



PowerBook Getting Started

.....
*Setup and important health-related information
for the PowerBook 150 computer*

 Apple Computer, Inc.

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Communications regulation information

FCC statement

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.

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 an Apple-authorized service provider or Apple. See the service and support information that came with your Apple product. Or, consult an experienced radio/television technician for additional suggestions. You may find the following booklet helpful: *Interference Handbook* (stock number 004-000-00493-1). This booklet, prepared by the Federal Communications Commission, 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 Apple peripheral devices and Apple shielded cables and connectors between system components. It is important that you use Apple peripheral devices and shielded cables and connectors between system components to reduce the possibility of causing interference to radios, television sets, and other electronic devices. You can obtain Apple peripheral devices and the proper shielded cables and connectors through an Apple-authorized dealer. For non-Apple peripheral devices, contact the manufacturer or dealer for assistance.

DOC statement

DOC Class B Compliance This digital apparatus does not exceed the Class B limits for radio noise emissions from digital apparatus as set out in the interference-causing equipment standard entitled “Digital Apparatus,” ICES-003 of the Department of Communications.

Observation des normes—Classe B Cet appareil numérique respecte les limites de bruits radioélectriques applicables aux appareils numériques de Classe B prescrites dans la norme sur le matériel brouilleur: “Appareils Numériques”, NMB-003 édictée par le ministre des Communications.

VCCI statement

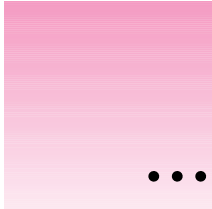
情報処理装置等電波障害自主規制について

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取扱説明書に従って正しい取り扱いをしてください。





Corrections to the *Macintosh Reference Book*

This *Getting Started* manual provides instructions for setting up your PowerBook 150, learning basic Macintosh software skills, and using the many special features of your computer. In addition to this manual, your computer came with a *Macintosh Reference* book that provides instructions for performing many tasks that are common to all Macintosh and PowerBook computers.

Please note the following corrections in the *Macintosh Reference* book. You may want to mark these corrections on the appropriate pages of that manual for future reference.

The *Disk Tools* and *Utilities* floppy disks

The *Macintosh Reference* book mentions a floppy disk called *Disk Tools* in several places. You did not receive this disk with your PowerBook 150. Instead, you received a disk called *Utilities*. Whenever you are instructed to use the *Disk Tools* disk, you should substitute the *Utilities* disk, which includes much the same software as *Disk Tools*.

References to the *Disk Tools* disk appear on pages 10, 19, 20, and 21 of the *Macintosh Reference*.

The Apple HD SC Setup and Internal HD Format utilities

The Apple HD SC Setup utility program that comes with many Macintosh and PowerBook computers is not designed for use with the internal hard disk of the PowerBook 150. Instead, your *Utilities* disk includes a utility program called Internal HD Format, which was designed to work specifically with the hard disk in your PowerBook 150 computer.

If you ever need to initialize your internal hard disk, refer to “Disk Drives and Disks” in Chapter 9 of this *Getting Started* book for instructions on using the Internal HD Format utility. Please disregard the instructions in “Initializing a Hard Disk” on pages 10–11 of the *Macintosh Reference* book.

You cannot use the Internal HD Format program to test a hard disk. Therefore, please disregard the instructions in “Testing a Hard Disk” on page 21 of the *Macintosh Reference* book.

Using a RAM disk

The instructions for setting up and using a RAM disk on pages 71–72 of the *Macintosh Reference* book are slightly incorrect for the PowerBook 150. Please refer instead to the instructions on pages 85–87 of this *Getting Started* book.

Using the Chooser to select a printer

The PowerBook 150 has only a printer port, not an external modem port. On page 76 of the *Macintosh Reference* book, please disregard the instruction to select a port; your printer port will be selected automatically when you open the Chooser.



Follow the steps in this chapter to set up your PowerBook, back up the contents of your hard disk, and learn about turning your computer on and off.

1

Setting Up Your PowerBook



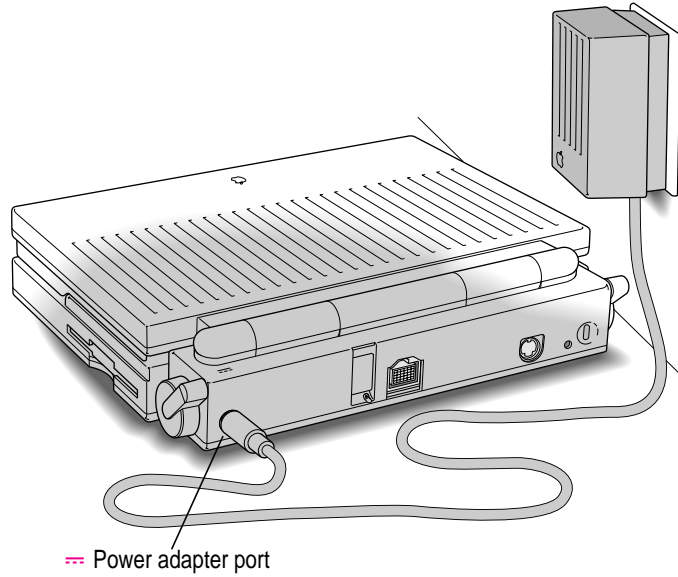
To set up your PowerBook for the first time, you need the power adapter that came with your PowerBook.

Step 1 Plug in the power adapter

When you plug in the power adapter, the computer's battery recharges. You should plug in the power adapter now in case the battery has drained during shipping and storage.

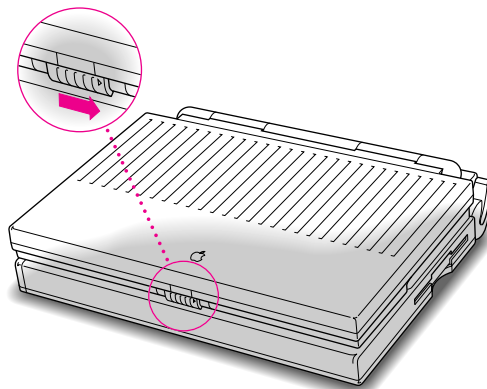
WARNING Use only a PowerBook power adapter with your PowerBook computer. Adapters for other electronic devices (including other portable computers) may look similar, but they may damage your computer.

- Plug the power adapter into a standard electrical outlet or power strip. Then plug the power adapter cable into the power adapter port (marked with the icon ≡) on the back panel of the computer.

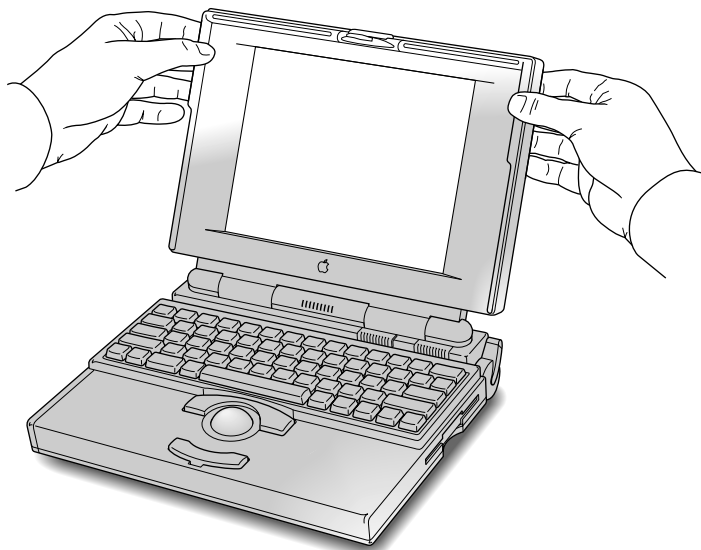


Step 2 Open the display

- Slide the latch to the right and lift up the display.

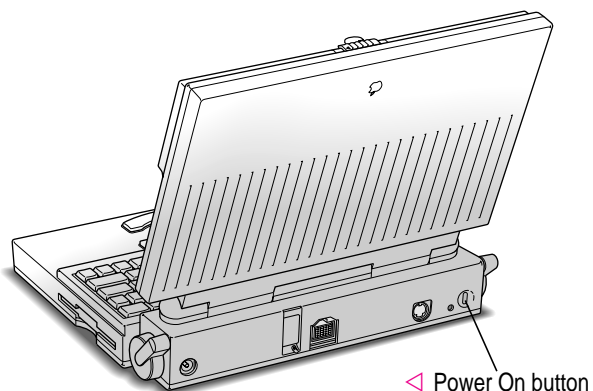


- Position the display at a comfortable viewing angle. You can adjust the angle of the display at any time.



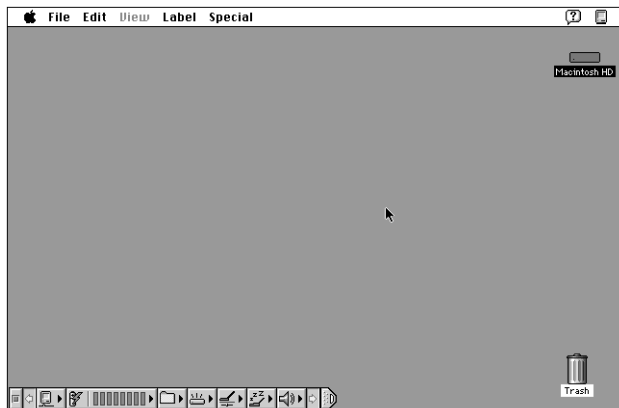
Step 3 Turn on the computer

- Press the Power On button located on the back of the computer to turn on the computer. The Power On button is marked with this icon: ◁



You hear a tone when you turn on the computer. It takes the computer a moment to start up.

When you see something like this on your screen, the computer is ready to use:

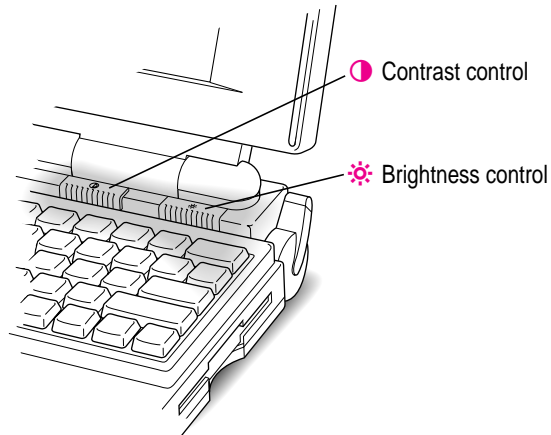


Note: Your screen should look very similar to this picture, but it might not look exactly the same.

Problems turning on your computer?

- **The computer made a sound, but you can't see anything on the screen.**

Adjust the brightness control (marked with the icon ☀) and the contrast control (●) until an image appears and the screen is easy to read.



- **Nothing happened when you pressed the Power On button.**

Make sure the power adapter is connected to both the computer and a power source. If the power adapter is plugged into a power strip, make sure the power strip is plugged in and turned on. Try pressing the Power On button again.

If these suggestions don't solve the problem, see Chapter 9, "Troubleshooting," for further help.

What to do next

- **New Macintosh users:** If you have never used a Macintosh computer before, turn to Chapter 2 now to learn how to use your PowerBook. After you have completed Chapters 2 and 3, come back to this chapter for instructions on backing up your computer's hard disk, turning the PowerBook off, and putting the PowerBook to sleep.
- **New PowerBook users:** If you have used other Macintosh computers but are new to the PowerBook, continue with this chapter. Then skim the rest of this book for information about your new PowerBook.
- **Experienced PowerBook users:** Read the rest of this chapter for instructions on backing up your computer's hard disk. Then skim the rest of this book for information about your new PowerBook.

IMPORTANT No matter what your level of experience, be sure to read the safety information in Chapter 4 before beginning your own work.

Backing up your hard disk

This section describes how to protect the software on your computer's hard disk.

Why back up?

Your computer's hard disk comes with valuable information stored on it, including the *system software* (which operates the computer) and some application programs. You should make a copy of the information on your hard disk for safekeeping, using the PowerBook 150 Backup program supplied on your hard disk. (The extra copy is called a *backup*, and the process of making the copy is called *backing up*.)

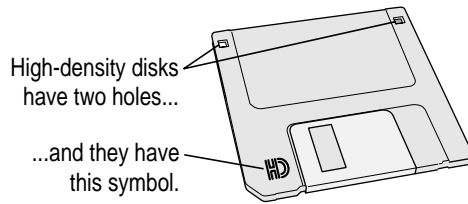
You should also make a copy of your System Folder. Then if the System Folder on the hard disk becomes damaged, you can quickly restore it from your backup copy.

To restore information to your hard disk, use the PowerBook 150 Restore program that came with your computer. See "Restoring the Information on Your Hard Disk" later in this chapter.

What you need

Just as you need paper to make copies of important documents, you need floppy disks to copy the information on your hard disk. You can probably buy the floppy disks at the same place you bought your computer.

Floppy disks come in a variety of sizes and capacities. The ones you need for backing up your hard disk are called *high-density 3.5-inch disks*. You can recognize the disks by the way they look:



Even though these disks have a hard plastic casing, they are called “floppy disks” because the disk inside the casing is floppy.

Depending on exactly what was installed on your computer at the factory, the information on your hard disk will fill more than 20 high-density disks. Disks usually come in boxes of 10, so you should have three boxes of disks before starting to follow the backup instructions in this chapter.

If you don’t have enough disks, you can skip this section for the moment. But the sooner you make the backup copy, the better. Buy the disks as soon as possible, then return to this section and follow the instructions.

For more information on using floppy disks, see “Using Disks” in the *Macintosh Reference* book.

Making the copy

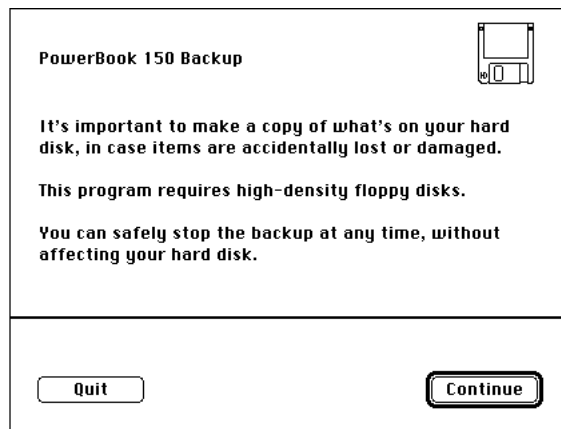
To start the PowerBook 150 Backup program, follow these instructions:

- 1 Turn on your computer.
- 2 Open the PowerBook 150 Backup program by double-clicking its icon.



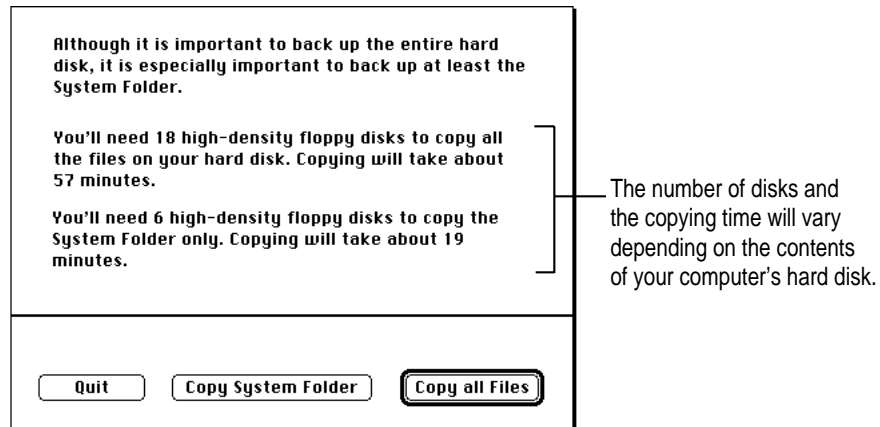
PowerBook 150 Backup

After a moment, the PowerBook 150 Backup program opens.



3 Make sure your disks are high-density floppy disks. Then click the Continue button.

A message appears, telling you how many floppy disks you will need to make your backup copy and about how long it will take.



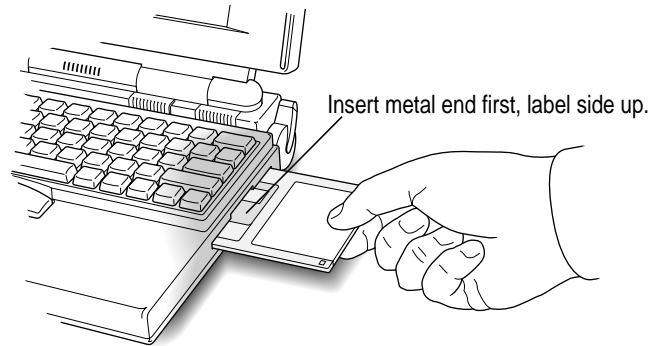
4 Click the appropriate choice, as follows:

- First click the Copy System Folder button, then continue with the instructions in this section.
- When you have finished copying the System Folder, click the Copy all Files button and again follow the instructions in this section.
- If you start copying and find that you don't have enough floppy disks for your choice, click Quit. Skip the rest of this section for now, and continue with "Turning Your Computer Off" later in this chapter. Buy floppy disks as soon as you can, then follow the instructions in this section to back up all of your hard disk.

Make sure you have enough time and floppy disks to complete the copying. If you stop the copying before it's finished, you'll have to start over again from the beginning.

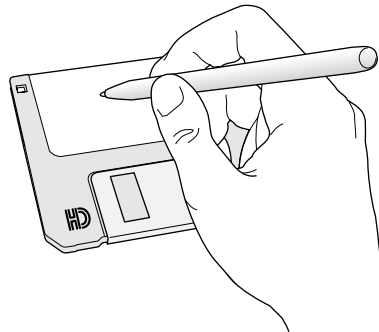
5 Insert a high-density floppy disk into the disk drive.

Do not use the *Utilities* floppy disk that came with your computer.



6 Follow the instructions on the screen until a message tells you that you're finished.

Insert a new disk whenever the screen messages tells you to. As you fill each disk, make a note of the name displayed on the screen. The name will disappear as soon as the disk is ejected. Then immediately label the disk so that you know what its contents are later.



7 Follow steps 3–6 again, but this time click the Copy all Files button.

8 When you're finished, be sure the floppy disks are properly labeled and locked, then store them in a safe, cool place.

As time goes by, you will store more information on your computer. You should back up your hard disk at least once a month. (You may want to recycle your backup disks so that you don't need to buy a new set every time you back up.)

Restoring the information on your hard disk

If information on your hard disk is damaged or lost, you can restore it if you have a backup copy of the information. Your PowerBook comes with a program called PowerBook 150 Backup, which you can use to back up the information on your hard disk. Then if you need to, you can use the program called PowerBook 150 Restore, also included with your computer, to put the copied information back on your hard disk.

You can also use PowerBook 150 Backup to make a copy of your System Folder (the folder that contains the software the computer uses to operate). If your computer does not start up anymore, replacing the System Folder may solve the problem. You can use PowerBook 150 Restore to replace the damaged System Folder on your hard disk.

For instructions on using PowerBook 150 Backup, see “Backing Up Your Hard Disk” earlier in this chapter.

IMPORTANT If at any time during restoring you see a message reporting that the hard disk is damaged or unreadable, see “Using Disks” in the *Macintosh Reference* book.

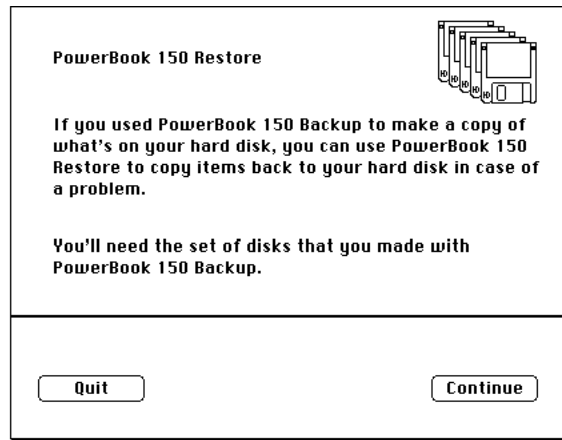
To use PowerBook 150 Restore to restore information to your hard disk, you need the *Utilities* floppy disk that came with your computer and the floppy disks that you used to back up your hard disk. Follow these steps:

- 1 **Make sure the computer is off.**
- 2 **Insert the *Utilities* disk into the floppy disk drive, then turn on the computer.**
- 3 **If necessary, open the Utilities icon by double-clicking it.**
- 4 **Open the PowerBook 150 Restore program by double-clicking its icon.**



PowerBook 150 Restore

In a moment you'll see this screen:



5 Click the Continue button.

6 Insert your first backup disk.

Restoring begins and proceeds automatically.

7 Respond to any messages you see on the screen.

If PowerBook 150 Restore finds an item on your hard disk that is newer than an item with the same name on the floppy disk, it asks whether you want the older version of the item to replace the newer version. Click your choice. If you think the item on the hard disk may be damaged, you should replace it.

8 Insert the next disk in your stack of backup disks and repeat step 7.

Continue inserting disks until you have gone through all the disks in the stack. Make sure you insert disks in the correct order.

The PowerBook 150 Restore program lets you know when you are finished. Return your backup disks to a safe, cool place for storage.

9 Restart your computer, then check to be sure that everything is back on your hard disk.

If the computer still doesn't start up or your hard disk still doesn't work properly, see "Using Disks" in the *Macintosh Reference* book. If you are able to repair the disk, then try again to restore the information on your hard disk.

Restoring your System Folder

If your computer doesn't start up anymore, replacing the System Folder may solve the problem. If you used PowerBook 150 Backup to make a backup copy of your System Folder, you can use PowerBook 150 Restore to replace the damaged System Folder on your hard disk with the copy on your backup disks.

To restore the System Folder to the hard disk, follow the instructions in this section, using the floppy disks that contain a backup copy of your System Folder.

Turning your computer off

When the PowerBook is off, the computer is not using any power or doing any work. You should always turn the computer off before attaching other equipment to it or replacing its battery. Also turn it off to conserve power when you won't be using it for several hours.

To turn the computer off:

- If the computer is on, choose **Shut Down** from the **Special** menu.



- If the computer is in sleep, wake it by pressing any key on the keyboard (except Caps Lock), and then choose **Shut Down** from the **Special** menu.

Putting your computer to sleep

When the PowerBook is in sleep, it has a darkened screen and appears to be off, though it is still drawing battery power at a low level. The computer is on, but almost completely inactive.

To put your PowerBook to sleep:

- Choose Sleep from the Special menu.



Automatic sleep

If you don't use the computer for several minutes, it goes to sleep automatically. This conserves battery power.

To wake the computer, press any key on the keyboard (except Caps Lock). In a few seconds, the screen will go back to the way it looked before the computer went to sleep.

For more information on sleep and automatic sleep, see Chapter 6.

Restarting your computer when it's already on

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

To restart your computer:

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



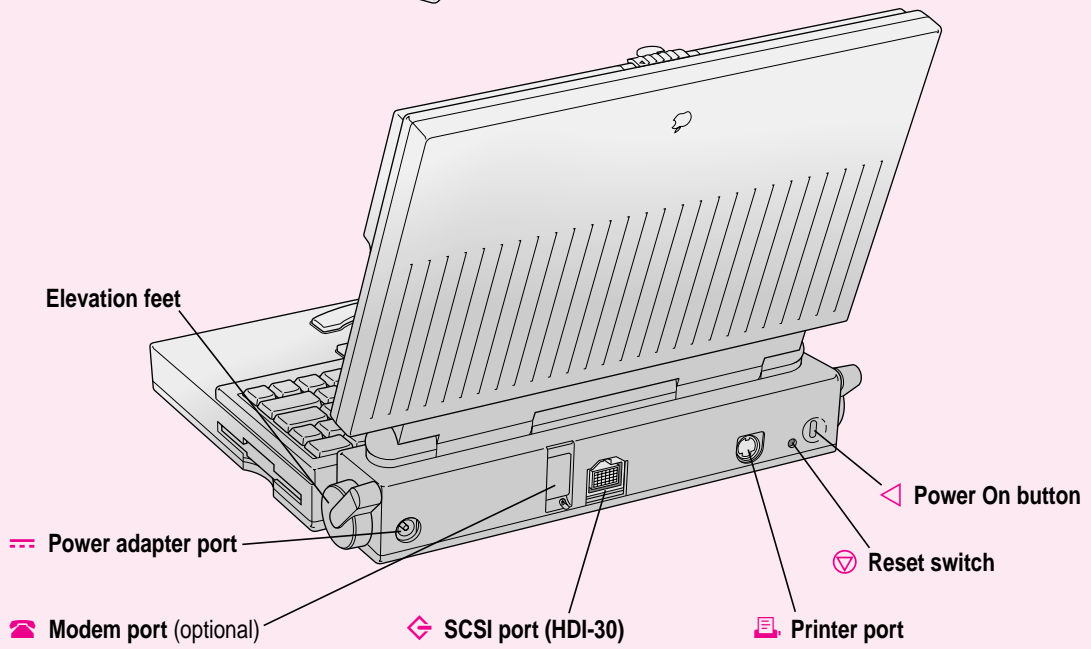
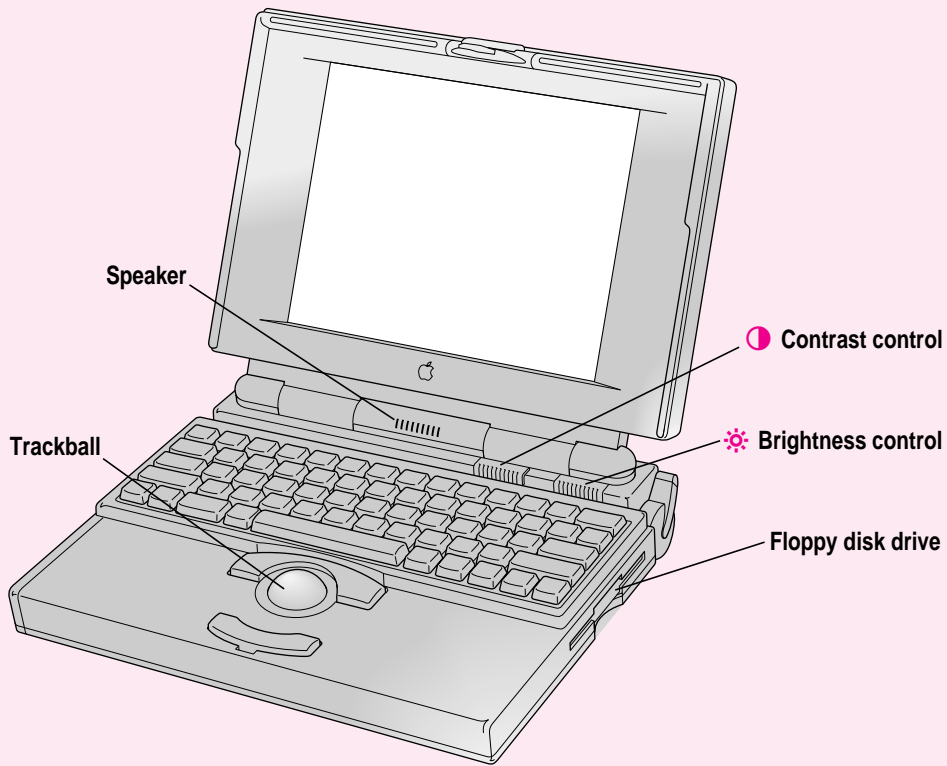
When you choose Restart, the computer prompts you to save your work, closes all open programs, and restarts itself.

Choosing Restart does not affect any RAM disk you created or its contents.

If you can't choose Restart

You may occasionally see a “system error” message on the screen (indicating a temporary software problem). If this happens, you need to restart the computer. In most cases, the error message is accompanied by a Restart button. Use the trackball to click the Restart button.

For additional suggestions if you can't restart using either of these methods, see Chapter 9, “Troubleshooting.”



Go through the exercises in
this chapter to learn how
to use your computer.

2

Learning to Use Your Computer



Your computer comes with a tutorial that teaches you the basics. The tutorial is divided into two parts:

- **Part 1** You start the *Macintosh Basics* tour on your computer. The tour presents the basic skills you need to master.
- **Part 2** After you complete the *Macintosh Basics* tour, you return to this chapter to practice what you learned. You also learn some additional skills.

If you've never used a Macintosh computer before, you should complete both parts of the tutorial.

If you're an experienced Macintosh user, you may want to look over the rest of this book to learn about special features of this computer. Then, as you work with your Macintosh, consult the *Macintosh Reference* book for answers to questions about the system software that came with your computer.

IMPORTANT If you need to turn off your computer at any point before finishing the tutorial, please see “Turning Your Computer Off” in Chapter 1.

Part 1 Starting the *Macintosh Basics* tour

Your *Macintosh Basics* tour is on the hard disk that's inside your computer. To take the tour, follow the steps in this section.

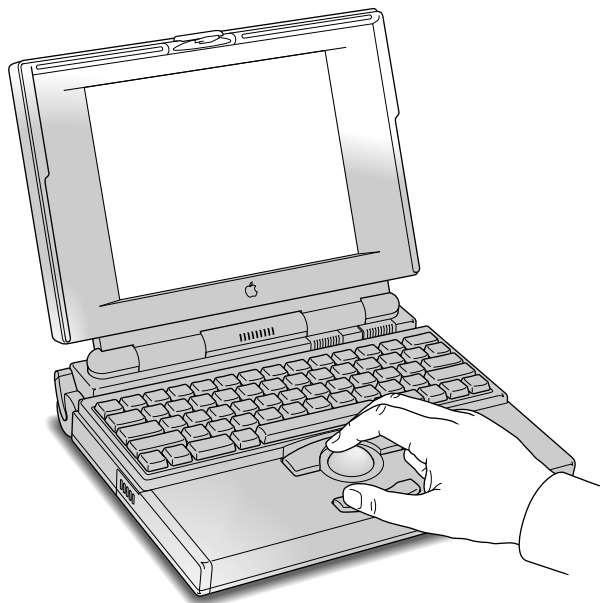
Make sure your computer is turned on. If the screen is dark, try adjusting the screen (see “Problems Turning On Your Computer?” in Chapter 1) until you see words and small pictures on your screen.

1 Roll the trackball to move the arrow pointer (␣) around on the screen.

Place your index finger on the trackball and your thumb on the lower trackball button. Don't press either button yet.

Roll the trackball, watching the arrow on the screen. Notice that the arrow moves in the same direction as you roll the trackball.

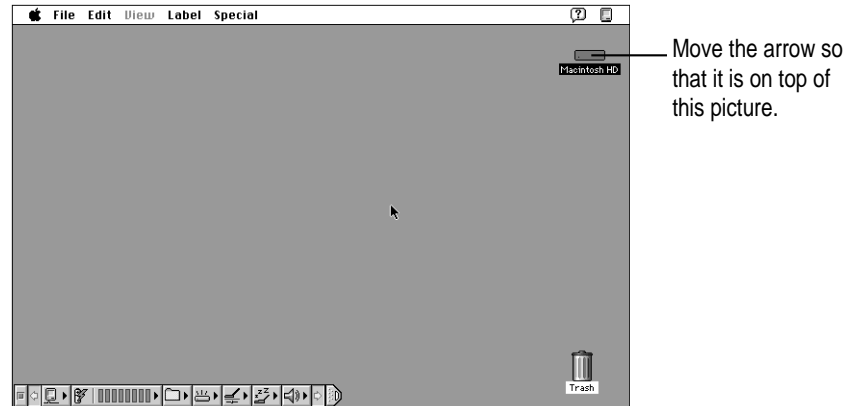
You may need to roll the trackball around for a few seconds to “break in” the mechanism so it works smoothly.



2 Roll the trackball so that the tip of the arrow is on the picture labeled “Macintosh HD.”

Make sure the tip of the arrow is over the picture, not over the words “Macintosh HD.”

Note: Your screen should look similar to the one below, but may not look exactly the same.



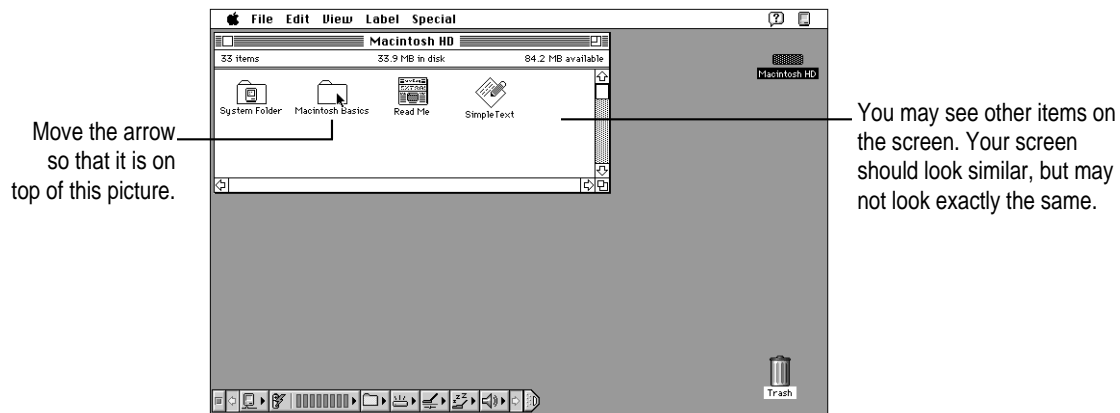
3 Being careful not to roll the trackball, press the button twice in quick succession. (This is called “double-clicking.”)

Now your screen should look like the illustration following step 4. The items in that illustration may not exactly match those on your screen. The only item you need right now is the Macintosh Basics folder.

If the screen doesn’t look right, try steps 2 and 3 again, paying special attention to the following:

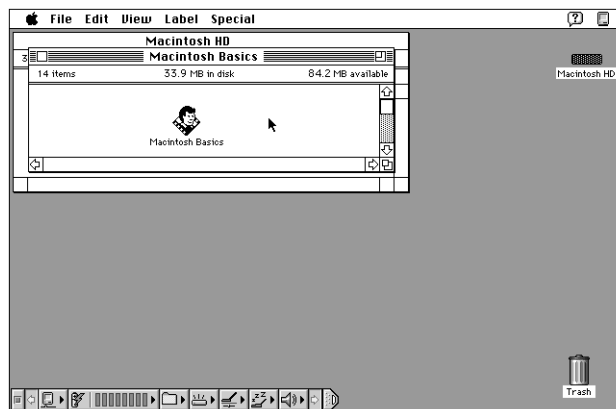
- Make sure the tip of the arrow is touching the picture, not the words beneath it.
- Be sure to press the trackball button twice.
- Press twice quickly and be careful not to roll the trackball while you press.

- 4 Roll the trackball to place the tip of the arrow on the picture of the folder labeled “Macintosh Basics.”



- 5 Being careful not to roll the trackball, press the button twice in quick succession.

Now your screen should look like the following illustration:



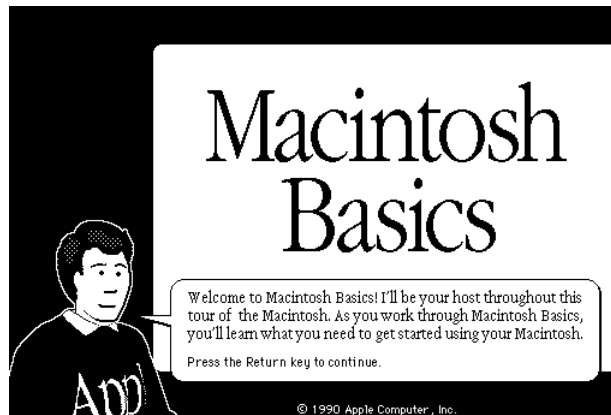
- 6** Roll the trackball so that the arrow is on the picture of the man labeled “Macintosh Basics.”



Move the arrow so that it is on top of this picture.

- 7** Press the trackball button twice in quick succession.

Now your screen should look like the following picture:



If you don't see this screen, try again, paying special attention to the following:

- Make sure the tip of the arrow is touching the picture, not the words beneath it.
 - Be sure to press the trackball button twice.
 - Press twice quickly and be careful not to roll the trackball while you press.
- 8** Follow the instructions on the screen and work through the tour.

When you finish the tour, continue with the rest of this chapter.

Part 2 Practicing your new skills

You should now have completed the *Macintosh Basics* tour.

The second part of your training gives you an opportunity to think about what you've learned so far and to practice your new skills.

Reviewing what you've learned

Before continuing, take a few moments to answer these questions. They will help you summarize the information you learned in *Macintosh Basics*. You may want to write (or circle) your answers as appropriate. The correct answers are in the next section of this chapter.

If you have any trouble answering the questions, look in Chapter 3, “Basic Skills.”

Question: *What is the name of the area where you do your work? (It's shown below.)*

Answer: _____



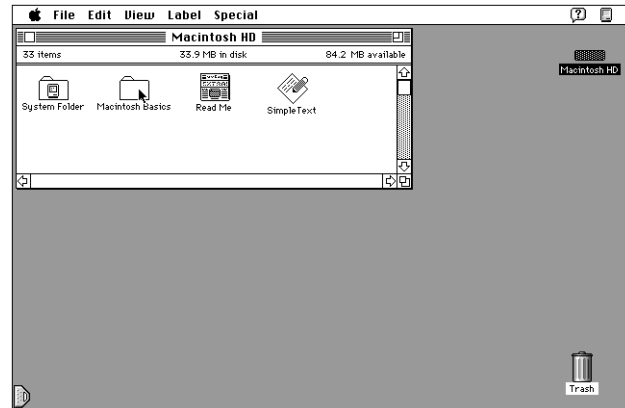
Question: *What are pictures on the Macintosh desktop called? Two examples are shown below:*

Answer: _____

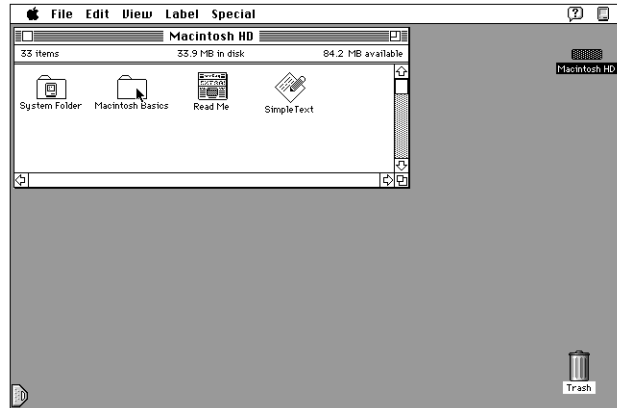


What is the name for these pictures on the Macintosh desktop?

Circle the hard disk *window* in the illustration below.

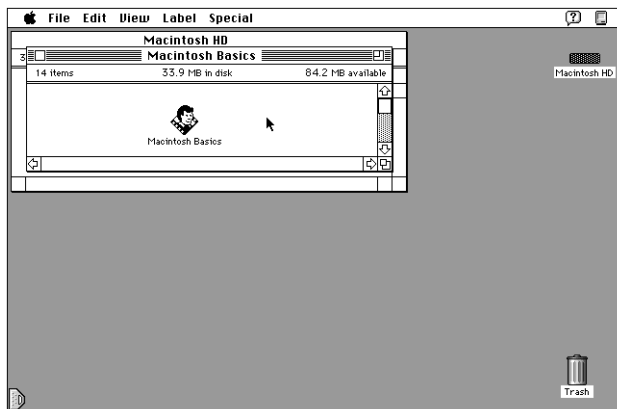


Circle the hard disk *icon* in the illustration below.



Question: Circle the active window on the desktop below. How do you make a window active?

Answer: _____



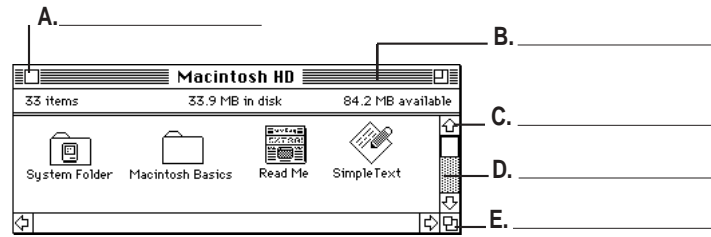
Question: Which menu is the Save command in?

Answer: _____

Question: How do you throw an item away?

Answer: _____

Label the parts of this window.



Answers to the review questions

These are the answers to the review questions that you completed earlier.

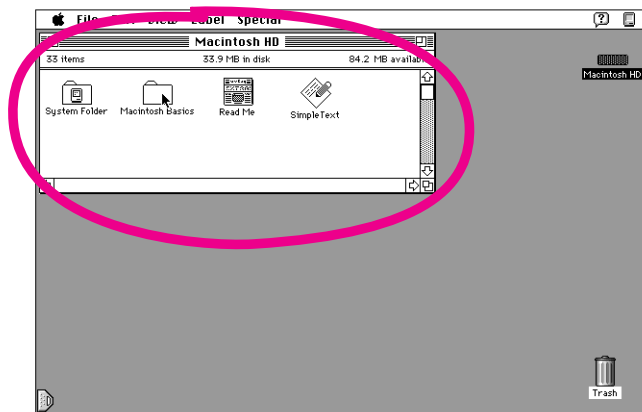
Question: *What is the area called where you do all your work?*

Answer: *the desktop*

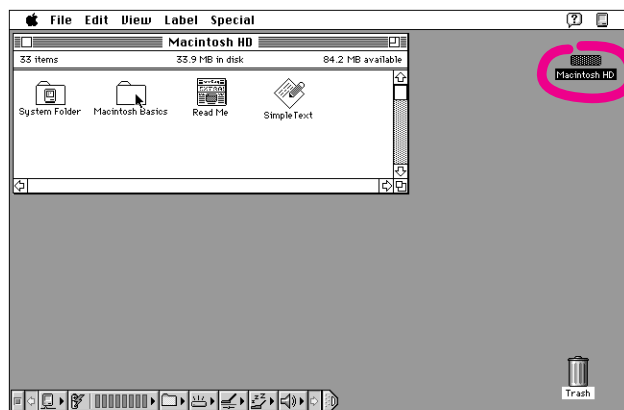
Question: *What are pictures called on the Macintosh desktop?*

Answer: *icons*

Circle the hard disk *window* in the illustration below.

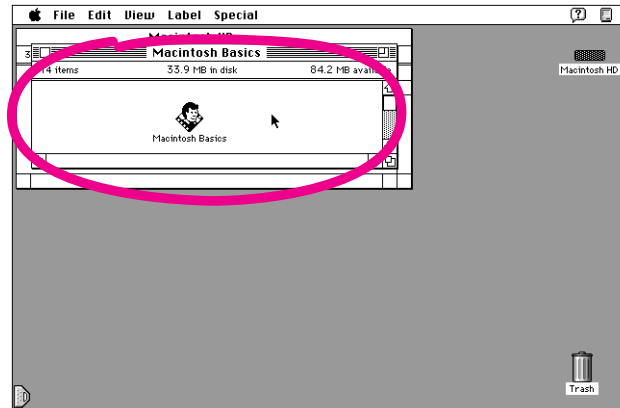


Circle the hard disk *icon* in the illustration below.



Question: Circle the active window shown on the desktop below. How do you make a window active?

Answer: by clicking anywhere inside it



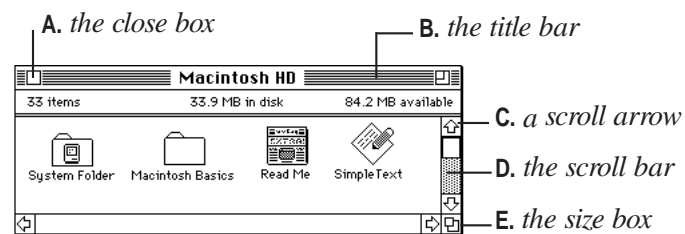
Question: Which menu is the Save command in?

Answer: the File menu

Question: How do you throw an item away?

Answer: by dragging it to the Trash

Label the parts of this window.



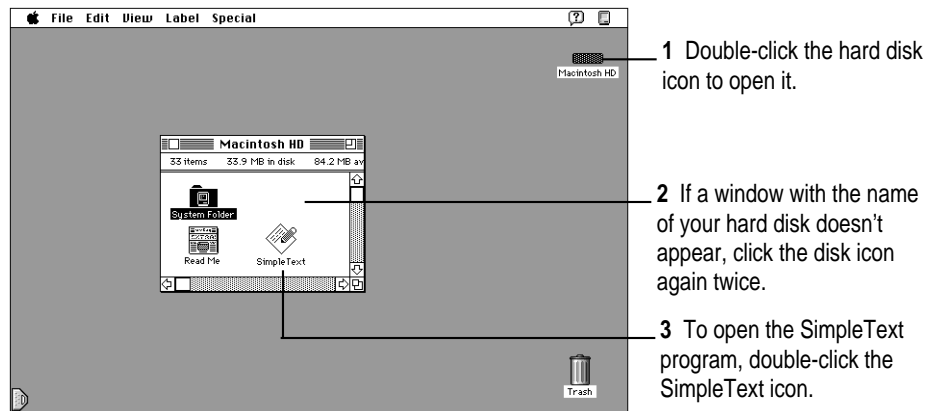
Practice session

Now you can practice what you learned in *Macintosh Basics*. You'll be practicing your skills using real programs that came with your computer, rather than the sample ones in *Macintosh Basics*.

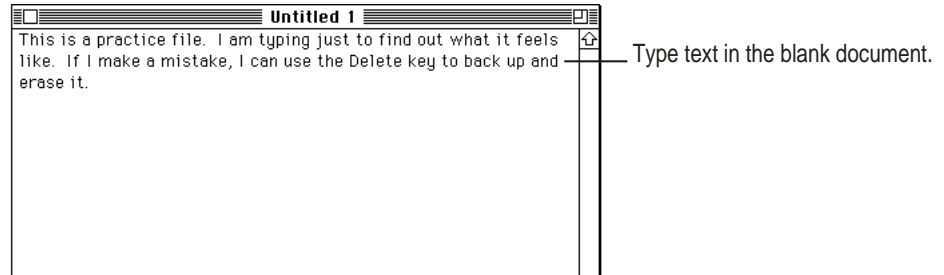
IMPORTANT If you get lost at any point during the practice session, or if something unexpected happens, turn to “Clues on Your Screen” later in this chapter. These clues will help you get back on track.

Creating a new document

- 1 Open the hard disk icon and then open the SimpleText program, as shown below.



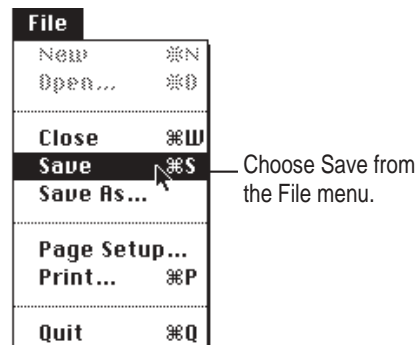
2 Use the keyboard to type a few lines of text into the blank document.



It doesn't matter what you type. If you make an error, press the Delete key to backspace over the incorrect letters, then retype.

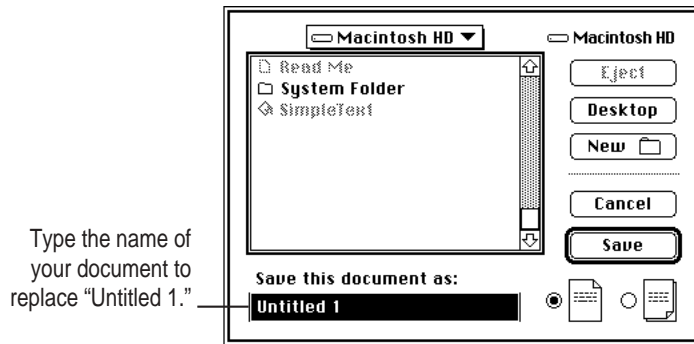
3 Open the File menu and choose the Save command to save your new document.

When you save a document, you are storing it on the hard disk. You need to save every document you create. If you don't save it, the document is lost when you turn off the computer.

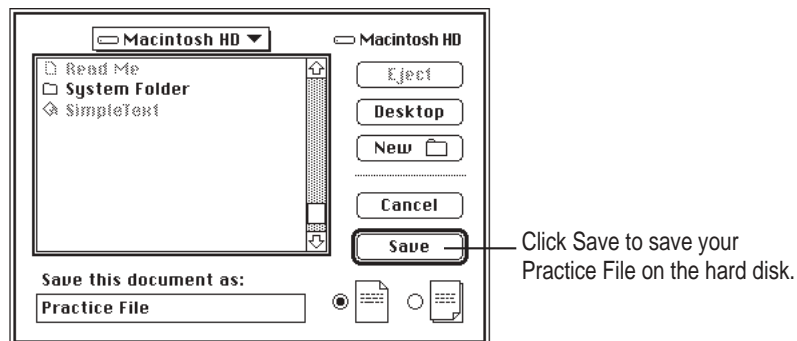


A box like the one in the next step appears, with "Untitled 1" near the bottom. This box lets you name and save your document.

- 4 Don't click anywhere. Just type the name "Practice File." Then click the button labeled Save.

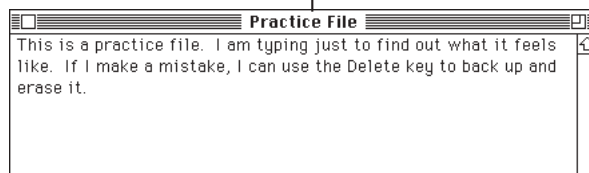


The name you type should replace "Untitled 1" in the box. If it doesn't, place the pointer to the left of the *U* in "Untitled 1," then press the trackball button and drag across the word. When "Untitled 1" is *highlighted* (the text is surrounded with a black box), type the new name.

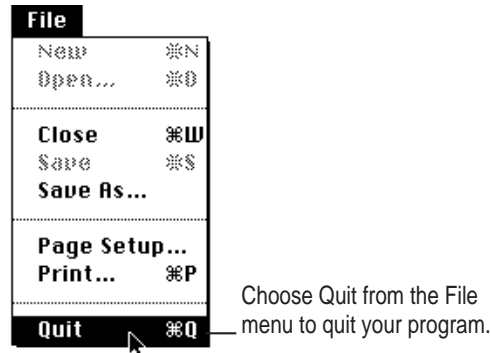


After you click Save, a copy of your document is stored on the hard disk in your computer. The new name appears in the title bar of the document.

The name of your document appears in the title bar.



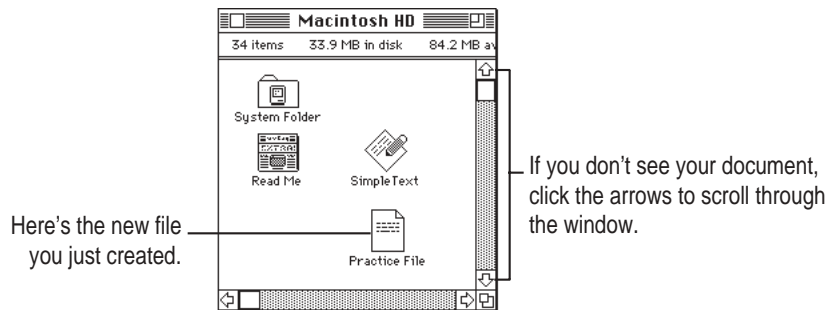
5 Open the File menu and choose Quit to quit the SimpleText program.



The SimpleText program closes, along with your document.

6 Check for the file you saved in the hard disk window.

You should see the icon for the document you saved in the hard disk window. If your Practice File icon doesn't appear, it may be in a hidden part of the window. You can scroll through the window to find the icon if you need to.



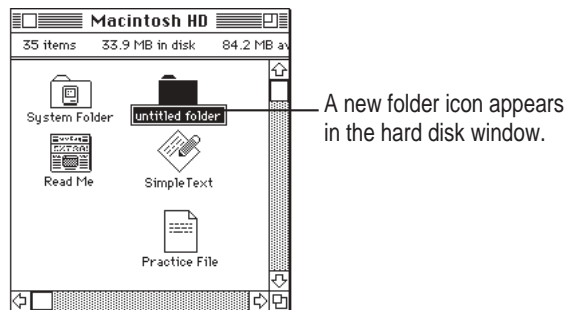
That's the end of the first exercise. You may want to take a break before you continue.

Storing your work inside a folder

You can organize your work on the Macintosh by creating folders and storing your documents inside them.

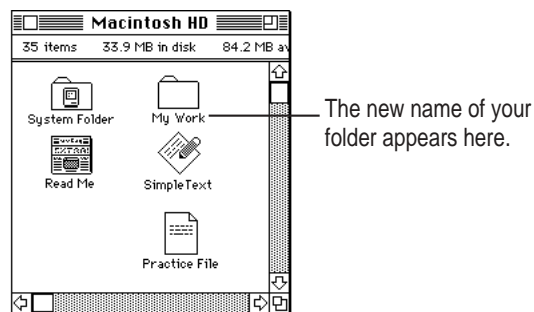
1 Open the File menu and choose New Folder.

A folder icon named “untitled folder” appears in the active window on the desktop.



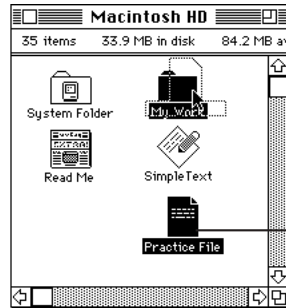
2 Without clicking anywhere, type “My Work” to name the folder.

Notice that the words “untitled folder” are highlighted and boxed. That means the name you type will replace these words.



3 Drag the Practice File into the folder named “My Work.”

Move the pointer to the Practice File. Then press and hold down the button while you drag the Practice File to the folder named “My Work.” When the tip of the pointer is on the folder icon and the folder becomes highlighted, release the button.

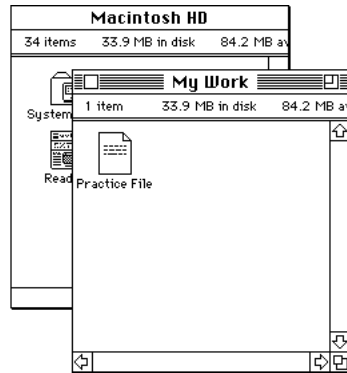


Move the pointer to this icon. Then press and hold down the button while you move this icon to the folder named “My Work.”

4 Open the folder named “My Work.”

You open a folder the same way you open any icon: double-click it, or click it and choose Open from the File menu.

The “My Work” folder window opens, and you can see your Practice File.



You have now completed the second practice exercise. You may want to take a break before continuing.

Throwing an item away

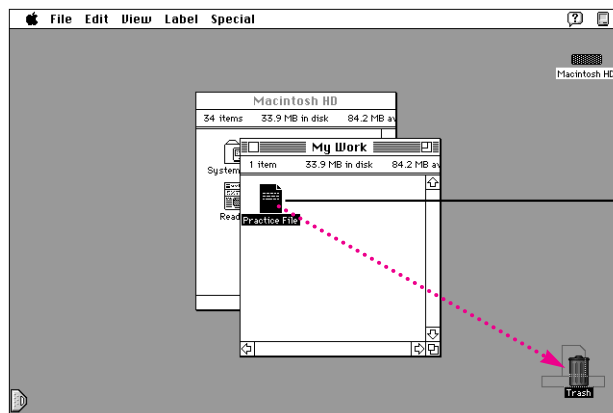
As you work, you will want to remove items you no longer need from the hard disk. You remove items by throwing them into the Trash. In this exercise, you will throw the Practice File into the Trash.

- 1 If the Macintosh HD window is not already open, open it by double-clicking the Macintosh HD icon.

- 2 If the folder named “My Work” is not already open, open it.

Note: If you can't see the Trash icon (which should be in the lower-right corner of your screen), move the windows so that the Trash icon is visible. To move a window, place the pointer in the window's title bar (the stripes at the top of the window), and drag the window.

- 3 Drag the Practice File to the Trash icon.

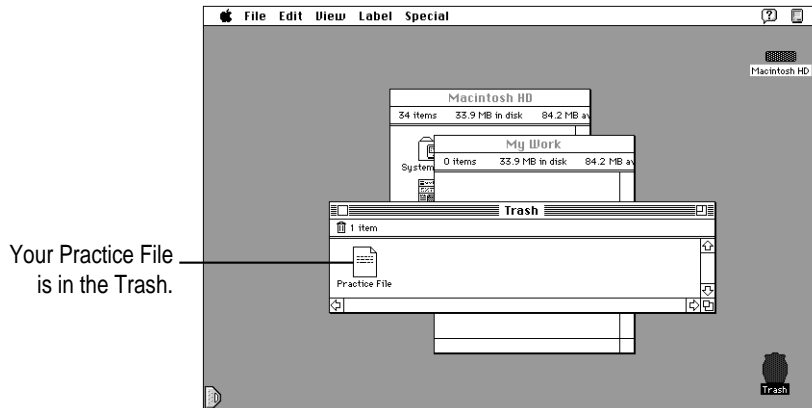


Place the pointer on the Practice File icon. Press and hold down the button as you move the pointer to the Trash icon.

When the tip of the pointer is on the Trash icon and the Trash icon becomes highlighted, release the button.

When you place an icon in the Trash, it is not immediately removed from your disk. The Trash icon bulges to show you that the Practice File is in the Trash, but still on your disk.

4 Open the Trash icon (by double-clicking it) to see your Practice File there.



5 Open the Special menu and choose Empty Trash.

A dialog box appears. The computer displays a dialog box when it asks you to confirm an action. You must click OK or another button in the dialog box before you can take any other action.

6 Click OK.

The Trash is emptied and the Trash icon returns to normal.

The Empty Trash command permanently removes from your disk anything that is in the Trash. Always be sure that you know what you're removing before you choose Empty Trash.

Note: You can get an item back from the Trash by moving its icon back to your disk before you choose Empty Trash from the Special menu. After you choose Empty Trash, you can't recover items you've thrown away.

You have completed all of the practice exercises. Before you continue with your own work, you might want to skim Chapter 3, "Basic Skills," for a summary of basic skills that you'll need as you work.

What's next?

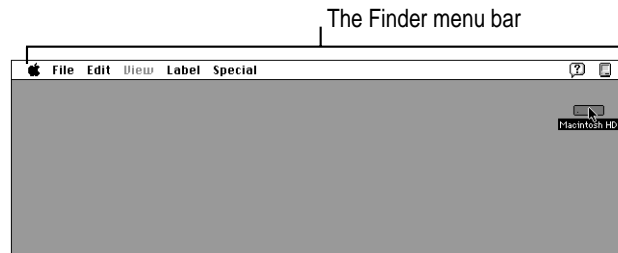
The best way to get experience working with your computer is to begin to do your own work. You may have already purchased application programs to work with. Be sure to read the manuals that came with these programs for information on how to install them. You also have programs that came already installed on your computer. See the manuals that came with your computer for help on using these programs.

Clues on your screen

As you work, check the screen frequently for these important clues about where you are. If you are lost or if something unexpected happens, ask yourself these questions:

Is this the right program?

Check the menu bar. If it looks like this example, you are in the Finder. If any of these menu names are different or missing, you are inside another program. To get back to the Finder, click anywhere on the desktop pattern.



Is the correct window active?

Usually only the active window is affected when you type or use a menu. The active window has stripes in its title bar. To make a window active, click anywhere inside it.

Is the icon or text you want to work with selected?

Commands you choose in menus often work only if an icon or some text is selected. Check the item you want to work with to make sure it's highlighted (which means it's selected).

Is it best to start over?

If you get stuck or lost as you practice on the computer, try one or more of the following remedies and then start the practice session over again:

- If an unwanted or confusing window is on your screen, click the Close box in the upper-left corner of the window to close it.
- If an unwanted window or box contains a Cancel button, click it.
- If the File menu contains the word Quit, choose it.
- If you're really stuck, restart your computer.

To restart, click the desktop (the background pattern on your screen), and then choose Restart from the Special menu. This turns the computer off and then back on. When you restart a computer, problems often clear up.

Refer to this chapter for information
on basic Macintosh skills.

3

Basic Skills

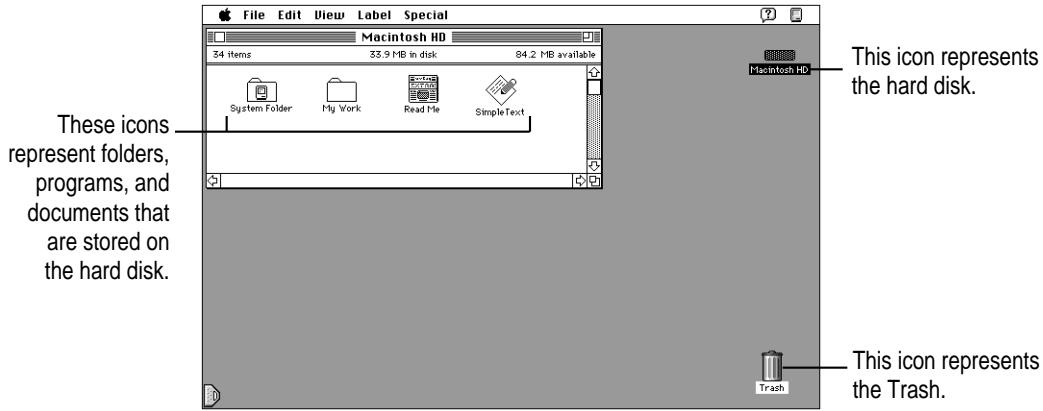


This section provides information on the following basic skills:

- working with icons
- working with windows
- working with documents
- working with disks
- organizing your desktop
- working with menus
- keyboard shortcuts in the Finder and in directory dialog boxes

Working with icons

An icon is a picture that represents something else.



Selecting icons

To do this	Follow these steps
Select the icon	Click the item.
Deselect an icon	Click anywhere except the selected icon.
Select multiple icons	While holding down the Shift key, click each icon.
Deselect an icon in a group of selected icons	While holding down the Shift key, click the icon.
Select multiple icons that are near each other	<ol style="list-style-type: none">1. Place the pointer at one corner of a group of icons.2. Drag diagonally to select the icons, then release the button.
Select a list or partial list of icons	<ol style="list-style-type: none">1. Place the pointer to the left of the top icon or the bottom icon.2. Drag up or down the list, releasing the button when the items are selected.

Copying icons

To do this	Follow these steps
Copy an icon onto another disk	Drag the icon to the icon of the other disk or to a folder icon or a window that belongs to that disk.
Copy an icon on the same disk	<ol style="list-style-type: none">1. Click the icon to select it.2. Choose Duplicate from the File menu, or press ⌘-D.3. If you wish, rename the new icon and drag it to a new location. You can also make a copy by holding down the Option key while you drag the icon to another folder or window.

Opening icons

To do this	Follow these steps
Open an icon (disk, folder, etc.)	<ol style="list-style-type: none">1. Click the icon.2. Choose the Open command from the File menu. Or double-click (click twice quickly) on the icon.

Moving icons

To do this	Follow these steps
Move an icon on a disk	Drag the item to the location you want.

Naming icons

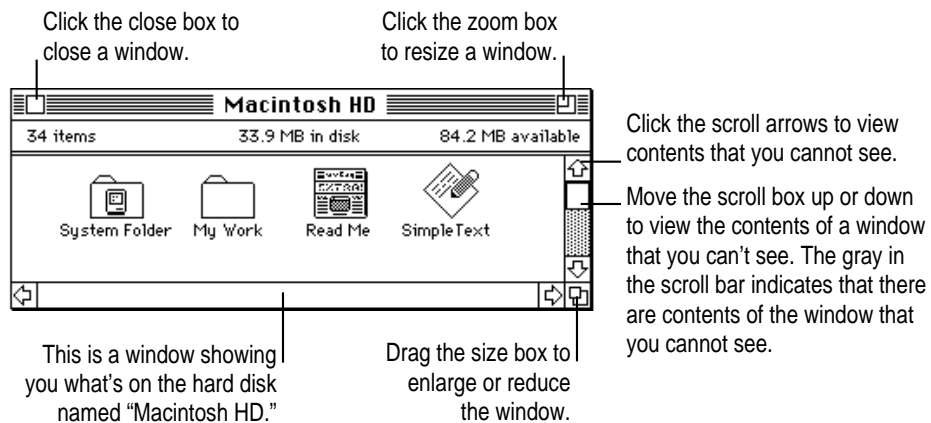
To do this	Follow these steps
Select text in an icon's name	Click the icon name (not the icon itself).
Rename an icon	<ol style="list-style-type: none">1. Select the text under the icon.2. Type the new name.3. Press the Return key.

Removing items from the disk and retrieving them from the Trash

To do this	Follow these steps
Erase or remove an item from a disk	<ol style="list-style-type: none">1. Drag the icon to the Trash.2. Choose Empty Trash from the Special menu.
Retrieve an item from the Trash	<ol style="list-style-type: none">1. Open the Trash icon.2. Before you choose Empty Trash from the Special Menu, drag the icon out of the Trash (and into the disk or folder window where you want to store it). Or, choose Put Away from the File menu to return the icon to its original place on a disk.

Working with windows

A window opens when you double-click an icon. A window usually shows you what's inside an icon.



Viewing the contents of a window

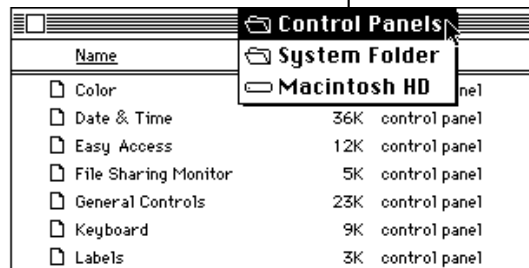
To do this	Follow these steps
View the contents of a window by name, date, size, or kind	<ol style="list-style-type: none">1. Open the View menu.2. Choose the menu item that corresponds to the way you want to view the contents of the window.
View the contents of the window in outline form	<ol style="list-style-type: none">1. Choose any list view from the View menu (any view except the icon and small icon views).2. Click the triangle next to a folder name to display or hide the contents of the folder.

Making a window active

To do this	Follow these steps
Make a window active	Click anywhere inside the window or double-click its icon.

Opening higher level folders or disks

- 1 Hold down the ⌘ (Command) key as you press the title of the active window.
- 2 Drag to choose a higher-level folder (or disk) and then release the button.



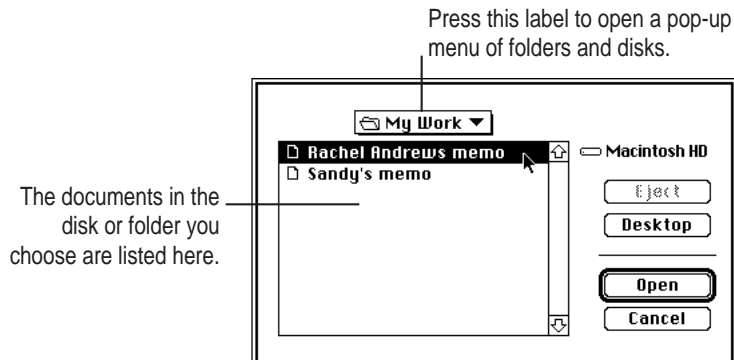
Working with documents

Opening and closing a document

To do this	Follow these steps
Open a document	<ol style="list-style-type: none">1. Click the icon for the document.2. Choose the Open command from the File menu. Or double-click (click twice rapidly) on the icon.
Close a document	Choose Close from the File menu. Or click the close box of the document window.

Opening a document from within a program

To do this	Follow these steps
Open a document when you are working in an open program	<ol style="list-style-type: none">1. Choose Open from the File menu.2. Click the name of the document. (The illustration shows how to find a folder that you might not see.)3. Click the Open button.

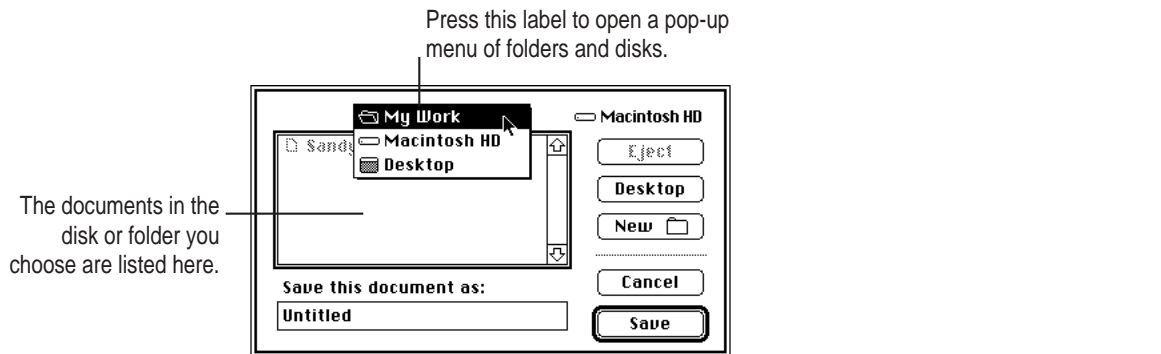


Saving and naming documents

To do this	Follow these steps
Save and name a document for the first time	<ol style="list-style-type: none">1. Choose the Save command from the File menu.2. Type a name for the document.3. Click the Save button.
Save the document under another name	<ol style="list-style-type: none">1. Choose the Save As command from the File menu.2. Type a new name for the document.3. Click the Save button.

Choosing a folder when saving a document

To do this	Follow these steps
Save a document in a specific folder while working in a program	<ol style="list-style-type: none">1. Choose Save or Save As from the File menu.2. Click the name of the folder you want to save your document in. (The illustration shows how to find a folder that you might not see.)3. Click Open to open the folder.4. Name your document.5. Click the Save button to save the document inside the folder.



Working with disks

Preparing a new floppy disk for use

See “Using Disks” in the *Macintosh Reference* manual.

Ejecting a floppy disk

To do this	Follow these steps
Eject a floppy disk	Drag the disk's icon to the Trash.

Copying the contents of a disk

To do this	Follow these steps
Copy the entire contents of one floppy disk onto another floppy disk (with one disk drive)	<ol style="list-style-type: none">1. Insert the original floppy disk into the floppy disk drive.2. Drag the floppy disk icon to the hard disk icon. (The floppy disk contents appear in a folder of the same name on the hard disk.)3. Drag the floppy disk icon to the Trash.4. Insert the floppy disk that you want to copy to.5. Drag the icon of the newly created folder to the floppy disk icon.6. Drag the floppy disk icon to the Trash.
Copy an entire floppy disk onto a hard disk	Drag the icon of the floppy disk to the icon for the hard disk. (The floppy disk contents appear in a folder of the same name on the hard disk.)
Copy items from a hard disk onto a floppy disk	<ol style="list-style-type: none">1. Select the items you want to copy.2. Drag the selected icons to the floppy disk's icon or window.
Copy items from a floppy disk onto a hard disk	<ol style="list-style-type: none">1. Select the items you want to copy.2. Drag the selected icons to the hard disk's icon or window.



Erasing the contents of a disk

To do this	Follow these steps
Erase the entire contents of a floppy disk	<ol style="list-style-type: none">1. Insert the disk you want to erase into a disk drive.2. Click the icon of the disk you want to erase.3. Choose Erase Disk from the Special menu.4. Respond to the messages on your screen by clicking the appropriate buttons.

Organizing your desktop

Creating a new folder

To do this	Follow these steps
Create a new folder	<ol style="list-style-type: none">1. Choose New Folder from the File menu.2. Type a name for the folder.3. Press the Return key.

Placing an icon inside a folder

To do this	Follow these steps
Place an icon inside a folder	<ol style="list-style-type: none">1. Drag the icon to the folder where you want to store it.2. Release the button when the folder icon becomes highlighted.

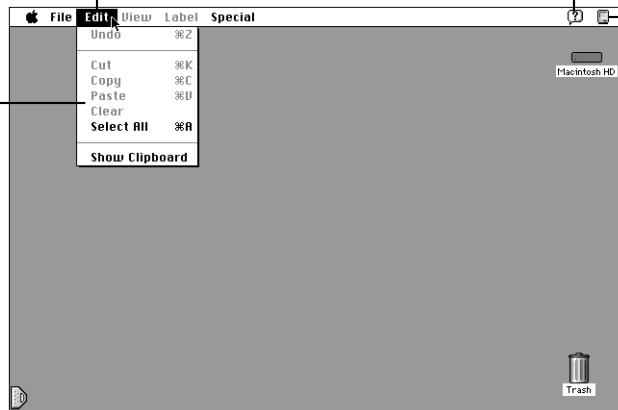
Working with pull-down menus

To choose an item from a menu:

- 1 Point to the menu.
- 2 Press to pull down the menu.
- 3 Drag to the item you want to choose.
- 4 Release the button when the command is highlighted.

This is the Help menu, which you use to display information about items on the screen.

Dimmed commands are not available.



This is the Application menu, which you use to see which programs are open.

Keyboard shortcuts in the Finder and in directory dialog boxes

Key	Action
Up, Down, Left, or Right Arrow key	Selects the next item in the direction of the arrow
Tab key	Selects the next item alphabetically (except in a directory dialog box and the Chooser)
Character key (a, b, c...)	Selects the first item whose name begins with that character (or the character following closest to it in the alphabet)
⌘-Down Arrow	Opens the selected icon
⌘-Option-Down Arrow	Opens the selected icon and closes the current folder
⌘-Up Arrow	Opens the folder that contains the current folder
⌘-Option-Up Arrow	Opens the folder that contains the current folder and closes the current folder
Return or Enter	In a dialog box: the same as clicking the button with the bold outline In the Finder: selects the selected icon's name for editing or saves the edited name

Refer to this chapter for important health-related information and safety tips.

4

Health, Safety, and Maintenance Tips



Important care and safety instructions

For your own safety and that of your equipment, read and follow all the instructions in this section. Keep these instructions available for reference by you and others.

Warning

- Electrical equipment may be hazardous if misused. Operation of this product, or similar products, must always be supervised by an adult. Do not allow children access to the interior of any electrical product and do not permit them to handle any cables.
- Do not use the computer in or near water.
- 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.
- Always handle batteries carefully.
- Do not drop, puncture, mutilate, or burn the computer or battery.
- Recharge batteries only as described in this manual and only in ventilated areas.
- Transport batteries either inside the computer or in the protective case provided with each battery. Do not transport unprotected batteries.
- Do not short-circuit the battery terminals (that is, do not allow a metal object such as a paper clip or key chain to touch the terminals). Doing so may cause an explosion or a fire.

Caution

- If you have a problem with your computer and nothing in the computer manuals solves the problem, take the computer to your Apple-authorized dealer or service provider. Attempting to repair the computer yourself may void the limited warranty.
- 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.
- 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.
- Never force a connector into a port. Make sure that the connector matches the port and that it's right side up. If the connector and port do not join easily, they do not match.
- Do not use the computer in wet or dusty environments.
- 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 Apple-authorized service provider for cleaning.
- Do not touch the screen with any sharp or pointed objects.
- Use only the battery supplied with your computer. Batteries designed for other portable computers may look similar, but they may not work with your computer and may damage it.
- When recharging the battery, use only the power adapter supplied with your computer. Adapters designed for other electronic devices may not work with your equipment and may damage the computer or the recharger.

Important

- 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 50°F/10°C and 104°F/40°C.
- Do not expose the computer to very low (less than –13°F/–25°C) or very high (more than 140°F/60°C) temperatures.
- Clean the computer's outside surfaces with a damp (not wet) cloth. Clean the screen with soft, lint-free paper or cloth and a mild glass cleaner. Do not spray the glass cleaner 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 a 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 an Apple-authorized service provider for recycling or proper disposal. The batteries contain hazardous chemicals and should not be thrown out with household or office trash.

Health-related information about computer use

Muscle soreness, eye fatigue, and other discomforts and injuries sometimes associated with using computers can occur from performing any number of activities. In fact, misuse of the same muscles during multiple activities can create a problem that might not otherwise exist. For example, if you engage in nonwork activities that involve repetitive stress on the wrist—such as bicycling—and also use your computer’s keyboard improperly, you may increase your likelihood of developing wrist problems. Some individuals are at greater risk of developing these problems because of their health, physiology, lifestyle, and general exposure to stress. Work organization and conditions, such as workstation setup and lighting, also play a part in your overall health and comfort. Preventing health problems is a multifaceted task that requires careful attention to the way you use your body every hour of every day.

The most common health effects associated with using a computer are musculoskeletal discomfort and eye fatigue. We’ll discuss each area of concern below.

Musculoskeletal discomfort

As with any activity that involves sitting for long periods of time, using a computer can make your muscles sore and stiff. To minimize these effects, set up your work environment carefully, using the guidelines that follow, and take frequent breaks to rest tired muscles. To make working with your computer more comfortable, allow enough space in your work area so that you can change position frequently and maintain a relaxed posture.

Another type of musculoskeletal concern is repetitive stress injuries (RSIs), also known as cumulative trauma disorders (CTDs). These problems can occur when a certain muscle or tendon is repeatedly overused and forced into an unnatural position. The exact causes of RSIs are not totally understood, but in addition to awkward posture, such factors as the amount of repetition, the force used in the activity, the individual’s physiology, workplace stress level, and lifestyle may affect the likelihood of experiencing an RSI.

RSIs did not suddenly arise when computers were invented; tennis elbow and writer's cramp, for example, are two RSIs that have been with us for a long time. Although less common than other RSIs, one serious RSI discussed more often today is a wrist problem called carpal tunnel syndrome, which may be aggravated by improper use of computer keyboards. This nerve disorder results from excessive pressure on the median nerve as it passes through the wrist to the hand.

This section offers advice on setting up your work area to enhance your comfort while you use your computer. Since the effects of repetitive movements associated with using a computer can be compounded by those of other work and leisure activities to produce or aggravate physical problems, proper use of your computer system must be considered as just one element of a healthy lifestyle.

No one, of course, can guarantee that you won't have problems even when you follow the most expert advice on using computer equipment. You should always check with a qualified health specialist if muscle, joint, or eye problems occur.

Eye fatigue

Eye fatigue can occur whenever the eyes are focused on a nearby object for a long time. This problem occurs because the eye muscles must work harder to view an object that's closer than about 20 feet (6 meters). Improper lighting can hasten the development of eye fatigue. Although eye fatigue is annoying, there's no evidence that it leads to permanent damage.

Whenever you're engaged in an activity that involves close-up work—such as reading a magazine, doing craft work, or using a computer—be sure to have sufficient glare-free lighting and give your eyes frequent rest breaks by looking up and focusing on distant objects. Remember to have your eyes examined regularly.

To prevent discomfort and eye fatigue:

- Arrange your work space so that the furniture is properly adjusted for you and doesn't contribute to an awkward working posture.
- Take frequent short breaks to give your muscles and eyes a chance to rest.

Arranging your work area and equipment

The suggestions in this section can help you work more comfortably with your computer.

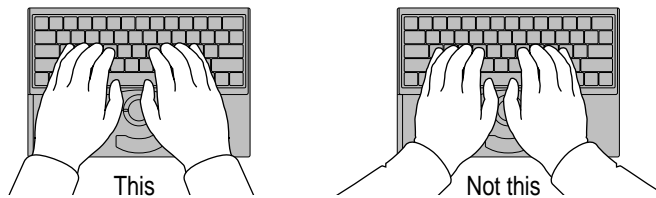
Chair

- An adjustable chair that provides firm, comfortable support is best. Adjust the height of the chair so your thighs are horizontal and your feet flat on the floor.

The back of the chair should support your lower back (lumbar region). Follow the manufacturer's instructions for adjusting the backrest to fit your body properly.

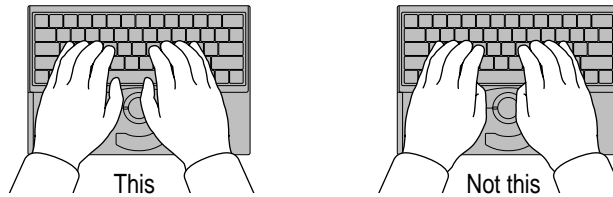
Keyboard and trackball

- When you use the keyboard and trackball, your shoulders should be relaxed. Your upper arm and forearm should form an approximate right angle, with your wrist and hand in roughly a straight line.



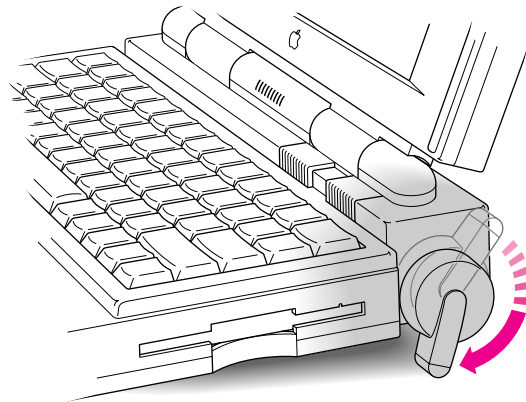
- You may have to raise your chair so your forearms and hands are at the proper angle to the keyboard. If this makes it impossible to rest your feet flat on the floor, you can use a footrest with adjustable height and tilt to make up for any gap between the floor and your feet. Or you may lower the desktop to eliminate the need for a footrest. Another option is to use a desk with a keyboard tray that's lower than the regular work surface.

- Use a light touch when typing or using the trackball and keep your hands and fingers relaxed. When using the trackball or keyboard, avoid rolling your thumbs under your palms.



Some computer users may develop discomfort in their hands, wrists, or arms after intensive work without breaks. If you begin to develop chronic pain or discomfort in your hands, wrists, or arms, consult a qualified health specialist.

- Change hand positions often to avoid fatigue.
- If you prefer, you can adjust the angle of the keyboard by lowering the legs until they snap into position.



The back of the keyboard is slightly elevated when the legs are in use. Otherwise, the keyboard is level.

Built-in display

- Adjust the angle of the display to minimize glare and reflections from overhead lights and windows.
- If your display screen has manual brightness and contrast controls, you may need to adjust the brightness and contrast of the screen when you take the computer from one work location to another, or if the lighting in your work area changes.

Avoiding fatigue

- Change your seated position, stand up, or stretch whenever you start to feel tired. Frequent short breaks are helpful in reducing fatigue.
- Allow adequate workspace so that you can work comfortably. Place papers or other items so you can view them easily while using your computer. A document stand may make reading papers more comfortable.
- Eye muscles must work harder to focus on nearby objects. Occasionally focus your eyes on a distant object, and blink often while you work.
- Clean your screen regularly. Keeping the screen clean helps reduce unwanted reflections.

What about electromagnetic emissions?

There has been recent public discussion of the possible health effects of prolonged exposure to extremely low frequency (ELF) and very low frequency (VLF) electromagnetic fields. Such fields are associated with electromagnetic sources such as television sets, electrical wiring, and some household appliances—as well as computer monitors.

Apple has reviewed scientific reports and sought the counsel of government regulatory agencies and respected health organizations. Based on the prevailing evidence and opinions, Apple believes that the electric and magnetic fields produced by computer monitors do not pose a health risk.

In response to those customers who wish to reduce their exposure to electromagnetic fields, Apple has lowered the emission levels of our products. We are also actively encouraging further scientific research so we can continue to promote the health and safety of our customers and employees.

This chapter describes working with the Control Strip, the line of modules at the bottom of your screen.

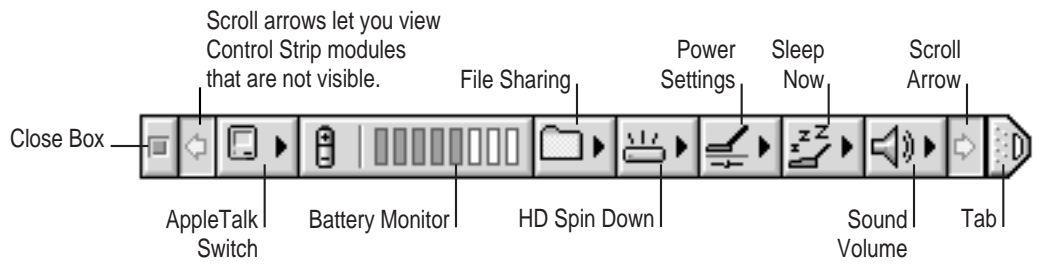
5

The Control Strip

What is the Control Strip?

When you first turn on your PowerBook, a line of small pictures appears in the lower left of the screen. This is called the *Control Strip*. Each picture in the Control Strip is called a *module*.

The Control Strip is a quick and easy way to monitor and update your PowerBook's power management options. For instance, you can monitor the battery charge level and adjust such options as File Sharing and sound volume.



The Control Strip may look slightly different depending on the configuration of your PowerBook.

To get a description of each module in the Control Strip, pull down the Help menu, choose Show Balloons, and point to the modules one at a time.

How does the Control Strip differ from control panels?

Many features in the Control Strip work the same way as control panels. For the most part, however, control panels offer more options. The Control Strip gives you easy access to the features you use most often. You can still use the control panels anytime to fine-tune your settings.

Closing, opening, and resizing the Control Strip

Closing the Control Strip

The Control Strip appears on the desktop until you close it. You can close the Control Strip one of two ways:



1 Click the tab at the end of the Control Strip.



2 Click the close box at the beginning of the Control Strip.

The Control Strip appears on top of application programs. When you close the Control Strip, only the tab appears along the edge of the screen.

Opening the Control Strip

To open the Control Strip:

- Click once on the tab.



The Control Strip opens.

Resizing the Control Strip

You can shorten or lengthen the Control Strip to display fewer or more modules.

- **Click and drag the tab.**



The Control Strip shortens or lengthens as you drag the tab. If you shorten the Control Strip and can no longer see all the modules, you can use the scroll arrows to view the hidden modules.

Hiding the Control Strip

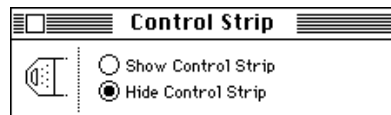
If you want to hide the Control Strip so it does not appear at all on the desktop:

- 1 **Choose Control Panels from the Apple (🍏) menu and open the Control Strip control panel.**



Control Strip

- 2 **Click Hide Control Strip.**



The Control Strip automatically disappears from the screen.

Click Show Control Strip in the Control Strip control panel when you want the Control Strip to reappear.

Moving the Control Strip

You can drag the Control Strip to the right or left edge of your PowerBook screen or any monitor your PowerBook is connected to. You can also move the Control Strip up or down on the screen. To reposition the Control Strip:

- 1 Hold down the Option key and drag the Control Strip by its tab.**

An outline of the Control Strip shows where the Control Strip will move to.

- 2 Release the Option key and trackball button.**

The Control Strip appears in its new position and remains there until you move it again.

Rearranging the modules in the Control Strip

You can customize the order of the modules in the Control Strip. To rearrange the modules:

- 1 Hold down the Option key and drag each module you want to move.**
- 2 Release the Option key and trackball button.**

The module you are moving snaps into place. The modules stay in the new order until you rearrange them.

Using the Control Strip

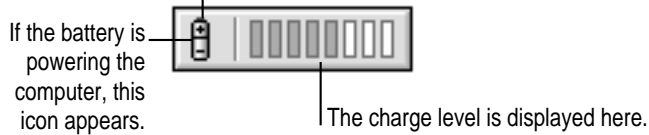
Monitoring the charge level of the battery

Your computer draws power from a rechargeable battery. The Battery Monitor module in the Control Strip lets you easily monitor the battery charge level. The work time you get from your battery depends on how often you use the hard disk, how bright the screen is, and other factors.

The Battery Monitor has two parts:

- battery icon
- battery charge level

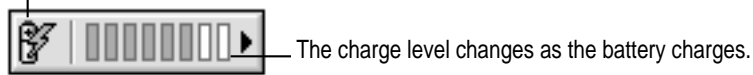
The battery icon tells you whether a battery is installed, is being used to power the computer, is being recharged, or is fully charged.



The battery charge level changes depending on the software, hardware, and power saving features you use.

The battery icon changes depending on whether the battery is being charged, is fully charged, or is powering the computer.

If the power adapter is plugged in and charging the battery, this icon appears.



If the power adapter is plugged in and the battery is fully charged, this icon appears.



If the power adapter is plugged in and the battery is not in the computer, this icon appears.



Customizing the Battery Monitor module

You can customize the Battery Monitor module to hide or show the battery level. Follow these steps:

- 1 **Click the Battery Monitor module in the Control Strip.**

A pop-up menu appears.



- 2 **Choose Hide Battery Level.**

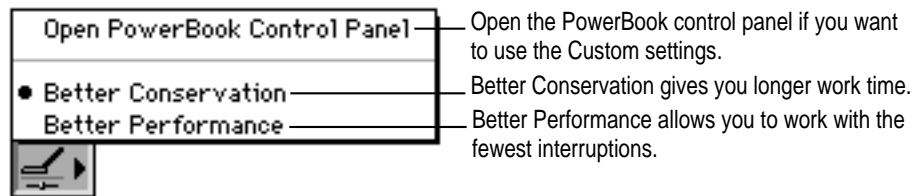
You cannot hide the battery icon.

Changing the battery conservation settings

You can control your computer's power consumption using the power conservation settings in the Power Settings module. You can also open the PowerBook control panel from the Power Settings module.

- 1 **Click the Power Settings module in the Control Strip.**

A pop-up menu appears.



- 2 **Choose the feature you want from the pop-up menu.**

The battery conservation settings shown are identical to those shown in the Easy View area of the PowerBook control panel. For help with the PowerBook control panel, see “Adjusting the Battery Conservation Settings” in the “Maximizing Work Time” section of Chapter 6.

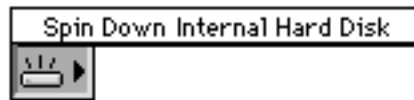
Spinning down the hard disk

The hard disk is one of the main consumers of battery power. To extend work time while you are using your battery, it is a good idea to turn off the hard disk when you are not using it. This is called “spinning down” the hard disk.

To spin down the hard disk:

- 1 **Click the HD Spin Down module in the Control Strip.**

A pop-up menu appears.



- 2 **Choose Spin Down Internal Hard Disk.**

The icon shows that the hard disk is off.



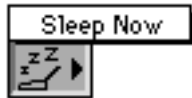
The hard disk automatically turns itself back on when the computer needs it.

Putting the computer to sleep

Putting your PowerBook to sleep when you take a work break, even for a few minutes, can give you more work time from your battery. To put your PowerBook to sleep from the Control Strip:

- 1 **Click the Sleep Now module in the Control Strip.**

A pop-up menu appears.



- 2 **Choose Sleep Now.**

Your PowerBook goes to sleep. To wake the computer from sleep, press any key on the keyboard (except Caps Lock). There are two other ways you can put your PowerBook to sleep:

- Choose the Sleep command from the Special menu in the Finder.
- Hold down the ⌘ (Command) and Shift keys while you press and release the zero (0) key.

For more information on sleep, see Chapters 1 and 6.

Changing the file sharing options

The icon of the File Sharing module tells you whether file sharing is on and whether users are connected.



File Sharing is turned off.



File Sharing is turned on and no users are connected.



File Sharing is turned on and at least one user is connected.

To change the file sharing option or open the File Sharing Setup control panel:

- 1 **Click the File Sharing module in the Control Strip.**

A pop-up menu appears.



- 2 **Choose the file sharing option you want from the pop-up menu.**

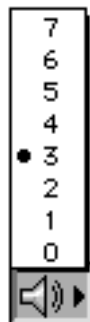
For more information on file sharing and working on a network, see the *Macintosh Reference* book.

Changing the sound settings

To change your computer's sound volume from the Control Strip:

- 1 **Click the Sound Volume module in the Control Strip.**

A pop-up menu appears.



- 2 **Choose the volume setting you want from the pop-up menu.**

For more information on sound, see the *Macintosh Reference* book.

Turning AppleTalk on and off

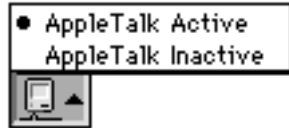
The icon for the AppleTalk Switch module shows if AppleTalk is on or off.



Turning AppleTalk off can save you battery power. You can turn AppleTalk on and off from the Control Strip.

- 1 **Click the AppleTalk Switch module in the Control Strip.**

A pop-up menu appears.



- 2 **Choose the feature you want from the pop-up menu.**

For more information on AppleTalk and working on a network, see the *Macintosh Reference* book.

Read this chapter to learn
how you can maximize your
PowerBook battery life.

6

Power Management



Power sources

Your computer can draw its operating power from two different sources:

- **Main battery** Your computer's main power source is a nickel-cadmium battery. Depending on the battery conservation features you choose, the battery provides power for about 3 hours of work time.
- **AC power** You can run your computer from any standard electrical outlet by plugging in the power adapter.

Your computer also has a backup battery that maintains the contents of RAM while you replace the main battery. The backup battery does not provide enough power to run the computer.

These power sources are described in more detail in the following sections.

Responding to low-power messages

When the battery runs low, the computer displays a series of low-power messages. The work time remaining after you see the first message varies depending on how you are using the computer. It's a good idea to act promptly.

What you should do

When you see a low-power message, do one of the following:

- Plug in the power adapter.
- Save your work and replace the depleted battery with a charged one.
- Save your work, then shut down the computer until you can plug in the power adapter.

What you should know

The first low-power message is a reminder that the battery will soon run out.

If you continue to work without plugging in the power adapter or changing the battery, the computer displays a second low-power message.

The second message is followed by a third and final message indicating that the computer is about to put itself to sleep. Within a few seconds, the computer goes to sleep automatically to protect the contents of RAM. All activities are interrupted. It's a good idea to save your work when you see the first two low-power messages to make sure you don't lose information.

If you continue working until the computer goes to sleep automatically, you can wake it again as soon as you plug in the power adapter or replace the battery with a fully charged battery.

If you can't plug in the power adapter, the contents of RAM are retained in sleep for about a day. If you recharge or change the battery within a day, 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 more than several months, or in a hot location (such as the trunk of a car) for longer than two weeks, may damage the battery so that it can't be recharged. If this happens, you need to replace the battery.

Recharging the battery

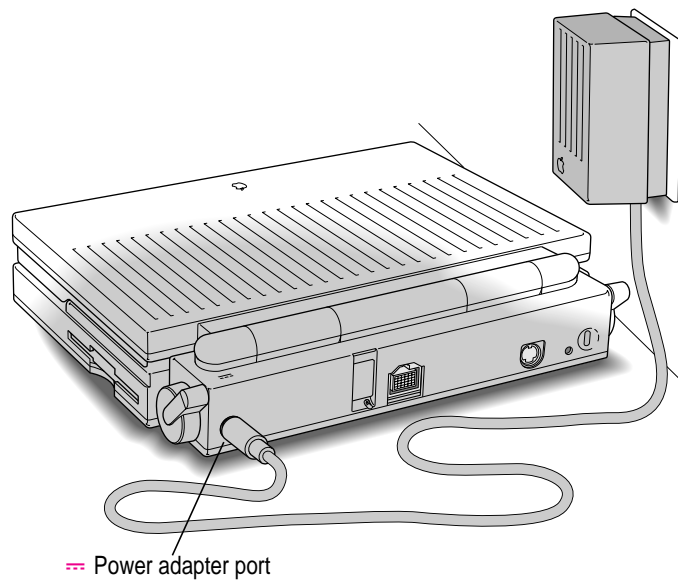
There are two ways to recharge a battery:

- Plug in the power adapter to recharge the battery without removing the battery from the computer.
- Remove the battery and recharge it in the (optional) recharger.

Recharge a battery shortly before you plan to use it. The battery does not retain its charge in long-term storage.

Recharging in the computer

Plug in the power adapter, as shown.



WARNING Use only the power adapter that came with your computer (or a power adapter designed for use with other 100 series PowerBooks). Adapters for other electronic devices (including other portable computers) may look similar, but they may damage your computer.

You can continue to use the computer while the battery is recharging, but the battery will take longer to recharge if you do. With the computer in use, recharging time depends on how often you use the hard disk, how bright the screen is, whether you are using an external monitor, how deeply the battery is depleted, and other factors.

If you recharge a fully depleted battery with the computer shut down, it takes about 2 to 3 hours to bring the battery to 80 percent of its capacity. It takes several more hours to bring the battery charge to 100 percent.

While the computer is shut down and the power adapter is plugged in, you can remove a charged battery from the computer and replace it with a battery you want to charge. If you do this, disconnect and then reconnect the power adapter after inserting the second battery; otherwise the second battery will not recharge.

Recharging in a recharger

A battery recharger and additional batteries are available for purchase. 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.

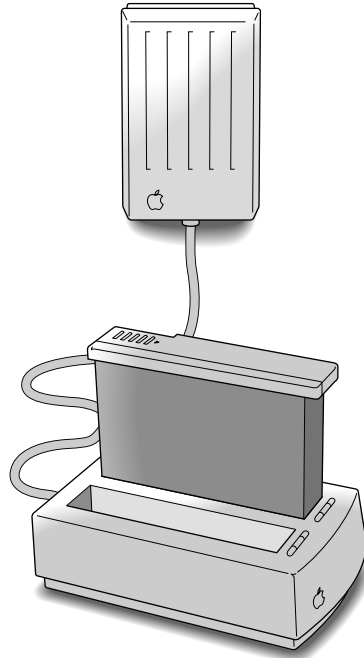
The recharger can accommodate two batteries; it charges them one battery at a time. You can put batteries in or take them out at different times.

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 Apple-authorized dealer.

WARNING Use only the power adapter that came with your computer with the recharger (or a power adapter designed for use with other 100 series PowerBooks). Using other types of power adapters 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 Connect the recharger and the power adapter.



- 3 Place the battery in the recharger as shown.

Recharging begins immediately. You can remove a battery from the recharger at any time.

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.

The lights on the recharger indicate the following:

- **No light** Either the recharger is not plugged in, the other battery is being charged (if you have two batteries in the recharger), 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 fully charged.

The table shows approximate recharging times for fully depleted batteries.

	80% charge	100% charge
In the recharger:		
1 battery	2.5 hours	5 hours
2 batteries	5 hours	10 hours
In the computer (shut down):		
	2–3 hours	6–8 hours

Removing or replacing the battery

You can remove or replace a battery only while the computer is asleep or shut down. To remove or replace the battery, follow these steps:

- 1 **Save your work, and then choose Sleep or Shut Down from the Special menu.**

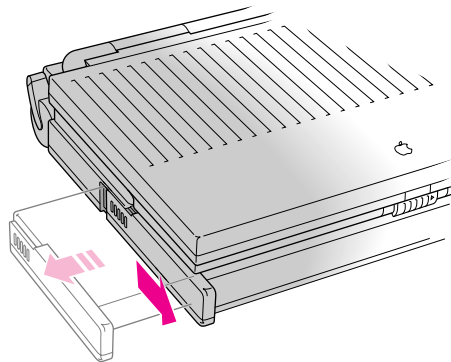
WARNING If you choose Sleep, and the power adapter is not plugged in, the backup battery will protect open programs and documents for only about 4 minutes after you remove the battery.

- 2 **Close the display.**

Doing so will prevent you from inadvertently pressing any keys and waking the computer.

- 3 **Open the battery door by sliding the door in the direction indicated by the arrow.**

The door is physically attached to the battery.



- 4 Carefully pull the battery out of its compartment.
- 5 If you are inserting another battery, slide it into the battery compartment.
Replacement batteries come with a door attached.
- 6 Close the battery door by pushing 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.

Disposing of dead batteries

If you have a battery that can no longer be recharged, you will need to buy a new battery and dispose of the dead battery properly.

IMPORTANT Nickel-cadmium batteries contain metals that are hazardous when released to the environment. It is inappropriate, and in some cases unlawful, to throw batteries away with your household or business trash. There are other ways to dispose of them.

In the United States: Return dead batteries to your Apple-authorized service provider, who will make sure they are included in Apple's battery recycling program.

Elsewhere: Many countries have government- or Apple-sponsored collection and/or recycling programs for dead batteries. Dispose of dead batteries in accordance with the mandatory or voluntary battery collection schemes in your country. Contact your Apple-authorized service provider for information about the recommended battery disposal procedures in your location. If there is no government- or Apple-sponsored return program, you can dispose of the batteries with your regular trash, but take care not to break them open or incinerate them.

WARNING Damaged nickel-cadmium batteries may leak small amounts of potassium hydroxide. This substance 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 5 minutes.
Do not use soap.

Replacing the backup battery

In addition to its main battery, your computer has a small backup battery that maintains the contents of RAM while you replace the main battery.

The backup battery usually lasts for several years. You may need to have it replaced 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 battery you ensure that the contents of RAM will be preserved the next time you change the main battery.

Your computer's backup battery must be replaced by an Apple-authorized service provider.

Reconditioning the battery

To maximize battery life, you should recondition the battery once every 30 days. Reconditioning means letting the battery run all the way down before you recharge it. By regularly reconditioning your battery, you help it maintain its maximum charge. Follow these steps:

- 1 Use the computer as you normally would, but ignore the low-power messages that appear on the screen.**

Make sure to save your work when you see the low-power messages.

- 2 Allow the computer to go to sleep automatically after the third low-power message.**
- 3 Recharge the battery completely before using it again.**

See “Recharging the Battery” earlier in this chapter for instructions.

Maximizing work time

Your PowerBook's battery can provide several hours of work time before you need to recharge. The actual work time available depends on the equipment and power-saving features you're using.

Ways to conserve battery power

To conserve battery power, follow these tips:

- If you're working near an electrical outlet, plug in the power adapter.
- If you aren't using the computer, either turn it off or put it to sleep and plug in the power adapter.
- Turn down the screen brightness (☼) whenever possible. At its brightest level, the screen consumes about a third of the power your computer is using.
- Keep virtual memory turned off in the Memory control panel.
- If your computer has 8 MB of memory or more, you can use a RAM disk as your startup disk to minimize hard disk use.
- Quit any modem-related program as soon as you are finished using it. As long as the program is open, your modem is consuming power even if you are not using the modem.
- Keep screen dimming on in the PowerBook control panel. The lower settings dim your screen automatically if you haven't used the computer for a few minutes.
- Turn off AppleTalk in the AppleTalk Switch module of the Control Strip or in the Chooser.
- Set the Battery Conservation slider in the PowerBook control panel at Better Conservation. The rest of this section describes these settings in detail.

Adjusting the battery conservation settings

The Battery Conservation section of the PowerBook control panel gives you several ways to control your computer's power consumption.

The easiest approach

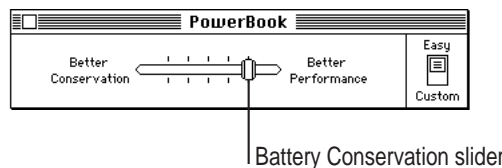
- 1 Choose Control Panels from the Apple (🍏) menu and open the PowerBook control panel. (Or use the Power Settings module in the Control Strip to open the PowerBook control panel.)



PowerBook

The PowerBook control panel opens in Easy View. You can also choose Custom View for more detailed options. See “Choosing Custom Options” later in this chapter.

- 2 Drag the Battery Conservation slider to the setting you want.



Better Performance allows you to work with the fewest interruptions (that is, the computer going to sleep, the hard disk spinning down, or the screen dimming). If you can't plug in the computer, Better Conservation gives you more work time.

- 3 Close the PowerBook control panel.

If you don't use the computer for several minutes, it goes to sleep without any action on your part. How many minutes pass before the computer goes to sleep depends on the battery conservation setting you chose.

To put the computer to sleep before automatic sleep takes effect, choose Sleep from the Special menu or use the Sleep Now module in the Control Strip.

To wake the computer from sleep, press any key (except Caps Lock).

Automatic sleep does *not* take effect under the following circumstances:

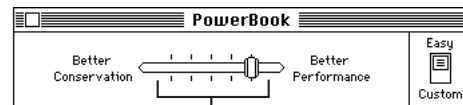
- AppleTalk is turned on in the Chooser and the power adapter is plugged in.
- Your computer is connected to a shared disk on the network.
- Your computer's printer port is in use.
- Your computer's internal modem is in use.

More about automatic sleep

The Battery Conservation slider controls three power conservation features: system sleep, screen dimming, and hard disk spin down.

- *System sleep* is a state in which your computer uses only the power it needs to maintain the contents of RAM (such as any open programs and documents, and various control panel settings).
- *Screen dimming* saves battery power by automatically turning off the backlight of your PowerBook display screen.
- *Hard disk spin down* stops your computer's internal hard disk from spinning when it isn't being used. If the PowerBook is in sleep, the hard disk automatically spins down.

The Battery Conservation slider has five settings:



The five settings on the Battery Conservation slider indicate the time it takes for your computer to go to sleep, the screen to dim, and the hard disk to spin down.

The time it takes for each feature to take effect depends on the setting you choose. If you drag the slider toward Better Conservation, it takes less time for the system to sleep, the hard disk to spin down, and the screen to dim.

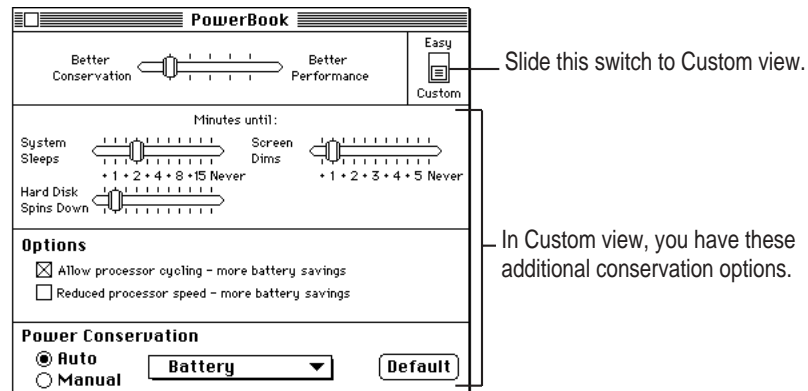
The table indicates how much time passes at each setting before each power saving feature takes effect.

Minutes it takes if you choose

	Conservation					Performance
System sleeps	2	3	6	8	15	
Hard disk spins down	1	2	3	6	8	
Screen dims	1	2	3	4	5	

Choosing Custom options

For more options that affect your computer's power consumption, slide the switch to Custom in the PowerBook control panel.



Battery conservation settings

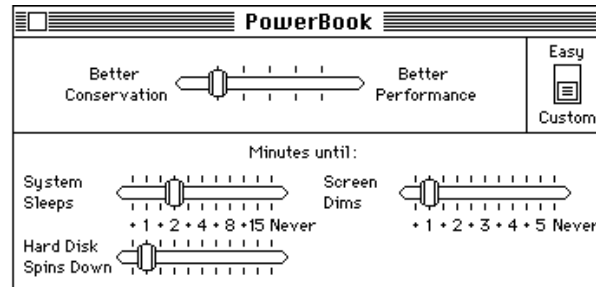
The Battery Conservation slider works as described in the previous section. In Custom view, you can also use three individual sliders to control system sleep, screen dimming, and hard disk spin down.

As you drag the Battery Conservation slider, the three individual sliders change. Likewise, when you drag one of the three individual sliders, the Battery Conservation slider is affected.

To use the sliders:

- 1 Choose Control Panels from the Apple () menu, and open the PowerBook control panel. (Or use the Power Settings module in the Control Strip to open the PowerBook control panel.)
- 2 Slide the switch to Custom.

- 3 Drag the sliders to choose the settings you want.



The Battery Conservation slider reflects the changes you make.

- 4 Close the PowerBook control panel.

Processor cycling

If the computer is not doing anything for a few seconds, it turns off its microprocessor. The microprocessor comes back on the instant you resume work. This feature is called *processor cycling*. Processor cycling conserves battery power. Your computer automatically comes with processor cycling turned on, and it is highly recommended that you work with processor cycling on.

In a few cases, processor cycling can cause programs to slow down. If a program performs very slowly, you can turn off processor cycling temporarily. Follow these steps:

- 1 Choose Control Panels from the Apple (🍏) menu and open the PowerBook control panel. (Or use the Power Settings module in the Control Strip to open the PowerBook control panel.)
- 2 Slide the switch to Custom.

- 3 Click the checkbox labeled “Allow processor cycling” to remove the X.

Options <input type="checkbox"/> Allow processor cycling - more battery savings <input type="checkbox"/> Reduced processor speed - more battery savings
--

- 4 Close the PowerBook control panel.

To turn processor cycling back on, click the “Allow processor cycling” checkbox again.

IMPORTANT To conserve battery power, turn processor cycling off only when you are using programs that it interferes with. Turn processor cycling back on again as soon as possible.

Processor speed

You can gain work time by slowing the computer’s microprocessor speed (from 33 to 16 MHz). Although some programs may work more slowly, you can gain up to 10 to 15 minutes of work time before you need to recharge the battery. (The amount of time you gain depends on how you are using the computer.)

To slow the processor speed, follow these steps:

- 1 Choose Control Panels from the Apple (Ⓜ) menu, and open the PowerBook control panel. (Or use the Power Settings module in the Control Strip to open the PowerBook control panel.)
- 2 Slide the switch to Custom.
- 3 Click the checkbox labeled “Reduced processor speed” to select it.

Options <input checked="" type="checkbox"/> Allow processor cycling - more battery savings <input checked="" type="checkbox"/> Reduced processor speed - more battery savings
--

- 4 Choose Restart from the Special menu.

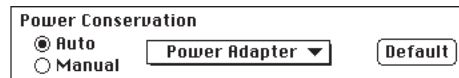
The computer runs at a lower microprocessor speed until you click the “Reduced processor speed” box again to remove the X and then restart the computer.

Power conservation

Your PowerBook keeps track of the power source you are using and can change the power conservation settings to maximize battery conservation and performance for both the battery and the power adapter.

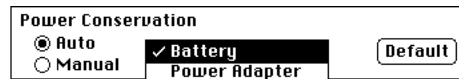
To change the power conservation settings, follow these steps:

- 1 Choose Control Panels from the Apple () menu and open the PowerBook control panel. (Or use the Power Settings module in the Control Strip to open the PowerBook control panel.)**
- 2 Slide the switch to Custom.**
- 3 If necessary, click the Auto button to select it.**



When Auto is selected, the computer will automatically use the settings you specify in step 5 whenever the selected power source is being used. (You can temporarily override your settings by returning to the PowerBook control panel and selecting Manual.)

- 4 Choose a power source in the pop-up menu.**



- 5 Drag the sliders to the settings you want for the selected power source.**

To use the preset power conservation settings for the selected power source, click Default. See “Adjusting the Battery Conservation Settings” earlier in this section for more help.

- 6 Close the PowerBook control panel.**

Read this chapter for help using custom options on your PowerBook and for tips on traveling with and storing your computer.

7

Customizing and Traveling With Your PowerBook



Customizing your PowerBook

There are several ways you can customize your PowerBook to make your day-to-day work easier:

- **Reconnecting to shared disks** If you use your PowerBook on a network to connect to shared disks, the AutoRemounter control panel lets you reconnect automatically.
- **Using a RAM disk** A RAM disk can save you time and battery power. When you create a RAM disk, its contents are saved in the System Folder when you shut down your PowerBook, and then copied back to the RAM disk the next time you turn the computer on.
- **Improving the pointer display** You can set options to make the pointer more visible on the screen.
- **Printing later** You can set up documents to print the next time you connect to the network printer.

These features are described in the next sections.

Automatically reconnecting to shared disks

Your PowerBook disconnects from any shared disks it's connected to when you turn it off or restart it, or when it is in sleep. With AutoRemounter turned on, your PowerBook reconnects to shared disks automatically when you turn it back on (or wake it from sleep). In addition, if you connect a hard disk to your PowerBook while it's in sleep, the hard disk appears on the desktop when you wake the computer.

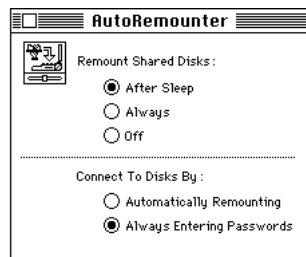
- 1 Choose Control Panels from the Apple () menu and open the AutoRemounter control panel.



AutoRemounter

- 2 If you want to reconnect to shared disks only when you wake the computer from sleep, click After Sleep.

If you want to reconnect when you restart the computer as well as after sleep, click Always.



- 3 If you want the computer to ask for your password before it reconnects to shared disks, click Always Entering Passwords. Otherwise click Automatically Remounting.

For better privacy and security, have your computer ask for your password before it reconnects to shared disks.

- 4 Close the AutoRemounter control panel.

Setting up a RAM disk

Using a RAM disk saves power because it avoids using the PowerBook's hard disk while you are running the PowerBook from its battery. Any files that are copied to the RAM disk are saved in the System Folder on the hard disk when you shut down your PowerBook. The next time you start up your PowerBook, the files are copied back to the RAM disk automatically.

A RAM disk lets you keep frequently used application programs and files in RAM. For maximum battery conservation, you can also use the RAM disk as your startup disk.

To set up a RAM disk, you need 8 MB or more of RAM in your computer. Follow these steps. (If you don't plan to use the RAM disk as your startup disk, skip steps 1 and 2.)

- 1 Select the System Folder on your hard disk and choose Duplicate from the File menu.**

This creates a folder called "System Folder copy."

- 2 Remove any extra extensions, fonts, and control panels you don't use.**

Do not delete the files called Finder, System, and System Enabler from the System Folder copy or the file called Assistant Toolbox from the Extensions folder in the System Folder copy.

- 3 Create a folder called RAM Disk Backup.**

- 4 Put the System Folder copy (if you'll be using the RAM disk as your startup disk), your favorite application program or programs, and files you frequently use into the RAM Disk Backup folder.**

Keep additions to this folder to a minimum.

- 5 Select the RAM Disk Backup folder. Then choose Get Info from the File menu in the Finder to determine the size of your RAM Disk Backup folder.

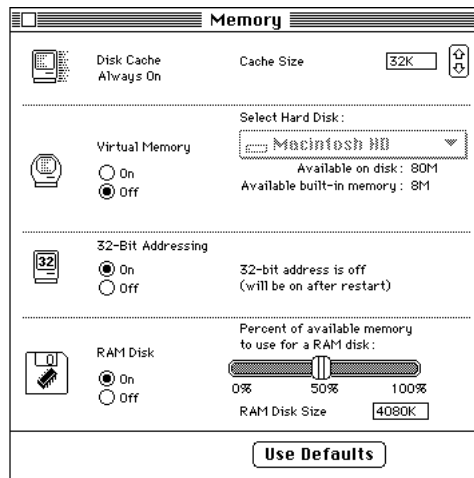
You'll need to remember the size of your RAM Disk Backup folder to set up a large enough RAM disk. Write it down if you need to.

- 6 Choose Control Panels from the Apple () menu and open the Memory control panel.



Memory

The Memory control panel appears.



- 7 Click the On button under RAM Disk.

8 Drag the slider to set the percentage of memory to use for the RAM disk.

As you drag the slider, the number in the RAM Disk Size box changes. Position the slider so that the number (the amount of memory) is larger than the size of your RAM Disk Backup folder. Be sure to make the RAM disk large enough to accommodate the contents of your folder, or you will have to repeat this step.

9 Close the Memory control panel and restart your computer.

A RAM Disk icon appears on your desktop.


10 Copy the contents of your RAM Disk Backup folder to your RAM disk.

11 Choose Control Panels from the Apple () menu and open the Startup Disk control panel.

12 Select your RAM disk in the Startup Disk window and close the Startup Disk control panel.

13 Choose Restart from the Special menu.

Now turn to the next section, “Using the RAM Disk,” for further instructions.

WARNING When you need to turn off the computer, make sure you choose Shut Down from the Special menu. If you use the reset switch  to turn off your computer, you will lose the contents of the RAM disk.

Using the RAM disk

When you work with the files on your RAM disk, you save battery power because you avoid using the PowerBook hard disk.

WARNING If the computer “crashes” due to temporary software problems, you will lose any work on your RAM disk that you have not saved to the hard disk. In deciding how often you want to save to the hard disk, you should weigh the risk of losing your work against the battery savings.

Once you have set up a RAM disk, follow these steps to use it:

- 1** Open the application programs and files on the RAM disk while your PowerBook is plugged into the power adapter.

Using the power adapter saves your battery.

- 2** Put your PowerBook to sleep before you begin working with your programs or files.
- 3** Unplug the power adapter.
- 4** While you are using the battery, avoid using any files that are not on the RAM disk.

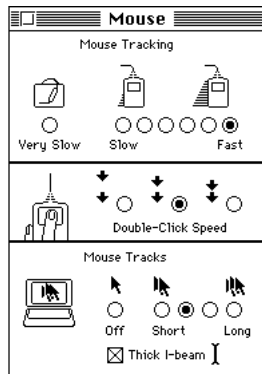
Improving pointer display

You may notice that the pointer sometimes disappears from your PowerBook screen when you move the pointer quickly. If you set your trackball to have “tracks,” you can always see the pointer on the screen. You do this in the Mouse control panel.

- 1 Choose Control Panels from the Apple (🍏) menu and open the Mouse control panel.



The following control panel appears:



- 2 Click the desired length of mouse tracks.
- 3 To display a thicker I-beam (the pointer that appears when you're editing text), click the checkbox labeled “Thick I-beam.”

This makes the I-beam more visible.

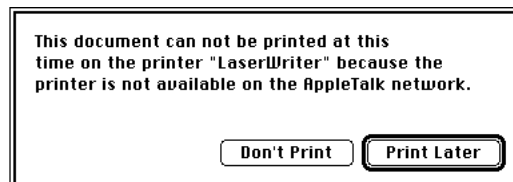
- 4 Close the Mouse control panel.

Printing later

If you use a PostScript™ laser printer on a network but are not currently connected, you can set up documents to print the next time you connect to the network.

- 1 Choose **Print** in the application program you are using.
- 2 Click **Print** in the dialog box.

The following message appears:



- 3 Click **Print Later**.

The next time you connect to an AppleTalk network, this document is printed.

Traveling with the PowerBook

The safety instructions in the first part of this book also apply when you are traveling. In addition, note these precautions:

- Do not transport your PowerBook while it is turned on. Put your computer to sleep or shut it down before you move it.
- Transport batteries either inside the computer or in the protective case provided. Do not transport unprotected batteries.
- Do not check your computer as baggage. Carry it with you.
- Have security officials manually inspect your computer and disks if you do not want to pass them through X-ray machines.
- Be prepared to show security officials that your computer is working. Have a charged battery or a 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.
- 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 (48–62 Hz).

The following illustrations show which plug adapters you'll need for different countries. Ask your travel agent for more information.

Outlet type	Locations
	United States, Canada, parts of Latin America, Japan, Korea, the Philippines, Taiwan
	Most of Europe, the former Soviet Union, 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 the PowerBook

- 1 Save your work on a hard disk or floppy disks.**
- 2 Choose Shut Down from the Special menu.**
- 3 Close the display.**
- 4 Recharge the battery.**

Be sure your battery is fully charged if you are taking the computer places where you cannot plug it in.

- 5 Store the computer in a cool, dry place.**

Storage temperatures should remain between -13°F and 140°F (between -25°C and 60°C). Avoid leaving the computer where temperatures may be extreme or unpredictable—in the trunk of a car, for example.

Service and support

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.

See the service and support information that came with your computer for numbers to call for assistance.

This chapter describes the options available for expanding your PowerBook.

8

Connecting Other Equipment to Your PowerBook

You can expand the work you do with your PowerBook by connecting other equipment to it, such as a printer, an external modem, or a SCSI device.

Connecting a printer

The printer port on the PowerBook can accept either a direct cable connection (to a printer such as the StyleWriter) or a network cable connection.



Some printers, including the Personal LaserWriter SC, are connected through the SCSI port.

If you are connecting a serial printer, make sure that the modem selection in the PowerBook Setup control panel is set to Internal. See “Connecting an External Modem” later in this chapter.

Follow the instructions that came with your printer to connect it to your computer.

Connecting an external modem

Your PowerBook has been designed to work most effectively with an internal modem. It is possible to connect an external modem to the printer port on the back panel of the computer, but the performance of an internal modem will be much better than that of an external modem. External modems running at a transmission rate of 9600 baud or higher will experience the most performance reduction.

WARNING Avoid using the floppy disk drive when you are using an external modem. Floppy drive activity can interfere with the data transmission of the external modem.

To connect an external modem, follow these steps:

- 1 Make sure the computer is asleep or shut down.**
- 2 Connect the modem to a power source and to the phone line.**

See the documentation that came with the modem for instructions.

- 3 Make sure the modem is turned off.**
- 4 Connect the modem cable to the printer port.**



- 5 Turn on the modem.**
- 6 Wake or restart the computer.**
- 7 Choose Chooser from the Apple () menu and set AppleTalk to Inactive.**

If your computer does not have an internal modem, the external modem is ready to use.

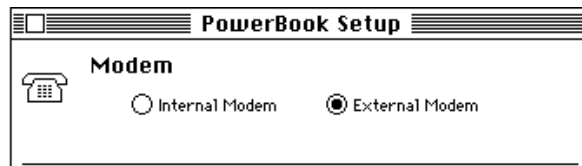
If your computer does have an internal modem, continue with step 7.

- 8 Choose Control Panels from the Apple menu and open the PowerBook Setup control panel.



PowerBook Setup

- 9 Click the External Modem button.



- 10 Close the control panel.

The external modem is ready to use.

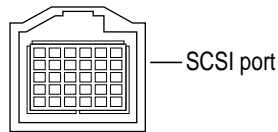
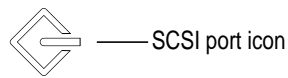
When you are connected to an external modem and the External Modem button is selected, you cannot use the printer port on your PowerBook for anything else.

If you have both an internal and an external modem, remember to select the modem you want to use in the PowerBook Setup control panel before opening your telecommunications program.

Connecting SCSI devices

A SCSI device is any product—including hard disk drives, CD-ROM drives, scanners, and printers—that connects with your computer by means of a standard electronic interface called the *Small Computer System Interface* (SCSI).

You can attach up to six SCSI devices to your computer by linking them together in a chain that starts at your PowerBook's SCSI port. The SCSI port looks like this:



To connect a SCSI device to the SCSI port on your PowerBook, you need an Apple HDI-30 SCSI System Cable.

Connecting SCSI devices to your PowerBook may involve these steps:

- installing software
- setting SCSI ID numbers
- checking that the SCSI chain is properly terminated
- connecting cables

These steps are described in the following sections.

Installing software

Most SCSI devices require software that allows your computer to communicate with them. This software is called a *driver*. To install a driver, follow the instructions that came with the device.

Setting SCSI ID numbers

Each device in a SCSI chain must have a unique ID number between 1 and 6 so the computer can identify it properly. Your computer has the SCSI ID number 7.

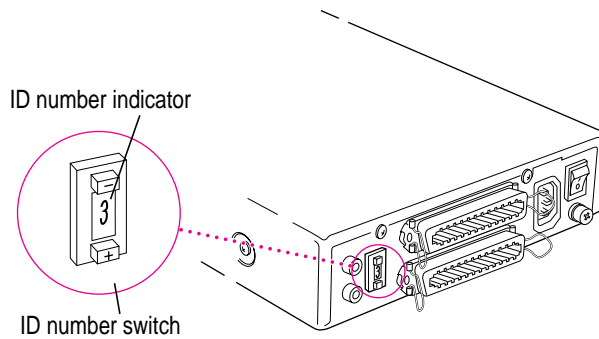
WARNING Using two or more devices with the same SCSI ID number can cause your equipment to malfunction. You could lose information as a result.

To set the ID numbers of Apple SCSI devices, follow these steps:

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 computer.

2 Locate the ID number indicator and switch (usually on the back panel of the SCSI device).



3 Check the ID numbers of all the devices you want to connect.

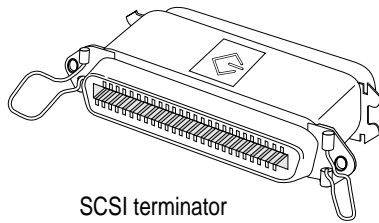
If all the devices have unique ID numbers, you can continue with the next section, “Checking That the SCSI Chain Is Properly Terminated.”

- 4 If you need to change a device's ID number, choose an available number between 1 and 6.
- 5 Press the appropriate button to increase or decrease the SCSI ID number until the number you want appears.

If your SCSI device does not have an ID number switch like the one pictured, consult the manual that came with your SCSI device for details.

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.



SCSI terminator

- External SCSI devices from Apple do not have built-in terminators.
- External SCSI devices from other vendors may have built-in terminators; see the documentation that came with the device.
- The PowerBook 150 does not have a built-in terminator.

If you are attaching one SCSI device

The SCSI device needs two terminators. If the device has a built-in terminator, you need to attach only one external terminator. If the device does not have a built-in terminator, you need to attach two external terminators.

If you are attaching more than one SCSI device

Make sure that all of these conditions exist:

- an internal terminator in, *or* an external terminator attached to, the first device you're attaching to the computer
- an internal terminator in, *or* an external terminator attached to, the last device you're attaching to the computer
- no other terminators (internal or external) in the chain


If you have too many devices with internal terminators, your Apple-authorized service provider can remove extra terminators.

SCSI chain configurations are shown in the illustration on the following page.

Connecting cables

WARNING When making SCSI connections, *always* turn off power to the computer and all other devices in the chain. If you don't, you could lose information and damage your equipment.

- 1 Shut down your PowerBook and turn off all SCSI devices in the chain.**
- 2 To connect the first device, use an Apple HDI-30 SCSI System Cable.**

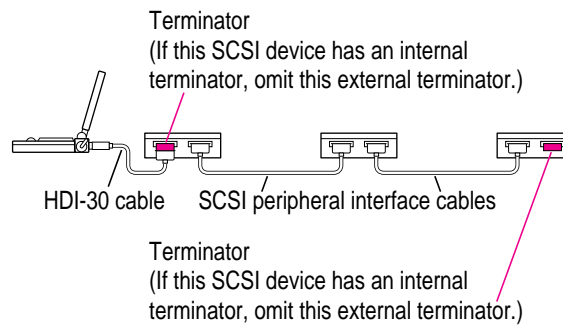
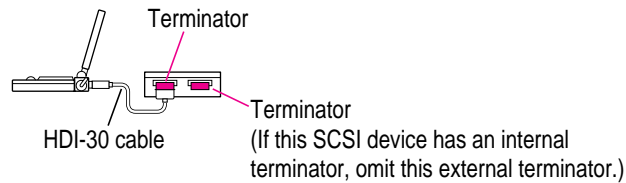
Attach the smaller end of the cable to the SCSI port (marked with the icon ) on the PowerBook, and the larger end of the cable to either SCSI port on the device.

- 3 To connect the next device, use a SCSI peripheral interface cable.**

The connectors on the ends of the cable are the same. Attach one connector to the available SCSI port on the first device, and the other connector to either SCSI port on the next device.

4 Repeat step 3 for each additional device you want to connect.

The illustration shows where to add cable terminators.



IMPORTANT The total length of a SCSI chain should not exceed 20 feet (6 meters). Apple SCSI cables are designed to meet this restriction. If you are using SCSI cables from another vendor, check the length of the chain.

WARNING Once your SCSI devices are connected, always turn them on before turning on your PowerBook. If you turn the computer on first, it may not be able to start up, or it may not recognize the SCSI devices.

Refer to this chapter for solutions to some common problems.

9

Tips and Troubleshooting



This chapter describes possible causes of and solutions for some common problems you may have with your PowerBook or with associated equipment provided by Apple. Try the possible solutions in the order they are listed until the problem is solved. Check explanations and instructions in this book and in the *Macintosh Reference* book for additional help.

WARNING If you have a problem with your PowerBook and nothing presented in this chapter or in the manuals that came with your computer solves it, consult the service and support information that came with your computer for instructions on how to contact an Apple-authorized service provider or Apple for assistance. If you attempt to repair the computer yourself, any damage you may cause to the computer will not be covered by the limited warranty on your computer. Contact an Apple-authorized dealer or service provider for additional information about this or any other warranty question.

The PowerBook

The computer won't start.

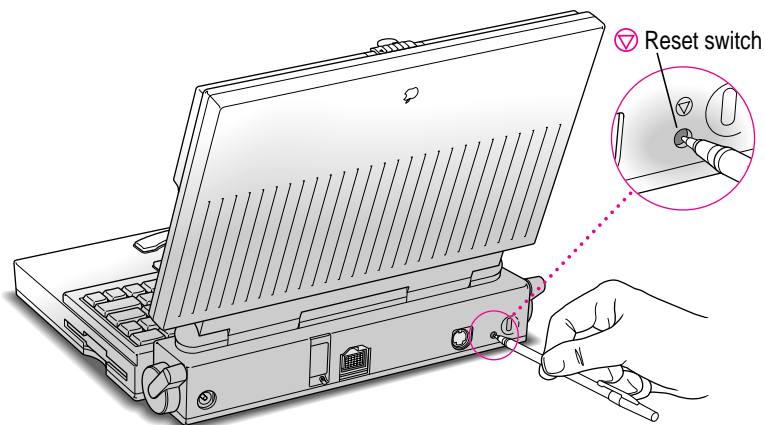
- The computer may be on, but the screen brightness or contrast may be turned down. Adjust the brightness and contrast controls.
- The battery may be drained. Plug in the power adapter and then try to turn on the computer.
- Take out the battery, unplug the power adapter, and use a pen, a paper clip, or a similar object to press the reset switch (at the back of the computer) for 10 seconds. Then replace the battery, plug in the power adapter, and try again.

The computer won't restart.

Try to restart your computer using one of the following methods. Try them in the order given.

WARNING If you are working with a RAM disk, the following methods of restarting the computer will cause you to lose the contents of the RAM disk. For this reason, you should periodically save your work to the computer's hard disk—not just the RAM disk.

- Press the Control key, Command (⌘) key, and Power On button at the same time.
- Press and release the reset switch on the back of the computer.
You can press the button with a pen, a paper clip, or a similar object.



- Restart from a floppy disk.
 1. Insert the *Utilities* disk into the floppy disk drive.
 2. Press the Power On button.

If the computer restarts from a floppy disk, there may be 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 the *Macintosh Reference* book for help.

The computer just stopped.

- The computer may have gone to sleep. Press any key (except Caps Lock) or press the Power On button to wake the computer 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 and then press any key (except Caps Lock).
- The computer may have “crashed” due to temporary software problems. Click the Restart button on the screen (if you see one) or choose Restart from the Special menu. If these suggestions don’t work, restart the computer using the methods described in “The Computer Won’t Restart” earlier in this section.

The computer exhibits odd behavior, such as unexplained system failures.

- A common cause of unexplained problems is multiple System Folders on your computer’s startup disk. The icon for the System Folder that the PowerBook is using to operate looks like this:



Use the Find command in the File menu to locate any other System Folders, and throw them in the Trash. (If you use a RAM disk as a startup disk, do not delete the System Folder from your RAM Disk Backup folder.)

- 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.
- You may have added a control panel or extension that is incompatible with other programs you use. Restart the computer, holding the Shift key down, until you see the message "Extensions off." If this solves the problem, remove any control panels or extensions you recently installed.
- You may need to reinstall your system software. See Chapter 1 for instructions on using the PowerBook 150 Restore program.

Power

The battery is draining too fast.

- Turn down the screen brightness, turn off virtual memory, move the Battery Conservation slider in the PowerBook control panel to Better Conservation, or work with the power adapter plugged in.
- 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 aren't using network services, you can also save power by turning off AppleTalk in the Chooser or in the AppleTalk Switch module of the Control Strip.
- Your battery may need to be reconditioned. See Chapter 6 for more information.
- You may not have the correct power adapter. Make sure you are using the power adapter that came with your computer.
- Old batteries do not hold a charge as well as new ones do. You may need to replace the battery.

The battery can't be recharged.

- There may be a loose connection. Take the battery out and put it back in the computer.
- If all connections are OK, then the battery is probably damaged or dead. You'll need to obtain a replacement battery from an Apple-authorized dealer.

The computer goes to sleep too often.

- Open the PowerBook control panel and move the Battery Conservation slider to Better Performance.

The PowerBook won't run off the battery or the battery won't charge.

- Make sure your PowerBook is running system software version 7.1.1 or later.
- There may be a loose connection. Take the battery out and put it back in the computer.

The computer doesn't go to sleep automatically.

- You may have dragged the System Sleeps slider to Never in the Custom view of the PowerBook control panel. Drag the slider to a lower setting.
- You may be connected to a shared disk on the network. If you are not using the information on the shared disk, disconnect from it.
- The printer port or the internal modem (if one is installed) may be in use. Quit your telecommunications program or delay printing in the Chooser (if the documents you're printing can wait until later).
- When application programs are working in the background, the computer doesn't go to sleep. In this case, choose Sleep from the Special menu.
- The computer does not go to sleep if AppleTalk is active and the power adapter is plugged in. Turn AppleTalk off in the Chooser or in the AppleTalk Switch module of the Control Strip.

See Chapter 6 for more information about batteries and power consumption.

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.

- The screen brightness or contrast may not be optimal for the surrounding lighting. Adjust the brightness or contrast setting.

The screen flickers.

- This problem sometimes occurs when your screen is set to display the maximum number of grays. Try adjusting the contrast control, or select Black & White in the Monitors control panel.

There are ghost images or black dots on the screen.

- When the computer is left on for many hours, temporary images 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.

The pointer moves too fast or 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 have caused the computer to “freeze.” Restart the computer by following the steps in “The Computer Won't Restart” earlier in this chapter.
- Turn the computer off by pressing the reset switch on the back of the computer. Then turn the computer on again. You will lose any work that you have not saved, and you will also lose the contents of your RAM disk.

A window has disappeared.

- Another open window on the desktop may have covered the one you're looking for. Move, resize, close, or hide windows you aren't using until you see the one you want.
- Windows belonging to open but inactive programs may be hidden. Choose Show All from the Application menu to show hidden windows, and choose the correct application program from the Application menu for the window you want to view.

An icon is blinking in the menu bar.

- A program needs 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 by choosing the icon for the application program in the Application menu, and take the necessary action.

The trackball

The trackball doesn't work smoothly; it sticks or jumps when rolled.

- There may be dust or dirt inside the trackball mechanism. To clean the trackball, follow these steps:
 1. Remove the trackball by turning the trackball retainer ring counterclockwise and lifting the trackball out of its cavity.

You may need to use a pen or your fingernail to lift the trackball out.
 2. Locate the small rubber rollers at the left and bottom sides of the trackball cavity.

The rollers look like small rings or wheels.
 3. Use any reasonably clean, blunt object (such as your fingernail) to scrape any residue from the rollers. Do not use any liquid inside the computer.
 4. Replace the trackball and its retainer ring.

You just cleaned the trackball, and it feels worse than before.

- This problem is related to the way the trackball is lubricated. After you use it for a few minutes, the problem should go away.

Memory

A “not enough memory” message appears when you try to open a program.

- Quit any programs you aren't using, then try again to open the program you want. If that doesn't work, restart the computer. Sometimes restarting makes additional memory available.
- If you are using a RAM disk or a disk cache, reduce its size in the Memory control panel and then restart the computer.
- If you consistently want to open more programs than memory allows, you can purchase a memory expansion card from your Apple-authorized dealer.

SCSI devices

You can't turn on the computer after connecting a SCSI device.

- SCSI devices must be turned on before the computer itself. Turn on any SCSI devices first, and then turn on the computer.

The computer doesn't recognize your SCSI devices.

- The devices may be off. Check to make sure that they are plugged in 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 in your System Folder. See the instructions that came with the device.
- Two or more devices in the SCSI chain may have the same ID number. Check the ID number of each device to make sure each one has its own number between 1 and 6, and change any numbers that are not unique.
- When connecting SCSI equipment, it's important to use the right cables and the correct number and placement of cable terminators. Check the cables and terminators in the SCSI chain and make sure that all cables are firmly attached. The first and the last external device in a SCSI chain should be terminated.

See Chapter 8 for more information about working with SCSI devices.

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. Turn off the computer, wait at least 10 seconds, and then turn it on again.
- Make sure the hard disk is designated as the startup disk, as explained in Chapter 2 of the *Macintosh Reference* book.
- There may be a problem with the system software on the hard disk. Start up the computer with the *Utilities* disk. If the hard disk's icon appears, you need to reinstall your system software. (See Chapter 1 for instructions on using the PowerBook 150 Restore program). Disk repair programs can sometimes fix problems of this kind.
- The information on the disk drive may be damaged. Try using a disk repair program (such as Disk First Aid on the *Utilities* disk) to repair or recover the information.
- If using a disk repair program doesn't work, you'll need to reinitialize the internal hard disk. Doing so will erase all the data on the hard disk, so you'll then need to restore the contents using your most recent backup floppy disks. Follow these steps:
 1. Insert the *Utilities* disk into the floppy disk drive and restart the computer.
 2. Double-click the Internal HD Format icon to start the utility program.
 3. Click the Initialize button.

A message appears, asking you to confirm that you really want to reinitialize your internal hard disk.
 4. Click the OK button.

A status bar shows the progress of reinitialization. A message appears to advise you when the process is complete.
 5. Click OK to quit the Internal HD Format program.
 6. Use your most recent backup floppy disks to restore the contents of your hard disk. For instructions, see “Restoring the Information on Your Hard Disk” in Chapter 1.

- There may be a mechanical problem with the disk drive. If none of the previous suggestions works, call Apple (see the service and support information for the phone number), or take the computer to an Apple-authorized service provider.

The hard disk keeps stopping and starting again.

- The hard disk may be going to sleep to conserve power. Open the PowerBook control panel and move the Battery Conservation slider toward Better Performance.

The icon of a floppy disk doesn't appear on the screen.

- There may be a problem with the disk or disk drive. 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. If the icon of the second disk does not appear either, the problem is probably in the disk drive. Take the computer to an Apple-authorized service provider for repair.
- Restart the computer, holding the Shift key down until you see the message "Extensions off." If this solves the problem, remove any control panels or extensions you recently installed.

A high-density (1.4 MB) disk you use with your PowerBook computer is not recognized by another Macintosh.

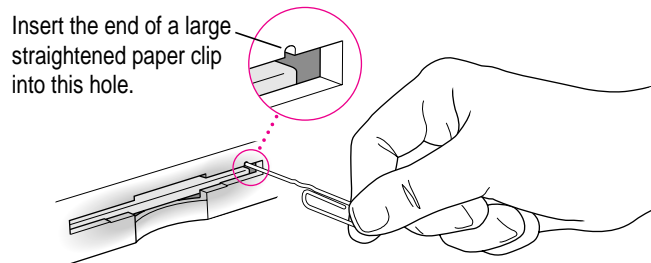
- Some disk drives cannot recognize high-density disks. Try inserting an 800K or 400K disk in the disk drive of the other Macintosh. If that works, copy your files to an 800K or 400K disk. If you regularly plan to use floppy disk drives of different types, use the lower-capacity disks in all drives.

You can't eject a disk from a floppy disk drive.

There may be a temporary mechanical problem with the disk drive. Try the following solutions, in the order listed:

- Hold down the Command (⌘) and Shift keys while you press and release the 1 key.
- Restart the computer and hold down one of the trackball buttons while the computer starts up.

- 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. If the second disk is also not recognized, call Apple (see the service and support information for the phone number), or take the computer to an Apple-authorized service provider so the disk drive can be checked.

You can't delete a file.

- The floppy 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. You can unlock it in its Info window (choose Get Info from the File menu). Or you can hold down the Option key while you choose Empty Trash from the Special menu.
- An application program may be using the file. 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. Delete files you no longer need or use a different disk.

See the *Macintosh Reference* book for more information about working with disk drives and disks.

Modems

An 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 correct.
- The printer port may not be configured to work with an external modem. Open the PowerBook Setup control panel and make sure that External is selected.
- AppleTalk may be active. Turn off AppleTalk in the Chooser or in the AppleTalk Switch module of the Control Strip.
- Floppy disk drive activity can interfere with data transmission of external modems. Try using the modem again when the floppy disk drive is not in use. (If you intend to use communications programs frequently, Apple recommends using an internal modem; the internal modem port of the PowerBook 150 has been optimized for communications programs.)
- If you are transmitting data at a rate of 9600 baud or faster, try resetting your modem to transmit at a slower speed.

An internal modem doesn't work.

- The modem connection may not be activated. Open the PowerBook Setup control panel and make sure that Internal is selected.

See the modem manual for more information about using your modem.

Printers

Your computer can't find the printer.

- The printer may be turned off. Turn it on.
- 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 or in the AppleTalk Switch module of the Control Strip.
- If your network has zones, the printer you want may not be in the currently selected zone. Make sure the correct zone is selected.
- The printer port may be configured for use with an external modem. Open the PowerBook Setup control panel and make sure that Internal is selected.

The network printer keeps restarting.

- Someone on the network may be using a version of printer software that is different from the version used by others on the network. Everyone connected to a network should use the same printer software version. Consult the network administrator for more information.

Nothing happens, or you see an error message, when you try to print.

- The printer may not be selected in the Chooser. Open the Chooser and reselect the printer.
- The printer may not be turned on. Make sure it is plugged in, turned on, and warmed up.
- The printer may be out of paper or have some other problem. Check the printer status lights and 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.

Your documents are printed with the wrong fonts.

- The printer may not have your fonts in its memory and may be substituting other fonts. You may be able to add the necessary fonts to your printer (see the *Macintosh Reference* book for instructions), or print on a different printer that has the fonts you want. If you have a LaserWriter printer, you can turn off Font Substitution in the Page Setup dialog box.

See the *Macintosh Reference* book for general information about printing documents. See your 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.)
- Some network software may not be installed. Use the Installer to custom install the appropriate network software.

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 or in the AppleTalk Switch module of the Control Strip.
- 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.
- The computer that the disk is on must be turned on before the disk can be shared. Make sure that the computer is on and that it has file sharing turned 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 give 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 for both computers, you have the correct access privileges, and you entered your name and password correctly.

See the *Macintosh Reference* book for general information about using your computer on a network.

Application programs

A program won't open.

- Some programs can't be opened from a locked floppy disk. Make sure the disk is unlocked. (Unlock a disk by sliding the tab so that it covers the hole at the corner of the disk.)
- The program may be damaged. Recopy it from a known good source (such as the original program disk).
- There may not be enough memory available to open the program. Quit other programs or change this program's memory size in the Info window.

A program runs very slowly.

- Some programs are slowed by processor cycling. You can turn processor cycling off; see Chapter 6.

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 different version of the program. Obtain the correct program and version. Or, open the document with another program that can read its format. (If another program can open a document, the program icon becomes highlighted when you drag the document icon on top of it.)

A program doesn't work, or it produces errors consistently.

- You may have more than one copy of the program on your hard disk. Remove extra copies by dragging them to the Trash.
- The program may be damaged. Recopy it from a known good source (such as the original program disk).
- 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.

- You may have added a control panel or extension that is incompatible with other programs you use. Restart the computer, holding the Shift key down, until you see the message “Extensions off.” If this solves the problem, remove any control panels or extensions you recently installed.

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. In most programs, you cannot undo more than one action.

See the documentation that came with your programs for more information about their operation and features.

Refer to this chapter when you want to use the PowerBook File Assistant that came with your computer to synchronize files.



Appendix A Using the PowerBook File Assistant



The PowerBook File Assistant is software that synchronizes files on your PowerBook and desktop Macintosh by automatically updating files whenever you make changes. With File Assistant, you can always be sure that the file you are working on is the current version.

What is file synchronization?

If you use two Macintosh computers, you may often have the same file or folder on both computers. But you may have a problem keeping track of what files are on what computer.

With the PowerBook File Assistant you can make sure you always have the most recent version of a file or folder on both your computers. The process of updating the files on both computers is called *file synchronization*. With the PowerBook File Assistant, you can synchronize individual files or folders.

File synchronization can also provide a useful means of maintaining a backup copy of important documents.

Before you can use the PowerBook File Assistant to synchronize files, you need to connect your PowerBook to another Macintosh. For instructions, see Chapter 7, “Using Your Computer on a Network,” in the *Macintosh Reference* book.

Starting the PowerBook File Assistant

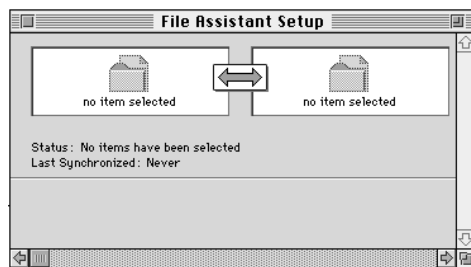
Once you have installed the PowerBook File Assistant, you are ready to decide which files you want to synchronize.

- Double-click the PowerBook File Assistant icon.



PowerBook File Assistant

The File Assistant Setup window appears.



Linking files or folders for synchronization

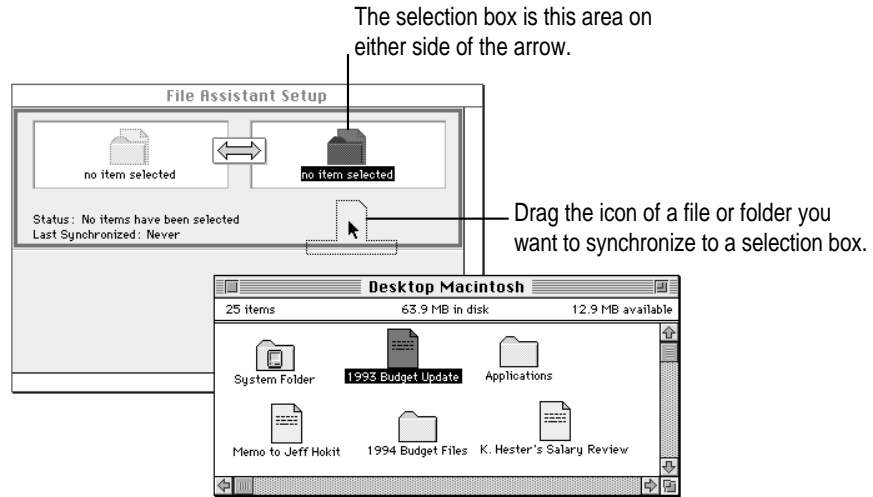
Before you can synchronize files or folders, you need to link them. Linking joins two identical copies of a file or folder together so that when one file or folder in the pair is modified, the linked file or folder is also changed.

IMPORTANT Files cannot be linked if they are not identical copies, but you can link folders with different names or contents.

Before linking, make sure that each computer's clock is set for the same time and date. See the *Macintosh Reference* book that came with your computer for information on how to set the time and date on your computer's clock.

To link files or folders, follow these steps:

- 1** Drag the icon of a file or folder you want to link to a selection box in the File Assistant Setup window.



- 2** Drag the matching icon to the other selection box.

Once you have two matching files or folders in the Setup window, you have a linked pair. Another pair of selection boxes appears. Repeat steps 1 and 2 to link more pairs of files or folders.

The setup screen grows as you add to the list of linked pairs. Use the scroll bars on the right of the screen to see parts of the list that are not in view.

Setting the direction of the link

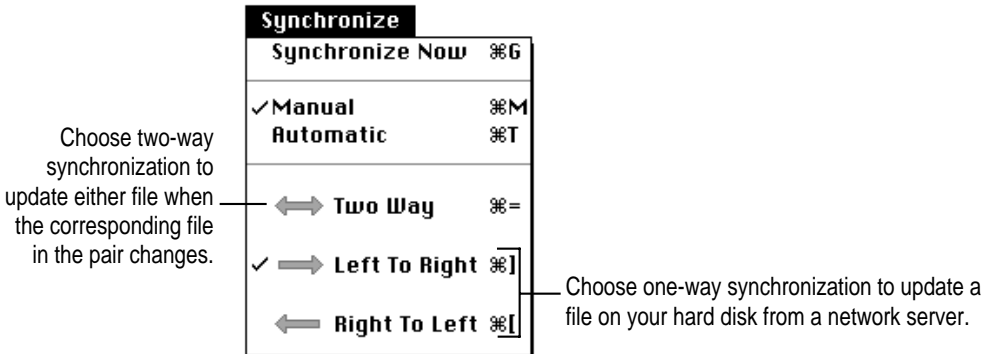
Notice the arrow between the two linked files; this is how you can tell the direction in which the files are linked. Normally the PowerBook File Assistant synchronizes files in both directions, but you can set the direction to be one way, from either left to right or right to left.

A one-way link is helpful if you want to receive updated versions of a document from a file server on a network.

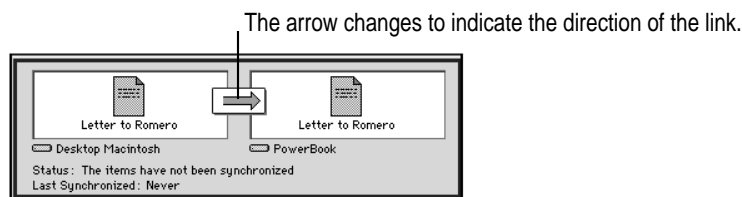
- 1 Click the pair of linked files to select it.

Click the item selection box for either file or folder in the pair.

- 2 Choose the direction you want from the Synchronize menu.



The direction of the arrow between the two linked files in the Setup window changes to reflect your choice.

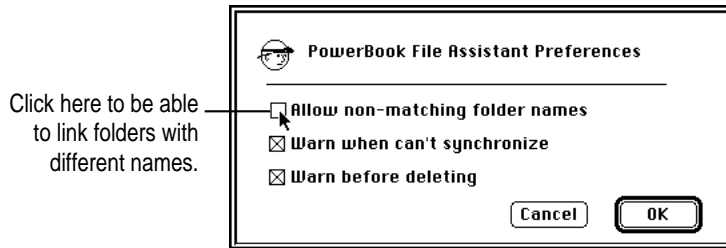


Linking non-matching folders

PowerBook File Assistant lets you link folders that have different names and contain different files.

1 Choose Preferences from the File Menu.

The following dialog box appears:



2 Click the checkbox to allow non-matching folder names.

3 Click OK.

Now you can link folders that have different names and contents. The first time you synchronize a pair of non-matching folders, PowerBook File Assistant copies all the files from one folder to the other, so that the folders have identical contents.

Deleting a linked pair

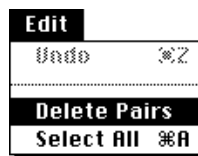
If you don't want to synchronize a linked pair anymore, you can delete the linked pair from the Setup window.

- 1 **Click the pair you want to delete to select it.**

To select more than one pair, hold down the Shift key and click other pairs.

To select all pairs, choose Select All from the Edit menu.

- 2 **Choose Delete Pairs from the Edit menu.**



The pairs you selected are deleted from the Setup window. The files or folders that were linked remain intact on their respective computers; only the link between them has been deleted.

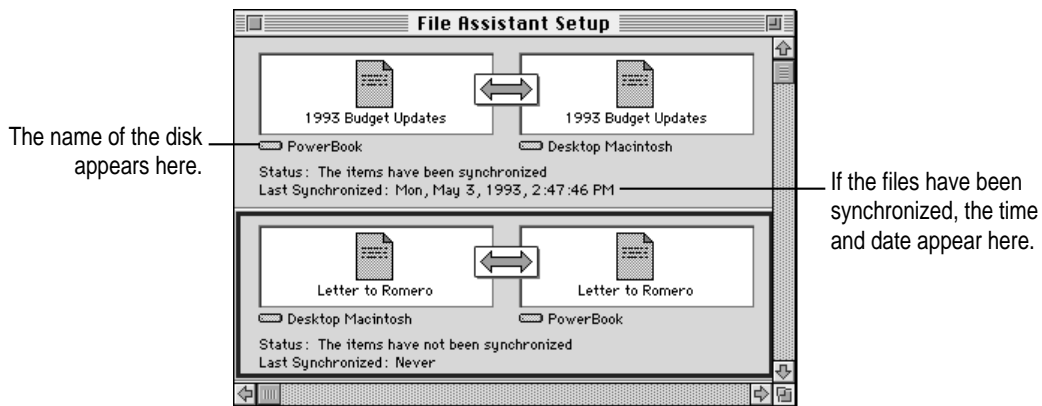
Synchronizing linked folders or files

To synchronize files or folders you linked in the Setup window, you must do two things:

- Connect the disks containing the files you are synchronizing.
- Open the PowerBook File Assistant.

Now you are ready to synchronize the linked files or folders. Any time you make a change to either item, the same change is made to the linked item. If an item is deleted, you'll be asked to confirm that you want to delete the corresponding file or folder.

Information about each linked pair is displayed in the Setup window.

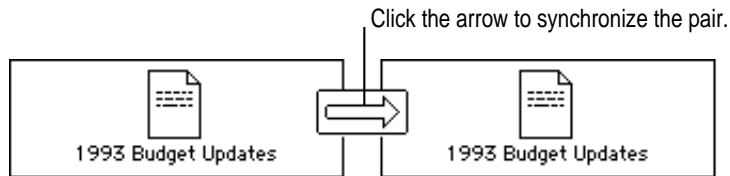


You can set the PowerBook File Assistant to synchronize files either manually or automatically. You choose which you want when you link the items.

Manual synchronization

When you choose manual synchronization, you decide when you want to update a linked pair.

- 1 **Select a pair, then choose Manual from the Synchronize menu.**
- 2 **Click the arrow in the File Assistant Setup window.**



A message appears telling you that the files are being updated.

You can also manually update files that are linked by selecting the pair and then choosing Synchronize Now from the Synchronize menu.

Automatic synchronization

To update linked files automatically whenever a change is made to either of the linked files:

- **Select the pair and then choose Automatic from the Synchronize menu.**

A message appears whenever files are being updated. You can also set pairs to be updated every time you connect with another disk. See “Setting Up Completely Automatic Synchronization” later in this appendix.

Turning off the alert messages

As you synchronize linked pairs, the PowerBook File Assistant displays alert messages about the synchronization. You can turn off the alert messages by following these steps:

1 Choose Preferences from the File menu.

A dialog box appears.

2 Click the “Warn when can’t synchronize” checkbox to deselect it.

The messages do not appear.

If you don’t want the alert message to appear when a file or folder is put in the Trash, click the checkbox next to “Warn before deleting” to deselect it. Be very careful if you turn off the alert message that warns you when files are put in the Trash. Items are put in the Trash during synchronization whenever a linked item is deleted or renamed.

3 Click OK.

Alert messages are turned off. If you want to turn them back on, choose Preferences from the File menu and click the checkboxes again to reselect them.

To turn alert messages off temporarily, hold down the Option key. While you hold down the Option key, the alert messages for any commands you execute are turned off.

Setting up completely automatic synchronization

The PowerBook File Assistant needs to be running in order to synchronize your files. To set up your system to automatically synchronize linked files:

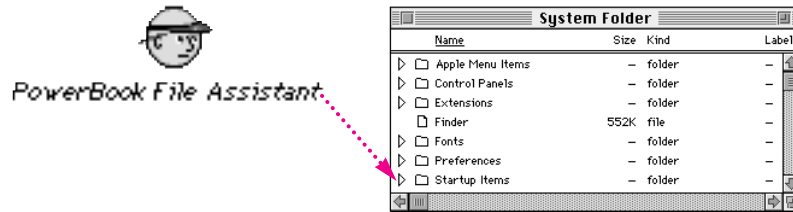
- 1 Select the pair and then choose **Automatic** from the **Synchronize** menu.
- 2 Use the **AutoRemounter** control panel to reconnect to shared disks.

See Chapter 7 for instructions on automatically reconnecting to (“remounting”) shared disks.

- 3 Drag an alias of the **PowerBook File Assistant** icon to the **Startup Items** folder.

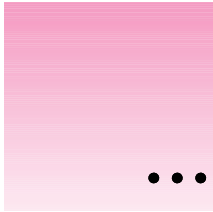
The Startup Items folder is in your PowerBook’s System Folder.

See the *Macintosh Reference* book for help on creating an alias.



Now whenever AutoRemounter “mounts” your disks and the PowerBook File Assistant is open, all automatically linked pairs are synchronized.

Refer to this appendix for information on using the Macintosh PC Exchange program that came with your computer.



Appendix B Exchanging Files With DOS or Windows

Macintosh PC Exchange is software included with your computer that lets you easily exchange documents between your Macintosh and a DOS or Windows computer. You can use Macintosh PC Exchange to create floppy disks compatible with DOS computers.

Macintosh PC Exchange at a glance

Using the PC Exchange control panel, you can specify which Macintosh programs are used to open DOS documents.

For example, DOS documents whose names end with this suffix . . .

. . . are to be opened by this program . . .

. . . as this type of document.

You can open, edit, and save DOS documents using your favorite Macintosh application programs.

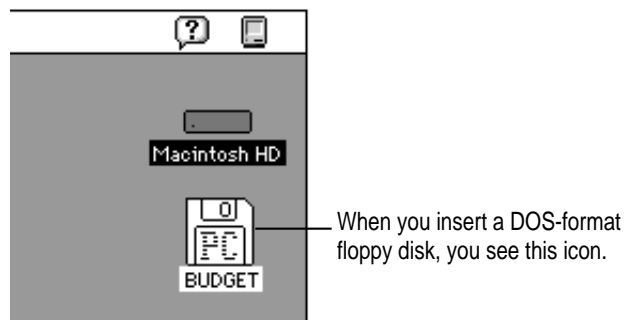
You can use and create DOS-format disks.

DOS Suffix	Application Program	Document Type
.ILL	Adobe Illustrator® 3.0	EPSF
.CAN	Canvas™ 3.0	TEXT
.WK1	Claris Resolve	TEXT
.WK3	Lotus 1-2-3	TEXT
.MDP	MacDraw Pro	PICT
.MW2	MacWrite II	TEXT
.XLS	Microsoft Excel 3.0	TEXT

Using DOS-format disks on your Macintosh

The *format* of a disk refers to the way the computer prepares the disk to receive information. Macintosh computers and DOS computers use different disk formats, but with Macintosh PC Exchange installed in your Macintosh system, your Macintosh can read disks of either format.

To use a DOS-format disk on your Macintosh, simply insert the disk into your computer's floppy disk drive. The disk's icon appears on the desktop. You can open the disk by double-clicking its icon—the same way you would open an ordinary Macintosh disk.



If you see a message that the disk is unreadable, see the Macintosh Reference book.

WARNING Do not attempt to repair a DOS-format disk using disk repair utility programs intended for use on the Macintosh. Doing so is likely to destroy any information on the disk. If you must repair a DOS-format floppy disk, use a disk repair utility on your DOS computer.

Creating a blank DOS-format disk

When you erase or initialize a disk on the Macintosh, you can choose its format—either Macintosh or DOS.

WARNING Before you erase or initialize a disk, be sure that the disk contains no information you want to save.

To create a blank DOS-format disk on your Macintosh, follow these steps:

1 Insert a floppy disk.

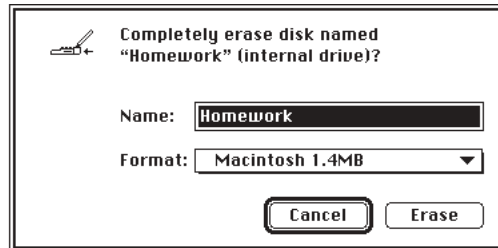
- If the disk has not been initialized, a dialog box appears in which you can specify the disk's name and format.



- If the disk has already been used, you'll need to erase it. Select the disk, then choose Erase Disk from the Special menu.

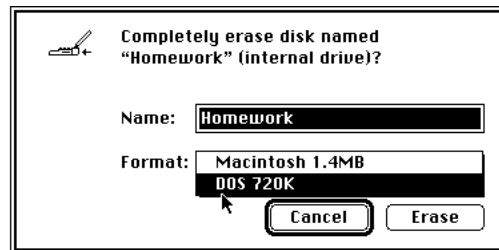


A dialog box appears in which you can specify the disk's name and format.



- 2 Type a name for the disk.
- 3 Choose the disk format you want from the Format pop-up menu.

The list of available formats varies depending on your disk drive and the capacity of the disk. Choose DOS if you plan to use the disk on both Macintosh and DOS computers.



- 4 Click Erase (or Initialize).

If you're initializing a disk, an alert box appears. Click the Continue button.

The Macintosh prepares the disk in the format you chose.

Usually it takes less than a minute to initialize or erase a floppy disk. However, if portions of the disk have been damaged, the initialization process may take several minutes.

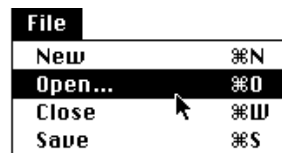
If you changed the disk's format, the disk's icon will change when you reinsert the disk.

Opening DOS documents on your Macintosh

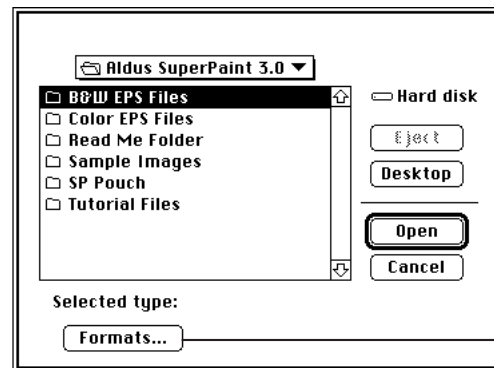
Opening a document from within a Macintosh program

The surest way to open a DOS document on the Macintosh is to use the Open command from within an application program.

- 1 **Open the program you want to use.**
- 2 **Choose Open from the File menu.**



A directory dialog box appears.



Many programs have buttons or pop-up menus that let you open or import documents of a particular file format.

- 3 **Select the document you want, and click Open.**

If you have problems opening the document, see the Macintosh Reference book.

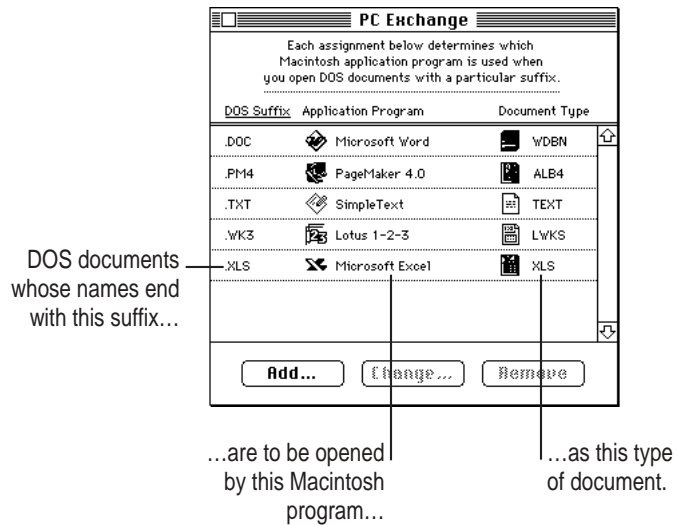
Opening a document by double-clicking its icon

Before you can open a DOS document by double-clicking its icon, you need to use the PC Exchange control panel to specify which Macintosh application programs will open DOS documents, as described next.

Assigning Macintosh programs to DOS documents

Using the PC Exchange control panel, you can assign Macintosh application programs to DOS documents. For example, you can specify that all DOS documents whose filenames end with the suffix .XLS are to be opened in the Macintosh program Microsoft Excel.

The following figure shows the PC Exchange control panel with some assignments already created.



Before you can assign a Macintosh program to a group of DOS documents, you need to answer three questions:

- **What suffix do the documents have in common?**

Many DOS programs automatically add a three-letter suffix (or filename *extension*) to a document's name. For example, these PageMaker documents all share the suffix .PM4:

NEWS.PM4
REPORT.PM4
RESUME.PM4

- **What Macintosh application program do you want to use to open the documents?**

Each Macintosh document has a *creator*—that is, the Macintosh program used to create the document. When you double-click a document's icon, the Macintosh opens the program that created the document.

Using the PC Exchange control panel, you can assign Macintosh programs to DOS documents as “creators.”

- **What type of document is it?**

Most programs are able to open or import some, but not all, types of documents. A document's *type* is a three- or four-letter code (such as TEXT or PICT) that tells a program whether or not it can recognize the document. A program displays documents of types it can recognize in its directory dialog box.

Unless you specify otherwise, the Macintosh assumes that all DOS documents have the document type TEXT. You can assign different types to some DOS documents. See the next section.

A document's type is different from its *file format*, which refers to the way information within the document is encoded. If a program is unable to accurately interpret a document's file format, the document's formatting may be displayed incorrectly. (To find out which file formats a program can understand, refer to the documentation for the program.)

Recommended assignments for some widely used application programs

The information in this section will help you assign documents from some widely used DOS/Windows programs to some widely used Macintosh programs. (For more information, see the documentation for your application programs.)

AMI Pro (Windows), version 2.0

Documents in AMI Pro (Windows) version 2.0 are automatically saved with the suffix .SAM.





To open these documents on the Macintosh, add one of the following assignments to the PC Exchange control panel:

DOS suffix	Macintosh application	Document type
.SAM	 MacWrite® II (version 1.1)	 TEXT
.SAM	 Microsoft Word (version 5.0)	 TEXT
.SAM	 WordPerfect (version 2.0)	 TEXT
.SAM	 WriteNow (version 2.2)	 TEXT

Lotus 1-2-3 (Windows), version 1.0

Documents in Lotus 1-2-3 (Windows) version 1.0 are automatically saved with the suffix .WK3.





To open these Lotus 1-2-3 documents on the Macintosh, add one of the following assignments to the PC Exchange control panel:

DOS suffix	Macintosh application	Document type
.WK3	 Lotus 1-2-3 (version 1.0)	 TEXT
.WK3	 Microsoft Excel (version 3.0)	 TEXT

Microsoft Excel (Windows), version 3.0

Documents in Microsoft Excel (Windows) version 3.0 are automatically saved with the suffix .XLS.



To open these Microsoft Excel documents on the Macintosh, add one of the following assignments to the PC Exchange control panel:

DOS suffix	Macintosh application	Document type
.XLS	 Lotus 1-2-3 (version 1.0)	 TEXT
.XLS	 Microsoft Excel (version 3.0)	 TEXT

Microsoft Word (Windows), version 2.0

Documents in Microsoft Word (Windows) version 2.0 are automatically saved with the suffix .DOC.



To open these documents in Microsoft Word (Macintosh) version 5.0, add the following assignment to the PC Exchange control panel:

DOS suffix	Macintosh application	Document type
.DOC	 Microsoft Word (version 5.0)	 WDBN

PageMaker (Windows), version 4.0

Documents in PageMaker (Windows) version 4.0 are automatically saved with the suffix .PM4.







To open these documents in PageMaker (Macintosh) version 4.0, add the following assignment to the PC Exchange control panel:

DOS suffix	Macintosh application	Document type
.PM4	 PageMaker (version 4.0)	 ALB4

Quattro (DOS), version 3.0

When saving documents in Quattro (DOS) version 3.0, be sure to save them with the suffix .WK1 (rather than the default suffix, .WQ1). Quattro saves documents ending in .WK1 in the Lotus 1-2-3 file format, which can be interpreted by many Macintosh spreadsheet programs.



To open these Quattro documents on the Macintosh, add one of the following assignments to the PC Exchange control panel:

DOS suffix	Macintosh application	Document type
.WK1	 Claris Resolve™ (version 3.0)	 TEXT
.WK1	 Lotus 1-2-3 (version 1.0)	 TEXT
.WK1	 Microsoft Excel (version 3.0)	 TEXT

Ventura Publisher (Windows), version 3.2

Documents in Ventura Publisher (Windows) version 3.2 are automatically saved with the suffix .CHP.

To open these documents in Ventura Publisher (Macintosh) version 3.2, add the following assignment to the PC Exchange control panel:

DOS suffix	Macintosh application	Document type
.CHP	 Ventura Publisher (version 3.2)	 VCHP

WordPerfect (DOS) version 5.1

WordPerfect (DOS) version 5.1 does not automatically add a suffix to the names of documents. The easiest way to open WordPerfect (DOS) documents on the Macintosh is by choosing the Open command from within an application program.

Adding an assignment to the PC Exchange control panel

To add an assignment, follow these steps:

- 1 **Choose Control Panels from the Apple (🍏) menu.**

The Control Panels folder opens.

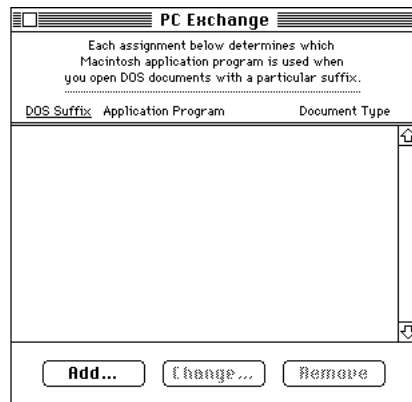
- 2 **Open the PC Exchange control panel.**

Double-click the PC Exchange icon, or select the icon and choose Open from the File menu.



PC Exchange

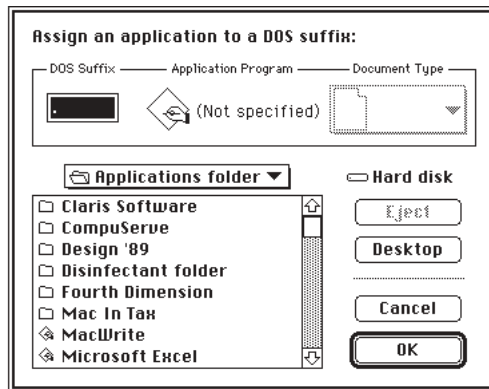
The PC Exchange control panel appears.



- 3 Click the Add button.



A dialog box appears in which you can specify a DOS suffix and its corresponding Macintosh application program and document type.

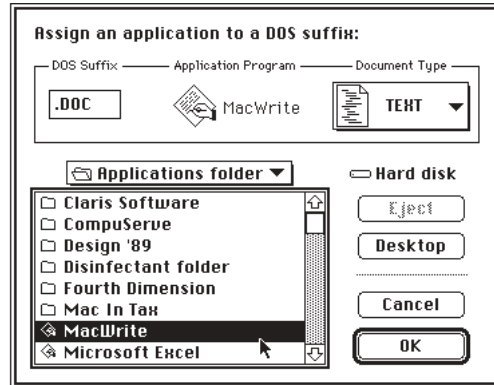


- 4 Type a three-letter DOS suffix in the DOS Suffix box.

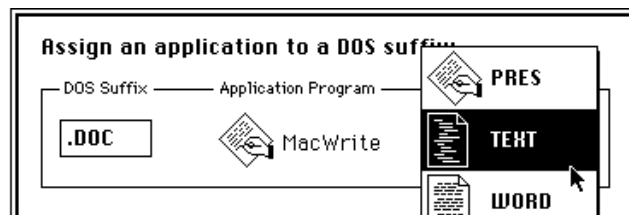


To specify which Macintosh program will open DOS documents with *no suffix*, click inside the box to set the insertion point, but leave it blank.

- 5 Select a Macintosh application program from the directory section of the dialog box.



- 6 Choose a document type from the Document Type pop-up menu.



Document types are indicated by icons and four-letter codes whose meanings are seldom obvious. For help choosing the correct document type, see the information in the previous section, “Recommended Assignments for Some Widely Used Application Programs.”

If you don’t know which document type to choose, try TEXT.

- 7 Once you’ve specified a DOS suffix, a Macintosh application program, and the appropriate document type, click OK.

The assignment is added to the list in the control panel.

Trying out an assignment

To try out an assignment you've added to the PC Exchange control panel, follow these steps:

1 Insert a DOS-format floppy disk and open its icon.

PC Exchange assignments take effect when you insert a floppy disk, or when you open a DOS-format floppy disk. (If the disk window was already open, you need to close it and open it again.)

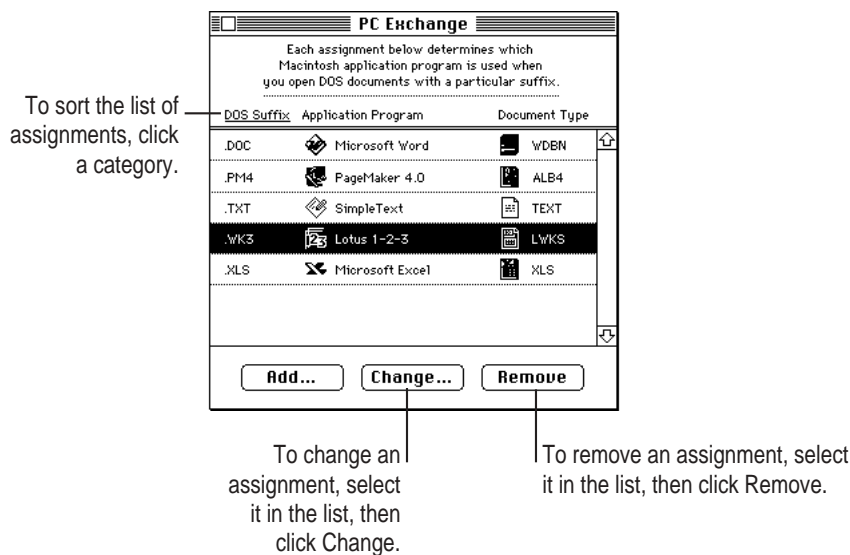
2 Double-click the icon of a DOS document whose filename ends with the suffix you specified.

The document is opened by the appropriate Macintosh application program. (You might see a message that the document's file format is being converted.)

If you have problems opening documents, see the Macintosh Reference book.

Editing the list of assignments

You can change, remove, and sort assignments in the PC Exchange control panel.



Sharing assignment lists with other users

The list of assignments is stored in the PC Exchange Preferences file. This file is stored in the Preferences folder inside the System Folder.



PC Exchange Preferences

You can make sure that every licensed user of Macintosh PC Exchange in your office uses the same assignments. Make copies of the PC Exchange Preferences file and place one copy in the Preferences folder (inside the System Folder) of each licensed user's Macintosh.

Do not change the name of the PC Exchange Preferences file.

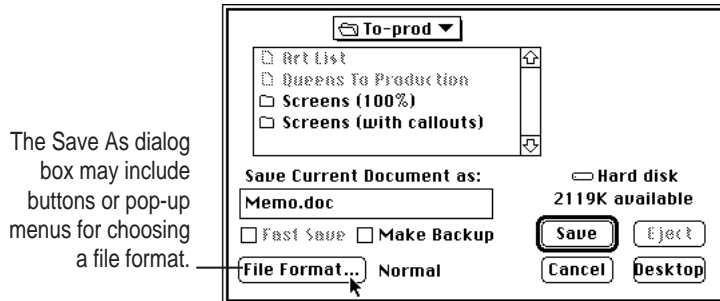
Saving documents onto a DOS-format disk

You save documents onto a DOS-format disk the same way you save them onto a Macintosh disk—by choosing the Save command from the File menu.

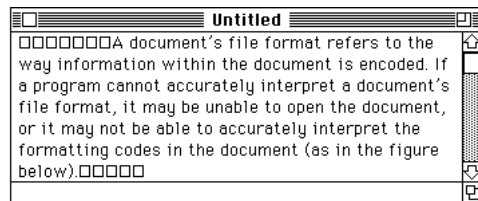
IMPORTANT Be sure to leave at least 5K of extra disk space when you save or copy files onto a DOS-format floppy disk. (The Macintosh needs this space to store Macintosh-specific information about files on the disk, such as the location of icons and windows on the Macintosh desktop.)

Choosing a file format

In some programs you'll have the choice of saving the document in one of several file formats.



A document's *file format* refers to the way information within the document is encoded. If a program cannot accurately interpret a document's file format, it may display the document incorrectly (as in the following figure).



When you save a document that you plan to use with another program, be sure to save it in a file format that the other program can understand. (To find out what file formats a program is able to open, import, and save, see the documentation you received with the program.)

Naming files for use on both Macintosh and DOS computers

On DOS computers, filenames are limited to eight characters (plus a three-letter suffix) and may not contain spaces. The rules for naming Macintosh files are less restrictive. Therefore, when working on the Macintosh, it's possible to give a file a name that would be "illegal" on DOS computers.

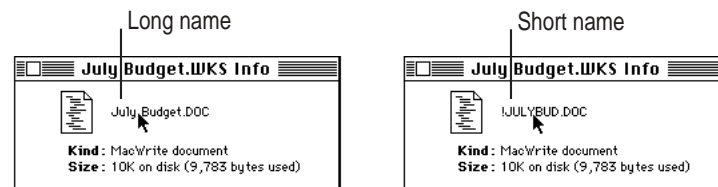
For example, suppose you created a file on your Macintosh named
July Budget.DOC

If you viewed the same file on a DOS computer, its name would be
!JULYBUD.DOC

The exclamation mark (!) indicates that the name has been shortened.

A file can thus have two names: a long name (for when the file is displayed on the Macintosh) and a short name (for when it's displayed on a DOS computer).

While using a DOS-format floppy disk on the Macintosh, you can see a document's short name by selecting the document, choosing the Get Info command from the File menu, and clicking the document's name in the Info dialog box. (For this procedure to work, you must have the File Sharing Extension installed.)



Viewing the contents of a disk on your DOS computer

When you view the directory of a disk on your DOS computer, you might notice additional directories named RESOURCE.FRK. These directories contain important information, known as *resources*, which are contained in some Macintosh documents.

WARNING Do not delete or move any directories named RESOURCE.FRK, and do not move any files out of these directories.



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