
│ Mow lawn               B                            │  │
│ Plan spring garden     B                            │  │
│ Schedule vacation      A                            │  │
│ Read "War and Peace"   C                            │  │
│ Write Grandma          C                            │  │
│ Buy present for Martha B                            │  │
│ Talk to Fred           B                            │  │
│ Take out garbage       B                            │ ↓│
├──┬──────────────────────────────────────────────┬──┼──┤
│ ←│▓▓                                            │ →│  │
└──┴──────────────────────────────────────────────┴──┴──┘
```

Scroll box
Left scroll arrow

Right scroll arrow
Down scroll arrow

Scrolling

If you're using the keyboard, here's how to scroll after you have reached the last character or item in the window:

■ Press the DIRECTION key in the direction you want to scroll.

For example, to scroll right, go to the rightmost character or item on the screen and keep pressing the RIGHT key.

In addition, some applications allow you to scroll by the screenful (that is, as much as will fit in the window or dialog box at one time). The following list shows keys that you can use in some applications to move in a file or dialog box. Not all applications use these keys in the same way, so it's best to try them out in each case.

To scroll	Press
Up one screen	PAGE UP
Down one screen	PAGE DOWN
Left one screen	CONTROL + PAGE UP
Right one screen	CONTROL + PAGE DOWN

You can use the mouse to scroll to a general location in a file or dialog box:

1. Drag the small white box (the scroll box) in the scroll bar to a position in the scroll bar that corresponds to the general location you want (beginning, middle, or end of the file or dialog box).

2. Release the mouse button.

The following list details how to scroll more precisely with the mouse:

To scroll	Do this
One line at a time	Click the scroll arrows at either end of the scroll bar.
One screen at a time	Click the scroll bar on either side of the scroll box.

Messages from an Inactive Window

When an inactive application needs to send you status or error information, you hear a beep; the application then flashes its title bar or icon. To receive the message, do the following:

■ Press ALT + ESCAPE or use the mouse to select the window or icon.

The message appears as soon as you select the window or icon.

Messages from inactive windows

Quitting an Application

You quit an application — remove it from memory — when you are finished with it. To work with it again, you need to run the application from the MS-DOS Executive window.

To quit an application, use the Exit command. This command is usually on the first menu on the application's menu bar.

```
┌──────────────────────────────────────────────────────────┐
│ ▬              MS-DOS Executive                    ⇩  ⇧   │
├──────────────────────────────────────────────────────────┤
│ File  View  Special                                      │
│ ┌──────────────────┐                                     │
│ │ Run...           │  \WINDOWS                           │
│ │ Load...          │ XE                                  │
│ │ Copy...          │                                     │
│ │ Get Info         │ N                                   │
│ │ Delete...        │ XE                                  │
│ │ Print...         │ EXE                                 │
│ │ Rename...        │                                     │
│ │                  │                                     │
│ │ Exit             │                                     │
│ │ About MS-DOS Exec... │ N                               │
│ DOTHIS.TXT    WIN200.OOL                                 │
│ HELVA.FON     WINOLDAP.GRB                               │
│ MODERN.FON    WINOLDAP.MOD                               │
│ MSDOS.EXE     WRITE.EXE                                  │
│ NOTEPAD.EXE                                              │
│ PAINT.EXE                                                │
│ PRACTICE.WRI                                             │
│ README.TXT                                               │
└──────────────────────────────────────────────────────────┘
```
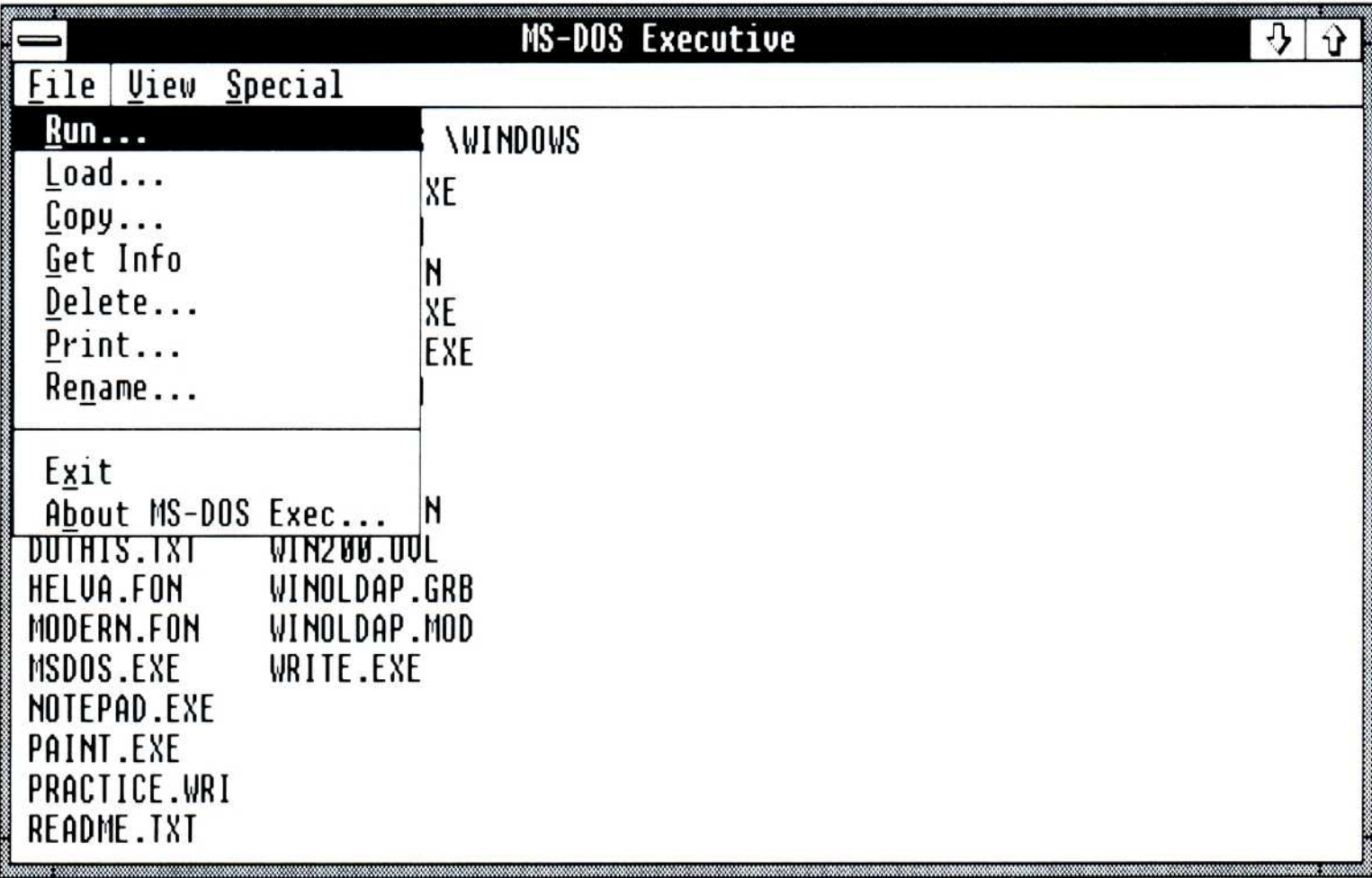
Using the Exit command

Follow these steps to quit an application using the keyboard:

1. Select the window of the application you want to quit by pressing ALT + ESCAPE or ALT + TAB.
2. Select the first menu on the left by pressing ALT and then the underlined letter.
3. Choose the Exit command by pressing X.

To use the Exit command with the mouse, do the following:

1. Click the window of the application you want to quit.
2. Click the first menu name on the left of the menu bar.
3. Click the Exit command.

If the application does not have an Exit command, use the Control menu's Close command. The Close command closes a window. Some applications may have secondary windows or dialog boxes with Control menus (for example, MS-DOS Executive's Get Info command). You can use the Close command to close these secondary windows, but the main window remains open and the application continues to run. If your application has only one window open, the Close command closes that window and removes the application from memory.

To use the Close command with the keyboard, do the following:

1. Select the Control menu by pressing ALT, SPACEBAR.
2. Choose the Close command by pressing C.

Here's how to close an application window with a mouse:

■ Double-click the Control-menu box.

If you close the MS-DOS Executive window and no other MS-DOS Executive windows are on the screen, your Windows session ends.

Ending a Windows Session

When you end a Windows session, you quit Windows and return to DOS. If you have applications running and files open when you end the session, you may be prompted to save your files.

To end a session, follow these steps:

1. Select the Special menu with your mouse or by pressing the ALT key and then S.
2. Choose the End Session command.
   A dialog box asks you to confirm that you want to end the session.

```
┌─────────────────────────────────────────────────────────────────┐
│ ▭            MS-DOS Executive                              ⇩  ⇧  │
├─────────────────────────────────────────────────────────────────┤
│ File  View  Special                                              │
├─────────────────────────────────────────────────────────────────┤
│ A ─■─  C ─■─  C:CHRIS \WINDOWS                                   │
│ PIF          REVERSI.EXE                                         │
│ ABC.TXT      ROMAN.FON                                           │
│ CALC.EXE     SCRIPT.FON                                          │
│ CALENDAR.EXE SPOOLER.EXE                                         │
│ CARDFILE.EXE ┌──────────────────────────────────────┐           │
│ CLIPBRD.EXE  │            End Session                │           │
│ CLOCK.EXE    │                                       │           │
│ CONTROL.EXE  │  ⚠   This will end your Windows session.│         │
│ COURA.FON    │                                       │           │
│ DOTHIS.TXT   │                                       │           │
│ HELVA.FON    │    ( ░OK░ )    ( Cancel )             │           │
│ MODERN.FON   │                                       │           │
│ MSDOS.EXE    └──────────────────────────────────────┘           │
│ NOTEPAD.EXE                                                      │
│ PAINT.EXE                                                        │
│ PRACTICE.WRI                                                     │
│ README.TXT                                                       │
└─────────────────────────────────────────────────────────────────┘
```
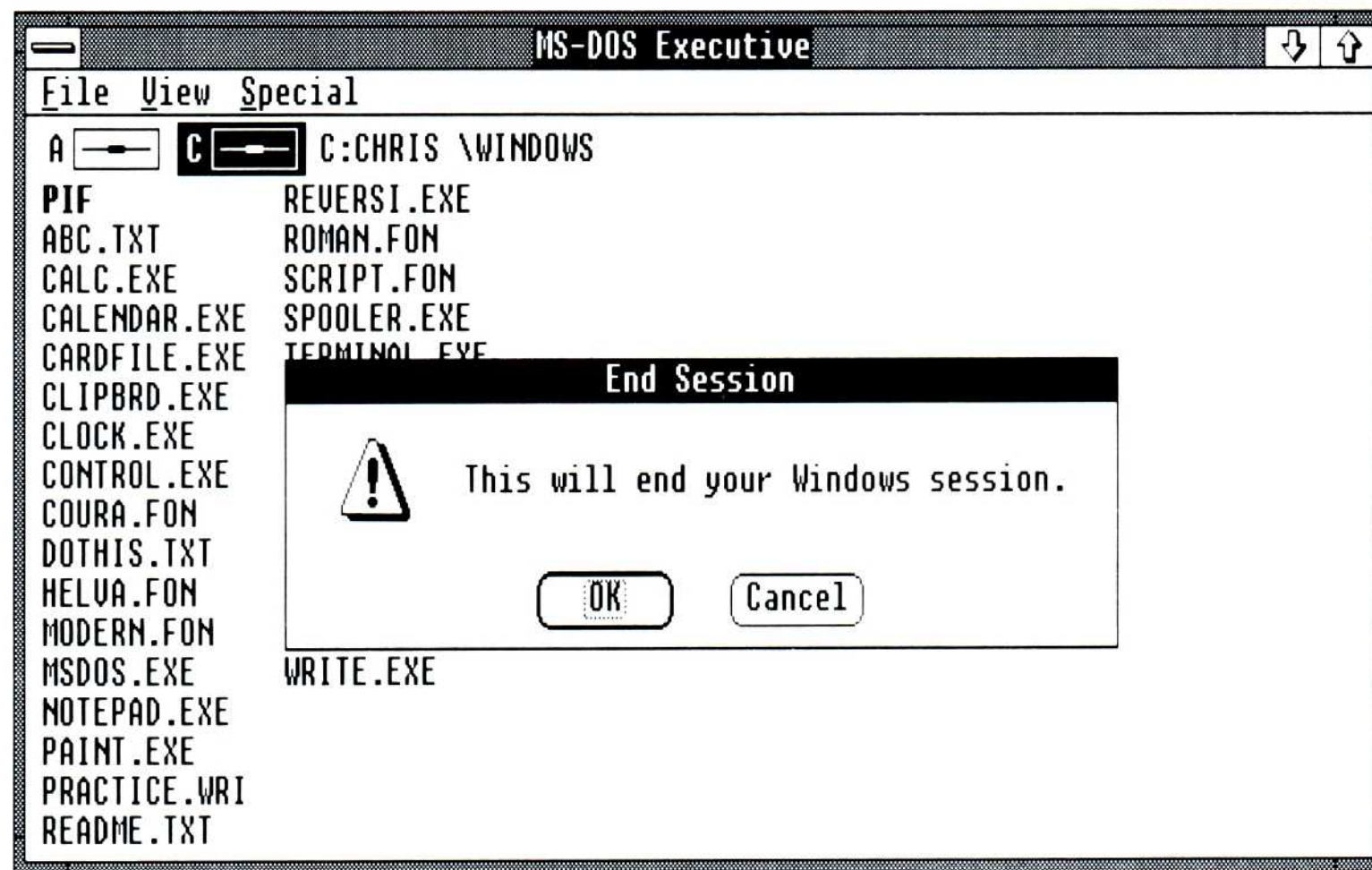
3 Choose the OK button to end your session, or choose the Cancel button to cancel the command.

Your Windows session ends and you're returned to DOS.
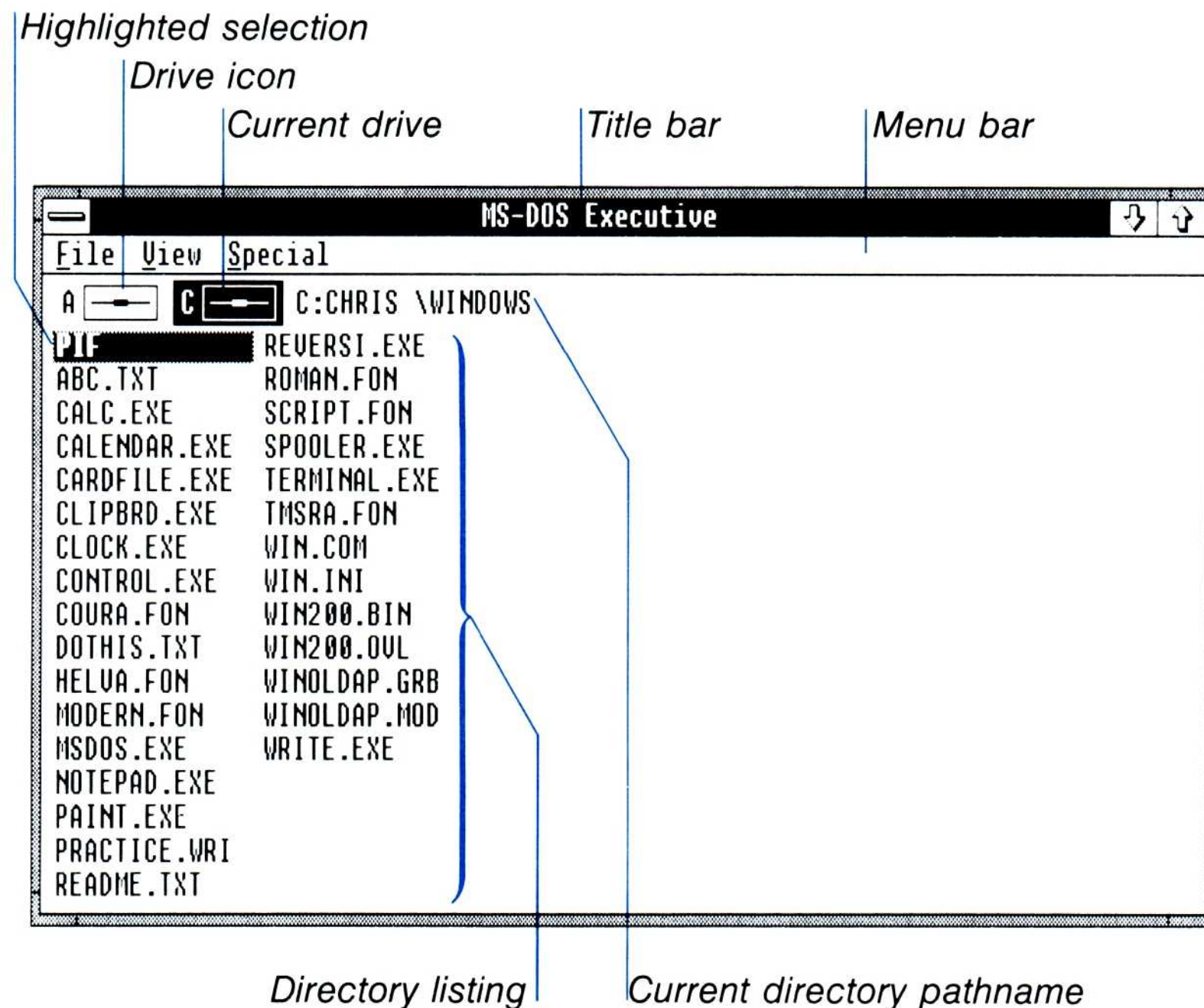
5 Using MS-DOS Executive

MS-DOS Executive runs automatically when you start Microsoft
Windows. MS-DOS Executive gives you access to DOS commands
so that you can run applications, copy and print files, and rename
and delete files and directories. You can also use MS-DOS Execu-
tive to create directories to organize your files into convenient
groups.
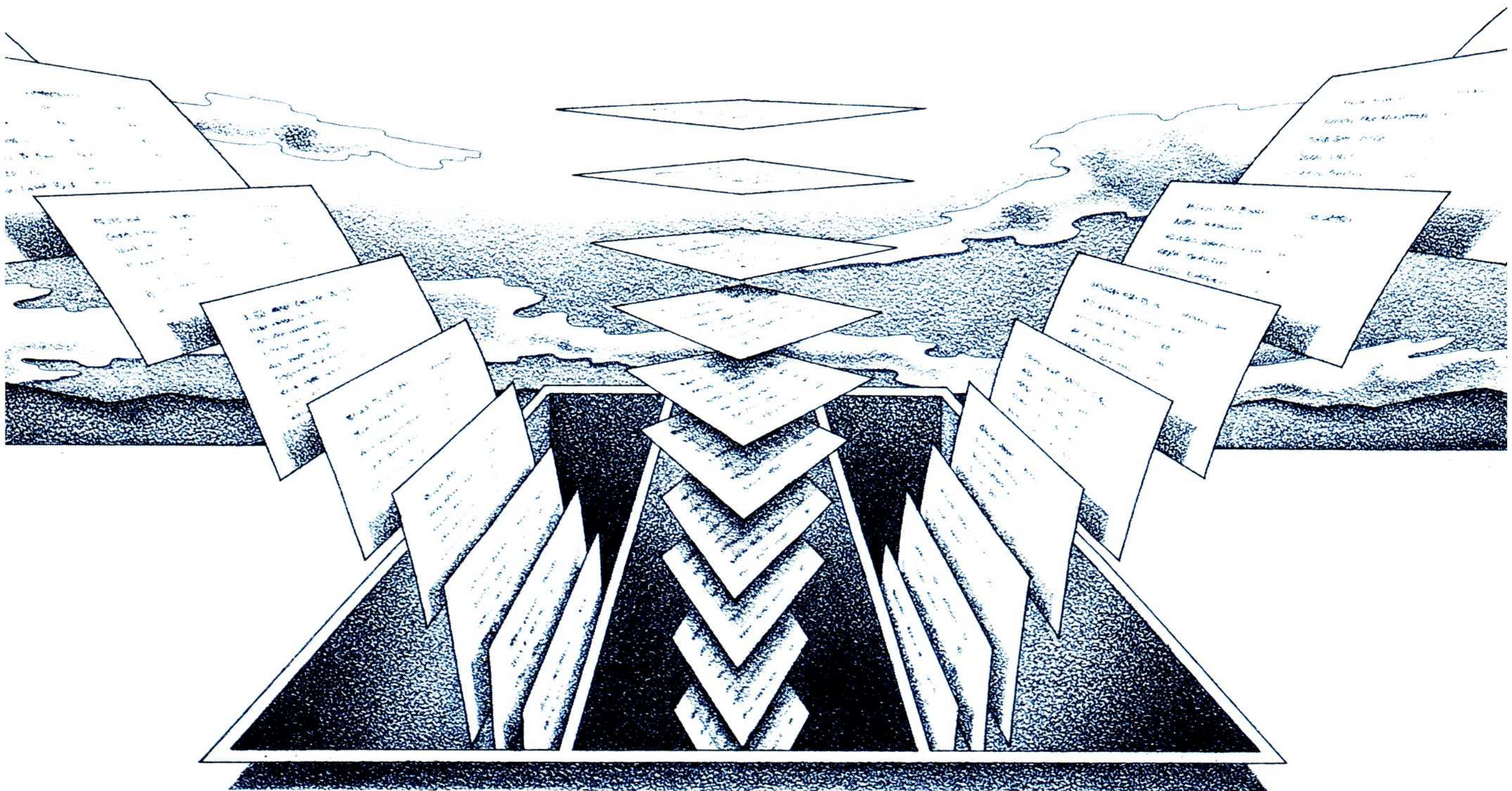
Running MS-DOS Executive

When you start Windows, the MS-DOS Executive window appears on your screen.

Highlighted selection
Drive icon
Current drive
Title bar
Menu bar

```
┌─────────────────────────────────────────────────────────┐
│ ▄    MS-DOS Executive    ⬇ ⬆ │
│ File View Special                                          │
│ A ▭  C ▭  C:CHRIS \WINDOWS                                 │
│ PIF          REVERSI.EXE                                   │
│ ABC.TXT      ROMAN.FON                                     │
│ CALC.EXE     SCRIPT.FON                                    │
│ CALENDAR.EXE SPOOLER.EXE                                   │
│ CARDFILE.EXE TERMINAL.EXE                                  │
│ CLIPBRD.EXE  TMSRA.FON                                     │
│ CLOCK.EXE    WIN.COM                                       │
│ CONTROL.EXE  WIN.INI                                       │
│ COURA.FON    WIN200.BIN                                    │
│ DOTHIS.TXT   WIN200.OVL                                    │
│ HELVA.FON    WINOLDAP.GRB                                  │
│ MODERN.FON   WINOLDAP.MOD                                  │
│ MSDOS.EXE    WRITE.EXE                                     │
│ NOTEPAD.EXE                                                │
│ PAINT.EXE                                                  │
│ PRACTICE.WRI                                               │
│ README.TXT                                                 │
└─────────────────────────────────────────────────────────┘
```

Directory listing
Current directory pathname

The MS-DOS Executive window contains the following parts:

- The **title bar** displays the application name.
- The **menu bar** contains the names of the MS-DOS Executive menus.
- The **drive icons** represent the disk drives of your computer. The current drive is selected.
- The **pathname** shows what directory you are working in (the current directory). The pathname consists of the drive letter, followed by the volume name (if there is one) and the directory name. If the current directory is a subdirectory, you will see several directory names separated from each other by backslashes.
- The **directory listing** shows the directories and files in the current directory.
- The **highlighted selection** is the item (for example, a file or directory) that will be affected by the next command you choose.

If the entire directory listing can't fit in the window, MS-DOS Executive displays a scroll bar. See Chapter 4, "Techniques," for more information on scrolling.

For detailed information on DOS directory structure and files, see the DOS manuals provided with your computer.

Making a Selection

When you work with Windows, you must select the item that the next command or action will affect. The selected item is highlighted.

Selecting a File, Directory, or Drive Icon

You use the DIRECTION keys to select a file or directory (directories are shown in bold) in the MS-DOS Executive window. You can also select a file or directory by typing the first letter of the filename or directory name; for example, if you type *S*, you select the first filename or directory name beginning with "S." Typing *S* again selects the second filename or directory name beginning with "S," and so on.

The following list describes how to make selections:

Selecting an item

To select	Press
A filename or directory name	DIRECTION keys or initial letter
A drive icon	CONTROL + drive letter

Here's how to select an item with the mouse:

- Click the drive icon, filename, or directory name you want to select.

Note   You can press the SPACEBAR to cancel a filename or directory name selection. Pressing the SPACEBAR again reselects the filename or directory name. If you have a mouse, you can press and hold down the SHIFT key, click the selected filename, then release the SHIFT key to cancel a selection.
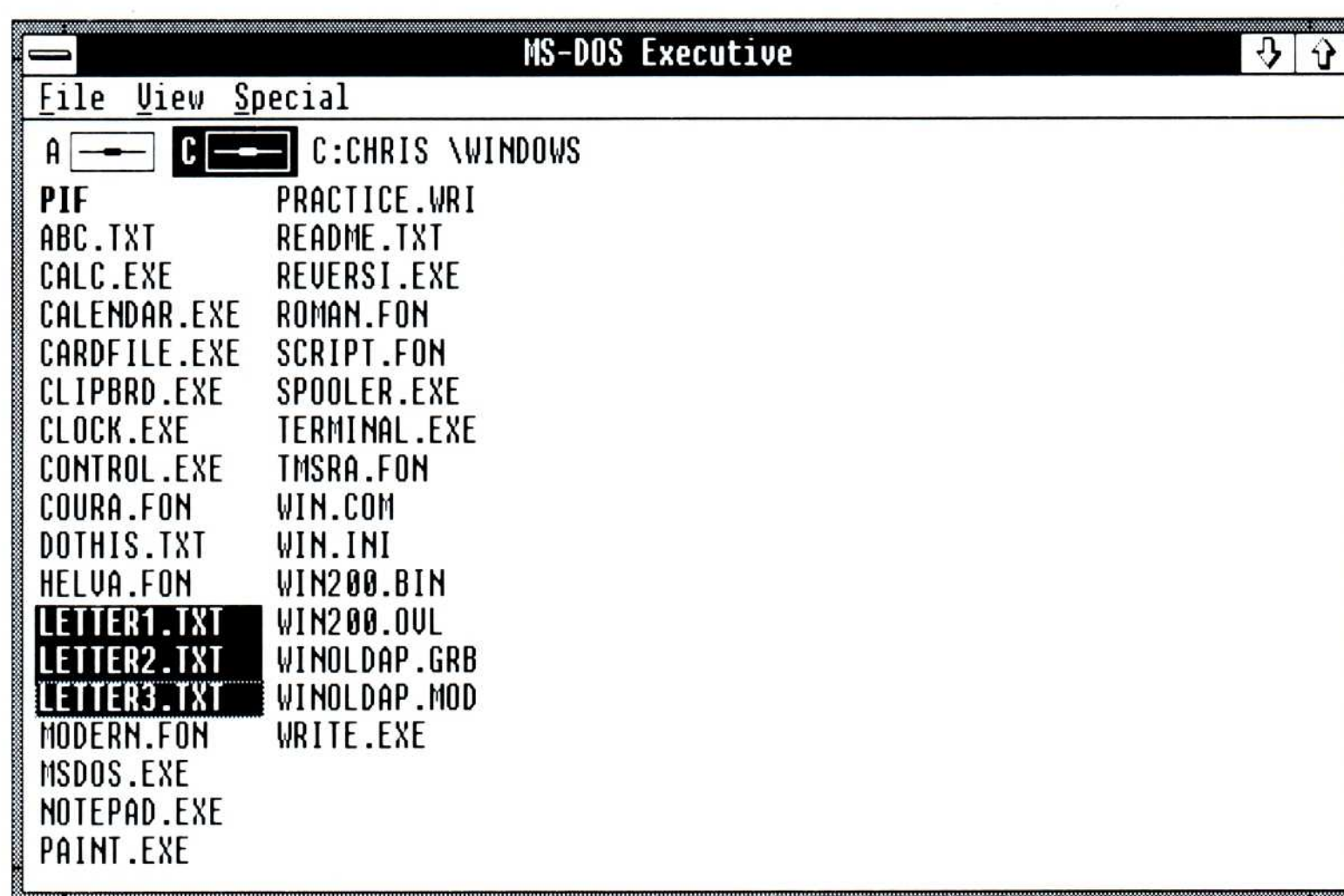
Extending a Selection

Whether you use the keyboard or the mouse, you can extend a selection to include more than one item. You can select a block of files—files that are next to each other—or you can select files that are scattered throughout the directory listing.

Selecting a block of files

To select a block of files, follow these steps:

1. Use the DIRECTION keys to select the first file in the block.

2. Press and hold down the SHIFT key and press the DIRECTION keys to select the rest of the files in the block.

3. Release the SHIFT key when you are finished selecting.

```
┌────────────────────────────────────────────────────────────┐
│ ═  MS-DOS Executive                              ⇩ ⇧ │
├────────────────────────────────────────────────────────────┤
│  File  View  Special                                       │
│ ─────────────────────────────────────────────────────────  │
│  A ═━═  C ═━═  C:CHRIS \WINDOWS                             │
│  PIF           PRACTICE.WRI                                 │
│  ABC.TXT       README.TXT                                   │
│  CALC.EXE      REVERSI.EXE                                  │
│  CALENDAR.EXE  ROMAN.FON                                    │
│  CARDFILE.EXE  SCRIPT.FON                                   │
│  CLIPBRD.EXE   SPOOLER.EXE                                  │
│  CLOCK.EXE     TERMINAL.EXE                                 │
│  CONTROL.EXE   TMSRA.FON                                    │
│  COURA.FON     WIN.COM                                      │
│  DOTHIS.TXT    WIN.INI                                      │
│  HELVA.FON     WIN200.BIN                                   │
│  LETTER1.TXT   WIN200.OVL                                   │
│  LETTER2.TXT   WINOLDAP.GRB                                 │
│  LETTER3.TXT   WINOLDAP.MOD                                 │
│  MODERN.FON    WRITE.EXE                                    │
│  MSDOS.EXE                                                  │
│  NOTEPAD.EXE                                               │
│  PAINT.EXE                                                  │
└────────────────────────────────────────────────────────────┘
```

To select a block of files with the mouse, do the following:

1. Press and hold down the SHIFT key and click all the files you want to select.

2. Release the SHIFT key when you have selected the desired files.

Selecting scattered files

To select files that are scattered throughout the directory listing, follow these steps:

1. Press and hold down the CONTROL key and press the DIRECTION keys until a dotted box surrounds a file you want to select.

2 Release the CONTROL key.

3 Press the SPACEBAR to select the file.

4 Repeat steps 1, 2, and 3 to select all desired files.

```
┌─────────────────────────────────────────────────┐
│ ▬              MS-DOS Executive            ⤵ ⤴ │
│ File  View  Special                               │
│ A ▭  C ▭  C:CHRIS \WINDOWS                        │
│ PIF            README.TXT                          │
│ ABC.TXT        REVERSI.EXE                         │
│ CALC.EXE       ROMAN.FON                           │
│ CALENDAR.EXE   SCRIPT.FON                          │
│ CARDFILE.EXE   SPOOLER.EXE                         │
│ CLIPBRD.EXE    TERMINAL.EXE                        │
│ CLOCK.EXE      TMSRA.FON                           │
│ CONTROL.EXE    WIN.COM                             │
│ COURA.FON      WIN.INI                             │
│ DOTHIS.TXT     WIN200.BIN                          │
│ HELVA.FON      WIN200.OVL                          │
│ LETTER1.TXT    WINOLDAP.GRB                        │
│ MODERN.FON     WINOLDAP.MOD                        │
│ MSDOS.EXE      WRITE.EXE                           │
│ NOTEPAD.EXE                                        │
│ PAINT.EXE                                          │
│ PRACTICE.WRI                                       │
└─────────────────────────────────────────────────┘
```

To select scattered files with the mouse, follow these steps:

1 Press and hold down the SHIFT key and click each file you want to select.

2 Release the SHIFT key.

Starting an Application

You start applications from the MS-DOS Executive window. Starting an application loads the application file into a window that appears in front of the MS-DOS Executive window.

An application file usually has the name of the program and a .EXE or .COM extension as its filename. For example, the file containing the Calendar program has the filename CALENDAR.EXE.

You can start applications that are in the current directory or in any other Windows directory.

Starting an Application in the Current Directory

Starting applications in the current directory

Follow this step to start an application in the current directory:

■ Select the application filename and press the ENTER key.

The application window is displayed in front of the MS-DOS Executive window.

Here's how to start an application in the current directory with the mouse:

■ Double-click the application filename.

Starting an Application in Another Directory

You can start an application that is not in the current directory by using the File menu's Run command. The Run command lets you supply additional information, such as a pathname or a command-line argument.

Starting applications in other directories

To start an application in a different directory, follow these steps:

1 Select the File menu and choose the Run command. A dialog box appears.

```
┌─────────────────────────────────────────────┐
│                                              │
│   Run:│                                  │    │
│        └──────────────────────────────┘      │
│        ┌──────────┐      ┌──────────┐         │
│        │    OK    │      │  Cancel  │         │
│        └──────────┘      └──────────┘         │
│                                              │
└─────────────────────────────────────────────┘
```
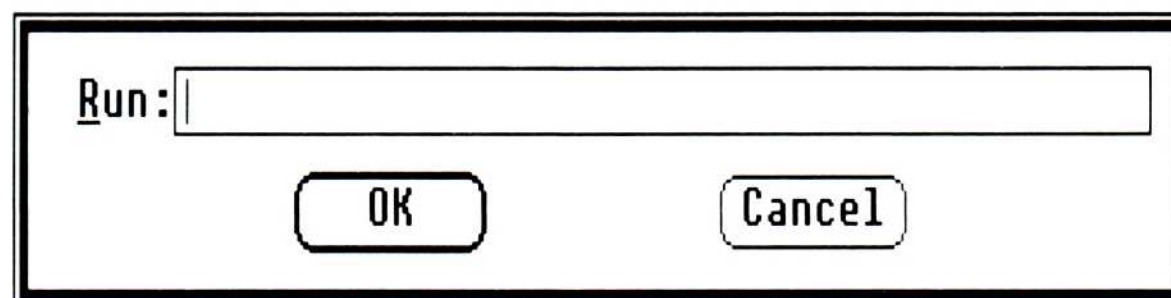
2 Type the application's pathname, including the .EXE or .COM filename extension, in the text box. Include more information (such as an additional filename) if you need to.

3 Choose the OK button.

Starting an Application as an Icon

You can start an application as an icon rather than running it in a window so that the application is ready for use but takes up minimal space on your screen.

Follow this step to run an application as an icon:

▣ Select the filename and press SHIFT + ENTER.
The application icon appears in the icon area.

To run an application as an icon with the mouse, do the following:

▣ Press and hold down the SHIFT key and double-click the application filename. Release the SHIFT key.

If you want to run an application as an icon but need to supply additional information (such as a pathname or parameters), use the File menu's Load command:

Loading applications to run as icons

① Select the File menu and choose the Load command. A dialog box appears.

```
┌─────────────────────────────────────────────┐
│                                             │
│  Load:│                                    │ │
│       └────────────────────────────────────┘ │
│        ┌─────────┐      ┌──────────┐          │
│        │   OK    │      │  Cancel  │          │
│        └─────────┘      └──────────┘          │
│                                             │
└─────────────────────────────────────────────┘
```
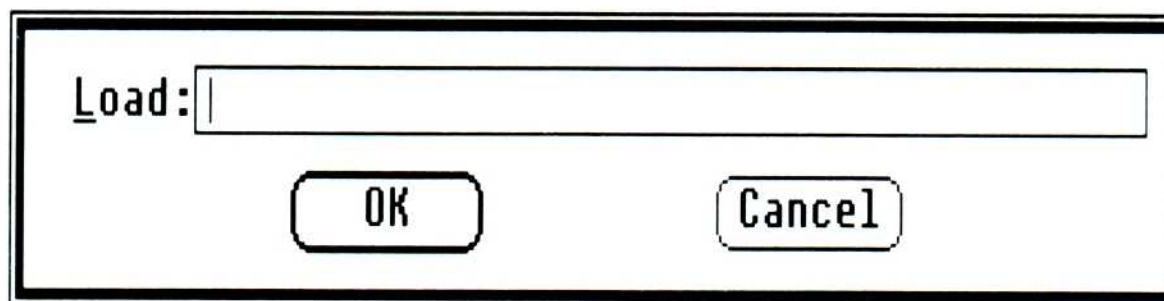
② Type the application filename (or pathname if necessary), including the .EXE or .COM extension, in the text box. Include additional information (such as parameters) if you need to.

③ Choose the OK button.

Starting an Application by Opening a File

Many applications supply a particular filename extension to the files you create with them. For example, the files you create with Notepad have a .TXT extension. With applications of this type, you can start an application by opening one of the files you created with it.

To start an application by opening one of its files, do the following:

Running applications by opening files

① Select the name of the file you want to open in the MS-DOS Executive window.

② Press the ENTER key.

Running applications by opening files

If you have a mouse, you can open the file and start the application by following this step:

▣ Double-click the filename.

Working with Files

A file can contain an application, graphics, or lines of text. Files in Windows use DOS filenaming conventions. See your DOS manual for information on naming files and directories. Since many applications automatically supply a filename extension to files you create with them, you don't have to supply one unless you want to. When deleting files, however, you must supply the entire filename, including any extension.

Copying a File

You can copy a file under a new name or create a copy in a different directory or on another disk by using the File menu's Copy command.

Duplicating files

To copy a file, do the following:

1 Select the file you want to copy.

2 Select the File menu and choose the Copy command. A dialog box appears. The selected filename appears in the Copy text box.

```
 Copy: DOTHIS.TXT

   To: NEWFILE.TXT|


        (   OK   )        (Cancel)
```
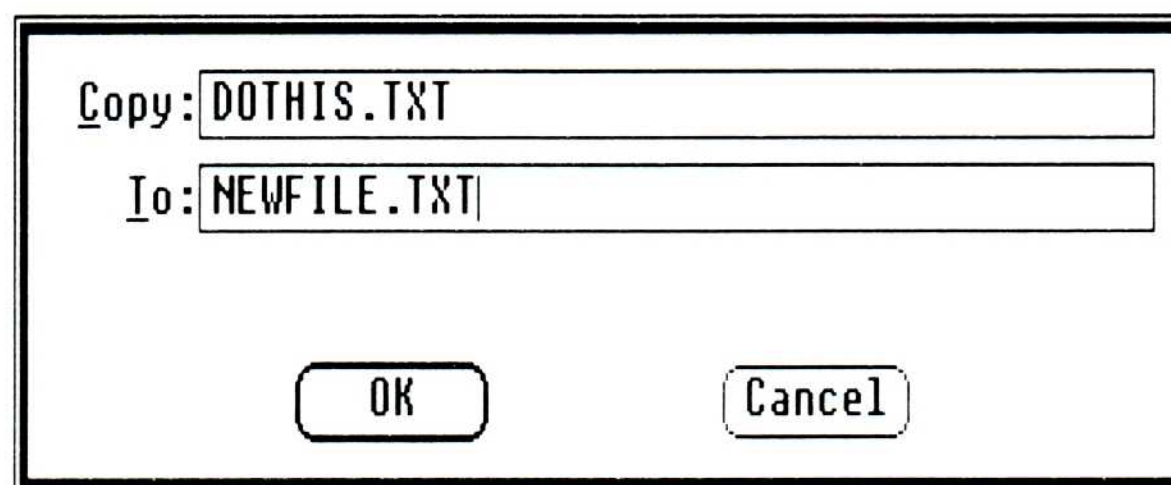
3 Type the new filename, or the pathname of the directory you want to copy the file to, in the To text box.

If you have a two-drive system and are copying the file to another disk, put the destination disk in drive B. (After you finish copying, reinsert the system disk in drive B.)

4 Choose the OK button.

Copying a Group of Files

You can copy a group of files to a directory in one procedure.

To copy several files at once, follow these steps:

1. Select all the files you want to copy.

   For details on selecting groups of files, see the section called "Extending a Selection" earlier in this chapter.

2. Select the File menu and choose the Copy command. A dialog box appears. You will see the selected filenames in the Copy text box. If you select many files, there may not be room for all the filenames to appear in the Copy text box; however, all the files you've selected will still be copied.

3. In the To text box, type the pathname of the directory that you want the files copied to.

   If you have a two-drive system and are copying the files to another disk, put the destination disk in drive B. (After you finish copying, reinsert the system disk in drive B.)

4. Choose the OK button.

Note   You cannot copy more than one file to a single file. You can copy multiple files to a directory only.

Printing a File

Most applications have a command that prints files you create with that application. You should use that command whenever possible. However, if you want to print text files from the MS-DOS Executive window, you can use the File menu's Print command.

You can print files from the MS-DOS Executive window by follow-ing these steps:

1. Select the file you want to print.

2. Select the File menu and choose the Print command. A dialog box appears with the name of the selected file in the text box.

```
┌─────────────────────────────────────────────┐
│  Print: [DOTHIS.TXT                        ] │
│                                              │
│          (    OK    )     (Cancel)           │
│                                              │
└─────────────────────────────────────────────┘
```
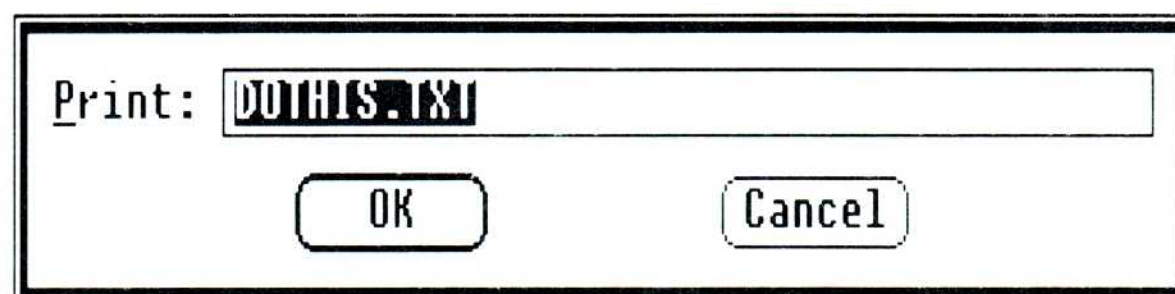
3. Choose the OK button.

Using the Print command creates a print-spool file that is sent to the Spooler program. See Chapter 8, "Using Spooler," for more information on Spooler.
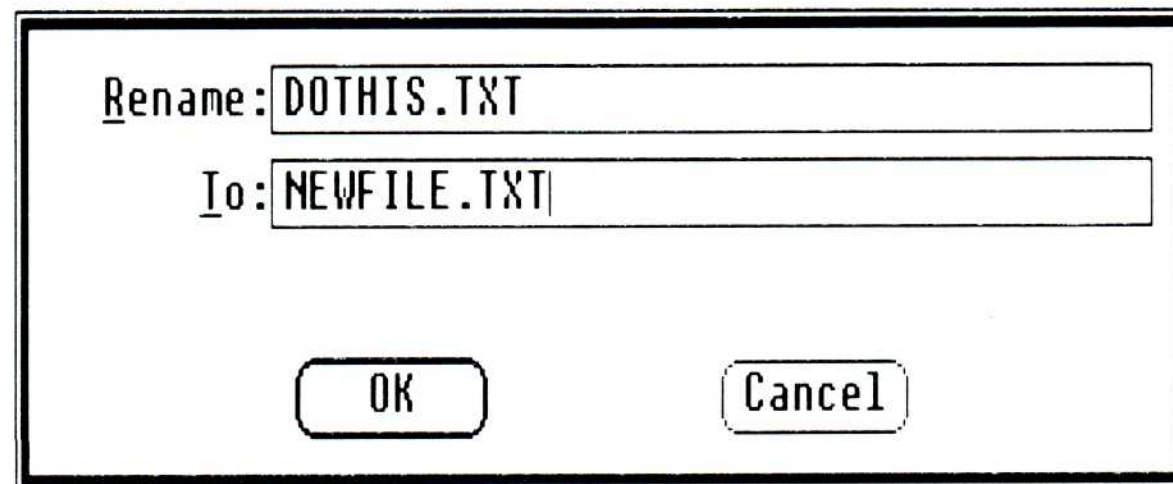
Note See the hardware manual for your printer for instructions on connecting the printer to your computer. For details on setting up, adding, or removing a printer, see Chapter 7, "Using Control Panel."

Changing a Filename

If you want to change the name of a file, you can do so by using the File menu's Rename command.

Renaming files

Follow these steps to rename a file:

1. Select the file you want to rename.
2. Select the File menu and choose the Rename command. A dialog box appears with the name of the selected file in the Rename text box.

```
┌─────────────────────────────────────────────────┐
│                                                   │
│   Rename:│DOTHIS.TXT                          │   │
│                                                   │
│       To:│NEWFILE.TXT│                       │   │
│                                                   │
│                                                   │
│         ┌──────────┐      ┌──────────┐           │
│         │    OK    │      │  Cancel  │           │
│         └──────────┘      └──────────┘           │
│                                                   │
└─────────────────────────────────────────────────┘
```

3. Type the new filename in the To text box.
4. Choose the OK button.

Getting Information About a File

If you want more information about a particular file or group of files, you can use the File menu's Get Info command. When you choose Get Info, Windows displays a dialog box showing the filename, size in bytes, and the date and time the file was created or last changed.

Follow these steps to get information about a file:

1. Select the files you want information about.
2. Select the File menu and choose the Get Info command. The Get Info dialog box appears. This dialog box has a Control menu, a title bar, and if necessary, a scroll bar. If you have selected many files, you may need to scroll to see all the information in the dialog box.

```
┌─────────────────────────────────────────┐
│ ▭              Get Info                  │
├─────────────────────────────────────────┤
│ LETTER1   .TXT   1120   4/20/87   2:03PM │
│ LETTER2   .TXT    775   4/24/87   9:27AM │
│ TODO      .TXT    493   4/24/87   9:33AM │
└─────────────────────────────────────────┘
         │           │          │
      Filename    Size in    Date and time created
                  bytes      or last changed
```

3. When you are finished looking at the dialog box, select the Control menu in the dialog box and choose the Close command, or press the ESCAPE key.

Deleting a File

When a file is no longer useful, you can delete it to make room for other files. When you delete a file, you remove it from the disk permanently. You delete files with the File menu's Delete command.

To remove a file, do the following:

1. Select the file you want to delete.
2. Select the File menu and choose the Delete command. A dialog box displays the name of the selected file.
3. Choose the OK button.

To delete more than one file at a time, select all the files you want to delete, then follow steps 2 and 3 of the preceding procedure. If you select many files, there may not be room in the dialog box's text box for all the filenames to appear; however, all the files you've selected will still be deleted.

Note Do not delete temporary files while you are running Windows applications other than MS-DOS Executive; an application may be using the temporary files. You can recognize a temporary file by its filename: it usually begins with a tilde (˜) and ends with a .TMP extension. See the following section, "Organizing Temporary Files," for more information.

Organizing Temporary Files

Some applications that run with Windows create temporary files. The filename of a temporary file usually begins with a tilde character (˜) and ends with a .TMP extension. If you quit Windows without using the End Session command, some temporary files may remain in your root (\) directory. (Using the End Session command automatically deletes temporary files at the end of each Windows session.) You should not delete temporary files while you are running applications other than MS-DOS Executive because the applications may be using them. After you close all applications except MS-DOS Executive, you can safely delete these temporary files.

You can have Windows put all temporary files your programs create into a special directory; then you can quickly locate and, if you want, delete them. If you don't specify an alternate directory, Windows places the .TMP files in your root directory.

Putting temporary files in a directory

Follow these steps to specify where you want Windows to place the temporary (.TMP) files:

1 Create a directory for your temporary files. See the following section, "Working with Directories," for information on how to create a directory.

2 Add the following line to your DOS AUTOEXEC.BAT file:

set TEMP = **pathname**

For example, if you had created the directory TEMPDIR on drive C, you would add the following line to your AUTOEXEC.BAT file.

```
set TEMP=c:\tempdir
```

Be sure to create the directory. If you specify a directory that doesn't exist, applications that create .TMP files will not run.

Working with Directories

You can use directories to organize your files into groups. You can also create subdirectories within a directory.

The name of the current directory (the one you are working in) is always shown in the pathname at the top of the MS-DOS Executive window. A pathname contains the drive letter, the volume name (if there is one), and a sequence of directory names with backslashes separating the names.

In the directory listing, directories are listed first. These are subdirectories of the current directory. Directory names appear in bold letters when the listing is in short form, as shown in the following example.

Directory names   *Current directory pathname*

```
━━━━━━━━━━━━━━━━━━━━ MS-DOS Executive ━━━━━━━━━ ⬇ ⬆
 File  View  Special
 A ━━  C ━━  C:CHRIS \WINDOWS
 ACCOUNTS     README.TXT
 MEMOS        REVERSI.EXE
 PIF          ROMAN.FON
 ABC.TXT      SCRIPT.FON
 CALC.EXE     SPOOLER.EXE
 CALENDAR.EXE TERMINAL.EXE
 CARDFILE.EXE TMSRA.FON
 CLIPBRD.EXE  WIN.COM
 CLOCK.EXE    WIN.INI
 CONTROL.EXE  WIN200.BIN
 COURA.FON    WIN200.OVL
 DOTHIS.TXT   WINOLDAP.GRB
 HELVA.FON    WINOLDAP.MOD
 MODERN.FON   WRITE.EXE
 MSDOS.EXE
 NOTEPAD.EXE
 PAINT.EXE
 PRACTICE.WRI
```

Creating a Directory

You must create a directory before you can put files in it:

Making directories

1. Select the Special menu and choose the Create Directory command. A dialog box appears.
2. Type the new directory name in the text box.
3. Choose the OK button.

Once you create a directory, you can use the File menu's Copy command to copy files into it. See the section called "Copying a File" earlier in this chapter for details. You also can use an application to create new files for the directory.

Changing the Directory-Listing Display

When you start Windows, the MS-DOS Executive directory listing is displayed in alphabetical order with directory names listed first. However, you may want to see the directory listing displayed in a different way. You may want to see the files listed in order of their size, or by the date they were created or changed. Or you may want to see only files that have the same extension.

You can change the order in which files are listed by using commands from the View menu.

Using the View Menu

```
View
√ Short
  Long

√ All
  Partial...
  Programs

√ By Name
  By Date
  By Size
  By Kind
```

The commands in the View menu are divided into three groups. One command in each of the three groups has a checkmark beside it, indicating that the command is in effect.

You can choose a command from each group in the View menu to list your files in different ways. When you choose a command from the View menu, it affects only the directory you are displaying at that time. All commands except Partial take effect as soon as you choose them. No matter which command you choose, directories will always be listed first.

You choose from two commands in the first group:

- The Short command displays the listing in multiple columns by filename only.

- The Long command displays a one-column list containing each file's name, extension, and size in bytes, and the date and time it was created or last changed. Directory names are followed by <DIR>.

You choose from three commands in the second group:

- The All command lists all files in the directory.
- The Partial command lets you specify a subset of the directory to display. A description of the Partial command follows this list of View menu commands.
- The Programs command displays filenames with .EXE, .COM, or .BAT extensions only.
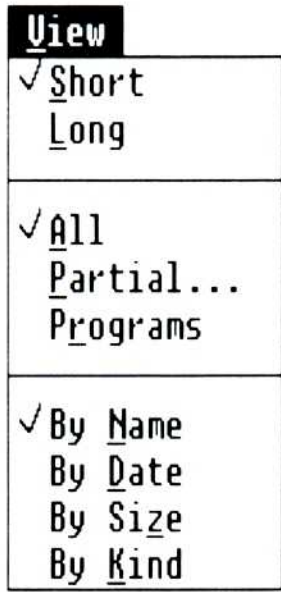
You choose from four commands in the third group:
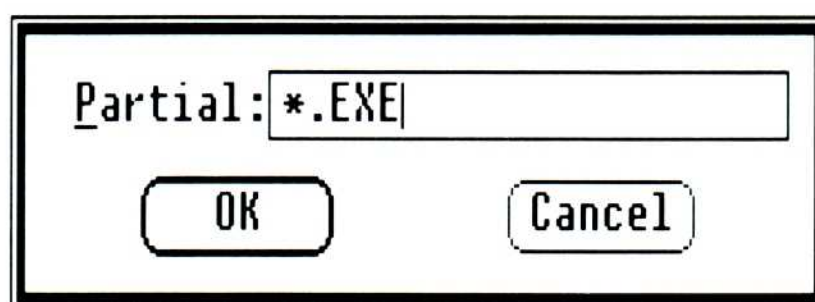
- The By Name command displays the listing alphabetically by filename.
- The By Date command displays the listing by the date and time each file was created or last changed, beginning with the most recent date and time.
- The By Size command lists files according to their size in bytes, sorting them from largest to smallest.
- The By Kind command lists files alphabetically by filename extension.

Displaying Part of a Directory

You may not always want to see a listing of all the files in a directory, preferring instead to see only a particular group of files. For example, you may want to see only files with the .EXE extension. Use the Partial command to specify the kind of files you want to display:

Using the Partial command

1. Select the View menu and choose the Partial command. A dialog box appears.

```
 ┌─────────────────────────────────┐
 │                                 │
 │  Partial:│*.EXE│                │
 │                                 │
 │   ( OK )        [ Cancel ]      │
 │                                 │
 └─────────────────────────────────┘
```

2. In the text box, type the filenames you want to see. Use "wildcard" characters to tell Windows which kind of file to display; for example, type *.*EXE* to display all filenames with the .EXE extension.

   Wildcard characters represent other characters in a filename. See your DOS manual for details on using wildcard characters to specify filenames or directory names.

3. Choose the OK button.

Changing Directories

You change directories when you want to see what is in another directory or when you want to work with the files in another directory. You can move from one directory to another with the Special menu's Change Directory command.

Moving to another directory

Follow these steps to move to another directory:

1. Select the Special menu and choose the Change Directory command. A dialog box appears. The text box contains the name of the directory you are working in.

```
┌────────────────────────────────────────────────────┐
│                                                      │
│   Change To: \WINDOWS                                │
│                                                      │
│          ┌──────────┐      ┌──────────┐              │
│          │    OK    │      │  Cancel  │              │
│          └──────────┘      └──────────┘              │
│                                                      │
└────────────────────────────────────────────────────┘
```
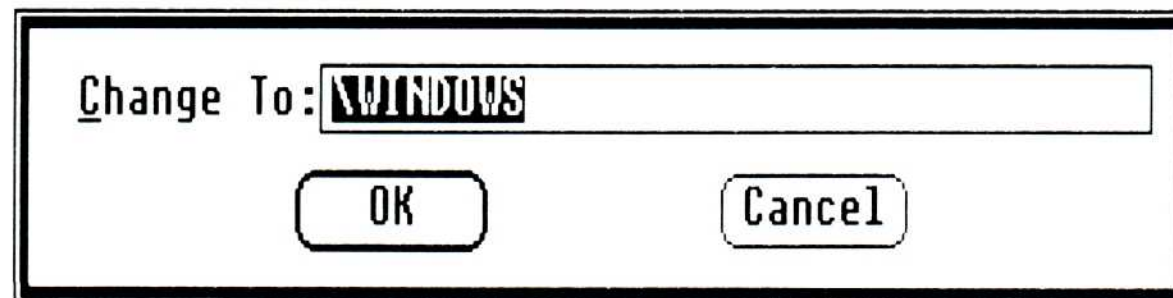
2. Type the directory you want to go to, including a pathname if necessary.
3. Choose the OK button.

Directory-changing shortcuts

Here's how to quickly change to a subdirectory of your current directory:

1. Select the name of the directory you want to move to.
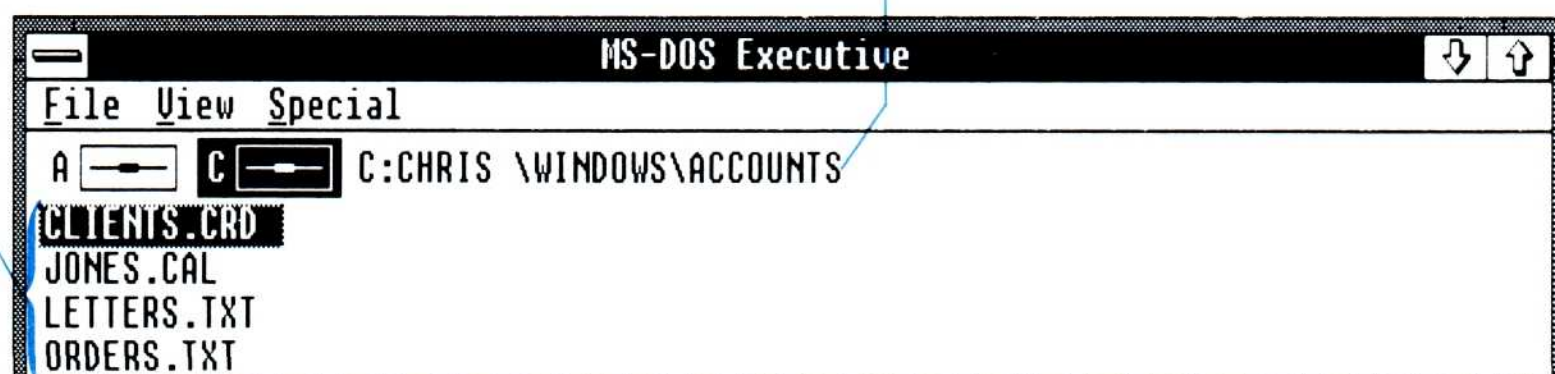
The ACCOUNTS directory is selected.

```
┌──────────────────────────────────────────────────────────────┐
│  ▬            MS-DOS Executive                          ⇩  ⇧  │
├──────────────────────────────────────────────────────────────┤
│ File  View  Special                                          │
│─────────────────────────────────────────────────────────────│
│  A ═══  C ═══  C:CHRIS \WINDOWS                               │
│ ACCOUNTS      README.TXT                                     │
│ PIF           REVERSI.EXE                                    │
│ BUSINESS.CRD  ROMAN.FON                                      │
│ CALC.EXE      SCRIPT.FON                                     │
└──────────────────────────────────────────────────────────────┘
```
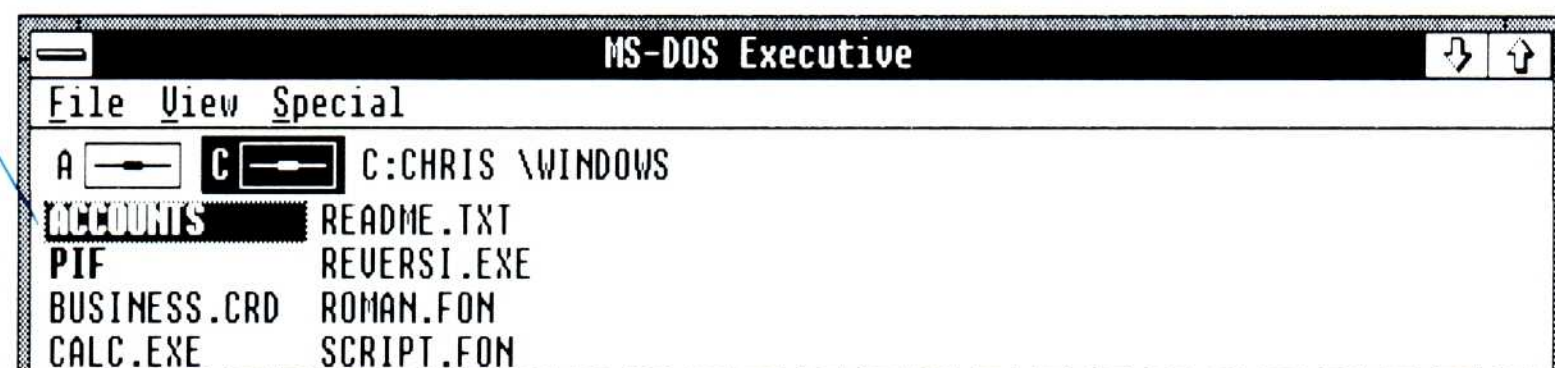
2. Press the ENTER key.
   The MS-DOS Executive window now lists the selected directory's contents.

ACCOUNTS directory listing   *ACCOUNTS directory pathname*

```
┌──────────────────────────────────────────────────────────────┐
│  ▬            MS-DOS Executive                          ⇩  ⇧  │
├──────────────────────────────────────────────────────────────┤
│ File  View  Special                                          │
│─────────────────────────────────────────────────────────────│
│  A ═══  C ═══  C:CHRIS \WINDOWS\ACCOUNTS                      │
│ CLIENTS.CRD                                                  │
│ JONES.CAL                                                    │
│ LETTERS.TXT                                                  │
│ ORDERS.TXT                                                   │
└──────────────────────────────────────────────────────────────┘
```

Here's another useful shortcut for changing directories:

■ No matter where you are or what you have selected in the MS-DOS Executive window, you can go to the next higher directory by pressing the BACKSPACE key.

If you're using the mouse, you can do the following to change to a subdirectory of your current directory:

Changing directories

■ Double-click the name of the directory you want to move to.

You can quickly change to a higher directory with the mouse by following these steps:

1 In the pathname at the top of the MS-DOS Executive window, click the name of the directory you want to move to. A dialog box appears. The pathname to the left of the place you clicked appears in the text box (you can type a different directory pathname if you want).

Click here...

```
┌────────────────────────────────────────────────────────────┐
│ ▭         MS-DOS Executive                            ↴ ↱  │
│ File  View  Special                                        │
│ A ▭──▭  C ▭──▭   C:CHRIS \WINDOWS\ACCOUNTS                 │
│ CLIENTS.CRD                                                │
│ JONES  ┌──────────────────────────────────────────┐       │
│ LETTE  │ Change To:[WINDOWS         ]              │       │
│ ORDER  │                                           │       │
│        │   ( OK )          ( Cancel )              │       │
│        └──────────────────────────────────────────┘       │
│                                                            │
│                                                            │
│                                                            │
│                                                            │
│                                                            │
│                                                            │
└────────────────────────────────────────────────────────────┘
```

...to display this directory.
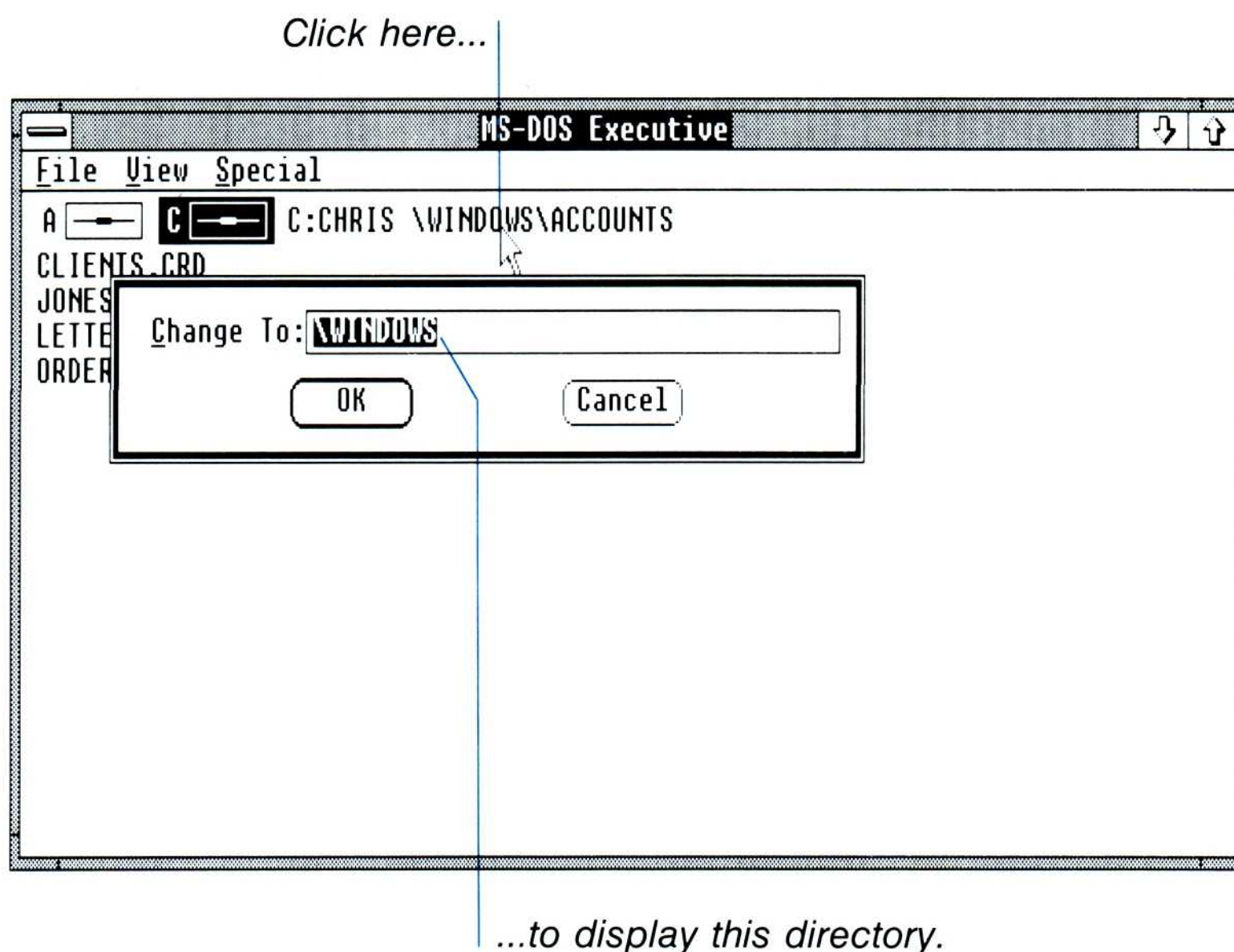
2 Click the OK button.

Shortcut

You can double-click part of the pathname at the top of the MS-DOS Executive window to go to that directory without seeing a dialog box.

Displaying Two Directories Simultaneously

Displaying several directories at once

To display two different directories at the same time, run a second MS-DOS Executive window and select a different directory or disk icon in each window:

1. Select MSDOS.EXE (on a two-drive system, MS-DOS.EXE is located on the Windows system disk) and press the ENTER key to run MS-DOS Executive as another window.

2. In the new MS-DOS Executive window, display the directory that you want to see by using one of the previously described procedures.

Follow this step to display the contents of another disk:

▪ Press and hold down the CONTROL key, press the drive letter, then release the CONTROL key to choose a drive icon; this displays the directory listing for the disk in that drive.

If you're using the mouse, you can display the contents of another disk by following this step:

▪ Click the desired drive icon.

Each copy of the MS-DOS Executive window acts independently of the other, so you can display and work with different directories in each window.

Exiting from an MS-DOS Executive copy

To exit from a copy of MS-DOS Executive without ending your Windows session, follow this step:

▪ Select the File menu and choose the Exit command.

Printing a Directory Listing

You can print a subdirectory listing by following these steps:

1. Select the directory name from the current directory listing.
2. Select the File menu and choose the Print command. A dialog box appears. The text box contains the selected directory name.
3. Choose the OK button.

To print the current directory listing, follow these steps:

1. Cancel the selection of any files or directories.

   To cancel a selection, press the SPACEBAR. To cancel a selection with the mouse, press and hold down the SHIFT key, click the selected filename, then release the SHIFT key.
2. Select the File menu and choose the Print command. A dialog box appears. The text box contains the current directory name.
3. Choose the OK button.

Deleting a Directory

Before you can delete a directory, you must first delete all files in the directory. Windows will not delete a directory that contains files. This feature protects you from losing files should you unintentionally try to delete a directory.

To delete a directory, do the following:

1. Select all the files in the directory that is to be deleted.
2. Select the File menu and choose the Delete command. A dialog box appears with as many of the selected filenames in the text box as will fit.
3. Choose the OK button.
4. If the directory you want to delete is your current directory, move to the next higher directory. You can't delete your current directory.
5. Select the name of the directory you want to delete.
6. Select the File menu and choose the Delete command. A dialog box appears with the selected directory name in the text box.
7. Choose the OK button.

Working with Disks

You can use MS-DOS Executive to format disks, make system disks, and run certain DOS programs.

Before you can use a new disk, you must prepare the disk by formatting it. If you format a used disk, any information already on the disk will be erased. Once you have formatted a disk, you can use it to store data or to make a system disk. A system disk contains the files necessary for starting DOS. You cannot format hard disks with MS-DOS Executive.

Formatting a disk

Here's how to format a disk:

1. Insert the new disk in the appropriate disk drive.
2. Select the Special menu and choose the Format Data Disk command. A dialog box appears.
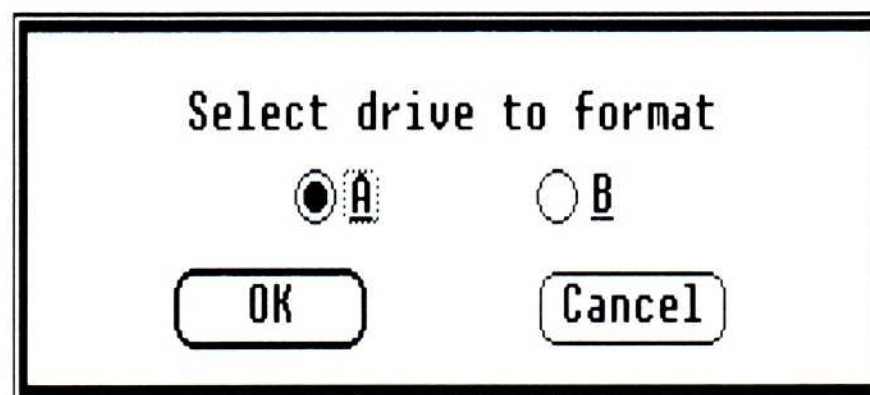
```
┌─────────────────────────────────┐
│                                 │
│     Select drive to format      │
│                                 │
│       ⦿Ⓐ        ○B              │
│                                 │
│   (   OK   )    ( Cancel )      │
│                                 │
└─────────────────────────────────┘
```

3. Select the option button for the drive that contains the new disk.
4. Choose the OK button.

The disk is now ready to store data.

Making a system disk

To make a system disk, follow these steps:

1. Format a disk using the Format Data Disk command as described in the previous procedure.
2. Select the Special menu and choose the Make System Disk command. A dialog box appears.
3. Select the option button for the drive that contains the new disk.
4. Choose the OK button. (If COMMAND.COM is not in your Windows directory or on your Windows system disk, a dialog box appears requesting that you insert your DOS system disk.)

Naming a Disk

To identify a disk by its contents, you can give it a volume name by using the Special menu's Set Volume Name command:

1. Select the drive icon for the drive that contains the disk you want to name.
2. Select the Special menu and choose the Set Volume Name command. A dialog box appears.
3. Type a name in the text box.
4. Choose the OK button.

The volume name for the disk now appears after the drive letter in the pathname.

Running DOS Utility Programs

Some DOS utility programs, such as FIND or DISKCOPY, can be run in a window if the programs are in directories that are accessible to Windows. See Chapter 9, "Using Standard Applications," for further information.

You can also carry out DOS commands while using Windows by running COMMAND.COM:

1. Insert a disk containing COMMAND.COM. (This file is on your DOS disk.)
2. Display the directories for that disk.
3. Run COMMAND.COM from the MS-DOS Executive window.
4. Type the command you want to run in the COMMAND.COM window (include any command-line arguments) and press the ENTER key.
5. Type *exit* to leave the COMMAND.COM window when you are finished. Then select the Control menu and choose the Close command.

Note It is recommended that you run DOS utility programs from MS-DOS Executive rather than from COMMAND.COM.

It is also recommended that you not use the DOS program CHKDSK in Windows. If you do run it from Windows, do not use the /F parameter. CHKDSK was not designed to run with Windows, and using the /F parameter will close any files your Windows applications are using (such as temporary files).

6 Using Clipboard

In Microsoft Windows, you use Clipboard to hold information being copied or moved. You can move or copy information from one place in a window to another. For example, you can move text around in a report as you edit. You can also move or copy information from one window to another window. For example, you can copy a paragraph from one report to another report. You can even move or copy information from one application to another application. For example, you can move a picture from Windows Paint to a report in Windows Write.
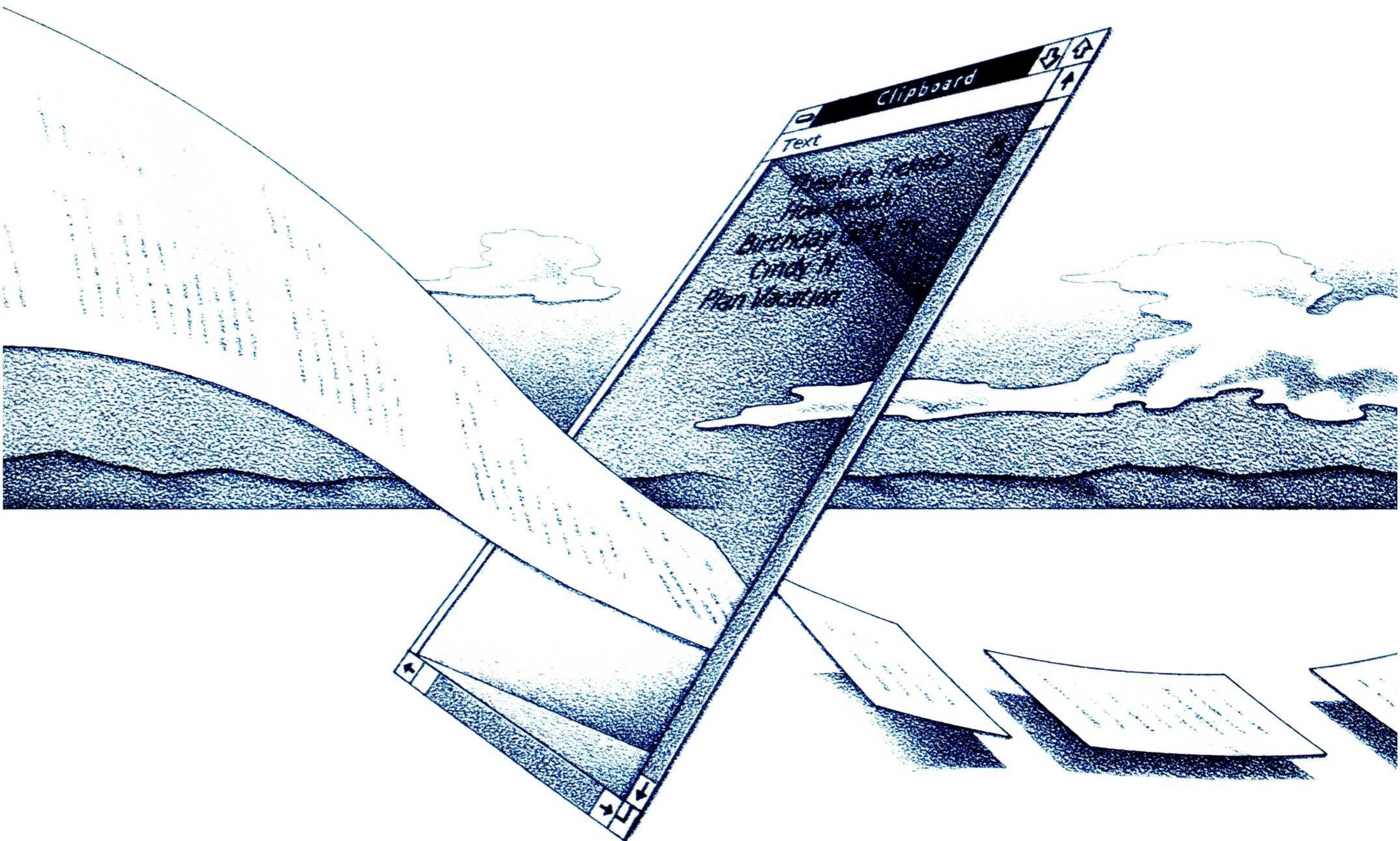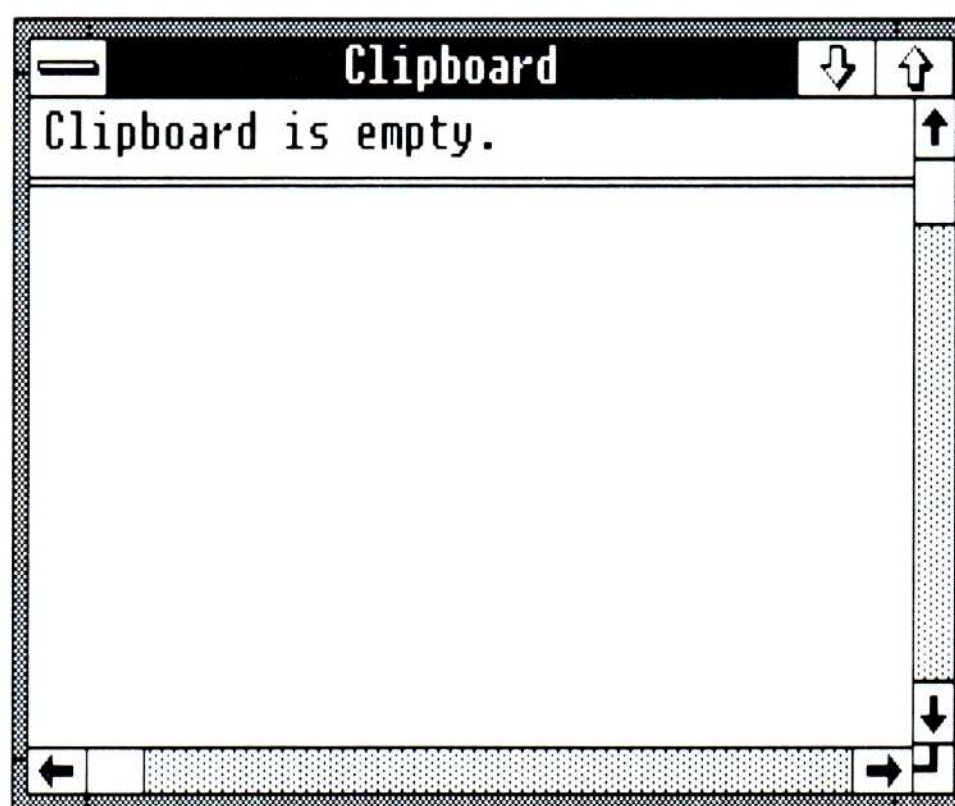
Displaying Clipboard

Clipboard is always available when you are running Windows. Although you don't have to run a file to use Clipboard, you can run a file to display the Clipboard contents.

Running Clipboard in a window

Follow this step to display Clipboard:

◻ Start CLIPBRD.EXE from the MS-DOS Executive window.

The Clipboard window appears. If the Clipboard is empty, a blank window is displayed, as shown in the following figure.

```
┌─────────────────────────────────────┐
│ ▭      Clipboard          ⇩ │ ⇧ │
├─────────────────────────────────┬───┤
│ Clipboard is empty.             │ ↑ │
│                                 │   │
│                                 │   │
│                                 │   │
│                                 │   │
│                                 │   │
│                                 │   │
│                                 │   │
│                                 │   │
│                                 │ ↓ │
├───┬─────────────────────────┬───┼───┤
│ ← │                         │ → │ ↵ │
└───┴─────────────────────────┴───┴───┘
```

Cutting, Copying, and Pasting

To put information on the Clipboard, use the application's Cut or Copy command. To insert information in your application from the Clipboard, use the application's Paste command. Most applications require that you first select the information you want to cut or copy. For more information about selecting, see the manual for the application you are using.

Transferring information

Though your application may have different names for the Cut, Copy, and Paste commands, the commands should operate in this way:

■ The Cut command deletes the selected information from the window and places it on the Clipboard.

- The Copy command makes a copy of the selected information and places it on the Clipboard, leaving the selected information in its original location.

- The Paste command inserts information from the Clipboard in a selected area in a window. If the window contains an insertion point, the information appears to the left of the insertion point. If the window contains a selection, the information on the Clipboard replaces the selection. You can paste the same information from the Clipboard as many times as you want.

Note Some standard applications have commands similar to Cut, Copy, and Paste but don't use Windows Clipboard to transfer information.

The following figure shows information that was copied from a Notepad file to the Clipboard.

The copied text...   *...appears on the Clipboard.*

```
┌─────────────────────────────────────────────────────────────┐
│ ▭          Notepad - DOTHIS.TXT                      ⟱  ⟰   │
├─────────────────────────────────────────────────────────────┤
│ File  Edit  Search                                          │
│ TO DO              PRIORITY                               ↑  │
│ Shop for new suit       B                                   │
│ Phone dentist           C                                   │
│ Take car in for tuneup  A  ┌──────────────────────────────┐ │
│ Make plane reservation  B  │ ▭         Clipboard    ⟱  ⟰ │ │
│ Pick up theater tickets B  ├──────────────────────────── ┤ │
│   How much?                │ Text                      ↑  │ │
│ Contact realtor         B  ├──────────────────────────────┤ │
│ Clean garage           C  │ Pick up theater tickets  B   │ │
│ Mow lawn               B  │    How much?                 │ │
│ Plan spring garden     B  │                              │ │
│ Schedule vacation      A  │                              │ │
│ Read "War and Peace"   C  │                              │ │
│ Write Grandma          C  │                              │ │
│ Buy present for Martha B  │                           ↓  │ │
│ Talk to Fred           B  │ ←                         →  │ │
│ Take out garbage       B  └──────────────────────────────┘ │
│ ←                                                       →   │
└─────────────────────────────────────────────────────────────┘
```

The bar below Clipboard's menu bar tells you what kind of information appears on the Clipboard. In the previous figure, text is on the Clipboard.

Generally, the formatting for your text is not stored on the Clipboard. However, this can vary from application to application.

Quitting Clipboard

Once you've finished viewing the Clipboard contents, you may want to quit Clipboard.

Exiting from Clipboard

To exit from Clipboard, follow this step:

■ Select the Control menu and choose the Close command.

Although Clipboard is no longer running in a window, it continues to be available while you are working in Windows.
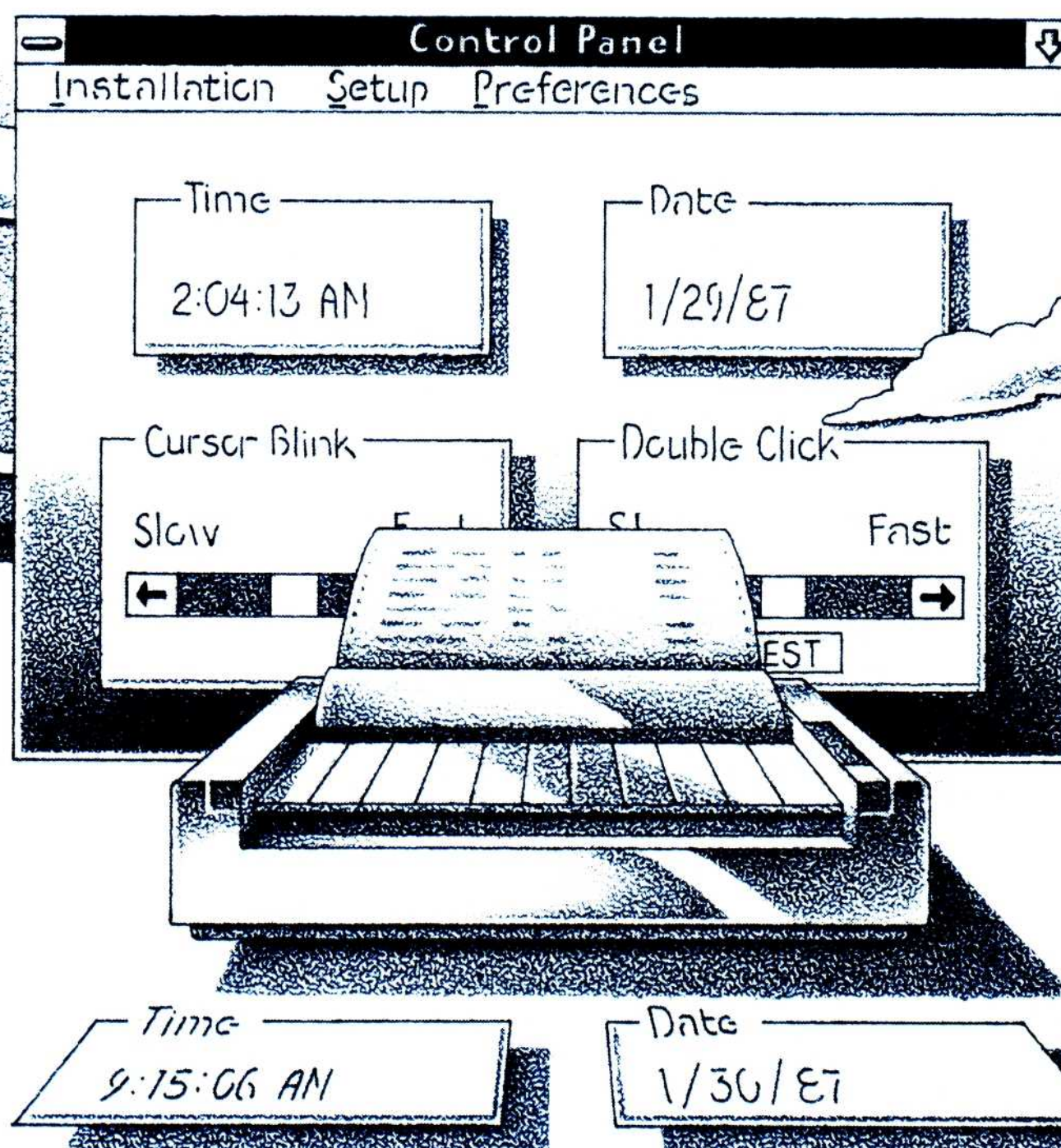
7 Using Control Panel

You use Control Panel to adjust Microsoft Windows system settings such as the date and time, printer assignments, and baud rates for communications devices. You can also use Control Panel to specify screen colors.

Control Panel lets you adjust these settings quickly and easily without running the Setup program again. Many of the changes you make in Control Panel are reflected in the WIN.INI file. See Appendix A, "Customizing Your WIN.INI File," for information about WIN.INI.

Starting Control Panel

Running Control Panel

Here's how to start Control Panel:

▪ Select and run CONTROL.EXE from the MS-DOS Executive window.

When you start Control Panel, it creates a window containing four sections: Time, Date, Cursor Blink, and Double Click.

```
┌─────────────────────────────────────────────────────────────┐
│ ▭          MS-DOS Executive                          ⇩  ⇧   │
│ File  View  Special                                          │
│ A▭━▭ C▭━▭ C:CHRIS \WINDOWS                                   │
│ PIF          ROMAN.FON    ┌──────────────────────────────┐   │
│ ABC.TXT      SCRIPT.FON   │ ▭     Control Panel      ⇩   │   │
│ CALC.EXE     SPOOLER.EXE  │ Installation Setup Preferences│  │
│ CALENDAR.EXE TERMINAL.EXE │ ┌Time──────┐  ┌Date─────┐    │   │
│ CARDFILE.EXE TMSRA.FON    │ │ 7:54:06 AM│  │ 2/21/87 │    │   │
│ CLIPBRD.EXE  WIN.COM      │ └──────────┘  └─────────┘    │   │
│ CLOCK.EXE    WIN.INI      │ ┌Cursor Blink┐ ┌Double Click┐│   │
│ CONTROL.EXE  WIN200.BIN   │ Slow    Fast  Slow     Fast  │   │
│ COURA.FON    WIN200.OVL   │ ┌←▭▭▭▭▭→┐ ┌←▭▭▭▭→┐       │   │
│ DOTHIS.TXT   WINOLDAP.GRB │      │         TEST          │   │
│ HELVA.FON    WINOLDAP.MOD │                              │   │
│ MODERN.FON   WRITE.EXE    └──────────────────────────────┘   │
│ MSDOS.EXE                                                    │
│ NOTEPAD.EXE                                                  │
│ PAINT.EXE                                                    │
│ PRACTICE.WRI                                                 │
│ README.TXT                                                   │
│ REVERSI.EXE                                                  │
└─────────────────────────────────────────────────────────────┘
```

Changing the Time

You can use Control Panel to change the system time. The time you set from Control Panel will be reflected in any applications (such as Clock or Calendar) that use the system time.

Adjusting the time

Here's how to change the time:

1 Press the TAB key to move to the Time section.
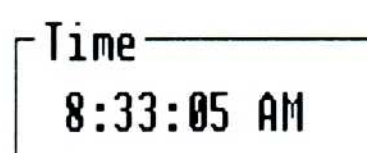
┌Time──────┐
│ 8:33:05 AM│
└──────────┘

2 Use the RIGHT or LEFT key to select the part of the time (hours, minutes, or seconds) that you want to change.

3 Press the UP key to increase the number; press the DOWN key to decrease the number.

The system time changes when you move to another section or quit Control Panel.

Follow these steps to change the time with the mouse:

1 Click the part of the time (hours, minutes, or seconds) that you want to change.

2 Click the up arrow to increase the number or the down arrow to decrease the number.

The system time changes when you click outside the Time section or quit Control Panel.

Changing the Date

Some applications, like Notepad, use the system date. You change the date the same way that you change the time:

Adjusting the date

1 Press the TAB key to move to the Date section.

┌Date──────┐
│ 2/21/87 │
└──────────┘

2 Use the RIGHT or LEFT key to select the part of the date (month, day, or year) that you want to change.

3 Press the UP key to increase the number; press the DOWN key to decrease the number.

The system date changes when you move to another section or quit Control Panel.

If you're using the mouse, follow these steps to change the date:

1 Click the part of the date (month, day, or year) that you want to change.

2 Click the up arrow to increase the number or the down arrow to decrease the number.

The system date changes when you click outside the Date section or quit Control Panel.

Changing the Cursor-Blink Rate

Some applications have an underscore (cursor) or insertion point that blinks. The blink rate is the frequency at which the cursor flashes.

Here's how to change the cursor-blink rate:

[1] Press the TAB key to move to the Cursor Blink section.

```
┌Cursor Blink─────┐
│Slow      Fast   │
│ ←▓▓▓▓▓  ▓▓ → │
│                 │
│       |         │
└─────────────────┘
```
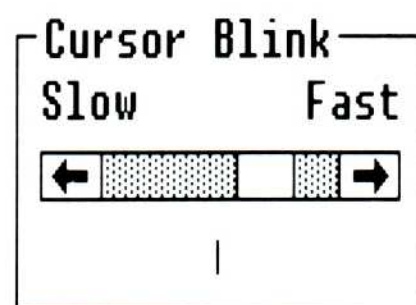
[2] Press the RIGHT or LEFT key to scroll to the setting you want. The farther right you scroll, the faster the blink rate. The vertical cursor within the Cursor Blink section reflects the new setting.

Do the following to change the cursor-blink rate with the mouse:

■ Click the right or left scroll arrow in the Cursor Blink section.

You can also change the cursor-blink rate by dragging the scroll box within the scroll bar.

Changing the Mouse Double-Click Rate

When you double-click the mouse button, Windows interprets your action by the speed with which one click follows another. You can change the expected speed by adjusting the setting in the Double Click section.

```
┌Double Click─────┐
│Slow      Fast   │
│ ←▓▓▓▓▓  ▓▓ → │
│    ┌──────┐     │
│    │ TEST │     │
│    └──────┘     │
└─────────────────┘
```
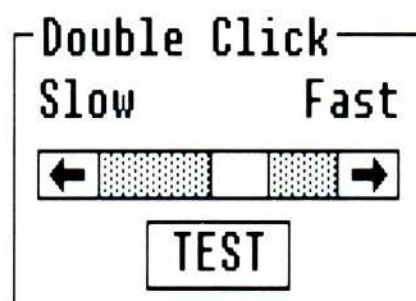
Do the following to change the mouse double-click rate:

■ Click the right or left scroll arrow in the Double Click section. The farther right you scroll, the faster the double-click rate.

You can also change the double-click rate by dragging the scroll box within the scroll bar.

You can test the new double-click setting by double-clicking the Test button. The button color will invert if Windows perceived your pressing the mouse button as a double-click.

Adding and Removing Printers

When you first set up Windows, you select the printer you'll use with your system. To change this selection, use the Installation menu's Add New Printer and Delete Printer commands.

Adding a Printer

Follow these steps to add a new printer to your system:

1. Select the Installation menu and choose the Add New Printer command. A dialog box appears prompting you for the disk that contains printer-driver files.

2. Insert the disk that contains the printer-driver files you want to install. (This is the Utilities disk for printer-driver files that are included with Windows.)

3. Choose the OK button. A dialog box appears listing the printer-driver files available on the disk.

```
Available Printers          Printer File: │ EPSON.DRV │

│ Epson FX-80          ↑
│ PCL/LaserJet
│ IBM Graphics
│ IBM Proprinter
│ Okidata 92/93 (IBM)  ↓    ( Add )  ( Cancel )
```
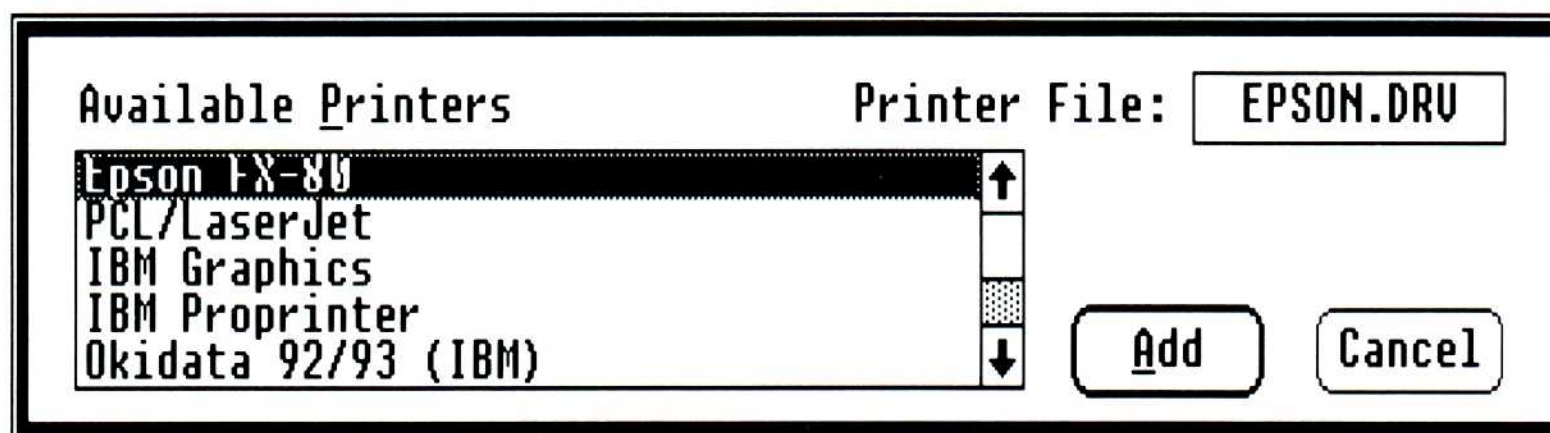
4. Select the name of the printer that you want to add in the list box. The name of the corresponding printer-driver file appears in the Printer File text box at the right.

5 Choose the Add button.

6 A dialog box appears prompting you to enter the drive or directory you want to copy the printer-driver file to. Drive B or your Windows directory appears in the text box. If you want to change this, type the drive or directory you want in the text box. (The directory must already exist.)

If you do not specify a drive or directory, the file will be copied to the disk in drive B if you have a two-drive system. The file will be copied to your Windows directory if you have a hard-disk system.

7 Choose the Yes button.

Whenever you add a new printer to your system, you must let Windows know which port the printer is connected to. See the section called "Configuring Your System" later in this chapter for more information on this procedure.

Removing a Printer

Deleting printers

To remove a printer from your system, use the Delete Printer command:

1 Select the Installation menu and choose the Delete Printer command. A dialog box appears listing the printers you have set up.

```
┌─────────────────────────────────────────────────────────────────┐
│                                                                   │
│   Delete Printer              Printer File: │ EPSON.DRV │         │
│   ┌──────────────────────────────────────┬─┐                     │
│   │Epson FX-80 on None                    │↑│                     │
│   │PCL/LaserJet on LPT1:                  │ │                     │
│   │PostScript Printer on LPT2:            │ │                     │
│   │                                       │▓│ ┌────────┐┌────────┐│
│   │                                       │↓│ │ Delete ││ Cancel ││
│   └──────────────────────────────────────┴─┘ └────────┘└────────┘│
│                                                                   │
└─────────────────────────────────────────────────────────────────┘
```
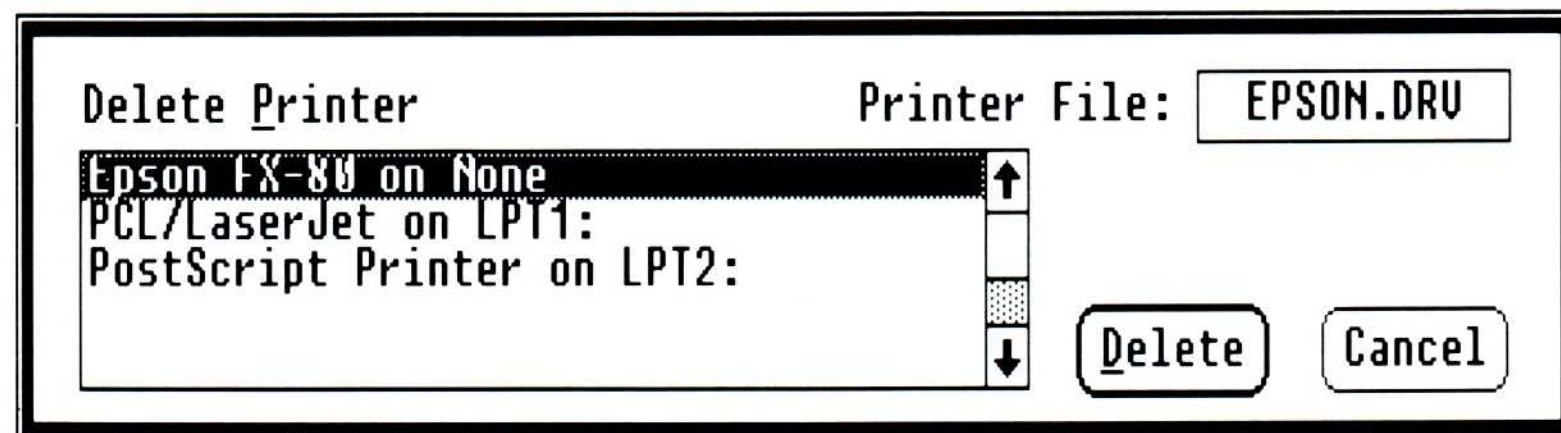
2 Select the name of the printer you want to remove in the list box. The name of the corresponding printer-driver file appears in the Printer File text box.

3 Choose the Delete button.

4 A dialog box appears displaying the location of the printer-driver file. If necessary, type an alternate location for the file in the text box.

5 Choose the Yes button.

Note   If other printers use the printer-driver file that appears in the Delete Printer dialog box, that printer-driver file will not be deleted from the named directory; it will still be available to the other printers.

Adding and Removing Fonts

The Windows Fonts disk(s) include fonts for a variety of output devices. The Setup program installs fonts automatically, based on your choices of graphics adapter and printer(s). You can override the automatic settings by adding or deleting fonts with Control Panel. If you add a dot-matrix printer, you may want to check to see if you need to add a font for your printer. You can do this by viewing the dialog box that appears when you follow steps 1 and 2 of the following procedure.

Adding a Font

Follow these steps to add a font:

Adding fonts

1. Select the Installation menu and choose the Add New Font command. A dialog box appears prompting you for the disk that contains the font files.

2. Insert the Fonts disk and choose the OK button. A dialog box appears listing the fonts available on the disk. For more information on the various sets of fonts, see the following section, "Choosing a Font."


```
Available Fonts                     Font File: [ COURA.FON ]

Courier 8,10,12 (Set #2)         ↑
Courier 8,10,12 (Set #3)
Courier 8,10,12 (Set #4)
Courier 8,10,12 (Set #5)              ( Add )  ( Cancel )
Helv 8,10,12,14,18,24 (Set #2)   ↓
```
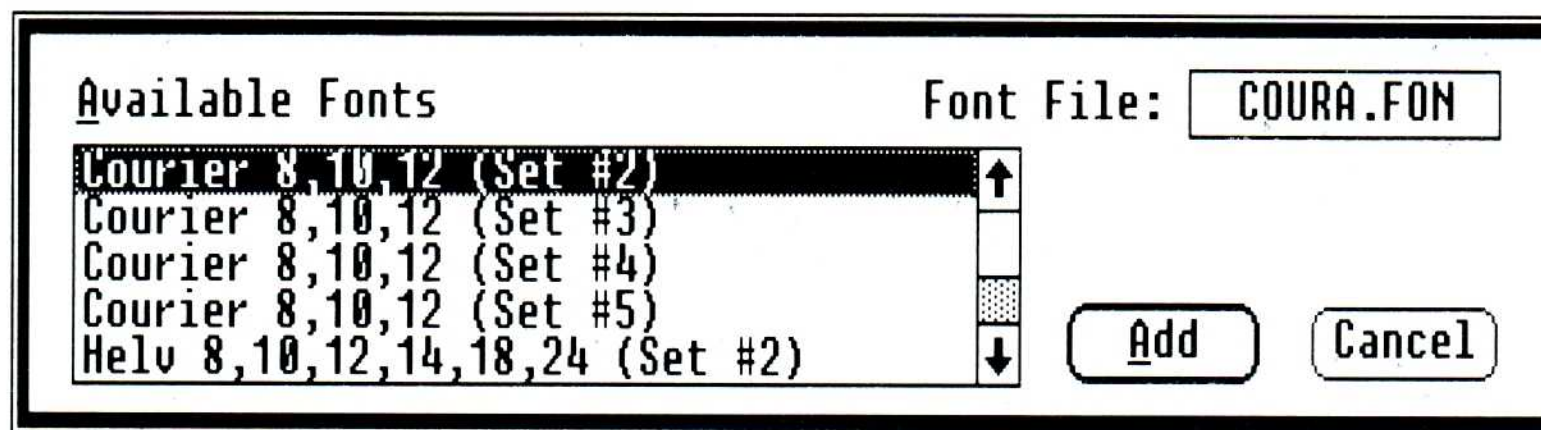
3. Select the name of the font that you want to add in the list box. The name of the corresponding font file appears in the Font File text box to the right.

4 Choose the Add button.

5 A dialog box appears prompting you to enter the drive or directory you want to copy the font file to. Drive B or your Windows directory appears in the text box. If you want to change this, type the drive or directory you want in the text box. (The directory must already exist.)

If you do not specify a drive or directory, the file will be copied to the disk in drive B if you have a two-drive system. The file will be copied to your Windows directory if you have a hard-disk system.

6 Choose the Yes button.

Removing a Font

Deleting fonts

To remove a font, follow these steps:

1 Select the Installation menu and choose the Delete Font command. A dialog box appears listing the fonts you have set up.

```
┌──────────────────────────────────────────────────────────────┐
│  Delete Font                        Font File: │ COURA.FON │  │
│  ┌──────────────────────────────────────────┬─┐              │
│  │Courier 8,10,12 (Set #2)                  │↑│              │
│  │Courier 8,10,12 (Set #3)                  │ │              │
│  │Courier 8,10,12 (Set #4)                  │ │              │
│  │Courier 8,10,12 (Set #5)                  │▓│ (Delete) (Cancel) │
│  │Helv 8,10,12,14,18,24 (Set #2)            │↓│              │
│  └──────────────────────────────────────────┴─┘              │
└──────────────────────────────────────────────────────────────┘
```
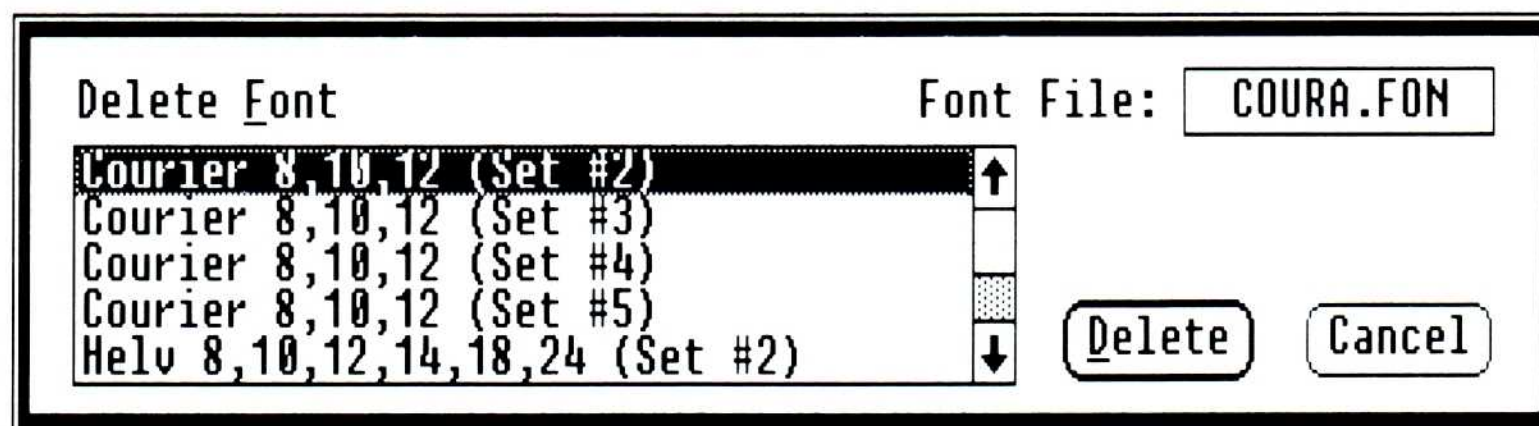
2 Select the name of the font that you want to remove in the list box. The name of the corresponding font file appears in the Font File text box.

3 Choose the Delete button.

4 A dialog box displays the location of the font file. If necessary, type an alternate location for the font file in the text box.

5 Choose the Yes button.

Choosing a Font

The Windows Fonts disk(s) provide two font types: raster fonts and stroke (also known as vector) fonts. Raster fonts generally are used only for devices such as dot-matrix printers or the screen. They are available only in fixed sizes. Raster fonts look better and may be drawn more quickly than stroke fonts on raster devices. Stroke fonts typically are used if your output is going to a plotter.

When you choose the Installation menu's Add New Font or Delete Font command, you are prompted to insert the Fonts disk or to specify where the font files are located. You then see a list of the available fonts. The listing includes the font names, font sizes, and the set numbers.

The font set number indicates the kind of devices that the font is designed to be used with. Six sets of fonts are included on the disk:

Raster and stroke fonts

Set #1   This set contains stroke fonts that can be used for screen, printer, or plotter devices of any resolution.

Set #2   This set contains raster fonts designed for screen resolution of 640 × 200. For example, if you are using the IBM Color Graphics Adapter or a compatible adapter, you would select from this set.

Set #3   This set contains raster fonts designed for screen resolution of 640 × 350. For example, if you are using the Hercules Graphics Card or the IBM Enhanced Graphics Adapter, you would select from this set. These fonts are also used by the CITOH 8510 (Portrait mode) printer.

Set #4   This set contains raster fonts designed for printers in 60 dpi (dots per inch) resolution, including the following:

■ Okidata 92, 93, 192, and 193 standard models (Portrait mode)
■ Okidata 92, 93, 192, and 193 standard and IBM-compatible models (Landscape mode)
■ Epson MX-80, FX-80, and compatible models (Landscape mode)
■ IBM Graphics (Landscape mode)
■ IBM Proprinter (Landscape mode)
■ Star Micronics SG-10 (Landscape mode)

Set #5   This set contains raster fonts designed for printers in 120 dpi resolution, including the following:

■ Epson MX-80, FX-80, and compatible models (Portrait mode)
■ IBM Graphics (Portrait mode)
■ IBM Proprinter (Portrait mode)
■ Okidata 92, 93, 192, and 193 IBM-compatible models (Portrait mode)
■ Star Micronics (Portrait mode)

Set #6   This set contains raster fonts designed primarily for screen resolution of 640 × 480.

Note   Because applications handle fonts differently, some applications may not list all available fonts.

Windows font names

Fonts have names that represent their different characteristics. Included on your Windows Fonts disk(s) are the following fonts:

Font	Description
Helv (Raster)	Proportional font (characters have varying widths) without serifs ("sans serif")
Courier (Raster)	Fixed-width font (characters have uniform widths) with serifs
Tms Rmn (Raster)	Proportional font with serifs
Roman (Stroke)	Proportional font with serifs
Modern (Stroke)	Proportional font without serifs
Script (Stroke)	Proportional font of slanted characters formed from nearly continuous curved lines

The following fonts are not included on the Fonts disk(s), but you may see them in some applications; these fonts cannot be added or deleted:

Font	Description
System (Raster)	Fixed-width default font designed for menus and dialog boxes
Terminal (Raster)	Fixed-width font that is the same as the font your computer displays in DOS

In addition to the previously described fonts, an application may list device fonts. These are the fonts that are provided by the device. For example, on print-wheel printers, font names correspond to wheel names. These fonts cannot be added or deleted with Control Panel, but they may be listed when the output device is selected. Since there may not be a corresponding raster font for the screen, Windows will usually substitute a screen font in the same class.

Device fonts

Configuring Your System

You use commands from the Setup menu to change printer port assignments, set the system default printer and specify its output modes, and set up serial communications ports.

Connecting Printers

Windows needs to know which port your printer is connected to. You use the Connections command to assign or change the port for your printer(s). For example, if you decide to move your printer from port LPT1 to port LPT2, you need to use Control Panel to change the printer connections setting.

To change printer connections, follow these steps:

Changing printer connections

1. Select the Setup menu and choose the Connections command. A dialog box appears displaying a list of printers and a list of ports.

```
┌──────────────────────────────────────────────────────────────┐
│                                                                │
│  Printer                         Connection                    │
│  ┌──────────────────────────┐▲   ┌──────────────────────┐▲    │
│  │Epson FX-80 on None        │    │None                   │    │
│  │PCL/LaserJet on LPT1:      │    │LPT1:                  │    │
│  │PostScript Printer on LPT2:│░   │LPT2:                  │░   │
│  │                           │    │COM1:                  │    │
│  │                           │▼   │COM2:                  │▼   │
│  └──────────────────────────┘    └──────────────────────┘    │
│                                                                │
│         ( ──── OK ──── )        ( Cancel )                     │
│                                                                │
└──────────────────────────────────────────────────────────────┘
```
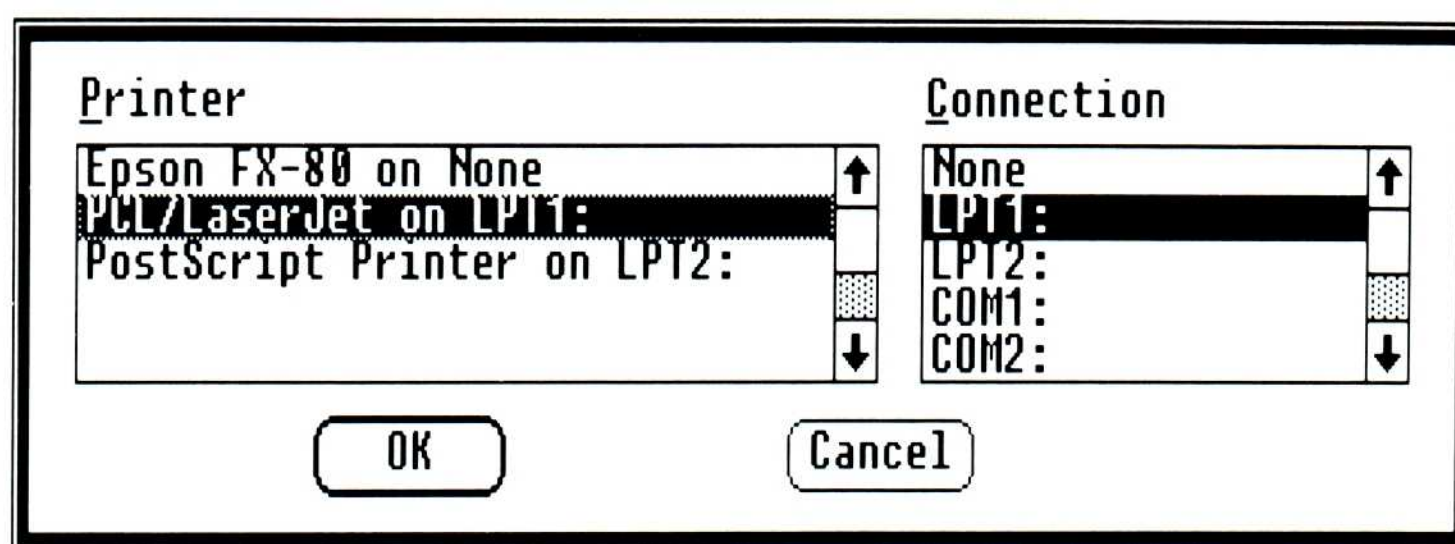
2. Select the name of the printer you want to change from the Printer list box. The current port assignment for the selected printer is selected in the Connection list box to the right.

3. Select the desired port from the Connection list box.

4. Choose the OK button.

Setting Up Printers

You use the Setup menu's Printer command to specify the system default printer and set its output modes. You also use it to set a certain amount of time for printing problems to be corrected before Windows sends you a message about the problem.

The system default printer is the printer used by applications designed for Windows. Printer output modes are printer-specific settings such as portrait (normal page orientation), landscape (lengthwise page orientation), or color for plotters. These options vary from printer to printer. If you have several printers installed, you can use the Printer command to let Windows know which printer you want to use.

The two Printer Timeouts settings let you adjust the amount of time Windows waits before sending you messages about printer problems. The Device Not Selected setting controls the amount of time Windows waits before notifying you that a printer is off-line. The default setting is 15 seconds. The Transmission Retry setting controls the amount of time Windows waits for output characters to be received by a printer before notifying you that it cannot print to the device. The default setting is 45 seconds.

Selecting default printers and output modes

To select a system default printer or change printer output modes, follow these steps:

1 Choose the Printer command from the Setup menu. A dialog box appears listing all available printers and their port connections.

```
┌─────────────────────────────────────────┐
│  Default Printer                         │
│ ┌───────────────────────────────────┬─┐ │
│ │PCL/LaserJet on LPT1:              │▲│ │
│ │PostScript Printer on LPT2:        │ │ │
│ │                                   │▒│ │
│ │                                   │ │ │
│ │                                   │▼│ │
│ └───────────────────────────────────┴─┘ │
│ ┌─Printer Timeouts (seconds)──────────┐  │
│ │  Device not selected:  [15]         │  │
│ │  Transmission retry:   [45]         │  │
│ └─────────────────────────────────────┘  │
│      (    OK    )      ( Cancel )         │
└─────────────────────────────────────────┘
```
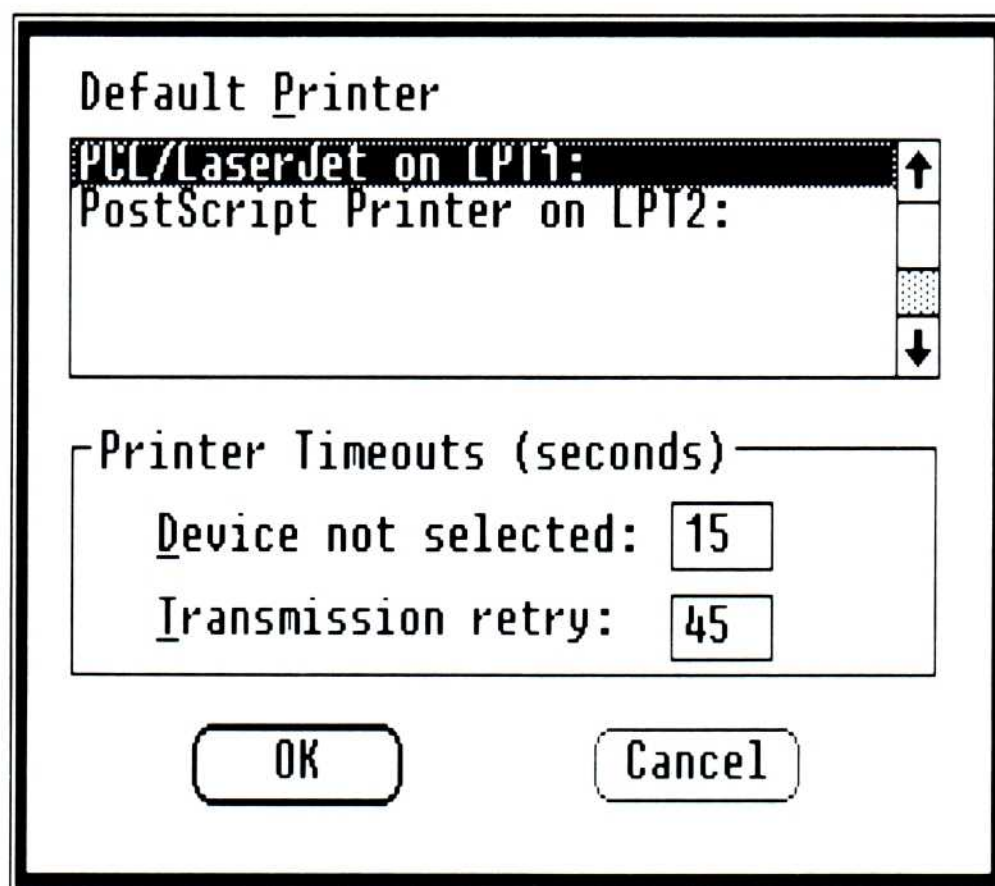
2. To select a default printer, move to the Default Printer list box and select the name of the printer that you want to serve as the default.

3. Choose the OK button. Another dialog box appears containing the default mode settings for your printer.

4. If necessary, change the settings.

5. Choose the OK button.

To change the amount of time Windows waits before sending you messages about printing problems, do the following:

Adjusting the printing message delay

1. Choose the Printer command from the Setup menu. A dialog box appears.

2. To change the Device Not Selected setting, move to that text box and type the number of seconds you want Windows to wait before sending you a message that the printer is off-line.

3. To change the Transmission Retry setting, move to that text box and type the number of seconds you want Windows to wait before sending you a message that it cannot print to the device.

4. Choose the OK button. A dialog box appears showing the default settings for your printer.

5. If necessary, change the settings.

6. Choose the OK button.

Setting Up a Communications Port

You use the Communications Port command to set up a serial communications port. You would want to do this if you are setting up a communications device or a serial printer.

Note If you are setting up a serial printer, check your printer's manual to make sure that the port settings you select are correct.

To choose a communications port, follow these steps:

Choosing a communications port

1. Select the Setup menu and choose the Communications Port command. The Communications Settings dialog box appears displaying the available serial ports and their port settings.

```
┌─────────────────────────────────────────────────┐
│ Communications Settings                          │
│                                                  │
│ Baud Rate:   [1200]                              │
│                                                  │
│ Word Length  ○4    ○5    ○6    ○7    ●8           │
│                                                  │
│ Parity       ○Even      ○Odd        ●None        │
│                                                  │
│ Stop Bits    ●1         ○1.5        ○2           │
│                                                  │
│ Handshake    ○Hardware  ●None                    │
│                                                  │
│ Port         ●COM1:     ○COM2:                   │
│                                                  │
│            (   OK   )       ( Cancel )           │
└─────────────────────────────────────────────────┘
```
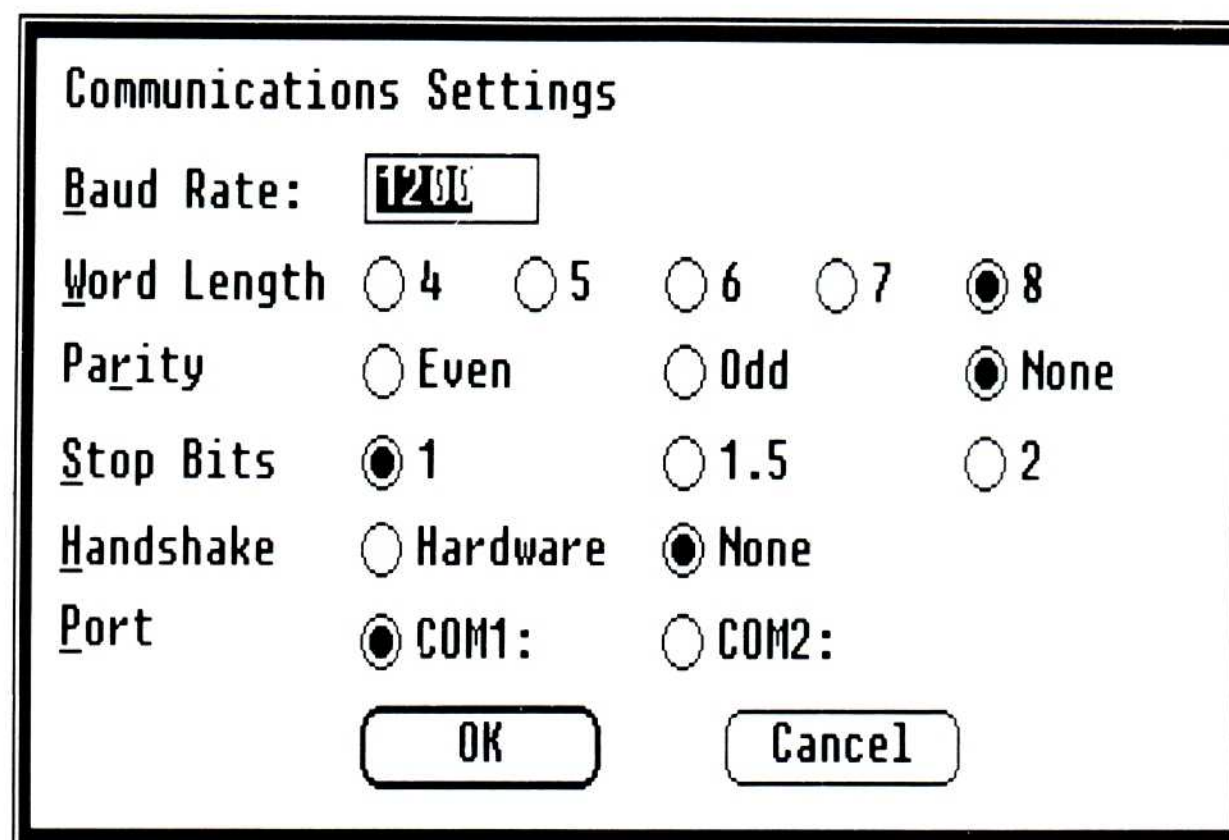
② Choose a port; the settings for that port appear.

③ Select the appropriate options.

④ Choose the OK button.

Selecting Screen Colors

You use the Preferences menu's Screen Colors command to adjust the text and background colors on your screen. The Screen Colors command also lets you adjust the shades of gray on the screen. You can specify hue, brightness, and amount of color for the following areas of your screen:

- Screen background
- Application workspace
- Window background
- Window text
- Menu bar
- Menu text
- Active (selected) title bar
- Inactive (unselected) title bar
- Title-bar text
- Active border
- Inactive border
- Window frame (the border that surrounds the window)
- Scroll bars

Here's how to select screen colors:

1. Select the Preferences menu and choose the Screen Colors command. The Screen Colors dialog box appears.

```
┌──────────────────────────────────────────────────────────┐
│ Screen Colors                    Sample                    │
│ ┌────────────────────────┐ ┌────────────────────────────┐ │
│ │Screen Background      ↑│ │        Active              │ │
│ │Application Workspace   │ │ File  Edit                 │ │
│ │Window Background       │ │ ┌────────────────────┐  ↑  │ │
│ │Window Text             │ │ │                    │     │ │
│ │Menu Bar               ↓│ │ │    Window Text     │     │ │
│ └────────────────────────┘ │ │                    │     │ │
│                            │ └────────────────────┘  ↓  │ │
│ Hue  [←]          [→]      └────────────────────────────┘ │
│                                                            │
│ Bright [←]        [→]      ┌──────┐ ┌───────┐ ┌────────┐  │
│                            │  OK  │ │ Reset │ │ Cancel │  │
│ Color [←]         [→]      └──────┘ └───────┘ └────────┘  │
└──────────────────────────────────────────────────────────┘
```
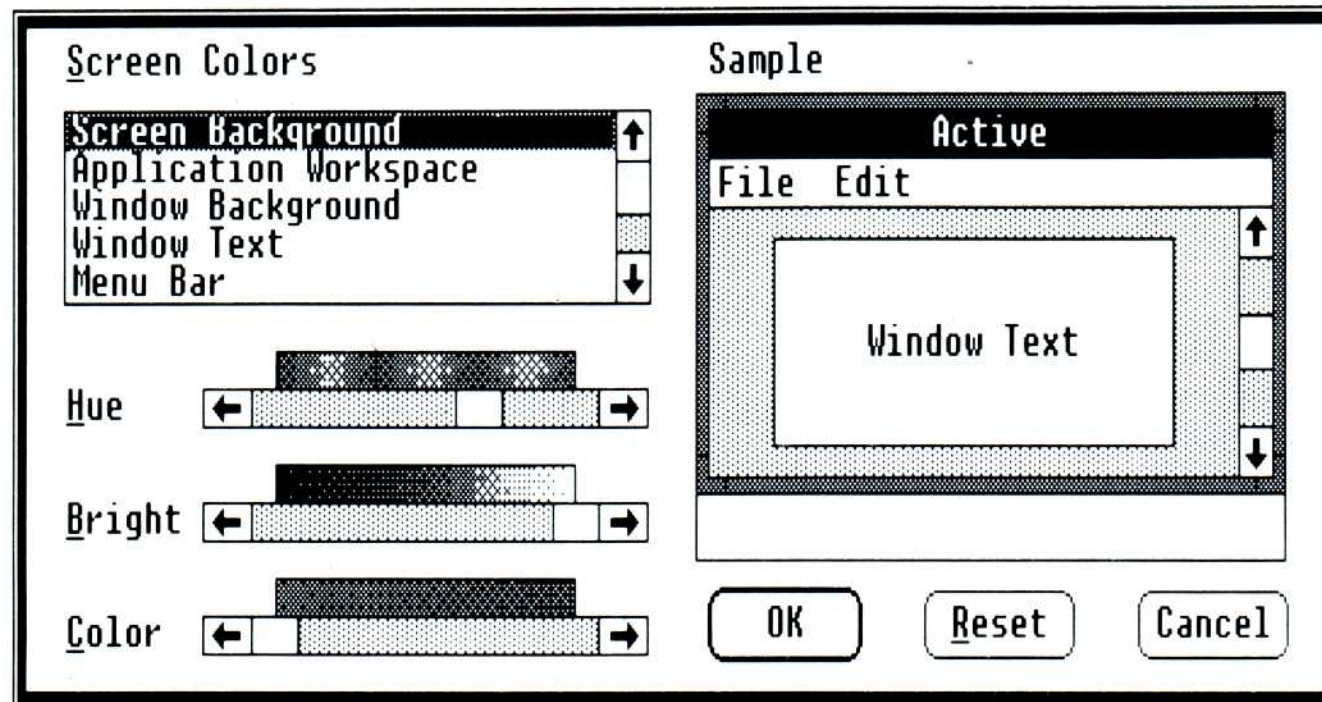
2. In the list box, select the part of the screen or window for which you want to adjust the color.

3. To change the hue, move to the Hue scroll bar. Available colors are shown in the color palette above the scroll bar. Scroll to the right or to the left to choose a color. The Sample area simulates the window appearance.

   Use the RIGHT or LEFT key to change settings in small increments. To move across the scroll bar more quickly, use the PAGE UP or PAGE DOWN key. If you are using the mouse, you can click the scroll arrows or drag the scroll box.

4. To change the brightness, move to the Bright scroll bar. Scroll to the right to brighten the color (increase the amount of white). Scroll to the left to darken the color.

   If the Bright scroll box is at the extreme left of the scroll bar, the color is black. If the scroll box is at the extreme right, the color is white.

5. To change the color, move to the Color scroll bar. Scroll to the right for a more vibrant, intense color. Scroll to the left for less intensity or saturation.

   If the Color scroll box is at the extreme left of the scroll bar, adjustments to the Hue and Bright scroll bars will result only in black, white, and shades of gray.

6 When you have adjusted the screen colors to your satisfaction, choose the OK button. If you have changed your mind and want to return to the previous settings, choose the Reset button. This restores the original settings but does not close the dialog box. To cancel the new settings and close the dialog box, choose the Cancel button.

The Hue, Brightness, and Color controls are similar to those on a color TV; adjust the controls until you have the effect you want.
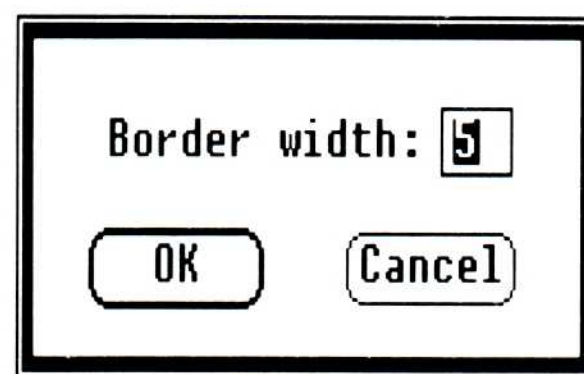
Note You need to run the Setup program again if you want to add or change graphics cards or change the resolution of the graphics card you have already set up. You cannot use Control Panel to make these changes in your system configuration. See Chapter 1, "Getting Started," for information on running Setup.

Changing the Window Border Width

The Border Width command in the Preferences menu lets you change the width of the border around a window. You cannot change the width of a fixed-size window, such as the Control Panel window.

Adjusting the window border width

Here's how to change border width:

1 Select the Preferences menu and choose the Border Width command. A dialog box appears.

```
┌─────────────────────────────┐
│                             │
│   Border width: [5]         │
│                             │
│   ( OK )   (Cancel)         │
│                             │
└─────────────────────────────┘
```
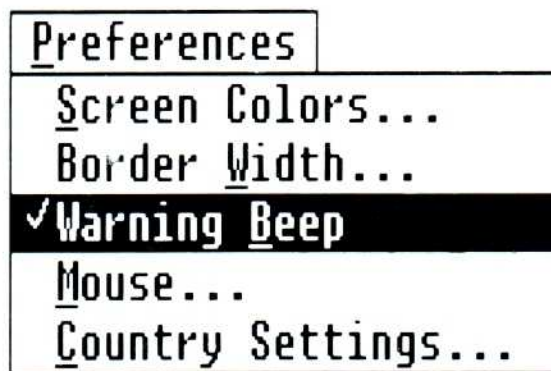
2 The Border Width text box shows the current width of the border. Windows automatically sets the value to 5. To change the border width, type a new number. The larger the number the wider the border.

3 Choose the OK button.

Turning Off the Warning Beep

When you're using Windows, your computer sometimes beeps; for example, this occurs if you press the wrong key. You can turn off the beep by using the Warning Beep command from the Preferences menu.

You can tell if the Warning Beep feature is in effect by looking at the Preferences menu. A checkmark appears by the Warning Beep command when the feature is active.

```
┌─────────────┐
│ Preferences │
├─────────────────────┐
│  Screen Colors...   │
│  Border Width...    │
│ ✓Warning Beep       │
│  Mouse...           │
│  Country Settings...│
└─────────────────────┘
```

To turn the beep on or off, do the following:

- ▣ Select the Preferences menu and choose the Warning Beep command.

Adjusting the beep feature

Changing Mouse Options

The Mouse command in the Preferences menu lets you change which mouse button you press and adjust how fast the mouse pointer moves on the screen.

Windows generally uses only the left mouse button. You can switch usage from the left mouse button to the right mouse button (and vice versa). With the Mouse Acceleration setting, you can increase or decrease the speed at which the pointer moves on the screen.

Switching mouse buttons

Follow these steps to switch mouse buttons:

[1] Select the Preferences menu and choose the Mouse command. A dialog box appears.

```
┌─────────────────────────────────────────┐
│                                         │
│  Mouse Options                          │
│  ☐ Swap left/right mouse buttons        │
│  ┌─Mouse Acceleration──────────────┐    │
│  │                                  │    │
│  │  ○ none    ◉ medium    ○ high    │    │
│  │                                  │    │
│  └──────────────────────────────────┘    │
│                                         │
│      (    OK    )    ( Cancel )          │
│                                         │
└─────────────────────────────────────────┘
```
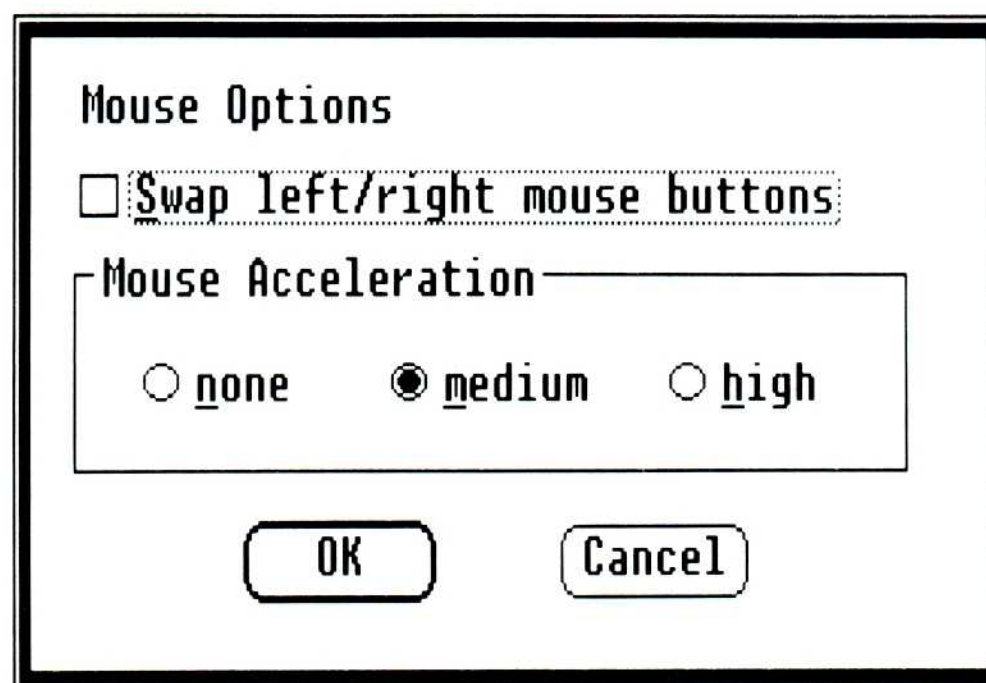
[2] Set the Swap Left/Right Mouse Buttons option.

[3] Choose the OK button.

Adjusting the pointer speed

To change the speed at which the mouse pointer moves across the screen, do the following:

[1] Select the Preferences menu and choose the Mouse command. A dialog box appears.

[2] Choose the acceleration rate you want. The default is medium.

[3] Choose the OK button.

Once you have set these options, they remain set until you change them. If you have switched the mouse button function, applications that normally use the right button for extended usage will now use the left button to perform these functions.

Changing Country Settings

You can set variables (such as date, number, and time formats) for a particular country by using the Preferences menu's Country Settings command.

You can make changes to the following settings:

■ Country

■ Time format (12- or 24-hour)

■ Trailing string (A.M., P.M., etc.)

■ Time-separator symbol

■ Date format (month-day-year, year-month-day, etc.)

■ Date-separator symbol

■ Number-separator symbols

■ Number of significant decimal digits

■ List-separator symbol

■ Leading zero

■ Currency symbol

To change country settings, complete the following steps:

Adjusting country settings

1 Select the Preferences menu and choose the Country Settings command. You will see the Country Settings dialog box.

```
┌──────────────────────────────────────────────────────────┐
│  Country Settings                                          │
│  ┌───────────────────────┐  ┌─Time Format──────────────┐  │
│  │U.S.A.              │↑│  │ ◉ 12 hour   11:59 │AM│  23:59 │PM││
│  │Japan               │ │  │                              │  │
│  │Netherlands         │▒│  │ ○ 24 hour   Separator: │:│   │  │
│  │Belgium             │ │  │                              │  │
│  │France              │↓│  └──────────────────────────┘  │
│  └───────────────────────┘                                 │
│  ┌─Date Format───────────┐  ┌─Number Format────────────┐  │
│  │ ◉ MDY   ○ DMY   ○ YMD  │  │ 1000:  │,│                │  │
│  │                        │  │              Decimal digits: │2│ │
│  │ Separator: │/│         │  │ Decimal: │.│              │  │
│  │                        │  │ List:    │,│  ☐ Leading Zero│  │
│  └───────────────────────┘  └──────────────────────────┘  │
│  ┌────┐ ┌─────┐ ┌──────┐   ┌─Currency Format──────────┐  │
│  │ OK │ │Reset│ │Cancel│   │ Symbol: │$│  ◉ Prefix ○ Suffix││
│  └────┘ └─────┘ └──────┘   └──────────────────────────┘  │
└──────────────────────────────────────────────────────────┘
```
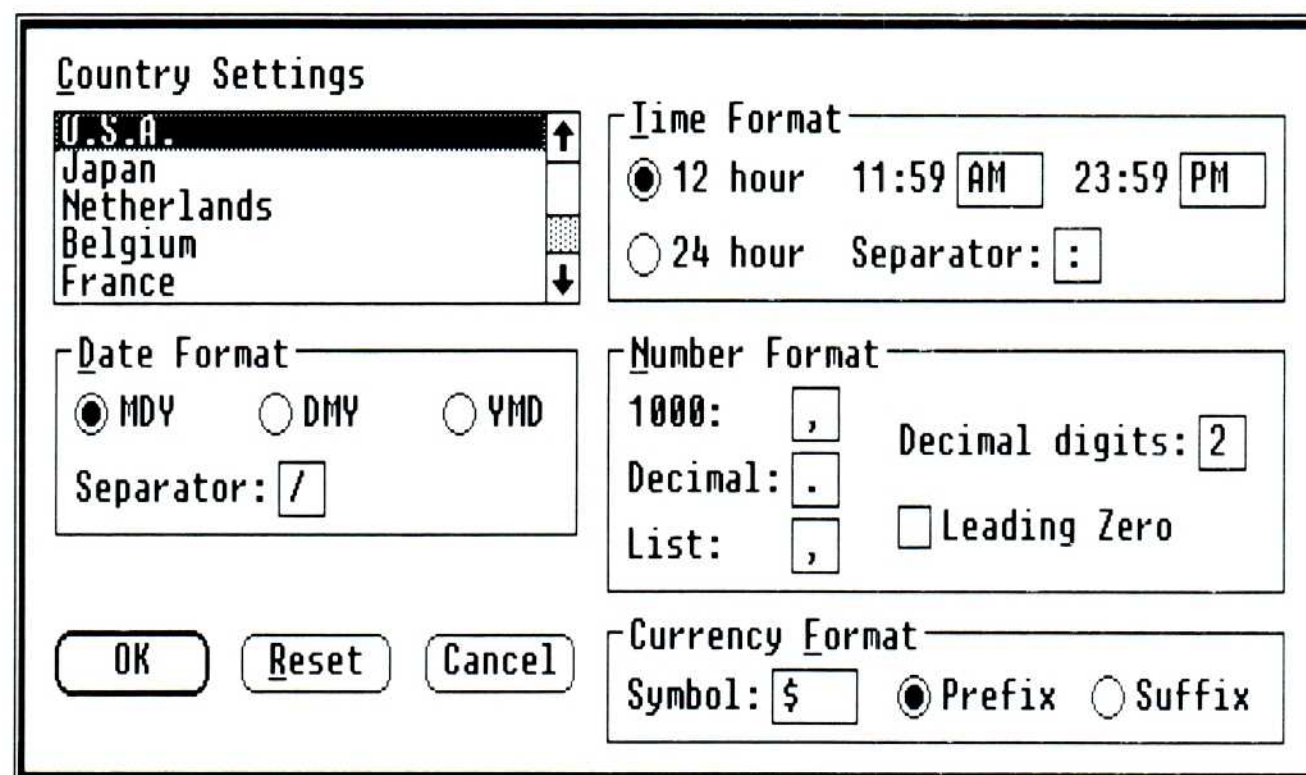
2 In the country names list box, select the appropriate country name.

   Notice that the country settings automatically change to correspond to the country you select.

3 If you do not want to make any modifications to the country settings, choose the OK button. The settings will be saved and will become your default values. See the following section for information about changing the settings. If you want to return to the original settings, choose the Reset button.

Creating New Country Settings

If the country name you want is not shown in the list box, you can create your own country settings.

Making new country settings

Here's how to do so:

■ Select Other Country in the country names list box.

The settings displayed are for your current country setting (for example, the USA settings). You can change any of the settings.

Changing the Time Format

Adjusting the time format

To change the time format, follow these steps:

1 Move to the Time Format section.

```
┌Time Format──────────────────────┐
│ ⦿ 12 hour   11:59 │AM│   23:59 │PM│ │
│ ○ 24 hour   Separator: │:│          │
└─────────────────────────────────┘
```

2 Select the time format you want (12- or 24-hour). Notice that when you switch to the 24-hour format, the A.M./P.M. designations disappear.

3 Move to the trailing-string text boxes (shown as 11:59 and 23:59) and type the appropriate trailing string (for example, *AM*).

4 Move to the Separator text box and type the time-separator character you want (for example, *:*).

Changing the Date Format

Adjusting the date format

Here's how to change the date format:

1 Move to the Date Format section.

```
┌Date Format──────────────────┐
│ ⦿ MDY      ○ DMY      ○ YMD  │
│ Separator: │/│                │
└─────────────────────────────┘
```

2 Select the date format you want (M stands for month, D for day, and Y for year).

3 Move to the Separator text box and type the appropriate date separator (for example, /).

Changing the Number Format

To change the number format, do the following:

1 Move to the Number Format section.

```
┌─Number Format────────────────────────┐
│ 1000:   [,]    Decimal digits: [2]    │
│ Decimal: [.]                          │
│ List:   [,]    ☐ Leading Zero         │
└───────────────────────────────────────┘
```

2 Move to the 1000 text box and type the symbol used to separate the 1 from the 000.

3 Move to the Decimal text box and type the symbol used to separate integers from decimals.

4 Move to the List text box and type the symbol used to separate items in a list.

5 Move to the Decimal text box and type the number of decimal digits you want to display.

6 Move to the Leading Zero check box. If you want a leading zero in front of your decimal numbers, set this option.

Changing the Currency Format

Follow these steps to change the currency format:

1 Move to the Currency Format section.

```
┌─Currency Format───────────────────────┐
│ Symbol: [$]   ◉ Prefix  ○ Suffix      │
└───────────────────────────────────────┘
```

Adjusting the number format

Adjusting the currency format

2 In the Symbol text box, type the appropriate currency symbol.

3 Move to the Prefix or Suffix option button and select the option that corresponds to your currency. If the currency symbol precedes the number, select the Prefix option. If it follows the number, select the Suffix option.

Saving Country Settings Changes

Saving country settings

Once you have adjusted the country settings to your satisfaction, you can save them by choosing the OK button in the Country Settings dialog box. The settings you have indicated will become effective immediately, and your WIN.INI file will be updated to reflect the changes.

If you decide to return to your original settings and keep the dialog box on the screen, choose the Reset button. To cancel the new settings and return to Control Panel's main window, choose the Cancel button.

Quitting Control Panel

Once you have finished adjusting the different system settings, you may want to quit Control Panel.

Exiting from Control Panel

To exit from Control Panel, follow this step:

■ Select the Installation menu and choose the Exit command.

8 Using Spooler

In Microsoft Windows, files are printed by the Spooler program. When you choose a print command in a Windows application, the application creates a print-spool file, and Spooler automatically starts to print the file on the printer.

After Spooler starts, its icon appears on your screen. Spooler works in the background so that you can continue to work in an application while your file is being printed.
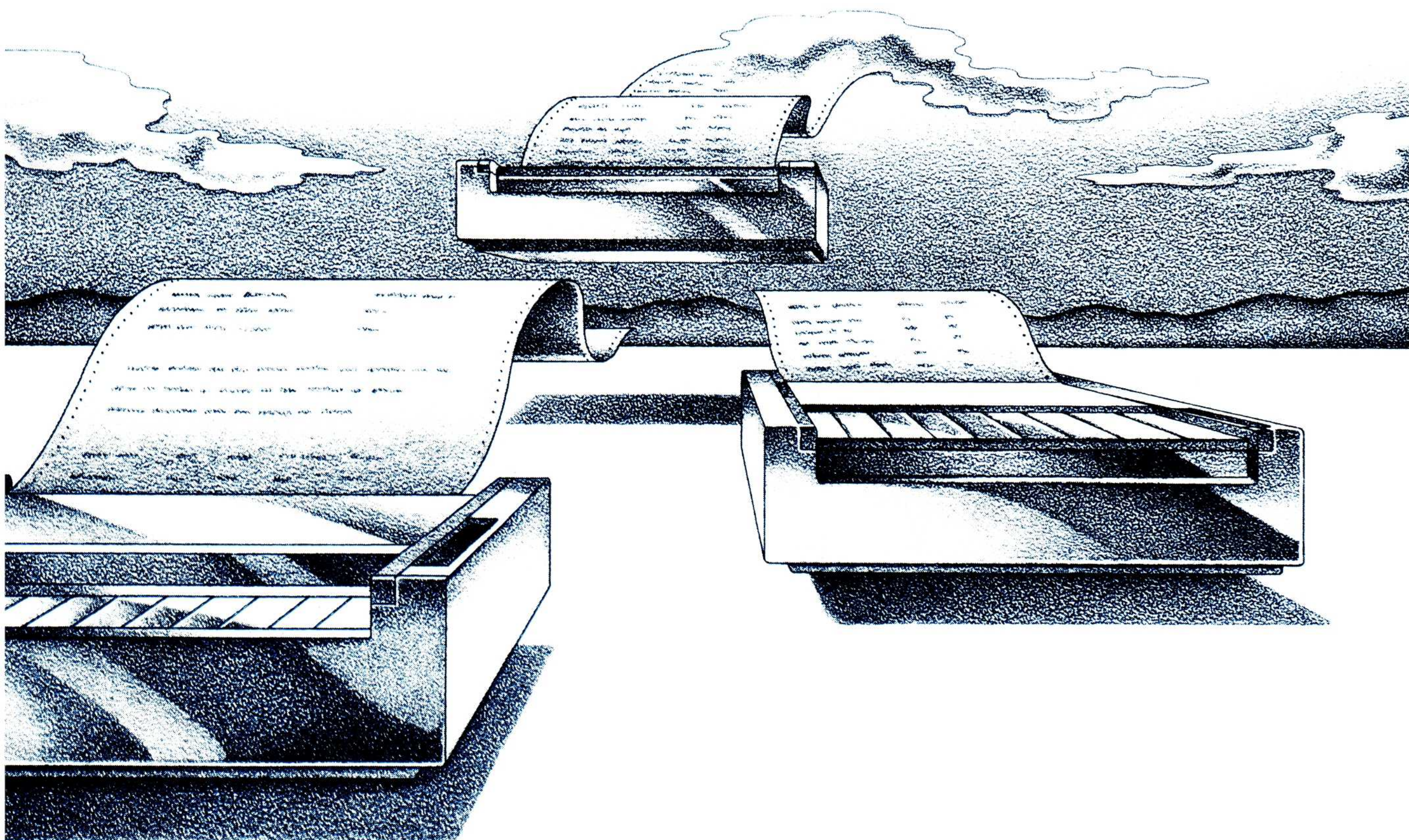
Displaying Spooler in a Window

You can enlarge the Spooler icon to a window to look at the list of files being printed. The file listing, called the print queue, lists files in the order they will be printed. The listing also contains information about your printer, including its port, port status (whether the printer's in use), and name. If necessary, you can also work in the Spooler window to interrupt or cancel a print job.

Spooler is used only for Windows applications. On a two-drive system, the Spooler program is located on the Windows system disk.

For information about setting up your printer, see your printer's manual. For details on adding or removing a printer and on specifying printer modes and options, see Chapter 7, "Using Control Panel."

Viewing the print queue

To look at the print queue, follow these steps:

1 Select the Spooler icon.

2 Select the icon's Control menu and choose the Restore command. The Spooler window appears containing information similar to that shown in the following figure.

Port *Port status*

Printer name

```
┌─────────────────────────────────────────────────────────────┐
│ ▬              Spooler                              ⇩ ⇧ │
├─────────────────────────────────────────────────────────────┤
│ Priority  Queue                                              │
│    LPT1 [Active]: PCL/LaserJet                               │
│         Cardfile - BUSCARDS.CRD                             │
│         Notepad - MEMO.TXT                                  │
│         Notepad - LETTER.TXT                                │
│                                                             │
│                                                             │
│                                                             │
│                                                             │
│                                                             │
│                                                             │
│                                                             │
│                                                             │
└─────────────────────────────────────────────────────────────┘
```

Application name *Job name*
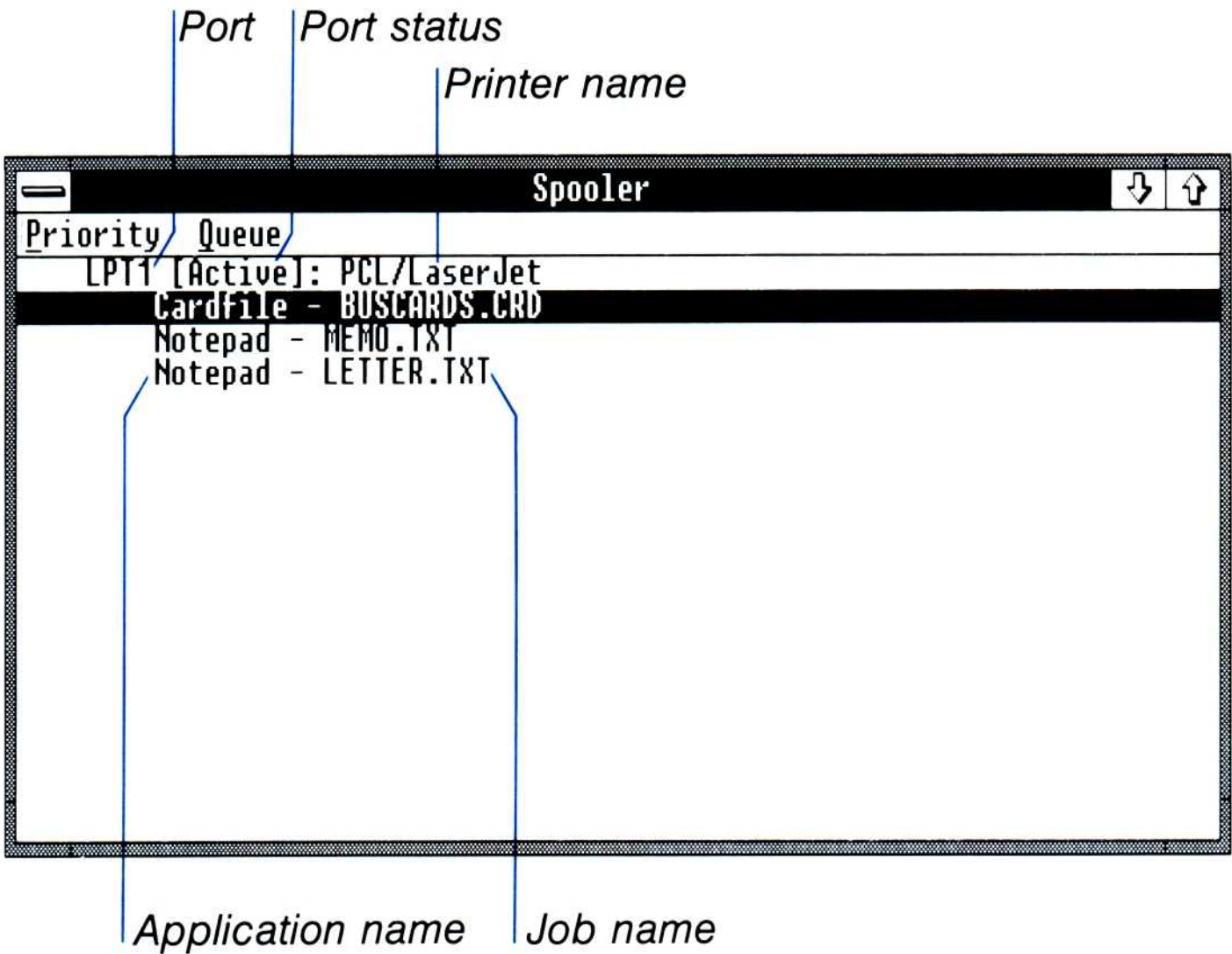
Follow this step to view the print queue with the mouse:

- Double-click the Spooler icon.

The first file in the list is the one that is currently printing. Spooler works on one job at a time in the order that the jobs are listed. If the entire list cannot fit on your screen, the window will have a vertical scroll bar that you can use to see the remaining entries.

Specifying Printing Speed

You use the Priority menu commands to specify how fast you want to print your work. These commands change the rate at which information is transferred from Spooler to the printer ports.

If you want Spooler to print a job faster, do the following:

- Select the Priority menu and choose the High command.

Specifying how fast to print

This setting uses more of your computer's processor time, causing other applications to run more slowly.

If you want Spooler to print at a slower speed and free more processor time for other applications, follow this step:

- Select the Priority menu and choose the Low command.

A checkmark next to the High or Low command on the Priority menu indicates the current setting.

Halting or Canceling a Print Job

You use the Queue menu commands to temporarily halt or cancel a print job.

Follow these steps to interrupt a print job:

Interrupting a print job

1. Select the filename of the job you want to interrupt by pressing the UP or DOWN key or by clicking the filename with the mouse.

2. Select the Queue menu and choose the Pause command. The print-queue listing for that job now lists the port status as paused.

Resuming a print job

Do the following to continue printing the file:

■ Select the Queue menu and choose the Resume command.

Canceling a print job

To cancel a print job, follow these steps:

1. Select the filename of the job you want to cancel.
2. Select the Queue menu and choose the Terminate command. A dialog box appears asking you to confirm the cancellation.
3. Choose the Yes button.

Warning If you terminate a job that is printing in graphics mode, you may need to reset your printer to ensure that the buffer is cleared.

Spooler Messages

Displaying Spooler messages

Spooler sometimes displays information about the status of your printing jobs. If Spooler needs to display information, but the Spooler window or icon is not selected, the title bar or icon will flash. Select Spooler's window or icon to display the message.

Some of the messages Spooler sends depend on the settings you specify in Control Panel's Setup menu. See the section called "Setting Up Printers" in Chapter 7, "Using Control Panel," for more information.

Note You can print from a Windows application without using Spooler. This may be preferable when running Windows on a two-drive system since it conserves disk space. To use this feature, you need to edit your WIN.INI file. See the section called "Settings in [Windows]" in Appendix A, "Customizing Your WIN.INI File," for more information.

Quitting Spooler

After the files in the print queue have been printed, you can quit Spooler. If you quit Spooler while files are still in the print queue, the remaining print jobs will be terminated.

To exit from Spooler, do the following:

Exiting from Spooler

■ Select the Priority menu and choose the Exit command.

If print jobs remain in the print queue, a dialog box appears asking you to confirm the cancellation.

9 Using Standard Applications

In earlier chapters, you learned to use applications that were designed to run with Microsoft Windows. This chapter explains how to run applications that were not designed specifically for Windows; these are known as standard applications. Applications that run under DOS—such as Microsoft Multiplan®, Microsoft Word, Lotus 1-2-3, and MultiMate—can run with Windows. You'll find that it is faster, easier, and more efficient to work with your applications when they are run with Windows.
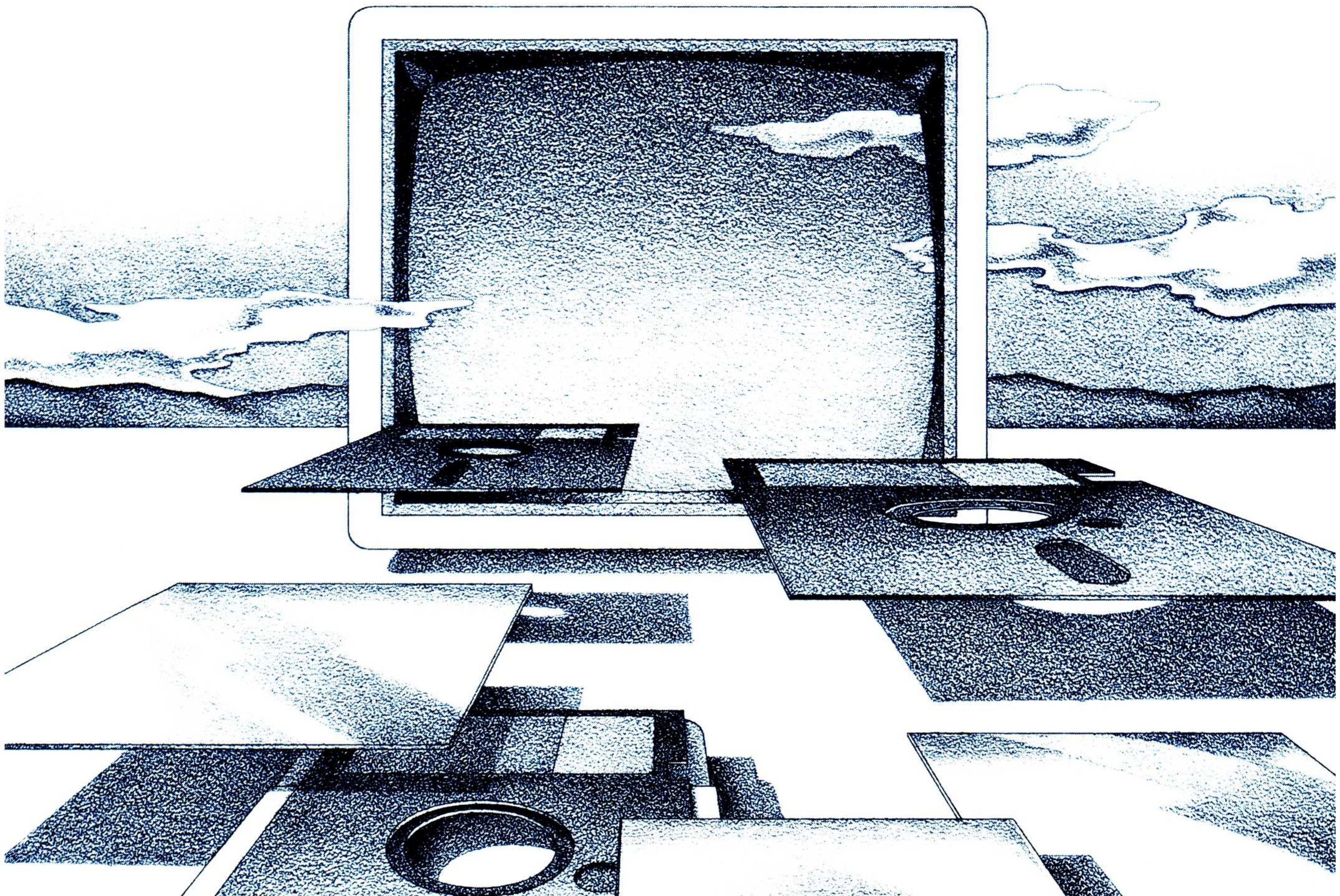
Introduction to Standard Applications

Running standard applications from Windows provides several benefits, including the following:

- You can run several applications simultaneously and switch from one to another.
- You can transfer information from a standard application to another application.
- Often, you can run your standard application in a window and use Control-menu commands to manipulate the application.

Note Windows allows you to run only the applications that normally run on your computer. In other words, applications written for operating systems other than DOS (XENIX, for example) will not run with Windows.

How Windows Displays Standard Applications

How standard applications look

When you run standard applications from Windows, they are displayed on the screen in one of two ways: in a window or full-screen. An application that runs in a window looks similar to Windows applications and has many Windows features, including a Control menu and a title bar. These applications are described in more detail in the following section. A full-screen application looks much the same as when you run it without Windows. (Generally, standard applications that display graphics are displayed full-screen.) Details on these applications are given in the section called "Using Full-Screen Applications" later in this chapter.

The way an application appears on the screen is determined by the amount of computer memory that has been reserved for it, the way it uses system resources and hardware, and the way it has been set up to run. Some applications can run either in a window or full-screen, while others can run only full-screen.

Using Applications That Run in a Window

Applications that run in a window

There are many applications that can run in a window.

This standard application is running in a window.

```
┌─────────────────────────────────────────────────────────────┐
│ ▬          Multiplan                              ↴  ↷    │▲│
│  4                                                         │
│  5                                                         │
│  6 Sales by Region (1,000's)                               │
│  7                                                         │
│  8 Region        1985      1986                            │
│  9 ---------------------------------                       │
│ 10 North          124       133                            │
│ 11 South           54        67                            │
│ 12 East           101       109                            │
│ 13 West            42        89                            │
│ 14 =============================================           │
│ 15 Total          321       398                            │
│ 16                                                         │
│ 17                                                         │
│ 18                                                         │
│ 19                                                         │
│ 20                                                         │
│COMMAND: Alpha Blank Copy Delete Edit Format Goto Help Insert Lock Move│
│        Name Options Print Quit Run Sort Transfer Value Window Xternal │
│Select option or type command letter                        │
│R1C1                        100% Free      Multiplan: TEMP │▼│
│ ←                                                      → ┘ │
└─────────────────────────────────────────────────────────────┘
```
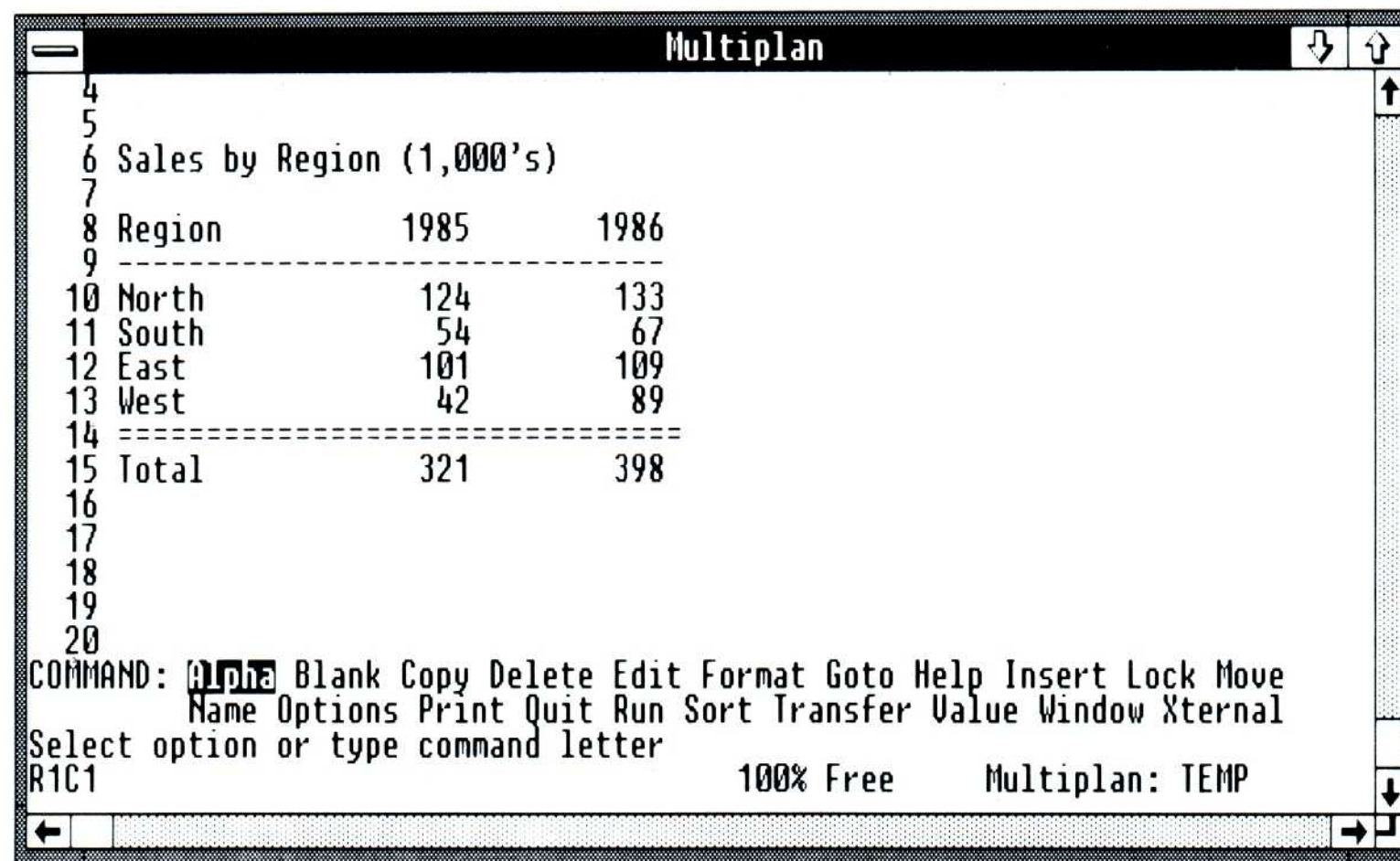
If your application has any of the following features, it probably can run in a window:

■ The application can be set up to run with Windows, TopView, or an American National Standards Institute (ANSI) device driver. Check your application's installation instructions for information on this feature.

■ The application software includes a TopView PIF file that allows the application to run in a TopView window.

■ The application displays text by using standard DOS, ROM BIOS (read-only memory/basic input and output system), or ANSI call conventions. This feature may be difficult to determine. If you don't know this information, base your decision on the two previously listed features.

If your application has none of the above features, you may need to experiment to determine whether or not it runs in a window. The section called "Determining Whether an Application Can Run in a Window" later in this chapter gives details on how to do this.

When a standard application runs in a window, it has a title bar and a Control menu, just like Windows applications do. However, Windows adds several commands to your standard application's Control menu; this is described in the section called "Transferring Information" later in this chapter.

Standard applications that run in a window can also be run full-screen. Full-screen applications are described in the following section.

Note When you use the Minimize command or box to shrink a standard application that is running in a window, you see an icon for the application, just like you do for a Windows application. The icon is a rectangle that contains an abbreviation of the application's name.

```
┌─────────────────────────────────────────────────────────────┐
│ ▬              MS-DOS Executive                        ⇩  ⇧  │
├─────────────────────────────────────────────────────────────┤
│ File  View  Special                                         │
├─────────────────────────────────────────────────────────────┤
│ A ═══  C ═══  C:CHRIS \WINDOWS                              │
│ PIF           REVERSI.EXE                                    │
│ ABC.TXT       ROMAN.FON                                      │
│ CALC.EXE      SCRIPT.FON                                     │
│ CALENDAR.EXE  SPOOLER.EXE                                    │
│ CARDFILE.EXE  TERMINAL.EXE                                   │
│ CLIPBRD.EXE   TMSRA.FON                                      │
│ CLOCK.EXE     WIN.COM                                        │
│ CONTROL.EXE   WIN.INI                                        │
│ COURA.FON     WIN200.BIN                                     │
│ DOTHIS.TXT    WIN200.OVL                                     │
│ HELVA.FON     WINOLDAP.GRB                                   │
│ MODERN.FON    WINOLDAP.MOD                                   │
│ MSDOS.EXE     WRITE.EXE                                      │
│ NOTEPAD.EXE                                                  │
│ PAINT.EXE                                                    │
│ PRACTICE.WRI                                                 │
│ README.TXT                                                   │
├─────────────────────────────────────────────────────────────┤
│                                                             │
│ ┌─────┐                                                     │
│ │ WOR │                                                     │
│ └─────┘                                                     │
└─────────────────────────────────────────────────────────────┘
```
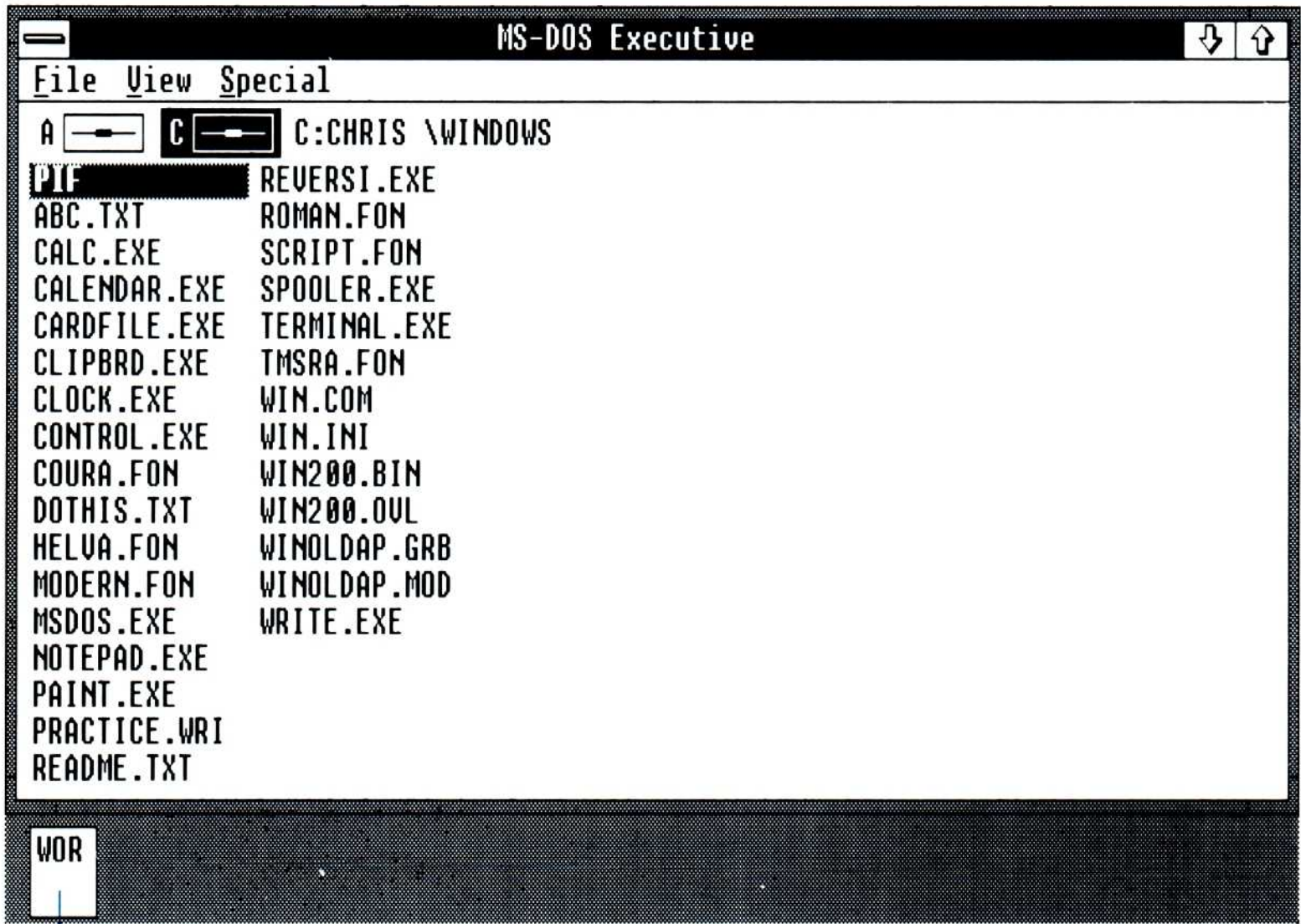
Icon for the standard application

Using Applications That Run Full-Screen

Full-screen applications

Some standard applications must be run full-screen. Applications that display graphics on the screen, or those that have direct access to the part of memory that is used by the screen, cannot be run in a window.

When an application is running full-screen, Windows temporarily removes itself from the screen. When you switch to another application, the full-screen application becomes an icon. Moving from one application to another is described in the section called "Moving Between Applications" later in this chapter.

When you run a full-screen application, all other applications, including Windows applications, suspend operation. They resume operation when you quit the full-screen application or shrink it to an icon.

This standard application is running full-screen.

```
Iow to Prepare Cappuccino

A Bit of History

Cappuccino is said to be named for the Capuchin monks who
felt that a meal was not complete without this dessert
coffee. Cappuccino in the strictest sense is made up of
espresso topped with foamed milk, but you may want to try
adding a bit of cinnamon, nutmeg, cocoa, or whatever else
suits your taste.

Before You Start

- Check to see that the steam nozzle has been swung around
to the right. This gives you more freedom to move the
pitcher as you foam the milk.

- Use larger cups (4-6 oz. size) than you use for serving
espresso.


COMMAND: Alpha Copy Delete Format Gallery Help Insert Jump Library
         Options Print Quit Replace Search Transfer Undo Window
739 characters (6938624 bytes free)
Page 1   {}                          ?           Microsoft Word: CAPP.DOC
```

Using Memory-Resident Applications

Memory-resident applications are programs such as network servers, pop-up applications, expanded-memory managers, and disk-caching programs such as SMARTDrive. Most memory-resident applications are special programs that extend the power of your computer and add-on cards. They work silently and require no interaction with the user. Pop-up programs, such as Sidekick, are memory-resident applications that let you enter, view, and process information. These programs temporarily suspend your current application while you work with them, then let you return to the suspended application.

If you want to use memory-resident applications, you must start them before you start Windows. Once started, memory-resident applications are always ready for use when you or DOS need them. However, if your memory-resident application is a pop-up program, you may not be able to use it while Windows applications are on the screen. You can, however, use the application while running full-screen standard applications.

Windows Desktop applications provide many of the features found in popular pop-up programs. You should consider using the Desktop applications instead of the pop-ups. If you do decide to run pop-ups, be aware that some of them may not run properly with Windows because they were not designed especially for Windows.

Memory-resident applications

Using Program Information Files

Using PIF files

Because standard applications were not written for Windows, they require program information (PIF) files to run with Windows. PIF files supply information to Windows about how an application uses the screen, system memory, and other computer resources. For example, Windows uses PIF files to learn how much memory an application needs. You can recognize PIF files by their .PIF extension. For information on creating and editing PIF files, see Chapter 10, "Using PIF Editor."

If there is no PIF file for an application, Windows uses a set of default program characteristics to run the application. However, you are encouraged to use PIF files with your standard applications because a PIF file allows you to run the application in the most efficient way. A PIF file may also give your application more capabilities than it is given when you rely on the default PIF settings. For example, using the default settings prevents you from switching to other applications unless you first exit from the application you are running.

Running standard applications from PIF files

You can start an application by running its PIF file; this process is described in the section called "Starting an Application from a PIF File" later in this chapter. Windows runs the application named in the file and uses the resource settings listed there. A number of PIF files for popular applications are provided on your Windows disks. You may also find that your standard application's disk includes a PIF file.

You can create more than one PIF file for an application so that you can run it in different ways at different times. For example, when you start Microsoft Multiplan to work on business, you may want to be in a directory you've set up for business data. When you start Multiplan to work on personal data, you may want to be in another directory. You can set up Multiplan to run both ways by creating two different PIF files for starting the program, for example, MPWORK.PIF and MPHOME.PIF. Each PIF file starts the same Multiplan program, but the first PIF file opens the program in the MPWORK directory and the second opens it in the MPHOME directory.

Running standard applications from batch files

If you run a standard application from a batch file, you should create an additional PIF file for the batch file. Set the options in the batch PIF file to match those in the application PIF file, and give the PIF file the same base filename as the batch filename (the PIF file will have the .PIF extension).

Occasionally when you are using a batch file to run an application, Windows displays a message saying "Not enough memory to run." This may occur because the application's PIF file does not specify enough memory to run both the batch file and the

application. To correct this, increase the amounts specified in the KB Required and KB Desired text boxes in the PIF file to allow adequate memory to run both files.

Starting Standard Applications

There are two ways to start a standard application. You can run the application's PIF file, or you can run the application file (a file with a .EXE, .COM, or .BAT extension). In both cases, you run the file from the MS-DOS Executive window.

Whenever possible, you should use PIF files to start your standard applications, then you can take advantage of the preset options that make your application run more efficiently. In some cases, you may want to have more than one PIF file for an application, each with different options selected. In such cases in particular, you should use the desired PIF file to start the application. (If you use the application file, Windows by default uses the PIF file with the same base filename and runs your application using those options. These may not be the options you want to use at that time.)

If you start an application from a PIF file, the PIF file must be in the same directory as the application, or the application must be in a directory listed in the PATH variable in your AUTOEXEC.BAT file. As an alternative, you can list the full pathname of the application in the PIF file. See Chapter 10, "Using PIF Editor," for details on changing your PIF file.

Starting an Application from a PIF File

To use a PIF file to start your application, follow these steps:

Starting applications from PIF files

1. Move to the directory that contains the PIF file. For PIF files supplied with Windows, this is the PIF directory; it is created when you install Windows.

2. Copy the PIF file to your standard application's startup disk or directory, or make sure the directory containing the application file is in your PATH variable.

3. Select the PIF file and press the ENTER key or, with the mouse, double-click the filename.

Starting an Application by Using Its Filename

If you start the application by using its filename, you must first be sure that any related PIF file has the same base filename so that Windows can locate it. For example, if you use the file named DBASE.COM to start dBASE II, the associated PIF file must be DBASE.PIF.

Starting applications by using their filenames

Follow this step to start an application by using its filename:

■ Select the application filename and press the ENTER key or, with the mouse, double-click the filename.

Note An application may have more than one .EXE or .COM file on its disk. You should have a separate PIF file for each one.

Determining Whether an Application Can Run in a Window

You can determine whether a standard application can run in a window by editing the application's PIF file and then running the application.

Before trying the following procedure, you should close all other applications, including Windows applications. Then if your application doesn't run in a window and you have to quit Windows temporarily, you will not lose any information from other applications.

Checking for window capabilities

You can check to see if your application can run in a window by following these steps:

1 Turn off the Directly Modifies Screen check box in the application's PIF file. (For information on setting options in the PIF file, see Chapter 10, "Using PIF Editor.")

2 Run the application.

If the application displays information outside the window, it cannot run in a window.

Returning to Windows

If the application does not run in a window, you can return to Windows and correct the PIF file by doing the following:

1 Quit the standard application using its quit or exit command.

2 Quit Windows and then restart it.

3 Turn on the Directly Modifies Screen check box in the PIF file.

Displaying the Control Menu

If your standard application is running in a window, Windows adds commands to the Control menu, for example, the Mark, Copy, Paste, and Scroll commands. The other Control-menu commands allow you to manipulate the standard application's window, just as they do for Windows applications.

```
┌──────────────────────────────────────────────────────────────┐
│ ▭                       BASIC                          ⇩ ⇧   │
├──────────────────────────────────────────────────────────────┤
│ Restore    Alt+F5                                          ↑ │
│ Move       Alt+F7   oot of ";                                │
│ Size       Alt+F8                                            │
│ Minimize   Alt+F9   )                                        │
│ Maximize   Alt+F10                                           │
│                                                              │
│ Close      Alt+F4    is  1                                   │
│                      is  1.414214                            │
│ Mark                 is  1.732051                            │
│ Copy                 is  2                                   │
│ Paste                is  2.236068                            │
│ Scroll               is  2.44949                             │
│ The square root of 8 is  2.645751                            │
│ The square root of 9 is  2.828427                            │
│ Ok                      is  3                                │
│                                                            ↓ │
│ ←                                                          → │
└──────────────────────────────────────────────────────────────┘
```
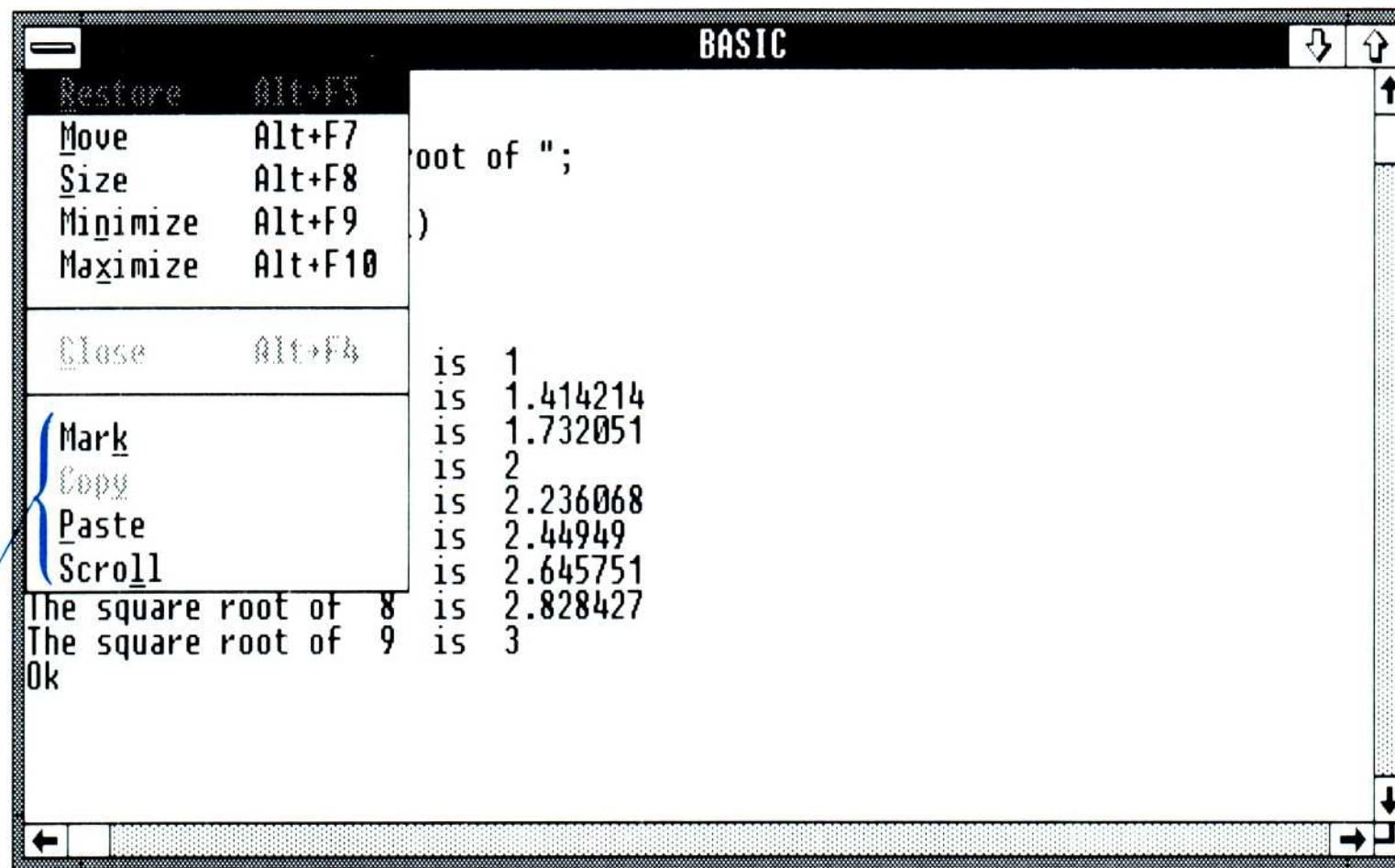
These commands are added to the Control menu.

Even though your application is running full-screen, it may have a Control menu (this usually is true for an application that allows you to switch to other programs without quitting the application).

To see if your full-screen application has a Control menu, follow this step:

Checking for a Control menu

▪ Press ALT, SPACEBAR.

If a full-screen application has a Control menu, you can shrink the application to an icon by choosing the Minimize command from the menu.

In standard applications, the Control menu contains commands for transferring information between applications (Mark, Copy, Paste), in addition to the Close command for closing the window. These commands are described in the sections called "Transferring Information" and "Quitting Standard Applications" later in this chapter.

Note You can use the direct-access method to choose commands from a menu in a full-screen standard application, just as you can with applications that run in a window. The direct-access method lets you choose a command by pressing the key that corresponds to the underlined character in the menu-command name. In full-screen applications, however, the character may not be underlined; the appearance of the character is determined by the display device you are using.

Moving Between Applications

To switch from one standard application to another (or to a Windows application), you can usually follow the regular Windows procedures.

Switching from a full-screen application

If you switch from a full-screen application to another full-screen application, the new application's screen is displayed. If you switch to an application that runs in a window, the application's window or icon is brought to the front of the screen and becomes active. The full-screen application you just left is represented by an icon on the screen and suspends operation until you return to it.

Some full-screen standard applications may not allow you to switch to any other applications until you exit from the application. In this case, the system sounds a warning beep, and the application remains on your screen. When you exit from the application, you return to the Windows screen. You can then switch to the other applications.

Switching from an application that runs in a window

If you are working in an application that runs in a window, you switch to a full-screen application by following these steps:

1. Press ALT+ESCAPE. If you're using the mouse, you can click the window or icon (you may need to do this several times). This selects the full-screen application's icon, and the application name is displayed.
2. Press ALT, SPACEBAR (or click the icon with the mouse) to display the icon's Control menu.
3. Choose the Maximize or Restore command.

Using ALT+TAB

You can also switch between applications by pressing ALT+TAB. When you release ALT+TAB, the application window or screen is restored.

Note If you are using a two-drive system and want to keep your data files on separate disks, be sure that the correct data disk is in the drive when you switch programs.

Transferring Information

There are two ways to copy information between applications: you can transfer a complete screenful of information from an application, or you can transfer portions of information.

Information that you are transferring is stored on the Windows Clipboard. For information on Clipboard, see Chapter 6, "Using Clipboard."

Copying an Entire Screen

To copy the entire screen from a standard application to the Clipboard, follow these steps:

Copying a screenful of information

1. Make sure that the information you want to copy is on the screen.

2. Press ALT + PRINTSCREEN.

This takes a "snapshot" of the screen. The information is now available on the Clipboard and can be transferred to Windows applications.

If you are unable to capture a graphics screen by pressing ALT + PRINTSCREEN, it may be for one of the following reasons:

- In the application's PIF file, the Graphics/Text option in the Screen Exchange section is not selected. This option must be selected to reserve space in memory for storing the screen image.

- If you are trying to copy from a medium-resolution or high-resolution screen, the memory required to store the screen image may be too large for the image to be transferred.

You can experiment to see if your screen can be transferred to the Clipboard. If it cannot be transferred, you will hear a beep when you press ALT + PRINTSCREEN.

Copying Partial Screens

To transfer selected parts of the screen, use the Mark, Copy, and Paste commands from the Control menu.

Using the Mark Command

You use the Mark command to select information on the screen so that you can copy it to the Clipboard.

Selecting information   Follow these steps to select information for copying:

1 Select the Control menu and choose the Mark command. A rectangular cursor appears at the upper-left corner of the window.

2 Press the DIRECTION keys to move the cursor to the beginning of the information you want to select. Press and hold down the SHIFT key, then use the DIRECTION keys to select the information.

For example, to select a paragraph, move the cursor to the first character of the paragraph. Press and hold down the SHIFT key. Use the RIGHT key to go to the end of the line, then use the DOWN key to go to the last line of the paragraph.

3 Release the SHIFT key.

You use **the Mark command** *to select text.*

```
┌─────────────────────────────────────────────────────┐
│ ▬                        BASIC                   ⇩ ⇧ │
├─────────────────────────────────────────────────────┤
│ Ok                                                ↑  │
│ 1 rem payroll                                        │
│ 10 read r,h                                          │
│ 20 let g = r * h                                     │
│ 30 print r,h,g                                       │
│ 40 go to 10                                          │
│ 50 data 4,20                                         │
│ 60 data 5,35                                         │
│ 70 end_                                              │
│                                                      │
│                                                      │
│                                                   ↓  │
│ ←                                                 →⌐ │
└─────────────────────────────────────────────────────┘
```

Follow these steps to select information with the mouse:

1 Select the Control menu and choose the Mark command. A rectangular cursor appears at the upper-left corner of the window.

2 Drag the cursor across the information that you want to select.

3 Release the mouse button.

To cancel the selection, follow this step:

■ Press the ESCAPE key or, with the mouse, click outside the selected area.

Using the Copy Command

After you've selected the information, you can copy it to the Clipboard by following this step:

■ Select the Control menu and choose the Copy command.

Using the Paste Command

You use the Paste command to transfer compatible information from the Clipboard to another application or to another place in the same application. You can paste text onto a full-screen standard application. However, you cannot paste graphics onto any standard applications.

If an application has more than one mode, it must be in its text-entry mode in order for text to be pasted onto it. For example, it is common for word-processing applications to have a text-entry mode for typing text, and a command mode for controlling format or insertion-point movement. You should change to the text-entry mode before pasting text onto such an application.

To paste information from the Clipboard, follow these steps:

1 Move the application's insertion point to the area where you want to insert the information.

2 Select the Control menu and choose the Paste command.

If you paste formatted text, the text will transfer but not the formatting.

This text was copied from Notepad ...

```
┌─────────────────────────────────────────────────────────┐
│ ▬          Notepad - CAPP.TXT                    ⇩  ⇧    │
├─────────────────────────────────────────────────────────┤
│ File  Edit  Search                                      │
│ - Have ready a chilled pitcher (10-12 oz. size) that is 1/3   ▲ │
│ to 1/2 filled with cold milk. Regular milk (rather than 2%) creates │
│ the best foam.                                            │
│                                                         │
│                                                         │
│                                                         │
│                                                         │
│                                                         │
│                                                    ▼    │
│ ←                                                  → │
└─────────────────────────────────────────────────────────┘
```

```
  felt that a meal was not complete without this dessert
  coffee. Cappuccino in the strictest sense is made up of
  espresso topped with foamed milk, but you may want to try
  adding a bit of cinnamon, nutmeg, cocoa, or whatever else
  suits your taste.

  Before You Start

  - Check to see that the steam nozzle has been swung around
  to the right. This gives you more freedom to move the
  pitcher as you foam the milk.

  - Use larger cups (4-6 oz. size) than you use for serving
  espresso.

  - Have ready a chilled pitcher (10-12 oz. size) that is 1/3
  to 1/2 filled with cold milk. Regular milk (rather than 2%)
  creates the best foam.
  █

COMMAND: Alpha Copy Delete Format Gallery Help Insert Jump Library
         Options Print Quit Replace Search Transfer Undo Window
Edit document or press Esc to use menu
Page 1    {}                          ?            Microsoft Word: CAPP.DOC
```

... and pasted into Microsoft Word.

Scrolling the Window

In addition to the Mark, Copy, and Paste commands that Windows adds to a standard application's Control menu, Windows may also add the Scroll command.

When a standard application is running in a window, Windows acts as a kind of viewer, displaying information inside the window which would normally fill the whole screen. As a result, you may not be able to see all the information, especially if the application is sharing the screen with several other windows. You can use the Scroll command to move the information in the window so that you can see other parts of the file.

The Control menu's Scroll command is independent of commands your application may have for scrolling information. The application may have additional scrolling commands or keys for moving to other parts of a file. See the application's manual for this information.

To scroll a window, follow these steps:

Scrolling through a file

1 Select the Control menu and choose the Scroll command.

2 Use the keys described in the following list to scroll in the desired direction.

Press these keys to scroll through a file:

To scroll	Press
Up one line	UP
Down one line	DOWN
Left one character	LEFT
Right one character	RIGHT
Up one screen	PAGE UP
Down one screen	PAGE DOWN
To the beginning of a line	HOME
To the end of a line	END

To stop scrolling, follow this step:

■ Press the ESCAPE key or the ENTER key.

To scroll with the mouse, you can use the window's scroll bars. See Chapter 4, "Techniques," for details.

Running Multiple Applications

With Windows, you can run as many applications at the same time as your system will allow. In addition, if you have a hard disk or a memory-expansion card, Windows can run more standard applications than can fit in memory.

Swapping applications

If you try to start a standard application and your system doesn't have enough memory, Windows tries to share available memory by temporarily moving another application (and even parts of Windows itself) to the hard disk. This is referred to as "swapping." When you switch to the application that was swapped, Windows moves another application out of memory and brings the selected application back into memory.

Windows can also swap applications to expanded memory. To use this feature, your expanded-memory manager must support Windows 2.0. You must also edit the [pif] section in your WIN.INI file so that the /E option is specified in the swapdisk= entry. See Appendix A, "Customizing Your WIN.INI File," and Appendix E, "Special Notes on Using Windows," for more information on using expanded memory.

To run multiple applications efficiently, run the largest application first, or specify the size of the swap area in the WIN.INI file. See Appendix A, "Customizing Your WIN.INI File," for details.

When your system has low memory, Windows may excessively swap information from your disk, causing your system to run more slowly than normal. When this occurs, it is recommended that you close any applications that you do not need. This will give Windows more memory to manage your remaining applications.

If you try to run a standard application and Windows displays a message that there is not enough memory, try closing some of the applications you are running, then try to run the program again. You could also choose to reset the KB Required and KB Desired options in the PIF file, as described in the next section.

Running Large Standard Applications

Occasionally, you may want to run a standard application that requires more memory than is available when Windows is running. When you try to run such an application, Windows displays a message saying "Not enough memory to run." You can free up more memory to run the application by ensuring that Windows automatically swaps out unused parts of itself when you start the application. You can choose between two methods to do this:

- Set the KB Desired amount in the application's PIF file to –1. When you run the application, Windows automatically frees up additional memory for the application by swapping out unused parts of Windows and any Windows applications; swapping will not occur if the application uses a communications (COM) port.

- Set the Directly Modifies Memory option in the application's PIF file, then close all Windows programs except MS-DOS Executive and run the application. Windows swaps out unused parts of itself and gives the application most of the available memory. A small amount of memory is reserved for transferring information to the Clipboard. When you are finished using the application, you must quit the application to return to Windows. When you quit the application, the Windows screen returns.

Note There may be other cases when you will see the message saying "Not enough memory to run." For a list of these cases and corrective actions you can take, see the section called "Not Enough Memory to Run" in Appendix B, "System Messages."

If your application runs in a window, you can set the amount of memory without using a PIF file. To do this, create an entry in the [pif] section of the WIN.INI file, as described in the section called "Settings in [Pif]" in Appendix A, "Customizing Your WIN.INI File."

Quitting Standard Applications

To quit a standard application, you use the application's quit or exit command. Normally when you quit an application, it is removed from your screen. However in some cases, information is left on the screen. If the application was running in a window, parentheses surround the application's name in the title bar.

Exiting from standard applications

To remove the information from the screen, follow this step:

▣ Select the Control menu and choose the Close command.

Note When closing COMMAND.COM, you must first exit from the program by typing *exit* in the command line. Then you can close the window by using the Control menu's Close command.

10 Using PIF Editor

As you learned in the previous chapter, program information (PIF) files are the files that tell Microsoft Windows how to run standard applications in the most efficient way. To create or revise PIF files, you use PIF Editor. For example, you might use PIF Editor to change the program settings in your application's PIF file to give the application more of the machine's available memory.

This chapter explains how to use PIF Editor. For information on using PIF files with your standard applications, see Chapter 9, "Using Standard Applications."
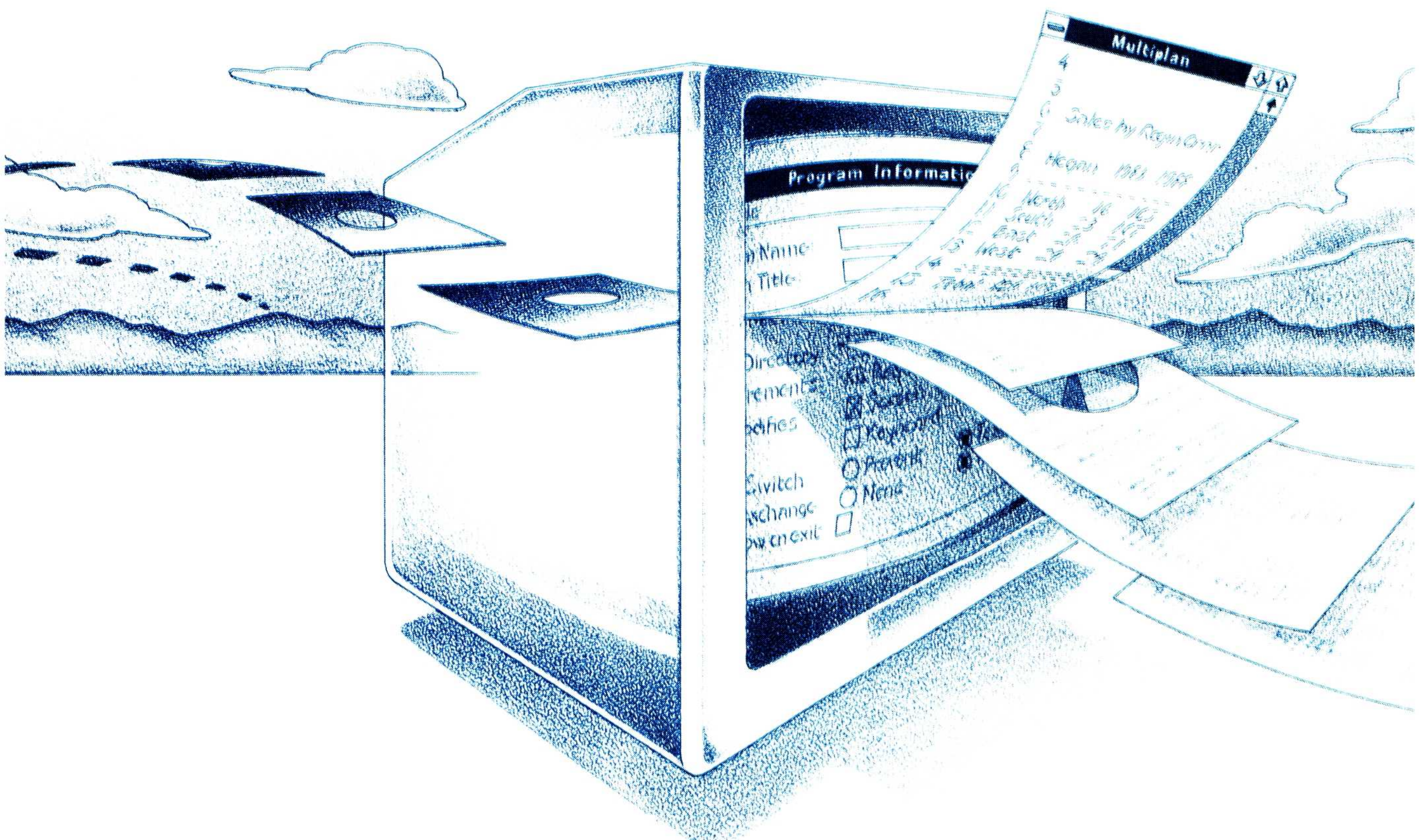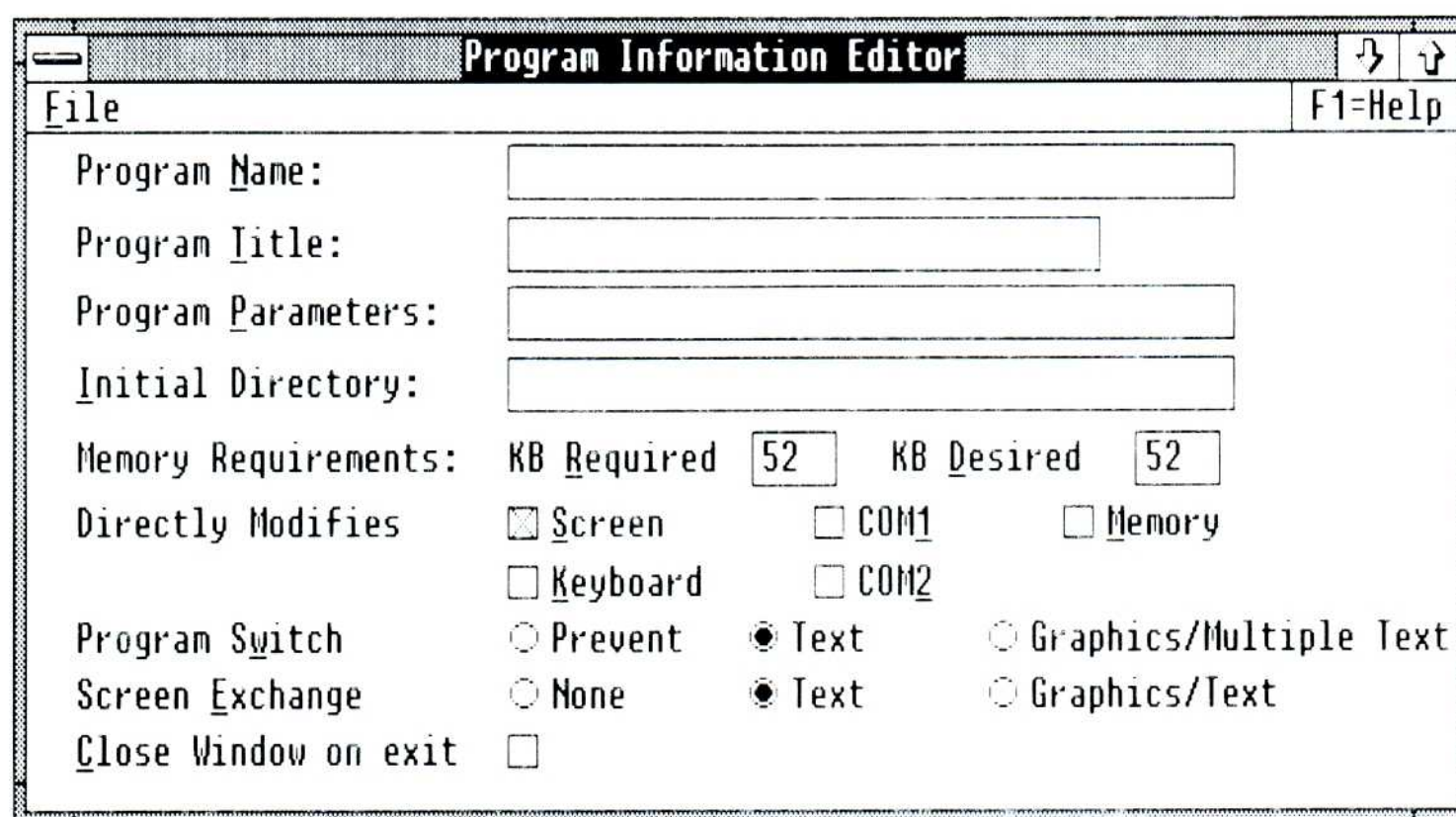
Creating a PIF File

In some cases, your application will not have a PIF file and you will need to create one. (Be sure to check the PIF directory to see if Windows has supplied a PIF file for your application.)

Creating PIF files

To create a new PIF file, follow these steps:

1. Start PIF Editor by running the PIFEDIT.EXE file from the MS-DOS Executive window. (The PIFEDIT.EXE program may be located in the PIF directory.) Your PIF Editor screen will look something like the following one.

```
┌─────────────────────────────────────────────────────────────────┐
│ ═        ▐ Program Information Editor▌                      ↴  ↳  │
│ File                                                       F1=Help│
│                                                                   │
│   Program Name:      [                              ]             │
│                                                                   │
│   Program Title:     [                              ]             │
│                                                                   │
│   Program Parameters:[                              ]             │
│                                                                   │
│   Initial Directory: [                              ]             │
│                                                                   │
│   Memory Requirements: KB Required [52]  KB Desired [52]          │
│   Directly Modifies    ☒ Screen      ☐ COM1      ☐ Memory         │
│                        ☐ Keyboard    ☐ COM2                       │
│   Program Switch       ○ Prevent  ⦿ Text    ○ Graphics/Multiple Text│
│   Screen Exchange      ○ None     ⦿ Text    ○ Graphics/Text       │
│   Close Window on exit ☐                                          │
└─────────────────────────────────────────────────────────────────┘
```

2. Type the application's filename in the Program Name text box. Include the original extension (.*exe,* .*com,* or .*bat*). If the application is in a subdirectory, type the full pathname including the drive letter, or make sure the directory is listed in your PATH variable.

3. Select the options or values that apply to the program. (For more information, see the section called "PIF File Options" later in this chapter.)

4. Select the File menu and choose the Save command to save the new PIF file.

To create another PIF file, do the following:

■ Select the File menu and choose the New command. This resets the PIF Editor screen.

Editing a PIF File

Usually you will not need to change the information in your PIF files unless you want to change the settings for a particular program. The following is a partial list of situations that would require editing an application's PIF file:

- You want to set up an application to run in a window.

- You want to give an application the maximum amount of available memory on your machine.

- An application is not running as expected. You want to increase the memory requirements to see if the program will run better.

- You want to free up more memory for running a large application by having Windows swap unused parts of the Windows program to the hard disk when the application is started.

- Your application is located in a subdirectory and the PIF file supplied for the application does not list the full pathname of the program. You need to change the pathname listed in the Program Name text box.

- You want to specify a program parameter or change the default directory that contains your application's data files.

Editing procedures for some of these situations are listed in the section called "Situations Requiring PIF File Changes" at the end of this chapter.

Before editing a PIF file, it is a good idea to make a backup copy of the original. If your edited file does not run as expected, you can go back to the original and start over.

To edit a PIF file, follow these steps:

1. Start PIF Editor by running the PIFEDIT.EXE program from the MS-DOS Executive window. (The PIFEDIT.EXE program may be located in the PIF directory.)

2. Select the File menu and choose the Open command. You will see a dialog box listing the available PIF files.

3. Select the filename or type it in the text box, then choose the Open button or press the ENTER key. If the filename is not listed, type the full pathname of the file in the text box. To open the file with a mouse, double-click the filename.

4. Change the options.

5. Select the File menu and choose the Save command to save your changes.

PIF File Options

The following sections describe the entries in a PIF Editor window.

Program information

About the Program   There are four entries for information about your application program:

- Program Name. Type the application's pathname, including the filename extension — for example, *a:dbase.com*.

- Program Title. Type a descriptive name that will appear in the window's title bar when you select the program's icon — for example, *IBM Writing Assistant*.

- Program Parameters. Type any parameters your program might need. These are the same parameters you would type after the application's filename when starting the program from outside Windows. For example, to run Microsoft Word in text mode, type */c*.

  If you want Windows to prompt you for parameters, type *?*. When you try to run or load the application from the MS-DOS Executive window, you will be prompted for the parameters. Parameters can be filenames, letters, numbers, or any type of information up to 62 characters. If your application requires no parameters, or if you are uncertain, leave this option blank. (You cannot use this entry to redirect I/O or to do piping.)

- Initial Directory. Type the drive and directory you want Windows to go to when the application is started. This is usually the location of the application's data files.

  Some programs require that certain files used by the program be located in the default directory. You should specify an initial directory for these programs to make certain the program can find the files.

Memory information

Memory Requirements   These two items describe the memory your application needs:

- KB Required. Type the minimum amount of memory in kilobytes (KB) that your application requires. Check the system requirements of your application. If you don't know how much is required, leave the default setting.

  If Windows cannot provide the specified amount of memory, and you are running other applications, you will see the message, "Not enough memory to run." You may need to close some applications before continuing.

If you have a hard disk, you may be able to free up additional memory by having Windows swap, or remove itself, temporarily from memory. See the section called "Situations Requiring PIF File Changes" at the end of this chapter for more information on freeing memory.

■ KB Desired. Type the maximum amount of memory your program can use. Some applications run more efficiently if more than minimal memory is provided.

If you leave this entry blank or type zero, Windows will allocate all available memory to the application.

If you enter − 1 in this field and the application is set up to run full-screen, Windows will attempt to swap itself to the hard disk to make room to run the application. (If any application is running that uses a communications port, Windows will not be able to swap the application or itself.)

Note Some utility programs that check available memory may not provide correct results when run from Windows. For example, DISKCOMP may give you the message "Not enough memory to run" when in fact, there is plenty of memory. If you see this message, close some applications and try again, or run the utility program from outside Windows.

Directly Modifies Many applications use system resources in ways that cannot be shared with other programs. In the following group, select any options that apply to your application:

System-resource information

■ Screen. Turn on this check box if the application writes directly to the screen buffer (video memory). Applications that display graphics are in this category. Such applications cannot be run in a window. Selecting this option will run the application full-screen. If you are uncertain, select this option.

■ Keyboard. Turn on this check box if your application uses the keyboard buffer. The keyboard buffer is the area where keystrokes are saved until they are processed.

Selecting this option prevents the application from running in a window or switching back to Windows when you press ALT + ESCAPE. This option also prevents you from using Control menu's Mark, Copy, and Paste commands. If you are uncertain, do not select this option.

■ COM1. Turn on this check box if your application uses serial communications port 1 (COM1). If you select this box, Windows cannot run any other application that uses COM1 until

you quit the first application. This prevents two applications from trying to use the same communications port at the same time.

Selecting this option also prevents the application from being swapped to the hard disk. Some programs must remain in memory at all times. Generally, you need to select this option only if you are running a communications application.

■ COM2. Turn on this check box if your application uses serial communications port 2 (COM2). If you select this box, Windows cannot run any other application that uses COM2 until you quit the first application. This prevents two applications from trying to use the same communications port at the same time.

Selecting this option also prevents the application from being swapped to the hard disk. Some programs must remain in memory at all times. Generally, you need to select this option only if you are running a communications application.

■ Memory. Turn on this check box if your application uses a memory-resident application (for example, Sidekick). These programs usually load and remain in memory, and are activated while other applications are running. If you are uncertain, do not select this box. For more information on this type of application, see the section called "Using Memory-Resident Applications" in Chapter 9, "Using Standard Applications."

You may wish to set this option in order to run a very large standard application. The option causes Windows to remove itself temporarily from memory to make room to run the program. To return to Windows, you must quit the application.

Selecting this option prevents data transfer to or from your application. You must close this application before switching to another.

Switching applications

Program Switch   If your application is running full-screen, the following options determine whether you can switch back to Windows by pressing ALT + ESCAPE. If you are uncertain which option to choose, choose Text.

■ Prevent. Select this option to conserve memory for the application, or if you find that Windows does not switch correctly. If you select this option, you must quit the application to return to Windows.

■ Text. Select this option if your application works in text mode only, or if it runs in text and graphics modes and you want to conserve memory. Windows will reserve four kilobytes to save the screen image.

If you select this option, you will be able to switch back to Windows only when the application is in text mode. If the application is in graphics mode, you must quit the program to return to Windows; Windows will beep when you press ALT + ESCAPE.

■ Graphics/Multiple Text. Select this option if your application works in graphics mode. If you select this option, Windows allocates extra memory (16–36K) for you to switch back to Windows when the application is in text or graphics mode.

You may not be able to switch from a standard application that uses high-resolution color modes because of the extensive memory that is required.

Screen Exchange   These options let you specify the kind of data exchange (text or graphics) between Clipboard and applications that require exclusive access to the screen. As described in the section called "Transferring Information" in Chapter 9, "Using Standard Applications," you press ALT + PRINTSCREEN to put "snapshots" of the screen on the Clipboard. This copies the entire screen and requires Windows to reserve memory to save the screen image. Text screens do not usually require much memory (two kilobytes). However, low-resolution graphics screens generally require up to 32K of memory. You should keep this in mind as you select options. If you are uncertain, choose Text.

Exchanging data using Clipboard

You cannot take a snapshot of a high-resolution color screen because of the extensive memory that is required.

■ None. Select this option to prevent any exchange of screen data between a full-screen application and Clipboard. This conserves memory.

■ Text. Select this option to allocate memory to take snapshots of text screens. If your application runs in a window, select the Text option.

■ Graphics/Text. Select this option to allocate memory to take snapshots of text and graphics screens.

Close Window on Exit   This option closes the standard application window when you exit the program, rather than leaving information on the screen.

Closing a window

Default settings

Default Settings

If you run an application and Windows cannot find a PIF file, Windows uses the following settings:

- Program Title: Ignored
- Initial Directory: Ignored
- Memory Required (KB): 52
- Memory Desired (KB): All available memory
- Directly Modifies: Screen
- Program Switch: Prevent
- Screen Exchange: Text
- Close Window on Exit: Does not close

Be aware that using the default settings for a PIF file may cause problems with some programs. For example, some programs may need an initial directory to run properly. Also, remember that since Program Switch is set to Prevent, you cannot switch from your application to Windows by pressing ALT + ESCAPE.

Situations Requiring PIF File Changes

The following are procedures for some common situations in which you should edit your application's PIF file. See the section called "Editing PIF Files" earlier in this chapter to learn how to use PIF Editor to open a PIF file for editing.

Listing a Pathname for an Application

When an application is located in a subdirectory, the PIF file that is supplied with Windows will probably not list the full pathname of the program. For example, the PIF file for Microsoft Chart lists CHART.EXE as the program name, yet you may have CHART.EXE in a directory called CHART. You need to change the program name to include the full pathname: \CHART\CHART.EXE.

Changing a pathname listing

To edit the PIF file, follow these steps:

1. Use PIF Editor to open the PIF file.
2. Type the full pathname of the application in the Program Name text box.
3. Select the File menu and choose the Save command to save your changes.

Setting Up an Application to Run in a Window

Some applications have installation instructions that allow you to set them up to run with Windows, IBM TopView, or an ANSI device driver (ANSI.SYS). If the program offers any of these options, you usually can run it in a window.

To run an application in a window, follow these steps:

1. Use PIF Editor to open the PIF file.
2. Turn off the Directly Modifies Screen check box.
3. Select the File menu and choose the Save command to save your changes.

Do this for all related .COM or .EXE files included in the application.

Running an application in a window

Freeing up Additional Memory

You can instruct Windows to swap, or temporarily remove itself, from memory when you run a standard application. This frees additional memory that can be used for the application. You must have a hard disk for Windows to swap to.

To allow Windows to swap, follow these steps:

1. Use PIF Editor to open the PIF file.
2. Set KB Desired to -1.
3. Select the File menu and choose the Save command to save your changes.

Swapping

Note This swapping may not occur if you are running a Windows application that uses a communications port (for example, Terminal). When Windows tries to swap itself to the hard disk, any applications that are running are suspended. Swapping is prevented in order to avoid problems with applications that use communications ports.

Giving an Application All Available Memory

At times, you may want to give an application the maximum amount of available memory so it will run better with Windows.

Changing available memory

To change the amount of available memory, follow these steps:

1. Use PIF Editor to open the PIF file.
2. Change the amount in the KB Required option by typing *640* (or set the Directly Modifies Memory check box).
3. Select None from the Screen Exchange options.
4. Select the File menu and choose the Save command to save your changes.
5. Close all other applications except MS-DOS Executive and run the application.

Getting Help with PIF Files

You can get on-line information about PIF files or about using PIF Editor.

Getting help information

To read help information, follow these steps:

1. Press the F1 function key or click F1 = Help in the menu bar.
2. Select a topic, then choose the Help button.

11 Commands

This chapter describes the commands you use to manipulate windows, to work with files, to adjust your system settings, and to print files. The command summaries are organized by menu; they describe the functions of the commands in the Control menu, MS-DOS Executive, Control Panel, and Spooler.

For details on procedures for these commands, see Chapter 4, "Techniques"; Chapter 5, "Using MS-DOS Executive"; Chapter 7, "Using Control Panel"; and Chapter 8, "Using Spooler."
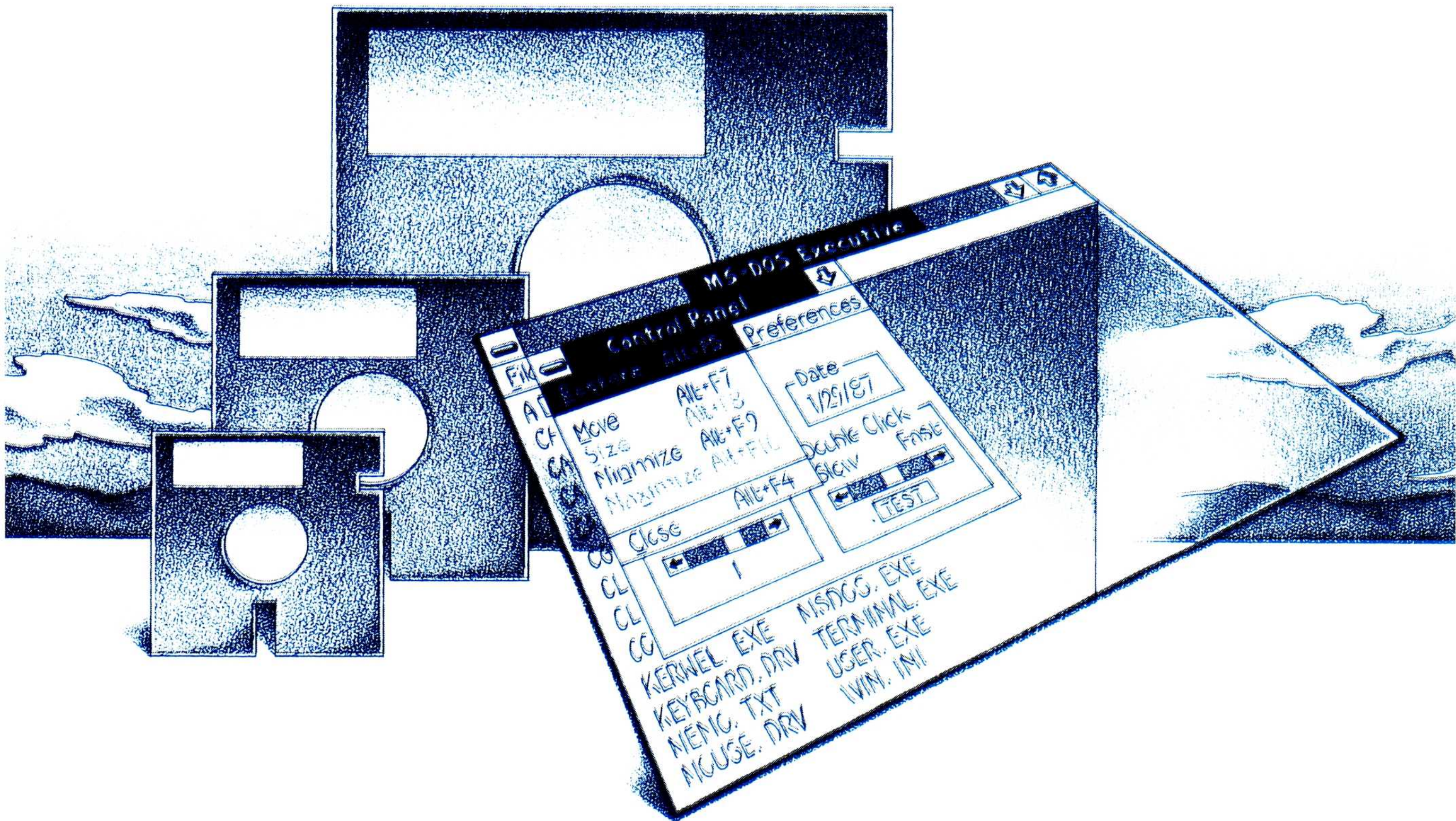
Restore	Alt+F5
Move	Alt+F7
Size	Alt+F8
Minimize	Alt+F9
Maximize	Alt+F10
Close	Alt+F4

The Control Menu

The Control menu is common to all moveable, sizeable windows. It provides commands that you can use to control the size and position of the window. A Control menu is also displayed in some standard DOS applications when they are run full-screen with Windows.

Note   Your application may append additional commands to the Control menu. See your application manual for details on these commands. Chapter 9, "Using Standard Applications," contains information on standard commands that an application might append.

Restore   The Restore command restores a window to the size it was before it was either enlarged to its maximum size or shrunk to an icon.

Move   The Move command lets you move a window to another position on the screen.

Size   The Size command lets you change the size of a window.

Minimize   The Minimize command shrinks the selected window to an icon.

Maximize   The Maximize command enlarges the selected window to its maximum size (the size depends on the application).

Close   The Close command closes the application window. If you close the last or main window of an application, it may also cause you to exit from the program.

MS-DOS Executive

The MS-DOS Executive window runs automatically when you start Windows. You need to use the MS-DOS Executive commands whenever you want to run an application, end a Windows session, or manage your files. See Chapter 5, "Using MS-DOS Executive," for more detailed information.

The File Menu

```
┌─────────────────────────┐
│ File                    │
├─────────────────────────┤
│ Run...                  │
│ Load...                 │
│ Copy...                 │
│ Get Info                │
│ Delete...               │
│ Print...                │
│ Rename...               │
├─────────────────────────┤
│ Exit                    │
│ About MS-DOS Exec...    │
└─────────────────────────┘
```

Run   The Run command runs an application, or a program you have written. Use the Run command when you need to provide additional information, such as a pathname or volume name, for a program in order to run it.

Load   The Load command starts an application as an icon in the lower-left corner of your screen, instead of automatically running the application in a window.

Copy   The Copy command copies one or more files to a different directory or disk. You can also use it to copy a single file to a different filename.

Get Info   The Get Info command displays the selected file's name and extension, its size in bytes, and the date and time the file was created or most recently changed.

Delete   The Delete command deletes the selected file, files, or directory.

Print   The Print command prints the selected file or directory listing on your printer.

Rename   The Rename command lets you change the name of a selected file.

Exit   The Exit command quits MS-DOS Executive. If there are no other MS-DOS Executive windows open, the Exit command also ends your Windows session. You will see a dialog box asking you to confirm that you want to end the session.

About MS-DOS Executive   The About MS-DOS Executive command displays version and copyright information about Windows and shows the amount of space currently available to the system.

The View Menu

```
┌─────────────────┐
│ View            │
├─────────────────┤
│ √Short          │
│  Long           │
├─────────────────┤
│ √All            │
│  Partial...     │
│  Programs       │
├─────────────────┤
│ √By Name        │
│  By Date        │
│  By Size        │
│  By Kind        │
└─────────────────┘
```
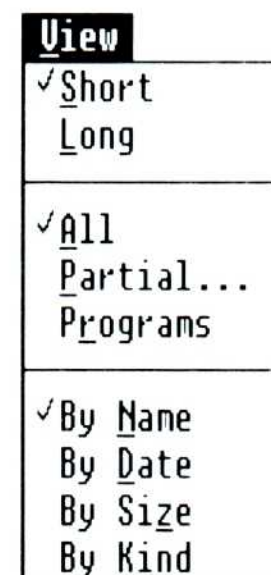
The View-menu commands let you change the way you display the directory listing. Checkmarks show which commands are active. You can select one style characteristic from each group.

Short   This is the default. The Short command displays a directory listing horizontally, by filename only.

Long   The Long command displays a directory listing in one long column, with name, extension, size in bytes, and date and time last changed for each file listed. The information by which the files are sorted (name, date, size, or kind) appears in bold.

All   This is the default. The All command specifies that all the files in a directory be listed.

Partial   The Partial command lets you specify which files should appear in a directory listing. For example, you could list all files having the .MSP extension by typing *.*msp* in the text box.

Programs   The Programs command specifies that only program files will be displayed in a directory listing — these files have .EXE, .COM, or .BAT extensions.

By Name   This is the default. The By Name command sorts a directory listing alphabetically by filename.

By Date   The By Date command sorts a directory listing by the date and time each file was created or most recently changed, listing the most recent first.

By Size   The By Size command sorts a directory listing according to each file's size in bytes, from largest to smallest.

By Kind   The By Kind command sorts a directory listing alphabetically by filename extension. Files with the same extension are sorted alphabetically by name.

The Special Menu

```
Special
End Session
Create Directory...
Change Directory...
Format Data Disk...
Make System Disk...
Set Volume Name...
```

End Session   The End Session command ends your Windows session. You do not need to shrink the windows that are expanded or close the applications that are running before you choose the End Session command.

Create Directory   The Create Directory command lets you create a new directory.

Change Directory   The Change Directory command lets you change directories.

To move to a higher-level directory with a mouse, double-click the section of the pathname (near the top of the MS-DOS Executive window) that you want to go to.

Format Data Disk   The Format Data Disk command lets you format a data disk from the MS-DOS Executive window.

Make System Disk   The Make System Disk command lets you create a bootable disk (containing the DOS system files) from the MS-DOS Executive window.

Set Volume Name   The Set Volume Name command lets you give the current disk a descriptive name to identify its contents.

Control Panel

Control Panel controls some system settings. Most changes made with Control Panel are reflected in the WIN.INI file (described in Appendix A, "Customizing Your WIN.INI File"). See Chapter 7, "Using Control Panel," for more detailed information.

The Installation Menu

```
┌─────────────────────────┐
│ Installation            │
├─────────────────────────┤
│ Add New Printer...      │
│ Delete Printer...       │
│ Add New Font...         │
│ Delete Font...          │
├─────────────────────────┤
│ Exit                    │
│ About Control Panel...  │
└─────────────────────────┘
```

The Installation-menu commands let you add or remove a printer or font without rerunning the Setup program.

Add New Printer   The Add New Printer command adds a printer to your system by adding a printer-driver file to the specified disk or directory.

Delete Printer   The Delete Printer command removes a printer you have already set up.

Add New Font   The Add New Font command adds a font to your system by adding a new font file to the specified disk or directory.

Delete Font   The Delete Font command removes a font you have already set up.

Exit   The Exit command quits Control Panel and removes the program from system memory.

About Control Panel   The About Control Panel command displays version and copyright information about the Control Panel program.

The Setup Menu

```
┌──────────────────────────┐
│ Setup                    │
├──────────────────────────┤
│ Connections...           │
│ Printer...               │
│ Communications Port...   │
└──────────────────────────┘
```

The Setup-menu commands let you change printer-port assignments, set the system default printer and specify its output modes, and set up serial communications ports.

Connections   The Connections command lets you assign or change printer ports.

Printer   The Printer command lets you specify a default printer. This command also displays dialog boxes for additional information that a printer might require (type of paper, for example).

Communications Port   The Communications Port command lets you specify a serial communications port and select parameters, such as baud rate, word length, parity, and stop bits.

```
Preferences
Screen Colors...
Border Width...
Warning Beep
Mouse...
Country Settings...
```

The Preferences Menu

The Preferences-menu commands let you control screen colors.

Screen Colors   The Screen Colors command lets you specify color adjustments to your screen.

Border Width   The Border Width command lets you specify how wide the window borders will be. After you type a number and confirm it by choosing the OK button, all the windows on the screen are redrawn with the new border width.

Warning Beep   The Warning Beep command lets you turn on or off the beep that sounds in response to an invalid keystroke or mouse click. When a checkmark appears next to the command, the system beep is on. When no checkmark appears, the beep is off.

Mouse   The Mouse command lets you switch usage between the left and right mouse buttons. It also lets you control the mouse acceleration speed (how fast the mouse pointer moves).

Country Settings   The Country Settings command lets you set variables (such as the formats for date, number, and time) for a particular country.

Spooler

Spooler controls the printing of files. For more information on Spooler, see Chapter 8, "Using Spooler."

```
Priority
√Low
 High

 Exit
 About Spooler...
```

The Priority Menu

Low   The Low command prints your file more slowly and frees computer resources for other applications you are working with.

High   The High command speeds up your printing job. It uses more system resources for printing, so other applications will run more slowly.

Exit   The Exit command stops the Spooler program. If there are any print jobs still in the queue, you will see a message warning you that they will be terminated. You can either confirm or cancel the Exit command.

About Spooler   The About Spooler command displays version and copyright information about the Spooler program.

The Queue Menu

```
Queue
 Pause
 Resume

 Terminate
```

Pause   The Pause command temporarily halts the job that is printing.

Resume   The Resume command restarts printing of a job that was halted with the Pause command.

Terminate   The Terminate command cancels a job that is printing or that is in the queue.

Appendix A
Customizing Your WIN.INI File

Your WIN.INI file contains settings for many Microsoft Windows features and Windows applications. Windows checks the WIN.INI file and uses the settings it finds there every time you start Windows. When you make changes to these settings by using Control Panel, the WIN.INI file is automatically updated to reflect the changes.

You'll rarely need to work directly in your WIN.INI file to make changes; the instructions in this appendix are provided primarily for special system customization. The settings in your WIN.INI file may differ from those shown here.

Since Windows keeps important system settings in the WIN.INI file, you should edit it carefully. Before you attempt to modify the file, make a backup copy; if you find that Windows does not run properly with the modified WIN.INI file, you can revert to your backup copy.

Changes you make directly to WIN.INI do not take effect until Windows is restarted. To make the changes effective immediately, quit Windows, then start it again.

Editing Your WIN.INI File

You can make changes directly to your WIN.INI file by using Notepad. See the *Microsoft Windows Desktop Applications User's Guide* for information on using Notepad.

When you open WIN.INI from Notepad, you will see a series of sections that appear in the following format:

[section name]
keyword1 = **setting1 setting2** ...
keyword2 = **setting1 setting2** ...

Changing WIN.INI settings

To change WIN.INI settings and make them effective immediately, follow these steps:

☐ Open WIN.INI from Notepad.
② Locate the settings you want to change and edit them.
③ Save WIN.INI.
④ Quit and restart Windows.

Note   You can also edit WIN.INI from another word-processing application. When you save WIN.INI, be sure to save it as an ASCII text file (unformatted). Windows will open a formatted text file but may not be able to properly read it.

Using the Setup Program

Retaining settings in the WIN.INI file

At times you may need to run the Setup program again; for example, you will need to do so if you add new hardware such as a mouse or a graphics card, or if you update Windows. Windows is designed so that when you run Setup, your existing WIN.INI file is not automatically replaced. However, you may want to use some information from the new WIN.INI file (the file that would be created if you were running Setup for the first time). Here's how to save information you need from your old WIN.INI file and combine it with information from a new WIN.INI file:

① Make a copy of your old WIN.INI file and rename it WIN.OLD.
② Delete your old WIN.INI file, then run Setup to reinstall the Windows software.
③ Using Notepad or another text editor, copy the sections of your new WIN.INI file that you want to keep into your WIN.OLD file.
④ Delete your new WIN.INI file and rename WIN.OLD as WIN.INI.
⑤ Quit and restart Windows.

Settings in [Windows]

The [windows] section of WIN.INI contains the following settings:

- Spooler use
- Double-click speed
- Cursor-blink rate
- Programs listed in MS-DOS Executive's directory listing
- Applications that are run automatically when Windows is started
- System default printer selection
- Mouse options
- Printer-problem message delay

Windows automatically modifies the blink rate and double-click speed in WIN.INI any time you change these settings in the Control Panel window. It is easier to change these settings by using Control Panel than by editing WIN.INI. See Chapter 7, "Using Control Panel," for more information.

The following settings are typical for the [windows] section in WIN.INI.

Settings in [windows]

```
[windows]
spooler=yes
DoubleClickSpeed=500
CursorBlinkRate=817
programs=com exe bat
NullPort=none
load=
run=
device=PCL/LaserJet,HPPCL,LPT1:
SwapMouseButtons=No
xMouseThreshold=2
yMouseThreshold=2
MouseSpeed=1
beep=yes
BorderWidth=5
DeviceNotSelectedTimeout=15
TransmissionRetryTimeout=45
```

In the actual WIN.INI file, entries are often separated by comment lines (any line beginning with a semicolon). The comment lines explain how to use the setting.

The numbers that follow the equal sign in the DoubleClickSpeed and CursorBlinkRate settings are read by Windows as milliseconds, and can range from 0 to 65535. The higher the number, the slower the rate. The device entry indicates the default printer (or plotter), the device's printer-driver filename, and the device's default port.

Printing Without the Spooler

Windows is designed to print files by using the Spooler program. You can print from a Windows application without using Spooler by editing the spooler= line in the [windows] section. Printing without Spooler may be preferable when running Windows on a two-drive system since it conserves disk space. However, printing without Spooler slows down Windows' ability to work with other applications while you are printing files.

When you first set up Windows, the spooler= line looks like the following example.

```
spooler=yes
```

Changing the spooler= line

To print without Spooler, follow this step:

▣ Change the spooler= line from yes to no.

Changing MS-DOS Executive's Programs Listing

When you choose the View menu's Programs command in MS-DOS Executive, only files having the .EXE, .COM, and .BAT extensions are listed. You can add or delete types of files shown by the Programs command by editing the programs= line in the [windows] section.

After you run Setup, your initial settings for the programs= line look like the following example.

```
programs=com exe bat
```

You may want to have other types of files listed, for example, files with the .PIF extension. To change the programs= setting, follow this step:

■ Type the filename extension in the programs= line. Do not type a period before the extension. Be sure to include a space between filename extensions.

Starting Applications Automatically as Icons

MS-DOS Executive runs in a window automatically when you start Windows. You can have Windows automatically start other applications as icons by editing the load= line in the [windows] section. When you first set up Windows, the load= line is blank.

To add applications to the load= line, follow this step:

■ Type the filenames of the applications you want Windows to start automatically as icons. The applications will have either a .EXE, .COM, or .BAT filename extension, but you do not need to type the extension. Filenames can be up to eight characters in length. Be sure to include a space or a comma between the filenames.

For example, the following entry runs Clock, Control Panel, and Clipboard as icons whenever you start a Windows session.

```
load=clock control clipbrd
```

If the filename that follows the equal sign in the load setting does not represent an application, you must also include the file's extension. Make sure that the file's extension is included as an entry in the [extensions] section of your WIN.INI file. For more information, see the section called "Settings in [Extensions]" later in this chapter.

For example, if you have a Notepad text file of on-going activities that you want to update at the beginning of every Windows session, you would need to put the complete filename into the load= line, as shown in the following entry.

```
load=ongoing.txt
```

When you provide only a filename in the load= line, Windows searches the current drive and directory for the file. If the file is not in your current drive or directory, you need to type a pathname as the load= entry.

Note Do not list any applications that require a large amount of memory or memory-resident applications in the load= line. For more information on these applications, see Chapter 9, "Using Standard Applications."

Starting Applications as Windows

In addition to having some applications start as icons, you can have Windows automatically start some applications as windows. To do this, you add the appropriate filenames to the run= line in the [windows] section of the WIN.INI file. The instructions for adding filenames to the run= line are the same as those for adding filenames to the run= line.

Adding applications to the run= line

To add applications to the run= line, follow this step:

■ Type the filenames of the applications that you want Windows to automatically start as windows. The applications will have either a .EXE, .COM, or .BAT filename extension, but you do not need to type the extension. Filenames can be up to eight characters in length. Be sure to include a space or a comma between the filenames.

For example, the following setting runs Clock, Control Panel, and Clipboard as windows whenever you start a Windows session.

```
run=clock,control,clipbrd
```

If the filename that follows the equal sign in the load setting does not represent an application, you must also include the file's extension. Make sure that the file's extension is included as an entry in the [extensions] section of your WIN.INI file. For more information, see the section called "Settings in [Extensions]" later in this chapter.

When you provide only a filename in the run= line, Windows searches the current drive and directory for the file. If the file is not in your current drive or directory, you need to type a pathname as the run= entry.

Note   Do not list any applications that require a large amount of memory or memory-resident applications in the run= line. For more information on these applications, see Chapter 9, "Using Standard Applications."

Changing Mouse Options

Several of the settings in the [windows] section affect the mouse. In Control Panel, you can adjust the mouse settings by using the Preferences menu's Mouse command. The following settings are the defaults.

Adjusting mouse settings

```
SwapMouseButtons=No
xMouseThreshold=2
yMouseThreshold=2
MouseSpeed=1
```

The SwapMouseButtons entry switches the mouse-button function from the left to the right button or vice versa.

The xMouseThreshold=, yMouseThreshold=, and MouseSpeed= settings let you change the speed at which the mouse pointer moves across the screen.

The values of xMouseThreshold and yMouseThreshold set a number of pixels horizontally and vertically. If the mouse movement doesn't exceed these values, there is a one-to-one correspondence between the movement of the mouse pointer and the mouse itself. If the mouse movement exceeds the values, then the mouse-pointer speed equals 2 raised to the power of the MouseSpeed value. The default value of MouseSpeed is 1.

Setting the Warning Beep

The beep= line sets the warning beep that sounds when you press the wrong key or select the wrong option. When you set up Windows, the beep option is active. The setting in the [windows] section of the WIN.INI file looks like the following entry.

Adjusting the warning beep

```
beep=yes
```

You can turn this feature off by changing the line in the WIN.INI file to beep=no.

In Control Panel, you can use the Preferences menu's Warning Beep command to turn the feature off or on.

Changing the Width of the Window Border

Adjusting the window border width

The BorderWidth= line specifies the window border width. The default value is 5. When you set up Windows, the setting in the [windows] section looks like the following entry.

```
BorderWidth=5
```

Higher values correspond to wider borders; smaller values to narrower borders. You can set the border width to any integer value between 1 and 50. In Control Panel, you can change this setting by using the Preferences menu's Border Width command.

Setting the Printing-Problem Message Delay

Adjusting the printing message delay

There are two additional settings in the [windows] section that affect printing: DeviceNotSelectedTimeout= and Transmission-RetryTimeout=. These settings determine the number of seconds allowed to correct printing problems before Windows sends you a message about the problem. The default settings are shown in the following example.

```
DeviceNotSelectedTimeout=15
TransmissionRetryTimeout=45
```

The DeviceNotSelectedTimeout= setting specifies the amount of time that passes before you see a message stating that the printer is off-line.

The TransmissionRetryTimeout= setting specifies the amount of time that passes before you see a message stating that the device isn't ready. This message may be displayed under various circumstances and means that the printer is not reading the characters that it is being sent.

In Control Panel, you can adjust these settings by using the Setup menu's Printer command.

Settings in [Extensions]

Many applications supply a filename extension to the files you create with them. For example, Cardfile appends the extension .CRD to the files you create with it. Windows puts this extension information in the [extensions] section in the WIN.INI file.

Specifying filename extensions

This makes it possible for you to start an application by opening one of the files you've created with it.

The following entries are a typical list of settings in [extensions].

```
[extensions]
cal=calendar.exe ^.cal
crd=cardfile.exe ^.crd
trm=terminal.exe ^.trm
txt=notepad.exe ^.txt
```

You can increase the number of extensions associated with an application by adding entries to the [extensions] section. For example, if you want to be able to open files that have the extension .ASM from Notepad (or open a .ASM file and start Notepad at the same time), you'd type the entry *asm = notepad.exe ^.asm* on its own line.

When you provide only a filename in an entry, Windows searches the current drive and directory for the file. If the file is not in your current drive or directory, you need to type a pathname in the entry instead of just a filename.

Settings in [Colors]

The entries in the [colors] section of WIN.INI reflect the color settings of various parts of the Windows screen. In Control Panel, you can adjust these settings by using the Preferences menu's Screen Colors command. The following entries are typical settings.

Screen-color settings

```
[colors]
Window=255 255 255
WindowText=0 0 0
Menu=255 255 255
MenuText=0 0 0
WindowFrame=0 0 0
TitleText=255 255 255
ActiveTitle=0 0 0
InactiveTitle=128 128 128
Scrollbar=192 192 192
Background=127 127 127
AppWorkSpace=191 191 191
ActiveBorder=127 127 127
InactiveBorder=127 127 127
```

The three numbers on the right represent RGB (red, green, and blue) settings respectively from 0 to 255. Zero represents no color (black); 255 represents fully saturated color.

Settings in [Pif]

In the [pif] section of WIN.INI, you can specify memory size for standard applications that you run in a window. You can also use this section to list information Windows will use when swapping applications to a disk. When Windows swaps an application, it temporarily transfers it from system memory to a disk.

To set the memory size for a standard application, you list the application in the [pif] section of WIN.INI, as described in the following section. By doing so, you can specify the amount of memory you want the application to use without having to create a PIF file. To run the program, Windows combines the memory setting you listed with a group of default settings. For more information on creating and using PIF files, see Chapter 9, "Using Standard Applications."

Note   You can create PIF settings in WIN.INI only for programs that you are running in a window.

Creating a [Pif] Entry

To create a [pif] entry for an application, follow these steps:

1. Type *[pif]* on an empty line to create the [pif] section. This entry indicates that the lines in the section contain program information.

2. On the next line, type the name of the program, followed by an equal sign, then the amount of memory (in kilobytes) required to run the application. You can find the memory requirements for your application in the application's manual.

For example, if you wanted to create entries for COMMAND.COM, CHKDSK, and EDLIN, the [pif] section of your WIN.INI file would look like the following example.

```
[pif]
command.com=32
chkdsk.com=52
edlin.com=64
```

Once you create a [pif] entry for a program, Windows uses the following default settings:

- Program Title: Filename without extension
- Initial Directory: Ignored
- Parameters: Ignored
- Memory Required: Specified in the [pif] entry as described previously
- Memory Desired: Same as Memory Required
- Directly Modifies: None

Specifying Swapping Information

The [pif] section in the WIN.INI file also lists the information that Windows uses when swapping applications to a disk (see Chapter 9, "Using Standard Applications," for more information).

The swapdisk= and swapsize= settings determine where Windows swaps an application and what the minimum swap space

should be. When you set up Windows, the initial settings look like the following entries.

```
swapdisk=?
swapsize=0
```

Changing the swapdisk= line

You can modify the swapdisk= line to change how Windows swaps programs to a disk. The swapdisk= setting has the following form:

swapdisk = **drive**:

This setting causes Windows to swap to the root (\) directory of the given drive.

If you don't use the swapdisk= line in WIN.INI, Windows automatically swaps to the drive and directory specified by the TEMP environment variable. You can edit the WIN.INI file to list the drive that contains your TEMP directory (for example, *swapdisk* = *c:*). If no TEMP directory is defined by the TEMP environment variable, Windows swaps to the first hard disk in your system. For more information on creating a TEMP directory, see Chapter 5, "Using MS-DOS Executive."

Note Do not set a floppy-disk drive as the swap disk.

Using expanded memory

If your computer has expanded memory, you can edit the swapdisk= line to take advantage of it. For more information on using expanded memory, see Appendix E, "Special Notes on Running Windows." To swap to expanded memory, change the swapdisk= entry to the following line.

```
swapdisk=? /e
```

If there is a shortage of expanded memory, Windows swaps to the drive specified in the TEMP environment variable. You can also use the /E option when swapdisk= is set to a drive; for example, *swapdisk* = *c:* /e. If there is no expanded memory available, Windows swaps to the TEMP directory or, if no TEMP directory is defined, to the root directory on the drive.

The setting swapdisk=0 disables swapping completely.

When swapping applications, Windows allocates the amount of memory reserved for swapping based on the first application that is swapped. If swapsize = 0 (the default setting), Windows will set the swapping size to the size of the first application that you run that can be swapped. For this reason, you achieve best performance by running the largest program first.

Changing the swapsize = line

If you want to reserve a minimum amount of memory for swapping, you can change the swapsize = entry to the preferred size in kilobytes. You should reserve the program size and a 2K overhead for saving information about the application's current state.

Settings in [Intl]

The [intl] section in your WIN.INI file contains information about formats for numbers, currencies, time, dates, and measures for the particular country that Windows is installed for on your machine. For example, the [intl] settings for the United States might look something like the following entries.

Country settings

```
[intl]
iCountry=0
iDate=0
iCurrency=0
iDigits=2
iTime=0
iLzero=0
s1159=AM
s2359=PM
sCurrency=$
sThousand=,
sDecimal=.
sDate=/
sTime=:
sList=,
dialog=yes
```

In Control Panel, you change the entries in the [intl] section by using the Preferences menu's Country Settings command. You most likely would edit these settings to supply information for a country not shown in the Country Settings dialog box.

The following list describes the entries in the [intl] section of WIN.INI:

Setting	Description
iCountry=	Country code; see your DOS manual for details
iDate=	0 for mdy (month, day, year), 1 for dmy, 2 for ymd
iCurrency=	0 for currency-symbol prefix, no separation
	1 for currency-symbol suffix, no separation
	2 for currency-symbol prefix, one-character separation
	3 for currency-symbol suffix, one-character separation
iDigits=	Number of significant decimal digits in currency
iTime=	0 for 12-hour clock, 1 for 24-hour clock
iLzero=	0 for no leading zeros, 1 for leading zeros
s1159=	Trailing string from 0:00 to 11:59
s2359=	Trailing string from 12:00 to 23:59
sCurrency=	Currency-symbol string
sThousand=	Thousands-separator string
sDecimal=	Decimal-separator string
sDate=	Date-separator string
sTime=	Time-separator string
sList=	List-separator string
dialog=	Always select yes. This adds the Country Settings command to the Preferences menu.

Settings in [Ports]

Port settings

This section of WIN.INI lists the ports available for your system. A typical port setting might look like the following example.

```
[ports]
LPT1:=
LTP2:=
COM1:=9600,n,8,1,p
COM2:=
```

The values to the right of the COM1:= entry represent Baud Rate, Parity, Word Length, and Stop Bits options, in that order. See your DOS manual for an explanation of these options.

The information in the [ports] section is automatically entered in WIN.INI when you run Setup. In Control Panel, you can change these entries by choosing commands from the Setup menu.

Sending Printer Output to a File

You can send printer (or plotter) output to a file rather than to the printer by adding the file's name to the [ports] section. This is useful if you want to format a document for a printer that you do not have on your system (you don't need to have the printer to use its printer-driver file). For example, in the following [ports] section, the line OUTPUT.PRN= has been added so that output can be sent to the OUTPUT.PRN file.

```
[ports]
LPT1:=
LTP2:=
COM1:=9600,n,8,1
COM2:=9600,n,8,1
OUTPUT.PRN=
```

To send printer output to a file, follow these steps:

Sending printer output to a file

1. Add the filename to the [ports] sections of your WIN.INI file.
2. Quit and restart Windows.
3. Run Control Panel.
4. Select the Setup menu and choose the Connections command. A dialog box appears. The filename you added to WIN.INI is displayed with the other ports in the Connections list box.
5. In the Printer list box, select the printer on which you eventually want to print the file.
6. Select the filename in the Connections list box.
7. Choose the OK button.

You can list up to eight entries (including your normal port listings) in the [ports] section. Each time that you send printer output to the file, the information that was previously in the file is overwritten.

Settings in [Devices]

Device settings

The [devices] section in WIN.INI lists your system's output (printing) devices and their printer-driver files and port connections. The settings in [devices] are set when you run the Setup program and can be reset in Control Panel by using the Setup menu commands.

A typical [devices] section looks like the following entries.

```
[devices]
PCL/LaserJet=HPPCL,LPT1:
Postscript Printer=PSCRIPT,LPT2:
```

The left side of the setting specifies the printer name, and the right side specifies the device's printer-driver file and port (if one is assigned).

Settings in [Fonts]

Font settings

The fonts available on your system are listed in the [fonts] section of the WIN.INI file. In the following example of a [fonts] section entry, italics represent characters to be typed exactly as shown and bold represents placeholders whose actual names or numbers you must supply. The format of an entry is as follows:

fontname pointsize(s) *(Set* **#number)** = **font filename**

The following line is a typical [fonts] entry.

```
Courier 8,10,12 (Set #2)=coura
```

In Control Panel, you can add and delete fonts by using commands from the Installation menu.

Appendix B
System Messages

This appendix describes the messages that may appear with Microsoft Windows in the middle of your window or MS-DOS Executive screen. Messages are divided into two sections: those that are generated by Windows and those that are generated by MS-DOS Executive. The messages are listed alphabetically within each section.

Many of the messages appear in dialog boxes that have an OK and a Cancel button. Choose OK to make the dialog box and the message disappear before you proceed. Some dialog boxes include a Retry button. Choose this if you want to try the operation again.

Windows Messages

Cannot find *program*. Please insert in drive *d*
■ *Windows needs a program or file that is not on the disk in the active drive.*
Insert the specified disk and choose the OK button.

Cannot read from device *device*
■ *Windows is unable to read from the specified DOS device.*
The specified device was not available for input. Be sure the device is properly set up (and if appropriate, turned on). Choose the Retry button to try the operation again, or the Cancel button to end the operation. Check your DOS manual for further information about device names and errors.

Cannot read from drive *d*
■ *There is no disk in the specified drive.*
Insert a disk in the specified drive. Choose the Retry button to try the operation again.

■ *The disk-drive door may be open or the disk may not be inserted properly (if a floppy-disk drive is specified).*
Check to be sure the disk is inserted properly. Choose the Retry button to try the operation again.

■ *Windows could not read the disk in the drive you specified. The disk may be defective, damaged, or unformatted.*
Choose the Retry button to try the operation again. If you continue to receive this message, choose the Cancel button. You may want to run the DOS CHKDSK program to check the disk. For more information on CHKDSK, see Appendix E, "Special Notes on Running Windows." See your DOS manual for details about disk errors.

Cannot write to device *device*

■ *Windows is unable to write to the specified DOS device.*
The specified device was not available for output. Be sure the device is properly set up (and if appropriate, turned on). Choose the Retry button to try the operation again, or the Cancel button to end the operation. Check your DOS manual for further information about device names and errors.

Cannot write to drive *d*

■ *There is no disk in the specified drive.*
Insert a disk in the specified drive. Choose the Retry button to try the operation again.

■ *The disk-drive door may be open, or the disk may be improperly inserted (if a floppy-disk drive is specified).*
Check to be sure the disk is inserted properly. Choose the Retry button to try the operation again.

■ *Windows could not write to the disk in the drive you specified. The disk may be defective, damaged, or unformatted.*
Choose the Retry button to try the operation again. If you continue to receive the message, choose the Cancel button. You may want to run the DOS CHKDSK program to check the disk. For more information on CHKDSK, see Appendix E, "Special Notes on Running Windows." See your DOS manual for details about disk errors.

No appropriate data in Clipboard

■ *You have attempted to paste data from the Clipboard into a standard application; however, the data on the Clipboard are not transferrable (they may be graphics).*
Verify that the data you are attempting to paste are not graphics (graphics cannot be pasted into a standard application).

Not enough memory for Clipboard

■ *You have too many applications running in Windows.*
Close some applications. You could also try reducing the amount in the Memory Required option in the application's PIF file. Then try to run your application again.

Printer not ready

■ *The printer may be out of paper or the printer is not on.*
Be sure the printer paper is properly installed and that the printer is connected and turned on.

Write protected disk in drive *d*

■ *The disk in drive* d *is write-protected.*
To write to this disk, remove the write-protect tab and choose the Retry button. Otherwise, choose the Cancel button.

MS-DOS Executive Messages

Application still active

■ *A standard application is still open. This message will appear if you attempt to end the Windows session while a standard application is still running.*
Quit any standard applications that may be running. Use the application's quit or exit command.

Cannot change directory to *name*

■ *You have specified a filename instead of a directory name.*
Select or type a directory name, then retry the Change Directory command.

Cannot copy file to itself

■ *You have attempted to copy a file to the same filename on the same disk or in the same directory. This is not allowed because it would destroy the file.*
Copy the file again, specifying a different filename.

Cannot copy more than one file to a single file

■ *You have selected more than one filename and specified a single file as the destination.*
Select the file you want to copy and start again. To copy multiple files, specify a directory to copy them into.

Cannot create directory *directory name*

- *You tried to create a directory using a name that already exists in the current directory.*
  Retry the command with a unique directory name.

- *You tried to create a directory on a disk that is write-protected.*
  Remove the write-protection tab, then retry the command.

Cannot create *filename*

- *You tried to save your work to a read-only file.*
  Specify another filename when you save your work.

Cannot delete *filename*

- *You have tried to delete a file on a write-protected disk.*
  Remove the write-protection tab and try again.

- *You have tried to delete a read-only file.*
  You cannot delete the file.

Cannot delete the current directory

- *You have attempted to delete the current directory. This is not allowed, even if the directory is empty.*
  Move to the parent directory and start again.

Cannot find *filename*

- *You have chosen an action that requires a file, and MS-DOS Executive cannot find the file in the directory or on the disk.*
  Make sure you typed the filename correctly. You may need to change directories to locate the file, or you may need to type the file's pathname. If the file is not on the disk, insert the disk that contains the file in the drive. Choose the command and try again.

Cannot format diskette

- *The disk is probably defective or read-only.*
  Replace the disk and try again.

Cannot print

- *Your printer is not properly installed (this includes having proper settings in the WIN.INI file).*
  Check the printer connections and Control Panel printer settings. Set your printer up properly and start again. (See Chapter 7, "Using Control Panel," for details about printer settings.)

Cannot put DOS system on the diskette

- *The disk cannot be formatted with the system files.*
  Put a blank formatted disk in the drive and retry the command.

Cannot rename *name*

■ *The specified file does not exist in the current directory or on the disk.*

Make sure the filename exists, then retry the Rename command. You cannot rename a directory.

Cannot run *filename*

■ *An error has occurred while running a program.*

Retry the Run command. If the command still does not work, be sure you are trying to run the correct file.

Cannot run with other applications

■ *The program you selected is a special application that loads and stays resident or has the Modifies Memory option set in its PIF file.*

You must close all applications except MS-DOS Executive before you can start this program.

Cannot set volume name

■ *The disk is write-protected.*

Remove the write-protection tab.

■ *The disk is full.*

Check the directory to see if any files can be removed, then try again.

Cannot start this application

■ *The standard application you are attempting to run cannot be run because of an internal error.*

Try to start the application again. If unsuccessful, check to be sure the application runs under DOS. You may need to close Windows, restart DOS, then restart Windows before trying the application again.

COM1 is not available

■ *The application you have selected requires access to serial communications port 1 (COM1).*

To run the program you selected, you must close any other application that accesses the COM1 port.

■ *You do not have a serial communications card installed as COM1.*

If you don't have a serial port, you cannot run the selected program.

COM2 is not available

■ *The application that you selected requires access to serial communications port 2 (COM2).*

To run the program you selected, you must close any other application that accesses the COM2 port.

■ *You do not have a serial communications card installed as COM2.*

If you don't have a serial port, you cannot run the selected program.

COM1 or COM2 is not available

■ *The application that you selected requires access to serial communications port 1 or 2 (COM1 or COM2).*

To run the program you selected, you must close any other application that accesses the COM1 or COM2 port.

■ *You do not have a serial communications card installed as COM1 or COM2.*

If you don't have a serial port, you cannot run the selected program.

Directory is not empty

■ *The directory that you tried to delete still contains files.*

Delete the files from the directory, or move them to a different location, and start again.

directory name has no files in it

■ *You tried to copy files from an empty directory.*

Check to see that you used the correct directory name.

Disk is full

■ *You have tried to save a file, or have carried out an action that requires creating a new file (such as copying), and the disk is full.*

Insert another disk, or delete any unwanted files and directories from the disk, and try again.

Initial directory not found

■ *The initial directory for this program cannot be found or is invalid.*

Check the PIF file for the program and be sure that the initial directory setting is correct.

Multiple destinations not allowed

■ *You have attempted to copy a single file to more than one new file, or to rename a single file with more than one new name.*

Copy or rename the file to a single destination.

Multiple files not allowed

■ *You have specified too many filenames for a command.*
Retry the command with only one filename specified.

Need more disk space

■ *You attempted to load a standard application that required that Windows swap another application to disk. There was insufficient disk space for swapping.*
Close one of the other standard applications you have running and try the command again. If there is still limited space remaining on the swap disk, you might consider deleting some files.

Need WINOLDAP files to run program

■ *The program you selected requires the Windows system files WINOLDAP.MOD and WINOLDAP.GRB to run.*
These files should be in the same directory as your other Windows system files. Check the directory to make certain that they are available, and then try running the program again.

Not enough memory

■ *You have carried out an action, such as copying a file, that requires more memory than Windows currently has available.*
Close one or more applications and try again.

Not enough memory to display entire directory

■ *MS-DOS Executive requires more memory than is currently available to display the directory in full.*
If you want to see the entire directory, close one or more applications.

Not enough memory to run *filename*

■ *Windows tried to run a program that requires more memory than is currently available.*
See the following section called "Not Enough Memory to Run" for a detailed explanation of this message.

This will end your Windows session

■ *You chose either the Close, Exit, or End Session command, and Windows is asking you to confirm that you want to end the session.*
Choose the OK button to end the session. Choose the Cancel button to cancel the Close, Exit, or End Session command and continue working with Windows.

Not Enough Memory to Run

Since standard DOS applications vary considerably from one to the next, there may be various circumstances under which Windows will display a message stating that there is not enough memory to run an application. This section describes several possible situations, and gives corrective actions you can take to make your standard application run or run better with Windows.

Not enough memory to run *filename*

■ *Windows tried to run a standard application that requires more memory than is currently available.*

Close one or more applications, then try to run the application again.

■ *The Memory Required option in the application's PIF file is set too low. The application fails in its attempt to load and execute.*

Check the amount of memory used by the application and be sure the Memory Required option is set for at least the required amount.

■ *The Memory Required option in the application's PIF file is set too high. Windows attempts to allocate that amount of memory from its available system memory; if the amount is more than is available, the application will not load.*

Check the amount of memory used by the application and be sure the Memory Required option is not set excessively higher than the required amount.

■ *The swapsize setting in the [pif] section of the WIN.INI file is set too low. Swapsize determines how much memory is set aside to run full-screen standard applications. Swapsize must be set high enough to allow for the program size, plus space for screen exchange, screen switching, any temporary files, and a 2K overhead for saving information about the application's current state.*

Determine the amount of space in kilobytes that you think the application will need, based on the above requirements. Edit the WIN.INI file to set swapsize equal to this amount.

You can also set swapsize = 0 (default setting) and run the largest full-screen standard application first. Windows assigns a partition size that will accommodate the first full-screen standard application.

■ *The Memory Desired option in the application's PIF file is set too low. Windows gives the application the necessary memory up to the desired amount. Memory Desired must be set high enough to allow for the program size as well as data space used by the program.*

Set the Memory Desired amount higher.

■ *You are attempting to run a standard application that requires more system memory than is available.*

To check available memory, select the File menu from the MS-DOS Executive window and choose the About MS-DOS Executive command. You may need to close some applications, then try running your application again.

■ *There may be other applications running that do not swap to the partition (the amount of memory set aside to run full-screen standard applications) because they directly modify memory, communications ports, or the keyboard. (Applications that can be swapped modify the screen.) The system may be running out of memory.*

Close some or all of these applications and try running your application again.

■ *You may have one or more memory-resident applications loaded in your system that are causing problems with the application you're attempting to run.*

Close the memory-resident applications before trying to run your application again.

Appendix C
Speeding Up Windows
with SMARTDrive

SMARTDrive is a disk-caching program for computers that have a hard disk and expanded or extended memory. Disk-caching programs are designed to reduce the amount of time your computer spends reading data from your hard disk. SMARTDrive, unlike other disk-caching programs, cooperates with Microsoft Windows to provide the most effective use of the expanded or extended memory.

SMARTDrive is ideal for users who work with many applications and files at once. It is especially useful when running multiple standard applications that require swapping — copying applications to and from the hard disk to make room for all applications in memory. Although SMARTDrive can be used in conjunction with applications that use expanded or extended memory, it should not be used with other memory-disk or disk-caching programs.

**Advantages of
SMARTDrive**

This appendix describes the following:

■ What you need to use SMARTDrive and how it works
■ How to set up and use SMARTDrive
■ The messages you may see from SMARTDrive

Using SMARTDrive

To use SMARTDrive with your computer, you need the following:

**Hardware
requirements**

■ An IBM PS/2, IBM PC XT, IBM PC AT, or IBM PC—compatible with a hard disk
■ An expanded memory board or an extended memory board

Expanded memory is memory beyond 640K that uses page-switching technology (such as INTEL Above Board and AST RAMPage) and that can be used in most personal computers.

Expanded memory

Installation of the expanded-memory-board hardware and a special program called the expanded memory manager give Windows and its applications access to the additional memory.

Extended memory

Extended memory is memory beyond one megabyte on PC AT or compatible systems. This memory is generally not accessible to DOS- and Windows-based programs but can be used by memory-disk programs such as IBM VDISK or Microsoft RAMDrive. Extended memory boards such as the AST RAMPage AT or INTEL Above Board/AT can be set up for either expanded or extended memory (or both) if the correct software is installed.

Determining which memory to use

SMARTDrive works best with expanded memory, but will also provide good results with extended memory. To determine which type of memory to use with SMARTDrive, follow these rules: if you have only expanded memory, use expanded; if you have only extended memory, use extended; if you have a memory card that can be set up to use as expanded or extended memory, set it up as expanded; and if you have both expanded and extended memory cards, use extended memory for SMARTDrive and leave expanded memory for Windows. When using expanded memory, follow the instructions provided by your memory-board manufacturer for installing the expanded memory manager. It is recommended that you set up your memory board to provide the maximum amount of space for expanded memory.

How SMARTDrive Works

Saving time and space with SMARTDrive

SMARTDrive reduces the amount of time it takes for Windows and standard applications to read information from your hard disk. To do this, SMARTDrive saves information read from or written to your hard disk in your computer's expanded or extended memory. SMARTDrive then supplies this information directly from memory whenever an application makes a request to read the information from your hard disk, a relatively time-consuming process. SMARTDrive always copies new or modified information to the hard disk as well as to expanded or extended memory, so there is no danger of losing information when you turn off your computer.

SMARTDrive works closely with Windows to conserve space, saving information in memory only if that information is needed. For example, if you quit an application, SMARTDrive removes any information used by that application and makes the space available for the next application you start.

SMARTDrive and Other Disk Programs

When running Windows, you should use SMARTDrive as a replacement for any memory-disk program (such as VDISK) or any disk-caching program (such as Vcache or LIGHTNING). Although these programs are designed to make use of your expanded or extended memory, none is designed to work with Windows to make the best use of the memory in your computer.

Replacing other memory-disk programs

If you are already using a memory-disk or disk-caching program, you must modify your CONFIG.SYS file to remove any command lines associated with that program. See the documentation provided with the program for information about its CONFIG.SYS command lines.

Using SMARTDrive for Swapping

SMARTDrive automatically provides its time-saving features whenever you specify your hard disk as the swap disk for standard-application swapping. There are no special settings required in your WIN.INI file to make SMARTDrive work. SMARTDrive carries out its work transparently.

Setting Up SMARTDrive

To set up your system to use SMARTDrive, follow these steps:

Running SMARTDrive

1. Install your expanded- or extended-memory hardware according to the manufacturer's instructions.

2. Add an appropriate SMARTDrive command line to your CONFIG.SYS file. The command-line format is described in the following section.

   If you do not have a CONFIG.SYS file, use a text editor to create one in your hard disk's root directory. For information about CONFIG.SYS, see your DOS reference manual.

   If you have an expanded memory board, the SMARTDrive command line must follow any CONFIG.SYS command lines that are used to install and prepare the software required to use the expanded memory. For information about these command lines, see the documentation provided with your expanded memory board.

3 Delete any command lines associated with other memory-disk or disk-caching programs from the CONFIG.SYS file.

4 Save the CONFIG.SYS file in your hard disk's root directory.

5 Copy the SMARTDRV.SYS file from the Windows Utilities disk to the directory specified in your SMARTDrive command line.

6 Restart your computer to start SMARTDrive. From now on, SMARTDrive will start each time you start DOS.

Using the SMARTDrive Command Line

The SMARTDrive command line

You add a SMARTDrive command line to your CONFIG.SYS file to tell your computer where the SMARTDrive program file is, how much memory you want SMARTDrive to use, and whether SMARTDrive should use expanded or extended memory. In the following description of the SMARTDrive command line, brackets ([ ]) surround optional fields and italics represent names to be typed exactly as shown (any combination of uppercase and lower-case can be used).

The SMARTDrive command line has the following form:

device = [**d***:*][**path**]*smartdrv.sys* [**size**] [*/a*]

DEVICE = Tells DOS to install a device driver. In this case, SMARTDrive is the device-driver program.

d: The disk drive where you store the SMARTDRV.SYS file. If the file is on the disk you use to start DOS, you don't need to include a disk-drive designation.

path The directory where you store the SMARTDRV.SYS file. If the file is in the directory you use to start DOS, you don't need to include a pathname.

SMARTDRV.SYS The name of the SMARTDrive program file. You must include this part of the command line.

size The amount of memory you want SMARTDrive to have. If you don't specify an amount of memory, SMARTDrive will receive 256K (the default size). If you plan to run a standard application that uses expanded or extended memory, you should specify a size that leaves enough memory for that application.

/A Use this switch if you have expanded memory or if you want to use your extended memory board as expanded memory.

Sample SMARTDrive Command Lines

The following are two sample SMARTDrive command lines with explanations of their effects.

SMARTDrive samples

Sample One

```
device=c:\win\smartdrv.sys 1024 /a
```

This command line gives SMARTDrive 1024K (one megabyte) of expanded memory. DOS looks for the SMARTDRV.SYS file in the WIN directory on drive C:.

When SMARTDrive is set up, the following message will appear:

Microsoft SMARTDrive RAM Cache version *x.xx*
Cache Size: *yyyy*K in Expanded Memory

In this message, *yyyy*K is the amount of memory in kilobytes that SMARTDrive was able to obtain.

If the memory specified is not all of the available memory, then the memory remaining can be used by other programs running with Windows.

Sample Two

```
device=smartdrv.sys
```

This command line gives SMARTDrive all available extended memory. DOS looks for the SMARTDRV.SYS file in the drive or directory you start DOS from.

When SMARTDrive is set up, the following message will appear:

Microsoft SMARTDrive RAM Cache version *x.xx*
Cache Size: *yyyy*K in 80286 Extended Memory

In this message, *yyyy*K is the amount of memory in kilobytes that SMARTDrive was able to obtain.

SMARTDrive Messages

The following messages may appear when you start the SMART-Drive program. Most messages indicate some problem that needs correction before SMARTDrive can be installed and operate properly. Messages are listed in alphabetical order.

Bad or missing *d:path* SMARTDRV.SYS
■ *The drive letter (*d:*) or the pathname (*path*) is incorrect. The SMARTDRV.SYS file is not in the drive or directory shown in the SMARTDrive command line.*
Edit your CONFIG.SYS file and type the correct drive and pathname in the SMARTDrive line.

Microsoft SMARTDrive RAM Cache version *x.xx*
Cache Size: *yyyy*K in Expanded Memory
■ *This SMARTDrive message appears when DOS sets up SMART-Drive; *x.xx* is the version of SMARTDrive and *yyyy* is the amount of memory in kilobytes that SMARTDrive was able to obtain.*

SMARTDrive: Expanded Memory Manager not present
■ *You included the /A switch in the SMARTDrive command line but SMARTDrive could not find the expanded memory manager. Your system boot disk did not install the expanded memory manager. Your CONFIG.SYS file did not contain the appropriate information.*
Consult the documentation for your expanded memory hardware for correct installation instructions.

SMARTDrive: Expanded Memory Manager Status shows error
■ *While trying to set up SMARTDrive in expanded memory, DOS detected an error. DOS will not install the SMARTDrive program.*
Run your expanded memory diagnostics to check your expanded memory. Take the appropriate corrective action as instructed in your expanded memory manual.

SMARTDrive: Computer must be PC-AT, or PC-AT compatible
■ *You do not have extended memory because you don't have an IBM PC AT or PC AT–compatible computer. DOS will not install the SMARTDrive program.*
If you have expanded memory, use /A on the SMARTDrive command line. If you have neither extended nor expanded memory, you can't use SMARTDrive.

SMARTDrive: Incorrect DOS version

■ *SMARTDrive runs only on 2.x and 3.x versions of DOS. DOS will not install the SMARTDrive program.*

Because Microsoft Windows requires DOS 2.x or later, you need to switch to a 2.x or later version of DOS so that you can run Windows as well as SMARTDrive.

SMARTDrive: Insufficient memory

■ *Your system has insufficient memory available for SMART-Drive. DOS will not install the SMARTDrive program.*

If you want to use the SMARTDrive program, you must add memory to your system.

SMARTDrive: Invalid parameter

■ *The command line contains too many parts, such as more than one number or more than one pathname.*

■ *The size number is out of the range of permitted numbers. For example, you may have the SMARTDrive size set for 8K, which is too small. DOS will not install the SMARTDrive program.*

Edit your CONFIG.SYS file and change the incorrect SMART-Drive line.

SMARTDrive: I/O error accessing drive memory

■ *DOS detected an error while trying to set up SMARTDrive. DOS will not install the SMARTDrive program.*

Run memory tests to check the memory where SMARTDrive is set up.

SMARTDrive: No extended memory available

■ *Your system has no memory available for SMARTDrive. DOS will not install the SMARTDrive program.*

If you want to use the SMARTDrive program, you must add memory to your system.

SMARTDrive: No hard drives in system

■ *Your system has no hard disk. DOS will not install the SMARTDrive program. SMARTDrive only works with hard disks.*

If you want to use the SMARTDrive program, you must add a hard disk to your system.

SMARTDrive: Too many bytes per track on hard drive

■ *Your system has a hard disk that SMARTDrive does not under-stand. DOS will not install the SMARTDrive program.*

You can't use SMARTDrive on your system.

Appendix D
Using Special Characters

You can add special characters such as a fraction, an accented letter, a foreign currency symbol, or a ligature to the documents you create in Microsoft Windows.

Your computer uses character sets to translate your keystrokes into the symbols you see on your screen or in the files you create. These sets vary between computer manufacturers.

Windows uses the American National Standards Institute (ANSI) 8-bit character set, which allows you to represent up to 256 characters (0–255). The ANSI character set is split into two parts: 0–127 and 128–255.

The ANSI character set

The first part of most 8-bit character sets (0–127) matches the ANSI character set and corresponds to the letters and symbols you see on a standard US keyboard. The second 128 characters (128–255) represent special characters such as letters in foreign alphabets, accents, currency symbols, or fractions. Computer manufacturers often differ in their definitions of the second part of 8-bit character sets.

This appendix explains how to do the following:

- Type special characters in Windows using the ANSI character set

- Use your computer's character set with Windows applications

- Type special characters in standard applications

Using Special Characters in a Windows Application

Since Windows uses the extended ANSI character set, you can type any of the ANSI characters in files you create with Windows. The ANSI character set is shown on the following chart.

ANSI Character Set

ANSI character chart

0	*	32		64	@	96	`	128	■	160		192	À	224	à
1	*	33	!	65	A	97	a	129	■	161	¡	193	Á	225	á
2	*	34	"	66	B	98	b	130	■	162	¢	194	Â	226	â
3	*	35	#	67	C	99	c	131	■	163	£	195	Ã	227	ã
4	*	36	$	68	D	100	d	132	■	164	¤	196	Ä	228	ä
5	*	37	%	69	E	101	e	133	■	165	¥	197	Å	229	å
6	*	38	&	70	F	102	f	134	■	166	¦	198	Æ	230	æ
7	*	39	'	71	G	103	g	135	■	167	§	199	Ç	231	ç
8	**	40	(	72	H	104	h	136	■	168	¨	200	È	232	è
9	**	41	)	73	I	105	i	137	■	169	©	201	É	233	é
10	*	42	*	74	J	106	j	138	■	170	ª	202	Ê	234	ê
11	*	43	+	75	K	107	k	139	■	171	«	203	Ë	235	ë
12	*	44	,	76	L	108	l	140	■	172	¬	204	Ì	236	ì
13	**	45	-	77	M	109	m	141	■	173	-	205	Í	237	í
14	*	46	.	78	N	110	n	142	■	174	®	206	Î	238	î
15	*	47	/	79	O	111	o	143	■	175	¯	207	Ï	239	ï
16	*	48	0	80	P	112	p	144	■	176	°	208	Ð	240	ð
17	*	49	1	81	Q	113	q	145	■	177	±	209	Ñ	241	ñ
18	*	50	2	82	R	114	r	146	■	178	²	210	Ò	242	ò
19	*	51	3	83	S	115	s	147	■	179	³	211	Ó	243	ó
20	*	52	4	84	T	116	t	148	■	180	´	212	Ô	244	ô
21	*	53	5	85	U	117	u	149	■	181	µ	213	Õ	245	õ
22	*	54	6	86	V	118	v	150	■	182	¶	214	Ö	246	ö
23	*	55	7	87	W	119	w	151	■	183	·	215	■	247	■
24	*	56	8	88	X	120	x	152	■	184	¸	216	Ø	248	ø
25	*	57	9	89	Y	121	y	153	■	185	¹	217	Ù	249	ù
26	*	58	:	90	Z	122	z	154	■	186	º	218	Ú	250	ú
27	*	59	;	91	[	123	{	155	■	187	»	219	Û	251	û
28	*	60	<	92	\	124			156	■	188	¼	220	Ü	252	ü
29	*	61	=	93	]	125	}	157	■	189	½	221	Ý	253	ý
30	*	62	>	94	^	126	~	158	■	190	¾	222	Þ	254	þ
31	*	63	?	95	_	127	■	159	■	191	¿	223	ß	255	ÿ

*No conversion for this character.

**Values 8, 9, and 13 convert to the backspace, tab, and carriage-return characters, respectively.

To type a special character while you are using Windows, follow these steps:

Typing special characters in Windows

1 Locate the character you want on the ANSI chart and its corresponding numeric value in the column to left.

2 Press and hold down the ALT key.

3 Using the numeric keypad to the right of your keyboard, type *0* and then the 3-digit number from the ANSI chart.

4 Release the ALT key.

For example, to type the English pound symbol (£) in a Windows file or a text box, follow these steps:

Typing a sample special character

1 Find the number on the ANSI chart that corresponds to the symbol (163).

2 Press and hold down the ALT key.

3 Type *0163* on the numeric keypad.

4 Release the ALT key.

The £ symbol appears on your screen.

Note   If you want to save a file using a special ANSI character in the filename, make sure the character exists in your computer's character set as well. If the character does not exist in your computer's character set, Windows substitutes another character.

Using Your Computer's Character Set in Windows

You can continue to use your computer's character set when you work in Windows, as long as the special characters you use have an ANSI equivalent. Windows performs the conversion to ANSI for you. If there is no corresponding ANSI character, Windows displays an arbitrary character.

Typing characters with your computer's character set

To type a character from your computer's character set in Windows, follow these steps:

1. Check your computer's manual for the character's value.
2. Check the preceding ANSI chart to make sure the character is included.
3. Press and hold down the ALT key.
4. Using the numeric keypad on the right of your keyboard, type the three-digit number from your computer's character set.
5. Release the ALT key.

Windows converts the special character to its ANSI equivalent and the character appears on your screen.

As an example, the following chart shows part of the IBM PC extended character set. These characters have a corresponding ANSI character.

IBM PC Extended Character Set

PC character chart

128	Ç	144	É	160	á	176		192	+	208	+	224	_	240	_
129	ü	145	æ	161	í	177		193	+	209	+	225	ß	241	±
130	é	146	Æ	162	ó	178		194	+	210	+	226	_	242	_
131	â	147	ô	163	ú	179			195	+	211	+	227	¶	243	_
132	ä	148	ö	164	ñ	180	+	196	-	212	+	228	_	244	_
133	à	149	ò	165	Ñ	181	+	197	+	213	+	229	_	245	_
134	å	150	û	166	ª	182	+	198	+	214	+	230	µ	246	_
135	ç	151	ù	167	º	183	+	199	+	215	+	231	_	247	_
136	ê	152	ÿ	168	¿	184	+	200	+	216	+	232	_	248	°
137	ë	153	Ö	169	_	185	+	201	+	217	+	233	_	249	·
138	è	154	Ü	170	¬	186			202	+	218	+	234	_	250	·
139	ï	155	¢	171	½	187	+	203	+	219		235	_	251	_
140	î	156	£	172	¼	188	+	204	+	220		236	_	252	ⁿ
141	ì	157	¥	173	¡	189	+	205	=	221		237	_	253	²
142	Ä	158	₧	174	«	190	+	206	+	222		238	_	254	··
143	Å	159	ƒ	175	»	191	+	207	+	223		239	_	255	

Here's how to type the English pound symbol (£) in Windows using the IBM PC extended character set:

1. Press and hold down the ALT key.
2. Type *156*.
3. Release the ALT key.

Windows converts the £ symbol's value in the computer's character set to its equivalent value in ANSI, and the ANSI £ symbol is displayed on your screen.

Note   If, after typing special characters in Windows, you work on your files with a non-Windows application, you may find that different characters are substituted for your special characters. This is because the ANSI character values correspond to different values in your computer's character set.

Using Special Characters in a Standard Application

Applications that were not written specifically for Windows (standard applications) use your computer's character set, but the procedure for typing the character's value differs slightly from what you may be used to.

In a standard application, type a special character by following these steps:

1. Check your computer's manual for the character's value.
2. Press and hold down the ALT key.
3. Using the numeric keypad on the right of your keyboard, type *0* and the 3-digit number from your computer's character set.
4. Release the ALT key.

The special character appears on your screen.

Typing a sample special character

For example, to type the English pound symbol (£) in a Word document on a computer that uses the preceding IBM PC extended character chart, you do the following:

1 Press and hold down the ALT key.
2 Type *0156*.
3 Release the ALT key.

The £ symbol appears in your Word document.

Using Special Characters in a Non-Windows Document

If you work in Windows on files created with other applications, you may find that any special characters appear as arbitrary characters — for example, a black rectangle (■). Windows attempts to translate these characters, but you will probably need to convert each character to its corresponding ANSI character.

Microsoft Write has an automatic conversion feature that converts characters in non-Windows files to the ANSI character set. See the *Microsoft Windows Write User's Guide* for more information.

Appendix E
Special Notes
on Running Windows

This appendix contains additional information on the following topics:

- Running Microsoft Windows with certain hardware
- Running certain standard applications
- Using expanded memory with Windows
- Using CHKDSK with Windows
- Using SHIFT + PRINTSCREEN with Windows

Notes on Hardware

Maynard Hard Disk

If you have a Maynard hard disk, it is recommended that you use only version 2.4 or greater of the hard-disk software. An early version of the Maynard hard-disk software may contain an error that prevents it from working correctly with Windows.

Pointing Devices

If you have a Microsoft Bus Mouse, and Windows does not respond to mouse movements, you may need to change the jumper on the Bus Mouse Adapter. Generally, you should set the jumper to IRQ2 for the IBM PC XT and IRQ5 for the IBM PC AT. See the *Microsoft Mouse User's Guide* for details on how to change the jumper.

TI Printers

If you have a TI850 or 855 printer, set the mode switch for draft-quality text when you use the printer with Windows. On the TI-855, you can only use the default character set since this is the one supported by the Windows device driver. Font cartridges for the TI855 are not supported.

Running Applications with Display Adapters

Your display adapter may have additional features beyond those supported by the display driver, and your standard application may use some of these features. If so, you will probably be able to run the application, but screen switching and taking "snapshots" of the screen won't work correctly. To correct this problem, set up the software when you install it so that it does not use the display adapter's special features.

If you are using a standard application with an enhanced graphics adapter (EGA) card that is running in high-resolution mode, your application will not switch. If you want your application to be able to switch, you should install or run the application in character/text or low-resolution graphics mode.

Notes on Standard Applications

Since these applications were not originally designed to run with Windows, there are some tips you should follow to make them run smoothly.

Running BASIC and BASICA with Windows

The PIF files for BASIC that are included with Windows, BASIC.PIF and BASICA.PIF, have been set up to prevent conflicts between BASIC and other communications programs you may be running. (COM options have been set in these PIF files.) There are two results that you should be aware of:

Running multiple copies of BASIC

- Setting the COM options prevents you from running multiple copies of BASIC at the same time. If you wish to run more than one copy of BASIC, use PIF Editor to turn off the COM check boxes.

Running BASIC without a communications port

- When you attempt to run BASIC or BASICA without a communications port installed on your system, you will receive a message indicating that the communications ports are unavailable. Although the message itself does not cause any action, you may want to avoid getting this message each time you start BASIC. If so, use PIF Editor to turn off the COM check boxes.

Using Lotus Symphony with Windows

When using the Symphony program with Windows, be aware that the Paste command (Control menu) will not work for character strings longer than 40 characters. Symphony doesn't process characters until the end of the string and Symphony's internal buffer limit is 40 characters.

Using Lotus 1-2-3 with Windows

When run with Windows, Lotus 1-2-3 may not close the printer file properly. To print over a network, you will need to press CONTROL + ALT + PRINTSCREEN, which closes the printer file.

Using Expanded Memory with Windows

You can use your computer's expanded memory to store and run applications with Windows. Expanded memory, found on expanded memory boards, increases the size of your computer's available memory beyond the 640K that DOS makes available to applications. Computers that use expanded memory must load and run a special program called an expanded memory manager. Windows can use expanded memory for applications and data if your computer's expanded memory manager has special support for Windows.

If you plan to use expanded memory with Windows, you may want to change the memory configuration of your computer to take the best possible advantage of your expanded memory board. Sometimes expanded memory works best if you disable some of your computer's main memory. For tips on whether you should change your memory configuration and for an explanation of how to change the configuration, see the README.TXT file provided on the Microsoft Windows Write Program disk.

Note Windows cannot use extended memory. Extended memory is memory used with computers such as IBM PC AT and compatibles that provides program and data storage beyond the one megabyte limit of these computers. If your computer has extended memory, you can use it indirectly with Windows by using the SMARTDrive program. SMARTDrive is a disk-caching program that uses your extended or expanded memory to reduce the amount of time that is required for Windows to read information from your hard disk. See Appendix C, "Speeding Up Windows with SMARTDrive," for more information about SMARTDrive.

Setting up Expanded Memory for Use with Windows

To use expanded memory with Windows, follow these steps:

1. Check the README.TXT file included on your Microsoft Windows Write Program disk or consult the documentation for your expanded-memory hardware to make sure your expanded memory manager supports Windows. Although your manufacturer provides an expanded memory manager with your board, not all managers support Windows.

2. Install the expanded memory board according to your manufacturer's instructions.

3. Install the expanded memory manager according to your manufacturer's instructions. You may be required to modify your computer's CONFIG.SYS file. If so, follow your manufacturer's instructions carefully and be prepared to restart your computer to make sure the expanded memory manager is loaded.

When installing the expanded memory manager, reserve as much of your expanded memory as possible to use with Windows (and SMARTDrive). Avoid reserving memory for programs, such as memory disks and print spoolers, that may compete with Windows for expanded memory. The more expanded memory you let Windows have, the more efficiently Windows can use the memory for your applications.

Once expanded memory has been installed, you can start Windows. Windows will then use expanded memory automatically — there are no additional steps you need to take.

Running Standard Applications that Use Expanded Memory Specifications

The special expanded memory manager that is required for Windows support is upwardly compatible with popular expanded memory specifications (EMS). This means that standard applications that access memory using the expanded memory specifications supported by INTEL Above Board or AST RAMPage can still access memory to store data when they are run with Windows. If expanded memory is available, Windows provides the application with the memory it requests through the EMS interface.

Using CHKDSK with Windows

It is recommended that you not use the DOS CHKDSK program
in Windows. If you do run it from Windows, do not use the /F
parameter. CHKDSK was not designed to run with Windows, and
using the /F parameter will close any files your Windows applica-
tions are using (such as temporary files).

Using SHIFT+PRINTSCREEN with Windows

Windows does not change the operation of SHIFT+PRINTSCREEN,
which is used to print images of standard applications. Since Win-
dows uses the graphics mode, you should see your DOS manual
for information on how to print a graphics screen. (You should
not press SHIFT+PRINTSCREEN unless you have a printer attached
and on line.) For general information on using SHIFT+PRINTSCREEN,
see your DOS manual.

Terms

Active Describes a window or icon that is selected; the window or icon to which the next keystroke or command will apply.

ANSI character set The American National Standards Institute 8-bit character set. It contains 256 characters.

Application A program used for a particular kind of work, such as word processing or database management. See *Windows application, Standard application, Memory-resident application.*

ASCII character set The American Standard Code for Information Interchange 8-bit character set. The set consists of the first 128 (0–127) characters of the ANSI character set.

Boot To start up your computer, or to restart it, loading the DOS operating system.

Check box A small square box that appears in a dialog box and that can be turned on or off. Check boxes generally represent multiple options that you can set.

Choose To perform an action that carries out a command in a menu or dialog box. See *Select.*

Click To press and release a mouse button quickly. When you click a mouse button, you may hear and feel a faint click.

Clipboard A storage area for holding text or data that you are copying or moving.

Command A word or phrase, usually found in a menu, that you choose in order to carry out an action.

Command button A large rectangular button that appears in a dialog box and carries out or cancels an action when chosen. The Cancel button always cancels the command. The OK button carries out the command. Occasionally, instead of OK, the button that carries out the action will have a label that describes the action — for example, Open.

Control menu The menu that appears on every application that runs in a window and on some full-screen standard applications. Icons and some dialog boxes also have a Control menu. For

applications running in a window and for icons and dialog boxes, Control-menu commands move, change the size of, and close windows. For full-screen standard applications, the Control-menu commands are used for transferring information as well as for other miscellaneous functions.

Control-menu box   The small box that is located at the left in a window's title bar. If you have a mouse, you can click this box to display the Control menu or double-click it to quit Windows.

Copy   To put a copy of the selected text or item on the Clipboard so you can transfer it to another location. Many Windows applications have a Copy command that performs this task. If you are using a standard application, Windows adds the Copy command to the Control menu.

D

Default   Describes an option, command, or device that is automatically selected or chosen by the system. For example, in most dialog boxes that contain command buttons, one of the buttons is selected when the dialog box appears, indicating that it is the default and will be chosen automatically if you press the ENTER key. You can override a default by selecting the appropriate option, command, or device.

Device driver   A program that controls how your computer and a device, such as a printer or monitor, interact. A device driver enables you to use devices with your computer.

Dialog box   A rectangular box that appears when Windows needs further information before it can carry out a command or when Windows is providing you with certain information. For instance, if you choose the Delete command from the File menu in the MS-DOS Executive window, a dialog box appears asking for the name of the file that you want to delete.

Direct-access method   A way to choose a command or to select a menu or option by pressing the key that corresponds to the underlined letter in the command, menu, or option name.

Directory   Part of a structure for organizing your files into convenient groups. A directory is like a file drawer that holds a particular group of files. A directory can contain both files and subdirectories.

Double-click   To rapidly press and release a mouse button twice without moving the mouse. This action carries out a command.

Drag   To press and hold down the mouse button while moving the mouse. For example, you can move a window to another location on the screen by dragging its title bar.

Drive icon   The small symbol in the upper-left corner of the MS-DOS Executive window that represents your computer's disk drive.

E

Expanded memory   Memory beyond the 640 kilobytes that DOS makes available to applications. To use it you must install an expanded memory board and special software.

Extend   To select more than one item in a window.

Extended memory   Memory beyond the usual 1-megabyte limit of computers such as the IBM PC AT and compatible models. To use it you must install an extended memory board and special software. Extended memory generally is not accessible to DOS-based applications (which include Windows applications) but can be used by memory-disk programs such as IBM VDISK and Microsoft RAMDrive.

Extension   The period and three letters at the end of a filename. An extension identifies what kind of information a file contains. For example, the extension .EXE, .COM, or .BAT indicates that a file contains an application. Some applications append an extension to the files that you create with them. For example, files that you create with Calendar have the extension .CAL.

F

Filename   The name of a file. Windows uses DOS filenaming conventions; therefore filenames usually consist of a base name containing no more than eight characters and a three-character extension. For example, TERMINAL.EXE is the name of the file that contains the Terminal application. See *Extension.*

Format   To prepare a disk so that it can hold information. Formatting a disk erases whatever information was previously on it.

Full-screen   Describes a standard DOS application that takes up the entire screen when it is run with Windows. It is not displayed in a window.

G

Grayed   Describes a command or option that is listed in a menu or dialog box but cannot be chosen or selected. The command or option appears in gray type. For example, after you have enlarged a window to its full size, the Maximize command in the Control menu is grayed.

H

Highlighted   Indicates that the object is selected and will be affected by your next action. A highlighted object appears in reverse video. A highlighted icon is outlined in white and the application's name is displayed.

I

Icon   A small symbol that represents an application that is running in memory. You can enlarge an icon to a window when you want to use the application. See *Drive icon.*

Inactive   Describes a window or icon that is not selected. See *Select.*

Insertion point   The place that text will be inserted when you type. The insertion point usually appears as a flashing vertical line in an application's window or in a dialog box. The text you type appears to the left of the insertion point, which is pushed to the right as you type.

L

List box   A box within a dialog box that lists all items that a command could affect — for example, the filenames of all printer drivers on a disk. Files are indicated by their filenames. Drives and directories are indicated with brackets. Hyphens distinguish drives from directories. For example, [-A-] represents drive A; [MYDIR] represents the MYDIR directory. The parent directory (the next higher directory) is represented by two periods within brackets ([..]). If there are more choices than can fit in the list box, the list box will have a vertical scroll bar.

M

Maximize box   The small box containing an up arrow that is located at the right of the menu bar. Mouse users can click the Maximize box to enlarge a window to its maximum size.

Memory-resident application   An application that is loaded into the system and stays there until you remove it or turn off your computer (also known as a terminate-and-stay-resident application). You should start this kind of application before you start Windows and use it from a full-screen standard application.

Menu   A group listing of available Windows or application commands. Menu names appear in the menu bar near the top of the window. You use a command from a menu by selecting the menu, then choosing the command.

Menu bar   The horizontal bar that lists the names of an application's menus. The menu bar appears below the title bar of a window.

Minimize box   The small box containing a down arrow that is located at the right of the menu bar. Mouse users can click the Minimize box to reduce a window to an icon.

N

Non-switching   Describes a full-screen standard application that you must quit before you can return to Windows. See *Standard application.*

Open   To make a file's contents available to work in; it usually refers to a file you created with an application and not to an application file. For example, while working in Notepad, you could open MEMO.TXT, a text file you created with Notepad. You could also open MEMO.TXT and start Notepad at the same time by running MEMO.TXT from the MS-DOS Executive window.

Option button   A small round button that appears in a dialog box and selects an option when set. Within a group of related option buttons, you can make only one selection.

Paste   To transfer the contents of the Clipboard to an application. Many applications have a Paste command that performs this task.

Pathname   A description of the location of a directory or file within the system. For example, the pathname of a file consists of a drive letter, followed by a directory name, one or more sub-directory names if applicable, and a filename. Each name is separated from the previous one by a backslash.

PIF file   A program information file; it contains information about how a standard application uses system resources and memory. If Windows cannot find a PIF file for an application, it uses default PIF settings to run the application.

Point   To move the pointer on the screen until it rests on the item you want to select or choose.

Pointer   A small symbol that appears if you have installed a mouse and that indicates which area of the screen will be affected when you click the mouse button. The pointer usually is shaped like an arrow but changes shape during certain tasks.

Restore box   The small box containing down and up arrows that appears at the right of the menu bar after you have enlarged a window to its full size. Mouse users can click the Restore box to return the window to its previous size.

Run   To start an application.

Save   To store a file or changes to a file on a disk.

Scroll   To move text or graphics up or down, or left or right, to see parts of the file that cannot fit on the screen.

Scroll bar   A bar that appears at the right side and/or bottom of some windows and in some dialog boxes. The scroll bar contains a scroll arrow at either end and a scroll box that moves within the scroll bar, reflecting your position in a file. Mouse users can click parts of the scroll bar to scroll a file.

O

P

R

S

Select   To indicate the item that the next command you choose will affect. See *Choose* and *Highlighted.*

Shortcut key   A special key or key sequence available for some commands that you can press to execute the command without first selecting a menu.

Spooler   A Windows program that is automatically run when you choose a print command. It allows you to print files and to view and control the jobs in the print queue.

Standard application   An application that runs under DOS but was not designed especially for Windows.

Swap   To temporarily transfer an application or information from system memory to your computer's hard disk.

Switch   To move from one application to another, bringing the second application to the front of the screen and making it active. This usually refers to moving from a standard application to another standard application or to a Windows application. See *Non-switching.*

T

Text box   A box in a dialog box in which you type information needed to carry out a command. The text box may be blank when the dialog box appears or may contain text if there is a default option or if you have selected something applicable to that command.

Title bar   The horizontal bar across the top of each window that contains the name of the application and/or file in that window. The title bar also contains the Control-menu box and the Maximize and Minimize boxes or the Minimize and Restore boxes.

W

Wildcard character   A character that can be included in a filename to indicate any character or group of characters that might match that position in other filenames. In Windows you can use the asterisk (*) as a wildcard character. For example, *.EXE represents all files in the directory that end with the .EXE filename extension.

Window   A rectangular area on your screen in which you view an application. Every window has a title bar and may have a menu bar and one or two scroll bars.

Windows application   An application that was designed especially for Windows and uses all Windows features (such as menus and dialog boxes).

Work area   The area of a window that displays the information contained in the file.

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