

The background features several large, light gray, abstract geometric shapes. On the left, a large shape resembles a stylized letter 'E' or a series of connected lines. To the right, there are curved, wavy lines and a shape that looks like a stylized 'P' or a similar letter. These shapes are layered and partially overlap each other.

Macintosh PowerBook Duo User's Guide

.....

*Includes setup, troubleshooting, and health-related information
for Macintosh PowerBook Duo 2300 series computers*

 Apple Computer, Inc.

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Apple Computer, Inc.
1 Infinite Loop
Cupertino, CA 95014-2084
(408) 996-1010

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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

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この装置は、第二種情報装置（住宅地域又はその隣接した地域において使用されるべき情報装置）で住宅地域での電波障害防止を目的とした情報処理装置等電波障害自主規制協議会（VCCI）基準に適合しております。

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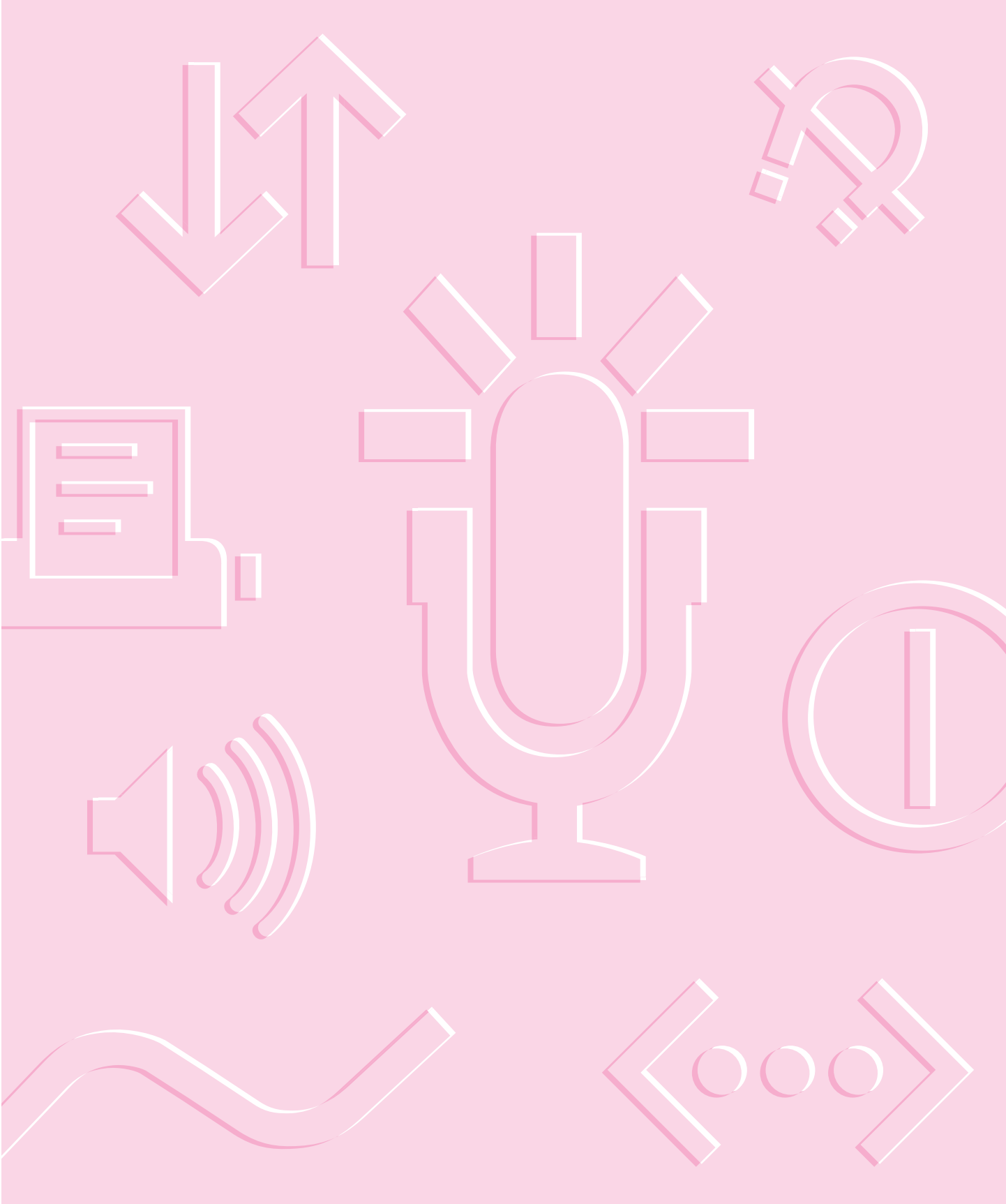
取扱説明書に従って正しい取り扱いをしてください。



- Chapter 1** **Getting Started**
- Chapter 2** **Getting Help**
- Chapter 3** **Connecting Additional Equipment**
- Chapter 4** **Installing and Using Application Programs**
- Chapter 5** **Power Management**



I
part



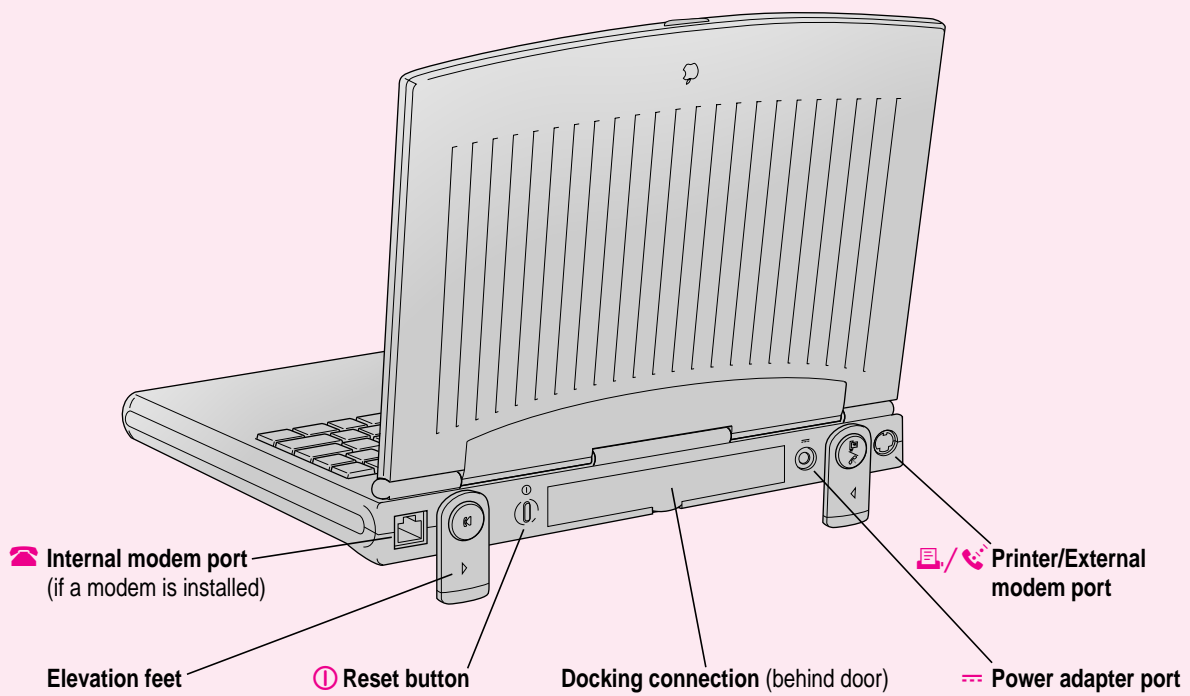
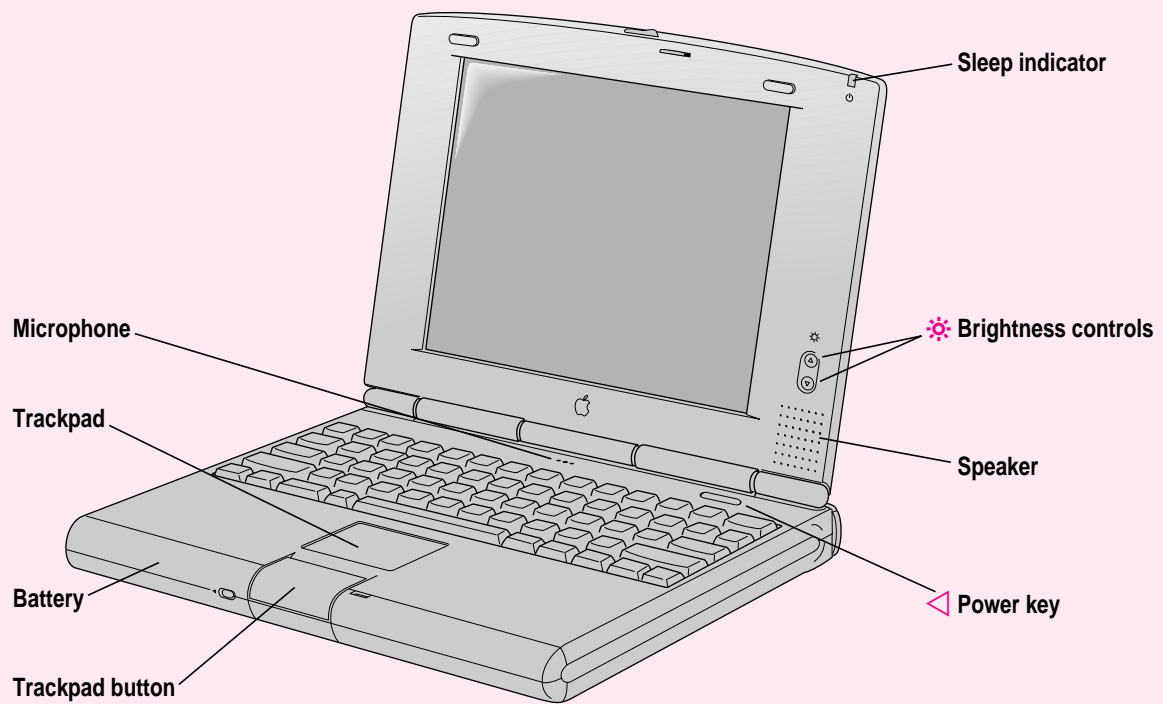
Follow the instructions in this chapter to set up your computer and learn the basics.



Getting Started

The illustration on the following page provides an overview of your Macintosh PowerBook computer. To set up your PowerBook for the first time, you need the power adapter and the power cord that came with your computer.

When setting up your computer, place your computer on a sturdy, flat surface near a grounded electrical outlet. Before following the setup instructions in this chapter, you may want to read “Arranging Your Work Area and Equipment” in Appendix A for tips on adjusting your work furniture and computer so that you’re comfortable when using the computer.



Plugging in the computer

Plugging in the power adapter recharges the computer's batteries. You should plug in the power adapter in case the battery has drained during shipping or storage.

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

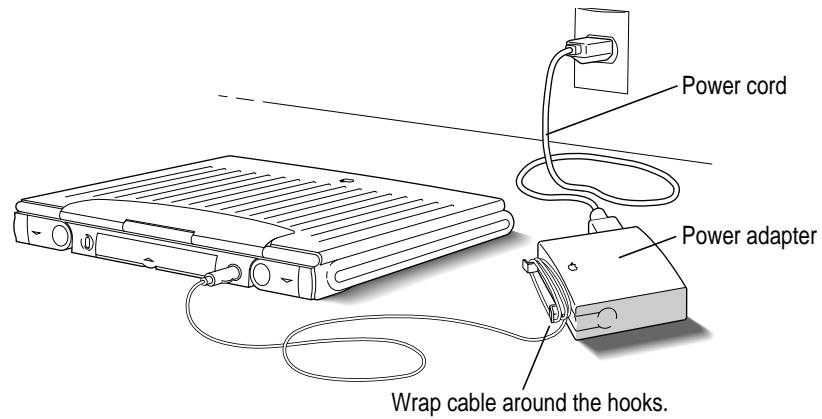
When you are ready to begin:

- 1 Plug one end of the power cord into the power adapter and the other end into a three-hole grounded outlet or power strip.**

WARNING This equipment is intended to be electrically grounded. Your Macintosh PowerBook is equipped with a three-wire grounding plug—a plug that has a third (grounding) pin. This plug will fit only a grounded AC outlet. This is a safety feature. If you are unable to insert the plug into the outlet, contact a licensed electrician to replace the outlet with a properly grounded outlet. Do not defeat the purpose of the grounding plug!

- 2 Plug the power adapter cable into the power adapter port (marked with the icon \equiv) on the back panel of the computer.**

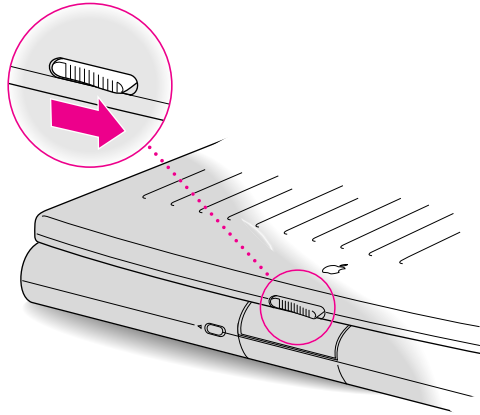
You can wind extra cable around the hooks that open out from the power adapter.



Depending on where you purchased your computer, you may also have received a wall mount plug. You can use this plug instead of the power cord to plug the power adapter directly into an electrical outlet.

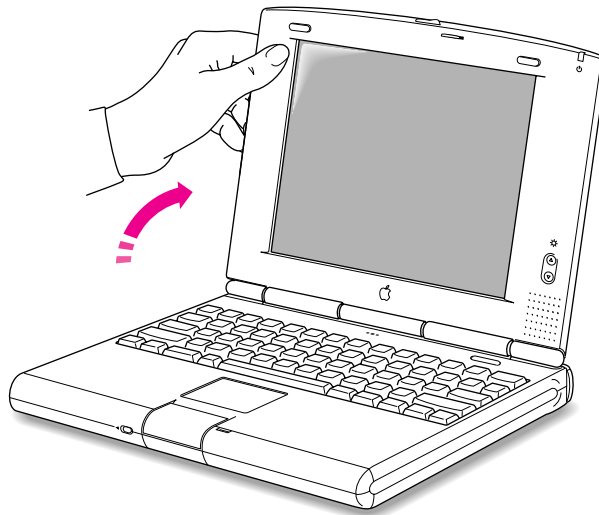
Opening the display

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



- 2 Position the display at a comfortable viewing angle.

You can adjust the angle of the display at any time by tilting it towards or away from you.

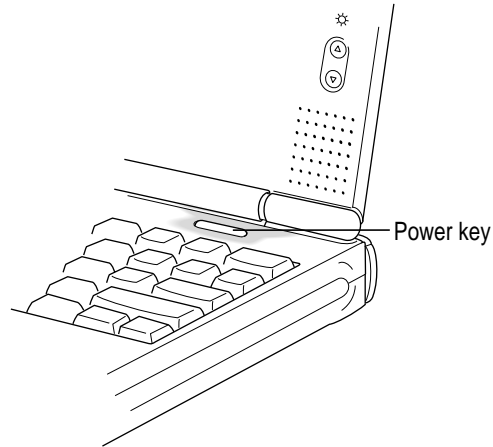


You can adjust the keyboard angle by lowering the computer's elevation feet. (See "Arranging Your Work Area and Equipment" in Appendix A.)

Turning the computer on

To turn on the computer:

- Press the Power key (marked with a triangle <|) above the keyboard.



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

After your computer starts up for the first time, a picture similar to this appears on the screen:



(*Note:* Your screen should look very similar to this, but it may not look exactly the same.)

If you don't see this picture on your screen, go to the next section, "Problems Turning Your Computer On?"

Problems turning your computer on?

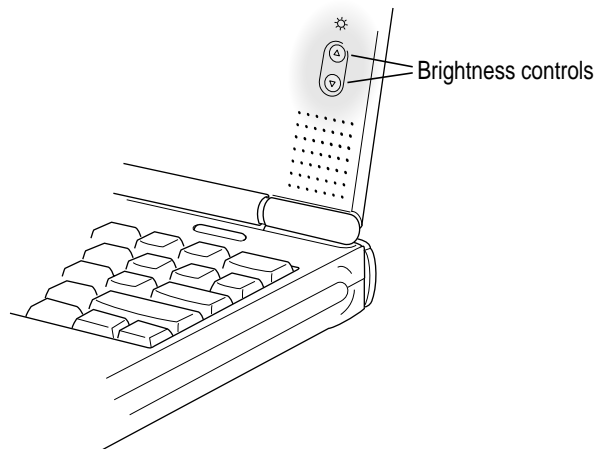
- **Nothing happened when you pressed the Power key.**

The battery may be drained. Make sure you plugged in the power adapter, and that the power adapter is firmly 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. Then try pressing the key again.

If the computer still doesn't turn on, see "Problems Starting Up the Computer" in Chapter 6.

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

Adjust the brightness controls (marked with the icon ☼) until an image appears and the screen is easy to read.



- **You see a picture of a disk with a blinking question mark on the screen.**



This icon usually means that the computer can't find system software on the hard disk or any disks attached to the computer. You may need to reinstall system software. See "Reinstalling System Software" in Chapter 7.

What's next?

You've now finished setting up your Macintosh PowerBook. Continue with one of the following steps:

- If you are new to the Macintosh, turn to the next section, “Learning the Basics.”
- If you are an experienced Macintosh user, turn to Chapter 2, “Getting Help,” to learn about Macintosh Guide, your main source of information when you're working with the Macintosh.
- If you have additional equipment to connect to your computer, see Chapter 3, “Connecting Additional Equipment,” for instructions. (If you are a new Macintosh user, you should complete “Learning the Basics” before connecting additional equipment.)
- If you have application programs that you want to install on your computer, see Chapter 4, “Installing and Using Application Programs,” for instructions. This chapter also tells you how to make backup copies of the system software if you have access to a floppy disk drive. (If you are a new Macintosh user, you should complete “Learning the Basics” before installing application programs.)

IMPORTANT If you need to turn off your computer at any point, read the instructions in “Turning the Computer Off” later in this chapter to learn the correct procedure for turning off your PowerBook.

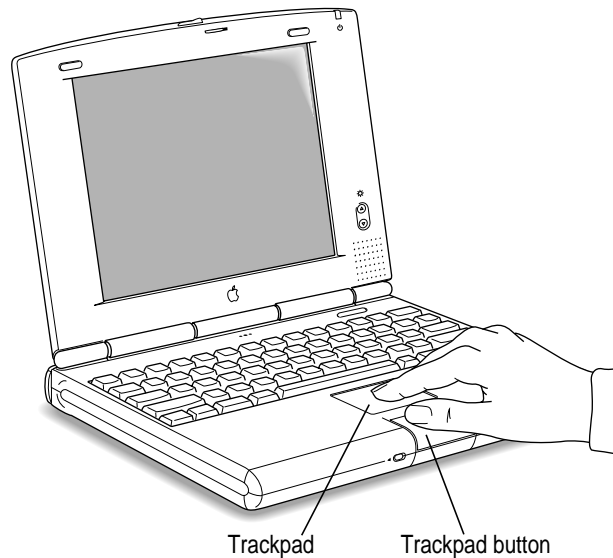
Learning the basics

If you are new to the Macintosh, you should begin by looking at the easy-to-use program called the Macintosh Tutorial. The tutorial teaches you the basic skills you'll need to use your computer. To start the tutorial, follow these steps:

- 1 Move your finger on the trackpad to move the arrow pointer (␞) on the screen.**

Place your index finger on the trackpad and your thumb on the trackpad button. Don't press the trackpad button yet.

Move your finger across the trackpad, watching the arrow on the screen. Notice that the arrow on the screen moves in the same direction that you move your finger on the trackpad.



The trackpad is sensitive not only to the direction you move your finger, but also to how fast you move your finger. If you want the pointer to move a short distance across the screen, you move your finger slowly across the trackpad. The faster you move your finger, the farther the pointer moves on the screen.

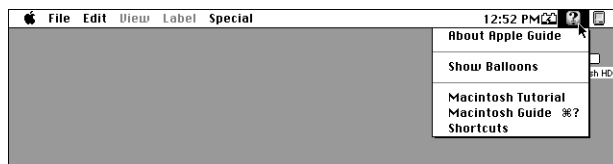
Tips for using the trackpad

For best results when using the trackpad, keep in mind these tips:

- Use your index finger (left or right hand). Use only one finger.
- Use a light touch on the trackpad. Do not press heavily.
- Use only your finger on the trackpad. Do not use a pen or any other object.
- Extend your PowerBook's elevation feet when it is placed on a flat surface. This gives your fingers better access to the keyboard and makes it easier to use the tip of your finger on the surface of the trackpad.
- Sometimes humidity or condensation may cause moisture to gather on the trackpad. If this happens, gently wipe the trackpad with a clean cloth before you use it.
- Use the trackpad to click and drag items by turning on these options in the Trackpad control panel. For instructions, see "How do I use the trackpad to click and drag?" in the "Setting Options" topic area of Macintosh Guide, available in the Guide (⌘) menu. (You can learn about Macintosh Guide in Chapter 2 of this manual.)

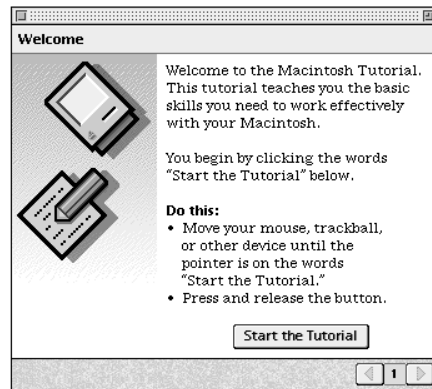
- 2 Move your finger on the trackpad so that the tip of the arrow (⏏) points to the question mark in the upper-right portion of the screen.
- 3 With the tip of the arrow (⏏) on the question mark, press and hold down the trackpad button.

A list of choices (called a *menu*) appears. This is the Guide (⌘) menu, which is the place to go when you have a question about how to use your computer.



- 4 While holding down the trackpad button, move the arrow (⌘) until the words “Macintosh Tutorial” are highlighted, then release the trackpad button.

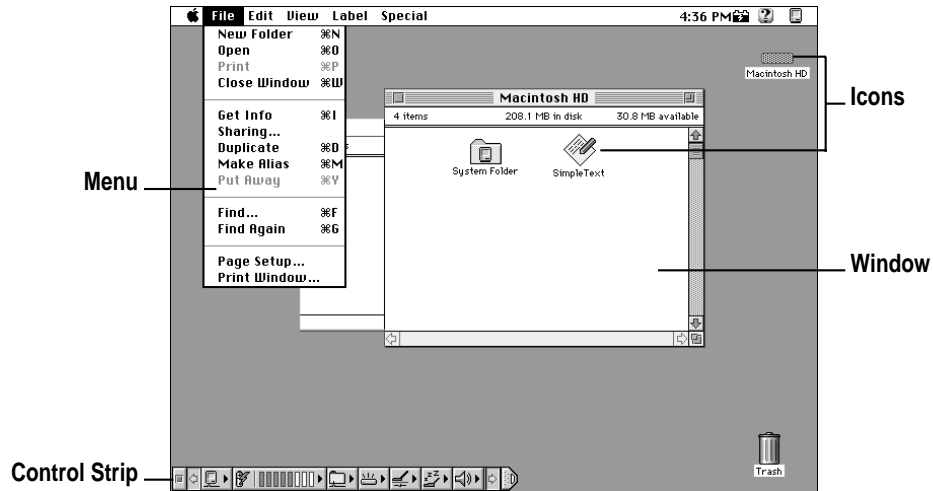
A window appears welcoming you to the tutorial.



You can set aside this book for now and follow the instructions you see on the screen. When you have completed the tutorial, return to this book.

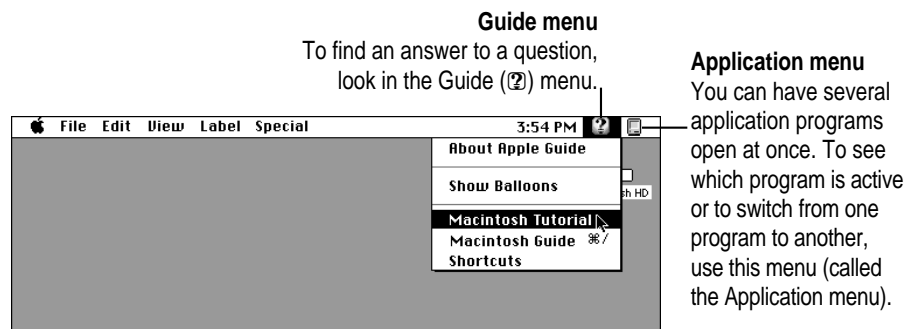
Reviewing the basics

You can use the following illustrations to review the elements you use on your screen to do work with your computer.



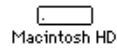
Menus

The strip across the top of the screen is called the menu bar. The symbols and words in it represent menus of commands. To open a menu, place the pointer on the symbol or word for the menu and press the mouse button.



Icons

Icons are small pictures that represent disks, programs, documents, and folders. You can double-click any icon to open it and see what it contains.



This icon represents your computer's internal hard disk.



Icons like this one represent application programs, which you use to create documents and do other work.



Icons like this one represent documents, which you can create and edit.



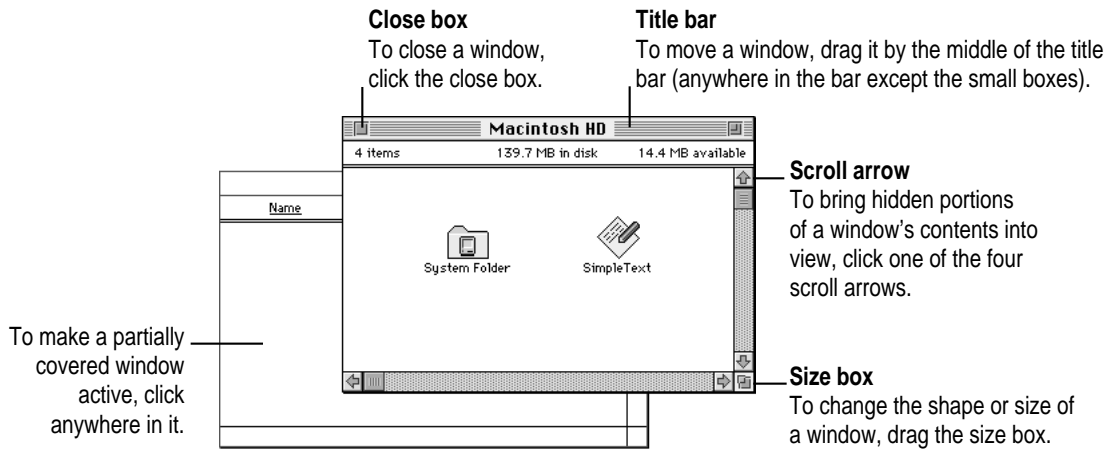
Icons like this represent folders. A folder contains other icons.



To throw away an item you no longer want, drag it to the Trash icon and choose Empty Trash from the Special menu.

Windows

Windows are boxes that display text, graphics, or icons. To change the shape or position of a window, or to close the window, use the elements shown here.



Control Strip

The Control Strip gives you a quick and easy way to monitor and update your PowerBook's power management options and other useful features. For instructions on using the Control Strip, see the “Batteries & Power” and “Control Strip” topic areas of Macintosh Guide, available in the Guide (⌘) menu. (You can learn about Macintosh Guide in Chapter 2 of this manual.)



Turning the computer off

Always use one of the following methods to shut down the computer. If you don't, you risk losing any work you haven't previously saved on a disk. You also risk losing any open documents.

Turning the computer off with the Power key

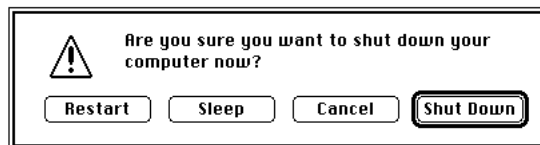
To turn the computer off, press the Power key. Detailed instructions follow.

- 1** If the computer is in sleep, press the Power key (or any key on the keyboard except Caps Lock) to wake it.

For information on the sleep feature of your Macintosh PowerBook, see “Putting the Computer to Sleep,” next.

- 2** Press and hold the Power key for about two seconds.

The following dialog box appears on the screen:

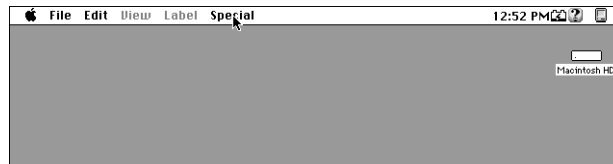


- 3** Press the Return key on the keyboard (or click the Shut Down button in the dialog box).

Turning the computer off with the Shut Down command

You can also turn your computer off by using the Shut Down command in the Special menu. Follow these steps:

- 1 If the computer is in sleep, press the Power key (or any key on the keyboard except Caps Lock) to wake it.
- 2 Move the tip of the arrow to the word “Special” at the top center of the screen.



If the word “Special” does not appear at the top of the screen, you’re working in the wrong program. Choose Finder from the Application menu at the far-right end of the menu bar.

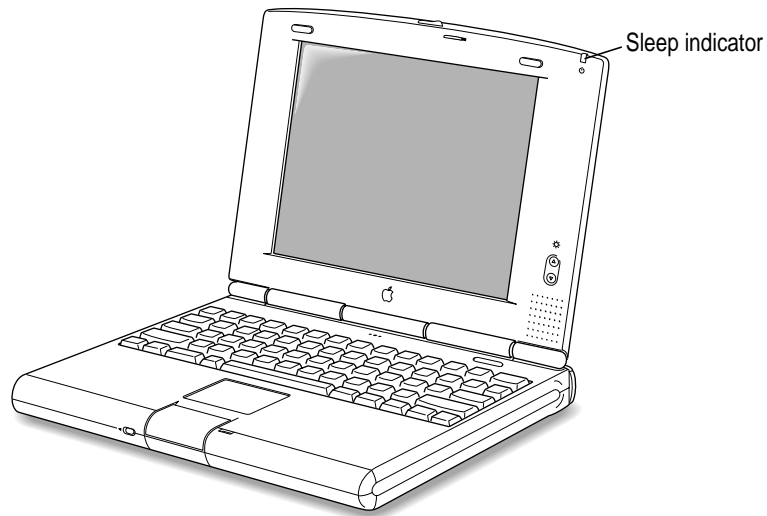
- 3 With the tip of the arrow on the word “Special,” press and hold down the trackpad button.
- 4 While holding down the trackpad button, move the arrow until the words “Shut Down” are highlighted, then release the button.



Trouble? If a problem with the computer prevents you from using the Power key or choosing Shut Down—for example, if the computer “freezes” so that the pointer does not respond to the trackpad—you can turn off the computer by pressing the reset button (marked with a Ⓟ) on the back of the computer. Use this method only if you cannot choose Shut Down or Restart when you press the Power key, or if you cannot choose either command from the Special menu.

Putting the computer to sleep

Sleep is a power conservation feature of Macintosh PowerBook computers that reduces the amount of power the computer draws when it's not being used. When the computer is in sleep, it has a darkened screen and appears to be off. A small green light flashes on the top of the display case when the computer is in sleep. (*Note:* The computer must be on in order for you to put it to sleep.)



To put the computer to sleep, do this:

- 1 Press and hold the Power key for about two seconds.
- 2 Click the Sleep button.

WARNING Once you put your computer to sleep, listen for the hard disk to stop spinning before you transport your Macintosh PowerBook. Transporting your Macintosh PowerBook with the hard disk spinning can damage your computer.

Other ways of putting your computer to sleep

- You can choose the Sleep command from the Special menu to put your computer to sleep.



- Move the pointer over the Sleep Now portion of the Control Strip. Press the button and choose Sleep Now from the pop-up menu that appears.
- You can also put your computer to sleep by closing and latching the display.

For information on other ways of putting the computer to sleep, see the “Batteries & Power” topic of Macintosh Guide, available in the Guide (🔍) menu. (You can learn about using Macintosh Guide in Chapter 2 of this manual.)

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). The screen will reappear as it was before the computer went to sleep.

You can control the automatic sleep feature. For more information on sleep and automatic sleep, see the “Batteries & Power” topic of Macintosh Guide, available in the Guide (🔍) menu. (You can learn about using Macintosh Guide in Chapter 2 of this manual.)

Restarting a computer that's already on

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

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

Follow these instructions to restart your computer:

- 1 Press and hold the Power key for about two seconds.
- 2 Click the Restart button.

You can also do this to restart:

- Choose Restart from the Special menu.



If the Special menu does not appear in the menu bar, you're working in the wrong program. Choose Finder from the Application menu at the far-right end of the menu bar.

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

Restarting using either of the methods outlined above does not affect your RAM disk (if you created one) or its contents.

Trouble? If a problem with the computer prevents you from using the Power key or choosing **Restart**—for example, if the computer “freezes” so that the pointer does not respond to the trackpad—you can turn off the computer by pressing the reset button (marked with a $\text{\textcircled{R}}$) on the back of the computer. Use this method only if you cannot choose **Shut Down** or **Restart** from the dialog box that appears when you press the Power key, or if you cannot choose either command from the **Special** menu.



Where to find answers

When you have questions about using your Macintosh, there are several places you can look for answers.




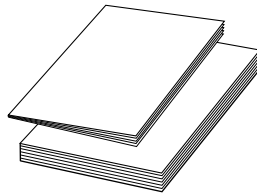
In this book

Use this book to help you set up your computer and learn about it, or to find solutions to problems with your equipment.



In the Guide menu

The Guide menu (marked with the  icon) is your main source of information about the Macintosh. To learn how to get different kinds of help from the Guide menu, see Chapter 2 in this book.



In other manuals

For answers to questions about other equipment or about application programs you have purchased, see the manuals that came with the equipment or programs.



In Read Me files

The Read Me files on your computer's hard disk are SimpleText documents that contain important late-breaking information about your PowerBook and some of the software that comes with your PowerBook.



From Apple's customer support hotline

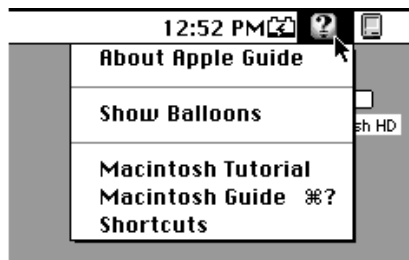
If you can't find an answer in any of the materials provided, call the customer support hotline. (The phone number for the hotline is in the service and support information that came with your computer.)

If you have problems with a particular application program, contact the manufacturer of the program.

Use the instructions in this chapter to learn about the help available to you in the Guide (⌘) menu.

2 Getting Help

The Guide (⌘) menu is your main source of information when you're working with your computer. The menu is identified by a question mark (⌘) in the upper-right corner of the screen.



Getting answers to your questions

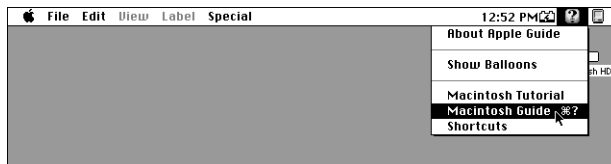
When you have a question while working with your computer, you can get the answer by choosing Macintosh Guide from the Guide (?) menu.

- 1 Pull down the Application menu (in the upper-right corner of the screen) and choose Finder to make it the active application program.

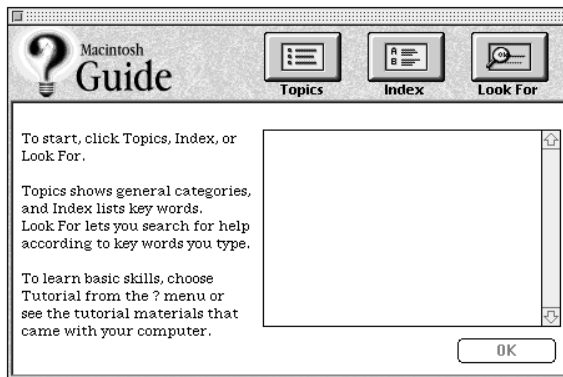


A checkmark in the menu indicates that the Finder is the active program.

- 2 Pull down the Guide menu (marked with the ? icon) and choose Macintosh Guide.

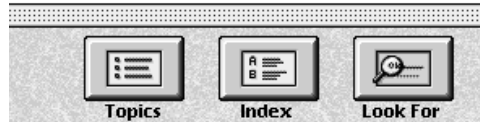


The Macintosh Guide window appears.



Whenever you use Macintosh Guide, its window remains in front of other windows. If the window gets in your way, you can move it by dragging its title bar (the gray bar across the top of the window).

- 3 Notice the three buttons at the top of the window: **Topics**, **Index**, and **Look For**.



Macintosh Guide gives you three ways of finding information:

- **Topics** lets you choose from a list of general subjects; it is like the table of contents in a book.
- **Index** lets you choose from an alphabetical list of more specific subjects; it is like the index in a book.
- **Look For** lets you search for information related to a specific word or phrase that you type.

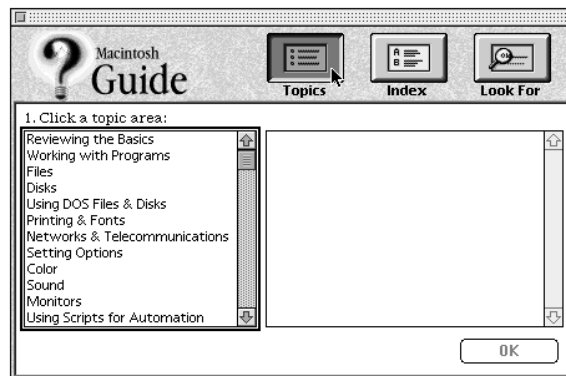
In the following sections you will practice using each method.

If you have problems while using Macintosh Guide, see “Tips for Using Macintosh Guide” later in this chapter.

Getting answers with the Topics button

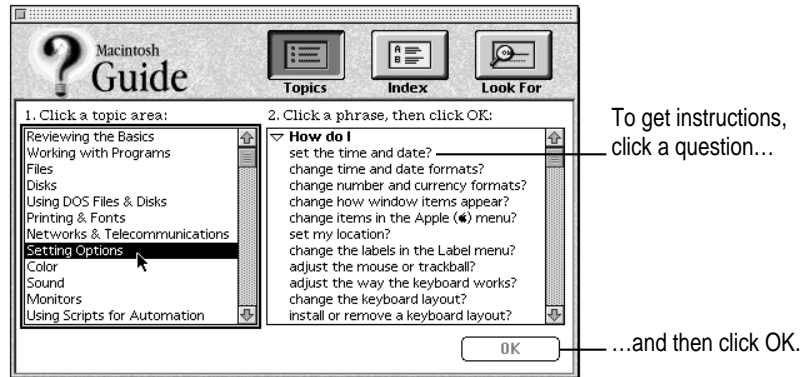
- 1 In the Macintosh Guide window, click the **Topics** button.

A list of general topics appears on the left side of the Macintosh Guide window. (Depending on the hardware and software you have, the list of topics may look different.)



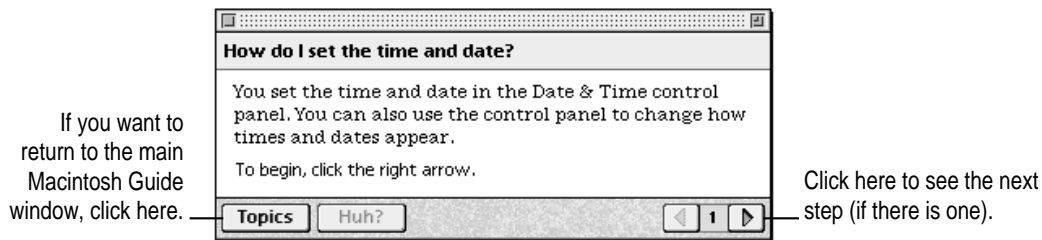
2 Click “Setting Options” in the list of topics.

When you click any topic area, a list of related questions appears on the right side of the Macintosh Guide window.



3 Click the question “How do I set the time and date?” and then click OK. Or double-click the question.

A small window appears with instructions for you to follow.



4 Read and follow the instructions in this window.

Macintosh Guide provides step-by-step instructions to answer the question you selected. When you have completed each step, click the right arrow in the lower-right corner to see the next step.

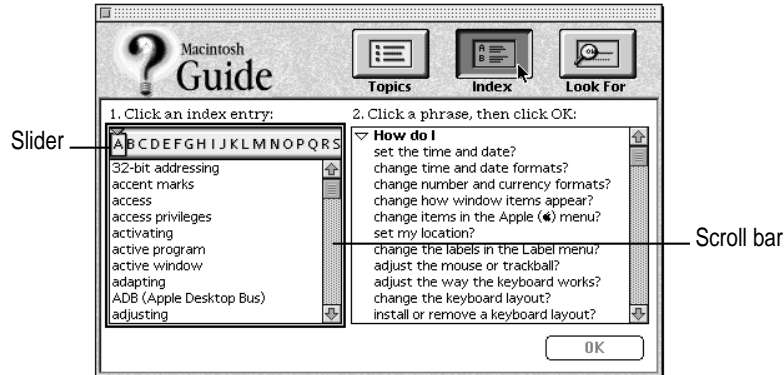
5 When you have completed all the steps, click the Topics button in the lower-left corner to return to the main Macintosh Guide window.

Now continue with the next section.

Getting answers with the Index button

- 1 In the Macintosh Guide window, click the Index button.

An alphabetical list of subjects appears on the left side of the window.

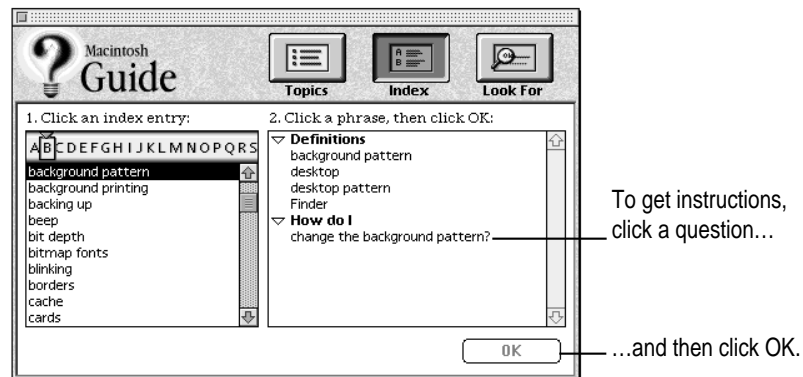


- 2 Scroll through the alphabetical list until the phrase “background pattern” is visible.

You can scroll through the list either by dragging the slider to the letter *B* or by using the scroll bar at the right of the list.

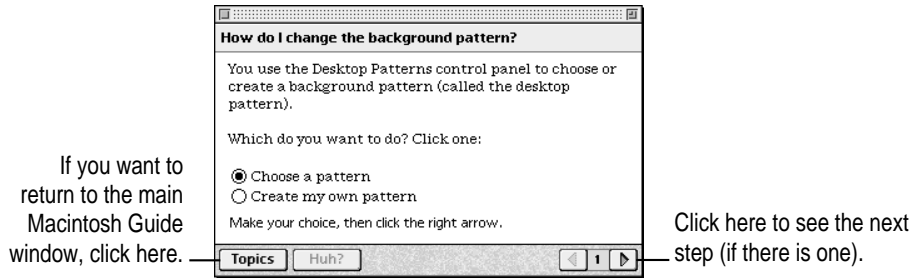
- 3 Click the phrase “background pattern” in the alphabetical list.

When you click any index entry, a list of related questions appears on the right side of the Macintosh Guide window.



- 4 Click the question “How do I change the background pattern?” and then click OK. Or double-click the question.

A small window appears with instructions for you to follow.



- 5 Read and follow the instructions in the window.

Macintosh Guide provides step-by-step instructions to answer the question you selected. When you have completed each step, click the right arrow in the lower-right corner to see the next step.

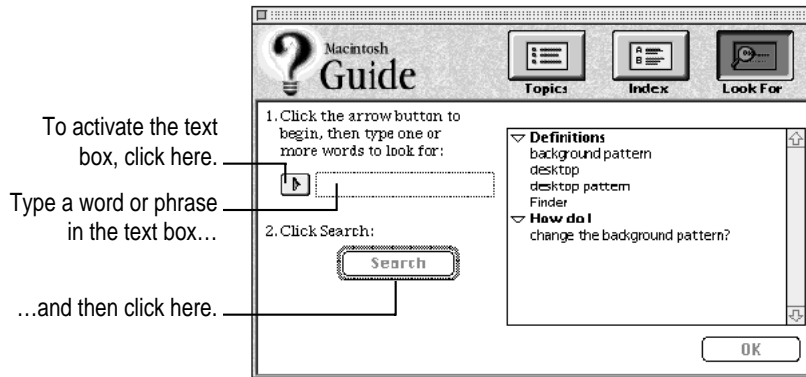
- 6 When you have completed all the steps, click the Topics button in the lower-left corner to return to the main Macintosh Guide window.

Now continue with the next section.

Getting answers with the Look For button

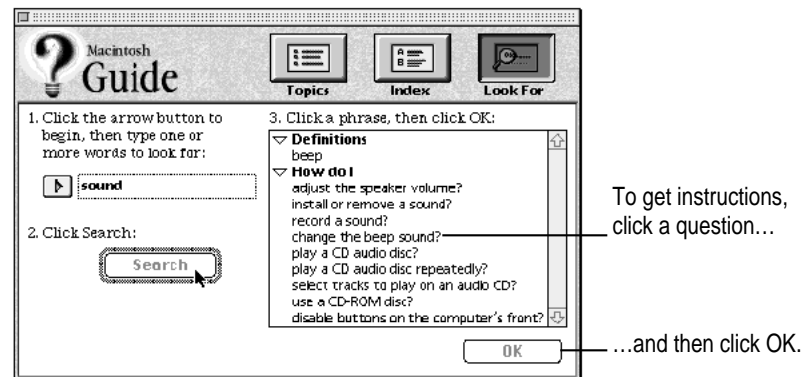
- 1 In the Macintosh Guide window, click the Look For button.

A small box appears on the left side of the window, where you can type text.



- 2 Click the arrow button to activate the text box.
- 3 Type "sound" in the text box and then click Search.

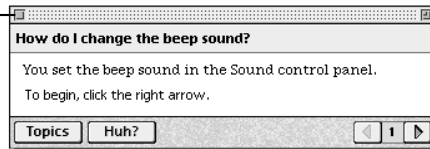
When you click Search, a list of questions related to the word or phrase you typed appears on the right side of the Macintosh Guide window.



- 4 Click the question “How do I change the beep sound?” and then click OK. Or double-click the question.

A small window appears with instructions for you to follow.

If you want to close
Macintosh Guide,
click here.



Click here to see the next
step (if there is one).

- 5 Read and follow the instructions in the window.

Macintosh Guide provides step-by-step instructions to answer the question you selected. When you have completed each step, click the right arrow in the lower-right corner to display the next step.

- 6 When you have completed all the steps, click the close box in the upper-left corner to close Macintosh Guide.

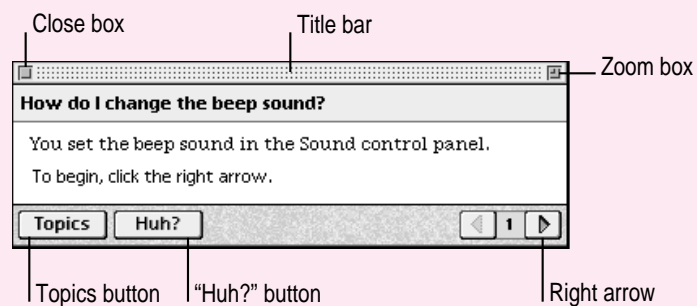
Tips for using Macintosh Guide

Here are a few tips for using Macintosh Guide effectively:

- Macintosh Guide is available only when you are in the Finder—the desktop area where you can see the icons of disks, folders, and files. (Other programs may also have help available in the Guide menu, however.) If you don't see Macintosh Guide in the Guide menu, pull down the Application menu (to the right of the Guide menu) and choose Finder.
- Follow the steps when you're instructed to; don't skip ahead or read ahead. That way the computer can check to make sure you've done a step correctly.
- Unlike most windows, the Macintosh Guide window stays in front of other windows on the screen so that your instructions are never covered. If you need to move the Guide window out of the way, drag it by the title bar at the top of the window.

You can also move the window out of the way by clicking the zoom box. Click the box once to shrink the window; click it a second time to expand the window to its original size.

- If you need more information about an instruction or a term, click the button labeled “Huh?” to get further explanation. (The “Huh?” button is dimmed when no additional information is available.)
- If you want to return to the main Macintosh Guide window, click the Topics button in the lower-left corner of the Guide window.
- When you're finished using Macintosh Guide, click the close box in the upper-left corner of the window.



Identifying objects on the screen

Sometimes you'll see an unfamiliar item on the screen and ask yourself, "What's that?" You can get an answer by using a Macintosh feature known as Balloon Help.

Balloon Help explains the function of icons, menus, commands, and other items on the Macintosh screen in balloons like those you see in comic strips.

Follow these steps to use Balloon Help:

- 1 Pull down the Guide menu (marked with the ) and choose Show Balloons.




- 2 Point to any object on the screen that you want to identify.

A balloon appears next to the object. In the following illustration, for example, pointing to the Trash displays a balloon that explains how to use the Trash to throw items away.



Although balloons appear next to items when you point to them, the way you work does not change; you can still select icons, choose commands, and so on.

- 3 When you're finished using Balloon Help, choose Hide Balloons from the Guide () menu.

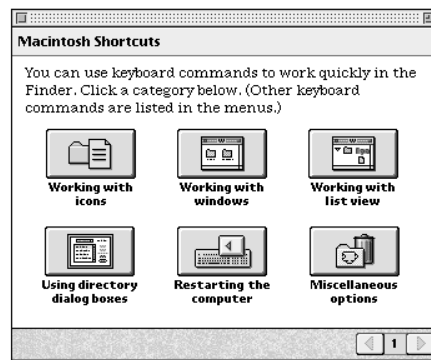
Learning useful shortcuts

You can perform many tasks in the Finder more quickly if you use keyboard or trackpad shortcuts. For example, instead of clicking an icon and choosing Open from the File menu, you can simply double-click the icon to open it.

Follow these steps to learn keyboard and trackpad shortcuts:

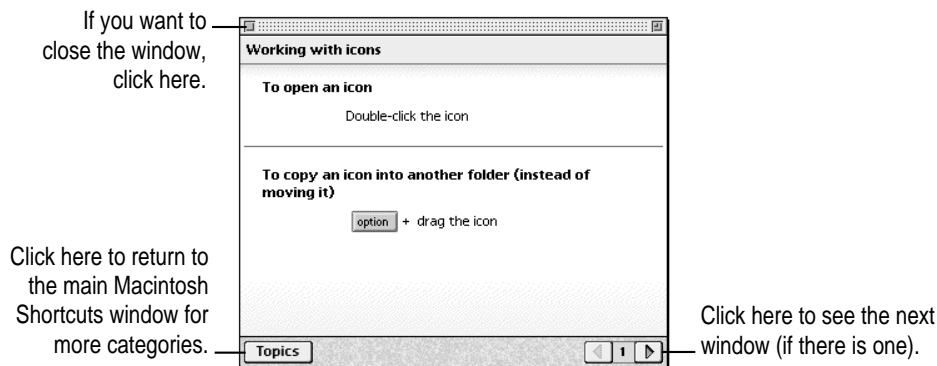
- 1 Pull down the Guide menu (marked with the  icon) and choose Shortcuts.

The main Macintosh Shortcuts window appears.



- 2 Click one of the category buttons.

Another window appears, describing shortcuts for that category.



- 3 Read about the shortcuts available for the category you selected.**

Click the right arrow in the lower-right corner of the window to display the next window (if there is one).

- 4 When you finish reading about the shortcuts for your category, click the Topics button in the lower-left corner to return to the main Macintosh Shortcuts window. Or click the close box in the upper-left corner to close the window.**



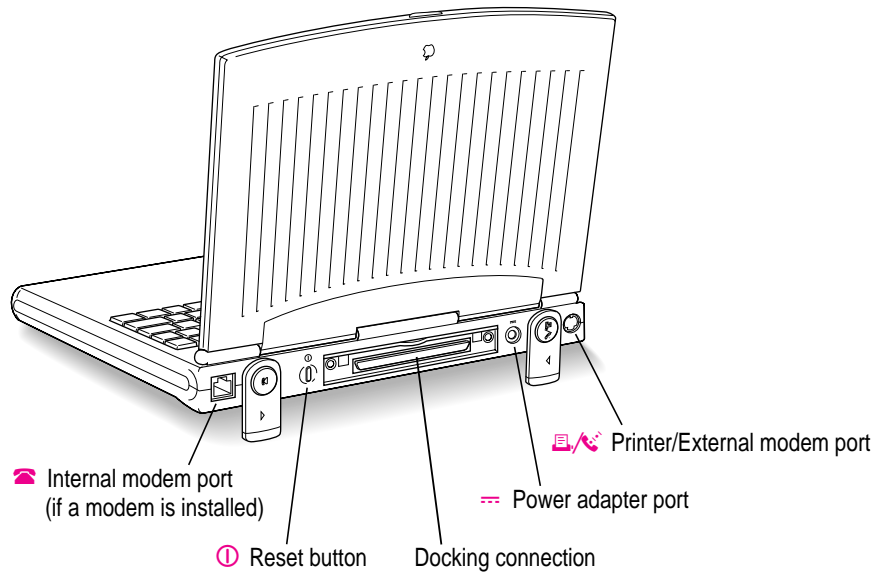
Read this chapter for information on expanding your computer system with additional hardware.

3

Connecting Additional Equipment



The illustration below shows where equipment can be connected to your computer. Refer to the manuals that came with your equipment for instructions on connecting it.



In addition to connecting certain equipment directly to your Macintosh PowerBook, you can also expand your system with the following accessories:

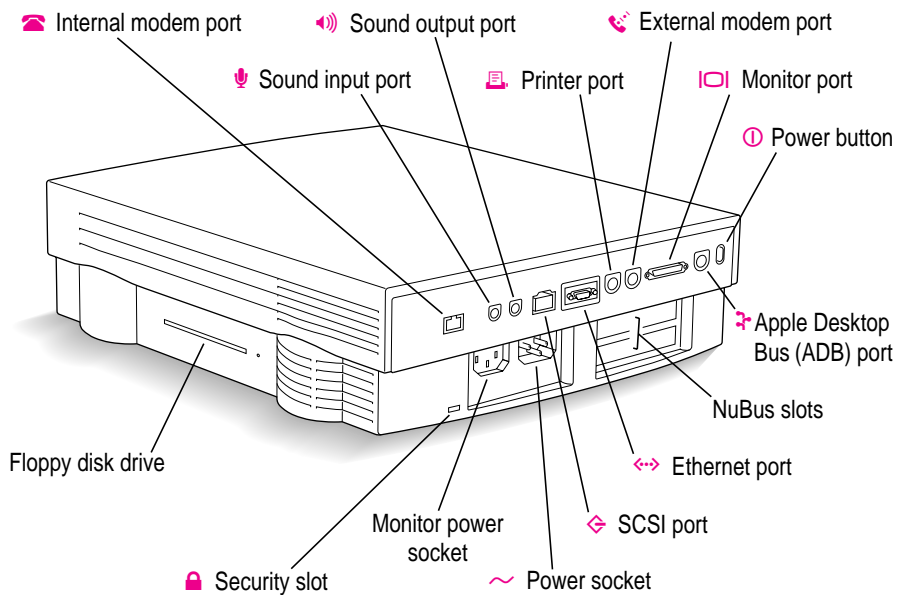
- the PowerBook Duo Dock Plus
- the PowerBook Duo MiniDock
- the PowerBook Duo Floppy Adapter

A brief overview of these accessories follows. For more information, see the documentation that comes with them. You can purchase any of these products from an Apple-authorized dealer.

The PowerBook Duo Dock Plus

The PowerBook Duo Dock Plus is the most versatile expansion option for Macintosh PowerBook Duo 2300 series computers. A dock is itself not a computer—you need a Macintosh PowerBook Duo 2300 series or a PowerBook 200 series computer to use it. When a PowerBook is “docked,” it has the video, storage, and input/output capabilities available on most desktop Macintosh computers.

The drawing below shows where you can connect a variety of devices to a Duo Dock Plus.



IMPORTANT You cannot use the PowerBook Duo Dock, an earlier model of dock, with your Macintosh PowerBook Duo 2300 series computer unless it has the Top Cover Upgrade installed. (The upgraded top cover has a door covering the opening at the front of the dock.) The upgrade is available from an Apple-authorized dealer.

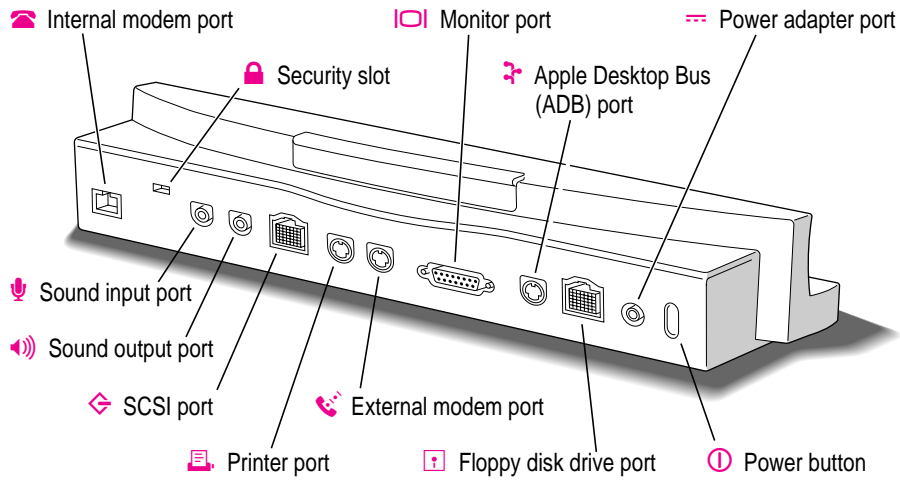
You can also use your Macintosh PowerBook with the Duo Dock II or a Duo Dock (with the Top Cover Upgrade). These docks are earlier models that have somewhat different features from the Duo Dock Plus.

The Duo Dock Plus comes with many built-in features; several optional features are also available. These features include

- an internal 1.4 MB floppy disk drive
- an optional internal SCSI hard disk drive (any available capacity that meets Apple's specifications; up to 1 inch high)
- standard ports including SCSI (with an HDI-30 connector), monitor, printer, modem, Apple Desktop Bus (ADB), sound input, sound output, and EtherTalk
- a separate mouse and keyboard
- slots for two NuBus cards for additional video, Token Ring, or other capabilities. When using the Macintosh PowerBook Duo 2300 in any Duo Dock model, the NuBus cards installed cannot consume more than 15 watts of power. Check the documentation that came with your cards to determine their power consumption. (Note that if you use two NuBus cards in your Duo Dock Plus, the bottom of your PowerBook may feel warm when you eject it from the dock. This is normal and will not harm your PowerBook.)
- built-in video support for a wide variety of monitors
- 1 MB VRAM for 16-bit color on 16" or smaller color monitors, 8-bit grayscale on the Apple 15" portrait monitor and the Macintosh Two-Page Display, and 8-bit color on 17" or larger color monitors
- an automatic insert/eject feature to ensure reliable docking
- a key-operated lock to prevent theft of the docked PowerBook
- a slot door that protects the interior of your Duo Dock Plus when your PowerBook is not docked

The PowerBook Duo MiniDock

The PowerBook Duo MiniDock allows you to connect a wide variety of devices to the Macintosh PowerBook. Like the Duo Dock Plus, the minidock with peripheral devices connected to it is not a computer—you need a Macintosh PowerBook Duo 2300 series (or a PowerBook 200 series) computer to make the system work.

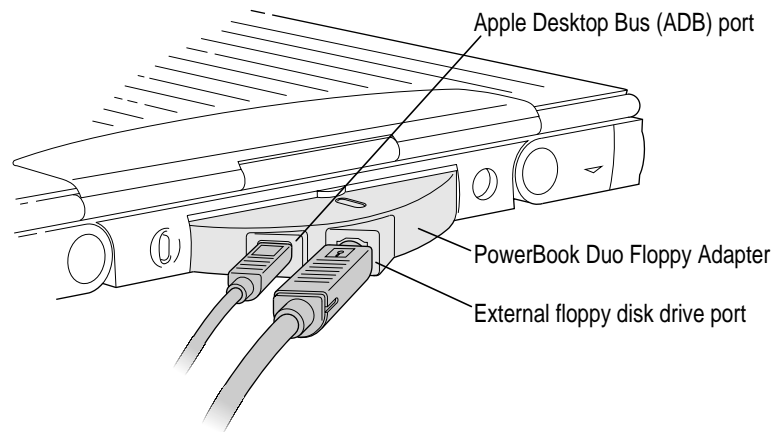


The minidock attaches to the back of the PowerBook and allows you to use the following types of equipment with your computer:

- a variety of monitors (including Apple's 17" monitor and other monitors up to 16")
- up to three Apple Desktop Bus (ADB) input devices (such as a keyboard or mouse)
- an external 1.4 MB floppy disk drive
- up to six SCSI devices, including hard disk drives, CD-ROM drives, and scanners
- a printer
- an external modem
- LocalTalk cables, to connect to an AppleTalk network
- an external microphone, set of headphones, or speakers

The PowerBook Duo Floppy Adapter

The PowerBook Duo Floppy Adapter allows you to connect an external 1.4 MB floppy disk drive (HDI-20) and up to three Apple Desktop Bus (ADB) devices—such as a keyboard or mouse—to your computer.



Connecting a printer

The printer/external modem port (🖨️/📠) on your Macintosh PowerBook can accept either a direct connection (to a printer such as a StyleWriter) or a network connection (to a printer such as a LaserWriter). In addition to connecting the printer or network cable to the port, you may have to adjust one or more software settings to assure that the computer's signals reach your printer.

Adjustments for a printer connected directly to the port

If you are connecting a printer directly to the printer/external modem port, be sure to

- select the icon for your printer in the Chooser
- turn off AppleTalk in the Chooser

Note: If an internal modem is installed, remove the X from the box labeled “Use internal modem instead of Modem Port” in the Express Modem control panel or click the Normal button in the PowerBook Setup control panel.

For instructions, see “How do I print?” in the “Printing & Fonts” topic area of Macintosh Guide, available in the Guide (🔍) menu.

Adjustments for a network printer

If you are using a printer that is part of a network, be sure to

- make AppleTalk active in the Chooser
- select LocalTalk or EtherTalk in the Network control panel
- select the icon for your printer in the Chooser (upper-left side)
- select the printer's name in the Chooser (upper-right side)

For instructions, see “How do I print?” in the “Printing & Fonts” topic area of Macintosh Guide, available in the Guide (🔍) menu.

Adjustments for sharing a modem and printer

If you are using a printer alternately with an external modem (through the printer/external modem port), you may need to cancel some modem options before printing. Be sure to

- remove the X from the box labeled “Use internal modem instead of Modem Port” in the Express Modem control panel. (See the next section, “Connecting a Modem,” for details.)
- turn off automatic answer in the fax software
- turn off automatic answer in Apple Remote Access (if you have installed that software)

For instructions, see the manuals for your modem and communications or fax software.

Connecting a modem

Apple offers optional, low-power, internal fax/data modems for your Macintosh PowerBook. See the modem manual for information about your modem.

You can also connect an external modem to any of the following:

- the printer/external modem port on the PowerBook
- the external modem or printer port on a Duo MiniDock
- the external modem or printer port on a Duo Dock Plus

To connect an external modem, follow these steps.

- 1 Make sure the computer is in sleep or shut down.**
- 2 Connect the modem to a power source and to the phone line.**
See the documentation that came with the modem.
- 3 Make sure the modem is turned off.**
- 4 Connect the modem cable to the printer/external modem port (PowerBook) or the external modem port (Duo Dock Plus or Duo MiniDock).**



Printer/External modem port icon



External modem port icon

- 5 Turn on the modem.**
- 6 Wake or restart the computer.**
- 7 Open the Chooser and click the LaserWriter icon.**

Selecting a LaserWriter assures that the printer/external modem port is not dedicated to a printer that is connected directly to the computer.

- 8 If you are not using EtherTalk (on a dock), click the Inactive button for AppleTalk (in the lower right area of the Chooser).**

Making AppleTalk inactive clears the port for the modem's use.

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

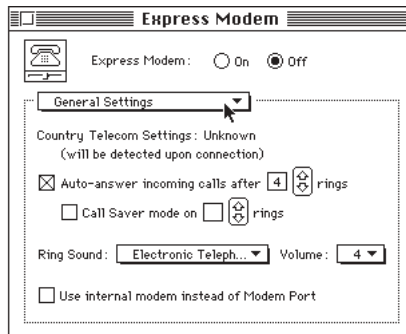
If your computer does have an internal modem, continue with step 9.

- 9 Choose Control Panels from the Apple () menu and open the Express Modem control panel.**

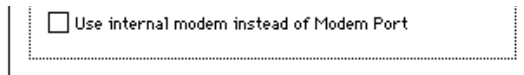


Express Modem

- 10 Choose General Settings from the pop-up menu.



- 11 If there is an X in the box labeled “Use internal modem instead of Modem Port,” click the box to remove the X.



Removing the X from the box assures that the printer/external modem port will receive the computer’s signals.

- 12 Close the control panel.

The external modem is ready to use.

If you don't have the Express Modem control panel: If you have another kind of internal modem, you can activate an external modem by opening the PowerBook Setup control panel and clicking the Normal button. (The internal modem may also have its own control panel. See the manual that came with the modem for complete instructions.)

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 *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 dock's SCSI port. There is a SCSI port on the PowerBook Duo Dock Plus and the PowerBook Duo MiniDock. (There is no SCSI port on Macintosh PowerBook Duo 2300 series computers.)

To connect a SCSI device to your PowerBook, you need an Apple HDI-30 SCSI System Cable or equivalent. This cable is light gray (the same color as desktop Macintosh computers), is about 19 inches long, and has 29 pins (one “missing pin”).

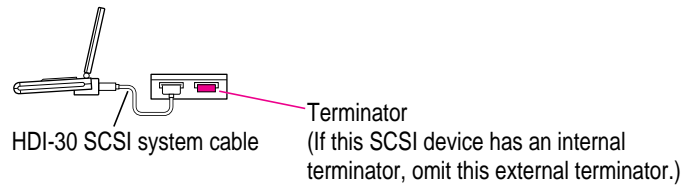
Refer to the manuals that came with your SCSI devices for instructions on installing any necessary software, setting SCSI ID numbers, and connecting SCSI cables and SCSI terminators. Refer to the illustrations that follow for the proper positioning of SCSI terminators. A chain of SCSI devices must include a terminator attached to the last device in the chain (but nowhere else in the chain). Some devices have internal terminators. Your Macintosh PowerBook does not have an internal terminator.

The names and the part numbers of the cables mentioned in this chapter are the following:

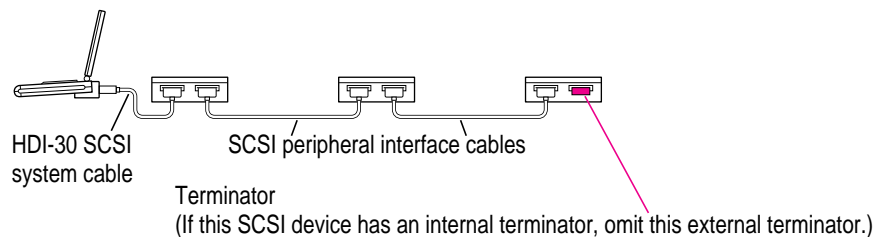
Type of connection	Name of cable	Part number
From a Duo Dock Plus or Duo MiniDock to a SCSI device	Apple HDI-30 SCSI System Cable	M2538LL/A
From SCSI device to a SCSI device	Apple SCSI Peripheral Interface Cable	M0207
For SCSI disk mode	Apple HDI-30 SCSI Disk Adapter Cable	M2539LL/A

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

Where to add cable terminators when connecting a single SCSI device:



Where to add cable terminators when connecting two or more SCSI devices:



Using your PowerBook as a hard disk

If you have a PowerBook Duo MiniDock, you can purchase a cable called the Apple HDI-30 SCSI Disk Adapter, which lets you connect your PowerBook to another computer as a hard disk. The PowerBook appears on the desktop of the other computer as a hard disk icon, and you can transfer information between the computers by dragging files. This feature is called *SCSI disk mode*.

The Apple HDI-30 SCSI Disk Adapter is dark gray, is much shorter than the SCSI system cable, and has 30 pins.

The PowerBook Duo Dock Plus does not support SCSI disk mode.

WARNING Follow the steps for connecting and disconnecting SCSI devices carefully to avoid loss of information and damage to your equipment.

Connecting your computer as a hard disk

Before making any connections, you need to assign a unique SCSI ID number to the PowerBook. (The unique ID number allows the computer to communicate with several connected devices.)

- 1 Turn off password protection in the Password Security control panel (if it is turned on).

For instructions, see “How do I turn password security on and off?” in the “Setting Options” topic area of Macintosh Guide, available in the Guide (📖) menu.

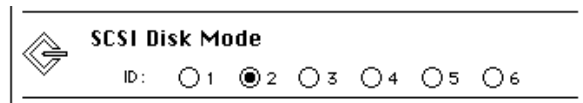
- 2 Choose Control Panels from the Apple (🍏) menu of your PowerBook computer.
- 3 Open the PowerBook Setup control panel.



PowerBook Setup

- 4 In the SCSI Disk Mode section of the control panel, click the ID number you want to assign.

If you are connecting the PowerBook to an existing SCSI chain, make sure to give it an ID number different from those of the other devices. (Many devices include an ID number indicator on the back panel.)



(The SCSI ID number is preset to 2 at the factory.)

- 5 Close the PowerBook Setup control panel.
- 6 Press the Power (⏻) key on the PowerBook until you see the Shut Down dialog box, and click Shut Down to turn the PowerBook off.
- 7 Shut down the computer you are connecting to, and turn off any other devices in the SCSI chain.

- 8 **Connect the small connector on the Apple HDI-30 SCSI Disk Adapter cable to the SCSI port on your PowerBook Duo MiniDock.**

If there are SCSI devices connected to the other computer, attach a SCSI peripheral cable to the last device in the SCSI chain.

- 9 **If you are connecting the PowerBook directly to the other computer (rather than to an external device in the SCSI chain), attach a SCSI system cable to the other computer.**

- 10 **Connect the large connector on the Apple HDI-30 SCSI Disk Adapter cable to a SCSI cable attached to the SCSI port on the last device in the SCSI chain, or to the SCSI system cable on the other computer.**

Connect the PowerBook and disk adapter only at the end of a SCSI chain.

WARNING Always shut down the PowerBook before connecting or disconnecting the SCSI disk adapter cable. Connecting the adapter cable while the computer is turned on can damage the computer.

- 11 **Turn on the PowerBook by pressing the Power key.**

After a few seconds a SCSI icon appears on the screen, showing the ID number you assigned in step 3.



(The icon moves around on the screen while the PowerBook is operating as a hard disk.)

WARNING If you do not see the SCSI icon, and the computer starts normally or displays an error message, choose Shut Down (if you can) and then immediately disconnect your computer from the SCSI chain. (If you can't choose Shut Down, you should disconnect the cable anyway, or you may lose information.) Then go back and repeat steps 6 through 10, making sure to use the proper cables.

Password protection must be turned off in the Password Security control panel while using your PowerBook in SCSI disk mode. Turn password protection off if you experience problems. See “How do I turn password security on and off?” in the “Setting Options” topic area of Macintosh Guide, available in the Guide (📖) menu.

12 Turn on the other SCSI devices in the chain, if any.

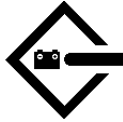
13 Turn on the other computer.

The PowerBook appears as a hard disk icon on the desktop of the computer you connected it to. You can now transfer and use files as if the PowerBook were an external hard disk.

WARNING Always disconnect your minidock from the adapter cable when you are not using it as a hard disk. Your PowerBook will not work correctly if the adapter cable remains attached.

Drawing battery power in SCSI disk mode

Your PowerBook continues to draw battery power when you use it as a hard disk. Low battery power is indicated by a blinking low-power warning on the PowerBook's screen.



If you see this warning while using your computer as a hard disk, either plug in the power adapter or quit SCSI disk mode, as described in the next section, so you can remove the battery for recharging.

Quitting SCSI disk mode

- 1 Shut down the computer your PowerBook is connected to.
- 2 Hold down the ⌘ (Command) key and press the Power (<⏻>) key to shut down the PowerBook.
- 3 Turn off any other SCSI devices in the chain.
- 4 Disconnect the minidock from the adapter cable.

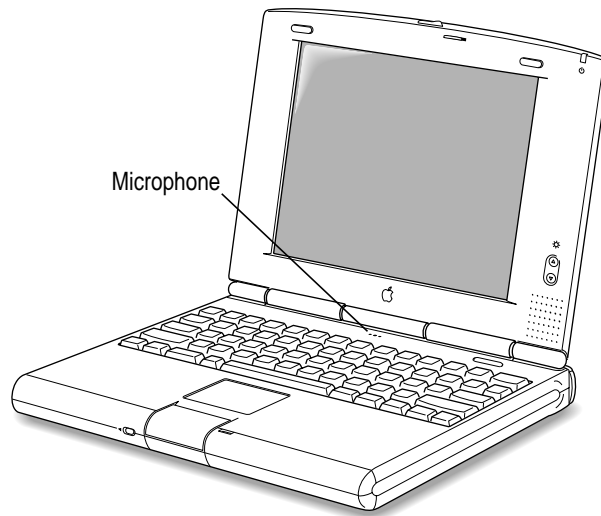
IMPORTANT Do not leave the adapter cable attached to the minidock. If you do, the computer will behave as though it is still in SCSI disk mode when you try to restart.

- 5 Disconnect the adapter cable from the other computer or its SCSI chain.

Your equipment is now ready for normal use. If you disconnected the adapter cable from the other computer or SCSI chain, make sure that the SCSI chain is properly terminated.

Connecting sound input and output devices

Your computer has a built-in microphone. For information on using the microphone to record sounds, see the “Sound” topic area of Macintosh Guide, available in the Guide (🔗) menu.



If you have a Duo Dock Plus or a Duo MiniDock, you can attach sound devices, such as a tape player or headphones, to the dock's sound input and output ports. (You cannot use the internal microphone and an external sound input device at the same time.) For instructions on selecting a sound device, see the “Sound” topic area of Macintosh Guide, available in the Guide (🔗) menu.

Connecting a monitor

You can connect a monitor to the Duo Dock Plus or the Duo MiniDock. See the manuals for the dock and the monitor for instructions.

Connecting other devices

For instructions on connecting a device not discussed in this chapter—for example, an external input device or networking hardware—refer to the manuals that came with the device.

Adding memory to your computer

Your PowerBook computer comes with at least 8 MB of RAM. You can increase your computer's memory by adding a RAM expansion card. You can find out how much memory your computer has by choosing About This Macintosh from the Apple () menu in the Finder.

You can purchase memory upgrades from Apple-authorized dealers. For complete instructions on installing a RAM expansion card, see the *Technical Information* booklet that came with your computer.

Your PowerBook computer also supports virtual memory, a feature that makes use of hard disk space to provide additional RAM. (When the power adapter is not plugged in, using virtual memory will reduce your battery life, however.) For information on using virtual memory, see the “Memory” topic area of Macintosh Guide, available in the Guide (🔍) menu.



Read this chapter for information on installing and using application programs on your computer.

4

Installing and Using Application Programs



Using Software Highlights

Your Macintosh PowerBook comes with some great software already installed that includes such features as

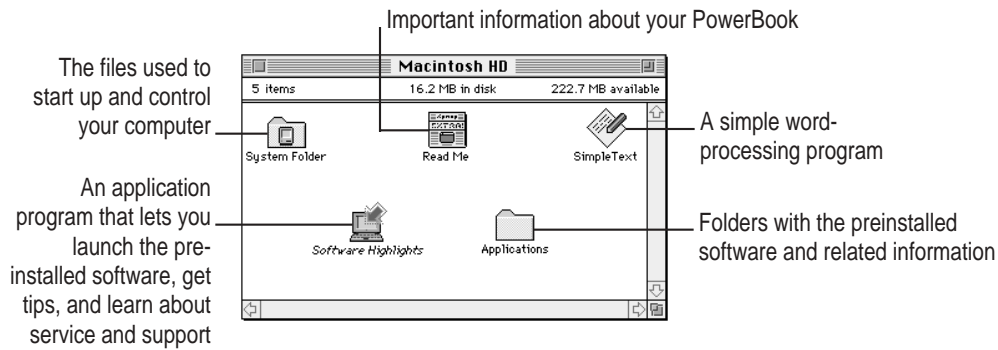
- hard disk password protection
- file synchronization
- DOS and Windows file compatibility
- remote access to another Macintosh
- an assortment of games

You can access this software from an icon on your hard disk called Software Highlights. Software Highlights gives you access to application programs, product demos, quick tips, important information in Read Me files, and service and support information.

To get started with your software, follow these steps:

1 Open the Macintosh HD icon.

A window similar to this appears:



2 Double-click the Software Highlights icon.

There are six topic buttons at the top of the window. When you click a button, the window displays items or information associated with that topic.

IMPORTANT If you delete the Software Highlights icon, you have not deleted your preinstalled software. (Most of the software is in the Applications folder on your computer's hard disk.)

If you don't see a Software Highlights icon, you can access the information in Software Highlights by following these steps:

1 Choose Control Panels from the Apple () menu.

2 Open the Launcher control panel.

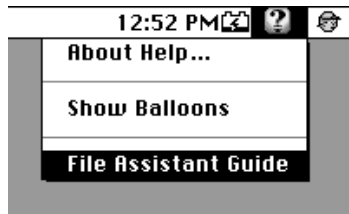
The same window you see when you open Software Highlights appears on your screen.

See the "Working with Programs" topic area of Macintosh Guide, available in the Guide (⌘) menu, for instructions on using the Launcher.

Getting help for application programs

Some application programs that come on your PowerBook (File Assistant, for instance) are documented in their own Apple Guide online help systems. Follow these steps to see if a program has an Apple Guide help system:

- 1 Open the application program.
- 2 Open the Guide (🔍) menu.



If an item appears in the Guide menu for your application program, choose it. If an item does not appear, then there is no Apple Guide online help for that program.

Installing application programs

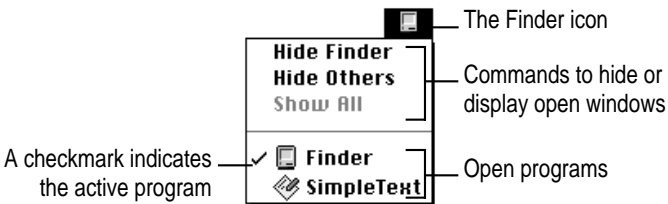
You'll probably want to buy and install additional application programs. Refer to the manuals you receive with your programs for instructions on installing and using them.

In most cases, you install application programs onto your internal hard disk from floppy disks that you receive as part of an application program package. (If you don't have a dock or Floppy Disk Adapter and external floppy disk drive, you can connect your PowerBook to a network and install the software from another computer on that network. For instructions on connecting to a network and using software from another computer, see the "Networks & Telecommunications" topic area of Macintosh Guide, available in the Guide [🔍] menu.)

Working with several programs at a time

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

All open programs are listed in the Application menu at the right end of the menu bar. The name of the active program (the one you're using right now) has a checkmark next to it, and its icon appears in the menu bar.



Finding out which programs are open

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

Switching programs

You can switch to another open program or desk accessory by choosing its name from the Application menu.

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

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

Hiding and showing windows on the desktop

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

The other programs remain open even though their windows are hidden. When you switch to another program, its windows become visible again.

If you want to see all the open windows, choose Show All from the Application menu.

Using “native” application programs

Your computer is compatible with nearly all application programs intended for use with Macintosh computers. But certain programs are designed especially for computers with PowerPC microprocessors. (These are sometimes called “native” applications.) You’ll find that these programs take best advantage of your computer’s speed.

Special memory requirements

Some native programs may be slightly larger than other programs and may take up more memory. If you find that you are running out of memory when you use programs designed for PowerPC microprocessors, you can use space on your computer’s hard disk as additional memory. This feature is called *virtual memory*. Your computer was developed to take advantage of the virtual memory feature, and comes with virtual memory turned on. For instructions on how to use or increase hard disk space as memory, see the “Memory” topic of Macintosh Guide, available in the Guide (Ⓜ) menu.

You can also add more memory to your computer, as described in the *Technical Information* booklet that came with your PowerBook.

Shared libraries

Native programs use special files called *shared libraries*. These files help the programs to run more efficiently, and can be used by more than one native program simultaneously. Any necessary shared libraries are installed automatically in the System Folder when you install native programs.

If a native program requires a shared library and there is not enough memory available for the shared library, you'll see a message that the program could not be opened because of insufficient system memory. If this happens, see the "Memory" topic of Macintosh Guide, available in the Guide (🔍) menu, for instructions on turning on virtual memory.

If a required shared library is missing, you'll see a message that the program could not be opened because the shared library could not be found. If this happens, follow the directions that came with your program to reinstall the program. If the shared library is still missing, contact the program's manufacturer for assistance.

Backing up your files

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

- Your hard disk contains disk images of system software and the application programs that came with your computer. If you have an external floppy disk drive with an adapter or a dock, you can make disks from these images using the Floppy Disk Maker application program. (Instructions for using Floppy Disk Maker with a floppy disk drive are presented in the next section, "Making Software Disks.")
- You can back up an entire floppy disk by copying it to another floppy disk, or to a hard disk.
- You can use a commercial backup program to copy new and changed files from a hard disk to another hard disk, to a tape drive, or to a series of floppy disks.
- If your computer is on a network, you can back up files by copying them to a shared disk on the network.
- You can back up files by copying them from one computer to the other using SCSI disk mode. (See "Using Your Macintosh PowerBook as a Hard Disk" in the "Connecting SCSI Devices" section in Chapter 3 for more information on SCSI disk mode.)

Making software disks

This section describes how to create floppy disks of the software that comes on your computer. You can make floppy disks if you have the PowerBook Duo Floppy Adapter or the PowerBook Duo MiniDock and an external floppy disk drive, or the PowerBook Duo Dock Plus.

Why make software disks?

Your Macintosh PowerBook computer comes with different kinds of software installed. *System software* is the set of programs and other files that your computer uses to start itself up, keep track of your files, and run application programs. When you turn on your computer, it looks for a disk that contains the system software. System software is always in a folder called the System Folder.

Other included software gives you added functionality on your computer, such as hard disk password protection and file synchronization.

You need to make a copy of this software for safekeeping, in case you ever need to reinstall the software on your computer. The disks you need to install and reinstall software from are called *installer disks*. You use the Floppy Disk Maker application program to create your software installer disks.

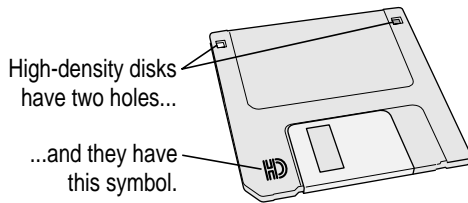
What is a disk image?

A *disk image* is a discrete electronic representation of an individual disk. The Disk Images folder in the Floppy Disk Maker folder (inside the Utilities folder) on your hard disk contains the disk images you need to create installer disks for both your system software and the other software that comes on the hard disk. When you use Floppy Disk Maker, it copies the disk images onto floppy disks. When you are finished making a set of disks with Floppy Disk Maker, you'll have a set of installer disks and will be able to reinstall the software that comes on your computer.

What you need

Just as you need paper to make copies of important documents, you need floppy disks to make copies of 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.

Before you start making your disks, you’ll need to decide if you want to make a *full set* or a *minimum set* of disks. When you make a full set, you’ll make disks for your system software and most of the other software that comes on your computer. When you make a minimum set, you’ll make just the core system software disks. It is best to make a full set (at least two dozen disks), so you’ll have installer disks for your system software and most of the other software that comes on your computer. However, making a full set requires more disks and more time than making a minimum set (at least one dozen disks). At the very least, make a minimum set of disks now. If you choose to make a minimum set, you can make disks for the other software later.

If you don’t have disks on hand, you can skip these instructions for the moment. But the sooner you make the system software disks, the better. Buy the disks as soon as possible, then return to this section and follow these instructions.

IMPORTANT Be sure you make at least a minimum set of disks as soon as possible, in case you need to reinstall your system software.

Making a set of disks

To use the Floppy Disk Maker program to make your system software disks, follow these instructions:

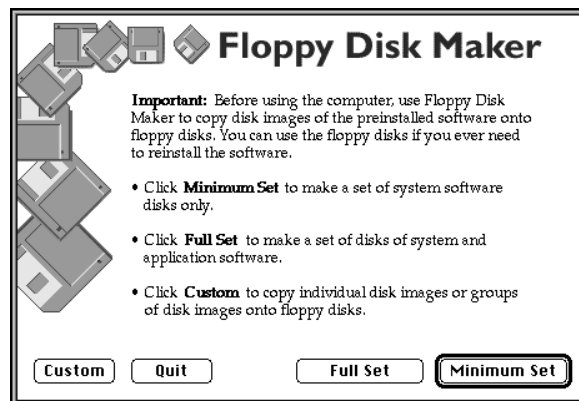
- 1 **With your computer turned off, connect it to the Duo Dock Plus, or to the Duo MiniDock or the Duo Floppy Adapter and external floppy disk drive.**

If you need instructions for connecting an external floppy disk drive, see Chapter 3, “Connecting Additional Equipment.”

- 2 **Turn on the computer.**
- 3 **Locate the Floppy Disk Maker program (inside the Floppy Disk Maker folder, in the Utilities folder on your hard disk) and double-click its icon to open it.**

You can find Floppy Disk Maker in either the Applications/Utilities section of Software Highlights or in the Floppy Disk Maker folder (inside the Utilities folder) on your hard disk. (See “Using Software Highlights” earlier in this chapter for more information.)

When the program opens, the following dialog box appears on your screen:



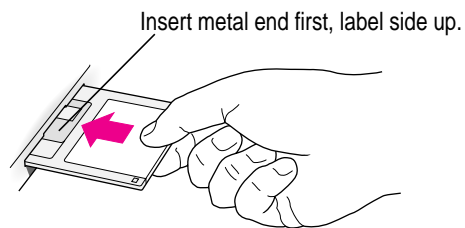
4 Click Minimum Set or Full Set, depending on the kind of disk set you want to make.

If you are making a minimum set, you can press the Return key. You can make a minimum set first so you have a set of system software disks, and then use Floppy Disk Maker to make the other disks later. (See “Making Individual Disks” later in this chapter for instructions when you want to make the additional disks.)

If you need to stop Floppy Disk Maker in the middle of making a set of disks, click Quit. Floppy Disk Maker will remember where you were in the disk-making process, and will resume where you left off when you restart Floppy Disk Maker.

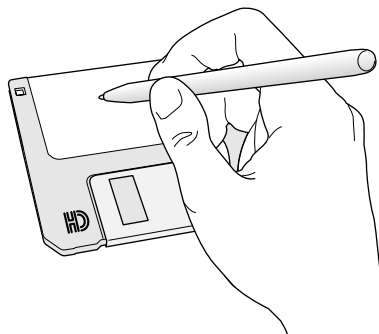
5 Follow the instructions on the screen until a message tells you that you’re finished.

Insert a new disk whenever the screen messages tell you to. Do not use any disk that contains a program or information that you want to save.



6 When you’re finished, click Quit.

As you complete each disk, make a label with the name displayed on the screen. Then immediately put the label on the disk so that you know what its contents are later.



- 7** If you quit in the middle of the disk-making process and want to resume copying, click **Resume Minimum** or **Resume Full** (depending on the type of set you are making) when you open the program and see the **Floppy Disk Maker** box.

Once you've made a full set of disks, you can delete the disk images to free up space on your hard disk. However, keeping copies of at least the system software images is a good idea. You should keep these disk images on your hard disk, or backed up on an external hard disk. The disk images are found in a folder called **Disk Images** inside the **Floppy Disk Maker** folder.

Making individual disks

If you made a minimum set of disks, you can go back and make disks of the remaining software on your computer. You do this by using the custom feature of **Floppy Disk Maker**. You can make an individual disk or a set of disks for an application program. Follow these steps:

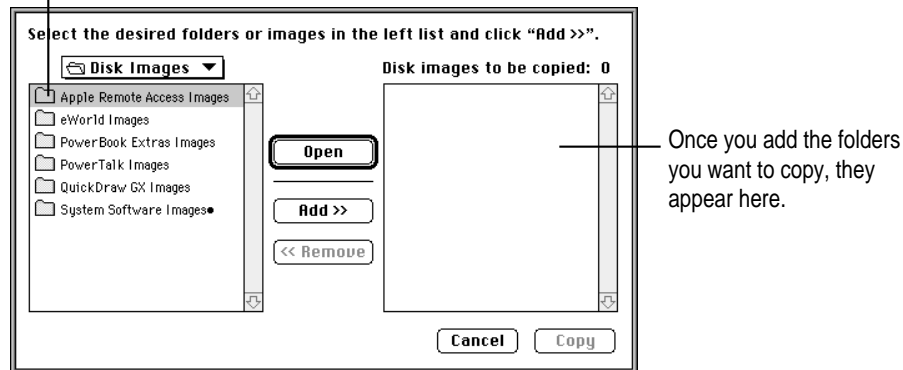
- 1** **Open the Floppy Disk Maker application program.**

You can find **Floppy Disk Maker** in either the **Applications/Utilities** section of **Software Highlights** or in the **Floppy Disk Maker** folder (inside the **Utilities** folder) on your hard disk. (See "Using Software Highlights" earlier in this chapter for more information.)

2 When the Floppy Disk Maker dialog box appears, click Custom.

The following appears on the screen:

Folders containing images of software that comes on your computer are listed here. Click the folder you want to copy, then click Add.



3 Click the icon for the folder you want to copy to select it.

If you want to make one individual disk for a program (in case you lost a disk or an individual disk got damaged), double-click the program's folder to open it, then click the icon of the individual disk image to select it.

The folder (or individual disk) appears in the list to the right under "Disk images to be copied."

4 Click Add.

Repeat steps 3 and 4 until all the software you want to copy appears in the list to the right. The total number of disks you'll need appears above the list in the right of the window.

5 Click Copy.

Follow the instructions on the screen. Remember to label the disks as you make them.

When you have finished copying software, store the disks in a safe, cool place.

Read this chapter for information about your Macintosh PowerBook's battery.

5

Power Management



Power sources

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

- **Main battery** Your computer came with a nickel-metal-hydride (NiMH) battery. This battery should provide power for 2–4 hours of work time (you may get longer work time, depending on the Macintosh PowerBook model you have and the battery conservation features you use).
- **AC power** You can run your computer from a grounded electrical outlet by plugging in the power adapter.

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

Monitoring the battery charge

There are three ways you can determine the charge level of your battery:

- See low-power messages on your display.
- Look in the Battery Monitor portion of the Control Strip.

For information on the Battery Monitor, see the “Batteries & Power” topic of Macintosh Guide, available in the Guide (🔍) menu.

- Look at the battery level icon next to the clock in the menu bar.

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, you should do the following:

- **Plug in the power adapter, or**
- **Save your work and put the computer to sleep, then**
- **Replace the empty battery with a charged one within two minutes.**

IMPORTANT Always save your work when you see a low-power message.

What you should know

When the first low-power message appears, the screen dims automatically to save power.

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.

Note: When connected to a minidock with an external monitor attached or to certain docks from manufacturers other than Apple, the computer shuts down rather than going to sleep after the third warning message.

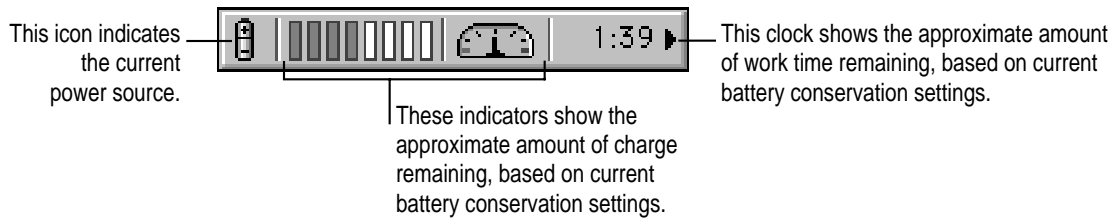
If you continue working until the computer goes to sleep automatically, you can wake it again as soon as you plug in the power adapter or replace the battery with a charged battery.

If you can't plug in the power adapter, the contents of RAM are retained in sleep for about a day (as long as you don't remove the battery).

IMPORTANT Recharge a depleted battery as soon as possible. Leaving a depleted battery in the computer for a length of time (especially in a hot location, such as the trunk of a car) may damage the battery so that it can't be recharged. If this happens, you need to replace the battery.

Using the Control Strip to monitor battery charge


The Battery Monitor portion of the Control Strip shows the current power source and the approximate amount of charge left in your battery.




For more information, see the question “How do I check the battery power level?” in the “Batteries & Power” topic area of Macintosh Guide, available in the Guide (Ⓜ) menu.

Using the battery icon

There is a battery icon in the menu bar that tells you the charge left in your battery.

 The amount of black in the icon indicates the charge level.

 When a lightning bolt appears in the icon, the battery is charging.

Recharging the battery

There are three ways to recharge a battery:

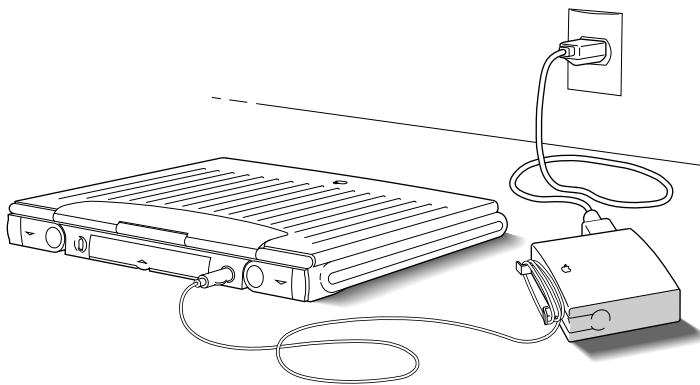
- Plug in the power adapter to recharge the battery without removing it from the computer.
- Remove the battery and recharge it in the (optional) recharger.
- Put the Macintosh PowerBook in the Duo Dock Plus, where recharging begins immediately.

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. 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. Recharging takes approximately 4 hours when the computer is in use and approximately 2 hours when the computer is in sleep or shut down.

A lightning bolt icon appears in the Battery Monitor portion of the Control Strip when the power adapter is plugged in and a battery is recharging.



Recharging in a recharger

You can purchase a battery recharger and additional batteries from your Apple-authorized dealer. If you have a recharger and an extra battery, you can charge one battery while you use another, so you always have a fully charged battery on hand.

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

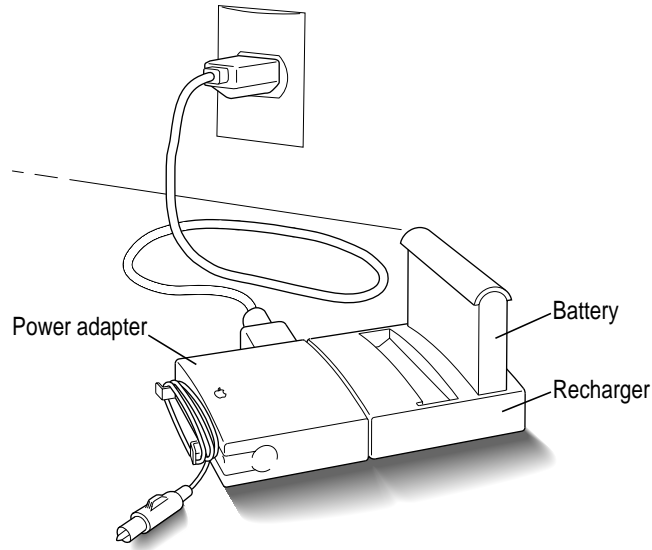
The recharger must be plugged into an electrical outlet to charge a battery. You can plug it in using the power adapter that came with your computer, or you can purchase an additional (identical) power adapter from your Apple-authorized dealer.

WARNING Use only the power adapter that came with your computer with the recharger. 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 as shown in the illustration.



- 3 Place the battery in the recharger as shown.

Recharging begins immediately. You can remove a battery from the recharger at any time. Remember, if you are charging two batteries, they charge one at a time. It takes about two hours to charge each battery.

Be sure to put the battery in its plastic case when it is not in the recharger or the computer.

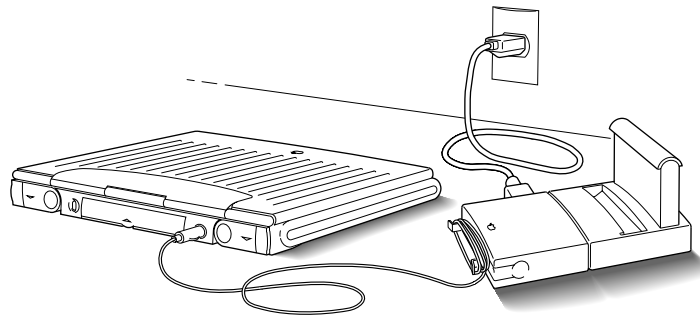
IMPORTANT To preserve a battery's charge, don't leave it in the recharger if the power adapter is not plugged into an electrical outlet.

The lights on the recharger indicate the following:

- **Yellow** The battery is charging.
- **Green** The battery is fully charged.
- **Red** The recharger does not recognize the type of battery you inserted. If you are charging a replacement battery, follow the instructions that came with it.
- **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.)

Recharging in both the computer and a recharger

You can use a single power adapter to run the PowerBook and the battery recharger at the same time.



If the PowerBook is on and contains a battery that is not fully charged, the computer charges the internal battery first. The external battery does not begin charging until the internal battery is fully charged. It takes a little over 2 hours for a fully depleted battery to charge.

If the PowerBook is in sleep or is shut down, internal and external batteries charge simultaneously. If both batteries are fully depleted, it takes about 4.5 hours to charge both. If the internal battery is fully charged or absent, the external battery takes a little over 2 hours to charge.

Removing or replacing the battery

When you remove a depleted battery without first plugging in the power adapter, the backup battery in your computer protects open programs and documents for about 4 minutes, allowing you to remove the depleted battery and replace it with a charged one. (The backup battery maintains other kinds of information, including control panel settings such as the clock time, for up to two weeks after the main battery is discharged or removed.)

If the power adapter is plugged in, you can use the computer indefinitely without a battery.

To remove or replace the main battery, follow these steps:

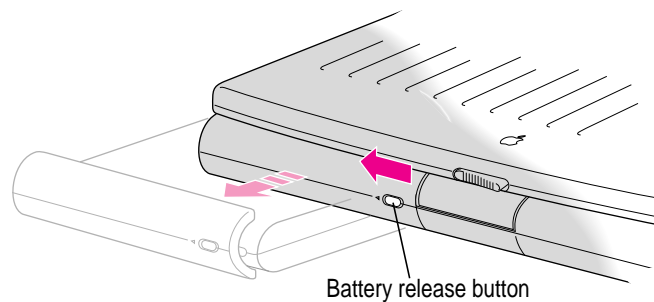
- 1 Save your work, and then put the computer to sleep.**

You can shut down if you feel more comfortable working without the 4-minute time limit.

- 2 Close the display.**

- 3 Open the battery door by pressing the small battery release button and 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.**

Put the battery in its plastic case if you won't be recharging it.

- 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.

IMPORTANT Check to make sure the battery is properly inserted. The battery should be aligned with the computer and the battery door completely closed. The top and bottom seams where the battery and the Macintosh PowerBook meet should be tight and even. If a battery is not inserted correctly, you may have performance problems.

7 If possible, plug in the power adapter in case the battery is not fully charged.

WARNING Damaged nickel-metal-hydrate batteries may leak small amounts of sodium hydroxide. This substance can cause severe burns to the skin and eyes. If you touch a damaged battery, immediately rinse your hands and any other affected areas with water for at least five minutes. Do not use soap.

Disposing of dead batteries

IMPORTANT Nickel-metal-hydrate batteries contain hazardous materials. It is inappropriate, and in some cases unlawful, to throw the batteries away with your household or business trash. Many locations have government-sponsored collection and/or recycling programs. Please dispose of used batteries in accordance with the mandatory or voluntary battery collection schemes in your location.

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.

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 can preserve the contents of RAM 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, using the Battery Reconditioning program. You can find this program in the Utilities folder on your hard disk, and also on the system software floppy disk labeled *Disk Tools*. Keep the Battery Reconditioning program on your hard disk so it is convenient to use every 30 days.

IMPORTANT It takes 2 hours to run the Battery Reconditioning program and another 2 hours to fully charge your battery in your Macintosh PowerBook. During the time you are reconditioning your battery (and recharging it, if you don't have a recharger), you cannot use your PowerBook. Plan to recondition your battery when you won't need your PowerBook for at least 4 hours.

To recondition a battery, follow these steps:

- 1** Make sure your PowerBook is connected to a power source.
- 2** Turn on your PowerBook.

- 3 Locate the Battery Reconditioning icon (in the Utilities folder on your hard disk) and double-click to open it.



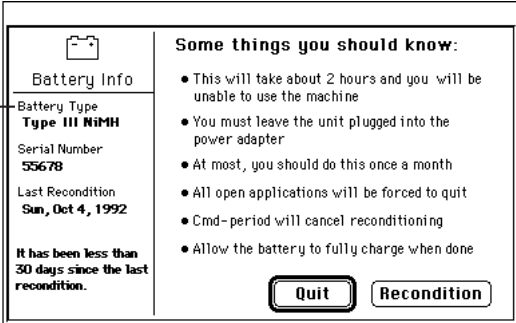
Battery Reconditioning

A message appears on the screen describing battery reconditioning. If you don't have your PowerBook plugged in, a message appears telling you to plug it in.

- 4 Read the message on the screen and click OK.

The following appears:

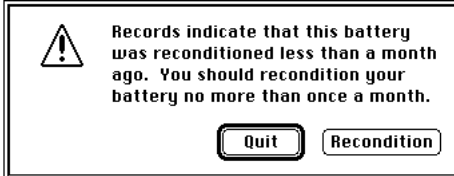
The type of battery in your computer appears here.



The date you last reconditioned your battery appears here. A warning appears below the date if it has been less than 30 days since the last time you reconditioned the battery.

- 5 Click Recondition if it has been more than 30 days since the last time you reconditioned the battery.

If 30 days have not passed since the last time you reconditioned, the following appears on the screen:



Click Quit to exit the Battery Reconditioning program.

If 30 days have passed since you last reconditioned, this message appears:



Remember that it takes 2 hours to recondition the battery and 2 hours to fully charge the battery. Make sure you do not need to use your PowerBook for 4 hours.

6 Click OK.

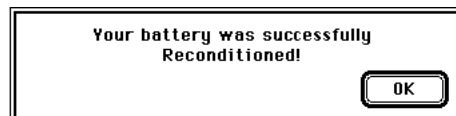
While the reconditioning cycle is taking place, the following icon appears on the screen:



Command-Period to quit.

You can quit the Battery Reconditioning program at any time by pressing the period key and the ⌘ (Command) key at the same time. Also, if you unplug your PowerBook during reconditioning, the reconditioning program will quit. Your battery is not reconditioned if you quit in the middle of the reconditioning cycle.

When the reconditioning is complete, the following appears on the screen for one minute:



7 Click OK.

The battery is reconditioned. Allow time to recharge the battery by leaving the PowerBook plugged in for 2 hours. Follow these steps again in 30 days to maximize the life of the battery.

Maximizing work time

Your PowerBook's battery can provide 2 to 4 hours of work time before you need to recharge. The actual work time available depends on what equipment you're using with your computer and what steps you take to conserve power while you work.

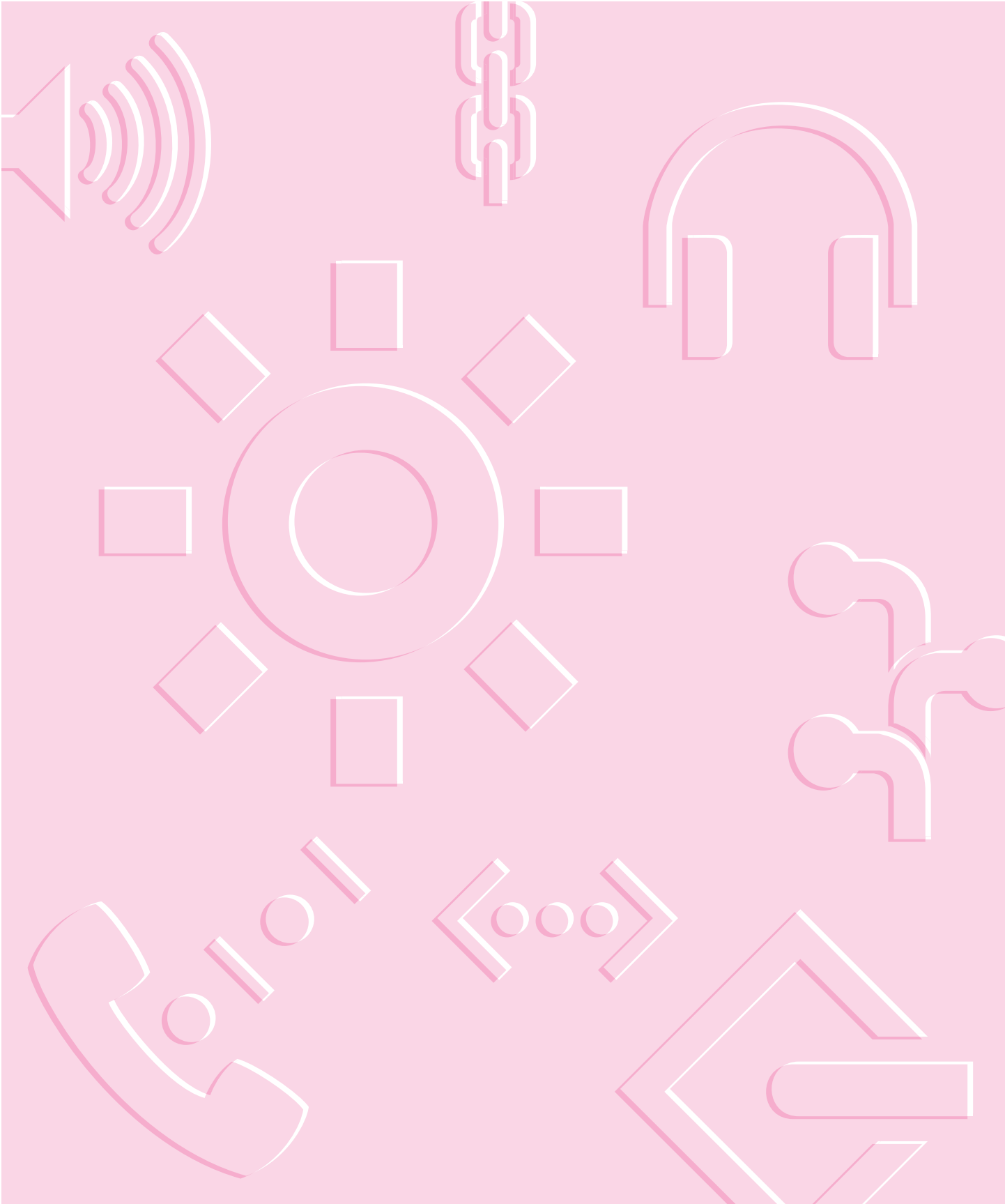
For battery conservation tips, see the "Batteries & Power" topic of Macintosh Guide, available in the Guide (📖) menu.

Chapter 6 **Tips and Troubleshooting**

Chapter 7 **Diagnostic Techniques**



II
part



Consult this chapter and the next if you have questions or experience problems using your computer.

6

Tips and Troubleshooting



When you have questions

If you want to know how to do a particular task with your computer, refer to Macintosh Guide in the Guide (📖) menu. For instructions on using Macintosh Guide, see Chapter 2 of this manual. If the suggestions in this chapter and Macintosh Guide don't solve the problem, go to Chapter 7 for some diagnostic techniques to help you solve system software and hard disk problems.

When you run into trouble

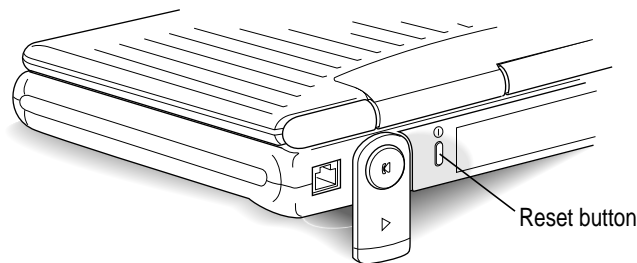
While you're using your computer, you may see a bomb icon or an error message, or you may have a problem such as the pointer (⏏) “freezing” on the screen. If you have trouble with your computer, take a few minutes to read the information in this chapter and Chapter 7. If your problem is related to a particular procedure, you should also look for information on that procedure in Macintosh Guide, available in the Guide (📖) menu. If you are unable to access Macintosh Guide (for example, if your screen is “frozen”), refer to this chapter to see if you can resolve the problem.

This chapter and Chapter 7 describe solutions to problems you may experience with your computer. If the suggestions in these two chapters don't solve your problem, contact a local Apple-authorized service provider or call the Apple Assistance Center. (See the service and support information that came with your computer for the phone number.) If your problem is with third-party software or equipment, please call the software or equipment manufacturer for help.

Problems starting up the computer

The computer doesn't start up or restart.

- The battery may need recharging. Plug the power cord into a working outlet, and then plug the power adapter into the computer. Let the battery recharge for a few minutes. (Or use the optional recharger.)
- Check that the power cord is plugged into a working outlet. If it's plugged into a power strip, make sure the power strip is turned on. The power adapter should get warm after being plugged in for 10 minutes. If it is cold, make sure the adapter is securely plugged in and attached to the power cord.
- The screen brightness may be turned down. Adjust the brightness control (marked with the icon ☼), located to the right of the display.
- Make sure the battery is properly seated in its compartment.
- Press the reset button (marked with the icon ⊕) on the back panel.



Resetting the parameter RAM— a useful troubleshooting technique

Problems that relate to starting up the computer may result from damage to the information stored in part of the computer's memory known as the parameter RAM, or PRAM. Consequently, resetting the PRAM is a good technique to correct a number of unexplained problems.

Resetting the PRAM erases the contents of your RAM disk, if you have set one up. The process also restores the default settings in most control panels. After you reset the PRAM, be sure to check any custom settings you made for the desktop pattern, memory, network, AppleTalk, trackpad, power conservation, and so forth. Resetting the PRAM also resets the power manager. Resetting the PRAM does not change or erase the contents of your hard disk.

Follow these steps to reset the PRAM:

1. Locate the keys ⌘ (Command), Option, P, and R.
2. Make sure the Caps Lock key is not down.
3. Restart your Macintosh. Immediately after hearing the startup sound, press the ⌘, Option, P, and R keys simultaneously.

If you don't hold down the key combination within 5–10 seconds after you restart, you may need to repeat steps 1–3.

4. Hold down the keys until you hear the startup sound again. Then release the keys.
5. If the computer shuts itself off, press the reset button on the back of the computer to turn it back on.

(You may have to press the reset button more than once. The startup sound signals that the computer is starting up.)

6. When the computer has finished starting up, restore any custom control panel and network settings.

The computer makes an unusual sound at startup.

- If you hear an unfamiliar startup sound, start up the computer with the *Disk Tools* disk that came with your computer (if you have an external floppy disk drive or a Duo Dock Plus). If the computer does not start up, or if the hard disk icon does not appear, the hard disk may need repair. Contact an Apple-authorized service provider or call the Apple Assistance Center. If the hard disk icon does appear, see Chapter 7, “Diagnostic Techniques.”
- There may be a problem with the parameter RAM. Reset the PRAM, as explained in the previous section.
- There may be a problem with a RAM expansion card. If you installed a RAM expansion card in your computer, check the instructions in the *Technical Information* booklet that came with your computer to make sure the card is properly installed. If you purchased an expansion card from a third-party manufacturer, contact the manufacturer for help.

See also “The Computer Makes Unusual Sounds” in the section “Other Problems While Working” later in this chapter.

The computer starts up, but the desktop doesn't appear.

- The screen brightness may be turned down. Adjust the brightness control (☼), located to the right of the display.
- The computer may be trying to start up using an external hard disk that does not contain the correct version of system software. Disconnect the external hard disk and restart your computer.
- Start the computer, holding down the Shift key until you see the message “Extensions off” in the Welcome to Macintosh box. If the computer starts up, turn to “Checking Your System Software Extensions” in Chapter 7 and try the steps given.
- If you see the following icon on the screen, your PowerBook is in SCSI disk mode. See “Quitting SCSI Disk Mode” in the section “Connecting SCSI Devices” in Chapter 3 for more information.



- There may be a problem with the display of windows. Restart the computer and hold down the Option key until the desktop icons appear. (When the desktop appears, all windows will be closed.)

When I start up the computer, I see a message about the system software.

- The system software on the startup disk you're using may be incomplete or damaged, or may be the wrong version. Make sure you're using the correct disk as a startup disk.
- If you're sure you're using the correct startup disk, you may need to reinstall system software. See "Reinstalling System Software" in Chapter 7.

The computer displays a flashing question mark icon.



- This icon usually means that the computer can't find system software on any disks attached to the computer. (After it displays this icon for two minutes, the computer will shut itself off.)

If the computer is connected to any external hard disks, make sure that the SCSI chain is terminated properly (see "Connecting SCSI Devices" in Chapter 3) and that the external hard disks are turned on. Then restart the computer. If the problem recurs, the hard disk or its system software may be damaged. See Chapter 7, "Diagnostic Techniques."

- Turn off the computer, disconnect all external devices except the power adapter, and restart the computer. If the computer starts up, turn to "Problems with Equipment Connected to Your Macintosh PowerBook," later in this chapter.
- If the computer is not connected to any external devices, you may need to reinstall system software. See "Reinstalling System Software" in Chapter 7.

The computer freezes or displays an error message during startup.

- Turn off the computer, disconnect all external devices except the power adapter, and restart the computer. If the computer starts up, turn to "Problems with Equipment Connected to Your Macintosh PowerBook," later in this chapter.

- Start the computer, holding down the Shift key until you see the message “Extensions off” in the Welcome to Macintosh box. If the computer starts up, turn to “Checking Your System Software Extensions” in Chapter 7.

About the codes in error messages: The number codes in error messages are used in software development. Sometimes they can help a technician narrow down the source of a problem. However, the codes are usually too general or technical in nature to help you diagnose a problem yourself.

When the computer starts up, a message says there is not enough memory.

- There may not be enough memory to load all the system software extensions you’ve installed. Restart the computer, holding down the Shift key until you see the message “Extensions off” in the Welcome to Macintosh box. Then try the following to increase available memory:
 - Reduce the size of the disk cache in the Memory control panel.
 - If you use a RAM disk, reduce its size or turn it off in the Memory control panel.
 - Remove any system software extensions you don’t need from the Extensions folder (inside the System Folder).
 - Turn on virtual memory in the Memory control panel.

IMPORTANT You need to restart the computer for these changes to take effect.

- If these suggestions don’t work, you can increase memory by installing a RAM expansion card in your computer. See the *Technical Information* booklet that came with your computer for instructions.

The computer freezes during operation or it won’t restart.

- If the computer freezes, you can try to “force” the program you’re using to quit by simultaneously pressing the keys ⌘, Option, and Esc on your keyboard. Then click Force Quit in the dialog box that appears. (*Note:* Unsaved changes in any open documents will be lost.) Immediately save all open documents, quit all other open programs, and restart the computer.
- Press the reset button (marked with the icon Ⓞ) on the back panel.
Note: You will lose any work you have not saved.

- If the battery is depleted, remove it from the computer and use the power adapter to start up.
- If you have a Duo Dock Plus, put the computer in it, then press the power button on the dock.
- If the problem recurs, reset the PRAM (see “Resetting the Parameter RAM,” earlier in this section). If the problem still occurs, see Chapter 7, “Diagnostic Techniques.”

Every time the computer starts up, it rebuilds the desktop.

- There may be a folder on your hard disk that has the same name as a file the computer uses to keep track of information on your disks. Manually search for a folder named “Desktop” or “Desktop file.” If you find one, rename it “Storage.” Then restart the computer. (Do not use the Find File command to search for the desktop file. It may find it but you may not be able to access it.)

When the computer starts up, no icons appear in the windows, and the pointer alternates between an arrow and a wristwatch, or an empty flashing box appears.

- There is a problem with the display of windows. Restart the computer, holding down the Option key until the desktop icons appear. (When the desktop appears, all windows will be closed.)

When I start up the computer, the display lights up for a moment, then shuts down.

- Make sure you are using the correct power adapter for your computer model and that the adapter is plugged into a working outlet.

Problems working with programs

The computer freezes or displays a system error message.

- There may be a temporary software problem. To reset the computer, try the following suggestions in order until the computer starts up normally:
 1. If the computer freezes, you can try to quit the program you’re using by pressing the keys ⌘, Option, and Esc on your keyboard. Click Force Quit in the dialog box that appears. (You’ll lose unsaved changes in that program’s documents.)

Immediately save all open documents and quit all open programs, then restart the computer.

2. If you see a message about a system error, press the reset button (on the back of your Macintosh PowerBook) to restart the computer.
 3. Reset the PRAM (see “Resetting the Parameter RAM” in the section “Problems Starting Up the Computer” earlier in this chapter for instructions).
- If the problem recurs, it may involve one or more of your application programs. See “The Computer Exhibits Odd Behavior, Such as Many Unexplained System Failures,” next.

About the codes in error messages: The number codes in error messages are used in software development. Sometimes they can help a technician narrow down the source of a problem. However, the codes are usually too general or technical in nature to help you diagnose a problem yourself.

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

- Check for multiple System Folders on your startup disk, using the Find File command. Throw away extra System Folders (but do not throw away any System Folders from your RAM Disk Backup folder). The System Folder that your computer is using has a small computer icon on it.



System Folder

- Check for viruses on all your disks, using a virus-detection program. Eliminate any viruses the program finds.
- If a problem recurs when you are using a particular program, try the following:
 - Consult the documentation that came with the program to make sure you are using it correctly.
 - Check for multiple copies of the program on your hard disk. Use the Get Info command to check the programs’ version numbers. Keep one copy of the latest version and throw away all other copies.
 - Reinstall the program from a known good source (such as the original program disks or installer disks you made with Floppy Disk Maker).
 - Increase the program’s memory. Quit the program, select its icon, choose Get Info from the File menu, and type a larger number in the Preferred Size box.

- Contact the manufacturer or vendor of the program to find out whether the program contains software errors or “bugs” and whether an upgrade is available.
- Check that the program is compatible with System 7.5 (see the program’s documentation, or contact the manufacturer or vendor).
- Make sure your control panels and system software extensions (especially any that you recently added) are compatible with your programs. See “Checking Your System Software Extensions” in Chapter 7.

A program won’t open.

- The application program may already be open. Check the Application menu to see what programs are running.
- There may not be enough memory available to open the program. Quit any programs you’re not using and try again. If that doesn’t work, try restarting the computer.
- If the program is on a floppy disk, make sure the disk is unlocked. (You unlock a disk by sliding the tab at the corner of the disk so that it covers the hole.)
- The program may be damaged. Reinstall the program from a known good source (such as the original program disks or backup copies you made with Floppy Disk Maker).
- Contact the manufacturer or vendor of the program to see if the program is compatible with System 7.5.

A program suddenly quits or disappears, or a message says a program has quit.

- There may be a temporary software problem. Restart the computer, then try opening the program again.
- The program may have run out of memory. See the suggestions in “A Message Says There Is Not Enough Memory,” next.
- If the problem occurs when you are trying to print, there may not be enough memory for printing.
- Contact the manufacturer or vendor of the program to see if the program contains software errors or “bugs” and if it is compatible with the version of system software you’re using.

A message says there is not enough memory.

- There may be a temporary software problem. Save your work, quit all open programs, and restart the computer. If you can't restart, see the suggestions in "The Computer Freezes or Displays a System Error Message," earlier in this section.
- If you get this message when you are trying to open or use a program, follow these steps:
 1. Choose About This Macintosh from the Apple () menu. Take note of the number in the "Largest Unused Block" section. This number tells you how much memory is available to open programs.
 2. Quit the program if it's open, select its icon, and choose Get Info from the File menu. Take note of the numbers in the Minimum Size and Preferred Size boxes.
 3. If the number in the Minimum Size box is larger than the largest unused block, not enough memory is available to use this program. To free memory, quit open programs or restart the computer. You can also type a smaller number in the Minimum Size box if you want to open the program using less memory. (But some programs don't work well if you assign them less memory.)
 4. If the number in the Preferred Size box is smaller than the largest unused block, you may need to assign more memory to the program. (A program may need more memory if you are working with complex documents.) Type a larger number in the Preferred Size box.
- If you frequently want to open more programs than memory allows, try the following:
 - Use the Memory control panel to reduce the size of the disk cache or to remove or reduce the size of your RAM disk.
 - Turn on or increase the size of virtual memory (VM) in the Memory control panel. (Virtual memory is turned on at the factory. Verify that VM is on and increase the amount of virtual memory if necessary.)
 - Install a RAM expansion card in your PowerBook. (See the *Technical Information* booklet that came with your computer for information.)

When I try to open a document, a message says the program can't be found.

- The document may have been created with a program that is not on your hard disk, or with a different version of the program.
- You can also open a document from within a program by using the Open command in the File menu. For more information, see the documentation that came with your programs.
- If you know the correct program is on your hard disk, there may be a problem with the information that the computer uses to keep track of files. Restart the computer and hold down the ⌘ and Option keys until you see a message asking if you want to rebuild the desktop. Release the keys and click OK.

Note: If Macintosh Easy Open is on, you must turn off all extensions except the Macintosh Easy Open control panel before rebuilding your desktop. (Macintosh Easy Open is turned on at the factory.)

A window has disappeared.

- Another open window may be covering the one you're looking for. Move, resize, close, or hide windows until you see the one you want.
- The program the window is associated with may be hidden. Choose Show All from the Application menu, then click the window you want, or choose the program from the Application menu.

Other problems while working

The screen went blank.

- Screen dimming may be on. Move the pointer to restore the screen's brightness. You can adjust the interval before screen dimming takes effect, or you can turn screen dimming off, using the PowerBook control panel.
- The computer may have gone to sleep. Press any key on the keyboard (except Caps Lock) to wake it.
- The battery may be drained. Install a charged battery, or plug in the power adapter and let the battery charge for a few minutes. Then try to wake or start up the computer. (You can also use the optional recharger.)

Some icons look different from usual.

- There may be a problem with the information that the computer uses to keep track of files. Restart the computer and hold down the ⌘ and Option keys until you see a message asking if you want to rebuild the desktop. Release the keys and click OK.

Note: If Macintosh Easy Open is on, you must turn off all extensions except the Macintosh Easy Open control panel before rebuilding your desktop. (Macintosh Easy Open is turned on at the factory.)

- You may be using a file-compression program to save space on your hard disk. Some compression programs change the appearance of icons.

When trying to open or move a font file, I see an error message.

- The font file may be damaged. To remove damaged font files, follow these steps:
 1. Drag the Fonts folder out of the System Folder.
 2. Restart the computer.
 3. Open the Fonts folder that you dragged out, and drag undamaged fonts to the System Folder icon. Click OK in the dialog box that appears.
 4. Throw away the old Fonts folder.
 5. Reinstall the damaged font from the original disk.

An icon is blinking in the menu bar.

- A program needs attention. Open the menu and choose the program whose icon is blinking (it may have a diamond by its name). Respond to any messages on the screen. If it's not clear what you should do, consult the documentation that came with the program.

A file can't be thrown away.

- The file may be locked. Choose Get Info from the File menu and click the Locked checkbox to remove the X. You can also delete locked files by holding down the Option key while you choose Empty Trash from the Special menu.
- An application program may be using the file. Close the file or quit the program.

- If the file is on a floppy disk, the disk may be locked. Unlock the disk by sliding the tab so that it covers the hole at the corner of the disk.
- The file may be in a shared folder that can't be changed. You can throw away the file by turning off file sharing temporarily (click Stop in the Sharing Setup control panel). Or you can select the shared folder, choose Sharing from the File menu, and uncheck the box labeled either "Can't be moved, renamed, or deleted" or "Same as enclosing folder."

The computer makes unusual sounds.

- A program may need your attention. If an icon is blinking in the menu bar, open the menu, choose the program whose icon is blinking (it may have a diamond by its name), and take the necessary action.
- Open the Easy Access control panel and check whether any features are turned on.
- Select a different alert sound in the Sound control panel.
- The computer speaker periodically turns itself off to save power. Sometimes this causes a clicking or popping noise. This sound is normal.
- If the sounds are regular or melodic, they may be caused by interference from electrical equipment. Move the computer farther away from any such equipment.

See also "The Computer Makes an Unusual Sound at Startup" in the section "Problems Starting Up the Computer," earlier in this chapter.

I can't access some of the memory on my computer.

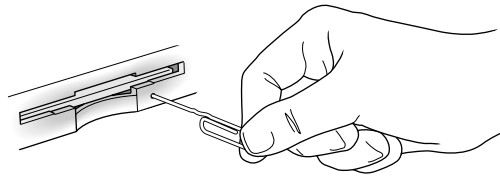
- All computers set aside some memory for system overhead. Macintosh PowerBook Duo 2300 series computers set aside about 400K of RAM.
- If you want to open more programs than memory allows, you can use the Memory control panel to decrease the size of the disk cache, or to remove or decrease the size of the RAM disk (if you're using one). You can also have a RAM expansion card installed in your computer. See the *Technical Information* booklet that came with your computer for instructions.
- Turn on virtual memory in the Memory control panel, or increase the amount of virtual memory.

Problems with hardware

Floppy disk drive (either an external drive or built into a dock)

I can't eject a floppy disk.

- The disk may be stuck. Restart the computer, holding down the button on your trackpad. If the disk is not ejected, you can eject it manually. Carefully insert the end of a straightened paper clip into the small hole near the disk drive's opening, and push firmly until the disk is ejected.



I can't save or copy files onto a floppy disk.

- The disk may be locked. Unlock it by sliding the tab at the corner of the disk so that it covers the hole.
- The disk may be full. Throw away items on the disk that you no longer need, or save the files on a different disk.
- The disk or disk drive may be damaged. Test the disk with Disk First Aid. (You can find Disk First Aid in the Utilities folder on your hard disk, or on the *Disk Tools* disk that came with your computer.)

Hard disk

The computer won't start up from the internal hard disk, or the hard disk icon doesn't appear on the desktop.

- There may be a temporary software problem. Turn off the computer, wait at least 10 seconds, and then turn it on again.

The hard disk keeps stopping and starting again.

- The hard disk may be going to sleep to conserve power. Use the PowerBook control panel to change the power conservation settings.

The computer is using the wrong disk as a startup disk.

- Open the Startup Disk control panel and make sure the correct disk is selected. Then restart the computer.
- If you're trying to start up from an external hard disk, the computer may not be recognizing the disk. See "SCSI Equipment and SCSI Disk Mode" later in this section. (If you want to force the computer to start up from an external hard disk, hold down the ⌘, Option, Shift, and Delete keys while you restart. This procedure makes the computer bypass the internal hard disk when looking for a startup disk.)
- There may be a problem with your startup disk or with its system software. See "Testing Your Hard Disk" in Chapter 7.

Trackpad

The pointer won't move.

- A program may be doing some work. Wait a few moments and then try again.
- A temporary software problem may have caused the computer to "freeze." See "The Computer Freezes or Displays a System Error Message" in the section "Problems Working With Programs," earlier in this chapter.

The pointer sticks or jumps when I use the trackpad.

- Make sure to use only one finger on the trackpad and that your finger is dry.

When I use the trackpad to click or double-click, it does not seem to work.

- Make sure your finger is off the trackpad at the end of the motion. If your finger stays on the trackpad, the computer will not recognize the motion as a click or a double-click. To click, tap the trackpad once; to double-click, tap twice.

When I use the trackpad to drag, it seems to think I'm double-clicking.

- Make sure your finger stays down on the trackpad until the end of the dragging motion.
- Turn on Drag Lock in the Trackpad control panel. When Drag Lock is on, the drag will not end until you tap the trackpad.

When I use the trackpad to drag, the item I'm dragging doesn't always go where I want, or the drag stops before I want it to.

- The computer automatically ends a drag after a certain amount of time has passed. Continue the drag more quickly, or turn on Drag Lock in the Trackpad control panel. When Drag Lock is on, the drag will not end until you tap the trackpad.

When I use the trackpad to select text or items, dragging doesn't seem to work as I expect, or the drag gets "stuck."

- To select a word and then drag it, double-click and drag; to select a line and drag it, triple-click and drag.
- If Drag Lock is on, remember to tap the trackpad after selecting text or other items to end the drag.

Keyboard

Typing on the keyboard produces nothing on the screen.

- Make sure the program you're using is set to accept text input. Usually you need to set an insertion point or select some text before typing. If you're using a communications program, you may need to turn on the "local echo" setting.
- Open the Easy Access control panel and make sure Slow Keys is turned off.
- Open Key Caps in the Apple () menu and check whether the computer is recognizing keyboard input. If so, the keys in the Key Caps window will darken when keys are pressed on the keyboard.

A key won't stop repeating.

- Open Key Caps in the Apple () menu. If any keys in the window are darkened, keys may be stuck down on your keyboard. This problem is sometimes related to an incorrectly installed RAM expansion card. Review the RAM card installation instructions in the *Technical Information* booklet that came with your computer.

PowerBook display

The screen went blank.

- Screen dimming may be on. Move the pointer to restore the screen's brightness.
- The computer may have gone to sleep. Press any key (except Caps Lock) on the keyboard to wake it.
- The battery may need recharging. Plug in the power adapter, let the battery charge for a few minutes, and then try to wake or start up the computer again. (Or use the optional recharger.)

The screen flickers.

- Adjust the brightness control (☼) to the right of the display.
- Open the Monitors control panel and set the computer to display fewer colors or grays.
- If tilting the display affects the flickering, there may be a loose cable. Contact an Apple-authorized service provider, or call the Apple Assistance Center.

The computer freezes when screen dimming takes effect.

- Screen dimming does not work with some programs. Open the PowerBook control panel and turn off screen dimming.

External monitor (connected to a dock)

The monitor remains dark.

- Shut down the Macintosh PowerBook, then make sure the monitor is connected to the dock, plugged into an active outlet, and turned on. (Most monitors have a light on the front panel to show whether they are on.)

The monitor is on, but no image appears.

- Screen dimming may be on. Move the pointer to restore the screen's brightness.
- Adjust the monitor's brightness and contrast controls.
- Open the Monitors control panel and press the Identify button. The number on each monitor icon should appear on the corresponding screen. If not, there may be a problem with the connection, or the monitor may need repair.

The external monitor does not show the menu bar.

- Open the Monitors control panel and drag the small menu bar to the icon of the monitor that you want to display the menu bar.

The pointer won't move from one monitor to another.

- The pointer moves between monitors in the area where the monitor icons touch in the Monitors control panel. Open the Monitors control panel and check that the positions of the monitor icons match the positions of the actual monitors. If not, drag the icons until they are positioned as you want them.

There are black bars at the top and bottom of the monitor screen. The monitor shows the same image as the display.

- The video mirroring feature is turned on. With video mirroring, the monitor shows the same image as the internal display. You can turn it off using the PowerBook Display control panel, or the Video Mirroring portion of the Control Strip.

The monitor goes dark after a few minutes.

- Screen dimming may be turned on. Move the pointer to restore the screen's brightness. You can change the interval before screen dimming takes effect in the PowerBook control panel.

The computer freezes when screen dimming takes effect.

- Screen dimming does not work with some programs. Open the PowerBook control panel and turn off screen dimming.

There is wavy or jittery interference on the external monitor.

- This interference may be generated by a magnetic field. If the monitor is near another piece of equipment (such as a TV, speakers, or another monitor), move the monitor away from the equipment.

Docks

If the procedures in this section don't solve your problem, see "Problems with Equipment Connected to Your Macintosh PowerBook" later in this chapter.

The computer can't be inserted into the Duo Dock.

- Make sure the docking connector door on the PowerBook's back panel is open.
- Make sure the dock is unlocked. The key should be in the vertical (unlocked) position.
- Make sure the PowerBook is shut down (not in sleep).
- Make sure the PowerBook display is completely closed.
- Make sure nothing is stuck to the bottom of the PowerBook. Even a business card is thick enough to misalign the docking mechanism.
- Unplug the dock and plug it back in again.
- Make sure the top cover of your dock is compatible with your PowerBook. Color models require a taller cover.

The eject button on the Duo Dock doesn't work.

- Make sure the computer is shut down. Some programs don't respond to the dock's Shut Down command.
- Make sure the dock is unlocked. The key should be in the vertical (unlocked) position.
- A very heavy object, such as a two-page monitor, on top of the dock can prevent the computer from being ejected. The documentation that came with your dock tells you the amount of weight that the dock can support.
- To manually eject the PowerBook, make sure the dock is unlocked, then insert the key, a small screwdriver, or a similar object into the hole on the left side of the dock and press gently to release the latches. Pull the PowerBook out of the dock.

When I start up the computer after docking, the computer is ejected.

- Make sure the computer is shut down (not in sleep).

When I start up the computer in the Duo Dock, nothing happens.

- Try the following suggestions in order:

1. Check that the connections are secure.

IMPORTANT Make sure that all equipment is turned off before connecting or disconnecting cables.

2. Press the Power key on the external keyboard.

3. Press the power button on the back of the Duo Dock. If the computer starts up, open Key Caps in the Apple () menu. If there are darkened keys in the window, your computer may need repair. Contact an Apple-authorized service provider or call the Apple Assistance Center.

4. If a hard disk drive was installed in your dock, it may have been assigned the wrong SCSI ID number. You can check the ID number using the Drive Setup program in the Utilities folder on your hard disk, or on the *Disk Tools* disk that came with your computer. If the ID number of the dock's hard disk is something other than 1, have an Apple-authorized service provider reset the ID number.

When I start up the computer in the Duo Dock, nothing happens on the monitor.

See “External Monitor (Connected to a Dock)” earlier in this section.

When I start up a computer connected to a minidock, nothing happens.

- Try the following suggestions in order:

1. Check that the connection is secure.

2. Press the Power key on any of your keyboards.

3. Press the power button on the back of the minidock.

4. Plug in the power adapter, let the battery charge for a few minutes, then try again to start up the computer.

- Connect the computer to another minidock. If that works, then there may be a problem with the original minidock.

If these suggestions don't solve the problem, see “Problems With Equipment Connected to Your Macintosh PowerBook” later in this chapter.

The battery drains too quickly when the computer is connected to a minidock.

- If you are using an external monitor, SCSI equipment, a printer, or an external modem, you should plug in the computer's power adapter.

- If other equipment is connected, make sure that it's low-power equipment or that it has its own power source. Low-power equipment is often marked with this icon: ☉ (Some devices consume little power but do not have the low-power icon. For example, the round mouse [Apple Mouse II] is a low-power device but does not show the icon. If you want to connect an older, flat-surfaced mouse, check for the low-power icon.)

I can't print on a printer connected to the dock.

- If the printer is connected to the printer port, make sure AppleTalk is inactive. If the printer is connected to the modem port and you have an internal modem, make sure the external or ("normal") modem port is selected in the control panel, then select the printer and the port in the Chooser. (Depending on your model and system software version, you use the PowerBook, PowerBook Setup, or Express Modem control panel to activate the port.)
- Turn off any auto-answer options for a modem that also uses the printer/external modem port.
- Make sure the printer is turned on.
- If the above suggestions don't work, try the following:
 1. Shut down the computer and eject or disconnect it from the dock.
 2. Turn off the printer. Disconnect the printer cable and the power cord from the dock. Wait five minutes.
 3. Reconnect the power cord and reinsert or reconnect the PowerBook.
 4. Reconnect the printer cable and turn on the printer.
 5. Start up the computer.
 6. Select the printer and port in the Chooser. Then try to print a document.

If this procedure works, the dock may need repair. Contact an Apple-authorized service provider or call the Apple Assistance Center.

Printers

The computer can't find the printer.

- Make sure the printer is connected and turned on.

IMPORTANT Make sure that all equipment is turned off before connecting or disconnecting cables.

- The printer may not be selected in the Chooser. Open the Chooser and select the printer you want to use. If the printer is connected to a port, make sure the correct port is selected.
- Reset the PRAM. (See “Resetting the Parameter RAM” in the section “Problems Starting Up the Computer” earlier in this chapter for instructions.) Then select the printer in the Chooser and try printing again.

The printer does not appear in the Chooser.

- Make sure you’ve selected the correct kind of printer on the left side of the Chooser window. For example, if you’re using a StyleWriter II, make sure to select StyleWriter II, not StyleWriter.
- Use the scroll bars to look through all the selections in the Chooser areas.
- Check the connections between your computer and the printer, including relevant sections of the network if appropriate. (See “Solutions to Common Network Problems” in the section “Problems With Networks and File Sharing” later in this chapter.)
- Make sure the correct printer software is in the Extensions folder inside your System Folder.
- If you’re using a network printer, make sure that AppleTalk is active in the Chooser. If you are using a printer connected directly to your computer, make sure AppleTalk is inactive.
- If your network has zones, make sure the zone containing your printer is selected.

Nothing happens, or an error message appears, when I try to print.

- There may not be enough memory for printing. Try the following:
 - Quit the program immediately after sending the Print command.
 - Increase the amount of memory that PrintMonitor uses. (Quit PrintMonitor if it’s open, select it, choose Get Info from the File menu, and type a larger number in the Preferred Size box.)
 - Reduce the amount of memory the program uses.



- Make sure the printer is turned on. Some printers need to warm up for a few minutes after you turn them on.
- The printer may be out of paper or may need attention. Check the printer status lights and any messages on your screen.
- Open the Application menu. If the PrintMonitor program is there, choose it and check for status messages.
- Reinstall your printer software.
- Reset the PRAM. (See “Resetting the Parameter RAM” in the section “Problems Starting Up the Computer” earlier in this chapter for instructions.) Then select the printer in the Chooser and try printing again.

SCSI equipment and SCSI disk mode

External SCSI equipment doesn’t work, or a hard disk icon does not appear on the desktop.

- Check that all cables are connected securely, that the devices are plugged into working outlets, and that the devices are turned on.

IMPORTANT Make sure that all equipment is turned off before connecting or disconnecting cables.

- Make sure that you turn on SCSI equipment before you start up the PowerBook.
- Check that each connected SCSI device has a unique ID number between 1 and 6.
- Make sure that SCSI cable terminators are correctly positioned. Follow the instructions in “Connecting SCSI Devices” in Chapter 3.

I can’t turn on the computer after connecting a SCSI device.

- Turn on the SCSI equipment first, and then turn on the computer.

When I start up using SCSI disk mode, the desktop appears.

- You cannot use your PowerBook in SCSI disk mode with password protection turned on. Turn password protection off in the Password Security control panel.

- When you use SCSI disk mode, the computer should display an icon with a number in it.



If the computer starts up normally, immediately press the Power key to shut down (if you can) or turn off the computer. If you don't, you might damage your information or equipment.

- Make sure you are using the correct cable for SCSI disk mode. The HDI-30 SCSI Disk Adapter is about 10 inches long, is dark gray, and has 30 pins in the connector (no “missing” pins). Do not use the HDI-30 SCSI System Cable, which is light gray, is about 20 inches long, and has 29 pins in the connector (one “missing” pin). That cable is for connecting SCSI equipment to a Duo Dock Plus or a Duo MiniDock.
- Check that all cable connections are secure.
- The PowerBook's battery may be drained. Plug in the power adapter and let the battery charge for a few minutes. Then press the Power key on the PowerBook's keyboard to restart it, and restart the other Macintosh.
- Start up the other Macintosh with the *Disk Tools* disk that came with it (do not use the disk that came with your PowerBook). If the connection works, then a system software extension on the other Macintosh may be causing the problem.

When I start up using SCSI disk mode, I see a flashing question mark icon.



- Make sure you are using the correct cable for SCSI disk mode. The HDI-30 SCSI Disk Adapter is about 10 inches long, is dark gray, and has 30 pins in the connector (no “missing” pins). Do not use the longer, light gray HDI-30 SCSI System Cable.
- Make sure terminators are placed correctly in the SCSI chain. See “Connecting SCSI Devices” in Chapter 3 for more information.

Problems with equipment connected to your Macintosh PowerBook

If a problem occurs while your Macintosh PowerBook is connected to external equipment, such as SCSI equipment, an external monitor, a modem, a printer, a mouse, or an external keyboard, these steps may help you determine the source of the trouble:

- 1 Shut down your Macintosh PowerBook and anything that's connected to it. Disconnect everything connected to your Macintosh PowerBook (except the power adapter) and restart it.**

Note: If you're connected to a network, contact your network administrator or warn other users before disconnecting from the network, because it may interrupt network services.

If the problem does not recur, it is likely to be related to equipment connected to your PowerBook.

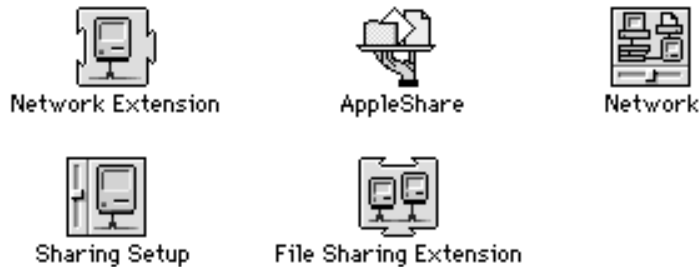
- 2 Shut down the Macintosh PowerBook.**
- 3 Reconnect one device.**
- 4 Make sure that the device is plugged into a working outlet and turned on, if applicable.**
- 5 Start up the Macintosh PowerBook.**
- 6 Repeat steps 2–5 until the problem recurs. The last device you connected may be causing the problem.**

Problems with networks and file sharing

Solutions to common network problems

If you are having problems using the network or file sharing, try the following before attempting further solutions:

- Make sure that AppleTalk is turned on in the Chooser.
- Open the Network control panel and make sure the correct network type is selected.
- Make sure that all the network software is installed. The Network Extension and AppleShare files should be in the Extensions folder, and the Network control panel should be in the Control Panels folder. If you want to use file sharing, the Sharing Setup control panel should be in the Control Panels folder, and the File Sharing Extension file should be in the Extensions folder. If any of these items is missing, use the system software disks that you made with Floppy Disk Maker to reinstall network and file-sharing software. (If you don't have access to a floppy disk drive, you may be able to install the software over a network. For more information, see the "Networks & Telecommunications" topic area of Macintosh Guide, available in the Guide [?] menu.)



- Make sure the network is working by checking in the Chooser for the shared disks and printers you use.
- Try connecting to the network from a different location, or try connecting a printer or another computer directly to the Macintosh PowerBook using network cables. If that works, the problem is likely to be in the network. If it doesn't work, the problem may be in the PowerBook or its network software.

Solutions to other network problems

The computer I want to connect to doesn't appear in the Chooser.

- Make sure the computer you're trying to connect to is turned on.
- Make sure file sharing is active on the computer you're trying to connect to. (That computer's Sharing Setup control panel should say that file sharing is on.)

I connected to another computer, but the shared disk I want to use is not available.

- You may already be connected to the shared disk. Check for its icon on your desktop.
- You may not have the access privileges you need to use the shared disk. Ask the network administrator or the owner of the shared item to give you access. (See the "Networks & Telecommunications" topic area of Macintosh Guide, available in the Guide [?] menu.)

I connected to another computer, but I can't see any files.

- Make sure that files are being shared on the other computer. The File Sharing Monitor control panel on that computer lists the items being shared.
- Make sure you have the access privileges you need to view the files. Ask the network administrator or the owner of the shared item to give you access. (See the "Networks & Telecommunications" topic area of Macintosh Guide, available in the Guide [?] menu.)

A message says that a disk can't be ejected because it's being shared.

- When you have file sharing turned on, you can't eject disks (other than floppy disks) that were connected to your computer when you started it up. You can eject the disk by turning off file sharing in the Sharing Setup control panel. After you've ejected the disk, you can turn file sharing back on.

A message says that file sharing can't be turned on.

- Make sure AppleTalk is turned on in the Chooser.
- Make sure you have at least 1MB of available space on your hard disk.
- Some disk-formatting programs don't work with file sharing. If you use such a program, contact the manufacturer or vendor for compatibility information.

- There may be a problem with some of the information your computer uses to start up file sharing. Follow these steps in order until the problem is solved:
 1. Open the Sharing Setup control panel and enter new information in the Owner section. Then try again to turn on file sharing.
 2. Remove the File Sharing folder from the Preferences folder (inside the System Folder). Then restart the computer and try to turn on file sharing.
 3. Reset the PRAM. Afterward, make sure to turn AppleTalk back on and select the correct network type in the Network control panel. (For instructions, see “Resetting the Parameter RAM” in the section “Problems Starting Up the Computer” earlier in this chapter.)
 4. Remove the Users & Groups data file from the Preferences folder (inside the System Folder). Restart the computer.
 5. Reinstall system software. (See “Reinstalling System Software” in Chapter 7.)

A message says that an item can't be shared.

- Make sure you have at least 1 MB of space available on your hard disk.
- Some removable storage devices can't be shared. Check with the manufacturer or vendor for more information.
- Some disk-formatting programs don't work with file sharing. If you use such a program, check with the manufacturer or vendor.

The file-sharing section doesn't appear in the Sharing Setup control panel.

- You may have turned off AppleTalk or file sharing using the Extensions Manager control panel. Turn them back on.
- If the file-sharing and network software is not in your System Folder, use the system software disks that you made with Floppy Disk Maker to reinstall file-sharing and network software.



I 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. (See the “Networks & Telecommunications” topic area of Macintosh Guide, available in the Guide [?] menu.)
- Check with the owner of the item to make sure you are entering your name exactly as specified by the owner (including spaces and capitalization) and try again.

Problems with Apple Remote Access

The Remote Access Setup control panel won't open.

- Make sure that AppleTalk is turned on in the Chooser.
- If you still can't open the control panel, reinstall the Apple Remote Access software.

The modem is not listed in the Remote Access Setup control panel.

- Reinstall the modem software. If that doesn't help, then reinstall the Apple Remote Access software.
- Contact the modem manufacturer to see whether your modem can use the settings for another type of modem.

The modem didn't dial the phone number.

- Check that the phone cord is plugged into the computer or modem and into a working phone line.
- Try dialing the number again. Sometimes there is a temporary connection problem.
- Quit the program and restart it. Sometimes this procedure solves temporary problems with the modem.
- Another program may be using the modem. Quit all other programs that use the modem.
- Try using another communications program. If that works, the problem may be in the Apple Remote Access software. Reinstall the software.

The modem dialed the phone number, but the connection failed.

- Check that the phone cord is plugged into the computer or modem and into a working phone line.
- Make sure your modem is plugged into an analog phone line. Do not use a digital phone line. Digital phone lines can damage your modem.
- Check with your Apple Remote Access administrator to make sure your version of Apple Remote Access is compatible with the version on the computer you're calling. If you're using a version of Apple Remote Access higher than 1.0, you can use the Remote Access Setup control panel to set your software to work with version 1.0.

I'm connected via Apple Remote Access, but I can't see any shared disks.

- Open the Chooser and click the AppleShare icon. Shared disks should appear on the right side of the Chooser. If you still don't see any shared disks, and your Chooser has a box labeled Zones, choose a different zone (some networks don't have zones).
- If there are still no shared disks, or you can't connect to the one you want, contact your Apple Remote Access administrator or the owner of the computer you want to connect to.

Whenever I try to use Apple Remote Access, a message says it's not installed correctly.

- This message sometimes appears if AppleTalk is turned off. Make sure AppleTalk is turned on in the Chooser.

Consult this chapter before you call the Apple Assistance Center to solve problems with system software and your hard disk.

7

Diagnostic Techniques



This chapter provides a step-by-step approach to diagnosing and solving problems involving system software and hard disks. Try the steps listed in each section in the order they are given until your problems are fixed.

Checking your system software extensions

System software extensions are files that add features to your system software. Some extensions are incompatible with one another or with certain programs. To check whether an extension is causing problems, follow these steps:

- 1 Start up the Macintosh PowerBook while holding down the Shift key. Keep it held down until you see the message “Extensions off” in the Welcome to Macintosh box.**

This procedure turns off extensions.

If this procedure solves your problem, then continue with this section. If not, then turn to the next section, “Testing Your Hard Disk.”

If the problem does not recur, it may involve file sharing, virtual memory, or the disk cache. Turn these features back on one at a time (restarting the computer each time) until the problem recurs. You may be able to fix the problem by making the disk cache smaller or using a smaller amount of virtual memory. If the problem involves file sharing, contact your network administrator to make sure there are no network problems.



2 Turn off troublesome extensions using the Extensions Manager control panel.

Tips for locating problem extensions:

- If you recently installed a new item in the System Folder, it may be causing the problem. If you recently installed a new application program, a new extension may have been installed along with it. Check for new items in the Extensions folder and Control Panels folder. Also check for items of the kind “extension” or “control panel” in the System Folder itself.
- If two of your extensions provide similar features (such as two screen savers or two clocks), they may be incompatible with each other. Remove one of the extensions.
- If the computer is freezing or displaying an error message before it finishes starting up, restart the computer and take note of the icons that appear at the bottom of the screen. Many extensions display an icon as they start up, and extensions start up alphabetically. The last extension that displays an icon, or the one after it alphabetically, may be the problem extension.

3 Turn extensions back on, one extension at a time, in the Extensions Manager control panel. Restart the computer after each turning on each extension and test to see if the problem recurs.

When you have located the problem extension, remove it from the System Folder and contact the developer or vendor for compatibility information.

4 Restart the computer while holding down the keys ⌘ (Command), Option, P, and R until you hear the startup sound a second time. Then release the keys.

This procedure resets the parameter RAM (PRAM). For more information, see “Resetting the Parameter RAM” in the section “Problems Starting Up the Computer” in Chapter 6.

You can bypass all extensions by holding down the Shift key during startup. (The Welcome to Macintosh box includes the phrase “Extensions off” to confirm that extensions are not loaded.)

5 Go to the next section if you are still having problems.

Testing your hard disk

The following steps will help you determine whether you have a problem with your hard disk or a problem with the system software on your hard disk.

Testing your hard disk requires that you start up the computer from the *Disk Tools* floppy disk. To do so, you must connect your Macintosh PowerBook Duo 2300 series computer to a minidock and an external floppy disk drive or insert the PowerBook into a Duo Dock.

- 1 Start up the Macintosh PowerBook with the *Disk Tools* disk that came with your computer.**

If the computer starts up normally, you may have a problem with the system software on your hard disk. If the computer starts up but you don't see the hard disk icon, you may have a problem with the hard disk.

If the computer doesn't start up normally, you may have a problem with equipment connected to your Macintosh PowerBook. See "Problems with Equipment Connected to Your Macintosh PowerBook" in Chapter 6.

If the computer doesn't start up normally and nothing is connected, your computer may need repair. Contact an Apple-authorized service provider, or call the Apple Assistance Center.

(If you don't have access to a floppy disk drive, you may need to contact an Apple-authorized service provider or call the Apple Assistance Center to determine the problem with your hard disk.)

- 2 Open the Drive Setup icon.**

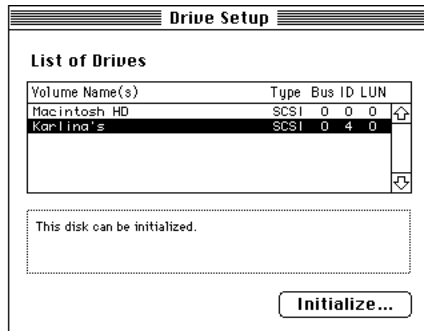
You may need to look in a folder called Utilities to find Drive Setup.



Drive Setup

Note: You can get onscreen help using the Drive Setup application program by choosing the Drive Setup Guide, available in the Guide (⌘) menu when Drive Setup is the active program.

- 3 In the list of drives, click the disk you want to test.



- 4 Pull down the Functions menu and choose Test Drive.
- 5 When a message tells you that testing is complete, click Quit.

If you cannot repair the disk, you may need to reinitialize the disk using the Drive Setup program.

WARNING Reinitializing the hard disk erases all the information on it. If you don't have a recent backup of your information, an Apple-authorized service provider may be able to recover some of the information before you reinitialize the hard disk.

- 6 If testing indicates that no repair is necessary, but you're still having a problem with your computer, go to the next section.

Reinstalling system software

When should you install system software?

Your computer came with all the necessary system software installed on its internal hard disk, so you don't need to install system software on that disk unless you encounter software problems.

If you have a new hard disk or a newly initialized hard disk that doesn't contain system software, or if you want to upgrade to a more recent version of system software on a hard disk, follow the instructions in "Doing a Normal Installation" later in this chapter.

If you have a problem with your system software, you may see this icon in the middle of the screen:



If this icon appears, follow the instructions in "Testing Your Hard Disk" earlier in this chapter to test your startup hard disk and repair any damage.

If repairing the disk doesn't help, follow the instructions in "Doing a Normal Installation" to reinstall system software on your startup hard disk.

(If you don't have access to a floppy disk drive to test the disk or reinstall system software, you may need to contact an Apple-authorized service provider or call the Apple Assistance Center to determine the problem with your computer.)

What if you don't have system software disks?

You should have a set of system software disks that you made with the Floppy Disk Maker application program. If you did not make the disks, you may need to call the Apple Assistance Center for help. (See the service and support information that came with your computer for the telephone number.) But before you call the Apple Assistance Center, try this:

- 1** If your computer has an external floppy disk drive, insert the *Disk Tools* disk in the drive.
- 2** Restart your computer.

- 3 Look for a Read Me file on the *Disk Tools* disk.

If there is not a Read Me file on the disk, call the Apple Assistance Center.

- 4 Open the Read Me file and follow the directions for reinstalling system software.

Doing a normal installation

Follow the steps in this section to do what is commonly called a “normal” installation of system software.

If you’re installing system software on a hard disk for the first time, make sure that your hard disk has been initialized, a process that prepares the disk to store information. (You initialize a disk using the Drive Setup program on your hard disk.)

To do a normal installation, follow these steps:

- 1 Start up your computer from the *Disk Tools* disk. (Use an external floppy disk drive or dock.)

- 2 Find and open the Disk First Aid icon.



Disk First Aid

After Disk First Aid starts, follow the instructions on the screen. Disk First Aid checks your hard disk for any problems.

- 3 When Disk First Aid has finished checking your hard disk, choose Quit from the File menu.

- 4 Open the Drive Setup program.

You use the Drive Setup program to update your hard disk.

- 5 In the list of drives, click your startup disk.

- 6 Pull down the Functions menu and choose Update Driver.

- 7 When the update process is finished, quit Drive Setup.

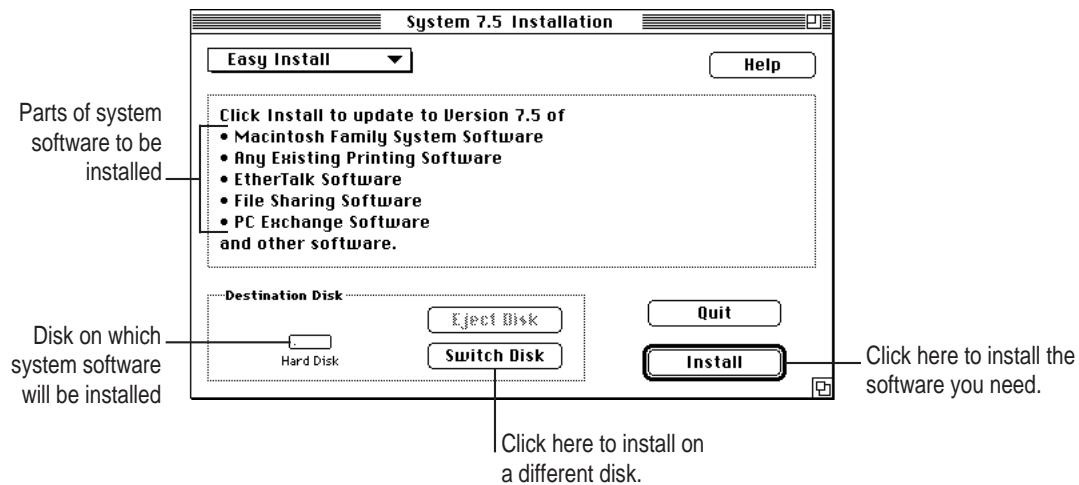
- 8 Shut down your computer.

- 9 **Start up your computer from the first system software installer disk you made with Floppy Disk Maker.**

The Installer's Welcome screen appears. You may have to double-click the System Software Installer icon to open the Installer program.

- 10 **Click OK.**

The Easy Install dialog box appears. (The dialog box that appears on your screen may not look exactly like this one.)



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

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

- 12 **Click Install.**

- 13 **Follow the instructions that appear on the screen.**

You'll see messages asking you to insert different disks.

- 14 **When you see a message reporting that the installation was successful, click Restart.**

If, after reinstalling system software by doing a normal installation, you still experience problems with your computer, follow the steps in the next section for doing a "clean" installation of system software.

IMPORTANT Certain system extensions or application programs that were originally on your hard disk may not be installed with the Installer program. If you notice that a certain extension or program was not installed, you may need to install it separately. You can find these additional extensions and programs in the disk images that come on your computer's hard disk. (You can make installer disks from the disk images with the Floppy Disk Maker application program.)

Doing a clean installation

The steps in this section outline what is commonly called a “clean” installation of system software. A clean installation allows you to discover which item in your System Folder is causing a problem. A clean installation creates a brand new System Folder and saves everything in your original System Folder in a different location. You can then follow the instructions in “Replacing Special Software,” next, to reinstall system extensions, control panels, and other special software one at a time from the old System Folder to the new System Folder. This procedure allows you to determine which item in the old System Folder was the source of the problem.

Do a clean installation if you can't determine what is damaged in your System Folder (especially if you think any special software, such as control panels, system extensions, or custom utilities, may be causing the problems you're experiencing). You should also do a clean installation if you're still having problems with your computer after you've reinstalled system software by doing a normal installation.

To do a clean installation, follow these steps:

- 1 Start up your computer from the *Disk Tools* disk. (Use an external floppy disk drive or dock.)**
- 2 Find and open the Disk First Aid icon.**



Disk First Aid

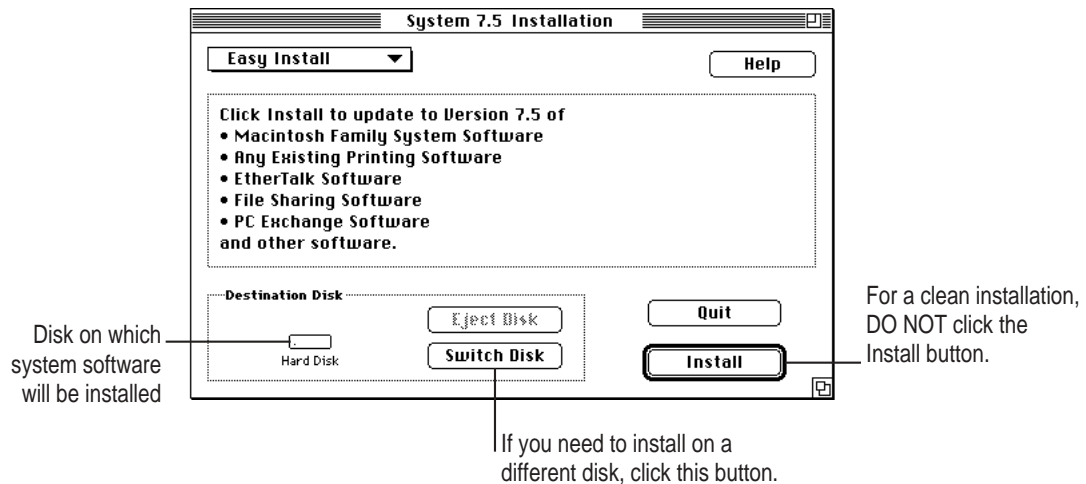
After Disk First Aid starts, follow the instructions on the screen. Disk First Aid checks your hard disk for any problems.

- 3 When Disk First Aid has finished checking your hard disk, choose Quit from the File menu.
- 4 Open the Drive Setup program.
You use the Drive Setup program to update your hard disk.
- 5 In the list of drives, click your startup disk.
- 6 Pull down the Functions menu and choose Update Driver.
- 7 When the update process is finished, quit Drive Setup.
- 8 Shut down your computer.
- 9 Start up your computer from the first system software installer disk that you made with the Floppy Disk Maker application.

The Installer's Welcome screen appears. You may have to double-click the System Software Installer icon to open the Installer program.

- 10 Click OK.

The Easy Install dialog box appears. (The dialog box that appears on your screen may look slightly different than this one.)



- 11 Make sure that the hard disk named in the Destination Disk box is the one on which you want to install system software.

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

- 12** Hold down Shift-⌘-K to start the clean installation.

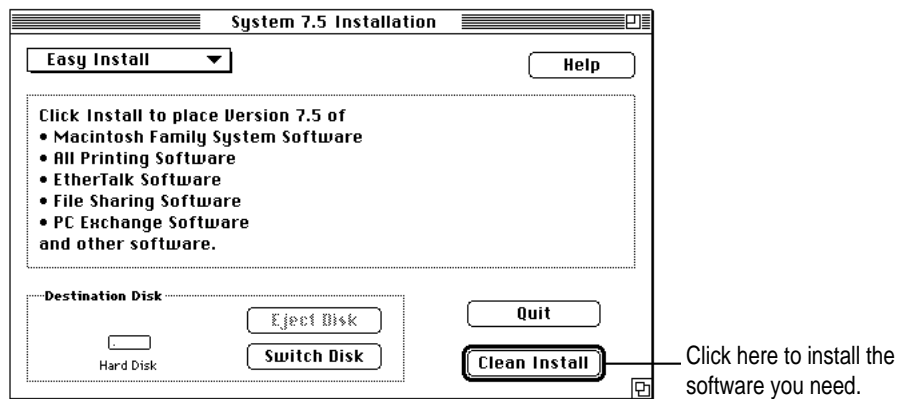
The following dialog box appears.



- 13** Click the Install New System Folder button and click OK.

The Install button in the Easy Install dialog box has changed to Clean Install, and the contents of your old System Folder have been moved to a new folder named Previous System Folder.

- 14** Click Clean Install.



- 15** Follow the instructions that appear on the screen.

It takes a few minutes to complete the installation.

- 16** When you see a message reporting that the installation was successful, you may need to click Restart.

You need to click Restart only if you installed software onto the startup disk.

If a message reports that installation was not successful, try repeating the clean installation procedure.

IMPORTANT Certain system extensions or application programs that were originally on your hard disk may not be installed with the Installer program. If you notice that a certain extension or program was not installed, you may need to install it separately. You can find some of these additional extensions and programs in the disk images that come on your computer's hard disk. (You can make installer disks from the disk images with the Floppy Disk Maker application program.)

Replacing special software

Special software consists of items such as control panels, system extensions, custom utilities, fonts, or Apple menu items that you may have added to your old System Folder. To make sure that special software does not create any conflicts with other programs on your computer, follow this procedure to safely replace these items in your new System Folder:

- 1 Copy any special software items from the Previous System Folder back to your System Folder one item at a time, restarting the computer after copying each item.**

IMPORTANT Be very careful not to *replace* (copy over) any of the files in the System Folder with files from the Previous System Folder.

- 2 Check after each restart to make sure your computer is not having any software problems.**

If any of your special software items cause software problems, contact the software manufacturer for assistance or an upgrade.

Doing a custom installation

For most Macintosh users, the Easy Install procedure described in the previous sections is appropriate, because it automatically installs all the items you need. However, if you'd like to select a combination of system software files for your specific needs, you can customize your system software installation. You use custom installation to install or update one or more specific files, or to save space on your hard disk by installing only the files you want.

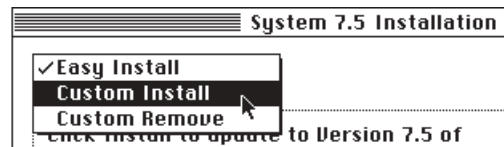
To install customized system software, follow these steps:

1 Start up your computer from the first system software installer disk that you made with Floppy Disk Maker (using an external floppy disk drive or dock).

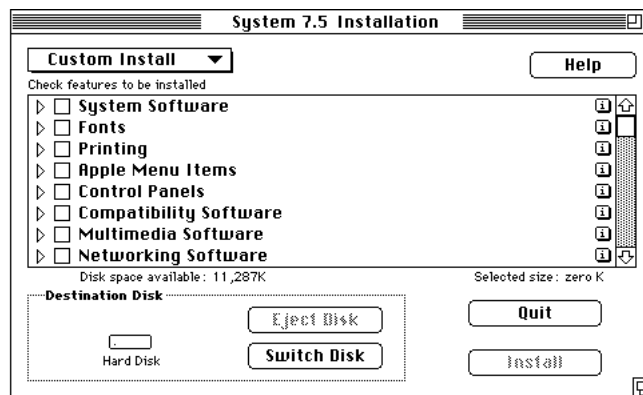
2 Click OK.

The Easy Install dialog box appears.

3 Choose Custom Install from the pop-up menu.



The Custom Install dialog box appears, listing all available system software components. (Your Custom Install dialog box should look similar but may not be identical to this.)



4 Scroll through the list of components, clicking the checkbox next to each component you want to install.

You can see and select individual items within each component by clicking the arrow to the left of the component, then clicking the item you want to install. To get additional information about each component listed, click the box with the letter *i* in it to the right of the component.

5 Click Install.

6 Follow the instructions that appear on the screen.

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

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

8 Restart your computer.

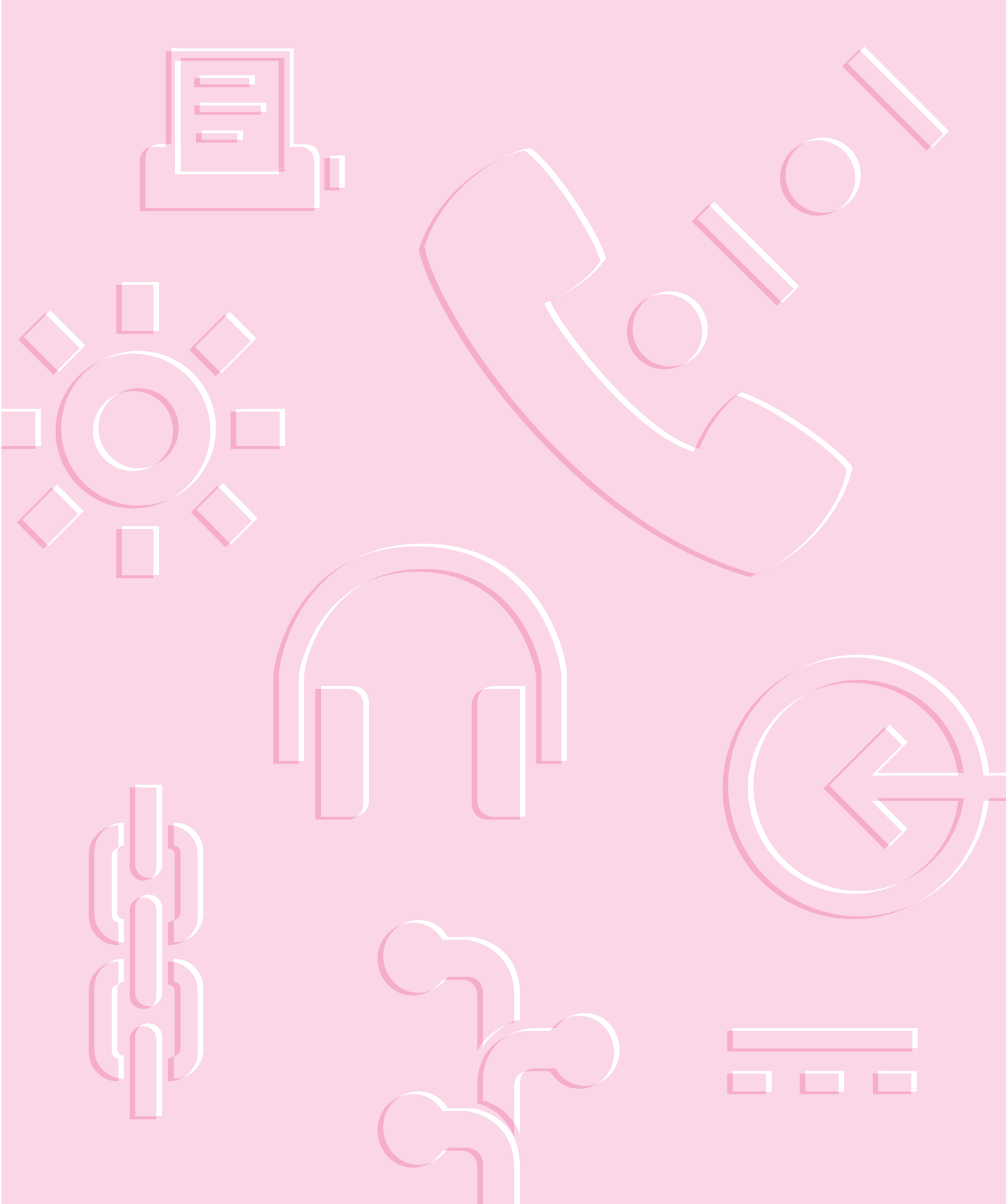
The system software is installed and your computer is ready to use.

Appendix A Health, Safety, and Maintenance Tips

Appendix B Using Your Keyboard

III *part*

A decorative graphic consisting of several overlapping wavy lines in shades of pink and white, and a white rectangular shape with a pink border, positioned at the bottom of the page.



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



Appendix A Health, Safety, and Maintenance Tips

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.

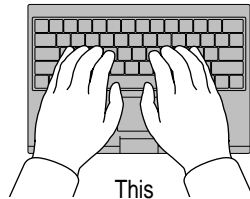
Chair

- 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.

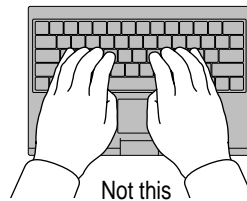
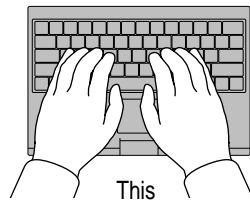
The back of the chair should support your lower back (lumbar region). Follow the manufacturer's instructions for adjusting the backrest to fit your body properly.

Keyboard and trackpad

- When you use the keyboard and trackpad, 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.

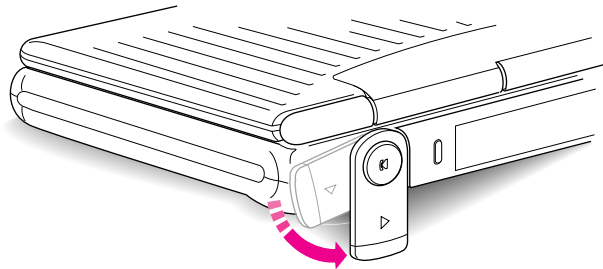


- You may have to raise your chair so your forearms and hands are at the proper angle to the keyboard. If this makes it impossible to rest your feet flat on the floor, you can use a footrest with adjustable height and tilt to make up for any gap between the floor and your feet. Or you may lower the desktop 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 trackpad and keep your hands and fingers relaxed. 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 elevation feet until they snap into position.



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

Mouse

- If you use an external mouse (connected to a dock), position the mouse at the same height as your keyboard. Allow adequate space to use the mouse comfortably.

Built-in display

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

External monitor

If you use an external monitor connected to a dock, this suggestion may be helpful.

- If possible, arrange the monitor so the top of the screen is slightly below your eye level when you're sitting at the keyboard. The best distance from your eyes to the screen is up to you, although most people seem to prefer 18 to 28 inches (45 to 70 cm).

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 work space 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 its products.



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.
- Do not drop, puncture, mutilate, or burn the computer or battery.

Caution

- If you have a problem with your computer and nothing in the computer manual 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 transport 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.
- 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 trackpad. 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 power adapter supplied with your computer, or an identical model. Adapters designed for other electronic devices may not work with your equipment and may damage it.

Important

- Use the computer (alone or connected to a minidock or floppy disk adapter) only in environments where the temperature range is between 41°F/5°C and 95°F/35°C. Use the computer in a Duo Dock Plus (or other Duo Dock model) only in environments where the temperature range is between 41°F/5°C and 86°F/30°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.
- If the computer has been in a cold place for several hours, let it warm up to room temperature before you use it.
- 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. Rough paper towels may scratch the screen.

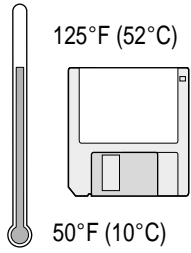


Caring for batteries

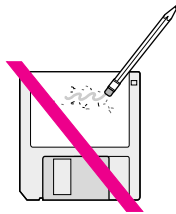
- Always handle batteries carefully.
- Always put the battery case on the battery when the battery is out of the Macintosh PowerBook. The battery contacts should not be exposed when the battery is out of the computer.
- Use only the battery supplied with your computer, or an identical model. Batteries designed for other portable computers may look similar, but they may not work with your computer and may damage it.
- Never get batteries wet.
- 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.
- Transport batteries either inside the computer or with the protective cap covering the battery contacts.
- Do not leave batteries in hot locations (such as the trunk of a car).
- 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 six 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.

Handling floppy disks

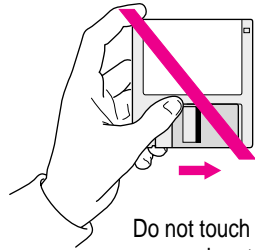
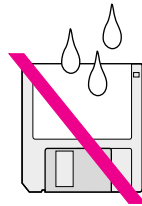
Store disks at temperatures between 50° F and 125° F.



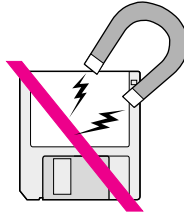
Do not use a pencil or an eraser on a disk or disk label.



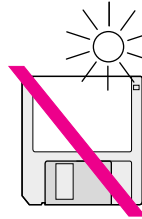
Keep disks dry.



Do not touch the exposed part of the disk behind the metal shutter.



Keep disks away from magnets.



Avoid exposing disks to extremely hot temperatures.

Traveling with the Macintosh PowerBook

IMPORTANT Always take either the *Disk Tools* disk that came with your computer or a set of system software disks that you made with the Floppy Disk Maker program with you when you travel. If you experience system software problems while traveling, you may need these disks to correct any problem. (If you won't have access to an external disk drive or dock, consider carrying a pair of LocalTalk connectors and a LocalTalk cable so that you can connect to a network or another Macintosh to share files or install software if necessary.)

Airplanes and airports

Some airlines have reported that use of portable electronic devices may have interfered with the aircraft's flight navigation or communications systems. Many airlines restrict or manage the use of electronic equipment during flights. Please respect the regulations of the airlines.

A properly tuned X-ray machine should cause no damage to your Macintosh PowerBook. But the motors that drive the belts on some security machines have magnets that can damage your information. To avoid problems, place the Macintosh PowerBook close to the entrance of the machine and remove it as soon as possible. At most airports you can also have the computer hand-inspected by security personnel.

Metal detectors should not damage the Macintosh PowerBook.

Security officials may require you to turn the Macintosh PowerBook on. Make sure you have a charged battery on hand.

Handling your Macintosh PowerBook

The safety instructions earlier in this appendix also apply when you are traveling. In addition, note these precautions:

- Do not transport your Macintosh 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 with the protective case covering the battery contacts. Do not transport unprotected batteries.
- Do not check your computer as baggage. Carry it with you.
- Take the necessary plug adapters if you're traveling overseas. (You may need to use them with the power cord.) You do not need a voltage transformer. The power adapter can handle 90 volts to 260 volts AC (48 Hz to 62 Hz).

Check the diagrams below to determine which plug adapters you'll need, or ask your travel agent.

Outlet Type	Locations
 	United States, Canada, parts of Latin America, Japan, Korea, the Philippines, Taiwan
	Russia and the Commonwealth of Independent States (CIS), most of Europe, parts of Latin America, the Middle East, parts of Africa, Hong Kong, India, most of South Asia
	Mexico, United Kingdom, Ireland, Malaysia, Singapore, parts of Africa
	China, Australia, New Zealand

International repair and service

Apple's global limited warranty covers your Apple products for one year, regardless of where the products were purchased. The Apple-authorized service providers in more than 80 countries can handle most repairs (unless the repair involves a component specific to another area of the world). Take a copy of your proof of purchase with you.

Because of variations in environment and power supplies, Apple is not responsible for damage to Apple products used outside the United States.

Storing the Macintosh PowerBook

- 1 Save your work on a hard disk or floppy disks.
- 2 Press the Power key and click Shut Down, or choose Shut Down from the Special menu.
- 3 Close the display.
- 4 Store the computer in a cool, dry place.

Storage temperatures should remain between -25°C and 60°C (between -13°F and 140°F). 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 information about customer assistance.

Refer to this appendix for information on using the Macintosh PowerBook Duo 2300 series keyboard.



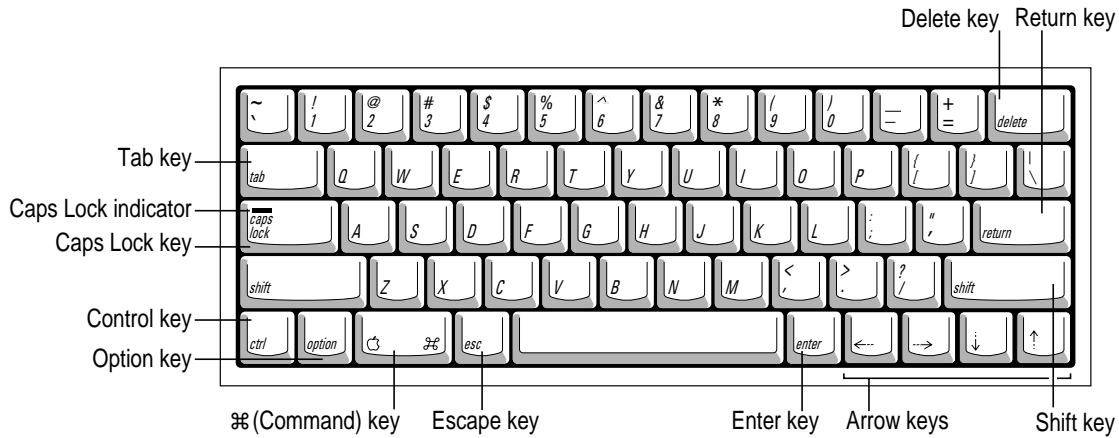
Appendix B Using Your Keyboard



The Macintosh PowerBook Duo 2300 series keyboard works in much the same way as the keyboards on other computers and on electric typewriters. However, there are a few special keys you should know about.

The illustration on the following page explains the function of all the special keys on the Macintosh PowerBook Duo 2300 series keyboard.

Special keys on the Macintosh PowerBook Duo 2300 series keyboard



Arrow keys	Move the insertion point, as an alternative to using the pointing device. In some programs, the arrow keys have other functions.
Caps Lock key	A locking Shift key for letters only (numbers and symbols aren't affected).
⌘ (Command) key	Works in combination with other keys as an alternative to choosing a menu command.
Control key	In combination with other keys, provides shortcuts or modifies actions.
Delete key	Deletes selected material, or the character to the left of the insertion point.
Enter key	In a dialog box, pressing Enter is the same as clicking the outlined button. In some programs, confirms information you have provided.
Escape key	The function of this key depends on the program you're using.
Option key	In combination with other keys, produces special characters or modifies actions.
Return key	Moves the insertion point to the beginning of the next line. In a dialog box, pressing Return is the same as clicking the outlined button.
Shift key	Produces capital letters (or the upper character on the key).
Tab key	Moves the insertion point to the next stopping place (such as a tab stop or data field).

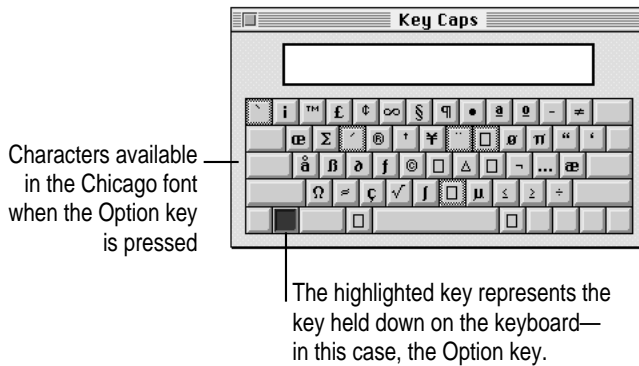
Typing special characters and symbols

You can type a variety of international and other special symbols and characters (including characters with diacritical marks, such as accents) by pressing combinations of keys.

The Key Caps program, which is installed with your system software, shows you the characters produced when you type certain keys and key combinations in the fonts available on your computer. Choose Key Caps from the Apple (🍏) menu, then choose the font from the Key Caps menu.



To have Key Caps show more options for special characters, press each of these keys or key combinations: Option, Shift, Shift-Option, Shift-⌘, and Option-⌘.



If you press the Option key, Key Caps outlines lightly the keys that you can use in combination with letter keys to type letters with accents or other diacritical marks.

If you see rectangles: If you see rectangles instead of diacritical marks on some of the pictures of keys in Key Caps, try pressing Option-⌘ to see the diacritical marks. However, you only need to use the Option key (not Option-⌘) in combination with the other keys to type letters with diacritical marks.

If you press the Option key at the same time as a key for a specific diacritical mark and then release both keys, Key Caps outlines in bold the keys for letters that can be typed with that mark. (You'll see that most key combinations for diacritical marks can be used with the Space bar as well as letter keys—producing the mark without a letter.)

The most common diacritical marks and how to create them are summarized next.

Diacritical mark	Key combination
Grave accent (`)	Option-` , then type the character
Acute accent (´)	Option-e, then type the character
Circumflex (^)	Option-i, then type the character
Tilde (~)	Option-n, then type the character
Umlaut (¨)	Option-u, then type the character
The letter "c" with a cedilla (ç)	Option-c

- **To type a letter or a space with a specific diacritical mark, press the Option key and the key for the mark simultaneously. Then type the letter that needs the mark.**

If you are having trouble getting a mark and letter to appear together, try again. Be sure to press the Option key before (or at the same time as) the key for the mark; then, after you release both keys, type the letter to be marked.

Special key combinations

If difficulties with your trackpad or computer don't allow you to use standard methods of quitting a program or restarting your computer, you can try using these special key combinations.

To do this...	...press this key combination
Force a program to quit	⌘-Option-Esc
Force the computer to restart	⌘-Control-Power key

Here are other key combinations you may find useful.

To do this...	...press this key combination
Start a "debugging" application used by software programmers*	⌘-Power key
Rebuild the desktop	Shift key (while starting up) release, then hold Option-⌘

*If you do not have a debugging program installed, your screen displays a caret prompt (>). To return to the desktop, type the letter "G."



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