



Macintosh User's Guide

for Macintosh® PowerBook™ computers

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Important

This equipment has been tested and found to comply with the limits for a Class B digital device in accordance with the specifications in Part 15 of FCC rules. See instructions if interference to radio or television reception is suspected.

DOC Class B Compliance This digital apparatus does not exceed the Class B limits for radio noise emissions from digital apparatus set out in the radio interference regulations of the Canadian Department of Communications.

Observation des normes—Classe B Le présent appareil numérique n'émet pas de bruits radioélectriques dépassant les limites applicables aux appareils numériques de la Classe B prescrites dans les règlements sur le brouillage radioélectrique édictés par le Ministère des Communications du Canada.

Attention: Il y a danger d'explosion s'il y a remplacement incorrect de la batterie. Remplacer uniquement avec une batterie du même type ou d'un type recommandé par le constructeur. Mettre au rebut les batteries usagées conformément aux instructions du fabricant.

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Radio and television interference

The equipment described in this manual generates, uses, and can radiate radio-frequency energy. If it is not installed and used properly—that is, in strict accordance with Apple’s instructions—it may cause interference with radio and television reception.

This equipment has been tested and found to comply with the limits for a Class B digital device in accordance with the specifications in Part 15 of FCC rules. These specifications are designed to provide reasonable protection against such interference in a residential installation. However, there is no guarantee that interference will not occur in a particular installation.

You can determine whether your computer system is causing interference by turning it off. If the interference stops, it was probably caused by the computer or one of the peripheral devices.

If your computer system does cause interference to radio or television reception, try to correct the interference by using one or more of the following measures:

- Turn the television or radio antenna until the interference stops.
- Move the computer to one side or the other of the television or radio.
- Move the computer farther away from the television or radio.
- Plug the computer into an outlet that is on a different circuit from the television or radio. (That is, make certain the computer and the television or radio are on circuits controlled by different circuit breakers or fuses.)

If necessary, consult your authorized Apple dealer or an experienced radio/television technician for additional suggestions. You may find helpful the following booklet, prepared by the Federal Communications Commission: *Interference Handbook* (stock number 004-000-00345-4). This booklet is available from the U.S. Government Printing Office, Washington, DC 20402.

△ **Important:** Changes or modifications to this product not authorized by Apple Computer, Inc., could void the FCC Certification and negate your authority to operate the product.

This product was tested for FCC compliance under conditions that included the use of shielded cables and connectors between system components. It is important that you use shielded cables and connectors to reduce the possibility of causing interference to radios, television sets, and other electronic devices. For Apple peripheral devices, you can obtain the proper shielded cables from your authorized Apple dealer. For non-Apple peripheral devices, contact the manufacturer or dealer for assistance. △

How to Use This Book

This book has two parts:

- Part I, *Learning Macintosh*, covers everything you need to know to begin using your Macintosh® PowerBook™ computer. Begin with Part I if you are new to computers or new to the Macintosh. Then you'll be ready to learn the programs that you want to use with your computer.
- Part II, *Macintosh Reference*, contains information that you may need as you become more proficient with your computer. Use Part II as you would a dictionary or encyclopedia: turn to it when you need specific information about a particular topic.

Use the table of contents and the index to find information in this book. The glossary defines terms that may be unfamiliar to you. The “Troubleshooting” section can help answer questions you may have about the operation of your computer.

For information about setting up your Macintosh, see the setup guide that came with your computer. The setup guide also contains technical specifications for your PowerBook.

Welcome to Macintosh.

Part I

Learning Macintosh

- Chapter 1 Turning the Macintosh On and Off
- Chapter 2 Working on the Desktop
- Chapter 3 Working With Disks
- Chapter 4 Creating a Document
- Chapter 5 Changing a Document
- Chapter 6 Organizing Your Work
- Chapter 7 Learning More About Your Macintosh

Start with Learning Macintosh if you are new to computers or new to the Macintosh. Read the chapters in order and follow the steps they describe. Everything you need to know to begin using your computer productively is covered in this part of the book.

Before you read *Learning Macintosh* you should have

- set up your Macintosh according to the instructions in the setup guide that came with your computer
- gone through the *Macintosh Basics* tour supplied with your computer

When you're finished with this part of the book, you can turn to the materials that came with the programs you plan to use with your computer. The skills you learn in *Learning Macintosh* will prove useful in any Macintosh program.

For information that you may need as you become more proficient with your computer, see Part II, *Macintosh Reference*.

Chapter 1

Turning the Macintosh On and Off

In this chapter

- How to turn your computer on and off
- What a startup disk is
- What your “Macintosh desktop” looks like
- What to do if your computer stops working

Before you begin

You should have already

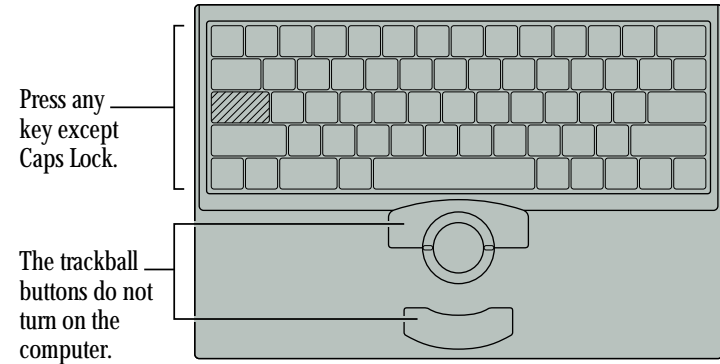
- set up your Macintosh according to the instructions in the setup guide that came with your computer
- gone through the *Macintosh Basics* tour supplied with your computer

Turn your computer on

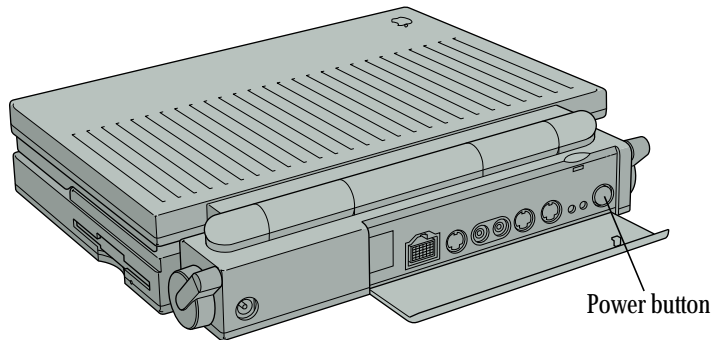
Most electronic devices, including other computers you may have used, have two power states: on and off. Macintosh® PowerBook™ computers, however, have three power states: on, sleep, and off. Sleep is a resting state in which the computer appears to be off but is actually still on at a reduced power level. When you turn your computer on, you are either “starting it up” (if it was off) or “waking it up” (if it was “sleeping”).

Depending on which PowerBook model you have, you turn the computer on in one of two ways:

- Press any key on the keyboard (except Caps Lock).



- Press the power button on the back of your computer (not all models have a power button).



Model	If turned off, press	If in sleep, press
PowerBook 170 PowerBook 140	Power button	Power button or any key on the keyboard
PowerBook 100	Any key on the keyboard	Any key on the keyboard

You don't need to know whether your computer is off or in sleep before you can turn it on. If pressing a key doesn't work, just press the power button.

Turn your computer on now.

When you turn on your computer

When you turn on your Macintosh, the computer looks for a startup disk. A *startup disk* contains the information that the computer needs to “start itself up.” In your case, the startup disk is the hard disk inside your computer. When the Macintosh finds a startup disk, it displays the icon shown and proceeds to start itself up.



When the startup process is complete, the screen displays the Macintosh desktop. The desktop is a field of gray with

- a menu bar across the top (containing the names and icons of menus)
- an icon near the upper-right corner representing the startup disk
- an icon near the lower-right corner representing the Trash

Chapter 2, “Working on the Desktop,” describes these features in more detail.



When you “wake” your computer from sleep, it does not go through the startup process because it is already on (at a reduced power level). The Macintosh desktop reappears on the screen immediately, looking just the way it did before the computer went to sleep.

Turn your computer off

Before you can turn your computer off, you need to know how to use the trackball to choose a command from a menu. (You learned how to choose commands from menus in the *Macintosh Basics* tour.)

If you are going to take a break and resume work within a few hours, you can put the computer to sleep. To put the computer to sleep, choose Sleep from the Special menu. (Follow the numbered steps below.)

If you are finished working for the day, or if you plan to transport your computer or attach something to it, you should shut the computer down. To shut the computer down, choose Shut Down from the Special menu.

1. Point to the Special menu title in the menu bar.

Roll the trackball until the arrow pointer is positioned on the word “Special.”

2. Press and hold down one of the trackball buttons.

Use whichever button you prefer.

3. Drag through the items in the menu until the Sleep or Shut Down command is highlighted, and then release the trackball button.



If your computer seems to stop working

If your computer seems to stop working while you are going through Part I of this book, one of two things may have happened:

- The computer may have gone to sleep.

Macintosh PowerBook computers are designed to go to sleep after a period of inactivity. This conserves battery power. If you spend several minutes reading without using the computer, or if you take a break, the screen may be dark when you're ready to resume working.

Press any key to wake the computer.

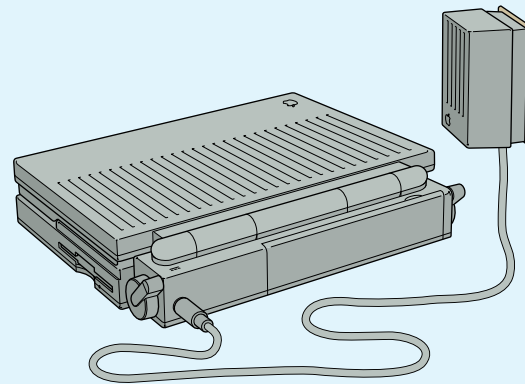
The desktop should reappear looking just the way it did before the computer went to sleep.

If the computer goes to sleep so often that it interferes with your work, you can change the time interval before sleep takes effect. See “Adjusting System Sleep” in Chapter 9 for instructions.

- The battery may have run down.

The battery needs recharging periodically. If the computer doesn't respond when you try to wake it from sleep, it is likely that the battery needs to be recharged before you can continue working.

Plug in the computer's power adapter to recharge the battery.



After 15 minutes or so, you should be able to wake the computer and resume where you left off.

For more information about power and batteries, see Chapter 9.

Chapter 2

Working on the Desktop

In this chapter

Review basic trackball skills:

- Moving the pointer
- Choosing a command
- Opening an icon
- Looking at the contents of a window

And learn:

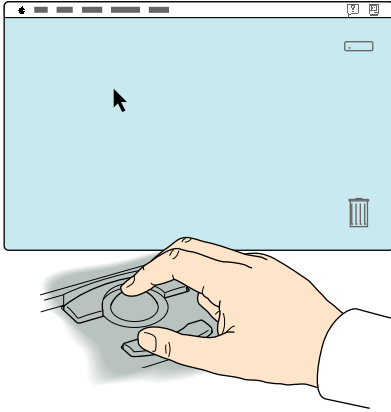
- How to use the trackball and keyboard comfortably and efficiently
- How to close a window
- How to move a window
- What the icons on your desktop represent

Before you begin

If your computer is in sleep or shut down, turn it back on now.

Use the trackball

Macintosh PowerBook computers have dual-button trackballs. You use the trackball itself to control the movements of a pointer on the screen. The pointer you'll see most often is an arrow.



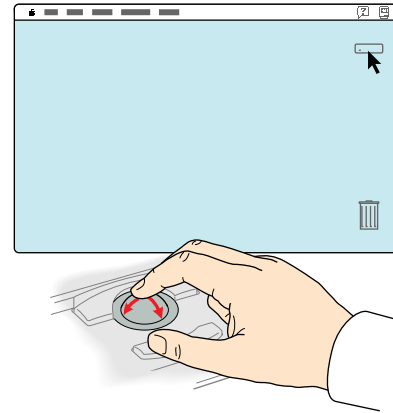
You use the trackball buttons to initiate actions that you want the computer to perform. Both trackball buttons do the same thing. You can always use whichever one you prefer.

Much of the work you do on the Macintosh uses four trackball actions: pointing, clicking, pressing, and dragging.

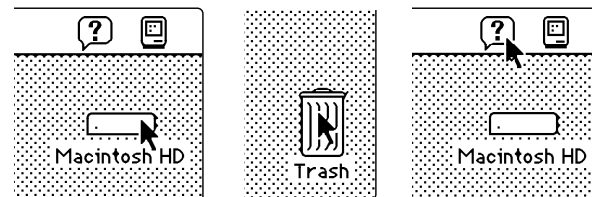
(If you want to return to the *Macintosh Basics* tour for more practice with the trackball, see your setup guide for instructions on how to restart the tour.)

Point

You point to an object on the screen by rolling the trackball so the pointer is positioned over that object. When the pointer is an arrow, the *very tip* of the arrow must be *exactly* over the object.

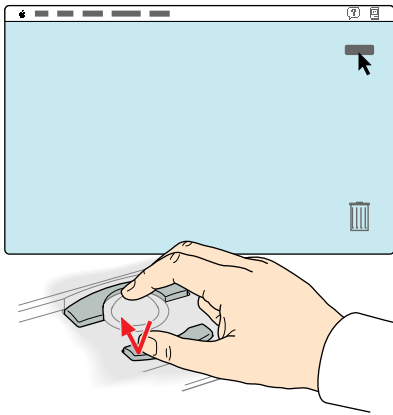


Practice pointing to different objects on the Macintosh desktop, such as the startup hard disk icon near the upper-right corner, the Trash icon near the lower-right corner, and the Help menu icon near the right side of the menu bar.

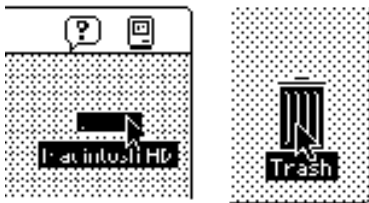


Click

You click an object on the screen by pressing and quickly releasing a trackball button while the pointer is over that object.



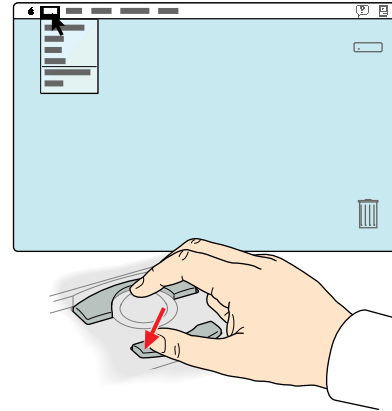
Practice clicking different objects on the Macintosh desktop, such as the startup hard disk icon near the upper-right corner and the Trash icon near the lower-right corner.



When you click an icon, it becomes *highlighted* (the icon is darkened). A highlighted icon is said to be *selected*. A selected icon is the object of whatever action you choose next.

Press

You press by holding down a trackball button without moving the trackball.

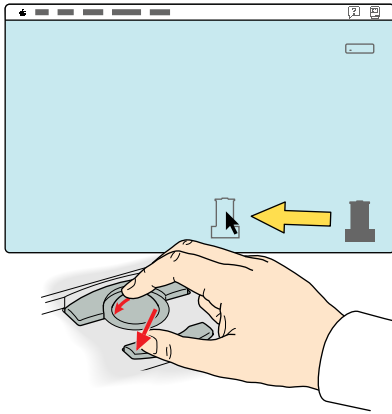


Practice pressing the menu names and icons in the menu bar (start with the Apple® (🍏) menu icon at the left side, through the menu names, and across to the Help and Application menu icons at the right side). Pressing a menu name or icon “pulls down” the menu. Read the items in each menu you pull down.

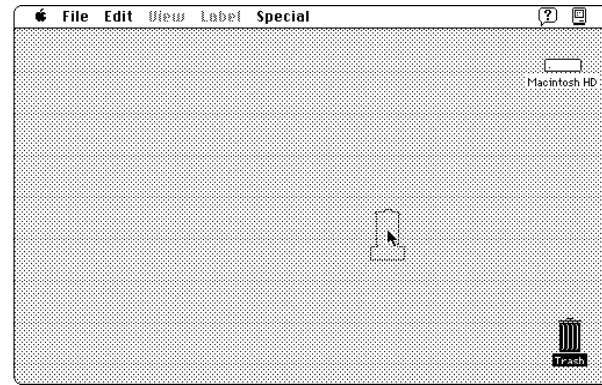


Drag

You drag an object on the screen by pointing to that object and holding down a trackball button while you roll the trackball.





Practice dragging the startup hard disk icon and the Trash icon around the Macintosh desktop. When you drag an icon, an outline of the icon follows the pointer on the screen. When you release the trackball button, the icon itself moves.



When you're finished practicing, drag the icons back to their original positions. Then click once in the middle of the desktop. (Clicking anywhere outside a selected icon returns that icon to its original "unselected" state.)

Using the trackball comfortably

The way you position your hands on the keyboard and trackball depends on whether you're right- or left-handed and whether you're a touch typist. The two hand positions described here are just examples; the right way to work is the way that is most comfortable and efficient for you.

- If you are a touch typist, you can position your fingers on the home row, extending one thumb to reach the upper trackball button and the other thumb to reach the trackball itself. Or you may prefer to use one thumb to press the Space bar and the other to work the trackball and button. 
- If you are doing more work with the trackball than with the keyboard, you can place the index and middle fingers of your dominant hand on the trackball and the thumb of the same hand on the lower trackball button, leaving your other hand free for typing. 

General suggestions:

- Change hand positions often to avoid fatigue.
- Try to keep your hands in a relatively straight line with your arms.



- Avoid rolling your thumbs under your palms.



See Chapter 8 for more information about working comfortably with your computer.

Choose a command

Choosing a command involves using a combination of the trackball actions you've reviewed.

- 1. Point to the Special menu title in the menu bar.**
- 2. Press to pull down the Special menu.**
- 3. Drag to the first item in the menu (the Clean Up Desktop command) so it becomes highlighted, and then release the trackball button.**



When you choose the Clean Up Desktop command, the startup hard disk icon and the Trash return to exactly the positions they occupied when you first turned on the computer (as long as they're already close to their original positions).

Giving orders to your Macintosh

Telling the Macintosh to do something involves two steps:

1. selecting an object on the screen, and
2. choosing the action you want to perform on that object.

When you select an object, you're telling the Macintosh to act upon that object.

The objects you can select include an icon on the Macintosh desktop, a sentence in a word-processing program, and a picture in a graphics program—to give just three examples.

Most of the actions you can perform on the selected object are listed in the menus at the top of the screen. The items, or actions, in the menus are called *commands*. When you choose a command, you are telling the computer to take the action you've chosen on the selected object.

So—you tell your Macintosh what to do by using a very simple “language” with only two kinds of words:

- nouns (the objects), and
- verbs (the actions)

and with only one rule:

- First the noun, then the verb (to this object, do that action). In Macintosh terms: select an object, then choose a command.

Open an icon

Opening an icon is your first exercise in telling the computer what you want it to do.

1. Click the startup hard disk icon to select it.

The icon is in the upper-right corner of the screen. Unless someone has changed its name, the icon is called “Macintosh HD.” Make sure that the icon is highlighted (darkened), which means that it’s selected.



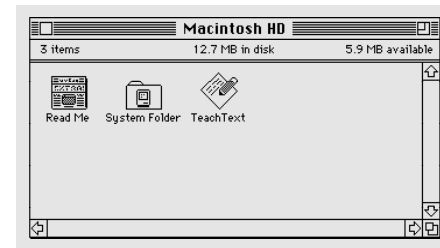
2. Point to the File menu title in the menu bar.

3. Press to pull down the File menu.

4. Drag to the Open command (the second item in the File menu) so it becomes highlighted, and then release the trackball button.



When you choose the Open command, the selected icon opens into a window (in this case, the Macintosh HD window). The icon itself becomes filled in with a pattern of dots, indicating that it has been opened.



- ❖ *Different icons?* The Macintosh HD window on your screen may contain items not shown in the illustration above. The differences are not important; you can still do the exercises in Part I of this book. ❖

Look at the contents of a window

Every window has several features that help you view the window's contents. But before you can work with the contents of a window, you need to make that window the active window.

Make a window the active window

You can have several windows open on your screen at one time, but only one window can be the active window. An *active window* is one in which you can select objects and choose actions to perform on those objects.

The Macintosh HD window is currently on your Macintosh desktop. (The window appeared when you opened the Macintosh HD icon.) You're going to open another window now.

1. Click the Trash icon near the lower-right corner of the screen to select it.

Make sure that the icon is highlighted, which means that it's selected.



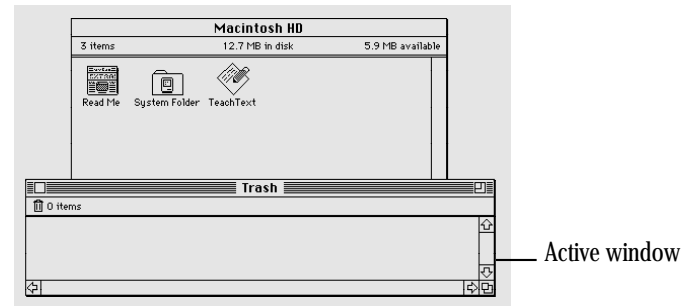
2. Point to the File menu title in the menu bar.

3. Press to pull down the File menu.

4. Drag to the Open command so it becomes highlighted, and then release the trackball button.



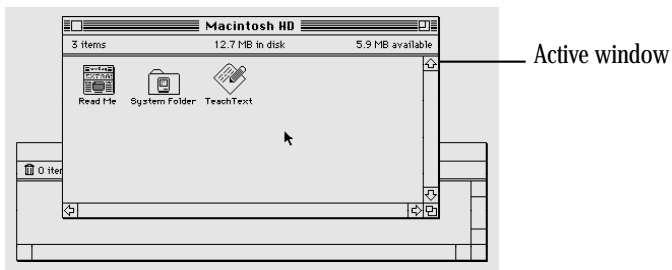
When you choose the Open command, the Trash icon opens into a window (the Trash window). The Trash icon itself becomes filled in with a pattern of dots, indicating that it has been opened.



You should now have two windows on your Macintosh desktop: the Macintosh HD window and the Trash window. The Trash window is the active window. An active window has solid lines along both sides of its title (at the top of the window).

5. Click anywhere in the Macintosh HD window to make it the active window.

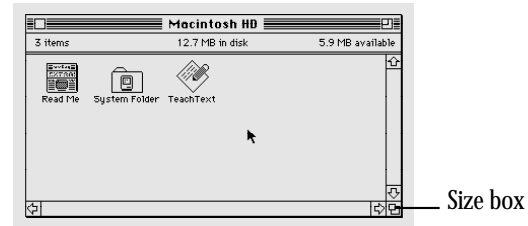
Notice that the solid lines now appear at the top of the Macintosh HD window. (The area containing the window title and the solid lines is called the *title bar*.) When windows overlap, the active window is the one that's on top.



Make a window larger or smaller

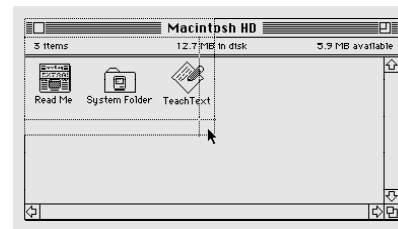
Sometimes you want to make a window larger, so you can see more of its contents, or smaller, so it takes up less space on your screen. You can change a window's size by dragging its *size box* or by clicking its *zoom box*.

1. Point to the size box in the lower-right corner of the (active) Macintosh HD window.



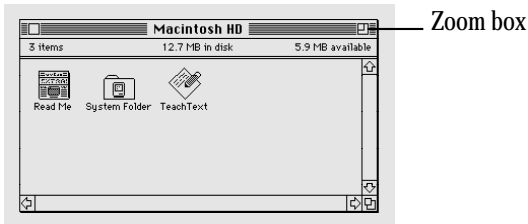
2. Drag the size box in any direction, and then release the trackball button.

While you drag, an outline follows the pointer to indicate the window's new size: larger or smaller, wider or narrower. The new size takes effect when you release the trackball button.



continues >

3. Click the zoom box near the right end of the title bar.



The window “zooms” to a size that shows all the items in the window.

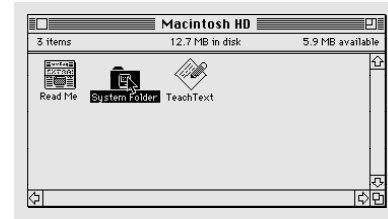
4. Click the zoom box again.

The window zooms back to its previous size (the size that you chose in step 2).

Move the hidden contents of a window into view

As you work with your computer, you’ll encounter windows containing more than you can view on the screen at one time. You can view any contents that are currently out of sight in any window, as described in the following steps.

1. In the (active) Macintosh HD window, click the System Folder to select it.



Make sure that the icon is highlighted, which means that it’s selected.

2. Point to the File menu title in the menu bar:

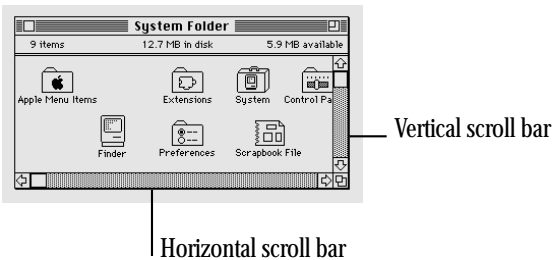
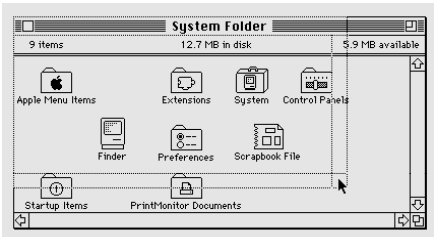
3. Press to pull down the File menu.

4. Drag to the Open command so it becomes highlighted, and then release the trackball button.

When you choose the Open command, the System Folder icon opens into a window (the System Folder window).

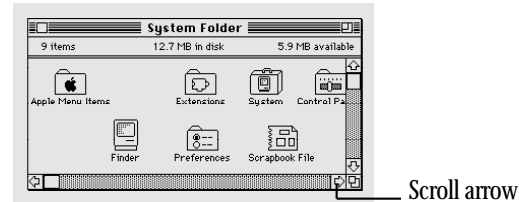
You should now have three windows on your Macintosh desktop: the Macintosh HD window, the Trash window, and the System Folder window. The System Folder window is the active window because you opened the System Folder most recently.

5. Point to the size box in the lower-right corner of the System Folder window.
6. Drag the size box diagonally (up and to the left) to make the window about half its current size, and then release the trackball button.



The bars across the bottom and along the right side of the System Folder window should now be gray, indicating that the window has contents that are not currently visible. The gray bars are called *scroll bars*.

7. Press the scroll arrow at the right end of the horizontal scroll bar:

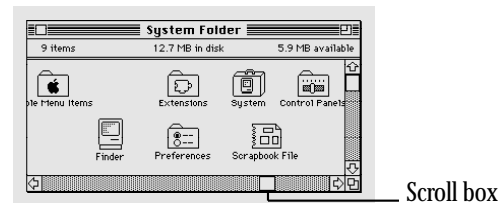


The contents of the window scroll past, bringing into view the icons that had been out of sight (on the right).

8. Press the scroll arrow at the left end of the horizontal scroll bar:

The contents of the window scroll past, bringing back into view the icons that had been out of sight (on the left).

9. Drag the scroll box toward the middle of the horizontal scroll bar, and then release the trackball button.



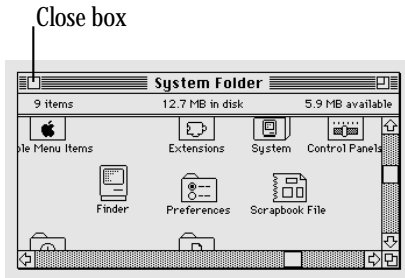
Now you see the icons near the middle of the window.

The vertical scroll bar, scroll box, and scroll arrows work the same way. Try them.

Close a window

When you no longer need to see the contents of a window, you can close it by clicking the *close box*.

1. **In the (active) System Folder window, point to the close box near the left end of the title bar.**



2. **Click the close box.**

The window closes, and the System Folder icon reappears in its previous form.

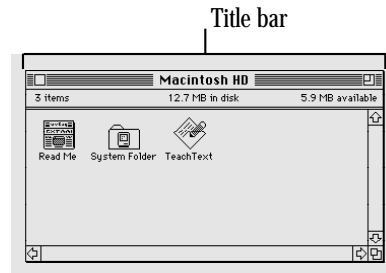
You should now see two windows on the desktop: the Macintosh HD window and the Trash window.

Move a window

You can move a window anywhere on the screen by dragging its title bar. By changing the position and size of windows, you can arrange your Macintosh desktop in whatever way is best for you.

1. **Point to the title bar of the (active) Macintosh HD window.**

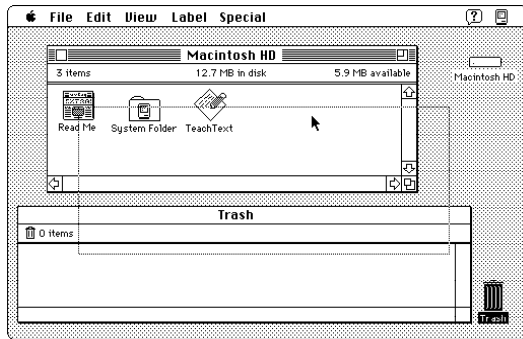
Position the pointer anywhere on the title bar except over the close box or the zoom box.



2. **Drag the title bar in any direction, and then release the trackball button.**

When you drag a window's title bar, an outline of the window follows the pointer on the screen. When you release the trackball button, the window moves to the position you've chosen.

Notice how the Macintosh HD window, because it is the active window, stays on top of the Trash window if and when the two windows overlap.



3. Close the Macintosh HD window by clicking the close box near the left end of the window's title bar.

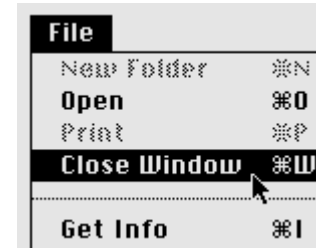
If you can't see the close box, drag the window until you can.



The window closes, and the Macintosh HD icon reappears in its previous form.

The Trash window (the remaining window on the Macintosh desktop) becomes the active window.

4. Close the Trash window by choosing Close Window from the File menu.



You choose Close Window by pointing to the File menu title, pressing to pull down the menu, dragging to the Close Window command, and, with the command highlighted, releasing the trackball button.

Of course, you can also close the window by clicking its close box.

What's on the desktop?

Just as its large flat surface is the work space on your desk, the Macintosh “desktop” is the work space on your computer. The desktop metaphor gives you a familiar way of thinking about how to use the Macintosh.

Aside from the field of gray that represents the “surface” of your work space, the Macintosh desktop has icons, windows, and menus.

- Icons represent containers.
- Windows let you view the contents of containers.
- Menus list actions that you can apply to selected containers or their contents.

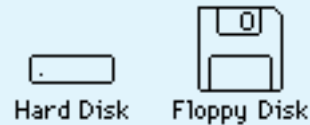
Icons represent containers

Icons can contain other icons, or they can contain information.

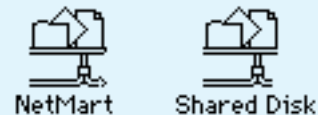
For example, the startup hard disk icon contains the System Folder icon. The System Folder icon contains the programs (more icons) that in turn contain the information the Macintosh needs to start itself up and work properly.

Several types of icons represent different types of containers.

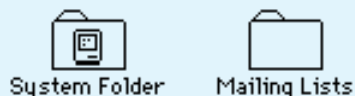
Hard disks and floppy disks are like filing cabinets. You use disks to store files—your programs and the documents you create with them.



Shared disks are like filing cabinets containing office supplies or records that you share with others in your work group. Your Macintosh needs to be connected to a network before you can use shared disks.



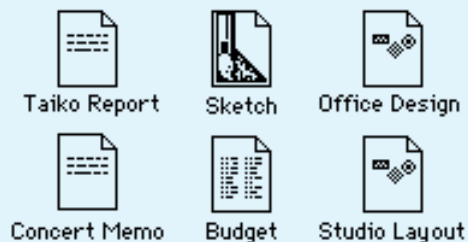
Folders are like folders in a file drawer. You use folders to organize your files.



Programs are files containing instructions to the computer that let you do certain types of work.



Documents are files containing words, pictures, numbers, sounds—whatever you create with your programs.



The Trash is a container for files that you no longer want.



Windows let you view the contents of containers

Windows let you see what's "inside" all these containers. When you open a disk icon, the window that appears shows you what's on the disk. When you open the document icon representing a memo, the window that appears shows you the memo.

Changing the size of a window or viewing its contents does *not* change the contents of that window. The contents remain the same; only your view changes.

Menus offer you choices

Like the menus in a restaurant, Macintosh menus let you choose. You choose among different actions that the computer can perform on selected containers (icons), or on the selected contents of containers (such as words in a memo).

Using the keyboard

You use the keyboard to type text and numbers, just as you would on a typewriter. (For touch typists, Macintosh keyboards have raised dots in the middle of the D key and the K key to help position your fingers on the home row.)

Depending on the program you're using, you can use special keys on the keyboard to give commands to the computer and to modify the effect of certain trackball actions. Macintosh PowerBook computer keyboards have two types of special keys: modifier keys and arrow keys.

Modifier keys

All Macintosh keyboards have four modifier keys: Shift, ⌘ (Command), Option, and Control.

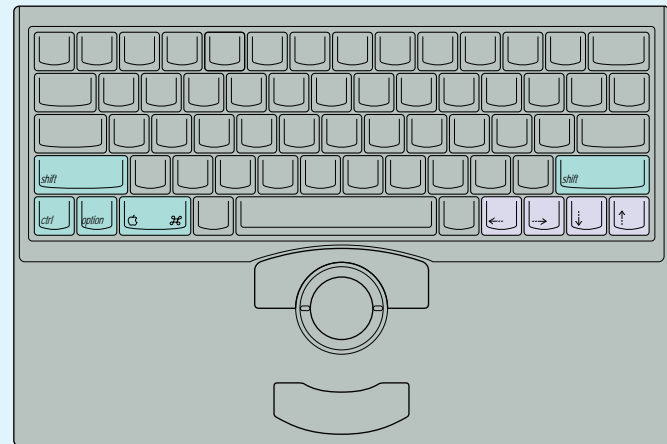
Pressed by itself, a modifier key does nothing. You need to press it in combination with another key (or while using the trackball). The modifier key “modifies” the other key or the trackball action, giving a different result.

You type a capital letter, for example, by pressing the Shift key with a letter key. Most programs let you choose commands by pressing the ⌘ key with certain letter keys.

Arrow keys

All Macintosh keyboards have four arrow keys: Up Arrow, Down Arrow, Left Arrow, and Right Arrow.

Many programs let you use the arrow keys as well as the trackball to move the pointer on the screen.



■ Modifier keys

■ Arrow keys

Chapter 3

Working With Disks

In this chapter

- What hard disks and floppy disks are for, and how they differ
- How to insert and remove a floppy disk
- How to prepare a disk for use
- How to copy the contents of a disk
- How to protect a floppy disk and its contents
- How to put programs onto your computer

Before you begin

Make sure you know whether your computer has an internal floppy disk drive, an external floppy disk drive, or no floppy disk drive. Refer to your setup guide if you aren't sure.

- If you have an internal floppy disk drive, you're ready to continue.
- If you have an external floppy disk drive, attach it to your computer now if you haven't already done so. See "Attaching the External Floppy Disk Drive" in Chapter 15 for instructions.
- If you don't have a floppy disk drive, skim this chapter for information about hard disks and putting programs onto your computer, and then continue with Chapter 4.

You need a new floppy disk to follow the steps in this chapter. You should be able to get floppy disks from wherever you got your Macintosh.

If your computer is in sleep or shut down, turn it back on now.

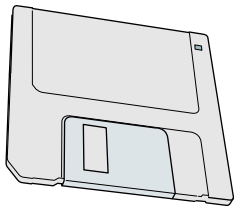
Insert a floppy disk

The internal and external floppy disk drives available for Macintosh PowerBook computers work the same way and use the same kinds of floppy disks. Both floppy disk drives can accommodate 3.5-inch (89-millimeter) floppy disks of two types:

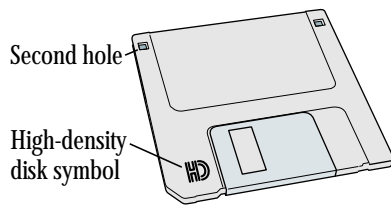
- high-density disks, which can hold up to 1.4 megabytes (MB) of information
- double-sided disks, which can hold up to 800 kilobytes (K) of information

(The next page explains kilobytes and megabytes.)

Double-sided (800K) disk



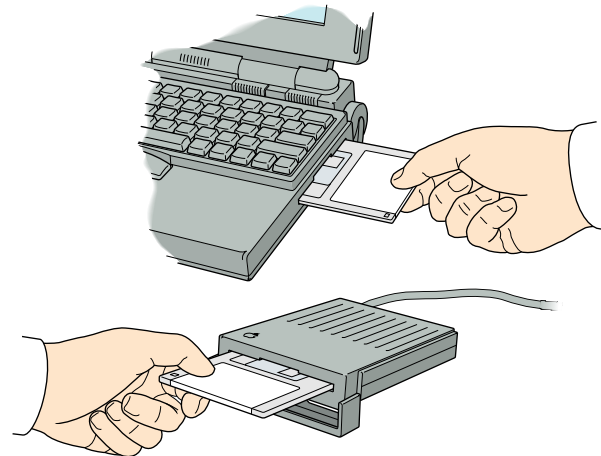
High-density (1.4 MB) disk



Follow these steps to insert your new disk into the disk drive.

- 1. Write “Practice” on a blank disk label.**
- 2. Attach the label to your new floppy disk.**

The molding of the disk’s protective plastic case indicates where the label goes. Do not affix the label over the metal shutter.
- 3. Hold the disk with your thumb on the label and the metal shutter pointing away from you.**
- 4. Push the disk into the floppy disk drive, label side up and metal shutter first.**

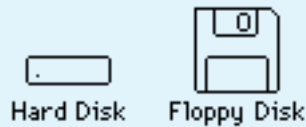


The next section, “Initialize a Disk,” explains what to do about the message that appears on your screen.

Floppy disks and hard disks

Both floppy disks and hard disks function like filing cabinets: you use them to store information. You can store much more on a hard disk than on a floppy disk, however, and the computer can retrieve information from a hard disk much faster.

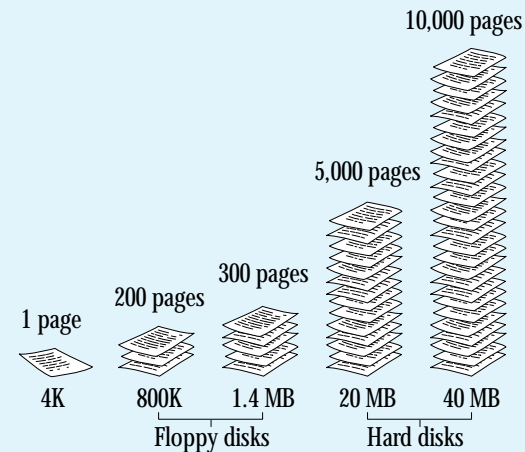
Floppy disks and hard disks are represented by different icons.



The disk whose icon is closest to the upper-right corner of your desktop is the *startup disk*, which contains the information the Macintosh uses to start itself up.

Your hard disk is sealed into the hard disk drive inside your computer. Floppy disks, in contrast, are meant to be taken in and out of floppy disk drives so you can easily transfer information from one computer to another.

A floppy disk is made of thin, flexible material with a magnetic coating. To protect it and make it easier to handle, the floppy disk itself is enclosed in a rigid plastic case, which gives the floppy disk its “non-floppy” character. Floppy disks are sometimes called *diskettes*.



Even the smallest hard disks can hold the equivalent of a few thousand pages of information. High-density floppy disks can hold 1.4 megabytes (MB) of information—about 300 typewritten pages. Double-sided floppy disks can hold 800 kilobytes (K) of information—about 200 typewritten pages. (A megabyte is about 1,000 kilobytes.)

Initialize a disk

Every new disk needs to be prepared for use. Preparing a new disk is called *initializing* it. In the same way that lines are drawn on a newly paved parking lot to mark off parking spaces, the initializing process creates organized areas on the disk where the computer can store information. Your computer's hard disk was initialized at the factory, but you need to initialize any new floppy disks you want to use.

1. Read the message on your screen.

The computer requests information from you or warns you about the consequences of an action by presenting a message in the form of a *dialog box*.

If you inserted a high-density disk, this dialog box appears:

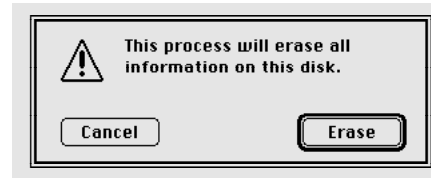


If you inserted a double-sided disk, this dialog box appears:



2. If you see the first box, click **Initialize**.
If you see the second box, click **Two-Sided**.

Another dialog box appears:



This dialog box appears because you can initialize old disks as well as new ones—and the computer doesn't know whether the disk in the drive is old or new. Initializing erases all information on a disk. In this case, because the floppy disk is new, there is no information on it to erase.

3. Click **Erase**.

A third dialog box appears:



4. Type **"Practice"**.

If you make any typing errors, press the Delete key to backspace over them.

5. Click OK.

The computer takes about a minute to initialize the disk. Messages appear on the screen to let you know how the process is going.

When initialization is finished, the disk's icon appears directly below the Macintosh HD icon (the startup hard disk icon) near the upper-right corner of the desktop.



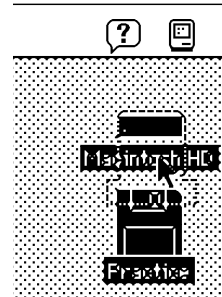
Copy the contents of a disk

Most programs you'll use with your Macintosh are supplied on one or more floppy disks. You can use a program more efficiently if you first *install* it on your hard disk. You install most programs by copying them from the floppy disk to your hard disk.

To practice copying the contents of a floppy disk to your hard disk, use your practice disk (even though there's nothing on it).

1. Drag the Practice floppy disk icon to the Macintosh HD icon until both icons are highlighted, and then release the trackball button.

Both icons are highlighted when the tip of the arrow pointer reaches the Macintosh HD icon.



When you release the trackball button, the Macintosh copies the contents of the Practice disk onto Macintosh HD (your hard disk).

Now, find the copy of Practice you just created.

continues >

2. Click the Macintosh HD icon to select it.

3. Choose Open from the File menu.

You choose Open by pointing to the File menu title, pressing to pull down the menu, dragging to the Open command, and then releasing the trackball button.

The Macintosh HD window appears, showing you the contents of the hard disk. The contents should include a new folder called Practice, which the computer created when it copied the contents of the Practice disk to Macintosh HD.

You may have to make the window larger or use the scroll bars to see the Practice folder.

4. Click the Practice folder icon to select it.

5. Choose Open from the File menu.

The folder holds the contents of the floppy disk you've copied. In this case, the folder is empty because there's nothing on the Practice disk.

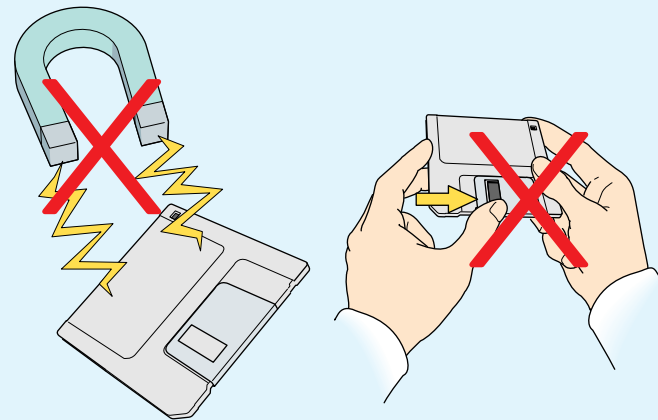
6. Close all the windows on the Macintosh desktop.

You close a window (when it's the active window) by either clicking its close box or choosing Close Window from the File menu.

Taking care of floppy disks

Follow the care instructions that came with your disks, and remember three key points:

- Keep floppy disks away from magnets. Because information is stored on the disk in the form of magnetic signals, a magnetic field can destroy that information. Televisions and monitors, telephones, loudspeakers, and certain kinds of lighting fixtures all contain magnets.
- Protect disks from extremes of temperature and humidity.
- Do not open the disk's metal shutter. Touching the disk inside the shutter could damage it.

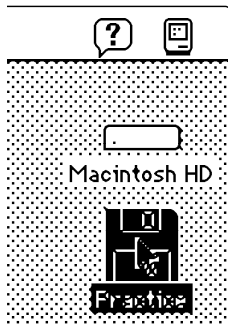


Take a floppy disk out of its drive

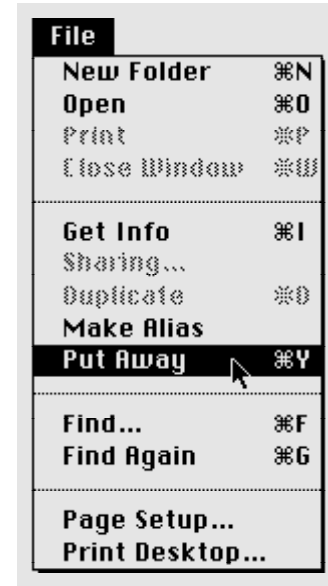
You take a floppy disk out of its drive when you no longer need to get information from or store information on that disk.

1. Click the Practice floppy disk icon to select it.

Click the icon, not its name.



2. Eject the floppy disk by choosing Put Away from the File menu.



You choose Put Away by pointing to the File menu title, pressing to pull down the menu, dragging to the Put Away command, and releasing the trackball button.

Put Away returns the object you've selected to its original place. In this case, it ejects the floppy disk from the disk drive so you can put it away.

Protect the contents of a disk

You can lock a floppy disk so its contents cannot be changed in any way. When a disk is locked, you cannot modify the files on it, delete any files, or store any new files.

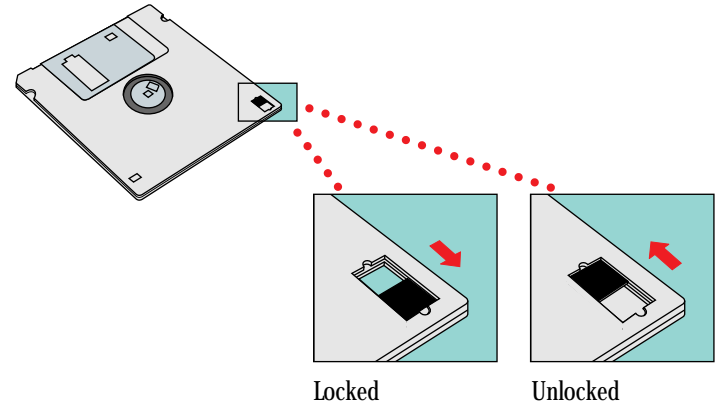
Use your practice disk to practice locking and unlocking a floppy disk.

- 1. Hold the practice disk with your thumb on the label and the metal shutter pointing away from you, as though you were going to insert the disk into a drive.**
- 2. Find the square hole in the near-left corner of the floppy disk.**

A moveable tab on the back side of the disk should be blocking the hole, indicating that the disk is unlocked.

If you're using a high-density disk, you'll notice an additional square hole, across the label from the first hole. This second hole has no moveable tab and is always open.

- 3. Turn the disk over and lock it by sliding the tab so that the square hole is open.**



Use your thumbnail or a push pin to move the tab.

- 4. Unlock the disk by sliding the tab back so that the square hole is blocked.**

You are unlocking your practice disk now so you can use it to store files in the next chapter.

Use the Trash

When you no longer need a file or a folder, you can throw it away by dragging its icon to the Trash. Practice using the Trash by throwing away the Practice folder, which you created when you copied the contents of your Practice disk onto Macintosh HD.

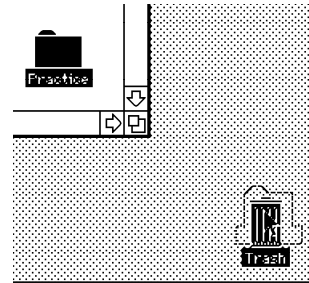
1. **Click the Macintosh HD icon to select it.**
2. **Choose Open from the File menu.**

The Macintosh HD window appears, showing you the contents of the hard disk. You may have to make the window larger or use the scroll bars to see the Practice folder.

3. **Drag the Practice folder icon to the Trash icon until both icons are highlighted, and then release the trackball button.**

If the Macintosh HD window is blocking the Trash icon, move the window by dragging its title bar.

Both icons are highlighted when the tip of the arrow pointer reaches the Trash icon.



When you release the trackball button, the Practice folder “disappears” into the Trash. When you put an object in the Trash, the Trash icon bulges to indicate that it is no longer empty.

continues >

4. Open the Trash icon.

(Click to select the icon, and then choose Open from the File menu.)

The Trash window appears. Anything you drag to the Trash stays there until you empty the Trash.

You can retrieve items from the Trash by clicking to select them and then choosing Put Away from the File menu. (Or you can drag the items back to where they were.)

5. Choose Empty Trash from the Special menu.

A message appears asking you to confirm that you want to permanently remove the contents of the Trash.

6. Click OK.

Clicking OK empties the Trash—in other words, its contents are erased from the disk.

Notice that the Trash icon no longer bulges, indicating that it is empty.

7. Close the Trash window by clicking its close box.

On your own: Install your programs

- If you have a floppy disk drive and disks containing programs that you plan to use with your Macintosh, you can install the programs on your hard disk now (or you can wait until later and continue with Chapter 4).
- If you do not have a floppy disk drive, you need to install your programs over a network (Chapter 8) or by connecting your computer directly to a desktop Macintosh (Chapter 15). Continue with Chapter 4 now and install your programs later.

The general instructions in this section describe how to copy the contents of a program disk to your hard disk.

△ **Important:** Some programs need to be installed in a particular way. If your programs came with specific instructions, follow them instead of the instructions in this section. △

1. Lock the program disk.

The program disk contains your master copy of the program. Locking the disk protects its contents but doesn't keep you from copying the contents onto another disk.

2. Insert the program disk into your floppy disk drive.

3. Drag the program disk icon to the Macintosh HD icon (your hard disk icon) until both icons are highlighted, and then release the trackball button.

Both icons are highlighted when the tip of the arrow pointer reaches the Macintosh HD icon.

When you release the trackball button, messages appear on the screen to let you know that the computer is copying the contents of the program disk onto your hard disk.

When the copying process is finished, the contents of the program disk appear on your hard disk in a folder that has the same name as the program disk.

4. Eject the program disk by selecting it and then choosing Put Away from the File menu.

5. Open the Macintosh HD icon.

The Macintosh HD window shows you the contents of your hard disk. Among its contents is the program folder, which contains the same items as the original disk.

6. Click the program folder to select it.

7. Choose Open from the File menu.

The folder window appears, showing you the contents of the program folder. The folder has the same contents as the program disk.

8. Look for a System Folder in the program folder.

Some program disks contain a System Folder so they can be used as startup disks. (A startup disk, by definition, is a disk that has a System Folder on it.) If the program disk you've copied has a System Folder, you now have two System Folders on your hard disk. For the computer to work properly, you must throw away any extra System Folders.

Throw away extra System Folders

Your startup disk must have *only one* System Folder on it. Whenever you copy the contents of a program disk to your hard disk, make sure that you have not copied an extra System Folder. If you have, throw the extra System Folder away.

- 1. Drag the extra System Folder from the program folder to the Trash.**
- 2. Choose Empty Trash from the Special menu.**

A message alerts you that you're about to throw away the contents of the Trash (in this case, the extra System Folder).
- 3. Click OK to confirm that you want to throw away the contents of the Trash.**
- 4. Close the program folder window by clicking its close box.**

Chapter 4

Creating a Document

In this chapter

- How to open a program
- How to use a program to create a document
- Why it's important to save your work, and how to save it
- How to switch between programs
- How programs and system software differ from each other
- How to close a document

Before you begin

If your computer is in sleep or shut down, turn it back on now.

Open a program

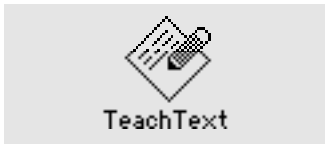
Your computer comes with a simple word-processing program called TeachText. You're going to use this program to create a document.

1. If you closed the Macintosh HD window when you finished Chapter 3, open the Macintosh HD icon now.

(Click the icon to select it, and then choose Open from the File menu.)

The Macintosh HD window appears, showing you the contents of your hard disk. The contents include the TeachText program.

2. Open the TeachText icon.



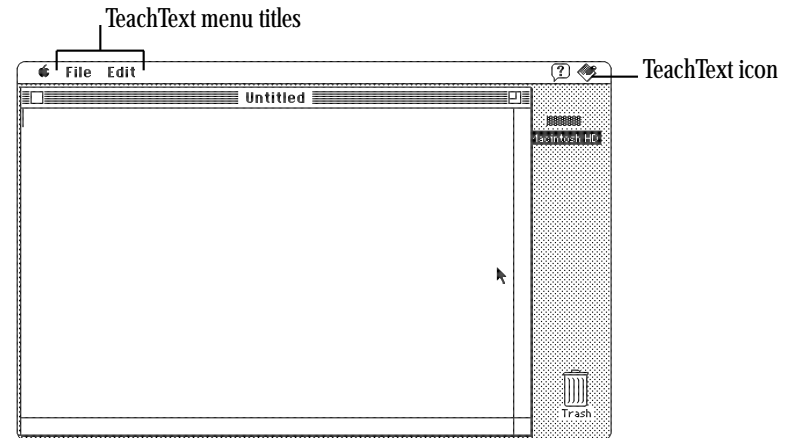
(Click the icon to select it, and then choose Open from the File menu.)

When you open the TeachText program, you notice one dramatic change on your desktop:

- A window called “Untitled” appears.

You also notice two subtle changes:

- The menu bar shows the menu titles for the TeachText program.
- The Application menu icon in the right corner of the menu bar becomes the TeachText icon.



The untitled window is empty because you haven't written anything in it. In the next few sections, you're going to write a short document, save it, and give it a name.

Create a document

The untitled window is like a blank sheet of paper. In the upper-left corner of the empty document is a blinking vertical line. This line is called the *insertion point*, because it marks the place where the text you type will be inserted.

As you type, use the Macintosh keyboard as you would a typewriter keyboard, except:

- If you make a mistake, press the Delete key to backspace over it.
- Don't press the Return key when you get to the end of a line. Keep typing, and words will move to the next line automatically.

Type the following text:

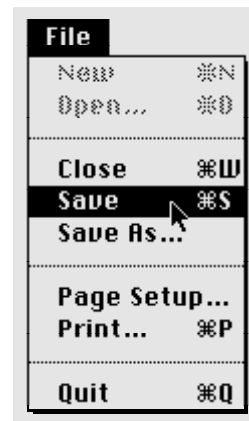
Sailing across an unknown sea, we saw the lights of a city in the distant horizon. Was it another strange land, with strange and cruel people speaking different languages, eating different food, wearing different clothes? We wished it were home.

You will be changing this text in the next chapter.

Save your work

Work that you do in a program exists only in the computer's memory until you save it onto a disk. Since work that exists only in memory is lost when you shut down the computer, you need to save your work so you can come back to it later. If you don't save your work, it disappears—like thoughts that are lost unless you write them down.

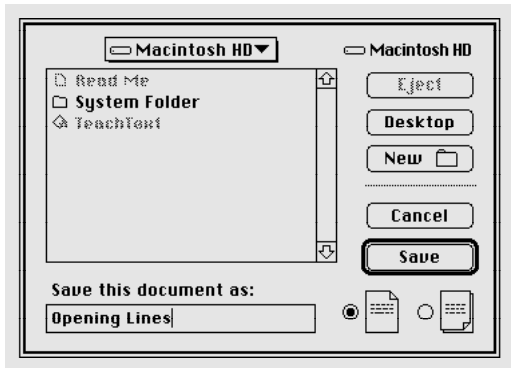
1. Choose Save from the File menu.



The dialog box that appears lets you name the document and save it on your hard disk.

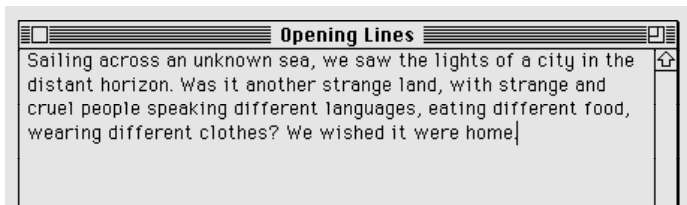
continues >

2. Type “Opening Lines”.



Because the word “Untitled” is selected (highlighted) when the dialog box appears, all you have to do to name your document is start typing. Whatever you type replaces the selected text.

3. Click Save.



The window is now titled “Opening Lines” and the document has been stored on your hard disk.

Switch programs

You can have several programs open on your Macintosh desktop at one time (how many depends on how much memory your computer has and how much memory the programs use). But only one program at a time can be the active program. The active program is the one that’s “on top of” other open programs—in the same way that the active window is on top of other windows.

The Opening Lines window is now the active window, and TeachText is the active program. But TeachText is not the only program that’s open.

Since you turned on your computer, you’ve been working with the Finder™ program. The Finder displays the Macintosh desktop. The Finder is always open when your Macintosh is on, so right now it is open but not active.

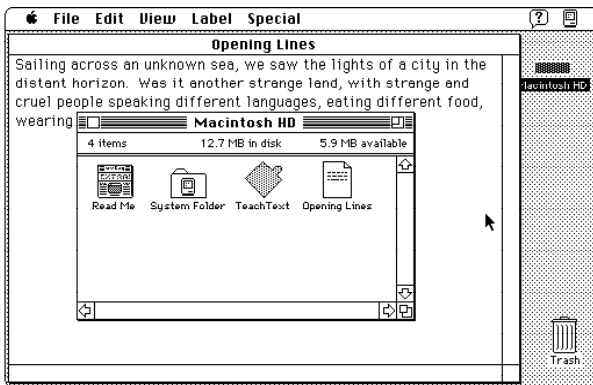
1. **Make the Opening Lines window smaller by dragging its size box up and to the left, and then release the trackball button.**

After you resize the window, you should be able to see your hard disk icon in the upper-right corner of the desktop.

2. Make the Finder the active program by clicking the Macintosh HD icon, or clicking anywhere on the desktop outside the Opening Lines window.

The Finder becomes the active program. Notice:

- The Macintosh HD window appears on top of the Opening Lines window.
- The menu bar shows the Finder's menu titles.
- The Application menu icon at the right end of the menu bar becomes the Finder icon.



You may also notice the Opening Lines icon in the Macintosh HD window, representing the document you just created and saved.

3. Make the Opening Lines window active by clicking anywhere inside it.

(Part of the window may be hidden by the Macintosh HD window.)

When you click, the Opening Lines window comes back to the top. It's now the active window again, and TeachText is the active program.

You make a window active by clicking any visible part of it. The program that “owns” the window becomes active when the window becomes active.

continues >

Here is another way to make a program active:

- 4. Make the Finder the active program by choosing Finder from the Application menu at the right end of the menu bar.**



You choose Finder by pointing to the Application menu icon, pressing to pull down the menu, dragging to highlight the name Finder, and then releasing the trackball button.

The Finder becomes the active program, and the Macintosh HD window becomes the active window.

- 5. Make TeachText the active program by choosing TeachText from the Application menu.**



TeachText becomes the active program, and the Opening Lines window becomes the active window.

All open programs are listed in the Application menu. You can use the Application menu to choose which program to make active. The icon in the menu bar (representing the “title” of the Application menu) is always the icon of the currently active program.

Two types of programs

Programs that you use to do your work on the computer are called *application programs*, or *applications*, because they're ways of applying computer technology to the work that you do.

Word-processing programs, for example, are applications that enable you to write memos, novels, or whatever you need to write. And if your work involves creating illustrations, designing buildings, composing music, or keeping track of large amounts of data, there are application programs for those kinds of work, too.

Because most Macintosh programs work in similar ways, you can transfer most of what you learn in one application to other applications.

Programs that the computer uses to do its work (in contrast to your work) are called *system software*, or sometimes the *operating system*.

And then there's the Finder

Between you and the system software is an application program called the *Finder*; which is the program that displays the Macintosh desktop. It's called the Finder because, like the viewfinder in a camera, it gives you a view of all the objects—disks, programs, folders, and documents—on your desktop.

You use the Finder to tell the system software what you want it to do for you: which disks you want to use, which documents you want to open, and where you want files to be stored.

Close a document

When you close a document, you do *not* close the program that you used to create it. (Closing a program is called *quitting*.) The program remains open and active until you quit the program or make another program active.

- 1. If the Opening Lines window is not the active window, click anywhere inside it to make it active.**
- 2. Close the Opening Lines window.**

You can either click the close box near the left end of the title bar, or choose Close from the File menu.

The Opening Lines window closes but TeachText is still the active program. Notice:

- The menu bar still shows the TeachText menu titles.
- The Application menu icon at the right end of the menu bar is still the TeachText icon.

Opening and closing documents and programs

Doing this	Also causes this
Opening a document	Opens the program that created that document
Making a document window active	Makes the program that “owns” that document active
Closing a document	Simply closes that document; <i>does not</i> close the program that created that document
Quitting a program	Prompts you to save your work, then closes the program that created the active document

Chapter 5

Changing a Document

In this chapter

- How to open a document
- How to change a document
- What “keyboard shortcuts” are and how to use them
- How to quit a program
- How to make a backup copy of a document

Before you begin

If your computer is in sleep or shut down, turn it back on now.

Open a document

When you open a document, the program you used to create that document becomes the active program.

1. If you closed the Macintosh HD window when you finished Chapter 4, open the Macintosh HD icon now.

(Click the icon to select it, and then choose Open from the File menu.)

The Macintosh HD window appears, showing you the contents of your hard disk. The contents include the TeachText program and the TeachText document called Opening Lines, which you created in Chapter 4.

The next step describes a different way to open an icon.

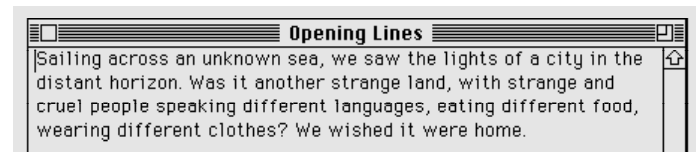
2. Open the Opening Lines icon by double-clicking it.



To double-click an icon, you click it twice in rapid succession without moving the pointer. (Use the trackball to position the pointer over the icon, and then click one of the trackball buttons twice.) Double-clicking an icon has the same effect as selecting the icon and then choosing the Open command.

When you open Opening Lines, TeachText becomes the active program. Notice that:

- the Opening Lines window appears
- the menu bar shows the TeachText menu titles
- the Application icon at the right end of the menu bar is the TeachText icon

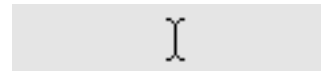


Change a document

The Opening Lines window shows you the text you typed in Chapter 4. In this section you'll make some changes to the text using techniques that work in most Macintosh programs.

Keep two things in mind:

- The insertion point—the blinking vertical line—marks the place where anything you type will appear.
- A pointer called an *I-beam* replaces the arrow pointer when you're working with text. You control the I-beam pointer with the trackball in the same way that you control the arrow pointer.

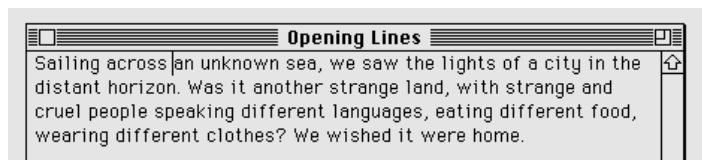


1. **Locate the insertion point. It should be in the upper-left corner of the document.**
2. **Locate the I-beam pointer. If you don't see it, roll the trackball slightly. The pointer moves as the trackball moves.**

Now you're ready to insert some text.

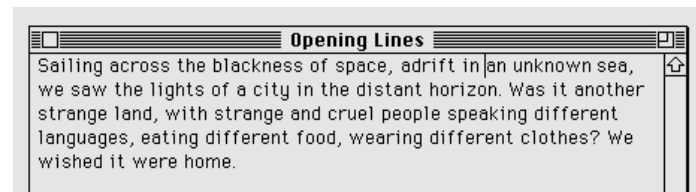
3. **Move the I-beam pointer to the immediate left of the word "an" (after "Sailing across").**
4. **Click the trackball button once.**

Clicking moves the insertion point to the spot where you positioned the I-beam. Whatever you type next is inserted at that point.



5. **Type the words "the blackness of space, adrift in".**

If you make any typing errors, press the Delete key to backspace over them.

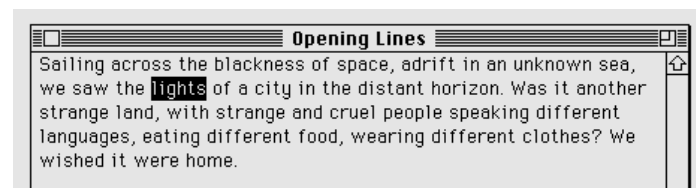


Now you'll change some text.

6. **Move the I-beam pointer to the immediate left of the word "lights" (after "we saw the").**
7. **Drag horizontally, selecting the word "lights", and then release the trackball button.**

To drag, hold the trackball button down while you roll the trackball. The selected word is highlighted (surrounded by black).

If you select more or less than you intended to, go back to step 6 and try again.

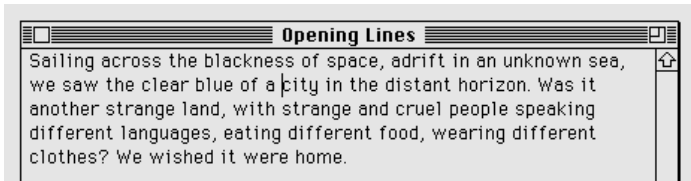


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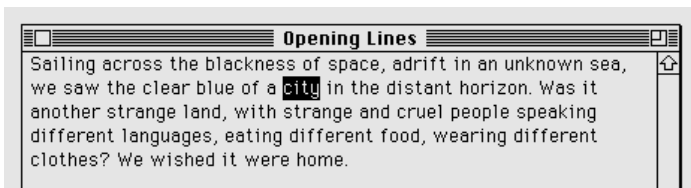
8 With “lights” selected, type the words “clear blue”.

The words you type replace the word you selected. (Press the Delete key to backspace over any typing errors.)

9 Now move the I-beam pointer to the immediate left of the word “city” (after “of a”).



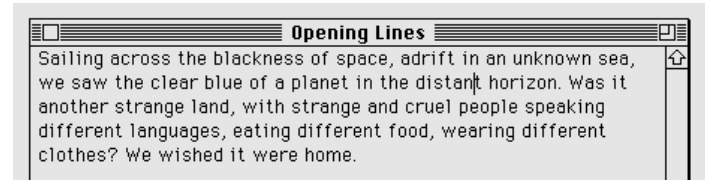
10 Drag horizontally, selecting the word “city”, and then release the trackball button.



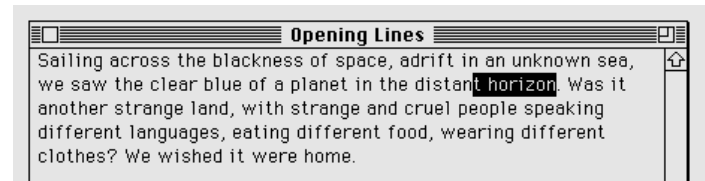
11. With “city” selected, type the word “planet”.

The word you type replaces the word you selected.

12. Move the I-beam pointer between the letters “n” and “t” in the word “distant” (after “in the”).

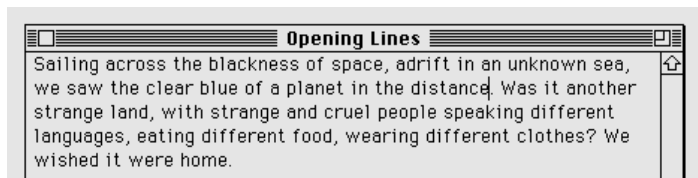


13. Drag to select the letter “t” and the word “horizon”, and then release the trackball button.



14. With “t horizon” selected, type the letters “ce”.

If the period is missing after “distance”, type one now.



(Press the Delete key to backspace over any typing errors.)

Save your work so far

The changes you’ve made so far are not part of Opening Lines until you save them. You save them by telling the computer to record them in the Opening Lines document that’s stored on your hard disk.

It’s important to remember that no change is “official” until you save it onto a disk. Your work could be lost if power to the computer were interrupted or if a problem with a program caused the computer to stop working properly.

Choose Save from the File menu.

Save regularly, and save often.

Taking a shortcut

You can choose some menu commands by using the keyboard instead of the trackball. A *keyboard shortcut* is a combination of keys that you press at the same time to get the same result as choosing a command from a menu. One of the keys you press is always the ⌘ key or another modifier key.

For example, instead of choosing Save from the File menu, you can hold down the ⌘ (Command) key on the keyboard while you press the S key. Pressing ⌘-S is a keyboard shortcut equivalent to choosing Save from the File menu.

You can see the available keyboard shortcuts by pressing a menu title and looking at the commands in the menu. The keyboard shortcuts are listed next to the commands.

Make more changes

The changes you've made so far are now part of the document that's stored on your hard disk.

Now you're going to move some text to a different place in the paragraph.

1. Move the I-beam pointer to the immediate left of the words “We wished” (at the beginning of the last sentence).

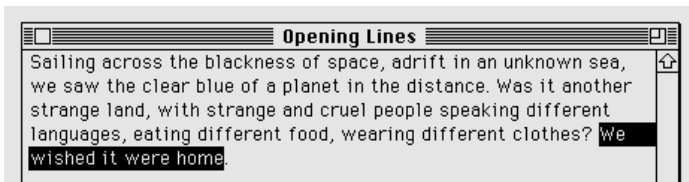
2. Click the trackball button once.

Clicking moves the insertion point to the spot where you positioned the I-beam.

3. Move the I-beam pointer between the letter “e” in “home” and the period at the end of the last sentence.

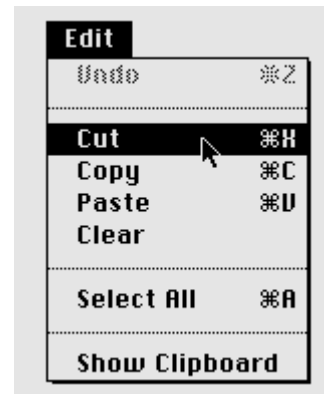
4. Hold down the Shift key on your keyboard and click to select the words “We wished it were home”.

Holding down the Shift key while you click selects the text between the insertion point and wherever you click.



5. With “We wished it were home” selected, choose Cut from the Edit menu.

Choosing Cut removes the selected material from the document and stores it in a small temporary file called the Clipboard.



6. Move the I-beam pointer to the immediate left of the word “Was” (in “Was it another strange land”).
7. Click to place the insertion point.
8. Choose Paste from the Edit menu.

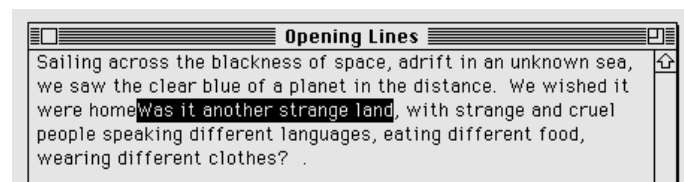


When you choose Paste, the Macintosh takes whatever’s in the Clipboard and puts it into the document at the location of the insertion point.

Next, you’ll delete a sentence.

9. Drag the I-beam pointer across the words “Was it another strange land” to select them, and then release the trackball button.

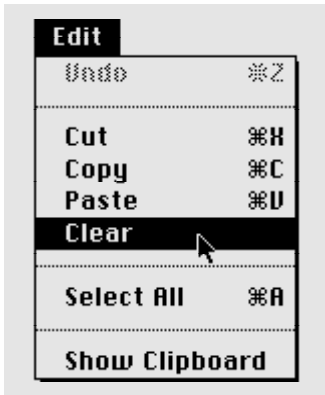
If the words are on two lines, drag down to the second line and release the trackball button when the pointer is to the immediate right of the word “land”.



continues >

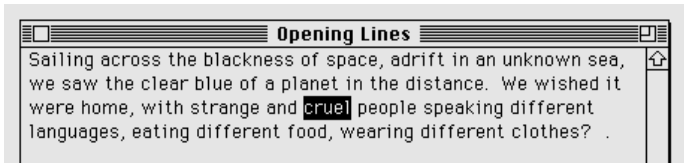
10. With “Was it another strange land” selected, choose Clear from the Edit menu.

When you choose Clear, the Macintosh removes the selected text from the document. (Pressing the Delete key once has the same effect.)



11. Select the word “cruel” (after “strange and”) by double-clicking it.

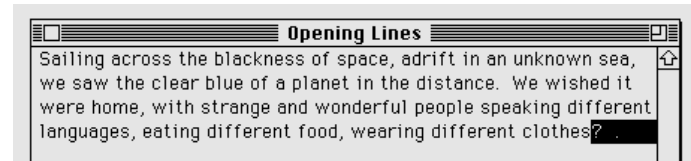
To select a word by double-clicking it, position the I-beam pointer over the word and then click twice in rapid succession, without moving the pointer.



12. With “cruel” selected, type “wonderful”.

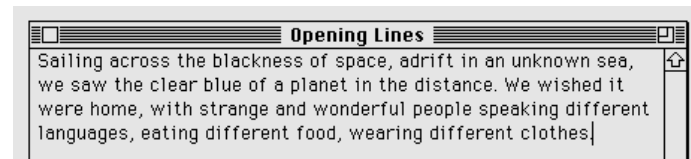
The word you type replaces the word you selected.

13. Drag the I-beam pointer across the question mark (after “different clothes”) and the stray period at the end of the paragraph, and then release the trackball button.



14. With the question mark and the period selected, type a period.

You may now have extra spaces or no spaces between words. If so, position the I-beam pointer where you need to delete or add a space, click to place the insertion point, and press the Delete key or the Space bar as necessary.



15. Choose Save from the File menu.

Quit a program

Quitting a program closes the program as well as any open documents that were created using that program. (Simply closing a document, which you did at the end of Chapter 4, leaves the program open and active.)

1. **Make sure that the Opening Lines window is active.**
2. **Quit the TeachText program.**

You can either choose Quit from the File menu, or press the ⌘ key and the Q key together.



If a message asks whether you want to save any changes, click Save.

The Opening Lines document and the TeachText program are closed, and the Finder becomes the active program.

Make a backup copy of a document

Storing a copy of your work on another disk is a wise practice, like saving often. Occasionally a file or an entire disk becomes damaged and you can no longer use your original document. (It seldom happens, but even once is too often.) If you have a backup copy of the document on another disk, you can continue working without interruption.

To practice making a backup copy, put a copy of Opening Lines on your practice disk.

(If you don't have a floppy disk drive, you're finished with this chapter. Turn now to Chapter 6.)

1. **Make sure the disk is unlocked.**

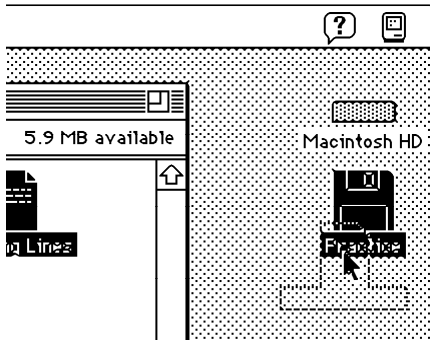
The moveable tab on the back side of the case should be blocking the square hole near the lower-left corner (when you hold the disk as if to insert it), indicating that the disk is unlocked.

2. **Insert the disk into your computer's floppy disk drive.**

The Practice disk icon appears on the desktop, directly below the Macintosh HD icon.

continues >

3. **Drag the Opening Lines icon to the Practice disk icon until both icons are highlighted, and then release the trackball button.**



Both icons are highlighted when the tip of the arrow pointer reaches the Practice disk icon.

When you release the trackball button, the computer copies the Opening Lines document onto the Practice disk.

You copy an icon by dragging it to a *different* disk. When you drag it elsewhere on the *same* disk, you are only moving it to a new location in the window.

4. **Open the Practice disk icon.**

Click the icon to select it and then choose Open from the File menu, or double-click the icon.

The Practice disk window appears, showing that a backup copy of the document, also called Opening Lines, is stored on the floppy disk.

5. **Eject the Practice disk from the disk drive.**

Make sure the Practice disk icon is selected, and then choose Put Away from the File menu. The Practice window disappears when you eject the Practice disk.



Chapter 6

Organizing Your Work

In this chapter

- How to duplicate a document
- How to change an icon's name
- When and how to use the Save As command, and how it differs from the Save command
- How to organize icons in a folder
- What an alias is and how to use one
- How to create a stationery pad

Before you begin

This chapter covers some basic tasks related to manipulating icons on your desktop. The usefulness of some of these tasks will be more apparent after you have been using your Macintosh for a while. You can go through this chapter now if you are interested; or you can skip to Chapter 7 now and then turn to the programs you bought to use with your computer.

If your computer is in sleep or shut down, turn it back on now.

Duplicate a document

You'll often want to make a copy of a document so you can preserve the original and modify the copy. To practice making a copy of a document you'll first create a new document.

1. If your hard disk window is closed, open the hard disk icon.

2. Open the TeachText icon.

An untitled window appears.

3. Type the following text.

Dear Mom and Dad,

This letter is overdue, I know, but until I sat down to write, I had no idea how long overdue it is. Time sure flies when you don't have enough of it.

Julie and I are doing well. The dog is getting better all the time. How are you all?

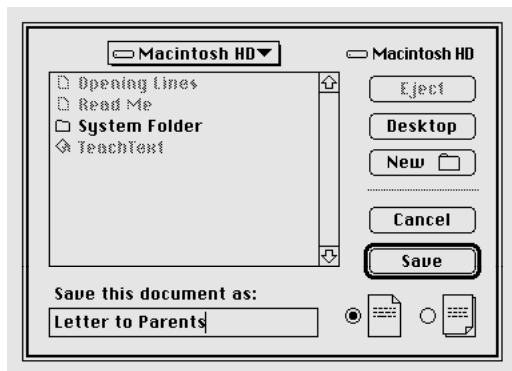
Remember:

- If you make a typing mistake, press the Delete key to backspace over it.
- When you get to the end of a line, keep typing. Don't press the Return key.
- Press the Return key only when you want to start a new paragraph.
- The insertion point—a blinking vertical line—marks the place where whatever you type next will appear.
- An I-beam pointer replaces the arrow pointer when you're working with text. You control the I-beam pointer with the trackball in the same way that you control the arrow pointer.

4. Choose Save from the File menu.

The dialog box that appears lets you name the document and store it on your hard disk.

5. Type “Letter to Parents”.



Because the word “Untitled” is already selected (highlighted) when the dialog box appears, all you have to do is start typing. The words you type replace the selected text.

6. Click Save.

The window is now titled “Letter to Parents” and the document has been stored on your hard disk.

7. Close the Letter to Parents window.

(Click the close box near the left end of the title bar, or choose Close from the File menu.)

The window closes, and TeachText remains the active program.

8. Click the hard disk icon, the hard disk window, or anywhere on the desktop.

The Finder becomes the active program. Among the contents of the hard disk window is the Letter to Parents icon, representing the document you just created and saved.

9. Locate the Letter to Parents icon in the hard disk window.

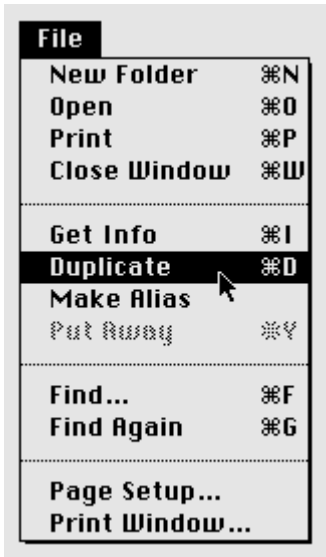
You may have to make the window larger or use the scroll bars to find it.

10. Click the Letter to Parents icon to select it.



continues >

11. Choose Duplicate from the File menu.



A new icon, labeled “Letter to Parents copy”, appears in the hard disk window. Notice that the icon is selected.



Change the name of an icon

You can change the name of any icon, using any characters except a colon (:). If you change an icon’s name and then open it, you’ll see that the name of its window has also changed.

1. Drag the “Letter to Parents copy” icon away from the original icon so that the two icons do not overlap.
2. Click the *name* (not the icon) “Letter to Parents copy”; do this even if the icon is already selected.

When the name is selected, it is highlighted and a box appears around it. Notice that when you point to the selected name, the arrow pointer becomes an I-beam.



3. With the name selected, type “Letter to Sister”.

(Or drag the I-beam over the words “Parents copy” to select them, and then type “Sister” to replace them.)

Whatever you type replaces the selected text.

4. Press the Return key.

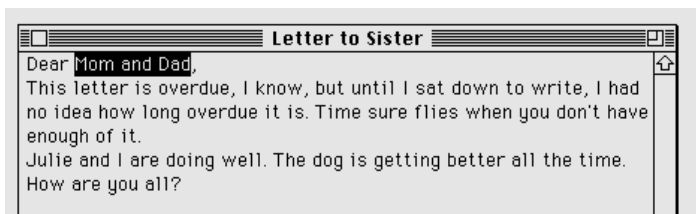
Pressing Return saves the new name.



Now you have two identical documents with different names. You can revise one without changing the other.

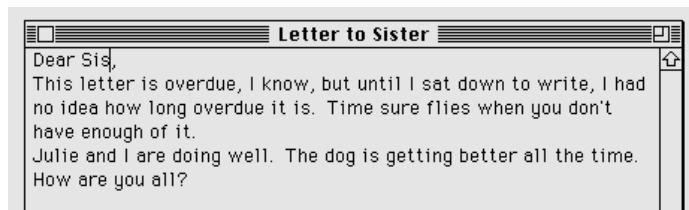
5. Open the Letter to Sister icon.

6. Drag the I-beam over the words “Mom and Dad” to select them.



7. Type “Sis”.

The word you type replaces the words you selected.



8. Choose Save from the File menu.

9. Choose Close from the File menu.

(Or click the close box near the upper-left corner of the Letter to Sister window.)

You now have two slightly different versions of your letter: one for your parents and one for your sister.

TeachText remains the active program.

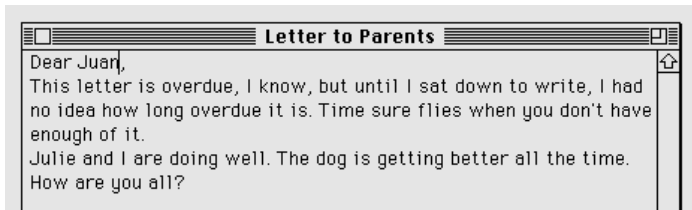
Save a different version of a document

There is another way to create a different version of a document: by saving a copy of that document under a different name.

1. **Click the hard disk icon, the hard disk window, or anywhere on the desktop.**

The Finder becomes the active program.

2. **Open the Letter to Parents icon.**
3. **Drag the I-beam over the words “Mom and Dad” to select them.**
4. **Type “Juan”.**



5. **Choose Save As from the File menu. Do not choose Save.**

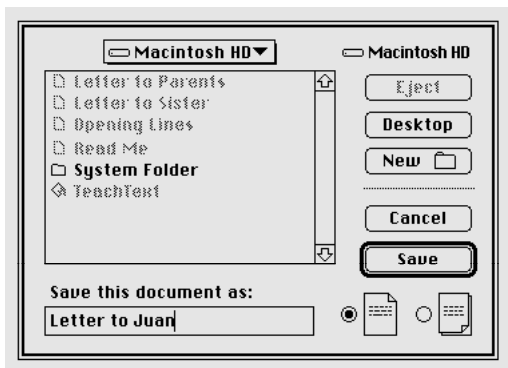


Choosing Save would change the original letter (so that the letter to your parents would begin, “Dear Juan”).

Choosing Save As, in contrast, lets you create a new document identical to the original except for the changes you just made. The original document remains unaltered.

The dialog box that appears lets you name the new document and tell the computer where you want to store it. “Letter to Parents,” the name of the original document, is already selected and ready to be changed.

6. Type “Letter to Juan”.



7. Click Save.

The new document, “Letter to Juan,” now appears in the active window, replacing the original document, “Letter to Parents.” Notice that the window’s title bar now says “Letter to Juan”.

If you were to open the original document, you would find that the first line is still “Dear Mom and Dad”.

Save?—or Save As?

Choosing Save stores the changes you’ve made to the active document (the document in the active window) since you opened it, or since the last time you chose Save.

Choosing Save As, on the other hand, creates a new document that includes the changes you’ve made. Save As sets aside the original document *without* storing the most recent changes to it. In other words, the original document remains the way it was when you opened it (or last saved changes to it).

When you give the new document a name, it replaces the original document in the active window. The title bar of the active window shows the name of the new document.

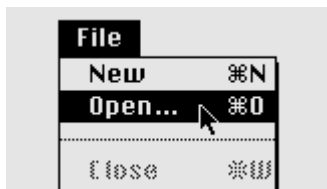
Open a document while its program is active

You can open a document *without* first making the Finder active and then opening the document icon on the Macintosh desktop. Whenever a program is active, you can open any document created with that program.

1. Close the document called Letter to Juan.

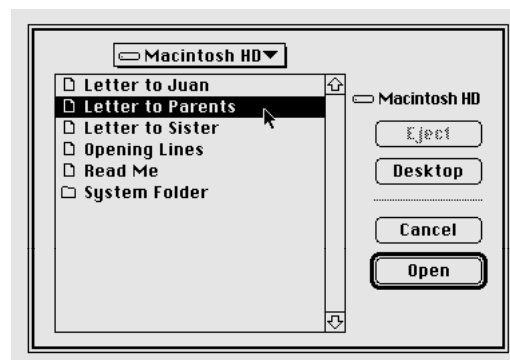
TeachText remains the active program.

2. Choose Open from the File menu.



The dialog box that appears lets you select the document you want to open.

3. Click Letter to Parents to select that document.



4. Click the Open button.

The Letter to Parents document window appears.

Organize icons in a folder

Sooner or later, you'll have more documents and programs on your Macintosh desktop than you can see at a glance. The Macintosh offers numerous tools and techniques (all explained in Part II of this book) to help you manage your files. Creating a folder and putting files in it is the simplest way to get organized.

1. Choose Quit from the File menu.

The Finder becomes the active program.

2. If your hard disk icon is not open, open it.

Your hard disk window should be the active window.

3. Choose New Folder from the File menu.



An icon named “Untitled folder” appears in the hard disk window. The icon, including its name, is already selected. (The name is highlighted and has a box around it.)

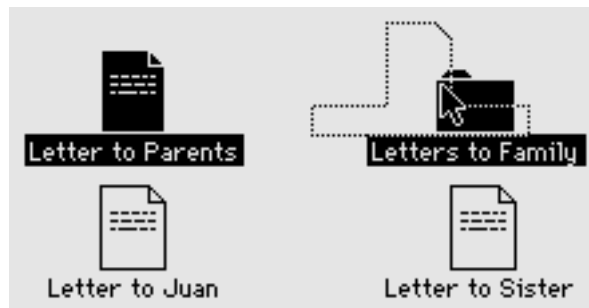


4. Type “Letters to Family” and press Return.

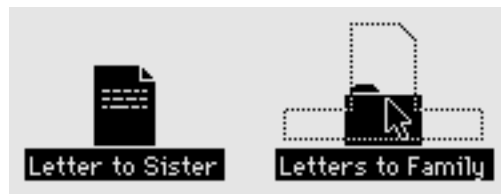


If nothing happens when you type, click the name of the icon so that a box appears around it, and then try again.

5. Drag the Letter to Parents icon to your new folder icon until both icons are highlighted, and then release the trackball button.



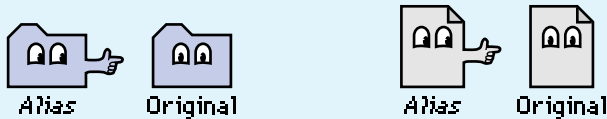
6. Drag the Letter to Sister icon to the new folder icon.



The Letters to Family folder now contains Letter to Parents and Letter to Sister. You can open the Letters to Family folder icon if you want to see the document icons.

What's an alias?

An *alias* is a representation of a program, a folder, or a document. It is not a *copy* of the program, folder, or document. An alias merely “points” to the original file that it represents. When you open an alias (in the same way that you would open the original file), you’re actually opening the original file. Any changes that you make and save are stored in the original file, so you see them when you open any of the aliases for that file. You can make as many aliases for a program, folder, or document as you want.



Why would you want to make aliases for a file? You could make several copies of the file instead—but each copy would take up much more room on your disk than an alias would. And if you wanted the copies to remain identical, you’d have to change every copy each time you changed one copy.

Using aliases helps you find your important files more easily, and saves space on your disks.

Use an alias

As you work, you may find it handy to store a program or a document in several different folders, so you can open it quickly from any of those folders.

1. If your hard disk icon is not open, open it.

Your hard disk window should be the active window.

2. Choose New Folder from the File menu.

An icon named “Untitled folder” appears in the hard disk window. The icon and its name are already selected.

3. Type “October Letters”.



4. Open the Letters to Family folder icon.

5. Click Letter to Sister to select it.



6. Choose **Make Alias** from the **File** menu.



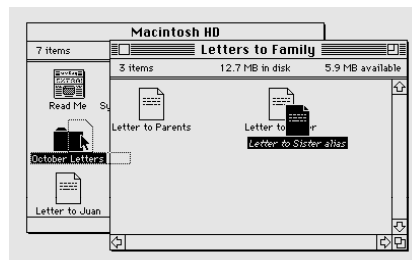
An icon named “Letter to Sister alias” appears on top of the Letter to Sister icon. The icon and its name are already selected.



Note that the name of the alias appears in italics. This is so you can tell which icons are aliases.

7. Drag the **Letters to Family** window aside until you can see the **October Letters** folder in the hard disk window behind it.

8. Drag the **Letter to Sister** alias to the **October Letters** folder in the hard disk window, and then release the trackball button.



You may have to change the size and position of the Letters to Family window so you can see both icons.

9. Open the **October Letters** folder icon.

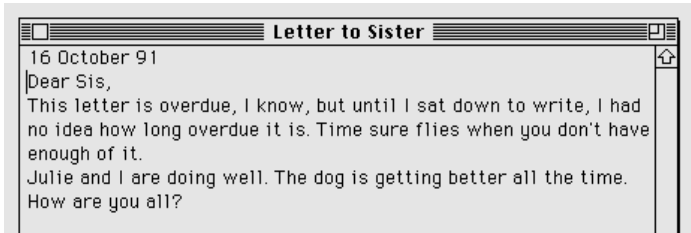
10. Open the **Letter to Sister** alias icon.

The document Letter to Sister opens, and TeachText becomes the active program.

The insertion point should be at the beginning of the document, to the left of the D in “Dear”.

continues >

11. Type “16 October 91” and press the Return key once.



12. Choose Save from the File menu.

13. Choose Close from the File menu.

The Letter to Sister document closes, and TeachText remains the active program.

You can open the original Letter to Sister icon (in the Letters to Family folder) and see that it is now dated 16 October 91.

Letter to Sister is now available in both the Letters to Family folder and the October Letters folder. By keeping the original document in one folder and an alias of that document in the other folder, you have access to the same letter from either folder.

14. Quit TeachText.

15. Close all the windows on the desktop.

Create a stationery pad

You may find it convenient to create a document that serves as the computer equivalent of stationery, like a memo pad or “While You Were Out” forms. Each time you need a sheet of this “stationery” you can take one from your endless supply and fill it in.

To practice creating a stationery pad, you’re going to create a TeachText document that works like a memo pad.

1. Open TeachText.

An untitled TeachText window appears.

2. Type the following text:

DATE :

TO :

FROM: [Type your name here]

RE :

3. Choose Save from the File menu.

The dialog box that appears lets you name the document and tell the computer where to store it.

If Macintosh HD (or the name of your own hard disk) does not appear above the list on the left side of the dialog box, click the disk name above the word Eject.

4. Type “Memo Pad”.



Because the word “Untitled” is already selected (highlighted) when the dialog box appears, all you have to do is start typing. The words you type replace the selected text.

5. Click Save.

The window is now titled “Memo Pad” and the document has been stored on your hard disk.

6. Close the Memo Pad document.

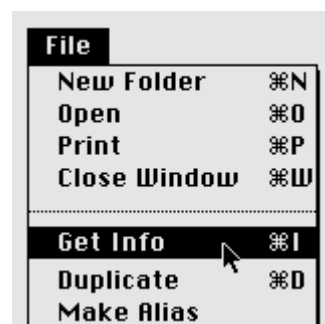
TeachText remains the active program.

7. Click the hard disk icon or the hard disk window.

The Finder becomes the active program, and the hard disk window becomes the active window. Among its contents is the Memo Pad document icon.

8. Click the Memo Pad icon to select it.

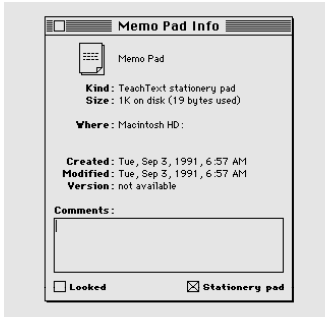
9. Choose Get Info from the File menu.



The Info window that appears contains information about the selected icon.

continues >

10. Click “Stationery pad” near the lower-right corner of the Info window so an X appears in the checkbox.



Clicking “Stationery pad” converts Memo Pad from an ordinary document to a stationery pad. When you open a stationery pad, an untitled window appears showing an unused “page” of that stationery (or a message appears asking you to name the new document).

11. Close the Info window.

Note that the Memo Pad icon has changed from an ordinary document icon to a stationery pad icon.



12. Close the Macintosh HD window.

Chapter 7

Learning More About Your Macintosh

In this chapter

- How to use the Balloon Help™ system
- Where to look for information about your computer and its software

Before you begin

This short chapter answers many questions you may have about where to find certain kinds of information about your computer.

If your computer is in sleep or shut down, turn it back on now.

Use Balloon Help

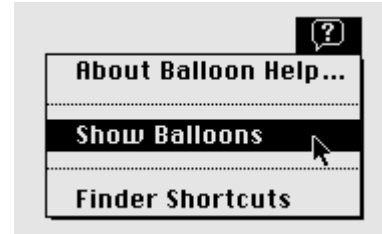
Balloon Help is a feature of all Macintosh computers that run System 7 or later. Balloon Help explains the function or significance of icons, menus, commands, and other objects on the Macintosh screen, using balloons similar to those in comic strips. Each balloon points to the object it explains.

Many Macintosh programs also have Balloon Help.

To use Balloon Help, you need to turn it on. Here's how:

- 1. Point to the Help icon near the right end of the menu bar.**
- 2. Press to pull down the Help menu.**

- 3. Drag to highlight the Show Balloons command, and then release the trackball button.**



Balloon Help is now turned on, and balloons containing explanatory text appear next to objects that you point to on the screen.

- 4. To show a balloon describing your startup hard disk, point to the hard disk icon.**

A balloon appears next to the icon. Except for the fact that balloons appear next to objects that you point to, the way you work with the computer is the same: you select icons, choose commands, and so on.

5. Click your hard disk icon to select it.

You can select the icon even with the balloon showing.

6. Point to the File menu.

A balloon appears next to the menu title.

7. Press to pull down the File menu.

The balloon disappears when you pull down the menu.

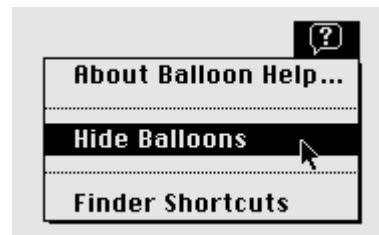
8. Slowly drag to highlight the Open command, and then release the trackball button.

Notice that a balloon appears next to a command if you pause briefly as you drag past it.

The hard disk window becomes the active window. To see more balloons, you can point to different parts of the window and to different icons in the window.

In the next step, you're going to turn off Balloon Help.

9. Choose Hide Balloons from the Help menu.



(Point to the Help icon in the menu bar, press to pull down the Help menu, drag to highlight the Hide Balloons command, and then release the trackball button.)

When Balloon Help is turned off, the Show Balloons command appears in the Help menu. When Balloon Help is turned on, the Hide Balloons command appears.

Use Part II of this book

Part II of this book, *Macintosh Reference*, contains all the information you need to use your computer's hardware and system software. Unlike Part I, which is meant to be read from beginning to end, Part II is meant to be used like an encyclopedia: you turn to it when you need to look up some information, and read only that information.

To help you find the information you need, this book has a table of contents and an index.

What's not in Part II

Part II of this book does not tell you

- how to set up your computer
Your setup guide tells you everything you need to know about setting up your computer and getting it started.
- how to use application programs
Your best source of information about a particular program is the set of books and disks that came with that program.
- your computer's technical specifications
Technical details about your Macintosh PowerBook are listed at the end of your setup guide.

Where to find information . . .

To find out about . . .	See . . .
Basic Macintosh skills	The <i>Macintosh Basics</i> tour Chapters 1–7
Basic Macintosh terminology	Balloon Help Glossary
Setting up your computer	Your setup guide
Using power efficiently	Chapter 9
Attaching other devices to your computer	Chapter 15
Using hard disks and floppy disks	Chapter 10
Exchanging files and disks with MS-DOS computers	Appendix B
Using printers	Chapters 13 and 15
Using your computer on a network	Chapter 14
Using your modem	Your modem manual
Installing system software	Chapter 8
Using system software	Chapters 8, 11, and 12
Using application programs	Your program manuals

To find out about . . .	See . . .
Working comfortably with your trackball and keyboard	Your setup guide Chapters 2 and 8
Customizing your Macintosh work environment	Chapter 12
Important safety information	Chapter 16
Troubleshooting information	Chapter 16 “Troubleshooting” section
Care and maintenance	Chapter 16
Technical information about your computer model	Your setup guide Appendix C

What next?

Congratulations. If you’ve gone through the *Macintosh Basics* tour and Part I of this book, you’ve seen and practiced all the basic skills you need to use your computer productively.

At this point, you could

- check the charge level of your battery and recharge if necessary (see Chapter 9 for more information)
- start learning how to use your application programs
- turn to any topic in Part II that interests you
- take a break

Macintosh Reference

- Chapter 8 Setting Up Your Macintosh System
- Chapter 9 Using Power Efficiently
- Chapter 10 Using Hard Disks and Floppy Disks
- Chapter 11 Organizing Your Files
- Chapter 12 Adapting the Macintosh to Your Own Use
- Chapter 13 Printing
- Chapter 14 Using Your Macintosh on a Network
- Chapter 15 Enhancing Your Macintosh System
- Chapter 16 Caring for Your Macintosh
- Appendix A Keyboards and Character Sets
- Appendix B Exchanging Disks and Files With MS-DOS Computers
- Appendix C For More Information About Your Macintosh
- Glossary

Use *Macintosh Reference* to look up answers to questions about using your computer and its system software. The table of contents or the index can help you locate the topic you want.

Before you consult *Macintosh Reference* you should have

- set up your Macintosh according to the instructions in the setup guide that came with your computer
- become familiar with the information in the *Macintosh Basics* tour and in Part I of this book

If you are an experienced Macintosh user and want to read about the features unique to PowerBook computers, these are discussed mainly in Chapters 9, 15, and 16.

If you need more technical information than is provided in Part II, see Appendix C.

Setting Up Your Macintosh System

In this chapter

- Setting up your computer hardware
- Working comfortably
- Installing, reinstalling, or updating your system software
- Installing your programs
- Working with several programs at a time

Setting up your computer hardware

For information on how to get your computer up and running, see the setup book that came with your Macintosh.

The table shows where to find information about setting up other equipment you can use with your computer.

Equipment	See
Battery recharger	Chapter 9
External floppy disk drive	Chapter 15
SCSI device (hard disk, scanner, etc.)	Chapter 15 and the device manual
Printer	Chapter 15 and the printer manual
Mouse or other input device	Chapter 15
Microphone	Chapter 15
Headphones or speakers	Chapter 15
Local-area network	Chapter 14
Modem	The modem manual

Working comfortably

These suggestions, along with those in Chapter 2, should help you work more comfortably with your computer.

- Whenever possible, sit with your feet flat on the floor and the backs of your knees slightly higher than the seat of your chair. Your chair should support your lower back.
 - When you use the keyboard and trackball, your shoulders should be relaxed. Your upper arm and forearm should form a right angle, with your wrist and hand in roughly a straight line. Use a soft touch on the keyboard and keep your hands and fingers relaxed.
 - Wherever you're working, take a moment to think about whether you feel comfortable, and change position if necessary.
- Adjust the screen to minimize glare and reflections from lights and windows. Make sure there is enough light to read the screen easily. Clean the screen regularly.
 - Occasionally rest your eyes. From time to time focus your eyes on a distant object, and blink often while you work.
 - Take periodic breaks from your work. Frequent short breaks are helpful in reducing fatigue.
 - Some computer users may develop discomfort in their arms, wrists, or hands if they do intensive work without breaks. If you begin to develop chronic pain or discomfort in your arms, wrists, or hands, consult your physician.

Installing, reinstalling, or updating your system software

System software is the set of programs that the Macintosh uses to start up, to keep track of your files, and to support the application programs you use. When you turn on your computer, it looks for a disk that contains the system software, which is always in a folder called the System Folder. Any disk that contains a System Folder is a *startup disk*.

The startup disk is usually the hard disk that's inside your computer, though a floppy disk can also be a startup disk.

If your Macintosh cannot find a startup disk, it displays this icon in the middle of the screen:



If you see this icon, you need to install system software on your computer's internal hard disk.

- ❖ *If your hard disk already has system software on it and you see this icon:* Your hard disk or system software may be damaged, and you may need to reinstall the system software. See “Starting Up With a Floppy Disk” later in this chapter, and “Testing and Repairing Disks” in Chapter 10. ❖

Before you install

You use the Installer program to install, reinstall, or update system software on a startup disk.

- △ **Important:** Before you install a new version of system software, make a backup copy of your current System Folder on another disk in case you need it later (to use a program that is incompatible with the new system software, for example). △

Using the Installer is a fast, efficient way to update your system software without losing special files (fonts, sounds, and so on) you may have installed.

Before you install, reinstall, or update system software:

- Your hard disk must be *initialized*, a process that prepares the disk to store information. (All Macintosh PowerBook computers have their hard disks initialized at the factory.)
- You need the Macintosh system software disks that came with your computer or your system software upgrade kit.

You'll be using the Installer program on the *Install 1* disk to start the process.

If you have access to the new system software on a shared disk on a network, you don't need a floppy disk drive or the system software disks. Open the Installer program and then follow the procedure in the next section, beginning with step 4.

Installing system software

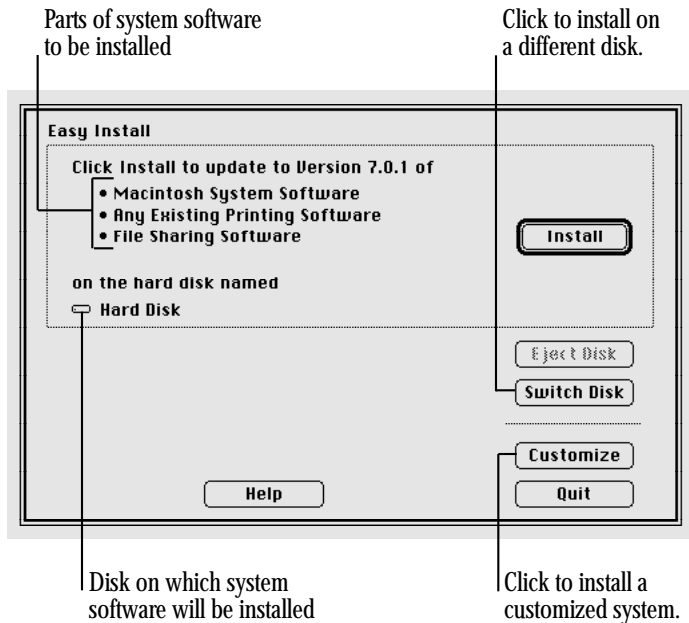
The Installer program's Easy Install option lets you install system software on your computer's hard disk.

1. **Shut down your Macintosh.**
2. **Insert the *Install 1* disk into the floppy disk drive.**
3. **Turn on your Macintosh.**

The Installer program opens automatically.

4 Click OK.

The Easy Install dialog box appears.



5. **Make sure that the hard disk named in the box is the one you want to install system software on.**

If it isn't, click the Switch Disk button until the correct disk name appears.

6. **Click Install.**

The Installer begins to install system software for your Macintosh model.

7. **Follow the instructions that appear on the screen.**

If you are installing from floppy disks, you see messages asking you to insert different system software disks so the installation process can continue.

If you are installing over a network, no such messages appear.

8. **When you see a message reporting that the installation was successful, click Quit.**

If a message reports that installation was not successful, try installing again. (Follow the instructions on the screen.)

9. **Restart your Macintosh.**

Make a backup copy of the System Folder on floppy disks (or on another hard disk).

Installing customized system software

Custom installation allows you to select a combination of system files for your specific needs. You can also use custom installation to install or update a single file, or to save space on your hard disk by installing only the files you want.

To install from floppy disks, begin with step 1; to install over a network, open the Installer program and begin with step 4.

1. **Shut down your Macintosh.**
2. **Insert the *Install 1* disk into the floppy disk drive.**
3. **Turn on your Macintosh.**

The Installer program opens automatically.

4. Click OK.

The Easy Install dialog box appears.

5. **Make sure that the hard disk named in the box is the one you want to install system software on.**

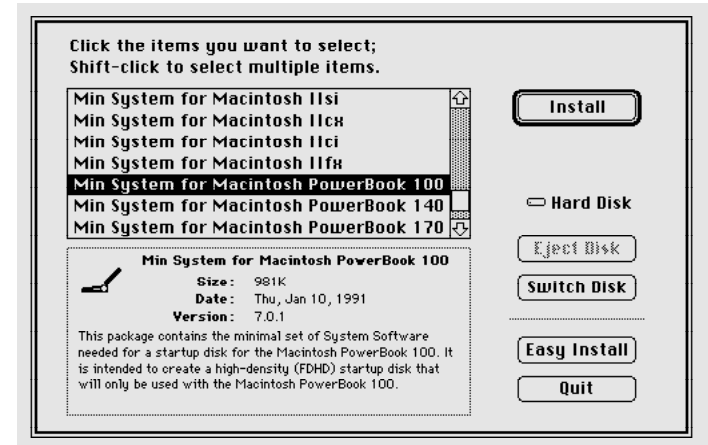
If it isn't, click the Switch Disk button until the correct disk name appears.

6. Click the Customize button.

The custom installation dialog box appears. All available components of the system software are listed.

7. **Scroll through the list of items and hold down the Shift key as you click the items you want to install.**

If you want to conserve space on your hard disk, select the “minimal software” option for your Macintosh.



- △ **Important:** Be sure to install the files that your Macintosh uses to communicate with the printer, network, and other equipment it is connected to. △

continues >

8. Click Install.

9. Follow the instructions that appear on the screen.

If you are installing from floppy disks, you may see messages asking you to insert different system software disks.

If you are installing over a network, no such messages appear.

10. When you see a message reporting that the installation was successful, click Quit.

If a message reports that installation was not successful, try installing again. (Follow the instructions on the screen.)

11. Restart your Macintosh.

Make a backup copy of the System Folder on floppy disks (or on another hard disk).

▲ **Warning:** Your startup disk must have only one System Folder. Multiple System Folders can cause malfunctions and data loss. You can use the Find command (in the Finder's File menu) to see if there is more than one System Folder on your hard disk. Drag any extra System Folders to the Trash. ▲

Starting up with a floppy disk

You need to use a hard disk as your startup disk with Macintosh system software version 7 or later. But if you're unable to use your hard disk and you have a floppy disk drive, you can start up your computer by inserting the *Disk Tools* disk into the floppy disk drive and then turning on the computer. This disk contains programs you can use to initialize, test, and repair disks. (See Chapter 10 for more information.)

Installing your programs

Most application programs come on floppy disks, and you install them by simply copying them from the floppy disks to your hard disk. (Some programs have special installation procedures; see the instructions provided with the programs.)

To use your programs most effectively:

- Put only one copy of each program on your hard disk. Having more than one copy can lead to problems when you're using the program.
- Whenever you copy the contents of a program disk to your hard disk, be careful not to copy an extra System Folder. Always check to see what you've copied, and drag any extra System Folders to the Trash.
- Put frequently used programs (or aliases for those programs) in the Apple menu so you can open the programs more conveniently. See "Installing an Item in the Apple Menu" in Chapter 11.
- If you want the Macintosh to open a program automatically each time it starts up, see "Specifying Which Items You Want Opened at Startup" in Chapter 12.
- Keep the original program disk in a safe place. If the program on your hard disk malfunctions, you can replace it with a fresh copy from the original disk.

- If a program malfunctions consistently, and installing a fresh copy does not correct the problem, find out from the software manufacturer whether your version of the program is compatible with the Macintosh system software you're using.

Installing programs without a floppy disk drive

If you don't have a floppy disk drive, there are other ways to copy programs onto your hard disk:

- If you have access to a network, you can connect your computer to the network and copy programs from a shared disk. See Chapter 14.
- If you have a PowerBook 100 and access to a desktop Macintosh, you can connect the two computers and copy programs directly from the desktop Macintosh. See "Using Your Computer as a SCSI Disk" in Chapter 15.

Remember that the software license agreement for a given program may limit the number of copies you can make. Make sure you're acting within the terms of the license agreement before you copy programs onto your computer.

Checking for computer viruses

Viruses—programs that damage files or erase disks—can be a significant problem for people who use computers. A virus can be introduced into your Macintosh from a floppy disk, from a shared disk on a network, or from an electronic bulletin board service.

Programs that detect and eliminate viruses are available from user groups, bulletin boards, and dealers.

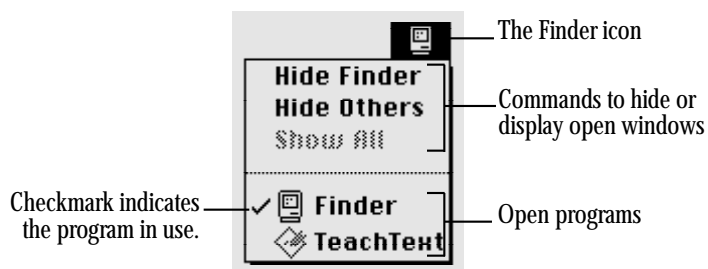
You should check for viruses frequently if you exchange disks or data with other users. Some programs check for viruses automatically.

- Check all disks—even those in new, unopened commercial software packages—for viruses before using them or copying anything from them to your hard disk.
 - Check your hard disk regularly with a virus-detection program and correct any problems the program finds.
- Since new viruses appear regularly, make sure you have the latest version of your virus-detection software.
 - To avoid compatibility problems, be sure to use only one virus-detection program at a time.
 - If your Macintosh is on a network or if you use a modem to connect to information services or bulletin boards, check for viruses each time you copy information from an outside source.
 - If you give information to other Macintosh users on disks or send information electronically, make certain that there are no viruses on your computer system before distributing the information.

Working with several programs at a time

You can open as many programs and desk accessories as your computer's memory allows.

All open programs are listed in the Application menu at the right end of the menu bar. The active program's name has a checkmark next to it, and its icon appears in the menu bar.



Finding out what programs are open

If you have several programs and windows open, you can find out which program is active and what other programs are open by pulling down the Application menu.

Switching programs

You can switch among open programs or desk accessories by choosing their names from the Application menu.

If a program's icon is dimmed in the menu, that means its windows are hidden. Choosing the program from the Application menu displays its windows.

You can also switch programs by clicking in a window that "belongs" to an open program, or by double-clicking a program icon (or the icon of a document that was created with the program).

Hiding and showing windows on the desktop

You can hide all windows except those of the active program by choosing the Hide Others command from the Application menu.

The other windows remain available even though they're hidden. When you switch to another open program, its open windows are displayed. If you want to see all the windows that are open, choose Show All from the Application menu.

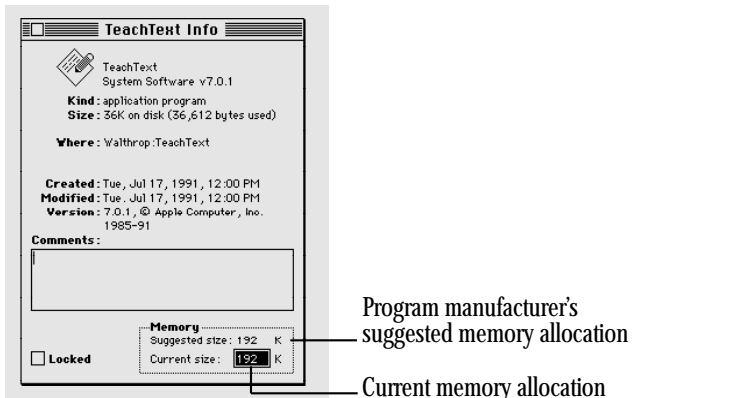
Changing the amount of memory a program uses

All open programs use a certain amount of your computer's RAM. Each program sets aside the amount of memory it needs. (If you see a "not enough memory" message on your screen, it usually means that you are trying to open more programs than your Macintosh has the memory to support.)

On rare occasions you may want to increase or decrease the amount of memory a program uses. You might want to increase the amount so you can open more documents at once, or you might want to decrease it so you can open more programs at once. You adjust the program's memory size in its Info window.

- 1. Quit the program if it's open, and then click the program's icon to select it.**
- 2. Choose Get Info from the File menu.**

The Info window appears.



- 3. Drag across the number in the box labeled "Current size" to select it.**
- 4. Type the number of kilobytes (K) of memory that you want the program to use.**

If you type a number smaller than the amount shown next to "Suggested size," the program may work more slowly, show other performance problems, or not work at all.

- 5. Close the Info window.**

If you make the memory size smaller than recommended, you'll see a message asking you to confirm your decision. Click Cancel to avoid problems with the program.

Using Power Efficiently

In this chapter

- Turning on the computer
- Turning off the computer
- Monitoring the battery charge level
- Recharging the battery
- Removing or replacing the battery
- Maximizing battery life
- Replacing backup batteries
- Conserving power

Turning on the computer

A working Macintosh PowerBook computer that appears to be off is in one of two power states: sleep (a “resting” state designed to conserve power) or shut down (off).

Turning on the computer for the first time

If your computer has never been used before, turn it on as described in your setup guide.

Turning on the computer to resume your work

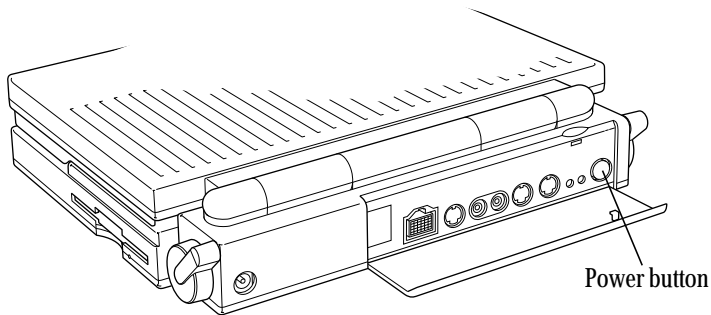
There are two ways to turn the computer back on:

- **Press any key on the keyboard.**

Pressing Caps Lock, pressing a trackball button, or moving the trackball does not turn on the computer.

- **Press the power button on the computer's back panel.**

You'll need to hold the button in for a fraction of a second for it to take effect. (The PowerBook 140 and 170 have a power button; the PowerBook 100 does not.)



If the Macintosh does not respond, try the following:

- If you have a PowerBook 100, make sure the storage switch is in the “on” position (up).
- Plug in the power adapter (in case the battery has become depleted). You may need to wait 15 minutes or so to give the battery time to recharge.
- Try pressing a key or the power button once more.
- See “Restarting a Computer That Can’t Be Turned On Normally,” later in this chapter.

Restarting a computer that's already on

You need to restart your computer—turn it off and back on again immediately—when you want to turn on certain changes to your control panels, turn on a newly installed system software file, or start up the computer from a different disk.

- **Choose Restart from the Special menu.**



When you choose Restart, the computer prompts you to save your work, closes all open programs, and then restarts itself.

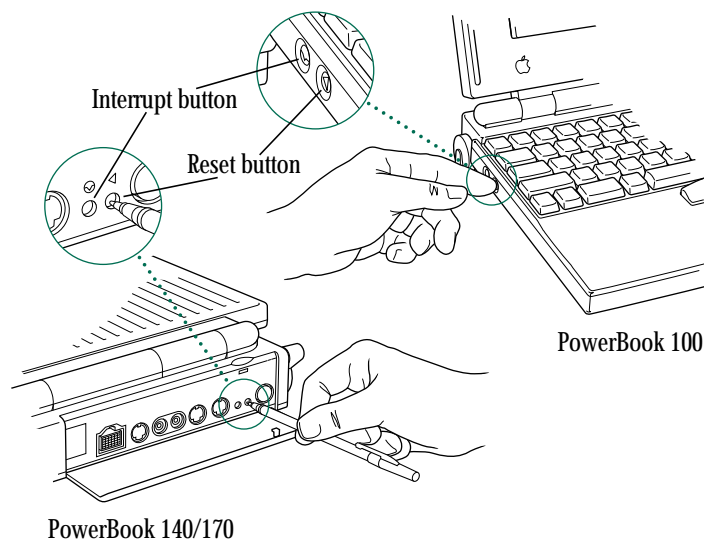
Choosing Restart does not affect your RAM disk (if you created one) or its contents.

You also need to restart if you see a “system error” message on your screen (indicating a temporary software problem). In this case, click the Restart button that appears.

Restarting a computer that can't be turned on normally

If your system crashes (a rare event resulting from temporary software problems), or if a computer with a properly installed and charged battery does not respond when you try to turn it on, you should be able to restart using one of the methods described in this section. Try them in the order given.

- **Press and release the reset button (the one on the right).**



continues >

On the PowerBook 140 and 170 the reset button is recessed; you can press it with a pen, a paper clip, or a similar object.

Restarting the computer with the reset button does not affect your RAM disk (if you created one) or its contents.

- **If your model has a power button, press the power button, wait a second, then press it again.**

This has the effect of turning the computer off and then on again. Turning the computer off with the power button removes a RAM disk and its contents.

- **Restart from a floppy disk.**

If your system has a floppy disk drive, try starting up from a floppy disk. Begin with step 1 if you have an external drive, and with step 3 if you have an internal drive.

- 1. If you haven't already done so, connect the external floppy disk drive to your computer as described in Chapter 15.**
- 2. Press the computer's reset and interrupt buttons simultaneously (see the illustration on the previous page).**
- 3. Insert the *Disk Tools* disk into the floppy disk drive.**

- 4. Press any key on the keyboard, or press the power button again.**

If the computer turns on, there is a problem with your hard disk. You may be able to fix the problem yourself (using the Disk First Aid™ program or another disk repair program; see Chapter 10). Or you may prefer to take the computer to your authorized Apple service provider.

- **If your model supports SCSI disk mode, connect it to a desktop Macintosh and start it up as a SCSI disk.**

The PowerBook 100 can be connected to a desktop Macintosh and used as an external SCSI disk drive. This feature allows you to reinstall system software without using floppy disks. The recovery procedure has two parts:

First you need to connect your computer to a desktop Macintosh, as described in Chapter 15.

Then you need to reinstall system software on your computer's hard disk, as described in Chapter 8.

Follow the steps in Chapters 15 and 8 if you need to restart your computer as a SCSI disk and reinstall its system software.

Turning off the computer

If you are taking a work break, put the computer to sleep.

If you want to turn off your computer for the night, transport it, connect or disconnect devices, or change the battery, shut the computer down.

Putting the computer to sleep

If you are turning off your computer for up to a few hours, save your work and then put the computer to sleep so it uses only the power it needs to maintain the contents of RAM.

There are two ways to put the computer to sleep:

- **Choose Sleep from the Special menu.**



- **Click the Sleep button in the Battery desk accessory.**



When you resume working, the desktop appears on the screen the way you left it.

Sleep shortcuts from the Battery desk accessory

You can put the computer to sleep from the compressed Battery desk accessory: with the Battery window active, hold down the Option key and click the battery icon next to the close box.

When you put the computer to sleep while AppleTalk is active, a message alerts you that sleep interrupts network connections, and you must click another Sleep button to confirm your decision. To bypass the AppleTalk message:

- If the Battery DA is expanded, hold down the Shift key while clicking the Sleep button.
- If the Battery DA is compressed, hold down the Option and Shift keys while clicking the battery icon.

Shutting the computer down

If you want to turn off your computer for the night or longer, transport it, connect or disconnect devices, or change the battery, save your work and then shut the computer down.

- **Choose Shut Down from the Special menu.**



Do not use the power button to shut down your PowerBook 140 or 170.

- ▲ **Warning** When you shut down a PowerBook 100, the RAM disk (if any) is not affected. When you shut down a PowerBook 140 or 170, however, the RAM disk is removed. ▲

The best way to store your computer if you will not be using it for a few days or weeks is to shut it down and leave it in a cool, dry place with the power adapter plugged in. You can also store your computer for up to a week without connecting the power adapter.

If you know that you will be storing your PowerBook 100 for longer than a week and cannot leave the adapter plugged in, you should turn off the storage switch.

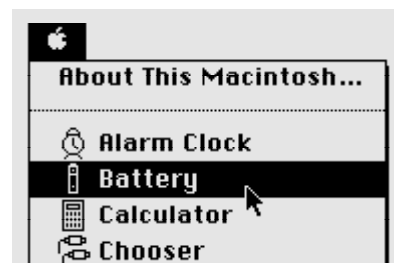
See Chapter 16 for complete instructions on storing your computer.

Monitoring the battery charge level

Your battery will last longer and your computer will perform better if you monitor the battery charge level and recharge it as appropriate. The Battery desk accessory shows roughly how much power is left in the battery.

Opening the Battery desk accessory

- **Choose Battery from the Apple menu.**



You can leave the Battery desk accessory on your desktop to keep track of the battery charge while you work.



Responding to low-power messages

When your battery starts to run low, the computer advises you by displaying a series of messages. The work time remaining after you begin to see low-power messages will vary depending on how you are using the computer. It is safest to put the computer to sleep or plug in the power adapter as soon as possible.

- The first message indicates that it's time to recharge the battery. Right after the message appears, the screen brightness dims automatically.

If you have a PowerBook 140 or 170, you may have just a few minutes of battery charge remaining. Recharge the battery as soon as possible after you see this message. If you can't recharge the battery right away, save your work and put the computer to sleep.

If you have a PowerBook 100, you may have up to 15 minutes of battery charge remaining. Recharge or replace your battery as soon as possible.

- If you continue to work without recharging the battery, the computer displays a second low-power message.

If you have a PowerBook 140 or 170, you may have just enough time left to save your work.

If you have a PowerBook 100, you have a few minutes of work time remaining. Plug in the power adapter now.

- A short time after the second message appears, the computer displays a third and final message indicating that the computer is about to put itself to sleep. When time is up, the computer goes to sleep automatically to protect the contents of RAM.

If you continue working until the computer goes to sleep automatically, you may not be able to wake it again until you recharge the depleted battery for 15 minutes with the computer's power adapter plugged in. With PowerBook 140 and 170 models, information you have not saved will be lost if you replace the battery instead of recharging the battery as just described.

If you don't have your power adapter available, the contents of RAM are retained in sleep for at least 2 days. If you recharge the battery within 2 days, you should be able to wake the computer and resume work where you left off.

△ **Important:** Recharge a depleted battery as soon as possible. Leaving a depleted battery in the computer for longer than 2 weeks (especially in a hot location, such as the trunk of a car) may damage the battery so that it cannot be recharged. If this happens, you need to replace the battery. See Chapter 16 for information about storing your computer safely. △

Do not use your computer without a battery. While it may work with the power adapter plugged in and no battery installed, your backup batteries begin to drain as soon as you unplug the power adapter, and dirt that gets into the computer through the battery compartment can cause problems with your equipment.

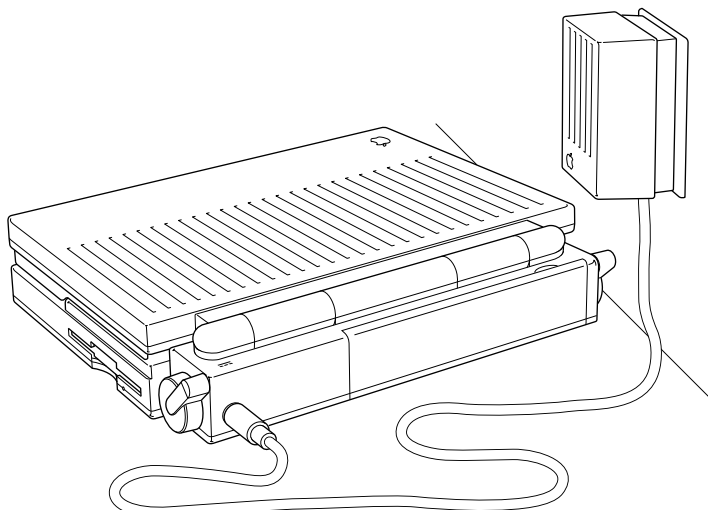
Recharging the battery

You can recharge the battery in either of two ways:

- plug in the power adapter
- use an (optional) external recharger

Using the power adapter

To use the power adapter, plug it in as shown. Place the computer on a flat surface; don't recharge the battery with the computer in a vertical position. If you have a PowerBook 100, make sure the storage switch is in the on (up) position, or the battery will not charge.



By using the power adapter you can recharge the battery without taking it out of the computer. You can continue to use the computer while the battery is recharging, but the battery will take longer to recharge if you do.

▲ **Warning** Use only the power adapter that came with your Macintosh PowerBook. Adapters for other electronic devices (including other portable computers) may look similar, but they may damage your computer. ▲

A lightning bolt icon appears in the Battery desk accessory when the power adapter is plugged in and the battery is recharging. The lightning bolt icon goes away when recharging is about 85% complete, though recharging continues. The icon appears even if the power adapter is plugged into the computer only, so make sure the adapter is plugged into both the computer *and* a power outlet.

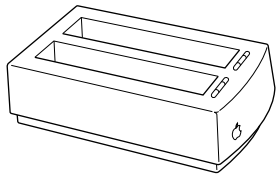
Battery recharging time while the computer is in use depends on how often you use the hard disk, how bright the screen is, how deeply the battery is depleted, and other factors. If you recharge with the computer shut down, your battery will be about 80% recharged within 2-3 hours (it takes several more hours to bring the battery charge to 100%). Your battery will last longer if you recharge it at (or slightly below) room temperature.

If you use the power adapter whenever you're working near an electrical outlet, you should seldom have to stop work to recharge.

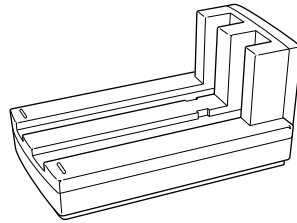
See "Maximizing Battery Life" later in this chapter for more information about using your battery efficiently.

Using an external recharger

An external battery recharger and additional batteries are available as options for your computer. If you purchase a recharger and an extra battery, you can charge one battery while you use the other, so you always have a fully charged battery on hand.



PowerBook 140/170
recharger



PowerBook 100
recharger

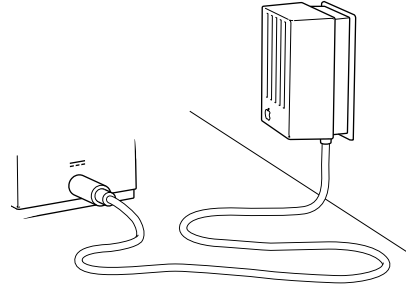
The rechargers can accommodate two batteries. The battery slots work independently, so you can put batteries in or take them out at different times.

The recharger must be plugged into an electrical outlet to charge a battery. You can plug it in using the power adapter that came with your computer, or you can purchase an additional (identical) power adapter from your authorized Apple dealer.

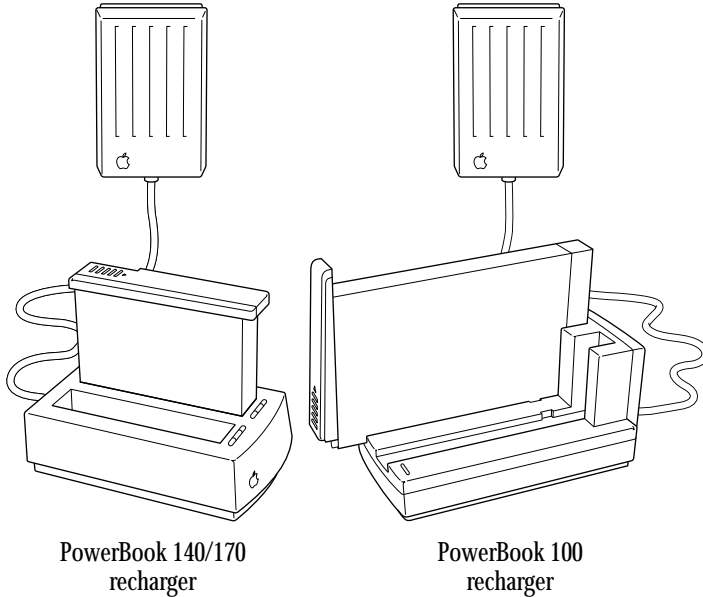
△ **Important:** Do not use any other type of power adapter with the recharger. Doing so may damage the recharger, the power adapter, or both. △

To recharge a battery, follow these steps.

- 1. Place the recharger on a level surface.**
- 2. Plug one end of the power adapter into the recharger and the other end into an electrical outlet.**



3. Place the battery in the recharger as shown in the illustrations.



The light beside the battery slot indicates the charge status of the battery.

- **No light:** The recharger is not plugged in, or the battery is defective. (If the light goes off during recharging, there is a problem with the battery.)
- **Yellow:** The battery is charging.
- **Green:** The battery is charged and can be used.

The table shows approximate recharging times for fully depleted batteries.

PowerBook	80% charge	100% charge
140/170		
1 battery	2.5 hours	5 hours
2 batteries	5 hours	10 hours
100		
1 battery	2 hours	6 hours
2 batteries	4 hours	12 hours

You can remove a battery from the recharger at any time during or after recharging.

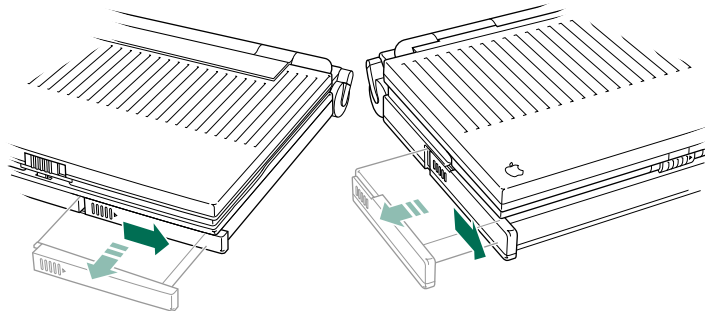
△ **Important:** To preserve a battery's charge, don't leave it in the recharger if the power adapter is not plugged into an electrical outlet. △

Removing or replacing the battery

To remove or replace the battery, follow these steps.

1. **Save your work, and then choose Shut Down from the Special menu.**
2. **Close the display.**
3. **Open the battery door by sliding its cover panel in the direction indicated by the arrow.**

The battery door is physically attached to the battery. Replacement batteries come with a battery door attached.



PowerBook 100

PowerBook 140/170

4. **Carefully pull the battery out of its compartment.**
5. **If you are inserting a new or a spare battery, slide it into the battery compartment.**
6. **Close the battery door by sliding it back into place.**
7. **If you just inserted a new battery, it's a good idea to plug in the power adapter in case the battery is not fully charged.**

△ **Important:** Macintosh PowerBook computers use sealed lead-acid and nickel-cadmium batteries, which contain hazardous materials. It is inappropriate, and in some cases unlawful, to throw the batteries away with your household or business trash. Return dead batteries to your authorized Apple service provider, who will make sure they are handled correctly through Apple's battery recycling and disposal network. See Chapter 16 for more about proper battery care and for information about how to find an Apple service provider near you. △

▲ **Warning:** Damaged nickel-cadmium and sealed lead-acid batteries may leak small amounts of potassium hydroxide or sulfuric acid, respectively. These substances can cause severe burns to the skin and eyes. If you touch a damaged battery, immediately wash your hands and any other affected areas with water for at least five minutes. **Do not use soap.** ▲

Maximizing battery life

Macintosh PowerBook computers use two types of batteries that differ in their charging characteristics. The PowerBook 140 and 170 use nickel-cadmium (NiCad) batteries, and the PowerBook 100 uses sealed lead-acid (SLA) batteries.

To maximize the life of PowerBook 140 and 170 (NiCad) batteries, discharge them completely once every 90 days. Just use the computer as you normally would, but ignore the low-power messages that appear on the screen. (Make sure to save your work, however.) When the computer goes to sleep automatically, recharge the battery completely before using that battery again.

Avoid discharging a PowerBook 100 (SLA) battery to the point where the computer goes to sleep automatically. If this happens occasionally it will not harm the battery, but repeated deep discharges will shorten the battery's life.

With proper care you can expect your battery to last for at least a year. If you notice that the battery no longer holds a charge for as long as it should, you may need to replace it.

Replacing backup batteries

In addition to its main battery, your computer has one or more small backup batteries that maintain your clock and control panel settings while you replace the main battery. (The PowerBook 100 backup batteries also maintain the contents of RAM—your RAM disk and any work in progress.)

The backup batteries usually last several years. You need to replace them if you notice that some of your system settings changed after you removed or replaced the main battery. (You may notice, for example, that the clock time is different.) By replacing the backup batteries you can preserve your system settings the next time you change the main battery.

The PowerBook 140 and 170 have one backup battery, which must be replaced by an authorized Apple service provider.

The PowerBook 100 has three backup batteries, which you can replace yourself. It is important to use the correct type of replacement battery. Recommended types include the Sony CR2430 and Sanyo 2430 3-volt lithium cells, available at most consumer electronics stores.

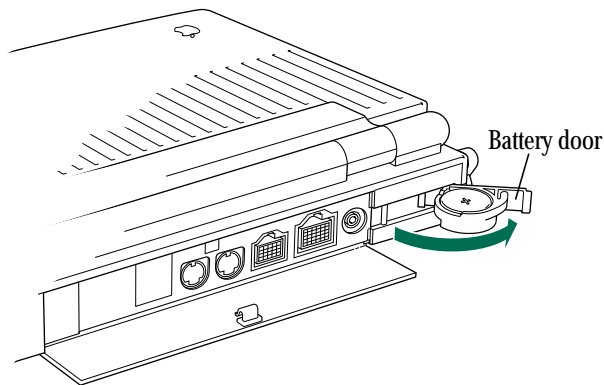
△ **Important:** Lithium batteries contain hazardous materials. It is inappropriate, and in some cases unlawful, to throw the batteries away with your household or business trash. Return dead batteries to your authorized Apple service provider, who will make sure they are handled correctly through Apple's battery recycling and disposal network. △

To replace the backup batteries in your PowerBook 100, follow these steps.

▲ **Warning:** Lithium batteries can explode if handled improperly. ▲

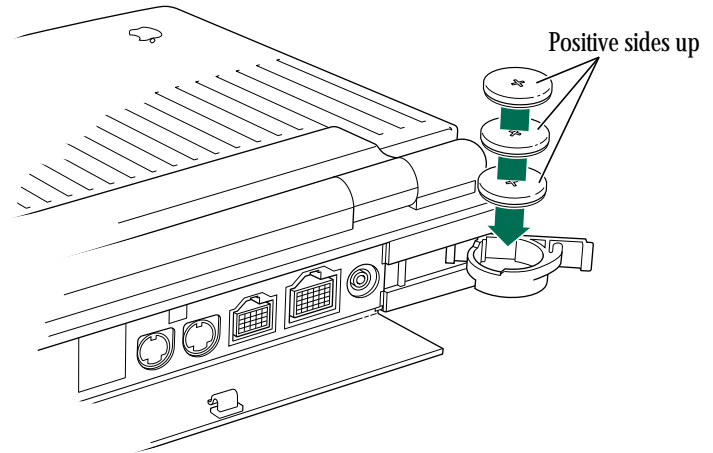
1. **Save your work, and then choose Sleep from the Special menu.**
2. **Close the display.**
3. **Open the door covering the ports on the back of the computer.**
4. **Open the battery door.**

Use your fingernail or a similar object to open the door.



5. **Remove and replace the three lithium cells.**

Make sure to place the new batteries with their positive sides up, as shown in the drawing.



6. **Close the battery door and the door covering the ports.**

You're ready to start using the computer again. Remember to restore your previous clock and control panel settings if necessary.

Conserving power

The more efficiently you conserve power, the longer you can work without having to recharge your battery. The length of time you can use your Macintosh between battery charges varies considerably, depending on the configuration of your system and the methods you use to conserve power.

PowerBook	Work time*	80% charge**	100% charge**
140/170 (NiCad)	2-3 hours	2-3 hours	8 hours
100 (SLA)	2-4 hours	2-3 hours	10 hours

*Typical use time; actual times will vary.

**Typical time to charge in the computer (shut down).

Suggested methods of maximizing battery use time

Not all of these methods apply to all PowerBook computers, as indicated by notes following some items.

- Turn down the screen brightness whenever possible. At its highest level, the screen brightness consumes up to half the power your computer is using.
- Adjust the automatic sleep controls for the system and the hard disk to the shortest intervals you find convenient.

- Plug any SCSI devices you use with your computer into their own power sources, turn them on before the computer, and turn them off after the computer.
- Quit any program that uses a modem unless you're using the program for telecommunication. As long as the program is open, your modem is consuming power.
- Keep virtual memory turned off (PowerBook 140 and 170).
- If you're working near an electrical outlet, plug in the power adapter while you work.
- Whenever you aren't using the computer, even for a short time, put it into system sleep and plug in the power adapter.
- Turn on Power Saver (PowerBook 170 only).
- If your computer has 6 MB of memory or more, use a RAM disk as your startup disk to minimize hard disk use.
- Connect only low-power Apple Desktop Bus (ADB) devices, marked with the icon below, to the ADB port.



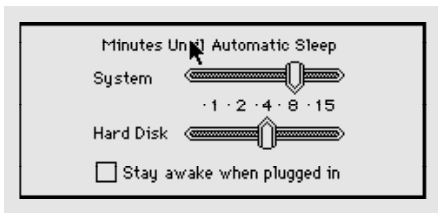
Adjusting system rest

The power consumption of your computer's microprocessor is reduced automatically when the computer detects that no activity requiring its attention has taken place for a certain period of time. This feature is called *system rest*. The microprocessor comes back up to speed instantaneously when you resume using the computer.

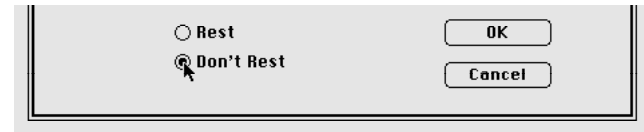
You don't need to do anything to use system rest. But if you notice that one of your programs performs very slowly, you might want to turn off system rest while using that program.

To turn off system rest, follow these steps.

1. **Choose Control Panels from the Apple menu.**
2. **Open the Portable control panel.**
3. **Hold down the Option key while clicking "Minutes Until Automatic Sleep."**



4. Click Don't Rest.



(Click Rest to turn system rest back on.)

5. Click OK.

If you have open programs performing an activity in the background, system rest may slow those programs down.

- ❖ *Other effects?* When system rest is on, you may notice that the Alarm Clock is updated irregularly or that the wristwatch pointer appears on the screen more often. These changes do not indicate a problem with your computer. ❖

△ **Important:** To conserve power most efficiently, turn off system rest only when using programs that system rest interferes with. Turn system rest back on again as soon as possible. (System rest is turned back on automatically the next time you choose Restart or Shut Down.) △

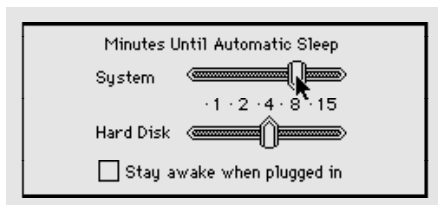
Adjusting system sleep

System sleep is a power-conserving state in which your computer uses only the power it needs to maintain the contents of RAM. A computer in system sleep has a darkened screen and appears to be off, though it is still drawing battery power at a low level.

When you're not using the computer, system sleep goes into effect automatically after a time interval that you designate.

To set the system sleep interval, follow these steps.

1. **Choose Control Panels from the Apple menu.**
2. **Open the Portable control panel.**
3. **In the “Minutes Until Automatic Sleep” box, drag the slider to set the number of minutes of inactivity before system sleep takes effect.**



The shorter the interval you select, the more power you conserve. When you change the setting, the new setting takes effect immediately.

If you have the power adapter connected, you can prevent system sleep by clicking “Stay awake when plugged in.”

4. Close the control panel.

If you want to put the computer to sleep before the selected time interval elapses, choose Sleep from the Special menu or click the Sleep button in the Battery desk accessory.

You “wake” the computer from sleep by pressing any key on the keyboard except Caps Lock. (On the PowerBook 140 and 170, you can also wake the computer by pressing the power button.)

- ❖ *System sleep and network use:* System sleep does not go into effect automatically under the following circumstances:
 - The AppleTalk® software is turned on.
 - Your computer is connected to a shared disk on the network.
 - Your computer’s modem port or printer port is in use. ❖

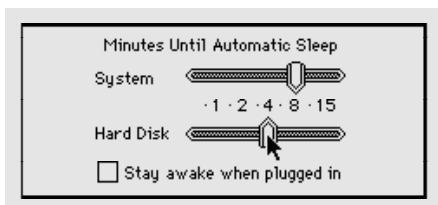
Adjusting hard disk sleep

Hard disk sleep is a power-conserving feature that stops your computer's internal hard disk from spinning when it isn't being used. Hard disk sleep goes into effect automatically after a time interval that you designate.

The hard disk starts spinning again (after a delay of a few seconds) when the computer needs it to store or retrieve information.

To set the hard disk sleep interval, follow these steps.

- 1. Choose Control Panels from the Apple menu.**
- 2. Open the Portable control panel.**
- 3. In the “Minutes Until Automatic Sleep” box, drag the slider to set the number of seconds or minutes of inactivity before hard disk sleep takes effect.**



The shorter the interval you select, the more power you conserve. When you change the setting, the new setting takes effect immediately. The interval before hard disk sleep cannot be longer than the interval before system sleep.

If you have the power adapter connected, you can prevent hard disk sleep by clicking “Stay awake when plugged in.”

4. Close the control panel.

You should not use hard disk sleep and virtual memory at the same time because virtual memory requires frequent hard disk access. See Chapter 12 for more about virtual memory.

In all other respects, using your computer's hard disk is like using any other hard disk.

Using Power Saver

The PowerBook 170 has a feature called *Power Saver* that slows down your computer's microprocessor from 25 MHz to 16 MHz. Decreasing the microprocessor speed may slow the performance of some programs, but you may gain up to 30 more minutes of work time before you need to recharge the battery. Power Saver also limits the screen brightness range by reducing the highest brightness settings.

To use Power Saver, follow these steps.

1. **Choose Battery from the Apple menu.**
2. **If necessary, click the lever in the upper-right corner to expand the Battery desk accessory.**
3. **Click the On button.**



4. **Choose Restart from the Special menu.**

The computer restarts at the lower microprocessor speed, which stays in effect until you click the Off button in the Battery desk accessory and restart the computer.

Using a RAM disk

A *RAM disk* is a portion of your computer's memory that you set aside for use as a temporary storage device. Using a RAM disk conserves power because the computer uses less energy to access RAM than to access a hard disk or a floppy disk.

Memory assigned to a RAM disk is not available for opening programs, so it is usually not practical to create a RAM disk unless your computer has at least 4 MB of RAM.

Some actions remove a RAM disk. RAM disks are more permanent on the PowerBook 100, as summarized in the table.

Action	Will the RAM disk survive?	
	PowerBook 140/170	100
Choose Sleep	yes	yes
Press power button to wake up	yes	—
Choose Restart	yes	yes
Press reset button	yes	yes
Choose Shut Down	no	yes

It's a good idea to observe a few precautions if you use a RAM disk:

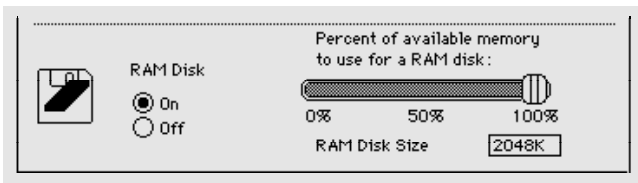
- Before using a program on a RAM disk, test the program on your hard disk or a floppy disk to make sure that it works properly with your computer.
- Don't store your only copy of a file on a RAM disk. Keep an extra copy on your hard disk or a floppy disk.

Creating a RAM disk

1. Choose Control Panels from the Apple menu.

2. Open the Memory control panel.

The RAM disk portion of this control panel is at the bottom of the window.



3. Click the On button below the words “RAM disk”.

4. Drag the slider to choose the percentage of available memory you want to use for your RAM disk.

Choose a size large enough to accommodate the programs and documents you want to put on the RAM disk. Memory set aside for the RAM disk won't be available for opening programs, so don't choose a larger size than you need.

The default size uses 100% of the available memory over 2 MB; that is, it's the largest RAM disk you can use on your computer.

The size of the RAM disk you select appears in the “RAM Disk Size” box.

5. Close the control panel.

6. Choose Restart from the Special menu.

A RAM disk icon appears on the desktop when the computer restarts.

Erasing a RAM disk

There are two ways to erase the contents of a RAM disk. They do not remove the RAM disk itself or make more memory available for opening programs.

- **Select the RAM disk icon and choose Erase Disk from the Special menu.**
- **Drag everything on the RAM disk to the Trash and choose Empty Trash from the Special menu.**

Resizing or removing a RAM disk

- 1. Copy any programs or documents that you want to save onto the internal hard disk or a floppy disk.**

If you want to resize a RAM disk, you need to remove and then restore the items on it.

- 2. Drag everything in the RAM disk to the Trash.**
- 3. Choose Empty Trash from the Special menu.**
- 4. Choose Control Panels from the Apple menu.**
- 5. Open the Memory control panel.**
- 6. Drag the slider to choose the percentage of available memory you want to use for your RAM disk.**

Drag the slider to 0% if you want to remove the RAM disk.

- 7. Close the control panel.**
- 8. Choose Restart from the Special menu.**

If you resized your RAM disk, a new RAM disk icon appears on the desktop when the computer restarts. If you removed your RAM disk, no icon appears.

Making a RAM disk the startup disk

If you have 6 MB or more of memory, an efficient way to use a RAM disk on the PowerBook 100 is to make it your startup disk. You can also use a RAM disk as a startup disk on the PowerBook 140 and 170, but it is less convenient because the RAM disk is removed if you choose Shut Down. (If this happens, the computer starts up from the hard disk.)

To make a RAM disk your startup disk, follow these steps.

1. Create a RAM disk.

2. Locate and open the Installer program.

The Installer is on the *Install 1* floppy disk that came with your computer.

3. Install a minimal System Folder on the RAM disk.

See Chapter 8 for instructions on installing customized system software.

4. Choose Control Panels from the Apple menu.

5. Open the Startup Disk control panel.

6. Select the RAM disk as your startup disk.

7. Choose Restart from the Special menu.

The RAM disk is now your startup disk. It's a good idea to keep a backup copy of the contents of the RAM disk in case it is lost.

Using Hard Disks and Floppy Disks

In this chapter

- Preparing a new disk for use
- Erasing a disk
- Designating a startup disk
- Protecting the information on a disk
- If you can't save files on a floppy disk
- Ejecting a disk
- Caring for disks
- Testing and repairing disks

Preparing a new disk for use

Before you can use a new disk, you need to prepare it so the computer knows where to store information on the disk. The preparation process is called *initializing* (or *formatting*) the disk.

The hard disks shipped with Macintosh PowerBook computers are already initialized when they leave the factory. If your computer has a floppy disk drive, you need to initialize new 3.5-inch (89-millimeter) floppy disks that you want to use in the drive.

Initializing a hard disk

Occasionally a hard disk may become damaged in such a way that you can't use it again until you reinitialize it. (The key symptom of such damage is that the hard disk's icon does not appear on the desktop when you start up the computer using another disk.)

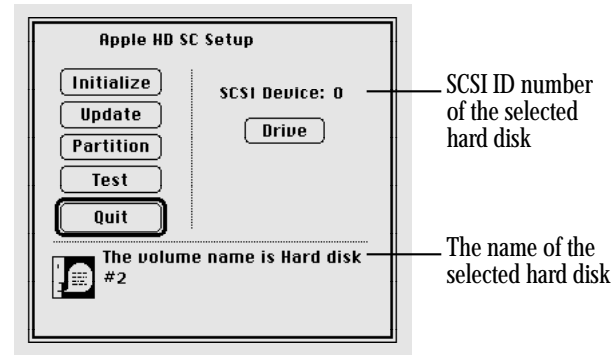
If your hard disk's icon does not appear on the desktop, first try to repair it as described in "Testing and Repairing Disks" later in this chapter. If you can't repair the disk, use the Apple HD SC Setup program to initialize and name the disk again. The program is on the system software disk called *Disk Tools*.

1. Locate the Apple HD SC Setup icon and open it.



The name of the hard disk currently selected is shown as the "volume name." The SCSI ID number of the selected hard disk is displayed above the Drive button. (The ID number of an internal hard disk is 0.)

2. If the volume name and ID number don't match the hard disk you want to initialize, click Drive until the disk you want to initialize is selected.



You cannot initialize your startup disk or the disk that contains the Apple HD SC Setup program.

3. Click Initialize.

You must confirm or cancel your decision.

4. Click Init to initialize the hard disk.

5. If a message appears asking you to name the disk, type a name and then click OK.

6. Click Quit when you see a message reporting that initialization was successful.

If a message reports that initialization failed, try again. If initialization fails a second time, take the disk to your authorized Apple service provider for repair.

Initializing a floppy disk

Initializing a new floppy disk prepares the disk to store information.

1. Insert a new floppy disk into your floppy disk drive.

If you inserted a high-density disk, this message appears:



If you inserted a double-sided (800K) disk, this message appears:



2. If you inserted a high-density disk, click **Initialize**. If you inserted a double-sided disk, click **Two-Sided**.

Another message appears:



This message alerts you that you're about to erase any information that may be on the floppy disk. A new floppy disk has no information on it.

3. Click **Erase**.

A third message appears:



continues >

4. **Type a name for the disk.**

If you don't name the disk, the computer gives it the name "Untitled."

5. **Click OK.**

The computer takes about a minute to initialize the disk. When initialization is finished, the icon of the floppy disk appears on the desktop.

Erasing a floppy disk

Erasing a disk actually reinitializes it.

▲ **Warning** When you erase a disk, you lose any information that was on the disk. ▲

1. **Click the icon of the disk you want to erase.**

2. **Choose Erase Disk from the Special menu.**

A message appears, giving you a chance to cancel the procedure.

3. **If you inserted a high-density disk, click Initialize. If you inserted a double-sided disk, click Two-Sided.**

The computer takes about a minute to erase the disk.

Designating a startup disk

If you have more than one startup disk, you need to specify which one you want the computer to use. For example, you may sometimes want to use a RAM disk as a startup disk instead of the hard disk. (See Chapter 9 for information about creating and using a RAM startup disk.)

1. **Choose Control Panels from the Apple menu.**
2. **Open the Startup Disk control panel.**
3. **Click the icon of the disk you want to use as the startup disk.**



4. **Close the Startup Disk control panel.**

Scanning order for startup disks

When you turn on your computer, it looks for a startup disk (a disk containing a System Folder) in the following sequence:

1. internal floppy disk drive (if any)
2. external floppy disk drive (if any)
3. disk (or RAM disk) selected in the Startup Disk control panel (if any)
4. internal hard disk
5. external hard disk (if there is more than one, it looks first at the hard disk with the highest SCSI ID number)
6. internal hard disk (the computer returns to this drive and waits another few seconds)

If the computer does not find a startup disk, it displays a blinking question mark in the middle of the screen.

To bypass the internal hard disk in the scanning sequence, press \times -Option-Shift-Delete while the computer starts up.

△ **Important:** If you use an external hard disk, turn it on and wait a few seconds before you turn on your Macintosh, or the computer will not recognize the disk. △

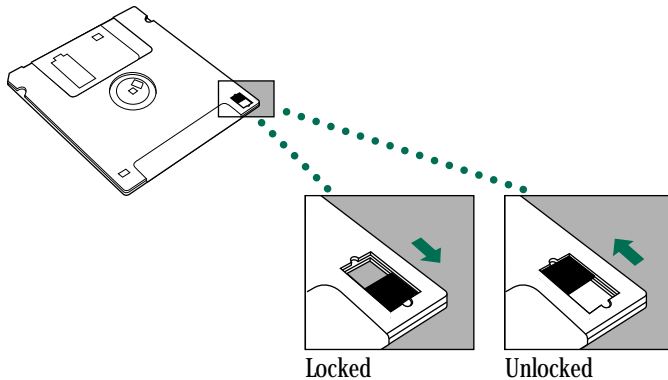
Protecting the information on a disk

The information on a locked floppy disk, or in a locked file, can be opened or copied but cannot be changed.

Locking a floppy disk

- **Slide the tab on the back side of the disk so that the square hole is open.**

Use your thumbnail, a push pin, or a similar object to move the tab.

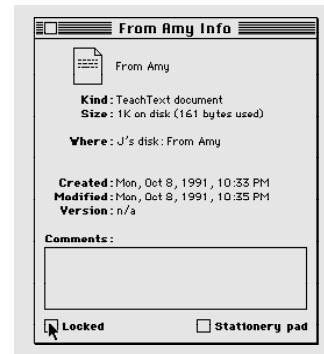


To unlock the disk, slide the tab back so that it covers the square hole.

Locking a file

You use the Get Info command to lock a document or a program. Locking a program may affect its operation.

- 1. Click the icon of the file you want to lock.**
- 2. Choose Get Info from the File menu.**
- 3. In the Info window, click the Locked box in the lower-left corner.**



- 4. Close the Info window.**

To unlock the file, click the Locked box again (so the X disappears).

You can't lock a folder, but you can lock items in a folder.

You can lock an alias, but doing so does not lock the original file. Locking an alias merely protects it from being thrown away.

Backing up your files

Making backup copies of important files is good protection against possible damage to the originals.

- You can back up files stored on your hard disk by copying them onto floppy disks.
- You can back up an entire floppy disk by copying it to another floppy disk, or to a hard disk.
- You can use a commercial backup program to copy some or all files from a hard disk to another hard disk, to a tape drive, or to a series of floppy disks.
- If you have a PowerBook 100, you can connect it as a SCSI disk to a desktop Macintosh and back up files by copying them from one computer to the other. (See Chapter 15 for information about using your PowerBook 100 as a SCSI disk.)

If you can't save files on a floppy disk

If you can't save files on a floppy disk, the disk may be locked, full, or damaged, or the disk drive may not be working properly. Try the following:

- Make sure the tab on the back of the disk is in the unlocked position (the square hole should be closed).
- If you see a message reporting that the disk is full, erase unneeded files from that disk, or save on another disk.
- If you see a message that the disk is not initialized, and you know that it has been initialized, eject the disk and carefully insert it again. If the same message appears, the disk is probably damaged. (You may be able to recover its information with Disk First Aid or another disk-recovery program; see “Testing and Repairing Disks” later in this chapter.)
- Check the disk for obvious damage to the plastic case or the sliding metal shutter.
- Insert a different disk and try saving again. If you can't save on the second disk, take the disk drive to your authorized Apple service provider for repair.

Ejecting a disk

You can eject a floppy disk by doing any of the following:

- **Click the disk icon to select it and choose Put Away from the File menu.**

The disk is ejected and its icon disappears from the desktop.

- **Drag the disk icon to the Trash.**

The disk is ejected and its icon disappears from the desktop. (Dragging a disk to the Trash does *not* erase the disk's contents.)

- **Click the disk icon to select it and choose Eject Disk from the Special menu.**

The disk is ejected and its dimmed icon remains on the desktop.

You can use the first two methods to remove a hard disk icon from the Macintosh desktop (provided that it's not your startup disk), or to disconnect from a shared disk on the network.

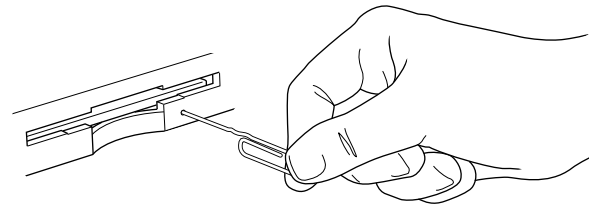
All three methods also work with CD-ROM discs.

If you can't eject a floppy disk

If you can't eject a floppy disk in the usual way, try the following:

1. **Hold down the \times and Shift keys and press the number 1 key on your keyboard to eject a disk in an internal disk drive; press \times -Shift-2 to eject a disk in an external disk drive.**
2. **If step 1 doesn't work, turn off the Macintosh. If the disk isn't ejected, then hold down the trackball button while you turn the computer on again.**
3. **If step 2 doesn't work, locate the small hole near the disk drive's opening and carefully insert the end of a large straightened paper clip into it.**

Push gently until the disk is ejected. Do not use excessive force.



4. **If step 3 doesn't work, take the computer or disk drive to your authorized Apple service provider to have the disk removed.**

Caring for disks

For information on floppy disk care, see Chapter 3, “Working With Disks,” or consult the instructions that came with your floppy disks.

Hard disk precautions

Hard disk drives are delicate mechanisms and should be handled with care.

- Do not bump, jar, or move your computer while the hard disk is in use. If you need to move the computer, wait until the hard disk stops spinning.
- Do not spill any liquids on or near the hard disk.
- Do not expose the hard disk to hazardous vapors, such as those from cleaning solvents.

Testing and repairing disks

Both floppy disks and hard disks can become damaged by repeated use and handling. If you see a message reporting that a disk is damaged or unreadable, you can use Disk First Aid or Apple HD SC Setup to try to diagnose and correct the problem. Both programs are supplied with your system software.

If you have a PowerBook 100, you may be able to correct a problem with your hard disk by connecting your computer to a desktop Macintosh and then reinstalling the system software on your PowerBook from the desktop computer. (See “Using Your Computer as a SCSI Disk” in Chapter 15 for more information.)

If a hard disk icon doesn't appear

If you can't start up from a hard disk or don't see its icon on the desktop, try the following:

- If the hard disk is internal, shut down your Macintosh, wait at least 10 seconds, and then turn it on again.
- If the hard disk is your startup disk, start up with a different disk. If the hard disk's icon appears on your desktop, reinstall system software on the hard disk (use your backup copy or use the original system software).

continues >

- If the hard disk is external, make sure it is turned on and its cable is connected firmly; then restart the Macintosh.
- If you use more than one hard disk with your Macintosh, check the ID numbers of all SCSI equipment connected to your computer. If any two devices have the same ID number, or if any external device has the ID number 7 or 0, the computer will not recognize one of the devices. Change the numbers so that each device has its own ID number. Also check that the chain of devices is terminated properly. (See Chapter 15 for information about setting SCSI ID numbers and checking termination.)

Using Disk First Aid

You can use the Disk First Aid program to test floppy disks and hard disks that may have been damaged. Disk First Aid also repairs some types of disk damage.

1. Locate and open the Disk First Aid icon.

Disk First Aid is on the system software disk labeled *Disk Tools*.



2. Click the Drive or Eject button as necessary until the name of the disk you want to test appears.

If you are testing a floppy disk, you need to insert it into a floppy disk drive.

3. Click Open.

- 4 If you wish, choose *Repair Automatically* from the *Options* menu. Then click the *Start* button to begin testing the disk.**



- 5 When testing and repair are finished, choose *Quit* from the *File* menu.**

If you want to test another disk, choose *Close* from the *File* menu, then select and open the other disk (repeat steps 2 and 3).

If Disk First Aid cannot correct the problem:

- Try repairing the disk again. Sometimes repeating the process corrects the problem.
- Use another disk repair or recovery program. Some disk repair programs let you recover information from a damaged disk.
- Consult a specialist for help.
- Once you have recovered all the information you can, erase (reinitialize) the disk. If the initialization process doesn't work, discard the damaged floppy disk, or take the hard disk to your authorized Apple service provider for repair.

Testing a hard disk

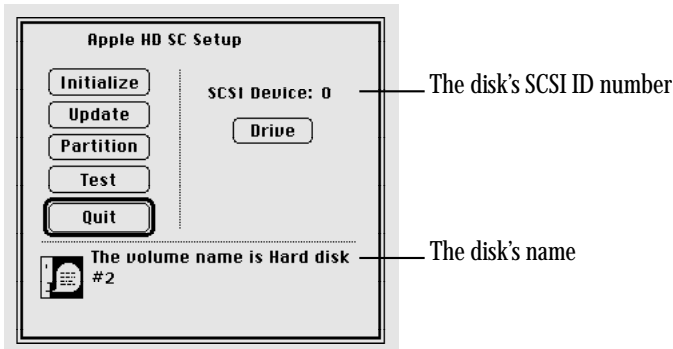
You can test a hard disk with the Apple HD SC Setup program.

1. Locate and open the Apple HD SC Setup icon.

Apple HD SC Setup is on the system software disk labeled *Disk Tools*.



2. Click the Drive button until the disk you want appears.



3. Click Test.

4. Click OK.

5. When a message tells you that testing is complete, click Quit.

If the test reveals a problem, you may be able to correct it by using Disk First Aid or another disk repair program, or you may have to reinitialize the disk. Consult a specialist for assistance if necessary.

Organizing Your Files

In this chapter

- Straightening up your files
- Using folders to organize your files
- Filing documents when you save them
- Making items easier to find
- Finding an item
- Creating a template or stationery
- Getting information about your files

Straightening up your files

To accomplish this . . .

Do this . . .

Straighten up all icons on the desktop or in the active window

Choose the Clean Up command from the Special menu

Straighten up selected icons only

Hold down the Shift key while choosing Clean Up

Arrange icons alphabetically by name, or according to the list view displayed most recently in that window

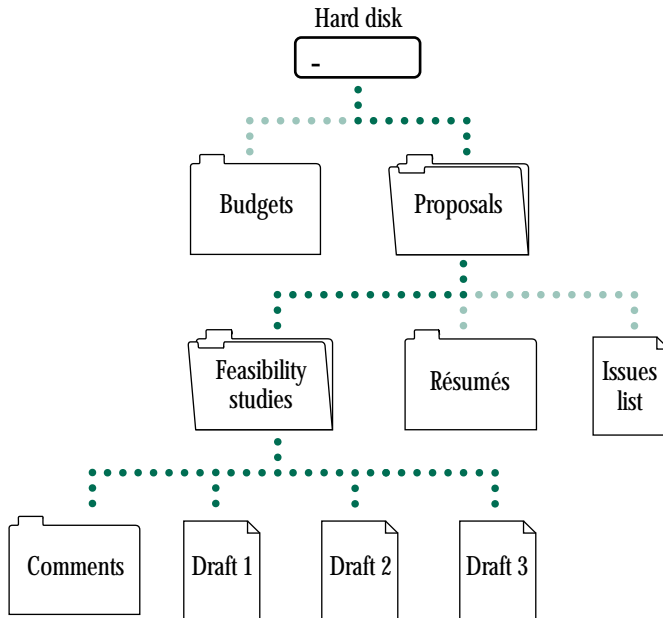
Hold down the Option key while choosing Clean Up

Line up icons near the right edge of the desktop

Click the desktop, then hold down the Option key while choosing Clean Up

Using folders to organize your files

Macintosh folders, like the paper folders in a file cabinet, can be used to store and organize your work. You can place one folder inside another to create a hierarchy of files.



Creating and naming folders

You can create a new folder whenever the Finder is the active program.

1. Choose New Folder from the File menu.

A new folder named “untitled folder” appears in the active window (or on the desktop if no window is active). The name is already selected.



2. Type a name for the folder and press Return.

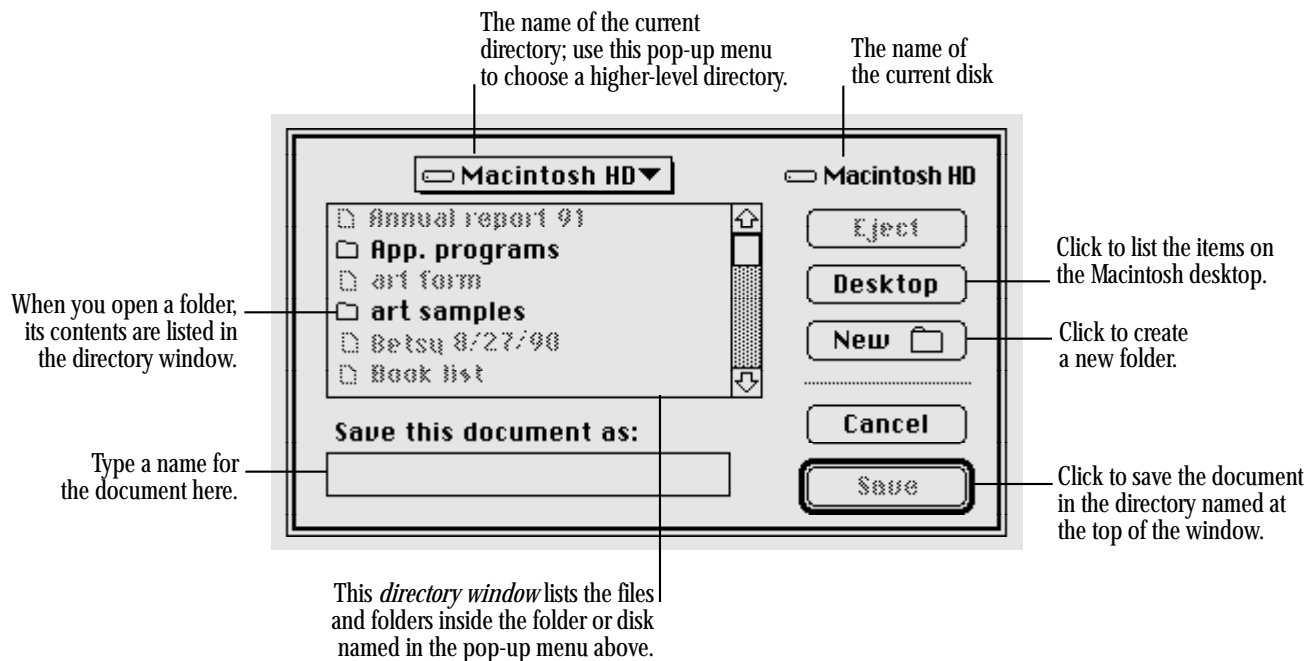
You move, copy, and remove folders in the same way that you do other icons.

Many programs also let you create and name a new folder in the dialog box that appears when you save a document.

Filing documents when you save them

The first time you save a document (or whenever you choose Save As to create another version of that document), a *directory dialog box* appears. A *directory* is the list of files and folders contained in a folder or on a disk.

You use this box to name your document and indicate where to store it. Directory dialog boxes vary slightly from program to program, but all share certain features.



Making items easier to find

Your Macintosh provides several ways to make a file, folder, or other item easy to find and open. You can

- create aliases for the item and put the aliases in convenient locations
- install the item (or its alias) in the Apple menu
- move the item (or its alias) to the Macintosh desktop

Using an alias

An alias represents and points to a file, folder, disk, or other item (even a shared item on a network). You can make as many aliases for an item as you want. See Chapter 6 for more information on aliases.

Creating an alias

1. Click to select the item you want to make an alias for.

2. Choose Make Alias from the File menu.

The alias appears overlapping the original item. Its name is in italics and ends with “*alias*.”

3. If you wish, type a new name for the alias (the name is already selected), and then move it to a new location.

Uses of aliases

Alias for	Location	Purpose
Any item that could be stored in several places	Everywhere the item logically fits	You can get access to an item from several places.
Apple Menu Items folder	On the desktop	You can easily add or remove Apple menu items.
A program that must stay with certain files	On the desktop; in the Apple menu	You can start the program without opening the folder or disk where it is stored.
A document or folder stored on a separate disk	Anywhere on your work disk	When opened, the alias asks for the disk by name, then opens the original when the disk is inserted.
An item on a shared disk	Anywhere on your work disk	When opened, the alias automatically connects to the shared disk and opens the item.

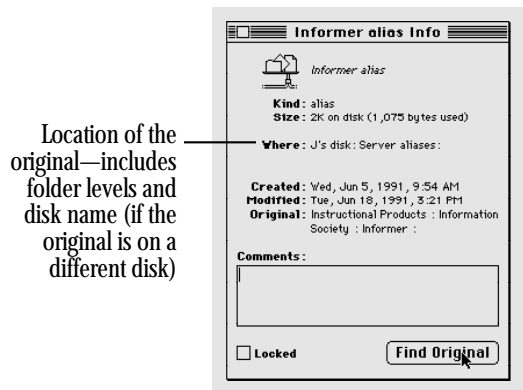
- ❖ *Trouble?* If you open an alias and nothing happens, or if you see a message that the original file isn't available, then the alias is damaged or the original has been deleted. You can open the alias's Info window to find out where the original is. ❖

Locating the original of an alias

An alias's Info window shows the location of the original.

1. **Select the alias whose original you want to find.**
2. **Choose Get Info from the File menu.**

The alias's Info window appears.



3. **Click the Find Original button.**

The window containing the original item opens. The icon is selected. (If the original is on another disk, you're asked to insert the disk.)

If you deleted the original, or if the network is not available, you'll see a message that the original can't be found. Aliases are not deleted when the original is deleted.

Installing an item in the Apple menu

You can install any item in the Apple menu, and then open the item by choosing it from the menu.

1. **Open the System Folder icon and locate the Apple Menu Items folder.**
2. **Drag the item you want to install (or its alias) into the Apple Menu Items folder.**

The item appears immediately in the Apple menu.

You remove an item from the Apple menu by opening the Apple Menu Items folder and dragging its icon out of the folder.

- ❖ *Trouble?* If the Apple menu does not contain the items it should, make sure that the Apple Menu Items folder is in the System Folder of your startup disk. If it is, open the folder to check that all the items you want in the menu appear there. ❖

Moving an item to the desktop

You can make an item easy to find by dragging its icon to the desktop. The icon stays there until you remove the disk on which the item is stored.

If you've placed an icon on the desktop, you can put it back in its original location by selecting the item and choosing Put Away from the File menu.

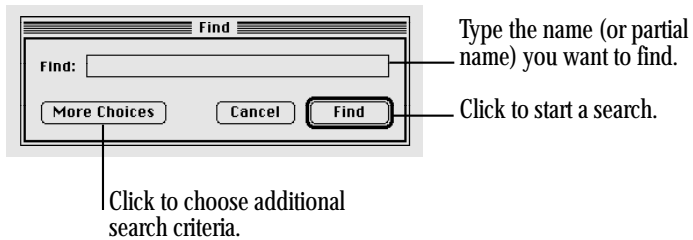
Finding an item

When the Finder is the active program, you can use the Find command in the File menu to find any item on any disk on the desktop. (The Find command cannot locate items inside the System file, such as fonts and sounds. You need to open the System file to see its contents.)

Finding an item by name

1. Choose Find from the File menu.

The dialog box that appears lets you find an item by name.



If the dialog box you see has more items than shown here, click the Fewer Choices button in the lower-left corner.

2. Type the name (or part of the name) of the item you want to find.

It doesn't matter whether you type capital or small letters.

3. Click the Find button.

The first item that matches the name (or partial name) you typed is shown highlighted in a Finder window. If no item matches, you hear an alert sound.

4. To see the next matching item, choose Find Again from the File menu.

If no more items are found, you hear an alert sound.

Finding an item using other criteria

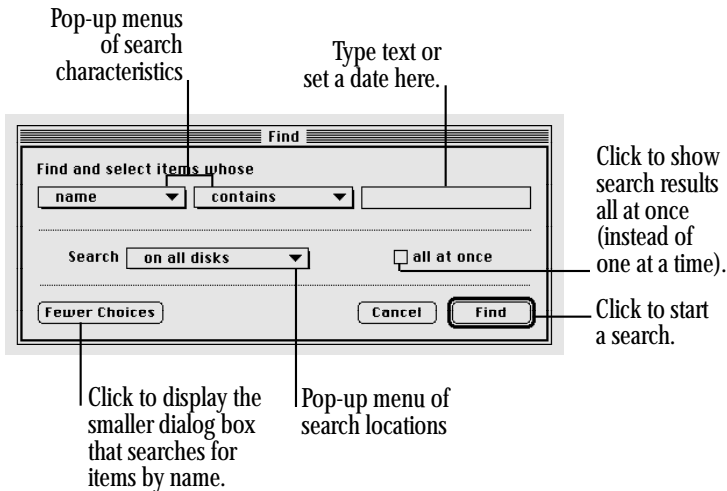
You can use the Find command to find a file or a folder by specifying its size or label, the date it was created or modified, or other characteristics.

1. Choose Find from the File menu.

The Find dialog box appears.

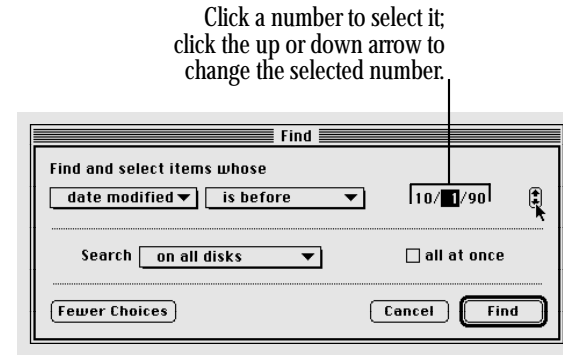
2. If you see a button labeled More Choices, click the button.

The dialog box that appears lets you select different search characteristics using pop-up menus.



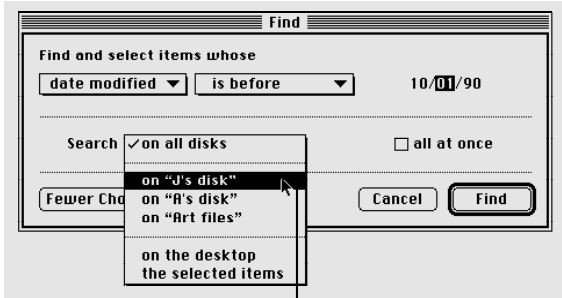
The content of the middle pop-up menu and the text area vary according to the item selected in the left pop-up menu.

3. Choose an item from the left pop-up menu.
4. Choose an item from the middle pop-up menu.
5. Adjust the date, choose an item, or type text in the upper-right area of the dialog box.



continues >

6. Choose a search location from the pop-up menu labeled Search.



Disk selected for searching

7. If you want all items displayed at once, click the checkbox labeled "all at once."

8. Click the Find button when you've finished selecting options.

The first matching item is shown highlighted in a Finder window or on the desktop. To see the next matching item, choose Find Again from the File menu. If no item is found, you hear an alert sound.

When you display items all at once, they are shown highlighted in an outline view.



Finding items that meet two criteria

You can locate items that meet two sets of criteria, such as all items created before a certain date and larger than a certain size.

1. **Choose the first criterion.**
2. **Click the “all at once” box so that an X appears.**
3. **Click the Find button.**

The items found are shown highlighted in an outline view.

4. **Choose the Find command again, before you click or take any other action.**

You choose Find immediately so that the items located in the first stage of the search remain highlighted.

5. **Choose the second criterion.**
6. **Choose “the selected items” in the pop-up menu labeled Search.**
7. **Click Find to begin the second stage of your search.**

The items meeting both criteria are highlighted.

Ways to use the Find command

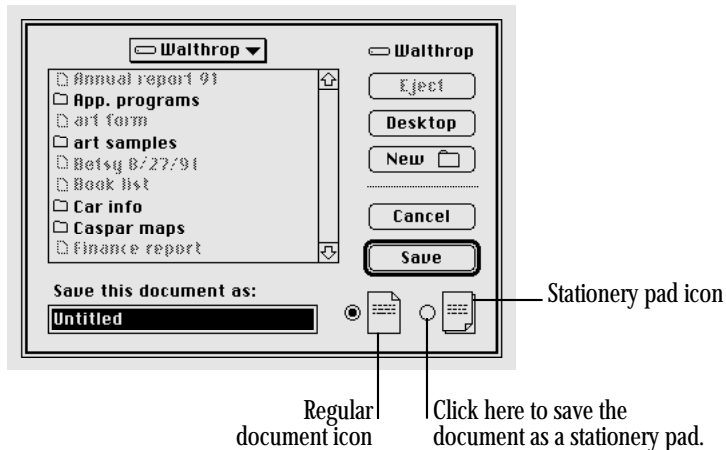
The Find command can help you locate files quickly, organize documents, and develop an efficient system for backing up and archiving your work.

This characteristic	Can be used to locate
Name	<ol style="list-style-type: none"> 1. Files whose names you can't recall exactly 2. All items for which you use a standard name, such as status reports or expense reports
Kind	<ol style="list-style-type: none"> 1. All application programs 2. All aliases
Size	Large files, to make space available on a disk
Label	All the files to which you added the same label (such as “top secret”)
Lock	Locked files, to unlock them for editing
Modification date	All files changed since a certain date, to back up new and changed files
Creation date	All files created before a certain date, to archive or erase outdated material

Creating a template or stationery

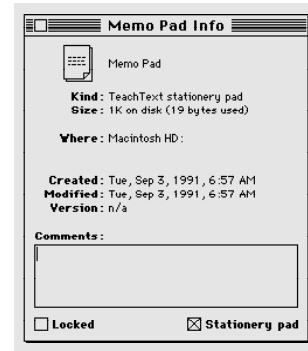
Most documents can be saved as or converted into a *stationery pad*, which is a template form of the document. The template retains the format and content it had at the time you made it into stationery, and you can use it repeatedly as a master for similar documents.

Many programs let you save a document as a stationery pad. If the directory dialog box that appears when you choose Save or Save As has a stationery pad option, you can click it to save your document as a template.



If the program you're using does not offer a stationery pad option, you can use a document's Info window to create a stationery pad.

1. **Click the icon of the document to select it.**
2. **Choose Get Info from the File menu.**
3. **Click "Stationery pad" near the lower-right corner so that an X appears in the checkbox.**



Clicking "Stationery pad" converts the document from an ordinary document to a stationery pad.

4. **Close the Info window.**

The document icon now appears as a stationery pad icon.

When you open a stationery pad, an untitled window appears showing the contents of the stationery, or a dialog box appears asking you to name the new document.

You cannot change the stationery pad itself unless you turn it back into a regular document. You can do this by opening the stationery pad's Info window and clicking "Stationery pad" to remove the X.

Getting information about your files

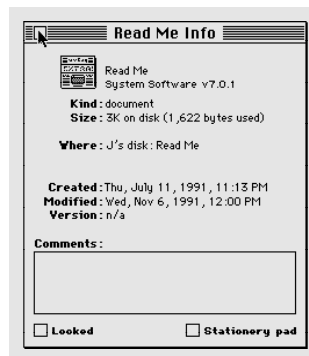
When the Finder is the active program, you can obtain information about your files in two places:

- in the file's Info window
- in the View menu

Using the Info window

The Get Info command displays information about a selected item.

- 1. Click to select the item you want information about.**
- 2. Choose Get Info from the File menu.**



You can use the Info window to lock a file (so it can't be changed), turn a document into a stationery pad, change the amount of memory a program uses (see Chapter 8), and change a file's icon (see Chapter 12).

You can type comments in the Info window and use the Find command to search for them later.

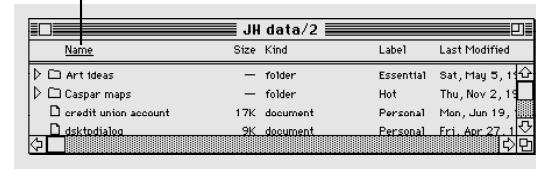
- 3. Click the close box.**

Using the View menu

You can use the View menu to display the contents of a window by icon or small icon, or you can list items according to various characteristics such as name, size, or kind. (See Chapter 12 for information on using the Views control panel to change how files are listed and what information is included in the list.)

Windows are preset to show icons. Displaying items in a list can be useful when you have too many files to see easily as icons or if you want your files arranged according to a different attribute. For example, listing items by the date and time of their most recent modification makes backing up files an orderly task.

The type of list displayed is underlined.



When the contents of a window are displayed as a list, click any other column heading (such as Size or the Last Modified date) to rearrange the list according to that characteristic.

Adapting the Macintosh to Your Own Use

In this chapter

- Specifying which items you want opened at startup
- Putting an item in the Apple menu
- Putting files in the System Folder
- Changing the items in the Label menu
- Setting the time and date
- Setting a time for the Alarm Clock to go off
- Adjusting the way the trackball works
- Adjusting the way the keyboard works
- Setting the alert sound
- Changing the desktop pattern
- Adjusting the blinking of a menu item
- Adjusting the blinking of the insertion point
- Changing the way the contents of windows appear
- Changing the appearance of icons
- Assigning a label to an icon
- Adjusting screen brightness
- Magnifying the screen image
- Turning off the Empty Trash warning
- Managing memory

Specifying which items you want opened at startup

To have a program or a document open automatically when you start up your Macintosh, drag the icon or its alias to the Startup Items folder, which is inside the System Folder. You can open as many items at startup as your computer's memory allows.

If you no longer want an item to open automatically, remove its icon or alias from the Startup Items folder.

Putting an item in the Apple menu

Choosing an item from the Apple (🍏) menu opens that item, so the Apple menu is a convenient place to list items you open frequently.

To put a program, document, or other item in the Apple menu, drag its icon or alias to the Apple Menu Items folder, which is inside the System Folder. (If you drag a desk accessory to the System Folder icon, it's automatically placed in the Apple Menu Items folder.)

To remove an item from the Apple menu, open the Apple Menu Items folder and drag the item out of the folder.

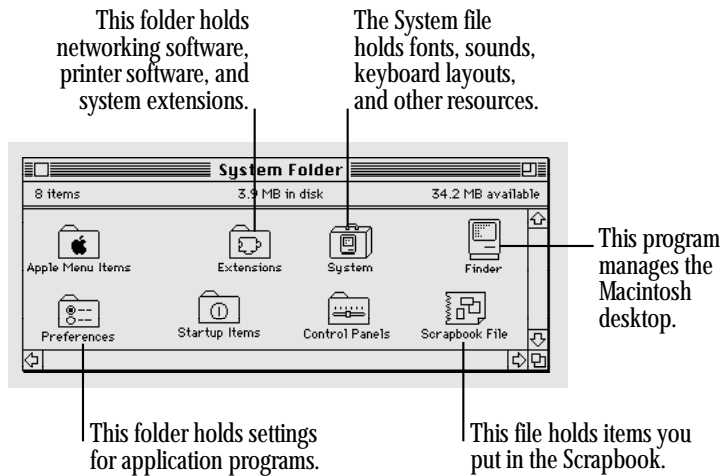
Putting files in the System Folder

Certain types of programs and other files need to be installed in the System Folder so your Macintosh can use them as part of the system software. These files include

- system extensions and control panels
- “preferences” files belonging to application programs
- drivers for printers, scanners, and other equipment
- sounds (instructions for installing sounds are in this chapter)
- fonts (instructions for installing fonts are in Chapter 13)

Sometimes you need to use a special installation program to install these files. Check the information that came with the files for instructions. You can install many files simply by dragging their icons to the System Folder icon (*not* the System Folder window).

When you drag a system file icon to the System Folder icon, the Macintosh recognizes which type of file it is and stores it in the appropriate folder. (If you drag an icon to the System Folder *window*, it is not stored automatically.)



To install items in the Apple Menu Items folder or the Startup Items folder inside the System Folder, you need to drag them directly to the correct folder.

Removing files from the System Folder

You remove a file from the System Folder by dragging its icon out of the System Folder (or out of a folder inside the System Folder).

Depending on which external devices you use, whether you're connected to a network, and how you use your Macintosh, you can remove the following types of files from your System Folder if you want to conserve space on your startup disk:

- software for printers or other equipment you don't use
- networking software, if you are not on a network
- Apple menu items you don't use (you need the control panels, but you may not need the Calculator or the Puzzle, for example)
- extra fonts, sounds, or keyboard files

Make sure you have backup copies of the files on floppy disks before you remove them from your hard disk.

Changing the items in the Label menu

Labels are for your convenience in tagging files, so you may want to change the names of the labels.

1. **Choose Control Panels from the Apple menu and open the Labels control panel.**



2. **To change a label, drag across its name to select it and then type a new name.**

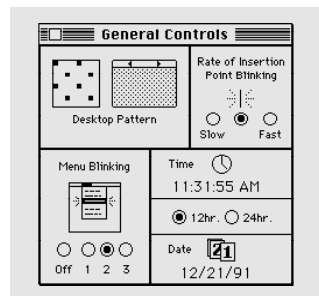
Setting the time and date

Your Macintosh has a clock that keeps track of the time and date. Once you set it, it keeps the correct time unless all batteries—main and backup—are drained, removed, or switched off.

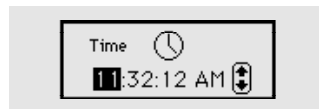
Many programs rely on the clock to automatically enter times and dates in documents you create or print.

1. **Choose Control Panels from the Apple menu and open the General Controls panel.**

The time and date controls are in the lower-right corner.



2. **Click the hour, minute, or second in the time display.**

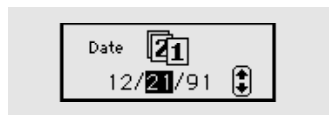


3. **Click the up or down arrow until the correct time appears.**

Repeat steps 2 and 3 as necessary to set the time.

You can choose a 12-hour or a 24-hour clock by clicking the buttons below the time display.

4. **Click the clock icon (next to the word “Time”) to set the current time.**
5. **In the date display, click the month, day, or year:**



6. **Click the up or down arrow until the correct date appears.**

Repeat steps 5 and 6 as necessary to set the date.

7. **Click the calendar icon (next to the word “Date”) to set the current date.**

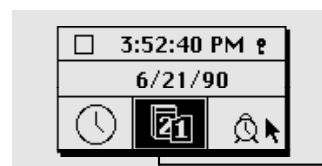
8. **Close the General Controls window.**

You can also set the time and date in the Alarm Clock, which you open by choosing Alarm Clock from the Apple menu.

Setting a time for the Alarm Clock to go off

You can set the Alarm Clock to alert you when it's time for an appointment or a meeting.

1. **Choose Alarm Clock from the Apple menu.**
2. **If necessary, click the lever at the right to expand the Alarm Clock.**

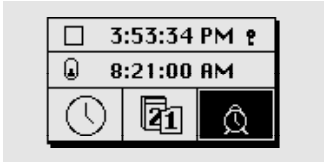


The highlighted icon indicates what's displayed in the middle section—the date, in this example.

continues >

3. Click the alarm clock icon in the lower-right corner.

The current alarm clock setting appears in the middle section.



4. Click the hour, minute, or second in the alarm clock setting

5. Click the up or down arrow until the time you want appears.

Repeat steps 4 and 5 as necessary to set the alarm.

6. Click the button to the left of the alert time to turn the alarm on.

The button moves up and the alarm clock icon changes to indicate that the alarm is turned on. (Clicking the button again turns the alarm off.)



7. Click the close box.

Turning the alarm off

When the alert time arrives, the alert sound plays twice (the menu bar flashes once if the speaker volume is set to zero) and an alarm clock icon blinks over the Apple icon at the left end of the menu bar.

To stop the blinking, open the Alarm Clock.

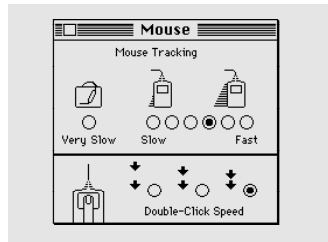
To turn off the alarm, open the Alarm Clock and click the button to the left of the alarm clock setting.

Adjusting the way the trackball works

The Mouse control panel allows you to adjust the action of input devices, including a trackball.

You can adjust two aspects of trackball operation: *tracking*, which is the relation between trackball rolling speed and pointer movement on the screen, and *double-clicking speed*.

1. Choose Control Panels from the Apple menu and open the Mouse control panel.

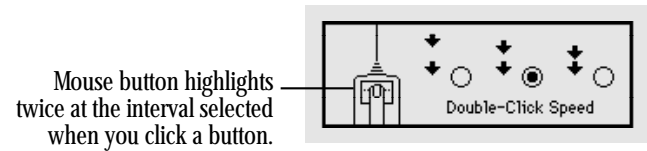


2. Click the tracking speed you want.

If you click Fast, the pointer moves more than twice as fast as the trackball. The Very Slow option is useful for drawing because the pointer moves at a constant speed relative to trackball movement.

3. Click the double-clicking speed you want.

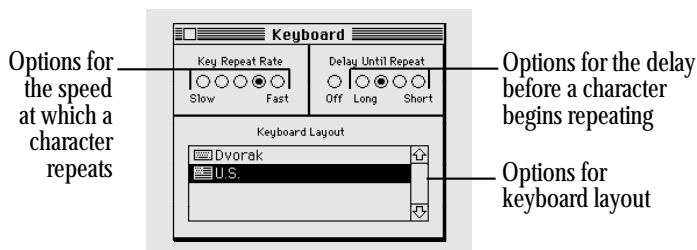
You may want to adjust the double-clicking speed if your Macintosh often interprets two single clicks as a double click, or a double click as two single clicks.



Adjusting the way the keyboard works

You can adjust the rate at which a character repeats when a key is held down, and the delay before the character begins repeating. You can also change the keyboard layout.

- 1. Choose Control Panels from the Apple menu and open the Keyboard control panel.**



- 2. To adjust the rate at which a key repeats when it is held down, click the button for the rate you want.**
- 3. To adjust the delay before keys repeat, click the button for the delay you want.**

If keys repeat when you don't want them to, you can set a longer delay before a character begins repeating. (If you click the Off button, the keys don't repeat.)

- 4. To change the keyboard layout, click the name of the layout you want to use.**

Depending on which country you bought your Macintosh in, you may have a choice of more than one keyboard layout. (Additional keyboard layouts are available from various sources. You install them by dragging them to the System Folder icon.)

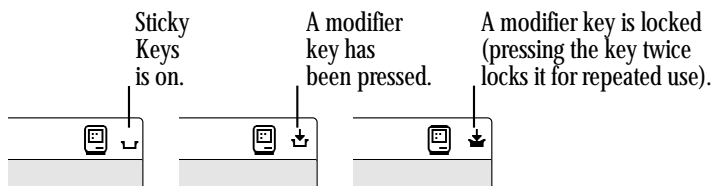
- 5. Close the Keyboard control panel.**

Making keyboard shortcuts easier to type

A feature called Sticky Keys allows you to type keyboard shortcuts without pressing the keys simultaneously.

To turn Sticky Keys on or off, press the Shift key five times without moving the trackball.

With Sticky Keys on, you can type a keyboard shortcut by first pressing the modifier key (⌘, Option, Control, or Shift) and then pressing the character key. An icon at the right end of the menu bar (to the right of the Application menu icon) indicates whether Sticky Keys is on and whether a modifier key has been pressed or locked.



Sticky Keys can make an alert sound when a modifier key is pressed. You set this option in the Easy Access control panel (choose Control Panels from the Apple menu and open Easy Access).

Adjusting the keyboard to ignore accidental keystrokes

A feature called Slow Keys allows the computer to ignore accidental keystrokes by delaying the acceptance of each keystroke.

To turn Slow Keys on or off, hold down the Return key for a few seconds until you hear an alert sound.

You can adjust the delay and you can turn on a click each time a keypress is accepted. You make these adjustments in the Easy Access control panel (choose Control Panels from the Apple menu and open Easy Access).

Setting the alert sound

Many programs make an alert sound when your attention is required or when you're trying to do something that the program cannot recognize or allow.

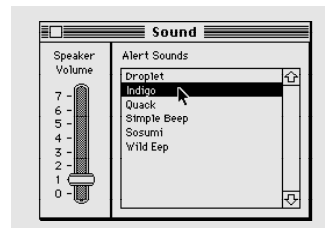
You can choose the sound you want, and you can also set the sound's volume.

1. Choose Control Panels from the Apple menu and open the Sound control panel.



2. Click the alert sound you want the Macintosh to use.

The sound plays at the current volume setting when you click it.



(The PowerBook 140 and 170 computers come with a microphone that you can use to record sounds. See “Recording Sounds” later in this chapter for information.)

3. Drag the slider up or down to set the volume level.

If you prefer to be alerted silently, drag the slider to zero. Instead of hearing an alert sound, you'll see the menu bar flash.

4. Close the Sound control panel.

Installing a sound

To install a sound, drag its icon to the System Folder icon (*not* the System Folder window). The sound is automatically installed in the System file and listed in the Sound control panel.

Removing a sound

Removing a sound deletes it from the disk, so make sure you have a backup copy of the sound before you remove it.

- 1. Choose Control Panels from the Apple menu and open the Sound control panel.**

- 2. Click the sound you want to remove.**

Make sure you select the correct sound. You cannot undo the next step.

- 3. Choose Cut or Clear from the Edit menu.**

- 4. Close the Sound control panel.**

You can also remove a sound by dragging its icon out of the System file and out of the System Folder. This does not delete the sound from the disk.

Recording sounds

The PowerBook 140 and 170 computers have a sound input port to which you can connect a microphone.

You can record a sound and add it to the list of alert sounds in the Sound control panel.

- 1. Connect a microphone to your computer (see Chapter 15 if you need instructions).**
- 2. Choose Control Panels from the Apple menu and open the Sound control panel.**

Icons representing the available sound input devices appear near the bottom of the window.

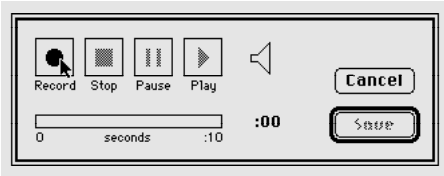
- 3. Click the sound input device you want to use.**



continues >

4. Click the Add button.

5. Click the Record button.



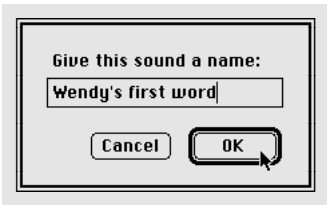
Recording begins immediately; you have up to ten seconds to record your sound. There is no volume control.

6. Click Stop to stop recording

7. To listen to the sound, click Play.

8. To save the sound, click Save.

9. Type a name for the sound and click OK.



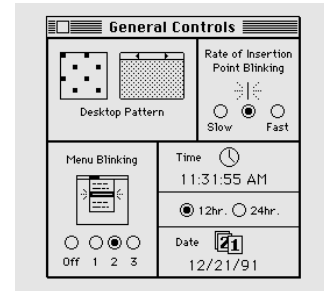
The new sound appears in the Sound control panel.

10. Close the Sound control panel.

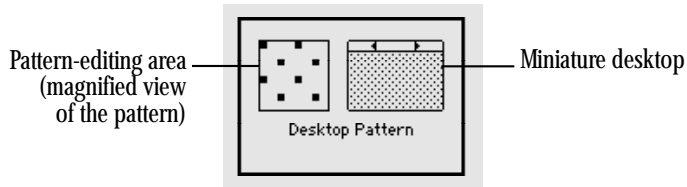
Changing the desktop pattern

You can change the pattern that appears on the Macintosh desktop.

1. Choose Control Panels from the Apple menu and open the General Controls panel.



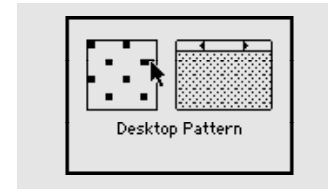
You can choose from a variety of patterns provided for the Macintosh desktop, or you can create your own design by editing one of the patterns supplied.



- 2. To see the patterns available, click one of the small triangles at the top of the miniature desktop.**
- 3. To see a new pattern on your desktop, click the miniature desktop.**

- 4. To edit a pattern, click in the square to the left of the miniature desktop.**

Each dot (pixel) in the square changes from white to black (or from black to white) when you click it. Your changes are displayed on the miniature desktop.



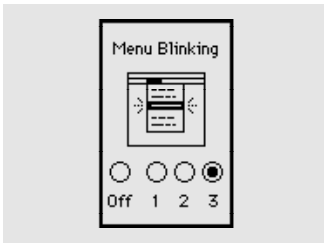
- 5. When you've finished creating your new pattern, click on the miniature desktop to display the pattern on your desktop.**

You can save the new pattern by double-clicking on the miniature desktop. Otherwise the pattern is lost when you display another pattern.

Adjusting the blinking of a menu item

You can change the number of times a menu item blinks when it's chosen. You make this adjustment in the General Controls panel (choose Control Panels from the Apple menu and then open the General Controls panel).

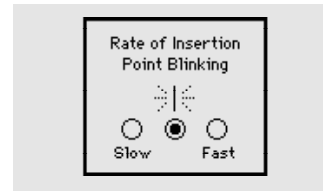
To adjust menu blinking, click the button for the number of times you want the menu item to blink. Or click the Off button for no blinking.



Adjusting the blinking of the insertion point

You can adjust how quickly the insertion point blinks. The insertion point indicates where text you type will appear. You make this adjustment in the General Controls panel (choose Control Panels from the Apple menu and then open the General Controls panel).

To adjust the blinking of the insertion point, click the button for the blinking rate you want.



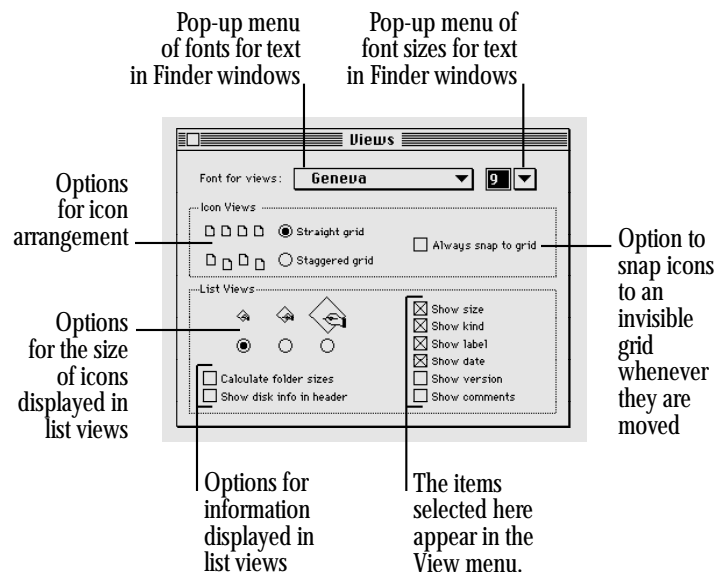
Changing the way the contents of windows appear

You can change the way the contents of Finder windows are displayed. You make these changes in the Views control panel. (Choose Control Panels from the Apple menu and open the Views control panel.)



Use the Views control panel to change

- what options appear in the View menu
- the font and font size used in the Finder (press to open the pop-up menu, then drag to choose a font or a size)
- the arrangement of icons or small icons
- the size of icons used in list views
- what information is included in list views



Changing the appearance of icons

To change an icon, you create or copy a picture in a graphics program and then paste it into the icon's Info window.

Some icons can't be changed, including those for control panels and other parts of the system software.

1. In a graphics program, select the picture you want to use for the icon.



A moving dashed line indicates the selected area in many graphics programs.

2. Copy the picture by choosing Copy from the Edit menu.

3. Switch to the Finder, then click the icon you want to change.

4. Choose Get Info from the File menu.

5. Click the icon at the upper-left corner of the Info window to select it.

A box appears around the icon when it's selected. If no box appears when you click, the icon can't be changed.

A box around the icon indicates that it's selected.



6. Choose Paste from the Edit menu.

The picture you copied appears in the Info window. If the picture is bigger than the icon, it automatically shrinks to fit.



7. Click the close box to close the Info window.

You can change an icon back to its original appearance by clicking the picture in the Info window and choosing Cut from the Edit menu.

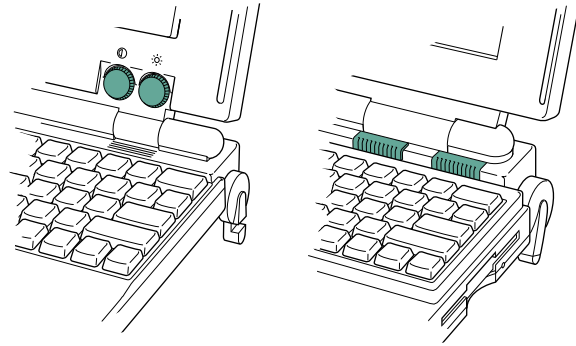
Assigning a label to an icon

You can add a label to each icon. The label is visible when the contents of a window are displayed as a list (choose By Label from the View menu). Labels provide a way to group related files.

To assign a label, click the icon to select it and then choose the label that you want from the Label menu.

Adjusting screen brightness

Macintosh PowerBook computers have brightness and contrast controls below the screen.



The PowerBook 170, which has an active matrix display, does not have a contrast control because the screen automatically provides contrast appropriate for the available lighting.

On all PowerBook computers, the screen brightness range is increased if the power adapter is plugged in. (There may be a few minutes' delay before you notice a difference.)

Magnifying the screen image

The CloseView control panel lets you magnify the image on your Macintosh screen up to sixteen times.

CloseView is not automatically installed by the Installer program when you install system software.

To install CloseView:

1. Locate the CloseView control panel.

It's on one of your system software disks.



2. Drag the CloseView icon to the System Folder icon (*not* the System Folder window) on your startup disk.

Click OK in the dialog box.

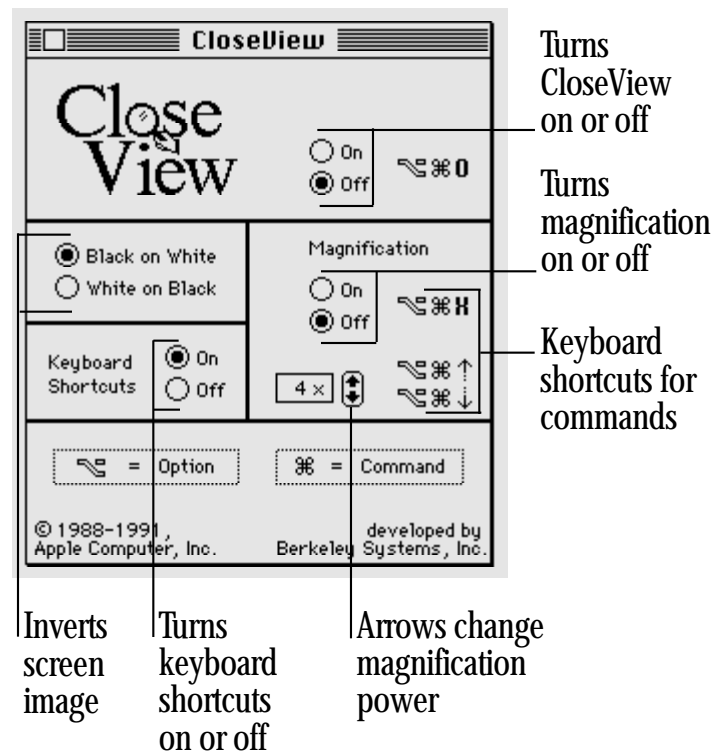
3. Choose Restart from the Special menu.

To turn CloseView on or off, press **x-Option-O**.

To turn the magnification on or off, press **x-Option-X**. (When CloseView is on and the magnification is off, a rectangle on the screen indicates which area will be magnified. You can move the rectangle by moving the pointer.)

To increase or decrease magnification, press **x-Option-Up Arrow** or **x-Option-Down Arrow**.

You can set additional options in the CloseView control panel (choose Control Panels from the Apple menu and open the CloseView control panel).



Turning off the Empty Trash warning

When you choose Empty Trash from the Special menu, you see a warning message. The message helps you avoid throwing away items unintentionally.

You can turn off this warning in the Info box for the Trash.

1. **Click the Trash icon to select it.**
2. **Choose Get Info from the File menu.**
3. **Click the checkbox labeled “Warn before emptying” to remove the X.**

To turn the warning back on, click the checkbox so that an X appears.

You won't see the warning when it is on if you hold down the Option key when you choose the Empty Trash command.

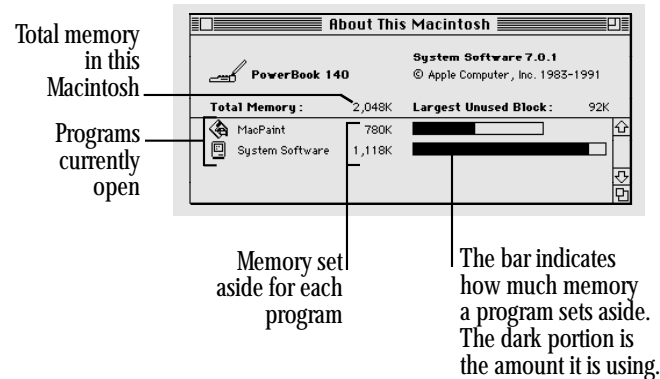
Until you choose the Empty Trash command, items in the Trash continue to occupy space on your disk.

Managing memory

You can adjust the way your Macintosh uses its RAM in order to open more programs and documents.

Checking memory use

You can find out about memory use by making the Finder the active program and choosing About This Macintosh from the Apple menu.



You can adjust how much memory a program uses (see Chapter 8 for instructions).

If you're unable to open a program or use network services, try quitting one or more programs to free some memory. If you open and quit several small programs, you may notice that you cannot open as many programs as you usually can. You may be able to solve this problem by quitting and restarting all your programs.

Adjusting the disk cache

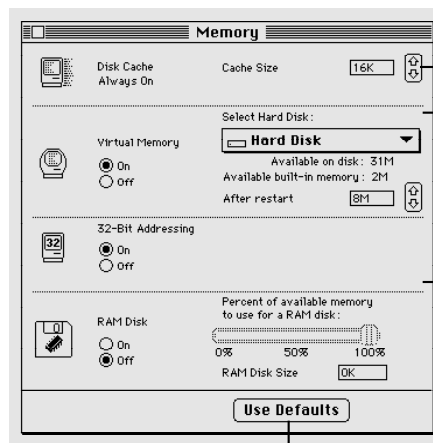
A *disk cache* is RAM set aside to hold frequently used program information. The disk cache helps programs work more quickly and efficiently by minimizing the time the computer spends reading information from a disk. The larger the disk cache, however, the less memory available for opening programs and documents.

The preset and maximum sizes of the disk cache depend on the amount of memory your Macintosh has. If you often want to open more programs than memory allows, try setting the disk cache to a smaller size.

You set the size of the disk cache in the Memory control panel (choose Control Panels from the Apple menu and open the Memory control panel).



To set the size of the disk cache, click the up or down arrow next to the Cache Size box. The new size takes effect after you choose Restart from the Special menu.



Arrows adjust the cache.

These sections may not appear in your computer's Memory control panel.

This button sets the disk cache at the recommended size (which depends on the amount of RAM in your computer). It also affects other Memory control panel settings.

Using hard disk space as memory

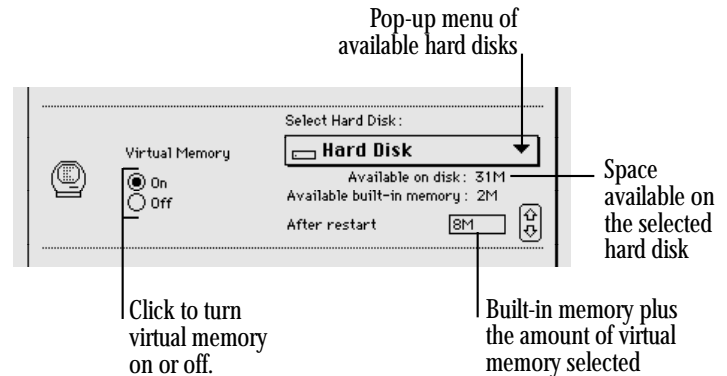
PowerBook 140 and 170 computers can borrow space on a hard disk to increase memory. The disk space, called *virtual memory*, is not available for storing information.

For best performance, your Macintosh should contain enough built-in memory to support the programs you typically use. But you can use virtual memory when you want to open more programs or work with larger documents than you usually use.

Performance is better with virtual memory when you are using several small programs simultaneously (as opposed to one large program).

Because virtual memory requires frequent hard disk access, you should use it only when you are working with your computer's power adapter plugged in. For maximum efficiency, you should also click the "Stay awake when plugged in" checkbox in the Portable control panel.

If your Macintosh can use virtual memory, you adjust it in the Memory control panel (choose Control Panels from the Apple menu and open the Memory control panel).



1. To turn on virtual memory, click the On button.

A message advises you that virtual memory requires more hard disk use and therefore draws more battery power.

2. Click OK.

If more than one hard disk is connected to your computer, the Select Hard Disk menu becomes active.

3. Choose the hard disk on which you want to set aside space for virtual memory.

4. Click the up and down arrows to adjust the disk space to set aside.

The preset amount of virtual memory is the same as the amount of RAM in your Macintosh. Using this preset size is recommended, because using a larger amount of virtual memory is likely to slow the computer's performance.

5. Choose Restart from the Special menu.

After you restart, your computer's total memory includes the virtual memory you set aside on the hard disk.

△ **Important:** When you turn on virtual memory, the system software creates a file named VM Storage in your System Folder (if the startup disk is used for virtual memory) or on the desktop (if another hard disk is used). This file is large—the size of the computer's RAM plus the designated amount of virtual memory. For example, if your Macintosh has 4 MB of RAM and you add 2 MB of virtual memory, the VM Storage file occupies 6 MB on your startup disk. △

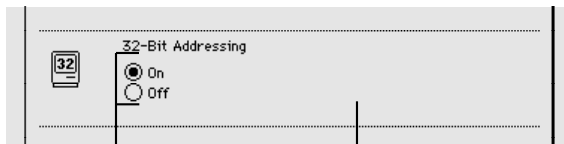
Turning on 32-bit addressing

The PowerBook 140 and 170 support a feature called *32-bit addressing*, which allows you to open larger applications. To use 32-bit addressing, you need 8 MB or more of total memory (RAM plus virtual memory).

You turn 32-bit addressing on or off in the Memory control panel. (Choose Control Panels from the Apple menu and open the Memory control panel.)

△ **Important:** Not all programs support 32-bit addressing. The use of such programs when 32-bit addressing is turned on may cause problems with your computer. Check with the software manufacturer to find out whether your program is compatible. △

To turn 32-bit addressing on or off, click the appropriate button in the control panel, and then choose Restart from the Special menu.



Click to turn 32-bit addressing on or off.

When you turn on 32-bit addressing, a status message appears here.

Tips for using memory efficiently

The following suggestions may be helpful if you see “not enough memory” messages while you work.

- Quit open programs you are not using.
- Before you print on a LaserWriter printer, quit open programs you are not using; you may also want to turn off background printing. (Open the Chooser and click the Off button.)
- Set the disk cache to 32K. (See “Adjusting the Disk Cache” earlier in this chapter.)
- Turn off file sharing if you are not using it. (See “Turning File Sharing Off” in Chapter 14.)
- If you have opened and closed several programs, quit all open programs and restart your computer. (Choose Restart from the Special menu.)

Printing

In this chapter

- Before you print
- Printing your work
- Controlling background printing
- Working with fonts

Before you print

Before you can print, your Macintosh must be connected to a printer, either directly or over a network. See the information that came with your printer for instructions on how to connect it.

Choosing a printer

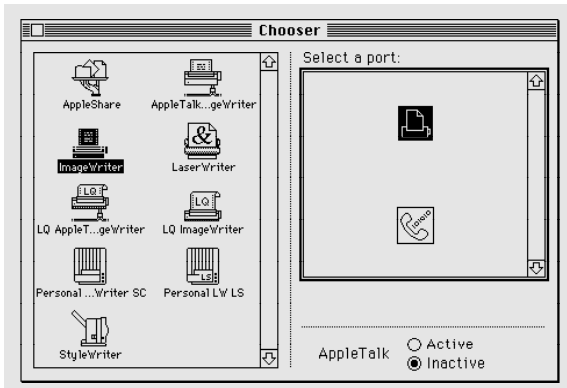
Once your printer is connected, you must tell the Macintosh which printer to use by *choosing* that printer. You need to do this even if only one printer is connected to your computer. You choose a printer when you're using a printer for the first time and whenever you change printers.

You choose the printer in a program called the Chooser. How you use the Chooser depends on whether your printer is connected directly or over a network.

If your printer is connected directly to your computer

Make sure you've connected the printer according to the instructions that came with it.

1. **Choose the Chooser from the Apple menu.**
2. **Click to select the icon of the printer you want to use.**



- ❖ *If your printer's icon does not appear in the Chooser:*
The printer software is not in your System Folder. Close the Chooser and install the software you need. If you have an Apple printer, you can use the Installer to add the printer software. (The process is the same as the one described in "Updating Printer Software on Networked Computers," later in this chapter.) If your printer is not an Apple printer, see the information that came with it for instructions on installing its software. ❖

If you have a Personal LaserWriter® SC, go to step 5 now.

3. **Click to select the icon of the port to which your printer is connected.**

If your printer is connected to the computer's modem port, go to step 5 now.

If your printer is connected to the computer's printer port, continue with step 4.

4. **Click the Inactive button next to the word "AppleTalk."**

If Inactive wasn't already selected, a message appears. Click OK.

5. **Close the Chooser window.**

If your printer is connected over a network

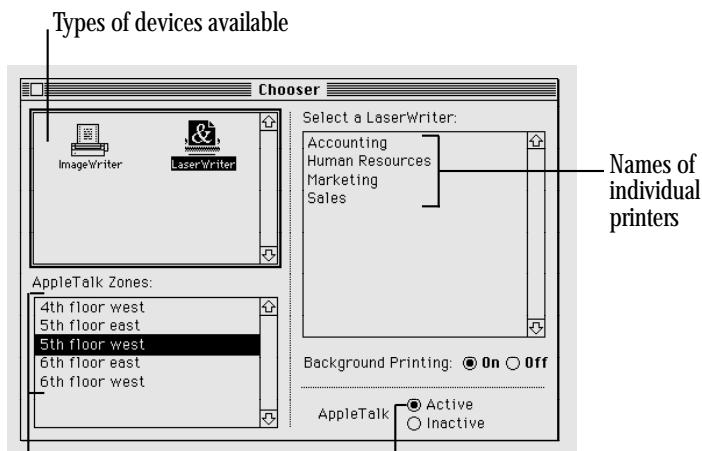
Ask your network administrator or the person who set up your computer to tell you

- which printer you can use
- which zone it's in (if the network has zones)
- what its name is (every printer on a network has its own name)

1. Choose the Chooser from the Apple menu.

2. Click the Active button next to the word "AppleTalk."

If Active wasn't already selected, a message appears. Click OK.



Types of devices available

Names of individual printers

Network zones (these appear only if your computer is connected to a network that has zones)

AppleTalk must be active to use any network devices, including network printers.

3. Click the icon representing the type of printer you want to use.

You may have to scroll to find the icon.

- ❖ *If your printer's icon does not appear in the Chooser:* The printer software is not in your System Folder. Close the Chooser and install the software you need. If you have an Apple printer, you can use the Installer to add the printer software. (See "Updating Printer Software on Networked Computers," later in this chapter.) If your printer is not an Apple printer, see the information that came with it for instructions on installing its software. ❖

4. If the Chooser lists AppleTalk zones, click the zone where the printer is located.

Zones are listed alphabetically.

5. Click the name of the printer you want to use (even if only one name appears).

6. If you want to continue using the Macintosh while your document is being printed, click the On button next to Background Printing.

Background printing is not available with all printers. The PrintMonitor program must be in your System Folder.

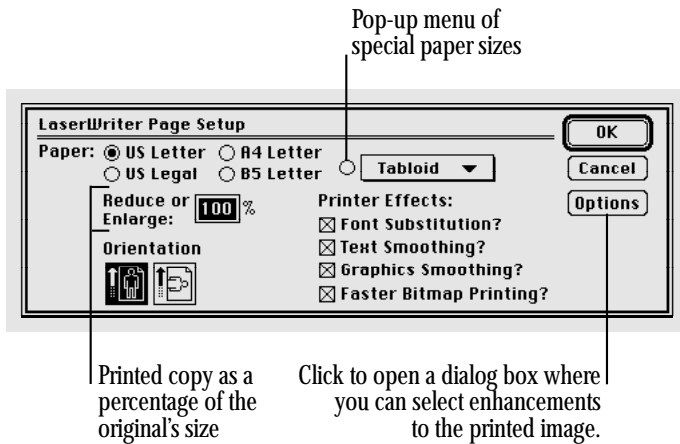
7. Close the Chooser.

Selecting Page Setup options

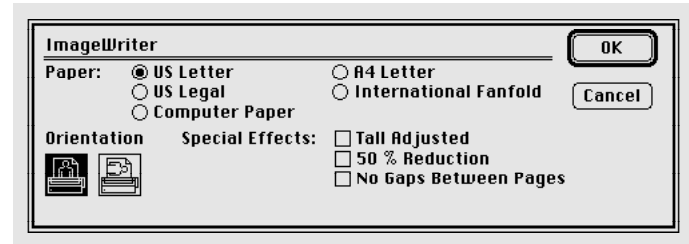
You use the Page Setup dialog box when you've selected a new printer in the Chooser, or when you want to use a different paper size or printing options.

- **Choose Page Setup from the File menu and select the options you want.**

When a LaserWriter printer is selected, this Page Setup dialog box appears:



When an ImageWriter® printer is selected, this Page Setup dialog box appears:



You'll see different options for each type of printer you use. Some programs provide additional options. You can choose Show Balloons from the Help menu to see descriptions of the options, or check your printer or program manual for details.

Updating printer software on networked computers

All computers on a network that share printers must have the same version of the printer software. If someone on the network prints a document from a computer using a different version of the software, the printer restarts itself (which takes time and clears any fonts from its temporary memory).

△ **Important:** All computers on a network must have the same printer software versions in their System Folders. △

You or your network administrator should update the printer software on any Macintosh computer on the network that is using system software earlier than version 7.0. You do *not* have to update any files other than the printer software.

To update printer software, use the Installer program and the accompanying Printer Update document (both files are on one of the system software disks that came with your computer).



If you store these files on a shared disk on the network, you don't need the system software disk to perform the update.

1. Locate the Installer and Printer Update files, and then open the Installer icon.

2. Click OK.

The Easy Install dialog box appears.

3. Make sure that the hard disk indicated is the correct one.

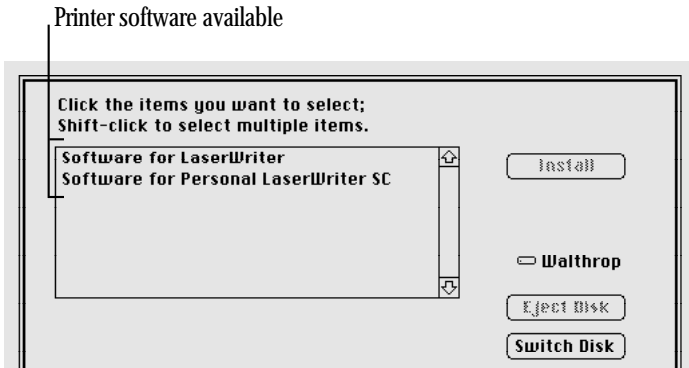
If a different disk name appears, click the Switch Disk button until the correct disk name appears.

continues >

- 4 If you want to install software for additional printers, click the Customize button, and then select the names of the printers you want to install software for.**

If you only want to update the printer software that is already installed on your disk, go to step 5.

When you click Customize, the custom installation dialog box shows a list of printer software.



- 5 Click Install.**
- 6 When you see a message reporting that installation was successful, click Restart.**

If a message reports that installation was not successful, try again.

Printing your work

You can print a document while it's open and its window is active; you can also print documents while the Finder is active.

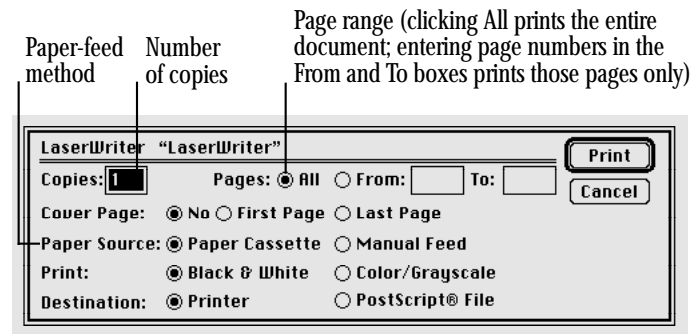
- 1. Make sure that the document you want to print is in the active window.**

If you're printing from the Finder, select the documents you want to print.

- 2. Choose Print from the File menu.**

The printing options that appear depend on the selected printer and the program in which the document was created.

If a LaserWriter printer is selected in the Chooser, this dialog box appears:



- ❖ *Printing color or gray-scale documents:* You can print color or gray-scale documents on any color printer that can use the LaserWriter printer software. If you print a color document on a black-and-white printer, the document is produced as a halftone (that is, it is composed of patterns of dots). ❖

Some programs offer additional printing options. See the manuals that came with your programs for more information on their printing features.

3. Click Print.

After a moment, a status message appears. If background printing is turned on, the message disappears after a few seconds, and you can do other work while printing continues.

Printing the contents of a window or the desktop

You can print the contents of the active window when you're working in the Finder.

1. **Make sure that the window whose contents you want to print is active.**
2. **Choose Print Window from the File menu.**
3. **Select the options you want.**
4. **Click Print.**

The window's contents are printed, including items not visible on the screen.

When no window is active, you can print the items on the desktop by choosing Print Desktop from the File menu.

Solutions to common printing problems

If nothing happens or if you see an error message when you try to print, try the following:

- Make sure that the printer is turned on and warmed up.
- Check the cable connections to the printer.
- If your printer is an ImageWriter, make sure that the Select light is on. (If not, press the Select button.)
- Make sure that a printer (and its name, if it's a LaserWriter) is selected in the Chooser.
- Make sure that you are using the same version of the printer software as everyone else on your network.
- If an error message states that the printer could not print your document, turn off the printer for at least 10 seconds. Then turn it on again, wait for the printer to warm up, and try to print again.

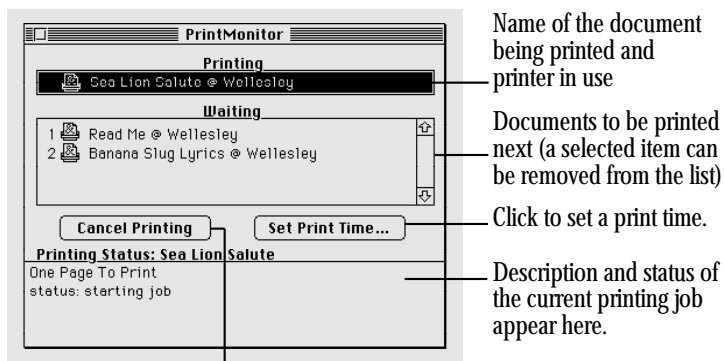
Controlling background printing

If you are using a LaserWriter or StyleWriter® printer and the background printing option is turned on in the Chooser, you can continue to work while your documents are printing.

You don't need to do anything once background printing is turned on. But if you wish, you can control background printing with PrintMonitor, a program installed automatically if you use the Installer's Easy Install option.

1. After you have started printing a document, choose **PrintMonitor** from the **Application** menu.

When printing begins, PrintMonitor opens automatically and its name appears in the Application menu. When you choose it from the Application menu, the PrintMonitor window appears.



Click to stop printing the current document.

You can use PrintMonitor to

- monitor the printing of your document
- cancel a document that's printing or waiting to print
- set the date and time you want a document to print or postpone printing indefinitely
- monitor the paper supply

PrintMonitor's icon blinks at the right end of the menu bar when the printer is out of paper. You can change this alert signal with the Preferences command in the File menu.

- monitor when to feed paper manually

PrintMonitor's icon blinks at the right end of the menu bar to signal that you must confirm the manual printing job. You can change this alert signal with the Preferences command in the File menu.

2. Select the options you want, and then click the **close box**.

Working with fonts

A *font* is a collection of letters, numbers, and symbols in a distinctive typographic design.

When you install Macintosh system software, several fonts are installed in the System file (inside the System Folder on your startup disk). You can install additional fonts and remove fonts.

Additional fonts are supplied on one of the system software disks. Fonts are also available from independent manufacturers, user groups, and electronic bulletin board services.

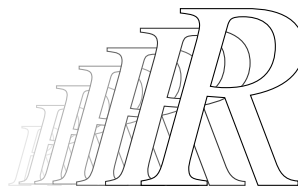
Outline fonts and bitmap fonts

The Macintosh uses two types of fonts:

- outline fonts
- bitmap fonts

Both types of fonts are installed in your System file when you install system software.

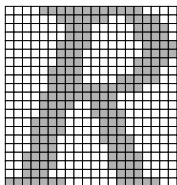
Outline fonts (also called scalable or variable-size fonts) describe each character as a mathematical formula. The formula accurately defines the character's shape no matter what its size.



Your computer needs only a single outline font in a particular typeface (such as Times®) to be able to display or print that typeface in different sizes. The outline fonts supplied with Macintosh system software are called TrueType™ fonts.



Bitmap fonts (also called fixed-size fonts) describe each character as a grid of black-and-white dots (called a bitmap). The bitmap is a rendering of the character's shape in a specific size.



For the best type quality, your computer needs a separate bitmap font of a typeface in each size you want to display or print, such as 12-point Times or 10-point Helvetica®.



Installing fonts

1. Quit all open programs.

Pull down the Application menu to make sure that the Finder is the only open program.

2. Locate the icon of the font you want to install, and drag it to the System Folder icon (*not* the System Folder window) on your startup disk.

A message lets you know that the font will be stored in the System file.

3. Click OK.

Removing fonts

1. **Quit all open programs.**
2. **Open the System Folder on your startup disk.**
3. **Locate the System file icon and open it.**
4. **Locate the icon of the font you want to remove, and drag it out of the System file window *and* out of the System Folder window.**
5. **Close the System file window and the System Folder window.**

Transferring fonts to a LaserWriter printer

If you're using a LaserWriter printer equipped to handle the PostScript® page description language and you want to print with PostScript fonts that are not built into your printer, you can transfer, or *download*, those fonts from your System Folder to the printer. (PostScript is a programming language that describes the appearance of a document mathematically.) You can also download TrueType fonts. Downloading fonts saves printing time if you plan to print several documents that use those fonts.

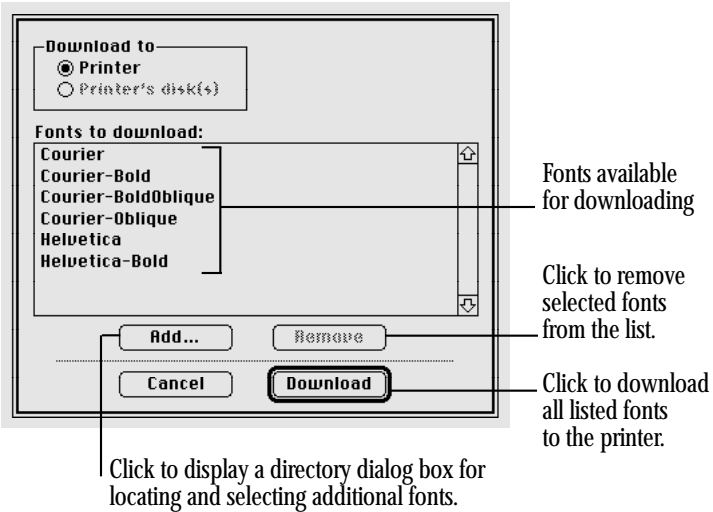
When you download a font, it's stored in the printer's memory or on a hard disk attached to the printer. You can download as many fonts as the printer's memory and hard disk space allow.

You download fonts with the LaserWriter Font Utility, which is supplied with the system software disks.

1. **Locate and open the LaserWriter Font Utility icon.**

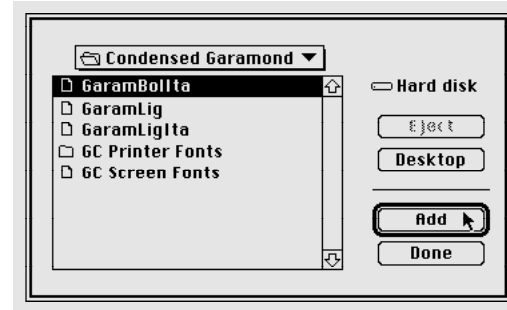


2. Choose Download Fonts from the File menu.
3. If the font you want to download is not listed, click the Add button to add fonts to the list.



Use the directory dialog box that appears to locate the fonts you want.

4. Click the name of the font you want to download, and then click Add.



5. When you've added all the fonts you want to download, click Done.

The fonts you added are listed in the Font Utility dialog box.

6. Click Download to send all the fonts in the list to the printer or its hard disk.

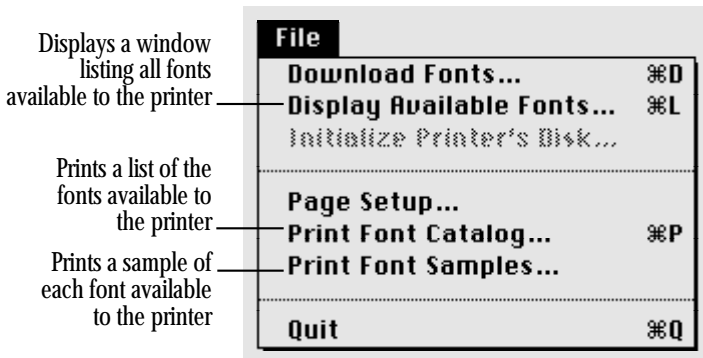
You can click Cancel to stop the process.

7. Click OK when downloading is finished.
8. Choose Quit from the File menu.

Finding out about available fonts

Many programs have a Font menu that lists the fonts installed in your System file, though some programs do not list them all. (You can open the System icon, inside the System Folder, to see all the fonts stored there.)

The LaserWriter Font Utility program (supplied with the system software disks) provides three ways to see the fonts available for printing on a LaserWriter: you can display a list of fonts on the screen, print a font catalog, or print a set of font samples.



Other ways to use the LaserWriter Font Utility

You can also use the LaserWriter Font Utility program to

- initialize a hard disk attached to a printer
- control whether a printer prints a start page
- restart a printer
- send PostScript files to a printer

Initializing a hard disk attached to a printer

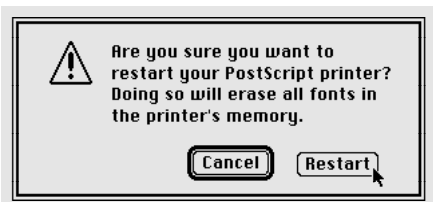
You can attach a hard disk to some printers. A hard disk allows you to store more fonts. See the manual that came with your printer for information about connecting a hard disk.

- 1. Open the LaserWriter Font Utility icon.**
- 2. Choose Initialize Printer's Disk from the File menu.**
- 3. Click the Drive button until you see the name of the hard disk you want to initialize.**
- 4. Click Initialize.**

Restarting a LaserWriter printer

Restarting the printer clears its memory, removing the fonts stored there.

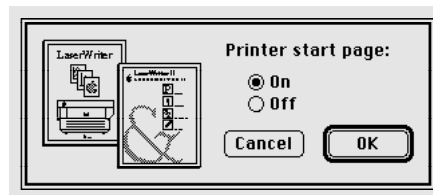
1. **Open the LaserWriter Font Utility icon.**
2. **Choose Restart Printer from the Utilities menu.**
3. **Click Restart.**



Turning the printer's start page on or off

The LaserWriter can print a start page each time it is turned on or restarted.

1. **Open the LaserWriter Font Utility icon.**
2. **Choose Start Page Options from the Utilities menu.**
3. **Click the On or Off button.**



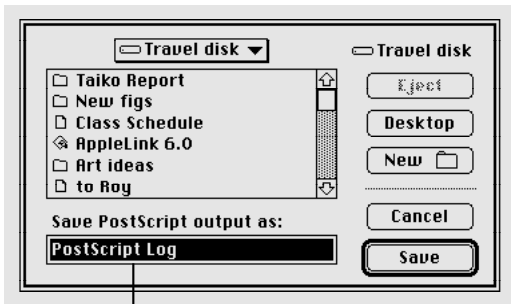
4. **Click OK.**

Transferring a PostScript file to a LaserWriter

You can use the LaserWriter Font Utility to send a file in PostScript format to a LaserWriter.

- 1. Open the LaserWriter Font Utility icon.**
- 2. Choose Download PostScript File from the Utilities menu.**
- 3. Click the name of the file you want to download to the printer, and then click Open.**

A dialog box asks you to name a file that saves a record of the PostScript activity. If you don't rename the file, it's called "PostScript Log."



The name of a log that records PostScript activity

- 4. Type a name for the log and then click Save.**

The file is sent to the printer and a record of the PostScript activity is saved in the log.

You can open the log to see the sequence of PostScript commands when the file was sent.

Using Your Macintosh on a Network

In this chapter

- Setting up your Macintosh on a network
- Gaining access to files on shared disks
- Working with files and folders on other computers
- Sharing your own files
- Using access privileges
- Linking programs
- Using communications products with System 7

Setting up your Macintosh on a network

Before you can use your Macintosh on a network, you need to physically connect your computer to the network and install networking software.

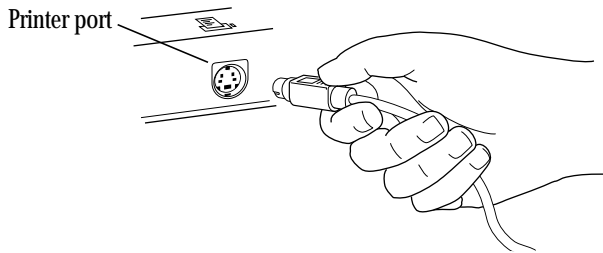
If a network administrator manages the network to which you'll be connecting your computer, you may want to consult that person for advice or help.

Connecting to a network

Your Macintosh has built-in AppleTalk networking software. This software supports the LocalTalk[®] cables you need to connect your computer to the network.

1. **Choose Shut Down from the Special menu.**
2. **Attach the LocalTalk cable to the printer port on the back of your computer.**

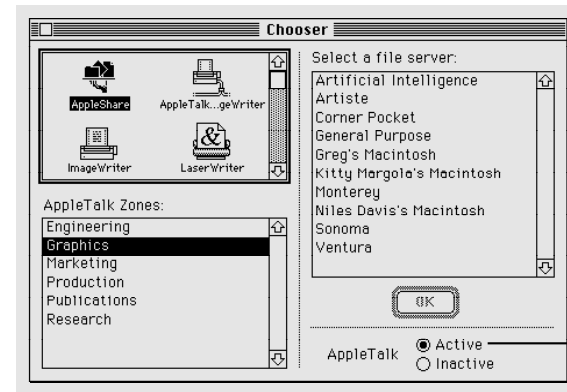
See your network administrator or the documentation that came with your cables if you need more information.



Turning on AppleTalk

The first time you turn on your computer after you have connected it to a network, you need to make sure that AppleTalk is turned on.

1. **Choose the Chooser from the Apple menu.**
2. **Click the Active button to turn on AppleTalk.**



AppleTalk must be active before you can use a network.

3. **Close the Chooser.**

When AppleTalk is active, your computer does not go to sleep automatically unless you run out of battery power. When you put your computer to sleep, a message reminds you that sleep may break your network connections.

Naming your Macintosh and its owner

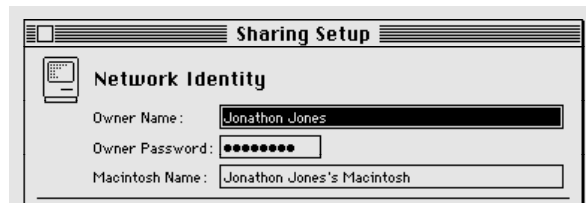
Before you use the network, you should give your Macintosh a name and name yourself as its owner.

1. **Choose Control Panels from the Apple menu and open the Sharing Setup icon.**



- ❖ *If you can't find or can't open the Sharing Setup icon:* Make sure that the Sharing Setup icon is in the Control Panels folder, and that the File Sharing Extension file and the Network Extension file are in the Extensions folder inside the System Folder. If not, place them there and restart your computer. ❖

2. **Type your name in the box labeled Owner Name and press Tab.**



3. **Type your password in the box labeled Owner Password and press Tab.**

Your password can be up to eight characters long. After you press Tab, your password is replaced by bullets (•) so others can't read it.

4. **Type a name for your Macintosh in the box labeled Macintosh Name.**

This is the name others will see on the network.

5. **Close the Sharing Setup control panel.**

Gaining access to files on shared disks

You can retrieve and store information on other computers connected to your network. For example, a coworker can place some files for you on a shared disk called a *file server*—a computer on the network dedicated to storing shared files. Private Macintosh computers on your network might also have shared disks.

Before you begin

Before you store or retrieve information on the network, do the following:

- **Find out the name of the shared disk you want to access and the name of the computer that it's on.**
- **If your network has zones, find out the name of the zone the computer is in.**
- **Find out if you are registered on the computer or if it allows guest access.**

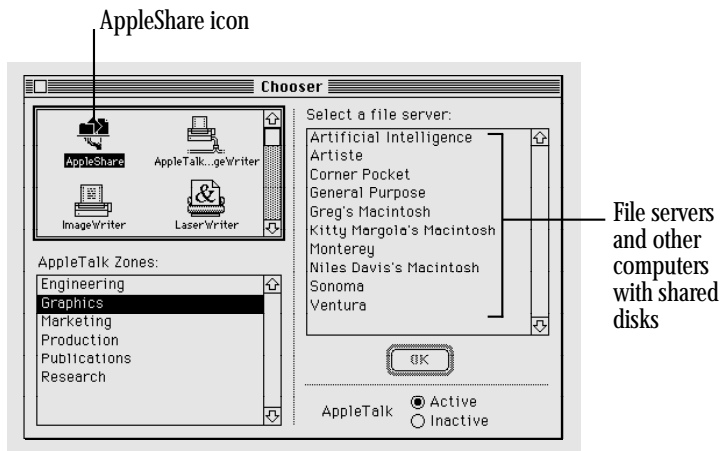
A Macintosh owner or network administrator can limit access to files on a shared disk. Ask the Macintosh owner or network administrator what type of access you have to the files.

- **If you're a registered user, find out the name and password you need to use.**

Find out exactly how your name and password are spelled, including capitalization.

Connecting to a shared disk

1. **Choose the Chooser from the Apple menu.**
2. **Make sure that AppleTalk is active.**
3. **Click the AppleShare[®] icon in the upper-left section of the Chooser window.**



- ❖ *If the AppleShare icon does not appear:* Make sure that the AppleShare file is in the Extensions folder in your System Folder. ❖

4. **If your network has zones, click the zone the computer is in.**

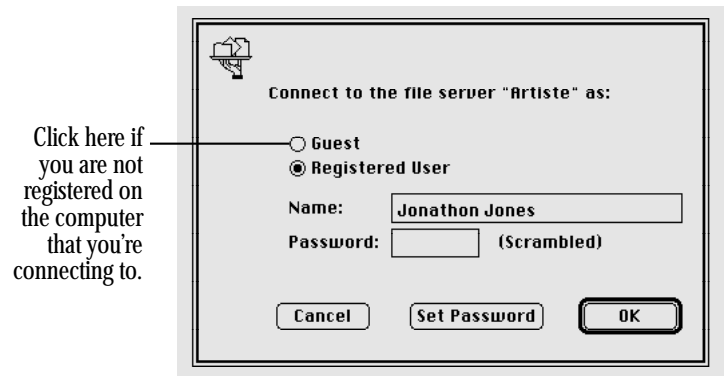
If you don't see a box labeled AppleTalk Zones, skip this step.

5. **Click the name of the computer you want to use.**

- ❖ *If the name you want isn't listed:* Make sure you have selected the correct zone. If the zone is correct, make sure the computer is turned on. ❖

6. **Click OK.**

7. **Click Guest or Registered User:**



If you are a guest, click Guest and go to step 10. If the Guest option is dimmed, guests do not have access to this computer.

continues >

8 If you are a registered user, make sure the name in the box is correct.

Capitalization does not need to match.

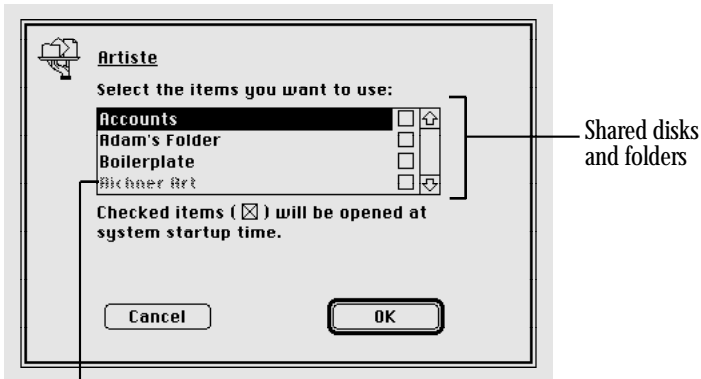
9 Type your password.

Capitalization needs to match.

10 Click OK.

- ❖ *If your password is not accepted:* Make sure that Caps Lock is not on. Type your password again, taking care not to make typing errors. ❖

11. Click a shared disk to select it.



Dimmed items are not available to you, or you're already connected to them.

12. Click OK.

After you click OK, the icon of the shared disk appears on your desktop.

13. Close the Chooser.

Disconnecting from a shared disk

When you're finished using a shared disk, close any open files or programs on the shared disk and then disconnect in one of the following ways:

- Select the shared disk icon and choose Put Away from the File menu.
- Drag the shared disk icon to the Trash.
- If you are finished working for the day, choose Shut Down from the Special menu. Shutting down automatically disconnects from the shared disk.

Using an alias to connect quickly to a shared disk

By making an alias for a shared disk, you can connect to that disk by simply opening the alias.

1. **Connect to a shared disk.**
2. **Select the shared disk icon.**
3. **Choose Make Alias from the File menu.**
4. **If you wish, rename the alias, then drag it to a convenient location.**
5. **Next time you want to connect to the shared disk, open the alias you created in step 3.**

If you originally connected to the shared disk as a registered user, a message appears. Type your password.

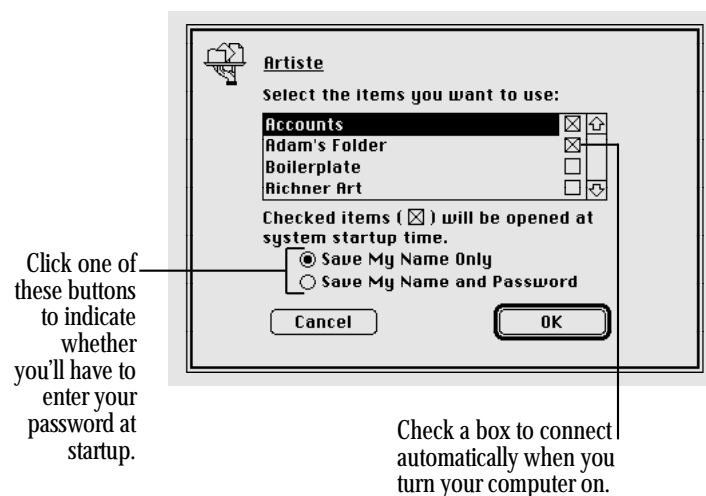
If you connected to the shared disk as a guest, this message does not appear.

The shared disk icon appears on your desktop.

Connecting automatically when you start up

You can connect automatically to one or more shared disks whenever you turn on your computer.

1. **Connect to the computer that has the shared disk you want to open.**
2. **Click the checkbox next to the name of the shared disk.**



continues >

- 3. If you're connecting as a registered user, click the button that indicates whether you want the shared disk to save your name only, or both your name and your password.**

To prevent unauthorized people from gaining access to the shared disk, click "Save My Name Only." When you start up your computer, you'll need to enter your password to connect to the shared disk.

- 4. Click OK.**
- 5. Close the Chooser.**

Working with files and folders on other computers

Once you are connected to a shared disk, you can use the files and folders on it as if they were on your own computer.

You may not be able to open some items on a shared disk because the owner hasn't given you access to those items. For information on how to check your access privileges, see "Working With Privileges That Others Have Set" later in this chapter.

Creating a new folder on another computer

You can create a new folder on a shared disk (as long as you have the correct access privileges). If you are a registered user, you become the *owner* of any folder that you create. If you are connected as a guest, you share ownership of the folder with all guests and registered users.

The icons of folders that you own have a darkened tab.

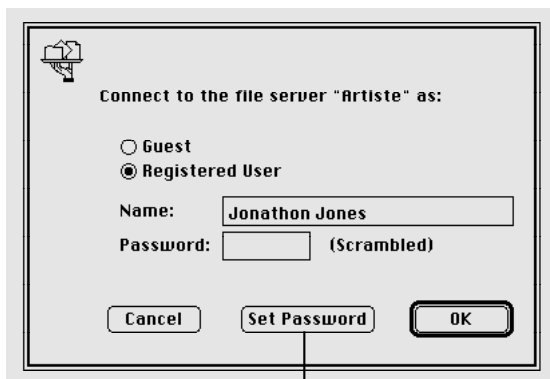


When you own a folder, you can determine who can use it and in what way. See "Using Access Privileges" later in this chapter for more information.

Changing your password

If you are a registered user, you may be able to change the password you use to access a shared disk. (Your network administrator can restrict this capability.)

1. **Connect to the computer that has the shared disk you want.**
2. **Click the Set Password button.**



Click here to change your password.

If a message tells you that you cannot change your password, your network administrator has turned off this feature.

3. **Type your current password. Then press Tab and type a new password.**

A bullet (•) appears for each letter you type.



4. **Click OK.**
5. **Click OK in the dialog box that appears.**
6. **Retype your new password and click OK.**

Your new password is now in effect.

Giving folder ownership to someone else

You can give away ownership of any folder you own. Once you do so, however, the new owner can restrict your access to that folder. Make sure you have copies of any files you may need before you give ownership of a folder to someone else.

- 1. Connect to a shared disk.**
- 2. Click to select a folder that you own.**
- 3. Choose Sharing from the File menu.**
- 4. Type the name of a registered user or group in the box labeled Owner:**
- 5. Close the dialog box.**

A message asks you to confirm that you want to change the owner of the folder.

- 6. Click OK.**

The user or group that you named assumes ownership immediately.

Sharing your own files

You can share files stored on your Macintosh with others on the network. For example, members of your work group can connect to your computer and open a file from their own computers. (They do not have to be using System 7.) Or, if you have both a desktop Macintosh and a PowerBook computer, you can transfer files from one computer to the other without using floppy disks.

You control what you share and with whom you share it:

- You share only folders you specify.
- You share only with the people you specify—one person, a group of people, or everyone on the network.
- You can see everything on your own computer from another computer on the network.

How file sharing works

First you turn on file sharing, then you select a folder or disk to share.

If you want to share only with certain people, you can

- name the people (registered users) you want to share with
- share a folder or disk and then pick from your list of registered users the people with whom you want to share it
- prevent others from seeing the shared folder or disk

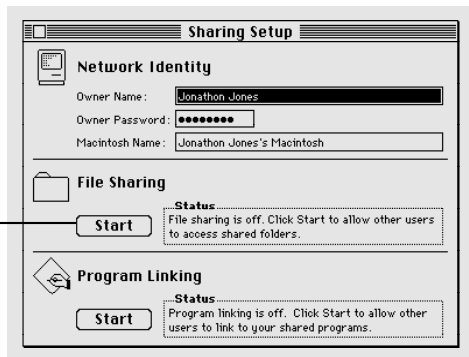
Turning file sharing on

1. **Choose Control Panels from the Apple menu and open the Sharing Setup icon.**



Make sure the boxes in the Network Identity section of the control panel are filled in.

2. **In the section labeled File Sharing click the Start button.**



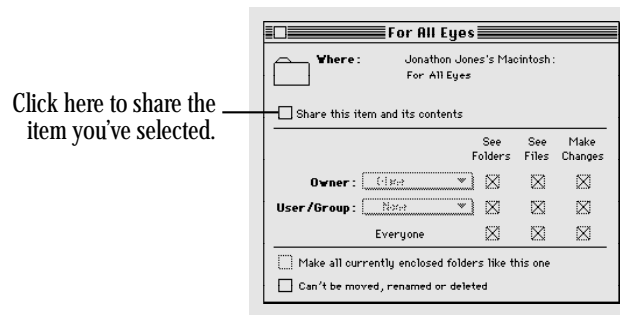
3. **Close the Sharing Setup control panel and the Control Panels folder.**

Continue with the next section to select a folder or disk to share.

Selecting a folder or disk to share

You can share any folder, hard disk, or CD-ROM disc connected to your computer (you cannot share floppy disks). You can share up to ten folders or disks at a time. (This number does not include folders within the folders or disks you share.)

1. **Make sure file sharing is turned on.**
2. **Select a folder or disk to share.**
3. **Choose Sharing from the File menu.**
4. **Click the box labeled “Share this item and its contents” to place an X in it.**



For information about the other checkboxes in this window, see “Using Access Privileges” later in this chapter.

continues >

5. Close the window and click **Save in the dialog box.**

Everyone on the network now has access to the item you shared and the files and folders inside it.

If you shared a folder, its icon appears on your desktop with a darkened tab and network cables:



When people on the network are connected to your shared folder, its icon appears with faces in the center:



△ **Important:** Before you put programs inside shared folders or disks, remember that copyright laws may prevent those programs from being shared. Check the applicable licensing agreements and follow their specifications. △

Making a shared folder or disk private

Any shared folder or disk can be made private again.

1. **Select the shared disk icon.**
2. **Choose Sharing from the File menu.**
3. **Click the box labeled “Share this item and its contents” to remove the X.**

Your changes take effect immediately. If people are connected to your computer, you see a message asking if you want to proceed.

Naming a registered user

You can register as many as 100 people and groups combined, but for best network performance you should name no more than 50.

1. Choose Control Panels from the Apple menu and open the Users & Groups icon.



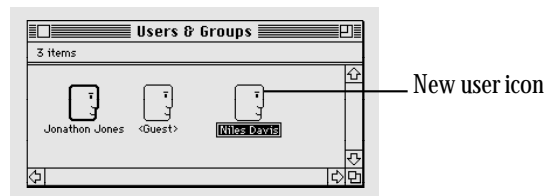
2. Choose New User from the File menu.

An icon labeled New User appears. Its name is selected for editing.

- ❖ *If you can't find the New User command:* Make sure the Users & Groups window is active. ❖

3. Type the name of a person you want to register.

Make sure you notify the person of the exact name you type. (Capitalization does not have to match.)



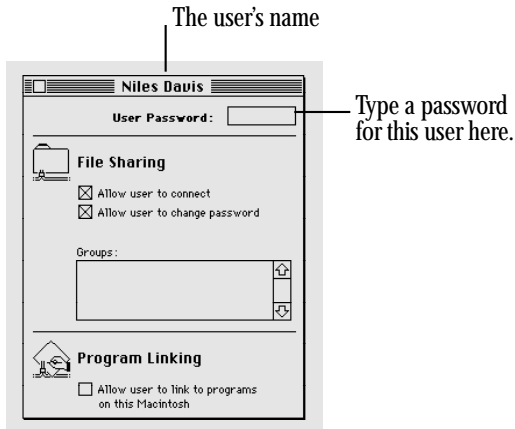
4. To register more users, repeat steps 2 and 3.

To assign passwords or to name groups of users, continue with the next two sections. If you want to start sharing immediately, go to "Selecting a User or Group to Share a Folder or Disk" later in this chapter.

Setting a registered user's password

You can assign passwords for registered users to verify their identities when they want to gain access to your computer.

1. Open a user icon in the Users & Groups control panel.



2. Type a password in the User Password box, then press Tab.

The password can be up to eight characters long. When you press Tab, the password is replaced by bullets for privacy. Make sure to inform the user of the exact password, including capitalization.

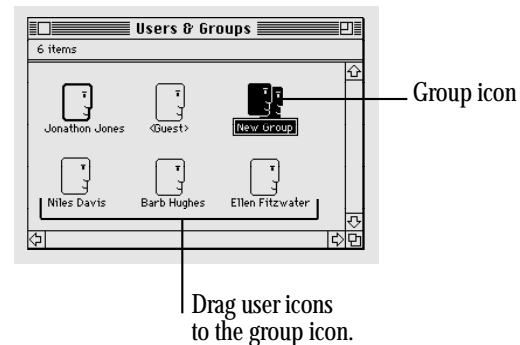
3. Close the window, and then click Save in the dialog box.

Naming a group of users

You can name several registered users as a *registered group*.

1. Open the Users & Groups control panel and choose New Group from the File menu.

An icon labeled New Group appears. The name is selected for editing.



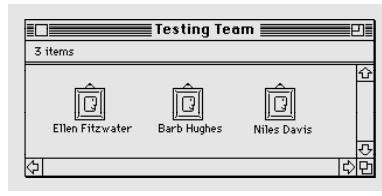
- 2. **Type a name for the group.**
- 3. **Drag user icons to the new group icon.**

The icons are not moved inside the group icon, as they would be if it were a folder. Dragging the icons creates a member icon inside the group icon. You don't need to drag your own icon to the group icon because you have access to the entire contents of your computer (unless you specify otherwise). You don't need to include the <Guest> icon in any group.

To allow this group to gain access to a shared folder or disk, go to the section "Selecting a User or Group to Share a Folder or Disk."

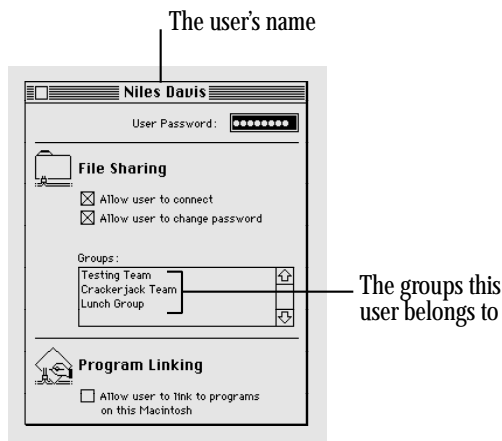
Seeing who's in a group

- **To see the names of all group members, open the group icon.**



You can open any member icon to see or change the settings you've made for that user.

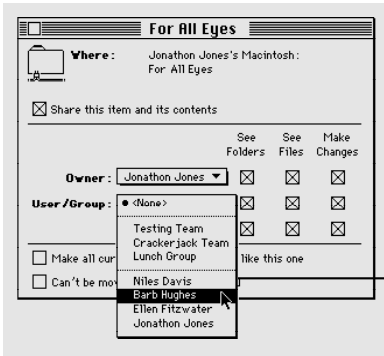
- **To see all the groups that a user belongs to, open the user's member icon or user icon.**



Selecting a user or group to share a folder or disk

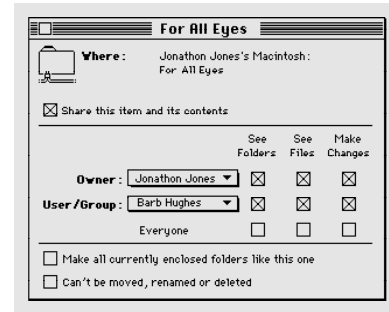
You can give one registered user or group exclusive access to a shared folder or disk on your computer.

1. **Select a folder or disk to share.**
2. **Choose Sharing from the File menu.**
3. **Click the box labeled “Share this item and its contents” so an X appears.**
4. **Choose a user or group from the User/Group pop-up menu.**



Registered users and groups appear in this menu.

5. **To share the item with *only* the user or group you've chosen, click the bottom row of checkboxes (to the right of Everyone) to remove the X from each box.**



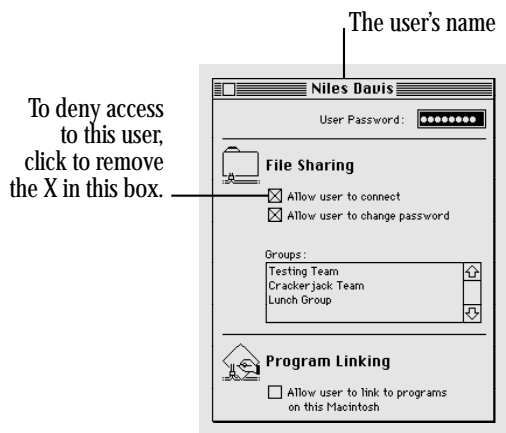
6. **Close the window and click Save.**

Preventing users or guests from accessing your computer

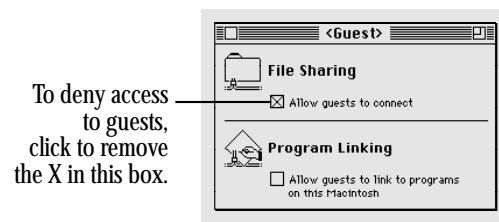
1. Choose Control Panels from the Apple menu and open the Users & Groups icon.



2. To deny access to a specific user, open the user icon.



- To deny access to guests, open the <Guest> icon.



3. Click the appropriate checkbox to deny access.
4. Close the window and click Save.

If you deny access to a user who is currently connected, he or she is disconnected immediately. That user is no longer a member of any groups, and can connect only as a guest.

If you deny access to guests, any guests currently connected are disconnected immediately.

Removing a user from a group

- 1. In the Users & Groups control panel, open the group icon.**
- 2. Drag the member icon to the Trash.**
- 3. Choose Empty Trash from the Special menu.**

Removing a user or group from your list of registered users

You can remove a registered user or group at any time. When you remove a user, he or she will no longer be a member of any registered groups.

- 1. Open the Users & Groups control panel.**
- 2. Drag the user or group icon to the Trash.**
- 3. Choose Empty Trash from the Special menu.**

If the user is currently connected, he or she is disconnected immediately.

You cannot throw away the <Guest> icon or the owner icon.

Giving away ownership of a folder or disk on your computer

You can give away ownership of a shared folder or disk on your Macintosh to a registered user or group.

Because you are the owner of your Macintosh, the new owner of a folder or disk on your computer cannot restrict your access to it. However, the new owner can change the access privileges that other people have to the folder or disk. If you give away ownership of a folder or disk, make sure to remove any folders or documents that you don't want others to see or change.

1. **Select a shared folder or disk.**
2. **Choose Sharing from the File menu.**
3. **Choose a name in the Owner pop-up menu.**



If you select <Any User>, then anyone on the network can change the access privileges or ownership of the item.

4. **Close the window and click Save in the dialog box.**
5. **Click OK again to confirm that you want to change ownership.**

Turning file sharing off

You can turn file sharing off at any time. When file sharing is off, people on the network cannot access folders or disks on your computer, and you cannot access your computer from another computer on the network.

When you turn file sharing back on, the items you shared before are available again automatically.

1. **Choose Control Panels from the Apple menu and open the Sharing Setup icon.**



continues >

2 In the section labeled File Sharing click the Stop button.

A dialog box appears in which you can specify a delay before file sharing is turned off. If you specify a delay, users who are connected to your computer are warned to save their work and disconnect.



3 Type the number of minutes you want to elapse before file sharing is turned off.

To turn file sharing off immediately, type the number 0.

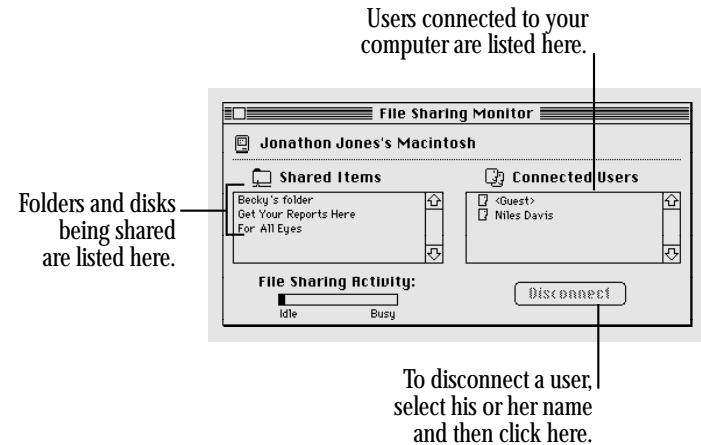
4 Click OK.

If someone is using files on your Macintosh when file sharing is turned off, any changes he or she has not saved will be lost.

Monitoring file-sharing activity

When file sharing is on, you can see who is connected to your computer and what folders or disks you've shared.

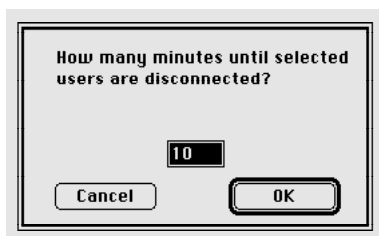
- **Choose Control Panels from the Apple menu and open the File Sharing Monitor icon.**



Disconnecting someone who is connected to your computer

You can disconnect users who are currently connected to your Macintosh in the File Sharing Monitor control panel.

- 1. Select the user or users you want to disconnect.**
- 2. Click Disconnect.**
- 3. Type the number of minutes that you want to elapse before users are disconnected.**



If you specify a delay, users are warned to save their work and disconnect. It's a good idea to give people enough time to save changes they have made. To disconnect a user immediately, type 0.

- 4. Click OK.**

A message remains on the screen until the time is up. Click Cancel to stop the process.

- 5. When the designated amount of time has elapsed, close the File Sharing Monitor.**

Gaining access to your computer from another computer

You can connect to your own Macintosh from another computer on the network and access everything on the disks attached to your computer.

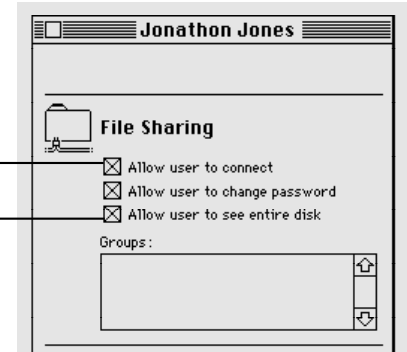
1. **Make sure that file sharing is turned on.**
2. **Choose Control Panels from the Apple menu and open the Users & Groups icon.**



3. **Open the owner icon (the one with the bold outline).**
4. **Click the boxes labeled “Allow user to connect” and “Allow user to see entire disk” to place an X in them.**

With an X in this box, you can connect to your computer from another computer.

With an X in this box, you can see everything on your computer.



When these boxes are checked, you can see and use everything on your disks while you're using another computer.

To restrict your access, click a checkbox to remove the X.

5. Close the window and the Users & Groups control panel.

6. Leave your computer turned on.

To gain access to your computer, connect to it as a registered user. Type your owner name and password as they appear in the Sharing Setup control panel of your computer. Then connect as you normally would.

- ❖ *If you are unable to connect to your computer:* Make sure that your computer is turned on, that file sharing is turned on, and that you have the correct access privileges. Make sure that you type your password exactly as it is entered in the Sharing Setup control panel, including capitalization. ❖

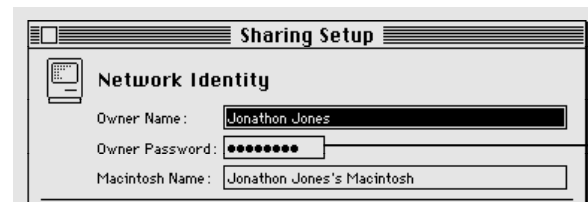
Changing your password

You can change the password you use to gain access to your own computer from another computer.

1. Choose Control Panels from the Apple menu and open the Sharing Setup icon.



2. Type a new password in the box labeled Owner Password and press Tab.



Type your new password here.

Remember the capitalization. Your password is replaced by bullets to keep it private.

3. Close the Sharing Setup control panel.

Your new password is now in effect.

Using access privileges

Access privileges let you control what other people can do with the information you share on a network. For example, you might want to let people see a file but prevent them from changing it.

Understanding access privileges

You can set access privileges for any shared folders on your own computer and any folders you create on another Macintosh. Owners of other computers can set access privileges that restrict what you can do with their shared disks.

Three categories of people can have access privileges to shared disks and folders:

- *The owner.* The owner of a folder can change the access privileges to that folder. You become the owner of a folder automatically when you create it. You can keep ownership or give it away.
- *A registered user or group.* A registered user has special access to shared disks over the network. A registered group is a group of registered users.
- *Everyone.* This category includes the owner, registered users, and guests.

There are three types of access to shared items:

- *See Folders* allows people to see, open, and copy the folders within a folder or disk.
- *See Files* allows people to see, open, and copy the files within a folder or disk.
- *Make Changes* allows people to make changes to a folder or disk—copy, delete, or change any of its contents.

The table indicates which privileges you need in order to take certain actions with items in a shared folder or disk.

Action	See Folders	See Files	Make Changes
Copy or move files to a folder	<input type="checkbox"/>	<input type="checkbox"/>	<input checked="" type="checkbox"/>
Copy a file from a folder	<input type="checkbox"/>	<input checked="" type="checkbox"/>	<input type="checkbox"/>
Copy a folder from a folder	<input checked="" type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>
Create a folder in a folder	<input checked="" type="checkbox"/>	<input type="checkbox"/>	<input checked="" type="checkbox"/>
Delete a file from a folder	<input type="checkbox"/>	<input checked="" type="checkbox"/>	<input checked="" type="checkbox"/>
Delete a folder from a folder	<input checked="" type="checkbox"/>	<input type="checkbox"/>	<input checked="" type="checkbox"/>
Open and use a file in a folder	<input type="checkbox"/>	<input checked="" type="checkbox"/>	<input type="checkbox"/>
Save changes to a file in a folder	<input type="checkbox"/>	<input checked="" type="checkbox"/>	<input checked="" type="checkbox"/>

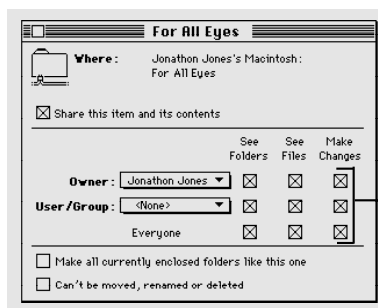
Setting access privileges to folders and disks

You can set access privileges for shared folders or disks on your own computer and for folders that you own on other computers.

1. Select the folder or disk.

2. Choose Sharing from the File menu.

The dialog box you see may be slightly different from the one pictured.



Use these boxes to set access privileges.

- If you've selected a folder inside a shared folder, the checkbox at the top is labeled "Same as enclosing folder."
- If you've selected a folder on another computer, the Owner and User/Group areas are text boxes, not pop-up menus.
- If you've selected a folder you do not own, all the checkboxes and their labels are dimmed.

3. Choose a registered user or group to share the item with.

Choose from the list of users and groups in the pop-up menu, or type the name of a registered user or group in the box.

4. To set access privileges, click the appropriate checkbox.

- To set the same privileges for the folders within this folder or disk, place an X in the box labeled "Make all currently enclosed folders like this one." If you're working with an item that contains a large number of folders, such as a CD-ROM disc, this action may take a few minutes to complete.
- To prevent the folder from being changed, place an X in the box labeled "Can't be moved, renamed, or deleted." If you check this box, no one—not even you—can change the folder.
- If you want the folder to have the privileges set for the folder or disk enclosing it, place an X in the checkbox labeled "Same as enclosing folder." This box only appears for folders inside shared folders. When you move such a folder to another folder, its access privileges change to reflect those of the enclosing folder.

5. When you're finished setting access privileges, close the Sharing dialog box and then click Save.

The access privileges take effect immediately.

Access privilege strategies

Access privileges can be combined in several ways. A few common and useful strategies are summarized here.

- **Allow everyone on the network all access privileges.** As long as guest access is allowed, everyone on the network can open, read, and change the files and folders.

	See Files	See Folders	Make Changes
Owner	<input checked="" type="checkbox"/>	<input checked="" type="checkbox"/>	<input checked="" type="checkbox"/>
User /Group	<input checked="" type="checkbox"/>	<input checked="" type="checkbox"/>	<input checked="" type="checkbox"/>
Everyone	<input checked="" type="checkbox"/>	<input checked="" type="checkbox"/>	<input checked="" type="checkbox"/>

- **Keep a folder or disk private.** To keep a folder or disk on your own computer private, do not share it. To keep your folder on another computer private, use these settings. You have full access but no one else can see, open, or use its contents.

	See Folders	See Files	Make Changes
Owner	<input checked="" type="checkbox"/>	<input checked="" type="checkbox"/>	<input checked="" type="checkbox"/>
User /Group	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>
Everyone	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>

- **Allow access to one other person or group.** This set of privileges allows the owner of the item and one registered user or group to use the item.

	See Folders	See Files	Make Changes
Owner	<input checked="" type="checkbox"/>	<input checked="" type="checkbox"/>	<input checked="" type="checkbox"/>
User /Group	<input checked="" type="checkbox"/>	<input checked="" type="checkbox"/>	<input checked="" type="checkbox"/>
Everyone	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>

- **Keep a folder private but allow others to place files or folders into it.** People on the network can deposit files or folders into this folder but cannot see, remove, or change its contents. (This configuration is sometimes called a *drop box*.)




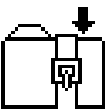
	See Folders	See Files	Make Changes
Owner	<input checked="" type="checkbox"/>	<input checked="" type="checkbox"/>	<input checked="" type="checkbox"/>
User /Group	<input type="checkbox"/>	<input type="checkbox"/>	<input checked="" type="checkbox"/>
Everyone	<input type="checkbox"/>	<input type="checkbox"/>	<input checked="" type="checkbox"/>

- **Set up a folder as a bulletin board.** People can open and read the files in this folder but cannot change them.

	See Folders	See Files	Make Changes
Owner	<input checked="" type="checkbox"/>	<input checked="" type="checkbox"/>	<input checked="" type="checkbox"/>
User /Group	<input checked="" type="checkbox"/>	<input checked="" type="checkbox"/>	<input type="checkbox"/>
Everyone	<input checked="" type="checkbox"/>	<input checked="" type="checkbox"/>	<input type="checkbox"/>

Working with privileges that others have set

When you are using the By Icon or By Small Icon view, the appearance of shared folders indicates the access you have.

Icon	Meaning
	A darkened tab indicates that you own the folder and can set its access privileges.
	A plain tab indicates that you can open and use the folder.
	A lock indicates that you cannot open and use the folder.
	A lock with an arrow indicates that you can put files or folders into the folder, but you cannot open it or use any files or folders within it.

Checking your access privileges

When you open a folder on another computer, icons under the title bar indicate the privileges that you do *not* have.



You can't make changes.



You can't see files.



You can't see folders.

Linking programs

Some Macintosh programs can exchange information directly with other programs. For example, one program might be able to instruct another program to add a row to a spreadsheet or change the font size of a paragraph.

Programs implement linking in various ways and not all programs have this capability. See the documentation that came with your programs for more information.

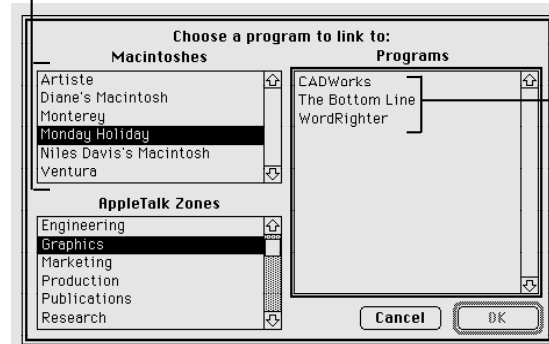
Linking to a program on another computer

You can only link to programs that are shared.

1. Within your program, choose the menu command that allows you to link programs.

The menu location and command name depend on the program you're using. You use a dialog box to find the program that you want to link to.

Computers available for program linking



Programs available for linking on the selected computer

2. If your network has zones, select a zone in the lower-left section of the dialog box.
3. Select the Macintosh you want to connect to in the upper-left section of the dialog box.
4. Select the program you want to link to.

5. Click OK.

In most cases, you need to identify yourself as a guest or a registered user.



6. Click Guest or Registered User.

If you are a guest, click Guest and go to step 9. If the Guest option is dimmed, guests do not have access to this computer.

7. If you are a registered user, make sure that the name is correct.

8. Type your password.

9. Click OK.

The two programs are now linked.

Disconnecting a program link

To disconnect a link to a program on another computer, quit the program you used to create the link.

Allowing other people to link to your programs

You can allow people on the network to link to programs on your computer.

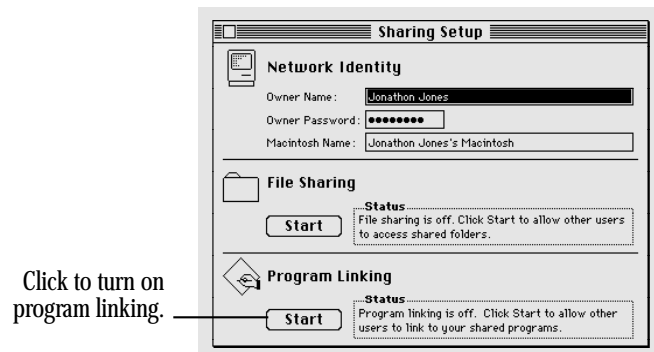
- First you turn on program linking.
- Then you make a program available for linking by sharing it.
- Finally, you either allow guest access or allow specific people to link.

These steps are outlined in the following sections.

Turning program linking on

When you turn program linking on, your computer is visible to others on the network whenever they attempt to link a program. Before you turn program linking on, make sure that AppleTalk is active and that you have named your Macintosh.

1. **Choose Control Panels from the Apple menu and open the Sharing Setup icon.**
2. **In the section labeled Program Linking click the Start button.**



3. **Close the Sharing Setup control panel.**

Once program linking is turned on, you must select programs to share before network users can link to them, as described in the next section.

Selecting a program for linking

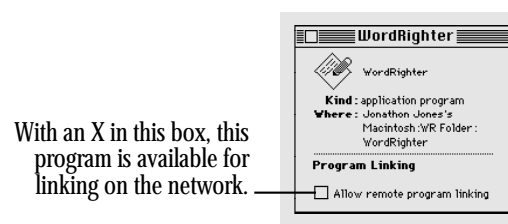
Before a network user can link to your program, you need to share it.

1. **Select a program to share.**

If the program is open, you must quit before you can share it.

2. **Choose Sharing from the File menu.**

3. **Click the box labeled “Allow remote program linking” to place an X in it.**



If the box is dimmed, the program does not support linking, and you cannot share it.

4. **Close the window.**

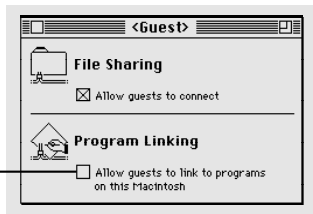
Guest users can now link to your program as long as your computer is turned on and the program is open.

Allowing guests to link to your programs

You can let everyone on the network link to your shared programs.

1. **Choose Control Panels from the Apple menu and open the Users & Groups icon.**
2. **Double-click the <Guest> icon.**
3. **Click the box labeled “Allow guests to link to programs on this Macintosh” to place an X in it.**

With an X in this box, guests can link to programs on your Macintosh.



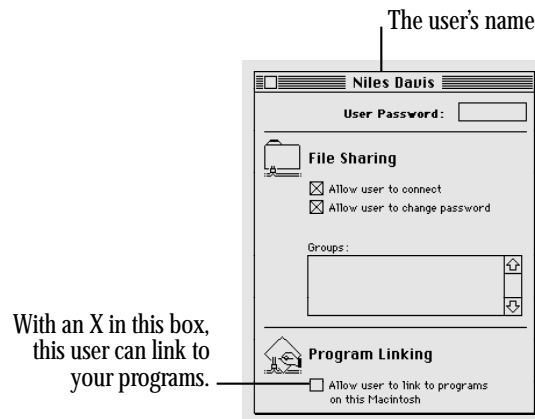
4. Close the window.

Guest users can now link to any of the programs you're sharing, as long as the programs are open.

Naming specific users to link to your programs

You can identify the registered users and groups you want to link to your programs.

1. **Choose Control Panels from the Apple menu and open the Users & Groups icon.**
2. **Open the icon of a user:**
3. **Click the box labeled “Allow user to link to programs on this Macintosh” to place an X in it.**



With an X in this box, this user can link to your programs.

4. **Close the window and click Save in the dialog box.**
5. **To give more registered users access to your programs, repeat steps 2 through 4.**

Using communications products with System 7

Using the Communications Toolbox

If you are already familiar with the Communications Toolbox, note the following guidelines for its use with Macintosh System 7. See the manual that came with your communications program for more detailed information.

- The Communications Toolbox has been integrated into System 7.
- To use communications tools with System 7, drag them to the Extensions folder in your System Folder (or to the System Folder icon).
- Wherever a program or its documentation refers to the “Communications Folder,” substitute the “Extensions Folder.”

Using Data Access Language

If you are already familiar with Data Access Language (DAL), note the following instructions for its use with System 7. For detailed information about using your DAL application, see the manual that came with the program.

To use programs that search for the “hosts.CL1” file, do the following:

- 1. Make a copy of the DAL Preferences file (in the Preferences folder in the System Folder).**
- 2. Rename the duplicate file: Hosts.CL1.**
- 3. Move the renamed file outside the Preferences folder; but leave it inside the System Folder.**

Use your program as you normally do. Whenever you make changes to one of these files, you must update the duplicate file.

Enhancing Your Macintosh System

In this chapter

- Adding memory to your computer
- Connecting an external floppy disk drive
- Connecting SCSI devices
- Using your computer as a SCSI disk
- Connecting a modem
- Connecting a printer
- Connecting a mouse or other ADB device
- Connecting a microphone
- Connecting headphones or speakers

Adding memory to your computer

All Macintosh PowerBook computers come with at least 2 MB of RAM; some models come with 4 MB. You can find out how much memory your computer has by choosing About This Macintosh from the Finder's Apple menu.

Apple provides 2 and 4 MB memory upgrades through its authorized dealers. Memory upgrades in these and other amounts may also be available from other vendors; ask your dealer for more information.

All memory upgrades must be installed by an authorized Apple dealer.

The PowerBook 140 and 170 support virtual memory, a feature that makes use of hard disk space to provide additional RAM. For more information see "Using Hard Disk Space as Memory" in Chapter 12.

Connecting an external floppy disk drive

The Macintosh HDI-20 External 1.4 MB Floppy Disk Drive is an option available for the PowerBook 100, which does not have an internal floppy disk drive. (You cannot use an external floppy disk drive with the PowerBook 140 or 170.)

Use only the HDI-20 external floppy disk drive with your computer. Other disk drives draw more power than is recommended, and their connectors are of a different type.

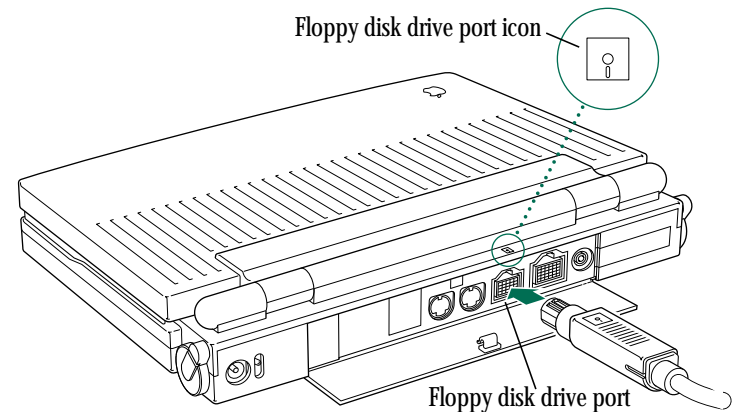
See Chapter 10 for information about using floppy drives and disks.

Attaching the external floppy disk drive

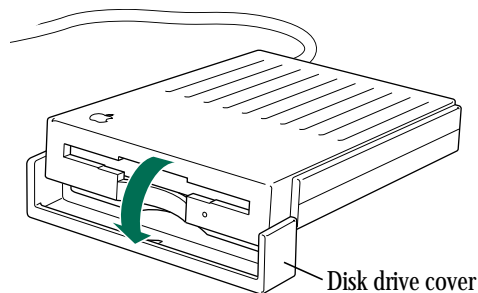
1. **Save your work and choose Shut Down from the Special menu.**

▲ **Warning** Connecting the disk drive while your computer is turned on can damage the disk drive. Turn the computer off before connecting the disk drive. ▲

2. **Attach the disk drive's cable to the floppy disk port on your computer.**



- 3. Flip down the disk drive cover and use it to prop up the drive.**



- 4. Turn the computer back on.**

The floppy disk drive is ready to use.

Starting up from a floppy disk

To start up your computer from a floppy startup disk—one that has a System Folder on it—you need to insert the floppy disk into the disk drive *before* you turn on the computer. Otherwise the computer starts up from the hard disk as usual (if it contains a working System Folder).

Disconnecting the external floppy disk drive

- 1. Save your work.**
 - 2. Choose Shut Down from the Special menu.**
- △ **Important:** Disconnecting the disk drive while your computer is on can damage the drive. Turn the computer off before disconnecting the disk drive. △
- 3. Disconnect the disk drive's connector from the floppy disk port.**

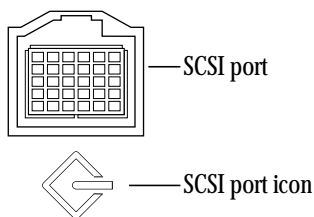
Caring for the disk drive

- Eject any disk from the disk drive before closing the cover.
- Shut down your Macintosh before connecting or disconnecting the disk drive.
- Do not lift or carry the disk drive by its cable.
- Avoid storing the disk drive where it will be exposed to extreme heat or cold.

Connecting SCSI devices

SCSI devices include hard disks, CD-ROM drives, and scanners that connect to your computer using a standard electronic interface. (SCSI stands for Small Computer System Interface.)

Your computer has a SCSI port to which any SCSI device can be connected. The SCSI port and its icon look like this:



The SCSI port itself looks different from the SCSI ports you may have seen on other computers. To connect a SCSI device to it, you need an Apple HDI-30 SCSI System Cable, as described later in this chapter.

Setting up a SCSI device involves the steps listed here and described in the next sections:

- installing software
- setting SCSI ID numbers
- checking that the SCSI chain is properly terminated
- connecting cables

Installing software

Most SCSI devices come with software that allows your computer to communicate with them. These programs are called *drivers*. (If no drivers come with the device, then it doesn't need any.) To install a driver, follow the instructions that came with the device.

Setting SCSI ID numbers

You can attach up to six SCSI devices to your computer by linking them together in a chain. Each device in a SCSI chain must have its own ID number between 1 and 6 so the computer can identify it properly.

▲ **Warning** Using two or more devices with the same SCSI ID number can cause your equipment to malfunction. You could lose information as a result. ▲

Your computer has the SCSI ID number 7, and its internal hard disk has the number 0.

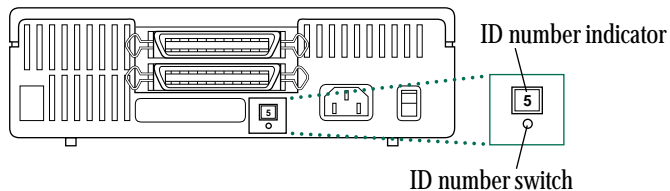
Some SCSI devices come with a preset ID number; see the documentation that came with the device for information about ID numbers and how to change them. (In most cases, a new ID number goes into effect when the device is turned back on.)

The ID numbers of Apple SCSI devices can be set as follows.

1. Make sure the SCSI device is turned off.

If the device is already part of a SCSI chain, make sure that all devices in the chain are turned off, including the Macintosh itself.

2. Locate the ID number indicator and switch (usually on the back panel of the SCSI device).



3. Check the ID numbers of all connected devices.

If the devices you're connecting already have unique ID numbers, you're finished with this part of the procedure. Continue with the next section, "Checking That the SCSI Chain Is Properly Terminated."

4. Choose a number between 1 and 6 to assign to the Apple SCSI device.

Each device in a SCSI chain needs a unique ID number. Give higher ID numbers to the devices you use more often.

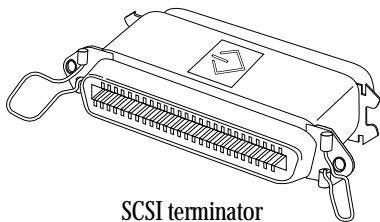
5. Insert the end of a straightened paper clip into the small hole below the ID number indicator.

The small hole gives you access to the ID number switch.

6. Push the ID number switch repeatedly until the number you want appears in the ID number indicator.

Checking that the SCSI chain is properly terminated

To ensure accurate transmission of information, a chain of SCSI devices must have a terminator at each end. Terminators are built into some SCSI devices and can also be added at appropriate locations in the chain.



SCSI terminator

- Your PowerBook's internal hard disk, which is always the first device in the chain, has a small built-in terminator. However, for reliable information transfer in a chain of SCSI devices, it should be supplemented with an external terminator as described in these instructions.
- External SCSI devices from Apple do not have built-in terminators.
- External SCSI devices from other vendors may have built-in terminators; consult the documentation that came with the device.

Rules for correct chain termination

When connecting one SCSI device to a PowerBook computer, make sure that there is

- an external terminator between the HDI-30 system cable and the SCSI device *and*
- an internal terminator in the SCSI device, *or* an external terminator attached to the second SCSI connector on that device.

When connecting a chain of SCSI devices to a PowerBook computer, make sure that there is

- an internal terminator in the first external device, *or* an external terminator between the HDI-30 system cable and the first device;
- an internal terminator in, *or* an external terminator attached to the last device; *and*
- no other terminator in the chain.

In general, and particularly if you are using extension cables in your SCSI chain, you should put the terminators as close to the ends of the chain as possible.

Correct chain configurations are shown in the illustrations on the following page.

Connecting cables

▲ **Warning** When making SCSI connections, *always* turn off power to all devices in the chain. Failure to do so can cause the loss of information and damage to your computer equipment. ▲

1. **Shut down your Macintosh and all SCSI devices in the chain.**
2. **To connect the first (or only) device, use an Apple HDI-30 SCSI System Cable.**

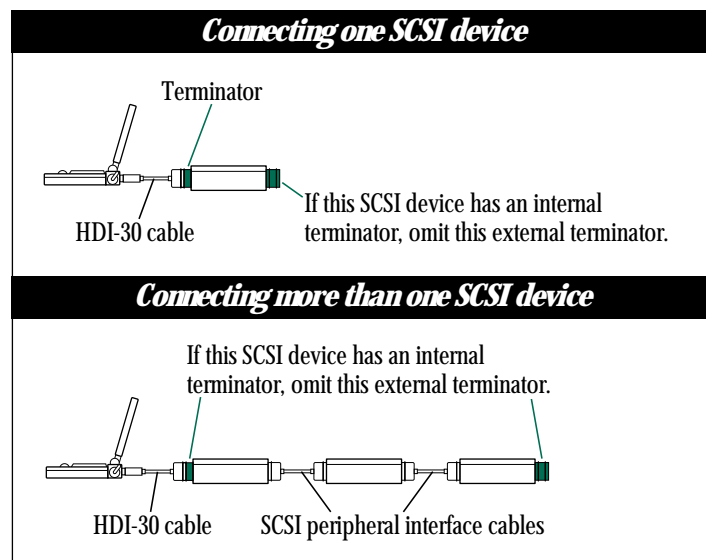
Attach the smaller end of the cable to your computer, and the larger end of the cable to either SCSI port on the device.

3. **To connect the next device, use a SCSI peripheral interface cable.**

Both cable connectors are the same; attach one to the available SCSI port on the first device, and the other to either SCSI port on the next device.

4. **Repeat step 3 for each additional device you want to connect.**

The illustrations show where to add cable terminators.



△ **Important:** The total length of a SCSI chain should not exceed 6 meters (20 feet). Apple SCSI cables are designed to meet this restriction. If you are using SCSI cables from another vendor, check the length of the chain. △

Once your SCSI devices are connected, always turn them on before turning on your computer. If you turn the computer on first, it may not be able to start up, or it may not recognize the SCSI devices.

Using your computer as a SCSI disk

You can connect a PowerBook 100 to any desktop Macintosh and have it function as though it were an external SCSI disk drive. The PowerBook 100 appears on the screen of the desktop Macintosh as a hard disk icon, and you can transfer information between the two computers by dragging files. This feature of the PowerBook 100 is called *SCSI disk mode*.

SCSI disk mode is especially useful if you don't have an external floppy disk drive for your computer, or if you're traveling without an external disk drive and need to transfer information. You can also use this mode to reinstall system software on your computer, as described later in this chapter.

To use your PowerBook 100 as a SCSI disk, you need to purchase a special cable called the Apple HDI-30 SCSI Disk Adapter from your authorized Apple dealer.

▲ **Warning** Follow the steps for connecting and disconnecting SCSI devices carefully to avoid loss of information and damage to your equipment. The PowerBook 140 and 170 do not support SCSI disk mode, and should never be connected to a desktop Macintosh. ▲

Connecting your computer as a SCSI disk

Before making any connections, you need to assign a SCSI ID number to the PowerBook 100.

- 1. Choose Control Panels from the Apple menu of your PowerBook computer.**
- 2. Open the Portable control panel.**
- 3. In the SCSI Disk Mode ID section of the control panel, click the ID number you want to assign.**

If you are connecting the PowerBook 100 to an existing SCSI chain, make sure to give it an ID number different from those of the other devices.



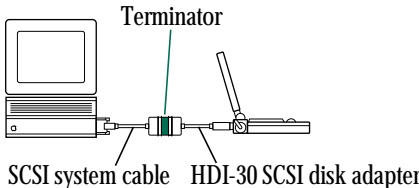
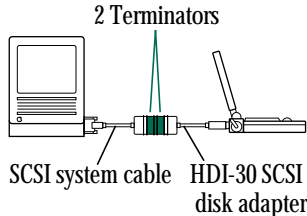
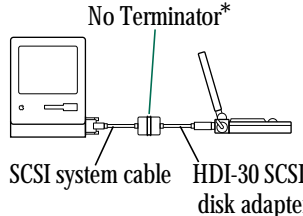
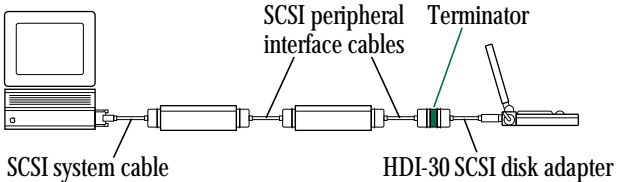
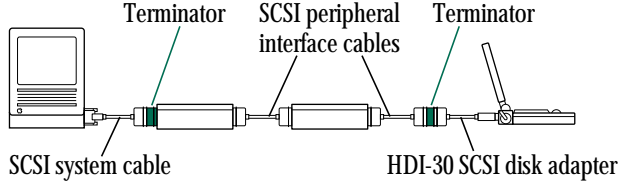
- 4. Turn off the PowerBook 100 by choosing Shut Down from the Special menu.**
- 5. Turn off the desktop Macintosh by choosing Shut Down from the Special menu (and then pressing the on/off switch, if the computer is a compact model such as the Macintosh SE/30).**
- 6. Turn off all other devices in the SCSI chain, if any.**

7. Connect the PowerBook computer to either (a) the desktop Macintosh or (b) the end of the SCSI chain.

The illustrations show which cables to use and where to add cable terminators. Remove the terminator from the last device in an existing chain before connecting the PowerBook 100.

▲ Warning Always shut down the PowerBook 100 before connecting or disconnecting the SCSI disk adapter cable. Connecting the adapter cable while the computer is turned on can damage the computer. ▲

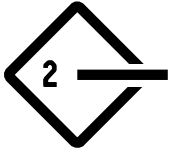
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(a) Connecting to a desktop Macintosh	
<ul style="list-style-type: none"> ■ Models <i>without</i> internal hard disk: Classic® LC II fx ■ Models <i>with</i> internal hard disk: Classic LC SE SE/30 II II x II cx II ci II si II fx  <p style="text-align: center;">Terminator</p> <p style="text-align: center;">SCSI system cable HDI-30 SCSI disk adapter</p>	<ul style="list-style-type: none"> ■ Models <i>without</i> internal hard disk: SE SE/30 II II x II cx II ci ■ Models <i>with</i> internal hard disk: Plus Portable  <p style="text-align: center;">2 Terminators</p> <p style="text-align: center;">SCSI system cable HDI-30 SCSI disk adapter</p>
 <p style="text-align: center;">No Terminator*</p> <p style="text-align: center;">SCSI system cable HDI-30 SCSI disk adapter</p>	
(b) Connecting to the end of a SCSI chain	
<ul style="list-style-type: none"> ■ Models <i>without</i> internal hard disk: Classic LC II fx ■ Models <i>with</i> internal hard disk: Classic LC SE SE/30 II II x II cx II ci II si II fx  <p style="text-align: center;">Terminator</p> <p style="text-align: center;">SCSI peripheral interface cables</p> <p style="text-align: center;">SCSI system cable HDI-30 SCSI disk adapter</p>	<ul style="list-style-type: none"> ■ Models <i>without</i> internal hard disk: SE SE/30 II II x II cx II ci Plus Portable ■ Models <i>with</i> internal hard disk: Portable  <p style="text-align: center;">Terminator</p> <p style="text-align: center;">SCSI peripheral interface cables</p> <p style="text-align: center;">SCSI system cable HDI-30 SCSI disk adapter</p>

*Do not use *any* terminators, non-Apple cables, or extension cables in this configuration, or it will not work.

8 Turn on the PowerBook 100 by pressing any key on the keyboard.

After a few seconds a SCSI icon appears on the screen, showing the SCSI ID number you assigned in step 3.



- ▲ **Warning** If you do not see the SCSI icon, and the computer either starts normally or displays an error message, choose Shut Down (if you can) and then immediately disconnect your computer from the SCSI chain. If you can't choose Shut Down, you should disconnect the cable anyway, or you may lose information. Then go back and repeat steps 4 through 8, making sure that you have shut down all your equipment properly, that you are using the correct cables, and that you have put terminators in the correct places. ▲

9 Turn on the other SCSI devices in the chain, if any.

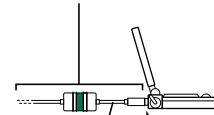
10 Turn on the desktop Macintosh.

The PowerBook 100 appears as a hard disk icon on the desktop Macintosh. You can now transfer files as if the PowerBook 100 were an external disk drive.

Simplifying the SCSI disk connection process

If you regularly plan to use your PowerBook 100 as a SCSI disk with the same desktop Macintosh, you can leave the cables, terminators, and the SCSI disk adapter cable attached to the desktop Macintosh. When you want to use your PowerBook 100 as a SCSI disk, simply shut down all devices and connect the PowerBook to the adapter cable. The desktop Macintosh and its SCSI chain (if there is one) will work correctly with or without the PowerBook 100 attached.

These cables stay attached to your desktop Macintosh or its SCSI chain.



HDI-30 SCSI disk adapter Connect and disconnect your computer here.

- ▲ **Warning** Always disconnect your PowerBook 100 from the adapter cable when you are not using it as a SCSI disk. Your PowerBook 100 will not work correctly if the adapter cable remains attached. ▲

Using SCSI disk mode to reinstall system software

If you're using SCSI disk mode to reinstall system software on your PowerBook's hard disk (because its System Folder was damaged, for example), you may not have had an opportunity to select a SCSI ID number for the computer. If you don't know what the current ID number is, follow these steps:

- 1. Press the interrupt and reset buttons together to make sure that all power to your computer is off.**
- 2. Connect the SCSI disk adapter cable to the SCSI port on your computer.**
- 3. Press any key (except Caps Lock) to restart the computer.**
- 4. Note the SCSI ID number that appears on the screen.**

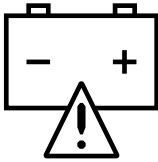
You can't change this number now, but if you will be attaching your computer to an existing SCSI chain you can change the numbers of other devices if there is an ID conflict.

- 5. Press the reset or the interrupt button to turn the computer off again.**
 - 6. Shut down the desktop Macintosh and the other SCSI devices in the chain, if any.**
 - 7. Change conflicting SCSI ID numbers if necessary.**
 - 8. Connect the other end of the adapter cable to the desktop Macintosh, or to the end of the SCSI chain.**
- The illustrations in the section "Connecting Your Computer as a SCSI Disk," earlier in this chapter, show the proper cables and terminator placement.
- 9. Press any key to restart the PowerBook 100.**
 - 10. Turn on the other SCSI devices in the chain, if any.**
 - 11. Turn on the desktop Macintosh.**

You can now reinstall system software on the hard disk in your PowerBook 100 as described in Chapter 8. Use the system software disks that came with your PowerBook computer (the ones that came with your desktop Macintosh may not be the correct version).

Drawing battery power in SCSI disk mode

Your computer continues to draw battery power while you are using it as a SCSI disk. Low battery power is indicated by the appearance of a blinking low-power warning on the PowerBook's screen.



If you see this warning while using your computer as a SCSI disk, either plug in the power adapter or quit SCSI disk mode, as described in the next section, so you can remove the battery for recharging. If you wait until the computer goes to sleep automatically, you may lose information.

△ **Important:** Do not attempt to change batteries while your computer is in SCSI disk mode. △

Quitting SCSI disk mode

1. **Shut down the desktop Macintosh.**
 2. **Turn off the PowerBook 100 by pressing the reset or interrupt button.**
 3. **Turn off all other SCSI devices in the chain, if any.**
 4. **Disconnect the PowerBook 100 from the desktop Macintosh or the end of the SCSI chain.**
- If you regularly plan to connect your PowerBook 100 to the same desktop Macintosh, see “Simplifying the SCSI Disk Connection Process,” earlier in this chapter.
5. **Disconnect the adapter cable from the PowerBook 100.**

If you leave the adapter cable attached, the computer will behave as though it is still in SCSI disk mode when you try to restart.

Your equipment is now ready for normal use. Make sure that the SCSI devices connected to the desktop Macintosh are properly terminated.

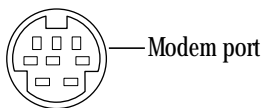
Connecting a modem

Apple offers the Macintosh PowerBook Fax/Data Modem—an internal, low-power, 2400-baud data/9600-baud fax send modem—for all Macintosh PowerBook computers. See the modem manual for more information.

You can connect an external modem to the modem or printer port on the PowerBook 140 or 170, or to the printer port on the PowerBook 100. Follow these steps:

- 1. Choose Sleep from the Special menu.**
- 2. Make sure the modem is turned off.**
- 3. Connect the modem cable to the modem port.**

(If you have a PowerBook 100, connect the modem cable to the printer port, and make sure that AppleTalk is inactive in the Chooser.)

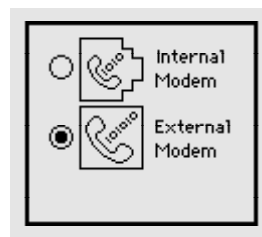


- 4. Turn on the modem.**
- 5. Press any key to wake the computer:**

If you do not have an internal modem, your external modem is ready to use.

If you have a PowerBook 140 or 170, and you have an internal modem in addition to the external modem you just connected, continue with the steps below.

- 6. Choose Control Panels from the Apple menu and open the Portable icon.**
- 7. In the Portable control panel, click the External Modem button.**



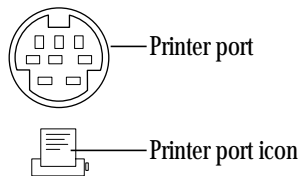
These modem controls appear only if you have an internal modem installed. Before you use the internal modem again, click the Internal Modem button.

- 8. Close the control panel.**

Internal modems available from other manufacturers may use more power than the modem provided by Apple. The only drawback to using such modems is that your battery drains faster when you use them. You may decide that the benefits (such as faster transfer rate) outweigh the drawback of additional power consumption. See the modem manual for more information about its features.

Connecting a printer

The printer port on your computer accepts either a direct cable connection (to a printer such as the StyleWriter) or a network cable connection (to a printer such as the LaserWriter II^{NTX}). Some printers, including the Personal LaserWriter SC, are connected through the SCSI port as a SCSI device.

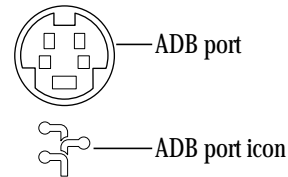


Follow the instructions that came with your printer to connect it to your Macintosh.

▲ **Warning** The StyleWriter printer comes with a power adapter that looks similar to the adapter provided with your PowerBook computer. However, these adapters are not interchangeable. Connecting the computer's power adapter to the printer will not damage your equipment, but the printer will not work properly. **Connecting the printer's power adapter to your computer will damage the adapter.** Use each power adapter only with the equipment for which it was intended. (You may want to label the adapters.) ▲

Connecting a mouse or other ADB device

Your computer has one Apple Desktop Bus™ (ADB) port, which you can use to connect optional low-power input devices (such as a mouse) provided by Apple and other vendors.



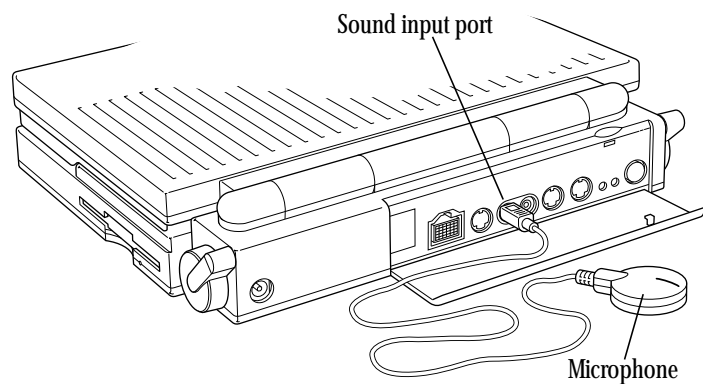
Make sure that any ADB devices you connect are designed for portable computers. Such devices are marked with the low-power icon shown. Do not connect standard ADB devices (such as keyboards for desktop Macintosh computers) to your PowerBook computer, even if the power adapter is plugged in.



Connecting a microphone

The PowerBook 140 and 170 come with a microphone that can be used to record sounds. These models have a sound input port to which you can connect the supplied microphone. (See Chapter 12 for information about recording sounds.)

1. **Open the door covering the back panel of your computer.**
2. **Plug the microphone into the sound input port on the back panel.**



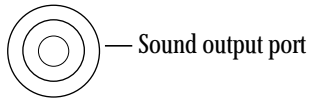
3. **Decide where you want to place the microphone.**

The microphone can pick up sounds within a range of several feet. You can place it anywhere near your computer, or use the clip provided to attach it to your shirt. The microphone has no on/off switch; it is controlled by the program you use to record sounds.

- ▲ **Warning** Do not plug a sound *output* device (such as a pair of headphones) into the sound *input* port. Doing so may damage your audio equipment. ▲

Connecting headphones or speakers

Your computer has a sound output port to which you can connect speakers, an amplifier, headphones, or other audio output devices. The sound output port accepts a standard stereo miniplug, like that used to attach headphones to a portable audio cassette player.



The PowerBook 100 has monaural, not stereo, output—but you should still use a stereo miniplug (a monaural one will not work).

Care and Maintenance

In this chapter

- Important safety instructions
- Cleaning the computer
- Caring for batteries
- Traveling with your computer
- Storing your computer
- General troubleshooting suggestions
- Service and support

Important safety instructions

These instructions apply to your computer and to any optional equipment you may have purchased along with it (such as an external disk drive or a battery recharger).

- Read all the safety instructions in this chapter.
- Keep these instructions available for reference by you and others.
- Follow all instructions and warnings that apply to your system.
- Do not attempt to open the computer's case. There are no user-serviceable parts inside. Take the computer to an authorized Apple service provider if necessary.
- Do not drop or jar the computer.
- Turn off your Macintosh before connecting or disconnecting any cables.

continues >

- When recharging the battery, use only the power adapter supplied with your computer. Adapters designed for other electronic devices may look similar, but they may not work with your equipment and may damage the computer or the recharger.
- Do not use the computer in or near water.
- Keep dirt and liquids away from the ports on the back panel, the keyboard, and the trackball. If you spill any food or liquid onto the computer, shut it down immediately and unplug it before cleaning up the spill. Depending on what you spilled and how much got into the computer, you may have to bring the computer to an authorized Apple service provider for cleaning.
- Do not use the computer in wet or dusty environments.
- If the computer has been in a cold place for several hours, let it warm up to room temperature before you use it.
- Use the computer only in environments where the temperature range is between 10°C/50°F and 40°C/104°F.
- Do not expose the computer to very low (less than -25°C/-13°F) or very high (more than 60°C/140°F) temperatures.

- Do not use cables that are frayed or otherwise damaged. Hold a cable by its connector (the plug, not the cord) when connecting or disconnecting it.
 - Never force a connector into a port. If the connector and port do not join easily, they do not match. Make sure that the connector matches the port and that it's right side up before you attach it.
 - Do not touch the screen with any sharp or pointed objects.
 - Do not move the computer when you can hear its hard disk spinning. When you put the computer to sleep, wait until the screen is blank before moving the computer.
- ▲ **Warning** Electrical equipment may be hazardous if misused. Do not allow children to use this product without supervision. ▲

Cleaning the computer

- If necessary, clean the outside of the computer's case with a damp (not wet) cloth or paper towel.
- Clean the screen with soft, lint-free paper or cloth and a mild glass cleaner. Do not spray the glass cleaner (or any other liquid) directly onto the screen.

Caring for batteries

- Always handle batteries carefully.
- Do not short-circuit the battery terminals (that is, do not touch both terminals with a metal object). Doing so may cause an explosion or a fire.
- Do not drop, puncture, disassemble, mutilate, or incinerate the battery.
- Recharge batteries only as described in this manual and only in ventilated areas.
- Do not leave batteries in hot locations (such as the trunk of a car) for more than a day or two.
- Do not leave an uncharged battery in your computer for longer than a week without plugging in the power adapter.
- Do not leave a battery in storage for longer than 6 months without recharging it.
- Take dead batteries to your authorized Apple service provider for recycling or proper disposal. The batteries contain hazardous chemicals and should not be thrown out with household or office trash.

Traveling with your computer

The safety instructions in this chapter also apply when you are traveling with your computer. In addition, note these precautions:

- Always turn off your computer before transporting it by using the Shut Down command in the Special menu.
- Bring backup copies of your system software and other important files on floppy disks, in case you need to reinstall them.
- Do not check your computer as baggage. Carry it with you.
- Do not allow your computer or any hard disks or floppy disks to pass through X-ray machines. Have security officials manually inspect your computer and disks.
- Be prepared to show security officials that your computer is working. Have a charged battery or power adapter ready to use.
- Some airlines may restrict or prohibit the use of computers in flight. Check ahead to find out what restrictions, if any, apply.

continues >

- Take the necessary plug adapters if you're traveling overseas. (You may need to use them with the power adapter.) You do not need a voltage transformer. The power adapter can handle 90 volts to 260 volts AC (48 to 62 Hz).

Check the diagrams below to determine which plug adapters you'll need, or ask your travel agent.

Outlet Type	Locations
	United States, Canada, parts of Latin America, Japan, Korea, the Philippines, Taiwan
	Soviet Union, most of Europe, parts of Latin America, the Middle East, parts of Africa, Hong Kong, India, most of South Asia
	Mexico, United Kingdom, Ireland, Malaysia, Singapore, parts of Africa
	China, Australia, New Zealand

Storing your computer

- *For up to a week:* You can store the computer without its power adapter plugged in for up to a week, provided that the battery is fully charged.
- *For up to two weeks:* You can store the computer with its power adapter plugged in for up to two weeks.
- *For more than two weeks:* See the long-term storage instructions that apply to your model.

Short-term storage

1. Save your work onto a hard disk or floppy disks.

2. Choose Shut Down from the Special menu.

Shutting down the computer removes the RAM disk (if any) on a PowerBook 140 or 170.

3. Close the display.

4. If your battery is not fully charged, plug in the power adapter.

5. Store the computer in a cool, dry place.

Storage temperatures should remain between 10°C/50°F and 40°C/104°F. Avoid leaving the computer where temperatures may be extreme or unpredictable—in the trunk of a car, for example.

Long-term storage for the PowerBook 140/170

1. Save your work onto a hard disk or floppy disks.

2. Choose Shut Down from the Special menu.

Shutting down the computer removes your RAM disk, if you created one.

3. Recharge the battery.

Plug in the power adapter or use the battery recharger.

4. If you recharged the battery in an external recharger, put the battery back into the computer.

5. Store the computer in a cool, dry place.

Storage temperatures should remain between 10°C/50°F and 40°C/104°F.

If you leave the battery in storage for more than 6 months, you may not be able to recharge it.

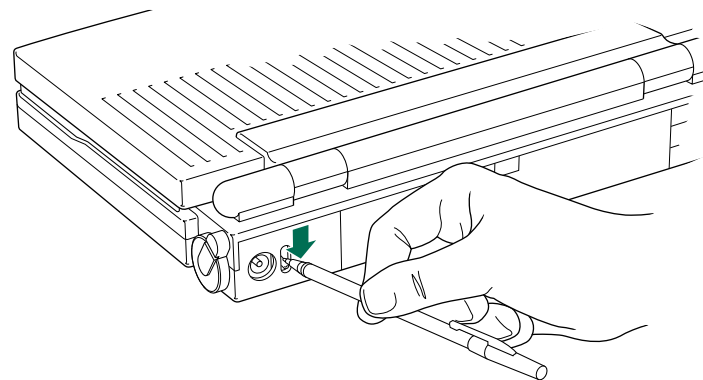
Long-term storage for the PowerBook 100

1. Save your work onto a hard disk or floppy disks.

Save the contents of your RAM disk if you created one. You'll need to re-create your RAM disk when you take the computer out of storage.

2. Choose Shut Down from the Special menu.

3. Flip the storage switch to the off (down) position to disconnect all batteries.



continues >

The PowerBook 100 draws a small amount of battery power even when it is shut down. Disconnecting the batteries protects them from draining in storage.

Because disconnecting all batteries erases everything in RAM, when you take the computer out of storage you will need to

- turn the storage switch back on
- reset your system clock
- restore any control panel settings that were stored in RAM
- re-create your RAM disk, if you were using one

4. Store the computer in a cool, dry place.

Storage temperatures should remain between 10°C/50°F and 40°C/104°F.

If you leave the battery in storage for more than 6 months, you may not be able to recharge it.

General troubleshooting suggestions

When you see an error message, you don't have to act instantly. The message stays on the screen until you click OK or turn off your computer.

To help diagnose and correct problems, collect as much information as you can before taking action. Note what you were doing when the problem occurred. Write down the message on the screen and its ID number (if any), as well as the programs you were using and the names of any items you know have been added to the System Folder since system software was installed. (It's a good idea to keep this list available on paper in case of a problem.) This information can help a service person diagnose the problem if you need to take the computer to an authorized Apple dealer for repair.

Rebuilding your desktop

A process called *rebuilding the desktop* helps your computer keep track of the information on your startup hard disk.

- To rebuild the desktop, hold down the Option and ⌘ keys while restarting your computer (use the Restart command). Keep holding down the keys until you see a message asking whether you want to rebuild the desktop. Comments in Info windows are lost when you rebuild the desktop.
- Rebuild the desktop on your startup disk once every month or two.

Starting over

You can often solve a problem by clearing the computer's memory and starting over.

- If possible, save any open documents before restarting the Macintosh. (If your system is “frozen,” you may not be able to save.)
- If possible, choose Restart from the Special menu or from the dialog box on the screen. If you can't choose Restart, press the reset button to restart your computer (you can also try pressing the reset and interrupt buttons together).
- If you think the problem may be caused by external equipment such as a printer or a hard disk, try turning the device off for 10 seconds or more. Then turn it on again and restart your computer.

Solving common problems

The “Troubleshooting” section at the back of this book provides information about solving common problems you may encounter with specific parts of your system.

Dealing with known or suspected computer damage

If your computer is malfunctioning but does not appear to be physically damaged, shut it down (and leave the power adapter plugged in, if possible) until you can get help.

If you know or suspect that your computer is physically damaged, disconnect the power adapter, remove the battery, and do not use the computer until it can be repaired.

To obtain service, contact any local authorized Apple service provider. If you're in North America, call 800-538-9696 to request the name of an authorized service provider near you. If you're anywhere else, check the local telephone directory.

Service and support

Apple Computer has established authorized Apple dealers to help you get the best performance from your system. If you need answers to product questions or information about product updates, your authorized Apple dealer can help you. Apple's technical support organization backs each dealer and international technical support group via an AppleLink® network, a state-of-the-art on-line information service, to ensure prompt and reliable assistance.

If your system needs service, Apple provides factory-quality parts and the latest available diagnostic equipment to more than three thousand authorized Apple service centers around the world. Apple guarantees parts and warranty labor. (Regulations in each country determine the length of warranty. Some restrictions may apply, depending on the country of original purchase.)

If you cannot return to the authorized Apple dealer from whom you purchased your system, go to the nearest service location. For the location nearest you, write or call one of the following:

Apple Computer, Inc.
Customer Relations
20525 Mariani Avenue
Cupertino, CA 95014-6299
USA
(800) 538-9696

Apple Canada, Inc.
7495 Birchmount Road
Markham, Ontario, L3R 5G2
Canada
(800) 268-7796/7637

For locations in other countries, either call the Apple headquarters in your country or write to the United States address on this page.

Apple also offers service plans. One is the AppleCare® Service Agreement (available in the United States, Canada, and Australia only), which extends full warranty coverage up to three years. Your AppleCare contract will be honored at any participating authorized Apple dealer within the country of purchase—an added benefit if you relocate.

You can purchase AppleCare at any time, but you may want to purchase it with your system, or at least before your warranty expires, to avoid an inspection at your own expense.

Keyboard and Character Sets

Tab key: Moves the insertion point to the next stopping place (such as a tab stop or data field).

Delete key: Deletes selected material, or the character to the left of the insertion point.

Return key: Moves the insertion point to the beginning of the next line. In a dialog box, pressing Return is the same as clicking the outlined button.

Caps Lock key: A Shift key for letters only (numbers and symbols aren't affected).

Shift key: Produces capital letters (or the upper character on the key).

Control key: In combination with other keys, provides shortcuts or modifies actions.

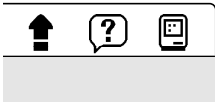
Option key: In combination with other keys, produces special characters or modifies actions.

x (Command) key: Works in combination with other keys as an alternative to choosing a menu command or (in some programs) canceling an operation in progress, such as printing.

Arrow keys: Move the insertion point, as an alternative to using the trackball. In some programs, the arrow keys have other functions.

Using Caps Lock

The Caps Lock key on PowerBook computers does not lock down when pressed. You can tell whether Caps Lock is on or off by looking at the menu bar. An arrow appears to the left of the Help menu icon when Caps Lock is on.

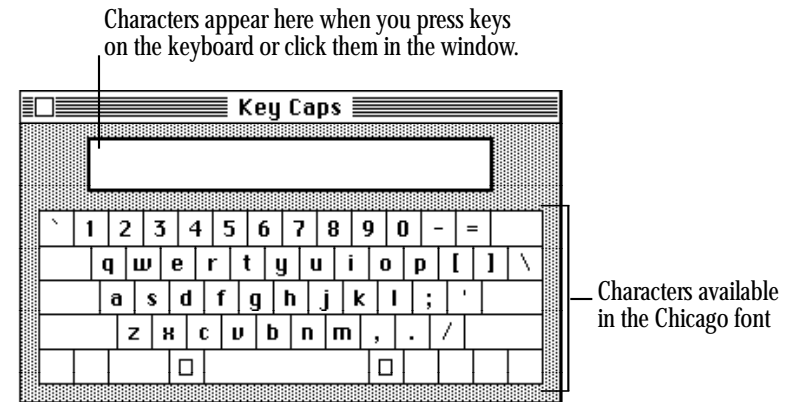


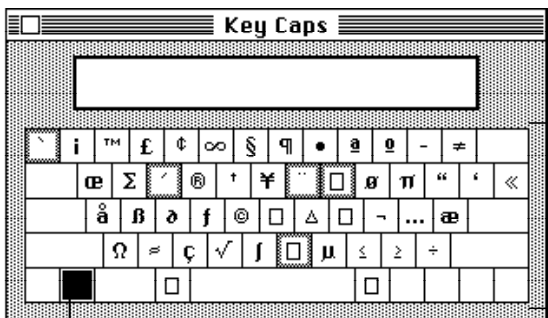
To turn Caps Lock on or off, simply press the Caps Lock key.

Typing special characters and symbols

You can type a variety of special characters (with diacritical marks) and symbols by pressing modifier keys in combination with certain letter and number keys.

The Key Caps program, which is installed with the system software, shows you the characters produced when you type certain keys and key combinations in the fonts available on your computer (choose Key Caps from the Apple menu, then choose the font from the Key Caps menu).





Special characters available in the Chicago font when the Option key is pressed

The highlighted key represents the key held down on the keyboard—in this case, the Option key.

To type a character with a diacritical mark (such as an acute accent or an umlaut), you press the Option key along with a specific letter key, and then type the character.

Diacritical mark	Key combination
------------------	-----------------

Grave accent (`)	Option-` , then type the character
Acute accent (´)	Option-e, then type the character
Circumflex (^)	Option-i, then type the character
Tilde (~)	Option-n, then type the character
Umlaut (¨)	Option-u, then type the character
The letter “c” with a cedilla (ç)	Option-c

If the character appears *after* the diacritical mark (rather than with it), then the marked character is not available in the font you’re using.

Exchanging Disks and Files With MS-DOS Computers

Apple File Exchange is a file format conversion program supplied on your system software disks. The program and *translator* files are stored in the Apple File Exchange Folder.

You can use the program to initialize a disk in MS-DOS (or Apple II ProDOS®) format and convert files to and from MS-DOS (or ProDOS). Apple File Exchange cannot open converted files; you need to open them with an application program that recognizes the converted files.



Apple File Exchange

Initializing a disk in MS-DOS format

(You can also follow these instructions to initialize a disk in ProDOS format.)

1. Locate the Apple File Exchange icon and open it.

Apple File Exchange is supplied on one of your system software disks.

When you open the program, the contents of the active window are listed on the left side and an empty box appears on the right side.

2. Insert a blank disk into your floppy disk drive.

A message reports that the program can't read the disk and asks if you want to initialize it. The message lists the formats available in Apple File Exchange, including Macintosh, MS-DOS, and ProDOS.

(You can initialize a disk that is not blank by inserting it, clicking the Drive button until the disk's name appears, and then choosing Erase Disk from the File menu.)

3. Click MS-DOS.

4. If necessary, click the capacity (in K) of the disk you inserted.

If you want to initialize a high-density disk in MS-DOS format, 1440K is the only option and it is already selected. If you inserted a double-sided disk, click 720K.

Apple File Exchange cannot initialize a high-density disk in 720K format, nor can it read a double-sided disk that has been initialized in the high-density (1.4 MB) format.

Disk capacity is the same for Macintosh and MS-DOS high-density disks.



5. Click Initialize.

When initialization is finished, a message asks you to name the disk.

6. Type a name for the disk, and then click OK.

MS-DOS filenames can have up to eight characters, followed by an optional period and up to three characters.

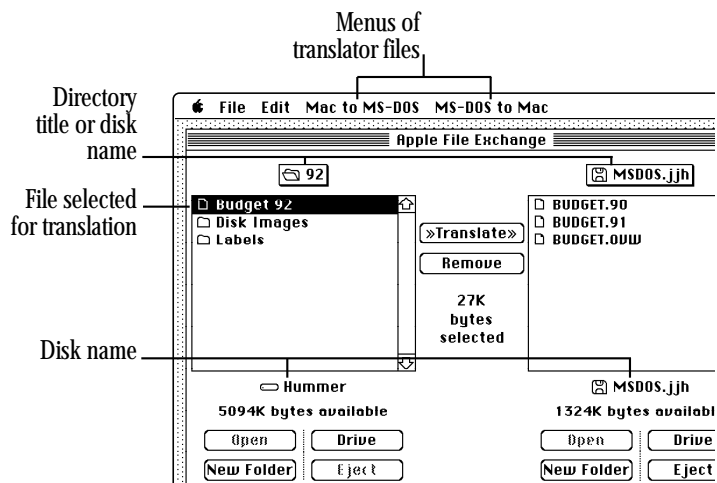
The name of the disk you initialized appears above an empty window. The disk's icon doesn't appear on your Macintosh screen because the Macintosh can't recognize a disk in MS-DOS format.

7. Choose Quit from the File menu.

Converting files to and from MS-DOS format

Apple File Exchange provides two methods of file conversion—text and binary. Text translation is for text files, and binary translation is for other file types.

Apple File Exchange can also use translator files designed to convert files into formats that specific programs can use. One such translator file is provided with Apple File Exchange: DCA-RFT/MacWrite, which converts documents between MacWrite® format (for the Macintosh) and Document Content Architecture/Revisable Form Text format (used by many MS-DOS word-processing programs).



Follow these steps to translate an MS-DOS (or ProDOS) file:

1. Locate the Apple File Exchange icon and open it.

Apple File Exchange is supplied on one of your system software disks.

When you open the program, the contents of the active window are listed on the left side and an empty box appears on the right side.

2. Insert the floppy disk containing the files you want to translate.

3. Use the Open, Drive, and Eject buttons to display the files you want to translate and the disk or folder where you want to store the translated files.

4. Click the names of the files or folders you want to translate.

The appropriate translation menus (for translating from or to Macintosh format) appear in the menu bar when you select MS-DOS files.

5. Pull down the translation menu you want.

6. Make sure that the translators for the types of files you selected have checkmarks; if not, choose them so checkmarks appear next to them.

An active translator has a checkmark. The default translator has a diamond (indicating that it's always active). Choosing an active translator makes it inactive.

7. Compare the size of the files or folders selected for translation with the space available on the destination disk.

Total space required appears between the lists; the space available on the destination disk appears below its name.

If the size of the selected items is greater than the space available on the destination disk, deselect some of the items, remove some files on the destination disk (click Remove), or use another destination disk (click Eject).

8. Click Translate.

If two or more active translators (other than Text or Default) are capable of translating a selected file, a message asks you to select the translator you want.

If the names of files or folders on the destination disk are the same as those of files or folders being translated, a message asks you to rename the file being translated.

If you need to select options before a file is translated, a dialog box appears in which you can select the options.

9. Respond to any messages by selecting a translator, renaming a file, or selecting options.

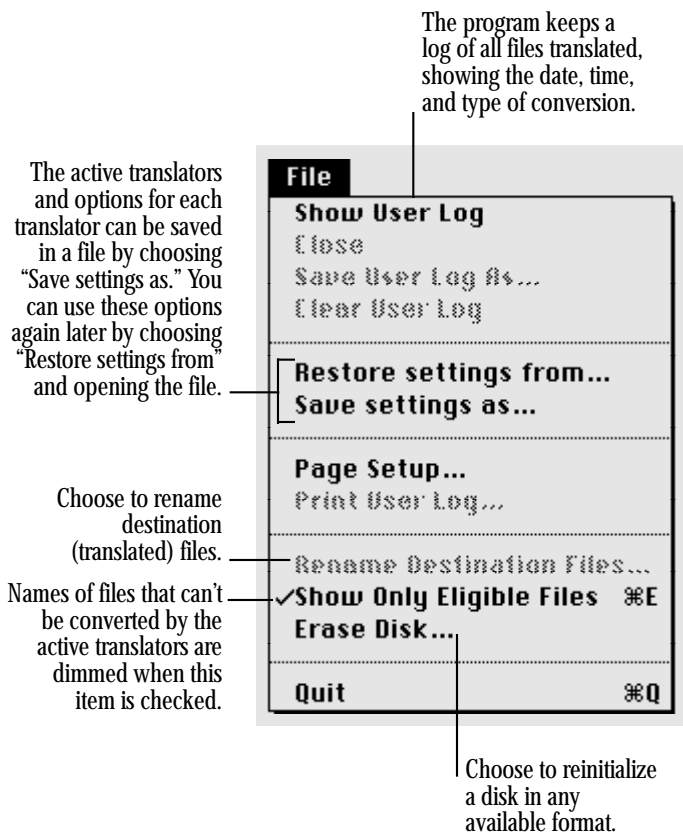
When Macintosh files are translated into MS-DOS files, filenames may be shortened to conform to MS-DOS naming conventions.

10. Choose Quit from the File menu.

- ❖ *Converting MS-DOS files on a file server:* Some file servers can store information created by both Macintosh and MS-DOS computers. For example, the AppleShare PC program allows MS-DOS computers to store and translate files on an AppleShare file server. Consult your authorized Apple dealer or representative for more information about using a file server and MS-DOS files. ❖

Other file-conversion options

Apple File Exchange's File menu provides several other options to assist you with file conversions.



To see explanations of the translators Apple File Exchange uses, choose About Apple File Exchange from the Apple menu. Select a translator from the list, and then click the About button for more information. (Click Done to return to the program's window.)

Where to Get More Information About Your Macintosh

Macintosh user groups

Whatever your level of computer experience, you may be interested in joining a Macintosh user group. User group members work with Macintosh computers and enjoy sharing what they know with others. Group activities may include new product demonstrations, question-and-answer sessions, and classes on using programs or writing your own programs.

Ask your authorized Apple dealer for the name of the Macintosh user group nearest you, or call 800-538-9696. For names of user groups outside the United States, or if you're interested in starting your own user group, contact

Berkeley Macintosh User's Group
1442-A Walnut Street, #62
Berkeley, CA 94709
USA
415-549-BMUG (415-549-2684)

or

Boston Computer Society
One Center Plaza
Boston, MA 02108
USA
617-367-8080

Technical information

Apple makes technical information for Macintosh computers available through the Apple Technical Library and the Apple Communications Library, both published by Addison-Wesley Publishing Company and available at bookstores.

Apple Technical Library

The Apple Technical Library includes comprehensive technical documentation for all Macintosh computer models as well as the multi-volume guide to the Macintosh operating system, *Inside Macintosh*.

Apple Communications Library

The Apple Communications Library offers complete technical information about Macintosh communications products and the Macintosh in a network environment.

APDA

APDA® (Apple Programmers and Developers Association) offers access to a broad range of programming products, resources, and information for anyone developing hardware or software for Apple computers. These resources include the most current versions of Apple and third-party development tools, debuggers, compilers, languages, and technical references.

To establish an APDA account, obtain ordering information, or find out about site licensing and developer training programs, contact

APDA

Apple Computer, Inc.
20525 Mariani Avenue, M/S 33-G
Cupertino, CA 95014-6299

800-282-2732 (USA)

800-637-0029 (Canada)

408-562-3910 (International)

Fax: 408-562-3971

Telex: 171576

AppleLink address: APDA

If you provide commercial products and services, call 408-974-4897 for information about the developer support programs available from Apple.

Assistance for hardware and software developers

If you plan to develop hardware or software products for sale through retail channels, you can get valuable support from Apple Developer Programs. Write to

Apple Developer Programs
Apple Computer, Inc.
Mailstop 51-W
20525 Mariani Avenue
Cupertino, CA 95014-6299

Glossary

A

access privileges The ability to see or change information in a shared folder or disk. Access privileges are granted by the owner of the shared item.

active program The program you're currently using. Several programs can be open at a time, but only one is active. Open programs are listed in the Application menu; a checkmark indicates the active program. The menu icon changes to show which program is active.

active window The topmost window on the Macintosh desktop. The active window has solid lines across its title bar and it "belongs" to the active program.

ADB See **Apple Desktop Bus port**.

Alarm Clock A desk accessory program that works like a digital alarm clock.

alias A file that stands for and points to a file, folder, or disk. When you open an alias, you're actually opening the original item.

Apple Desktop Bus (ADB) port The port to which you can attach input devices such as a mouse, graphics tablet, or bar-code reader. See also **bus**.

Apple menu The menu at the far left end of the menu bar. You choose items from this menu to get information about memory use, to open items you stored in the Apple Menu Items folder, and to modify control panel settings.

AppleShare file server A Macintosh computer using AppleShare file server software that allows network users to store, retrieve, and share information on that computer.

AppleTalk network A combination of devices, cables, and software that operate according to the protocols (rules) developed by Apple Computer. A communications environment in which many different kinds of computers and software can work together.

Application menu The menu at the far right end of the menu bar (its icon indicates which program is active). You choose items from this menu to hide windows belonging to open but inactive programs and to make an open program active. See also **active program**.

application program A program you use for a specific activity such as word processing, database management, graphics, or telecommunication.

B

back panel The back of the computer. Ports for attaching external devices are on the back panel.

back up To make a copy of a file or the information on a disk. Backing up your work ensures that you won't lose information if the original is lost or damaged.

backup batteries The small battery (PowerBook 140/170) or batteries (PowerBook 100) that provide backup power while you replace your main battery.

balloons The small text boxes that identify objects on the screen and explain their use.

battery The power source for your computer. See also **power adapter**.

Battery desk accessory An Apple menu item that you use to keep track of your battery's charge level while you work.

bit Short for *binary digit*. The smallest unit of information a computer can hold. The value of a bit (1 or 0) represents a two-way choice (on or off, true or false, black or white).

bitmap A set of bits that represent a graphic image.

bitmap character A character in a font that's rendered as a bitmap and drawn as a pixel pattern on the screen. See also **font**, **pixel**.

bitmap font A font in a single point size made up of bitmap characters (also called a fixed-size font). Some fonts stored in the Macintosh System file are bitmap fonts. Compare **outline font**, **TrueType font**.

buffer A "holding area" in memory where information can be stored by one program or device and then read by another. For example, some printers have built-in memory to store text that comes from the computer faster than it can be printed. This memory is called a *print buffer*.

bus A circuit that transmits information from one part of a computer system to another. In a network, a bus is a line of cable with connectors that link devices together.

button A screen image, sometimes resembling a pushbutton, that you click to designate, confirm, or cancel an action. Compare **trackball buttons**.

byte A unit of information consisting of a fixed number of bits. One byte consists of eight bits. See also **kilobyte**, **megabyte**.

C

cache See **memory cache**, **disk cache**.

Cancel button A button that appears in most dialog boxes. Clicking it cancels any command or options you might have chosen and closes the dialog box.

central processing unit (CPU) The microprocessor that performs the actual computations in your computer. See also **processor**, **coprocessor**.

checkbox A box associated with an option in a dialog box or window. You click the checkbox to turn the option on or off.

chip See **integrated circuit**.

choose To give a command by dragging through a menu and releasing the trackball button when the command is highlighted.

Chooser A program that lets you designate devices, such as printers and shared disks, for your Macintosh to use.

Clear An Edit menu command that removes selected material without placing it on the Clipboard. You can use the Undo command immediately after using Clear if you change your mind. Compare **Cut**.

click To position the pointer on an object on the screen and then press and quickly release the trackball button.

Clipboard A holding place in the computer's memory for whatever you last cut or copied. Information on the Clipboard can be pasted into documents.

close box The small box at the left end of an active window's title bar. Clicking it closes the window.

command An instruction that causes the computer to perform some action.

configuration (1) The way you have your computer set up. (2) The combined hardware components—computer and peripheral devices—that make up a computer system. (3) The software settings that allow the hardware components of a computer system to communicate with each other.

control panels Programs that you use to change Macintosh features such as sound, trackball movement, and keyboard options. Control panels are inside the System Folder.

coprocessor An auxiliary processor designed to relieve the demand on the main processor by performing a few specific tasks. Generally, coprocessors handle tasks that would be performed much more slowly by the main processor, such as mathematical calculations.

Copy An Edit menu command that copies selected material and places it on the Clipboard, without removing the material from the original document. See also **Clipboard**.

CPU See **central processing unit**.

current application See **active program**.

cursor See **pointer**.

Cut An Edit menu command that removes selected material and places it on the Clipboard; from there you can paste it elsewhere. Compare **Clear**. See also **Clipboard**.

cut and paste To move text, graphics, or other material from one place in a document to another place in the same or a different document.

D

default A value, action, or setting that the computer assumes, unless you give it a different instruction.

deselect To change a selected item so it is no longer selected. In the Finder, you deselect a highlighted icon by selecting something else.

desk accessories (DAs) Small application programs often installed in the Apple menu.

desktop Your working environment on the computer (the menu bar and the background area on the screen).

dialog box A box that contains a message requesting more information from you, or a box that you use to select options.

dimmed Gray or filled in with a pattern of dots, indicating that an icon is open, or that a menu, menu item, or other option is not available.

directory A list of the contents of a folder or a disk.

directory dialog box A dialog box that appears when you choose Save, Save As, or Open from a program's File menu. You use the dialog box to save a document in a particular folder or disk, or open a document in a particular folder or disk.

disk A flat, circular object with a magnetic surface that stores programs and documents as magnetic signals, similar to the way sounds are recorded on tape. See also **floppy disk**, **hard disk**.

disk cache A part of the computer's random-access memory (RAM) where programs store frequently used instructions. Compare **memory cache**.

disk capacity The maximum amount of data a disk can hold, usually measured in megabytes (MB) or kilobytes (K).

disk drive The device that holds a disk, retrieves information from it, and stores information on it.

document Whatever you create with an application program. See also **file**.

double-click To position the pointer on an object and then press and release the trackball button twice in quick succession without rolling the trackball.

drag To position the pointer on an object, press and hold the trackball button, roll the trackball, and release the button.

driver A program that directs the operation of a peripheral device such as a printer or scanner.

drop folder A shared folder that network users can place files or folders into, but only the owner can open.

E

Easy Access A control panel that allows you to modify the way your keyboard works. (You can also make keyboard adjustments without opening the control panel.)

Edit menu Available in most programs, this menu lists editing commands such as Cut, Copy, and Paste.

eject To remove a disk from a disk drive.

error message A message displayed on the screen that describes an error or problem with a program or your equipment, or an instance of miscommunication with the computer.

Everyone A category of network users representing anyone who connects to a computer on the network.

F

file Any named, ordered collection of information stored on a disk. Application programs and documents are examples of files. You create a file when you do work, give your work a name, and save it on a disk.

File menu This menu lists commands that affect whole documents and other files—commands such as Save, Print, and Quit.

file server A computer using special software that allows network users to store and retrieve files on the hard disks or other storage devices attached to it.

file sharing The sharing of information among computers on a network.

Finder The program that creates the Macintosh desktop and keeps track of your files. The Finder is part of the Macintosh system software.

floppy disk A disk made of flexible plastic that stores computer data. The 3.5-inch floppy disks used in Macintosh floppy disk drives are housed in rigid plastic shells for support and protection.

folder A container for documents, programs, and other folders on the desktop or in a directory window.

font A collection of letters, numbers, and symbols in a distinctive typographic design. See also **bitmap font**, **outline font**, **TrueType font**.

format See **initialize**.

G

group A group of registered users on a network who have a common set of access privileges.

guest A person who connects to a computer on a network without having to give a name or password.

guest access A type of access that permits any network user to connect to a computer for the purpose of file sharing or program linking.

H

hard disk A disk made of metal and permanently sealed inside a disk drive or cartridge. A hard disk can hold much more information than a floppy disk, and access time is faster.

hard disk sleep A power-conserving feature that stops your computer's internal hard disk from spinning when it isn't being used. Compare **system sleep**.

highlighted Visually distinct, usually because the colors are reversed.

I, J

I-beam A pointer used to enter and edit text. See also **insertion point**.

icon A small pictorial representation of a file, disk, menu, option, or other object or feature.

initialize To prepare a disk to receive information by organizing its surface into tracks and sectors; also known as *formatting*. If you initialize a disk with information on it, the information is erased.

insertion point The place in a document where text you type will be added. The insertion point is marked with a blinking vertical bar.

Installer A program that installs or updates system software or individual components of system software (such as networking software).

integrated circuit (IC) An electronic circuit entirely contained in a single piece of semiconducting material, usually silicon. Often referred to as a *chip*.

interface The way a computer communicates with external devices such as a printer (through its printer port, or printer interface), or with you (through its user interface or human interface).

K

keyboard shortcut A combination of keypresses that gives a command or sets an option. Keyboard shortcuts usually involve the use of a modifier key, such as \times or Option.

Key Caps A desk accessory that can display the characters available for each font in your system.

kilobyte (K) 1024 bytes. See also **byte, megabyte**.

L

label A word or short phrase that you can assign to an icon by using the Label menu. You can change labels in the Labels control panel.

lithium cells See **backup batteries**.

LocalTalk Built-in networking hardware and software that allows a Macintosh computer to be part of an AppleTalk network.

LocalTalk cable system A system of cables, cable extenders, and connector boxes that connect computers and network devices to an AppleTalk network system.

lock To prevent files or disks from being changed or erased (locked items can still be opened or copied).

M

main logic board A circuit board that holds RAM, ROM, the microprocessor, custom integrated circuits, and other components that make the computer work.

main memory See **random-access memory**.

megabyte (MB) 1024 kilobytes. See also **byte, kilobyte**.

member A registered network user who belongs to a particular group.

memory A component of a computer system that can store information for later retrieval. See also **main memory, random-access memory, read-only memory**.

memory cache Memory set aside to increase the efficiency and operating speed of the computer. Compare **disk cache**.

menu A list of items from which you can choose by dragging to highlight the appropriate item and then releasing the trackball button. See also **pop-up menu**.

menu bar The strip across the top of your screen that contains the names and icons of available menus.

menu name A word, phrase, or icon in the menu bar or in a dialog box that gives you access to the menu. Press the name to open the menu.

modem Short for *modulator/demodulator*. A device that links your computer to other computers and information services over telephone lines.

modem port A port on the back panel of the computer to which you can connect an external modem.

MS-DOS Microsoft Disk Operating System, a commonly used computer operating system.

N

network Computer equipment connected for purposes of communication. A network allows users to store, retrieve, and share information, as well as share network devices such as printers.

network administrator A person responsible for setting up, maintaining, or troubleshooting a network.

network service A capability such as file sharing or printing provided by special software on a network.

network user A person whose computer is connected to a network.

nickel-cadmium (NiCad) battery A type of rechargeable battery. See also **battery**.

Note Pad A desk accessory for storing small amounts of text.

O

operating system Programs that organize the internal activities of the computer and its peripheral devices. An operating system performs basic tasks such as moving data to and from devices and managing information in memory.

outline font A font that describes each character mathematically as a set of formulas. The mathematical description adjusts itself to render the character in different sizes. See also **TrueType font, bitmap font, font**.

owner The owner of a Macintosh is named in the Sharing Setup control panel. The owner of a shared folder or disk on the network is named in the Sharing dialog box.

owner name The name of the owner of a shared folder or disk that appears in the Sharing dialog box. The owner can be the Macintosh owner, a registered user, or a registered group. The owner can set or change access privileges to the shared item.

P, Q

password A unique set of characters that must be entered before a network user can gain access to a computer on which he or she is registered.

Paste An Edit menu command that places the contents of the Clipboard—whatever was last cut or copied—at the location of the insertion point. See also **Clipboard**.

peripheral device A piece of hardware—such as a disk drive, printer, or modem—used with a computer and under the computer's control.

PICT A file format used by some graphics and page layout programs.

pixel Picture element. The smallest dot that the computer and screen can display, or the representation on the screen of the value of a bit. Also, a location in video memory that corresponds to a pixel on the screen. See also **bit**.

pointer An arrow or other symbol on the screen that moves as you move the trackball.

pop-up menu A menu in which the selected option is shown next to a triangle and inside a box with a shadow around it. The menu “pops up” when you press the box. Compare **pull-down menu**.

port A socket on the back panel of the computer where you can plug in a cable to connect another device such as a printer or a microphone.

power adapter The device that recharges the battery in your computer while it is in use or shut down.

power button A button on the back panel of the PowerBook 140 and 170 that can be used to wake the computer, as an alternative to pressing a key on the keyboard.

Power Saver A feature of the PowerBook 170 that slows the computer's microprocessor from 25 MHz to 16 MHz to conserve power.

printer port A port on the back panel of the computer to which you can connect a printer or a network cable.

processor The computer hardware component that performs the computations directed by software commands. In the Macintosh, the processor is a single integrated circuit called a microprocessor. See also **central processing unit**.

program A set of instructions describing actions for a computer to perform to accomplish a task, conforming to the rules and conventions of a particular programming language. Computer programs are collectively referred to as software. See also **application program**.

program linking The ability of an application program to exchange information directly with another program over a network. (Both programs must have the capability.)

pull-down menu A menu whose name or icon is shown in the menu bar. You “pull down” the menu by pressing the name or icon. Compare **pop-up menu**.

R

RAM See **random-access memory**.

RAM disk A portion of your computer's memory set aside as a temporary storage device. Memory assigned to a RAM disk is not available for opening programs.

random-access memory (RAM) The part of the computer's memory available for work with programs and documents, also known as main memory. Compare **read-only memory**.

Read Me document A document included on some application program and system software disks to provide you with late-breaking information about the product.

read-only memory (ROM) Memory whose contents the computer can read but not change. Information is placed into read-only memory during manufacturing. Compare **random-access memory**.

registered group A group of registered users listed on a computer on a network. The group may have special access privileges to files on that computer.

registered user A network user whose name and password are listed on a computer on the network. Usually, registered users have greater access privileges to shared folders and disks than do guest users.

ROM See **read-only memory**.

S

save To store information by transferring it from RAM to a disk.

scanning order The order in which the Macintosh searches the disk drives for a startup disk. See also **startup disk**.

Scrapbook A desk accessory for storing frequently used pictures or text. You can cut or copy images from the Scrapbook and paste them into documents created with most application programs. Compare **Clipboard**.

scroll To move a document or directory in its window so that a different part of it is visible.

SCSI See **Small Computer System Interface**.

SCSI cable terminator A device used in a SCSI chain to ensure the accuracy of the signals passing through the chain.

SCSI chain A group of up to six SCSI devices linked to a Macintosh computer.

SCSI disk mode A mode in which the PowerBook 100 can be connected to a desktop Macintosh as an external SCSI hard disk.

SCSI port The socket on the back panel of the computer to which you connect SCSI devices.

sealed lead-acid (SLA) battery A type of rechargeable battery.
See also **battery**.

select To designate which object will receive the next action you take. Selecting is usually done by clicking or dragging. A selected object is usually highlighted.

serial ports The connectors for peripheral devices that receive data in a serial format (that is, one bit at a time). The Macintosh printer and modem ports are serial ports.

shared disk A hard disk, CD-ROM disc, or other medium whose contents can be retrieved over the network. A disk can be shared by a file server or a Macintosh computer that has file sharing turned on.

shared folder A folder available to some or all network users over the network.

Shift-click To click the trackball button while holding down the Shift key. You can use this technique to extend or shorten a selection and to select more than one item.

Shift-drag To drag while holding down the Shift key. You can select two or more groups of objects by holding down the Shift key while you drag diagonally to enclose each group of objects in a rectangle.

size box A box at the bottom-right corner of the active window. Dragging the size box resizes the window.

sleep See **hard disk sleep, system sleep**.

Slow Keys An Easy Access feature that lets you set a delay before each keystroke is accepted by the computer.

Small Computer System Interface (SCSI) A specification of mechanical, electrical, and functional standards for connecting peripheral devices such as hard disks, printers, and optical disks to microcomputers and minicomputers.

sound input port A port on the back panel of some computers to which you can connect a microphone.

sound output port A port on the back panel of the computer to which you can connect headphones or speakers.

startup disk The disk that contains all the necessary files—including the Finder and System files in the System Folder—that the computer uses to start up. The startup disk icon appears near the upper-right corner of the desktop.

stationery A document that serves as a template. When you open a stationery document, a copy of the document is created and opened. The original remains unchanged.

Sticky Keys An Easy Access feature that lets you type combination keystrokes without actually pressing the keys simultaneously.

storage switch A switch on the back of the PowerBook 100 that shuts off all battery power for long-term storage of the computer.

system extension A program that expands the capabilities of system software. System extensions are stored in the Extensions folder in the System Folder.

System file The file your computer uses to start up. The System file stores system-wide information including fonts, sounds, and keyboard layouts.

System Folder A folder containing the programs your computer uses to start up and operate. A disk that contains a System Folder is a startup disk.

system rest A feature that slows the power consumption of your computer's microprocessor after a certain period of inactivity.

system sleep A power-conserving state in which your computer uses only the power it needs to maintain the contents of RAM. Compare **hard disk sleep**.

system software Programs that manage the computer's operation. On the Macintosh, system software is stored in the System Folder. See also **operating system**.

T

TeachText A limited word-processing program provided with the Macintosh system software, made available so you can open Read Me documents, text files, screen shots, and PICT files.

terminator See **SCSI cable terminator**.

3.5-inch disk A flexible plastic disk measuring 3.5 inches in diameter, encased in a rigid plastic shell. These disks come in three types: high-density (1.4 MB capacity on the Macintosh), double-sided (800K), and single-sided (400K). See also **floppy disk**.

title bar The bar at the top of a window that shows its name. The title bar of an active window is highlighted with horizontal lines.

trackball buttons The mechanical buttons above and below the trackball; both buttons do the same thing. In general, pressing a button initiates some action on whatever is under the pointer on the screen, and releasing the button confirms the action.

Trash An icon on the desktop that you use to discard programs, documents, and folders.

TrueType font A type of outline font supplied with the Macintosh system software. See also **outline font**. Compare **bitmap font**.

U

unlock To allow a locked disk or document to be changed, deleted, or renamed. See also **lock**.

User/Group A single registered user or group on a computer containing a shared folder or disk. This user or group may have special access privileges to shared items on that computer.

user interface See **interface**.

user name The name chosen by a Macintosh owner or network administrator to identify a registered user.

V

virtual memory Hard disk space set aside as an extension of the computer's main memory (RAM).

volume Space on a hard disk or a file server that is defined and named as a place to store files. A hard disk is usually a single volume, but it can be partitioned into several volumes.

W, X, Y

window A rectangular area that displays information on the desktop. You create and view documents through windows, and you view the contents of disks in windows.

Z

zone Zones are set up by a network administrator and are used to group devices on a network.

zoom box A small box at the top-right corner of the title bar of the active window. Clicking the zoom box resizes the window so you can see all of its contents (if possible); clicking it again returns the window to its previous size.

Troubleshooting

This section describes possible causes and solutions for problems you may have with your Macintosh PowerBook computer.

- ▲ **Warning** If you have a problem with your computer and nothing presented in the manuals that came with the computer solves the problem, take the computer to your authorized Apple dealer or service provider. Attempting to repair the computer yourself may void the Limited Warranty. Contact your authorized Apple dealer or service provider for additional information about this or any other warranty question. ▲

The computer

The computer won't start.

- The computer may be on, but the screen brightness or contrast may be turned down. Adjust the brightness and contrast controls to see whether an image appears on the screen.

- If you have a PowerBook 100, make sure the storage switch is up.
- The battery may be drained. Plug in the power adapter, wait 15 minutes, and then try to turn on the computer.
- If you have any SCSI devices connected to your computer, you must turn them on before you turn on the computer.
- See “Restarting a Computer That Can’t Be Turned on Normally” in Chapter 9 for more suggestions.

The computer just stopped.

- The computer may have gone to sleep. Press any key on the keyboard (except Caps Lock) to wake it again.
- The battery may have drained so far that the computer has put itself to sleep to protect the contents of RAM. Plug in the power adapter, wait 15 minutes, and then turn the computer on again.
- Your system may have “crashed” due to temporary software problems. Click the Restart button on the screen (if you see one), or press the reset button on the side (PowerBook 100) or back (PowerBook 140/170) of your computer. The button is marked with a triangle pointing sideways.

continues >

The computer exhibits odd behavior, such as many unexplained system failures.

- A common cause of unexplained problems is multiple System Folders on the startup disk. Use the Find command in the Finder's File menu to locate any extra System Folders, and drag them to the Trash.
- You may have a virus on your hard disk. Obtain a virus-detection program, use it to check all your disks, and eliminate any viruses the program finds.
- You may be using a program that's not compatible with your computer's system software. Check the manual that came with the program or contact the manufacturer.

The trackball doesn't work smoothly; it appears to "stick" or "jump" when rolled.

- There may be dust or dirt inside the trackball mechanism. To clean the trackball, follow these steps:
 - 1. Remove the trackball retaining ring by turning it counterclockwise until it pops out. You don't need tools; just press against the two small ridges with your fingernails.**
 - 2. Lift the trackball out of its cavity.**
 - 3. Locate the small rubber rollers at the left and bottom sides of the trackball cavity. Depending on your model, they may look like small rings or wheels.**
 - 4. Use any reasonably clean, blunt object (your finger, a cotton swab) to wipe off the rollers. Do not use any liquid inside the computer.**
 - 5. Replace the trackball and the retaining ring**

Power

The battery is draining awfully fast.

- The features that drain the battery fastest are the screen backlighting and the hard disk drive. Turn down the screen brightness, turn off virtual memory (PowerBook 140/170), set a shorter hard disk sleep interval, or work with the power adapter plugged in.
- You may be using an input device (such as the mouse intended for desktop Macintosh systems) not designed for PowerBook computers. Make sure to use only low-power ADB devices.
- Your computer supplies power to the modem whenever a communications program is open. Quit your communications program if you aren't using it.
- If you have a Powerbook 140/170, you may need to discharge and recharge the battery completely. See “Maximizing Battery Life” in Chapter 9.
- Over time, PowerBook batteries do not hold a charge as well as when they were new. You may need to replace the battery.

The computer goes to sleep too often.

- The interval before the computer goes to sleep to conserve power may be very short. Open the Portable control panel and set a longer interval in the “Minutes Until Automatic Sleep” box.

The battery can't be recharged.

- There may be a loose connection in the charging circuit. Check the power connections to your computer or recharger to make sure all plugs are securely attached.
- If all connections are OK, then the battery is probably damaged or dead. You'll need to obtain a replacement battery from your authorized Apple dealer.

The computer doesn't go to sleep automatically.

- The computer does not go to sleep automatically if the power adapter is plugged in and you have selected “Stay awake while plugged in” in the Portable control panel. Click the box to remove the X.
- The computer does not go to sleep automatically if AppleTalk is active. If you are not using AppleTalk to communicate with a network or an attached printer, open the Chooser and make AppleTalk inactive.
- The computer does not go to sleep automatically if the modem or printer port is in use. Quit your telecommunications program or turn off background printing in the Chooser (if the documents you're printing can wait until later).
- One or more applications doing work in the background will prevent sleep; you can choose Sleep from the Special menu to override them.

See Chapter 9 for more information about power and batteries.

The screen

The screen looks blurred or out of focus.

- The viewing angle may not be optimal. Tilt the display on its hinge until the screen looks better.

The screen is too dark.

- When you first turn on your computer, it may take several minutes for the screen brightness to “warm up,” especially if you’ve chosen a high setting.
- The screen brightness or contrast may not be optimal for the surrounding lighting. Adjust the brightness or contrast setting.
- The screen dims automatically when the battery starts to run low. You may need to recharge or replace the battery before you can turn up the brightness.

The pointer moves too fast/too slowly.

- You need to adjust the pointer’s tracking speed. Open the Mouse control panel and choose a more comfortable setting.

The pointer won’t move at all.

- A software problem may occasionally cause the computer to “freeze.” Restart the computer by pressing the reset button on the side (PowerBook 100) or back (PowerBook 140/170) of your computer. The button is marked with a triangle pointing sideways. If you did not save your work before the computer froze, you will lose any changes made since you last saved.

There are ghost images or black dots on the screen.

- When the computer is left on for a few days, temporary defects may appear on the screen. Put the computer to sleep. The longer the computer was left on, the longer it will take for the images to fade, but they will eventually disappear.

A window has disappeared.

- Open windows on the desktop may cover each other; if you have several open windows, it is easy to lose track of one. Move, resize, or close windows you aren’t using.
- Windows belonging to open but inactive programs may be hidden. Choose Show All from the Application menu to show hidden windows.

An icon is blinking in the menu bar.

- One of your programs is alerting you to a condition that requires your attention. For example, you may have set the Alarm Clock to go off at a particular time, or PrintMonitor may be alerting you to a printing problem. Make the program active and take the necessary action.

Disk drives and disks

The computer won't start up from its hard disk, or the hard disk icon doesn't appear on the desktop.

- There may have been a temporary software problem. Shut down your computer, wait at least 10 seconds, and then turn it on again.
- There may be a problem with the system software on the hard disk. Start up the computer with the *Disk Tools* disk. If the hard disk's icon appears, reinstall system software as described in Chapter 8.
- There may be a mechanical problem with the disk drive. If neither of the above suggestions works, take the computer to an authorized Apple service provider.

The hard disk keeps stopping and starting again.

- The interval before the computer's hard disk goes to sleep to conserve power may be very short. Open the Portable control panel and set a longer interval in the "Minutes Until Automatic Sleep" box.

The hard disk is full.

- You can reclaim space on your hard disk by removing unneeded files; installing a smaller, customized System Folder; turning off virtual memory (PowerBook 140/170); or purchasing a disk optimization program to reorganize the information on the hard disk.

The icon of a floppy disk doesn't appear on the screen.

- The computer may not be able to recognize the drive. Choose Restart from the Special menu to restart your computer, and try inserting the disk again.
- There may be a problem with the disk. Try inserting a different disk. If its icon does appear, the original disk is probably damaged. You may be able to repair the disk or recover some of the information on it. See "Testing and Repairing Disks" in Chapter 10.
- There may be a problem with the disk drive. Try inserting a different disk. If its icon does not appear either, take the disk drive to an authorized Apple service provider for repair.

continues >

A 1.4 MB (high-density) disk you use with your PowerBook computer is not recognized by another Macintosh.

- Not all Macintosh models have disk drives that can recognize 1.4 MB disks. You'll need to copy the files on the 1.4 MB disk to an 800K disk or a 400K disk. If you regularly plan to use floppy disk drives of different types, use the lower-capacity disks in all drives.

You can't eject a disk from a floppy disk drive.

- There may be a temporary mechanical problem with the disk drive. Carefully insert the end of a straightened paper clip into the small hole near the disk drive's opening, and push gently until the disk is ejected.

A message says that a disk is not initialized—but you know that it is.

- The disk may not be seated properly in the disk drive. Eject it and try inserting it again.
- The disk may be damaged. If you insert another disk in the drive and the message does not appear, you can assume that the original disk needs repair. See "Testing and Repairing Disks" in Chapter 10 for information about recovering information from a damaged disk.

You can't delete a file on a floppy disk.

- The disk may be locked. Unlock it by sliding the tab so that it covers the hole at the corner of the disk.
- The file may be locked. If so, you'll see a message. You can unlock it in its Info window (choose Get Info from the File menu).
- An application program may be using the file. You'll need to quit the program.

You can't save or copy files onto a floppy disk.

- The disk may be locked. Unlock it by sliding the tab so that it covers the hole at the corner of the disk.
- The disk may be full. You'll see an error message in this case. See Chapter 10 for more information about disks and disk drives.

Application programs

A program won't open.

- Some programs can't be opened from a locked floppy disk. If you are trying to start a program on a floppy disk, make sure the disk is unlocked.

A program runs very slowly.

- Some programs are slowed by your computer's system rest feature. You can correct the problem by turning off system rest. See "Adjusting System Rest" in Chapter 9.

A program doesn't work, or malfunctions consistently.

- You may have more than one copy of the program on your hard disk. Remove extra copies by dragging them to the Trash.
- Your version of the program may be incompatible with your system software. Consult the software manufacturer to find out which version of the program you should be using.
- The program may be using less memory than it needs to work with your documents. Choose Get Info from the File menu and increase the memory size.

A message says that a program could not be found.

- You may be trying to open a document created with a program you don't have on your computer, or created with a later version of a program you do have. Find out what program and version was used to create the document, and obtain it if necessary. Or open the document within another program that can read its format.

You just did something you didn't mean to do.

- If you have not yet taken any other action, you can usually undo your most recent action (even if you aren't sure what it was). Most programs have an Undo command in the Edit menu. Choose Undo to go back one step in your work. You cannot undo more than one action.

See the documentation that came with your programs for more information about their operation and features.

Memory

A “not enough memory” message appears when you try to open a program.

- You may already have as many programs open as your computer’s memory can support. Quit any programs you aren’t using and then restart the computer. Sometimes quitting and restarting all your programs makes additional memory available.
- If you are using a RAM disk or a disk cache, you may not have enough memory left to open multiple programs. Reduce the size of your RAM disk or disk cache.
- Use virtual memory (PowerBook 140/170) to increase the amount of memory available for opening programs.
- You may not have enough memory in your computer for the type of work you want to do. You can purchase a memory expansion card from your authorized Apple dealer.

SCSI devices

You can’t turn on the computer after connecting a SCSI device.

- SCSI devices connected to your computer must be turned on before the computer itself. Turn on the SCSI device(s) attached to your computer, and then turn on the computer.

The computer doesn’t recognize one or more SCSI devices.

- The device may be off. Check to make sure that it is plugged into its own power source and turned on.
- If the device is a disk drive, it may need to be initialized before you can use it. See the instructions that came with the device.
- The software (driver) needed to run the device may not be installed on your computer. Install the software as described in the manual that came with the device.

- One or more devices in the SCSI chain may not have a unique ID number between 1 and 6. Check the ID number of each device to make sure the numbers are appropriate, and change any that are not.
- It is important to configure SCSI chains with the right cables, and with the correct number and placement of cable terminators. Check the configuration of your SCSI chain to make sure that it is correct and that all cables are firmly attached.

See Chapter 15 for more information about working with SCSI devices and connecting SCSI chains.

Modems

The external modem doesn't work.

- The modem may be turned off or improperly connected. Make sure it is turned on and that all connections are secure.
- The modem port circuitry may not be activated. Open the Portable control panel and make sure that External Modem is selected.

The internal modem doesn't work.

- The modem port circuitry may not be activated. Open the Portable control panel and make sure that Internal Modem is selected.

See the modem manual for more information about using and solving problems with your modem.

Printers

Your computer can't find the printer.

- The printer may not be selected in the Chooser. Open the Chooser and select the printer you want to use.

Your printer does not appear in the Chooser window.

- The printer may not be connected properly. Check the connections between your computer and the printer, including relevant sections of the network if appropriate.
- The printer software may not be in your System Folder. Close the Chooser and install the software you need.
- AppleTalk must be active before you can use a network printer. Make sure that AppleTalk is active in the Chooser.
- If your network has zones, the printer you want may not be in the currently selected zone. Make sure the correct zone is selected.

Nothing happens, or you see an error message, when you try to print.

- The printer may not be turned on. Make sure it is turned on and warmed up.
- The printer may be out of paper or have some other problem. Check the printer status lights and see if there are any messages on your screen.
- If an error message states that the printer could not print your document, turn the printer off for at least 10 seconds. Then turn it on again, wait for it to warm up, and try to print again.

The printer keeps restarting

- You or another network user may be using a different version of the printer software. Everyone connected to a network should use the same printer software version. Consult the network administrator for more information.

Your documents are printed with the wrong fonts.

- The printer may not have your fonts in its memory and is substituting other fonts. You may be able to add the necessary fonts to your printer (see “Transferring Fonts to a LaserWriter Printer” in Chapter 13), or print on a different network printer that has the fonts you want.

See the printer manual for more information about your printer's features or problems with the printed output.

Networks

You can't find or can't open icons needed to set up file sharing

- One or more icons may be in the wrong place. Make sure that the Sharing Setup icon is in the Control Panels folder, and that the File Sharing Extension file, the Network Extension file, and the AppleShare file are in the Extensions folder. (Both folders are inside the System Folder.)

The shared disk you want to connect to does not appear in the Chooser window.

- AppleTalk must be active before you can use a shared disk. Make sure that AppleTalk is active in the Chooser.
- If your network has zones, the shared disk you want may not be in the currently selected zone. Make sure the correct zone is selected.
- If the shared disk is on another network user's Macintosh, that Macintosh must be turned on before the disk can be shared. Make sure the computer is on.

You can't open a shared disk or folder.

- You may not have the access privileges needed to use the disk or folder. Ask the network administrator or the owner of the shared item to grant you access.
- You may have entered your name or password incorrectly when you tried to open the shared disk or folder. Check with the owner of the item to make sure you are entering your name and password correctly, and try again.

You can't connect to your own computer from another Macintosh.

- Make sure that your computer is turned on, file sharing is turned on, you have the correct access privileges, and you entered your password correctly.

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20525 Mariani Avenue
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(408) 996-1010
TLX 171-576

030-1677-C
Printed in U.S.A.