



# Macintosh Performa User's Guide

---

*Includes setup, troubleshooting, and important health-related information for Macintosh Performa 6100 series computers*

 Apple Computer, Inc.

© 1995 Apple Computer, Inc. All rights reserved.

Under the copyright laws, this manual may not be copied, in whole or in part, without the written consent of Apple. Your rights to the software are governed by the accompanying software license agreement.

The Apple logo is a trademark of Apple Computer, Inc., registered in the U.S. and other countries. Use of the “keyboard” Apple logo (Option-Shift-K) for commercial purposes without the prior written consent of Apple may constitute trademark infringement and unfair competition in violation of federal and state laws.

Every effort has been made to ensure that the information in this manual is accurate. Apple is not responsible for printing or clerical errors.

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

Apple, the Apple logo, AppleScript, Geoport, LaserWriter, LocalTalk, Macintosh, Performa, and PlainTalk are trademarks of Apple Computer, Inc., registered in the U.S. and other countries.

Apple Backup, Apple Desktop Bus, Apple Restore, AppleScript, Balloon Help, Disk First Aid, Finder, GeoPort, Macintosh PC Exchange, Power Macintosh, PowerTalk, and QuickDraw GX are trademarks of Apple Computer, Inc.

IBM is a registered trademark of International Business Machines Corporation.

Motorola is a registered trademark of Motorola Corporation.

NuBus is a trademark of Texas Instruments.

PowerPC and the PowerPC logo are trademarks of International Business Machines Corporation, used under license therefrom.

Simultaneously published in the United States and Canada.

Mention of third-party products is for informational purposes only and constitutes neither an endorsement nor a recommendation. Apple assumes no responsibility with regard to the performance or use of these products.

## **The Apple Publishing System**

This Apple manual was written, edited, and produced on a desktop publishing system using Apple Macintosh computers and QuarkXPress. Technical illustrations were drawn in Adobe™ Illustrator; screen shots were created and modified with system software, ExposurePro, Aldus SuperPaint, and Adobe Photoshop. Proof pages were created on Apple LaserWriter printers and on QMS and Tektronix color printers. Final pages were output directly to separated film on a PostScript™-driven imagesetter.

Text type is Times®, display type is Helvetica® Narrow, and cover type is Apple Garamond, Apple's corporate font. Ornaments are custom symbols designed for Apple Computer.

PostScript, the LaserWriter page-description language, was developed by Adobe Systems Incorporated.



# Contents



Communications regulation information vi

**Preface Welcome to Macintosh ix**

**1 Getting Started 1**

Plugging in the computer 1

Installing an expansion card 3

Connecting the monitor 4

Connecting the mouse and keyboard 6

Connecting other equipment 6

Turning the computer on 7

Problems turning your computer on? 8

What's next? 9

Learning the basics 10

Reviewing the basics 11

Turning the computer off 12

Where to find answers 13

|          |   |           |
|----------|---|-----------|
| <b>2</b> | <b>Getting Help</b>                         | <b>15</b> |
|          | Getting answers to your questions           | 16        |
|          | Identifying objects on the screen           | 24        |
|          | Learning useful shortcuts                   | 25        |
| <b>3</b> | <b>Connecting Additional Equipment</b>      | <b>27</b> |
|          | Connecting audio equipment                  | 29        |
|          | Expanding memory                            | 34        |
| <b>4</b> | <b>Using Programs and Backing Up Disks</b>  | <b>35</b> |
|          | Installing application programs             | 37        |
|          | Working with several programs at a time     | 38        |
|          | Protecting the information on a disk        | 39        |
|          | Restoring the information on your hard disk | 45        |
| <b>5</b> | <b>Troubleshooting</b>                      | <b>49</b> |
|          | When you have questions                     | 49        |
|          | When you run into trouble                   | 49        |
|          | Solutions to common problems                | 53        |
|          | Repairing a damaged disk                    | 64        |
|          | Initializing a hard disk                    | 71        |
|          | Installing or reinstalling system software  | 73        |

**Appendix A Health, Safety, and Maintenance Tips 75**

Health-related information about computer use 75

Safety instructions 80

Handling your computer equipment 81

Cleaning your equipment 85

Locking and unlocking the mouse 87

**Appendix B Installing an Expansion Card 89**

**Appendix C Adding AV Capability to Your Macintosh Performa 97**

Installing the AV software 98

Connecting the monitor cable to an AV-equipped Macintosh Performa 6100 series computer 98

An AV-equipped Macintosh Performa 6100 series computer 100

Connecting video equipment 101

**Appendix D Special Keys on Your Keyboard 117**

Typing special characters and symbols 119

**Index 121**

# Communications regulation information

## FCC statement

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

## Radio and television interference

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

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

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

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

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

If necessary, consult an Apple-authorized service provider or Apple. See the service and support information that came with your Apple product. Or, consult an experienced radio/television technician for additional suggestions. You may find the following booklet helpful: *Interference Handbook* (stock number 004-000-00493-1). This booklet, prepared by the Federal Communications Commission, is available from the U.S. Government Printing Office, Washington, DC 20402.

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

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



## DOC statement

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

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

## VCCI statement

### 情報処理装置等電波障害自主規制について

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。

しかし、本装置をラジオ、テレビジョン受信機に近接してご使用になると、受信障害の原因となることがあります。

取扱説明書に従って正しい取り扱いをしてください。

## CD-ROM drive

**WARNING** Making adjustments or performing procedures other than those specified in your equipment’s manual may result in hazardous exposure.

**WARNING** Do not attempt to disassemble the cabinet containing the laser. The laser beam used in this product is harmful to the eyes. The use of optical instruments, such as magnifying lenses, with this product increases the potential hazard to your eyes. For your safety, have this equipment serviced only by an Apple-authorized service provider.

If you have an internal Apple CD-ROM drive in your computer, your computer is a Class 1 laser product. The Class 1 label, located on the computer, indicates that the drive meets minimum safety requirements. A service warning label is on the CD-ROM drive inside the computer.









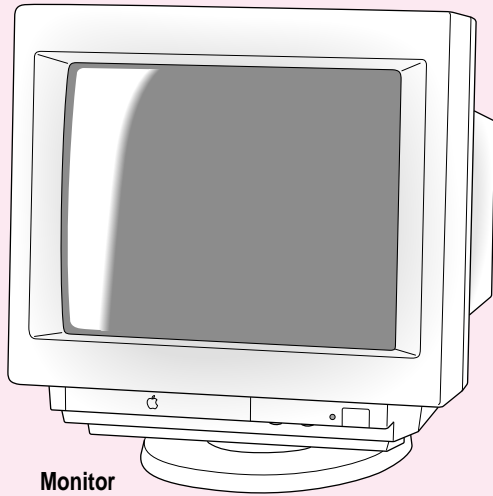
## Welcome to Macintosh



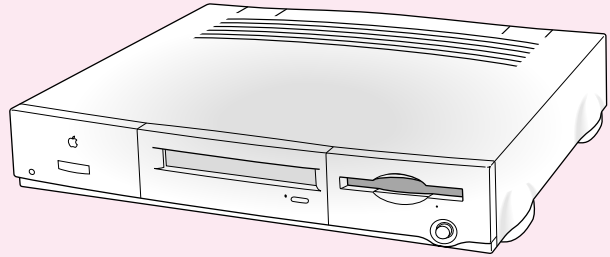
Congratulations on the purchase of your new Macintosh. Your computer is designed to give you the highest performance combined with real ease of use—it's easy to set up, easy to use, and easy to expand. This book will guide you through the setup procedure, tell you how to expand your Macintosh, and provide many tips on using your new system.

Your Macintosh computer is powered by the new **PowerPC** microprocessor (or “chip”). This microprocessor was designed by Apple Computer, Inc., Motorola, Inc., and IBM Corporation. The **PowerPC** microprocessor uses Reduced Instruction Set Computing (RISC) technology to deliver very high performance at the lowest possible cost. The **PowerPC** RISC microprocessor represents the state of the art in microprocessor design.

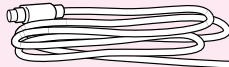
Your new Macintosh will run almost all your existing Macintosh software, but for best performance and greatest speed, look for the new application programs designed especially for Macintosh computers with the **PowerPC** microprocessor. You'll find these programs at any software store that carries products for Macintosh.



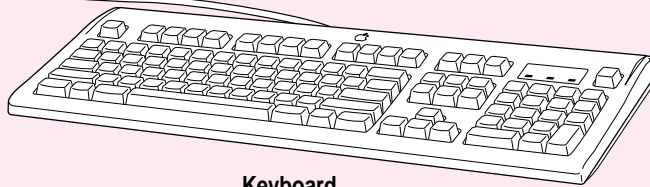
**Monitor**



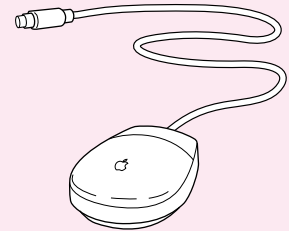
**Macintosh Performa computer**



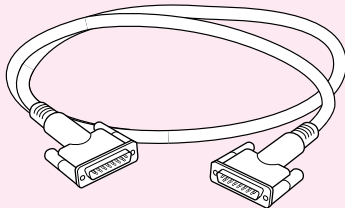
**Keyboard cable**  
(sometimes built into the keyboard as shown here)



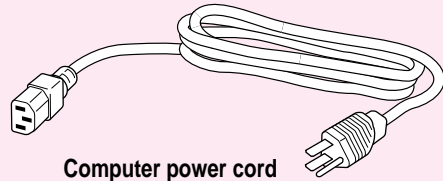
**Keyboard**



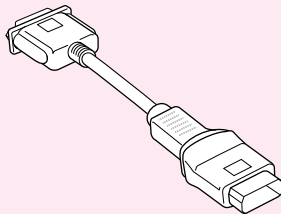
**Mouse**



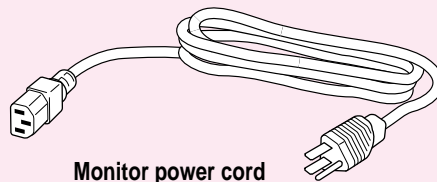
**Monitor cable**  
(sometimes built into the monitor)



**Computer power cord**



**Monitor cable adapter**



**Monitor power cord**

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

# 1

## Getting Started



The illustration on the facing page shows all the equipment you will need to set up your computer and begin using it. Place your equipment on a sturdy, flat surface near a grounded wall outlet. Before following the setup instructions in this chapter, you may want to read “Arranging Your Office” in Appendix A (in the section on health-related information) for tips on adjusting your work furniture so that you’re comfortable when using the computer.

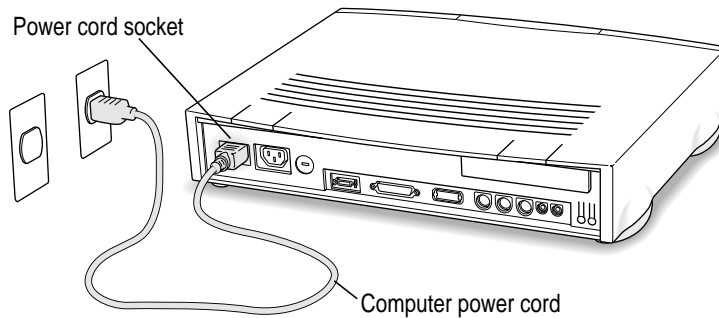
### Plugging in the computer

Before you plug your Macintosh into a wall socket (and before you connect anything else to your Macintosh), carefully read all the setup instructions in this chapter. Then, begin by plugging in the computer according to the instructions that follow. The plug grounds the computer and protects it from electrical damage while you are setting up.

When you are ready to begin, follow these steps:

- 1 Plug the socket end of the computer's power cord into the recessed power socket (marked with the symbol  $\sim$ ) on the back of the computer.**
- 2 Plug the other end of the power cord into a three-hole grounded outlet or power strip.**

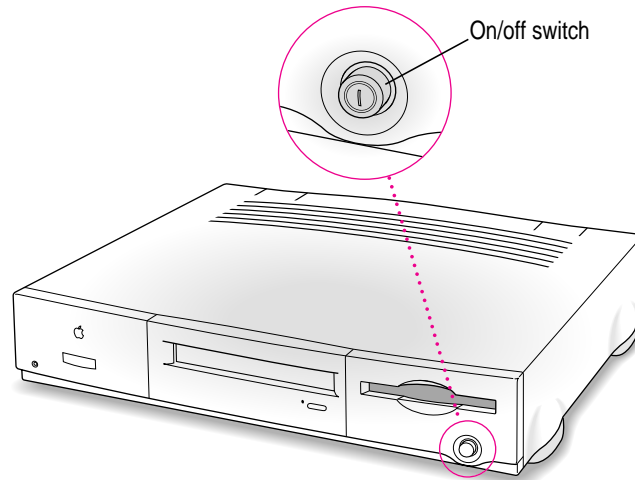
**WARNING** This equipment is intended to be electrically grounded. Your Macintosh is equipped with a three-wire grounding plug—a plug that has a third (grounding) pin. This plug will fit only a grounded AC outlet. This is a safety feature. If you are unable to insert the plug into the outlet, contact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



**IMPORTANT** Be sure that at least one end of the power cord is within easy reach so that you can unplug the computer when you need to.

**3** If necessary, switch the computer off.

If you heard a tone when you plugged in the computer, the computer has started up and you need to turn it off before proceeding. Press the on/off switch to turn the computer off. (The on/off switch is located on the front of the computer and is marked with the symbol  $\text{Ⓢ}$ .)



## Installing an expansion card

If you purchased an expansion card for your Macintosh, install it now. (See Appendix B, “Installing an Expansion Card,” for instructions.) If you don’t have an expansion card, go on to the next section, “Connecting the Monitor.”

## Connecting the monitor

Monitors have two cords to connect: a power cord and a monitor cable. Follow these steps:

**1 Place the monitor on top of or next to the computer.**

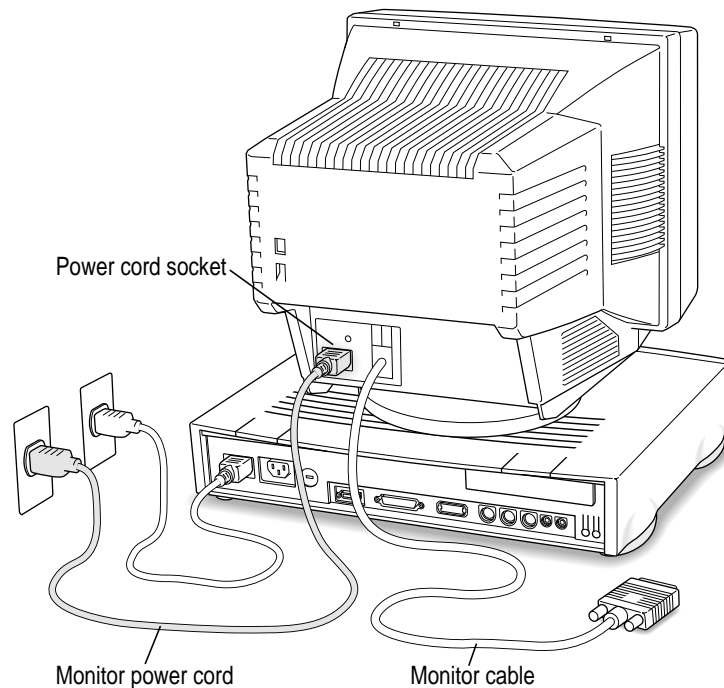
Keep these considerations in mind:

- Allow a few inches for air circulation around the computer and monitor.
- Make sure that the top of the screen is slightly below eye level when you're sitting at the keyboard.
- Position the monitor to minimize glare and reflections on the screen from overhead lights and windows.

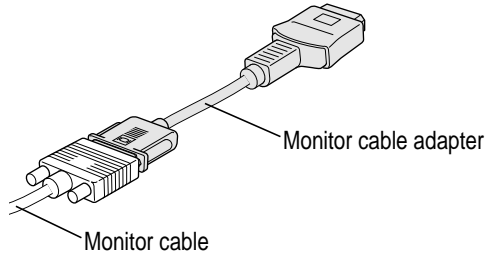
For further suggestions about locating your computer equipment, consult “Arranging Your Office” in Appendix A (in the section on health-related information).

**2 Connect the monitor power cord to the power cord socket on the back of the monitor.**


**3 Plug the other end of the power cord into a three-hole grounded outlet or a power strip.**

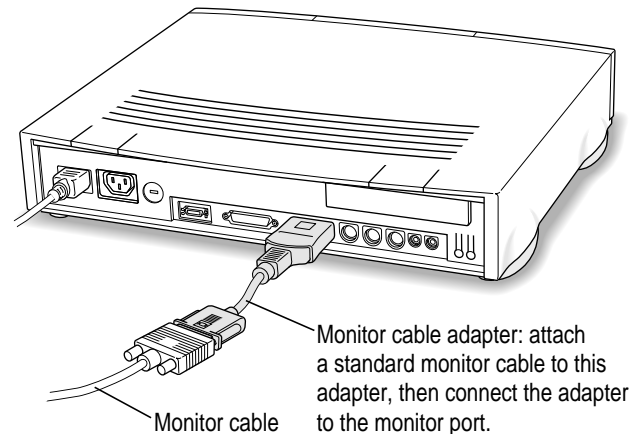


**4 Attach the monitor cable adapter to the monitor cable.**



**5 Attach the adapter to the monitor port on the back of the computer.**

The monitor port (sometimes called the *high-density monitor port*) is marked with the symbol . To connect, firmly push the cable or adapter into the port until you hear a click.



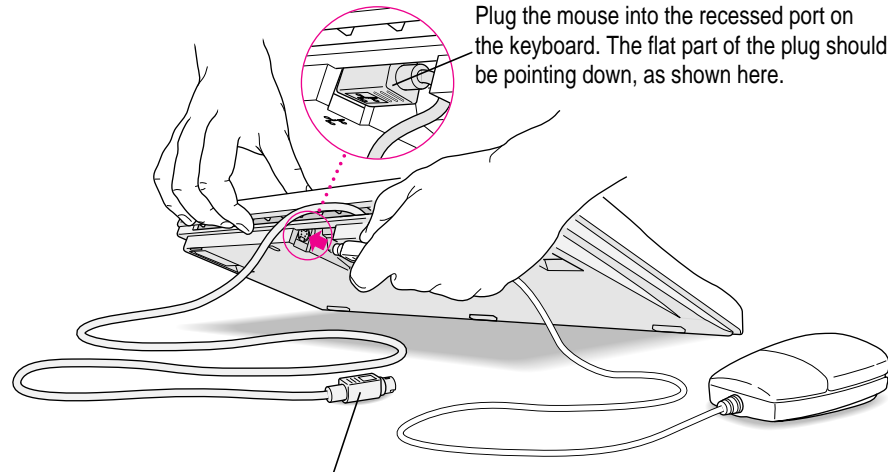
*Note:* If you upgrade your Macintosh with an AV card, see Appendix C, “Adding AV Capability to your Macintosh Performa,” for more information about connecting a monitor.

## Connecting the mouse and keyboard

- 1 Plug the mouse cable into the recessed port on the back of the keyboard.**

The plug and the port are marked with the ⌘ icon (symbol). The positions of the port and icon on your keyboard may be different from those pictured.

*By the way:* A port marked with the ⌘ icon is called an Apple Desktop Bus (ADB) port.



This cable plugs into the Apple Desktop Bus (ADB) port, marked with the ⌘ icon, on the back of the computer.

- 2 Plug the keyboard cable into the port marked with the ⌘ icon on the back of the computer.**

Some monitors have a port to which you can connect the keyboard or mouse. See the information that came with your monitor.

## Connecting other equipment

If you are new to the Macintosh, it's a good idea to get some experience using your computer before you connect other equipment, such as a printer or scanner. To learn basic Macintosh skills, continue with the instructions in this chapter.

When you're ready to connect other equipment to your Macintosh, see the instructions in Chapter 3.



## Turning the computer on


To turn on the computer, follow these steps:

- 1 Turn on the computer by pressing the on/off switch on the front panel.**

The switch is marked with the symbol .

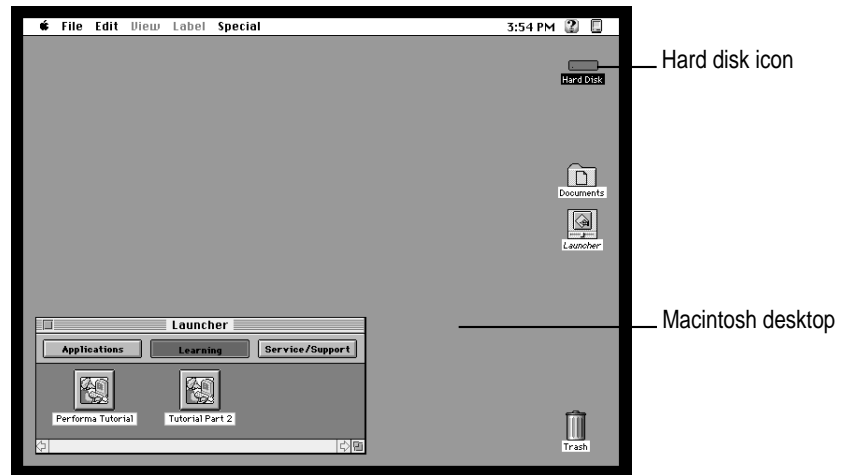
You hear a tone from the computer as it starts up.

- 2 Turn on your monitor.**

See the information that came with your monitor for the location of the on/off switch. On Apple monitors, the on/off switch is marked with the symbol .

- 3 Check to see what's on your screen.**

- If you see the Macintosh desktop, shown here, your system software is already set up correctly. Skip now to “What's Next?” later in this chapter.





- If you see a blinking question mark, you need to install system software on the computer's hard disk. (System software is a set of programs the computer uses to start itself up.)

See “Installing or Reinstalling System Software” in Chapter 5 of this book for information on installing system software.

- If you see anything else on your screen, or if your screen displays nothing at all, see the next section, “Problems Turning Your Computer On?”

## Problems turning your computer on?

If you don't see anything on the screen, check these items to see if you can identify the problem:

- Is the computer plugged into a power source? If it is plugged into a power strip, is the power strip turned on?
- Is the computer turned on? The power-on light on the front panel should be on. If it isn't on, press the on/off switch (marked with the symbol .
- Are the keyboard and mouse cables connected correctly? (Don't disconnect the keyboard or mouse cable while the computer is on. You could damage your equipment.)
- Is the monitor power cord plugged in?
- Is the monitor turned on? (Check the power-on light on the front of the monitor.)
- Is the monitor cable attached firmly to both the monitor and computer?
- Is the brightness control on the monitor adjusted correctly? (On Apple monitors, the brightness control is marked with the symbol .)

## What's next?

Congratulations! You've finished setting up your computer. 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 want to connect additional equipment, such as a printer, to your computer, see Chapter 3 of this book for instructions.
- If you want to install application software on your computer, see Chapter 4 of this book for information on setting up your programs and managing memory. You'll need this information to properly set up any software programs specifically designed for Macintosh Performa computers that have the new PowerPC microprocessor.

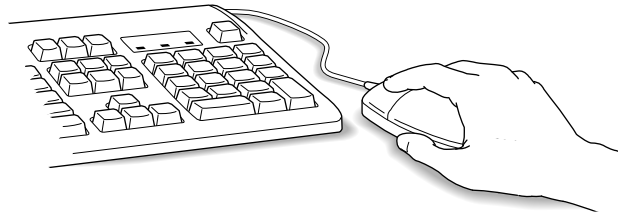
**IMPORTANT** If you need to turn off your computer at any point, please see “Turning the Computer Off” later in this chapter. It is very important to use the correct procedure for shutting down your Macintosh before turning it off.

## Learning the basics

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

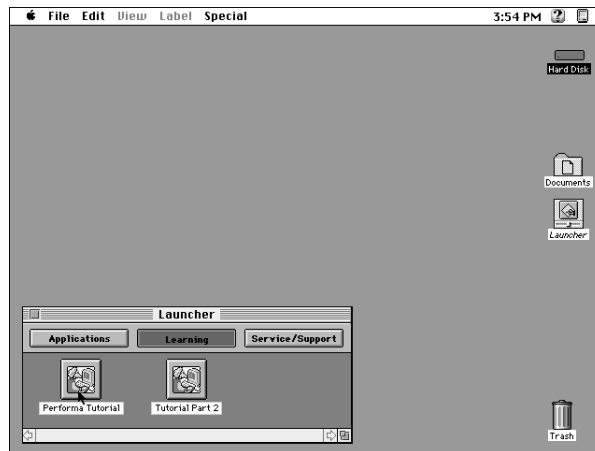
**1 Slide your mouse along your mouse pad or desk.**

Hold the mouse as shown, with the cable pointing away from you. Don't press the mouse button (under your index finger). Notice that the arrow (␣) on the screen moves in the same direction that you move the mouse.



If the arrow doesn't move, make sure that the cables connecting the mouse and keyboard are secure and that your mouse is positioned as shown in the illustration.

**2 Move the mouse so that the arrow is over the button labeled “Performa Tutorial.”**



If you don't see the picture for the Performa Tutorial on your screen, put the arrow on the word “Learning” and click (press and release) the mouse button.

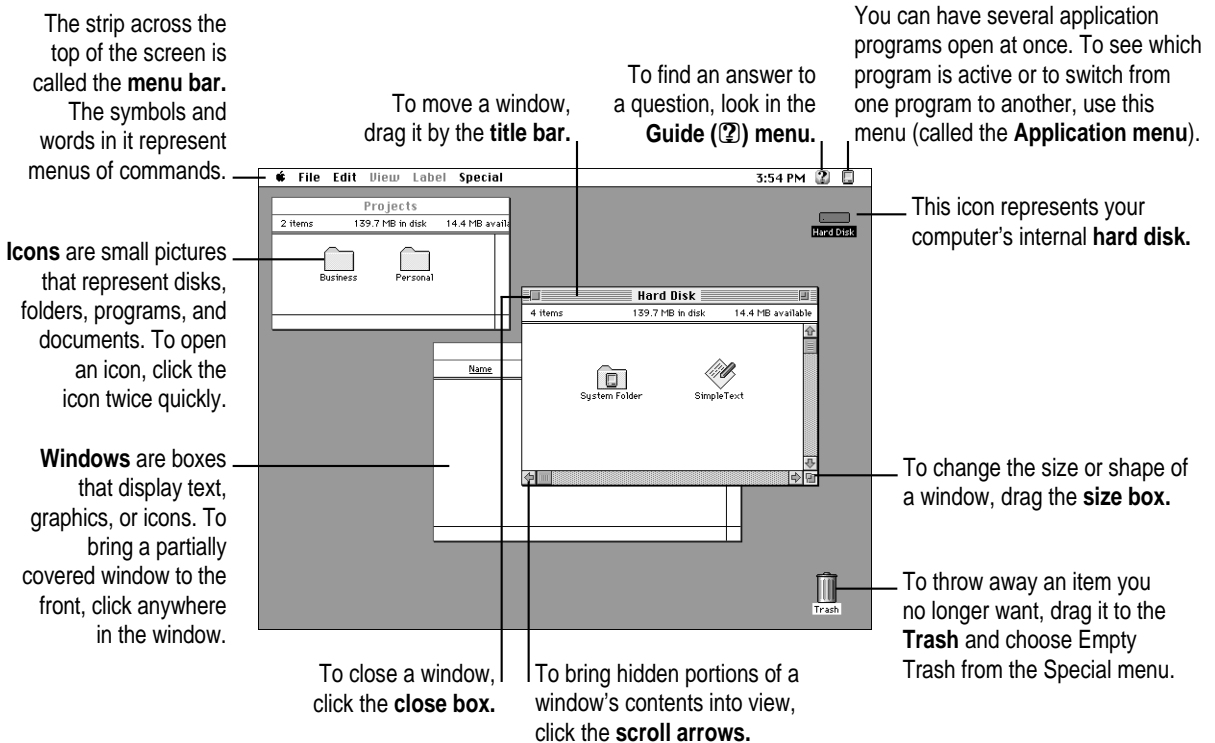
If you run out of room on your mouse pad or desk while moving the mouse, pick up the mouse and place it where there's more room. (The arrow on the screen moves only when the mouse is in contact with the mouse pad or desk.)

**3 Without moving the mouse, click the mouse button.**

A window appears welcoming you to the tutorial. You can set this book aside for now and follow the instructions on the screen. When you have completed both parts of the tutorial, return to this book.

## Reviewing the basics

The following illustration summarizes many of the basic skills and terms you learned from the tutorial.



## Turning the computer off

To turn the computer off, you choose Shut Down from the Apple () menu. Detailed instructions follow. (*Note:* The Shut Down command is also available in the Special menu.)

- 1 Move the tip of the arrow to the Apple () menu at the top left of the screen.



- 2 With the tip of the arrow on the apple, press and hold down the mouse button.
- 3 While holding down the mouse button, move the arrow down the list of choices until the words "Shut Down" are highlighted, then release the mouse button.



- 4 Turn off the computer by pressing its on/off switch.
- 5 Turn off the monitor by pressing its on/off switch.

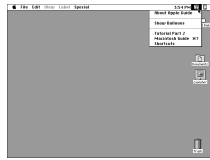
## Where to find answers

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




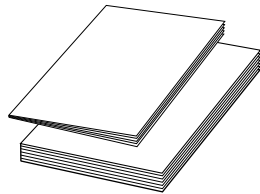
### In this book

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



### 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.



### 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.)





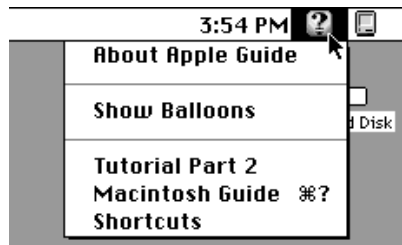
Use the instructions in this chapter to learn about the help available to you in the Guide menu.

# 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.

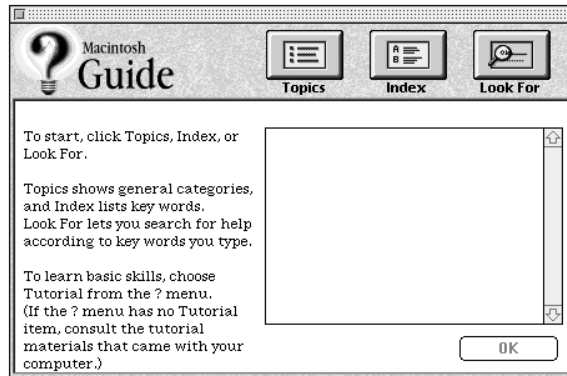


A checkmark in the menu indicates that the Finder is the active program.

- 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.

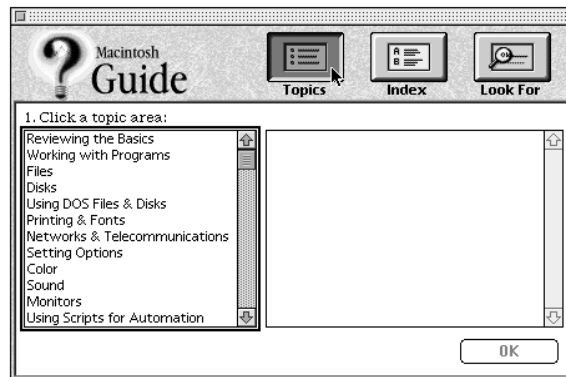
In the following sections you will practice using each method.

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

## Getting answers with the Topics button

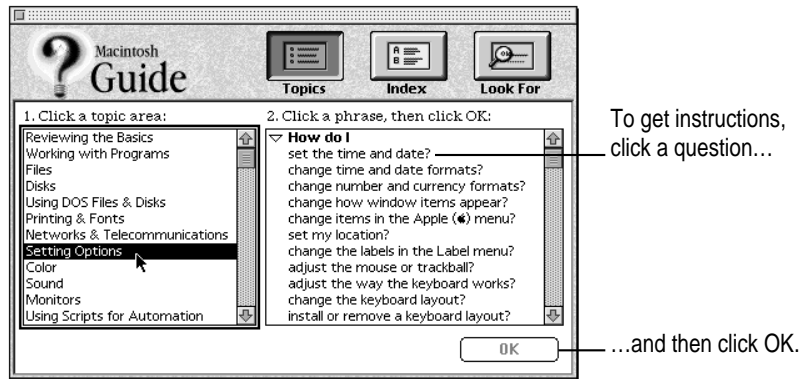
**1** In the Macintosh Guide window, click the **Topics** button.

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.)



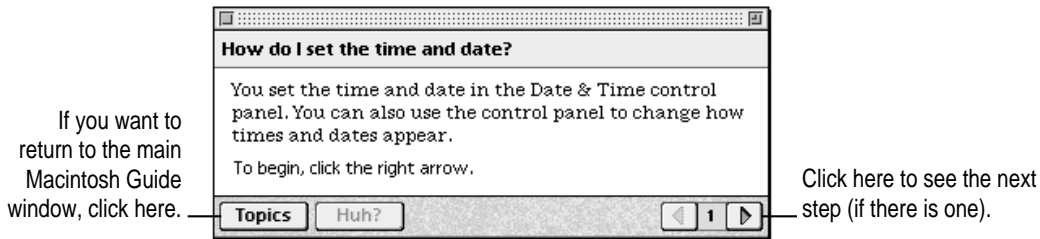
**2 Click “Setting Options” in the list of topics.**

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.

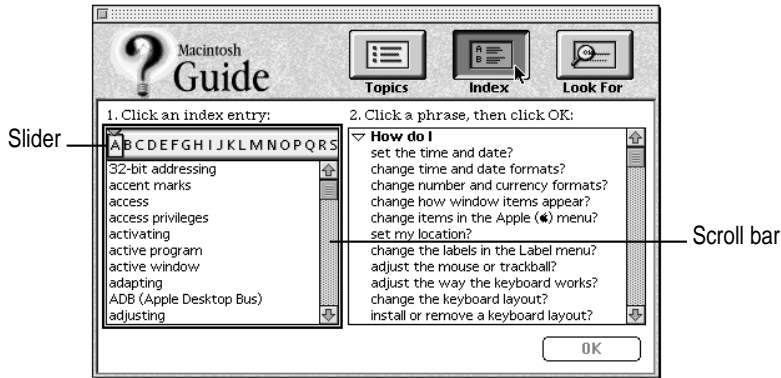
**5 When you have completed all the steps, click the Topics button in the lower-left corner to return to the main Macintosh Guide window.**

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.

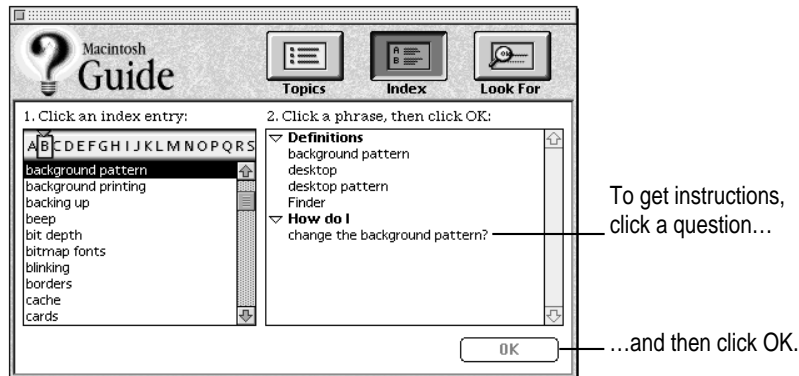


- 2 Scroll through the alphabetical list until the phrase “background pattern” is visible.

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.

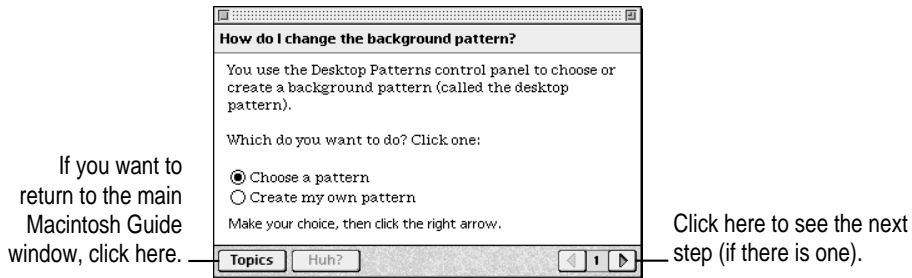
- 3 Click the phrase “background pattern” in the alphabetical list.

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.

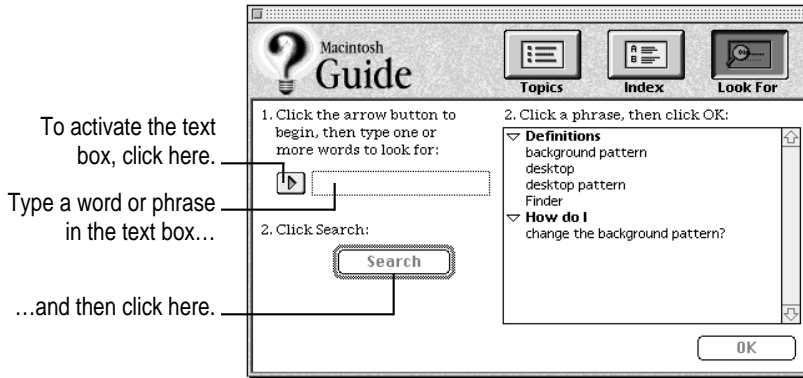
- 6 When you have completed all the steps, click the Topics button in the lower-left corner to return to the main Macintosh Guide window.

Now continue with the next section.

## Getting answers with the Look For button

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

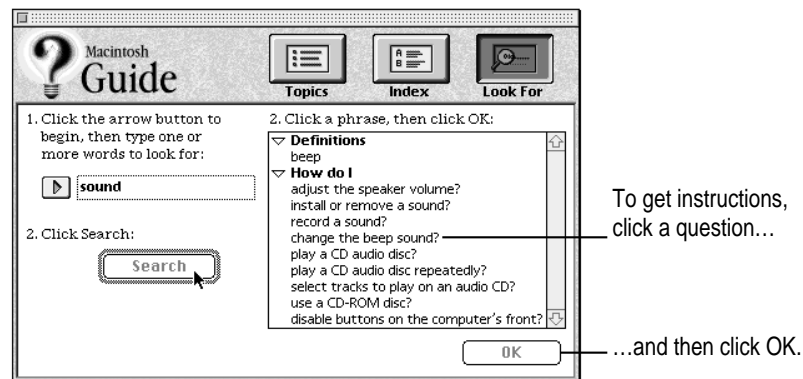
A small box appears on the left side of the window, where you can type text.



- 2 Click the arrow button to activate the text box.

- 3 Type "sound" in the text box and then click Search.

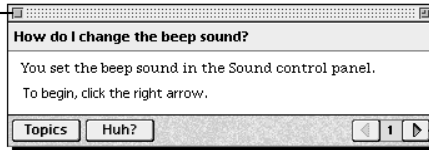
When you click Search, a list of questions related to the word or phrase you typed appears on the right side of the Macintosh Guide window.



- 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.



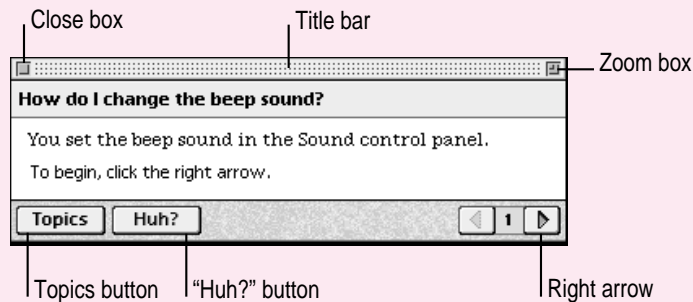
## Tips for using Macintosh Guide

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  icon) 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.**

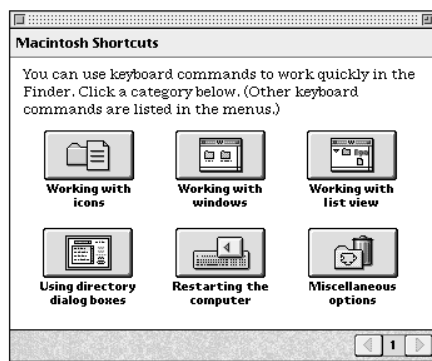
## Learning useful shortcuts

You can perform many tasks in the Finder more quickly if you use keyboard or mouse 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 mouse shortcuts:

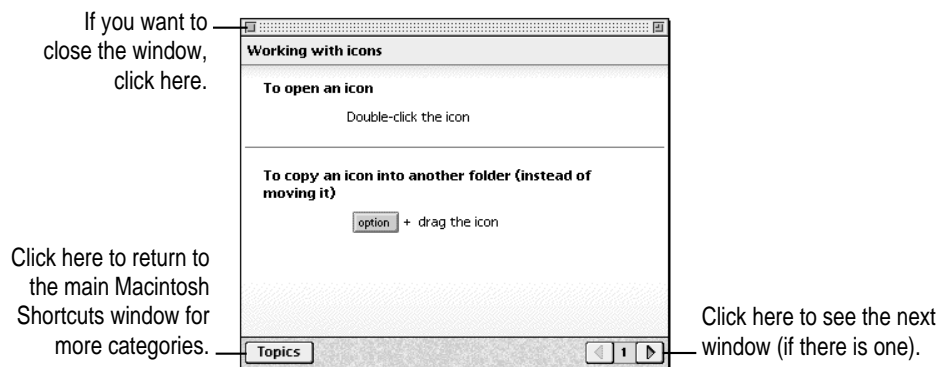
- 1 Pull down the Guide menu (marked with the ) and choose Shortcuts.

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.**

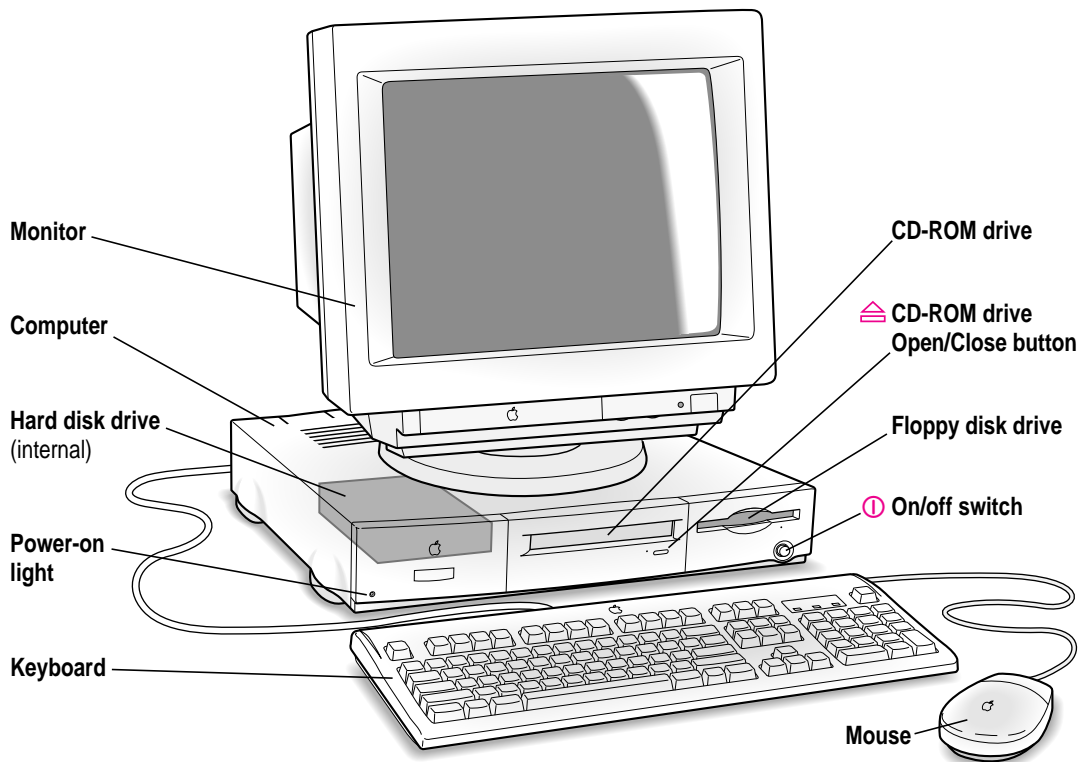
Read this chapter for information on expanding your computer system with additional hardware.

# 3

## Connecting Additional Equipment



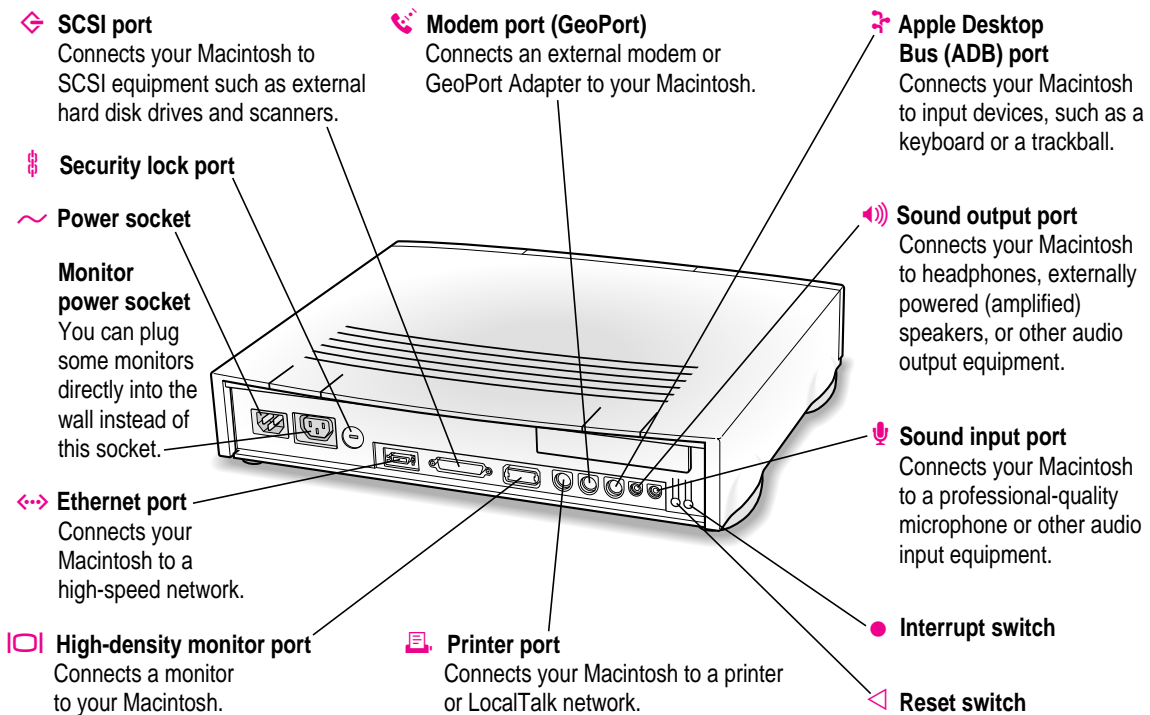
The illustration shows a basic Macintosh Performa 6100 series system, ready to use. However, you can also expand your computer system.



The illustration on this page shows where equipment should be connected to your computer.

For instructions on connecting audio equipment, see the next section, “Connecting Audio Equipment.” For instructions on connecting video equipment, see Appendix C, “Adding AV Capability to your Macintosh Performa.” For instructions on connecting other equipment, see the manual that came with the equipment.

**WARNING** Before you connect any equipment—such as a mouse, keyboard, or external SCSI device—to your computer, make sure that your computer is plugged in (in order to ground the computer) and turned *off*. If you connect equipment with the computer turned on, you can damage your computer and your equipment.



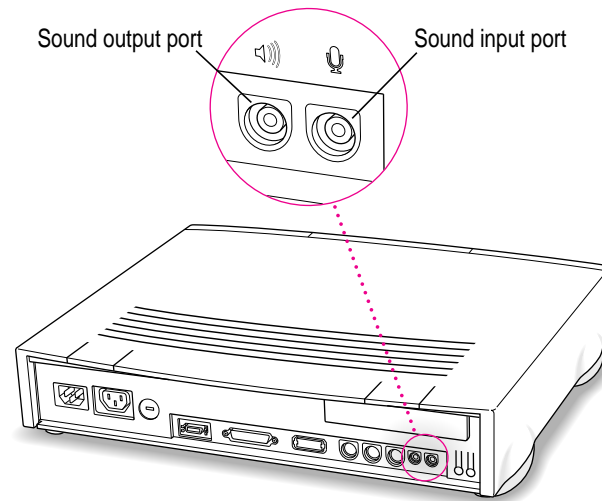
## Connecting audio equipment

Your Macintosh can play and record stereo sound from a variety of sources. You can listen to or reproduce stereo sound by connecting audio equipment to the sound input and output ports on the computer. If you have an internal CD-ROM drive, you can also use your computer to play and record sound from audio compact discs (CDs).

For information on using Macintosh system software to choose audio input and output options, record an alert sound, or play audio CDs, see the “Sound” topic of Macintosh Guide, available in the Guide (📖) menu.

### About your computer's sound ports

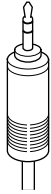
The sound input port is marked with an icon of a microphone. The sound output port is marked with an icon of a speaker.



When audio equipment is connected to the sound input port (🎙️), you can hear or record the incoming sound on the computer.

When audio equipment is connected to the sound output port (🔊), you can record the sound produced by the computer or play that sound through externally powered (amplified) speakers.

The computer's sound ports accept an audio connector known as a *stereo miniplug*. This connector is the type used on headphones for a personal tape player, for example. If your equipment has a different type of connector, you can purchase an adapter at an electronics supply store.



Stereo miniplug

## Connecting audio equipment

To play or record sound with your Macintosh, you can attach a microphone, amplifier, tape recorder, or a pair of speakers.

You need the Apple PlainTalk Microphone or a compatible microphone to use speech-recognition technology with your Macintosh. For specific instructions on connecting a microphone, see the next section, “Connecting and Positioning a Microphone,” or see the information that comes with the microphone. For specific instructions on connecting speakers, see the next section, “Connecting External Stereo Speakers.”

If your Macintosh has audio-visual (AV) capabilities, you can record sound and video simultaneously by connecting a VCR to your Macintosh. For instructions, see “Connecting Video Equipment for Output From the Computer” in Appendix C.

Follow these general steps to connect audio equipment to the Macintosh:

- 1 Make sure that the audio equipment has a cable with a stereo miniplug connector.**

If it does not, attach an adapter that has a stereo miniplug.

- 2 Place the audio equipment near the Macintosh.**
- 3 Shut down the Macintosh and turn off the audio equipment.**



**4 Attach the cable to the audio equipment and to the appropriate sound port on the Macintosh.**

To hear or record incoming sound on the computer, connect the audio equipment to the sound input port (Ⓜ).

To record the sound produced by the computer or play that sound through externally powered (amplified) speakers, connect the audio equipment to the sound output port (Ⓜ).

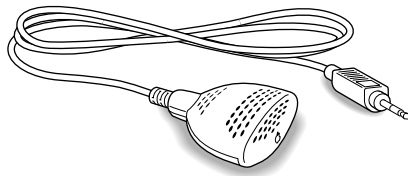
**5 Turn on the computer and the audio equipment.**

You're now ready to begin listening to and working with sound. For more information on working with sound, see the "Sound" topic of Macintosh Guide, available in the Guide (📖) menu.

### Connecting and positioning a microphone

With appropriate software, you can use a microphone to give spoken commands to your Macintosh and to record your voice or other sounds.

You need the Apple PlainTalk Microphone (or a compatible microphone) to use speech-recognition technology with the Macintosh.

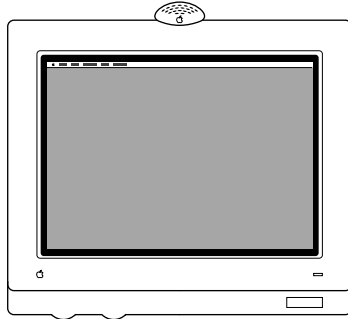


Some models of the Macintosh come with the Apple PlainTalk Microphone. You can obtain the microphone from an Apple-authorized dealer. (You can't use the round microphone supplied with some other Macintosh models.)

*Note:* The Apple AudioVision 14 Display has the Apple PlainTalk Microphone built in.

Follow these steps to connect and position the microphone:

- 1 Shut down the Macintosh.**
- 2 Plug the microphone's connector into the sound input port (🔊) on the back of the computer.**
- 3 Place the microphone at the top center of the monitor, so that the microphone's Apple (🍏) icon is facing you.**



If you can't place the microphone on top of the monitor, position the microphone according to these guidelines:

- The microphone should be between 1 and 3 feet away from you.
- The microphone should be directly in front of you to minimize the effect of background noises.

- 4 Turn on the computer.**

You're now ready to begin using your microphone.

To install Apple PlainTalk software, which enables you to give spoken commands to the computer, receive computer-voice responses to your spoken commands, and have the computer read text to you, see Chapter 4, "Using Programs and Backing Up Disks."

For further instructions on how to use speech, see the "Speech" topic of Macintosh Guide, available in the Guide (🔍) menu.

## Connecting external stereo speakers

You can take advantage of your computer's stereo sound output by attaching externally powered (amplified) speakers.

### 1 Assemble the speakers and the cable you need.

You need a cable with stereo miniplugs at each end to connect one or both speakers to the computer. (Some speakers require a dual-plug adapter. Others, like those shown in the next illustration, accept a single stereo miniplug and are joined by standard speaker wires.)

### 2 Turn off the Macintosh.

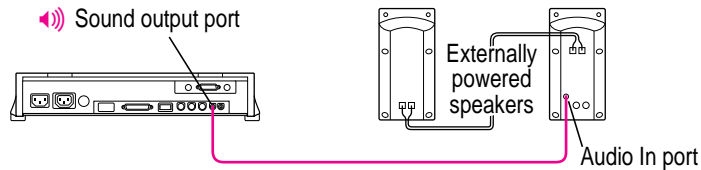
### 3 Plug a stereo miniplug into the sound output port (🔊) on the Macintosh.

### 4 Plug a stereo miniplug into the Audio In port on one of the speakers.

If the speakers take a dual-plug cable, connect both plugs.

### 5 Connect the speakers together with speaker wires, if necessary.

Your finished connections should look like this:



### 6 Turn on the computer.

Now you hear the computer's sound through the external speakers.

*Note:* To control the volume of your external speakers, open the Sound control panel and choose Volumes in the pop-up menu. Use the Built-in Headphones slider to adjust the volume for your external speakers. If you are playing an audio CD, you may also need to adjust the volume control in the program you're using to play CDs.

## Expanding memory

The random-access memory (RAM) in your computer can be expanded. Installing additional RAM adds more memory chips to your computer and expands its capabilities. The *Technical Information* booklet that came with your computer describes how much additional memory can be installed in your Macintosh.

Memory for your computer is provided in packages called Single Inline Memory Modules (SIMMs). The SIMMs must be the correct type for your computer and should be installed in pairs of the same size into paired slots.

**WARNING** To avoid damage to your computer, Apple recommends that only an Apple-certified technician install additional RAM. Consult the service and support information that came with your computer for instructions on how to contact an Apple-authorized service provider or Apple for service. If you attempt to install additional RAM yourself, any damage you may cause to your equipment will not be covered by the limited warranty on your computer. See an Apple-authorized dealer or service provider for information about this or any other warranty question.

It is very important that the DRAM SIMMs be correctly installed in your Macintosh. Incorrect installation can result in errors, unpredictable results, and damage to your equipment and data.

**WARNING** Do not remove any factory-installed cards from inside your computer. Removing a factory-installed card at an angle can damage your equipment. Any NuBus™ expansion cards installed in your computer will not operate properly if the factory-installed card is removed. If a factory-installed card needs to be removed, see an Apple-authorized service provider.

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

# 4

## Using Programs and Backing Up Disks



Your computer came installed with several ready-to-use application programs. You can open these programs by clicking their buttons in the Launcher.

The Apple Extras folder on your hard disk (or the *Macintosh Performa CD*) contains other programs (some of which must be installed before they will work), including the following:

- *AppleScript*. You need AppleScript on your hard disk in order to use Macintosh Guide. With AppleScript you can also automate tasks in the Finder and other scriptable programs (programs that support AppleScript). Instructions for using AppleScript are included in the AppleScript folder.
- *QuickDraw GX* gives your computer more powerful printing and font capabilities. You'll want to install QuickDraw GX if you purchased another program that requires it. If your computer has at least 8 megabytes of random-access memory (RAM), you can install QuickDraw GX by opening the QuickDraw GX folder and double-clicking the Installer icon.
- *PowerTalk* provides an open collaboration environment with a universal mailbox and other electronic mail services. You'll want to install PowerTalk if you purchased another program that requires it. If your computer has at least 8 megabytes of RAM, you can install PowerTalk by opening the PowerTalk folder and double-clicking the Installer icon.

- *PlainTalk* is a program that enables you to use spoken commands with your Macintosh Performa. To use PlainTalk, you need to install the PlainTalk software (use the Installer in the PlainTalk folder inside Apple Extras) and connect an Apple PlainTalk microphone. (See “Connecting and Positioning a Microphone” in Chapter 3.) For information about using the PlainTalk software, see the “Speech” topic of Macintosh Guide, available in the Guide (🔍) menu.
- *Video Monitor* is for use with computers that have audio-visual (AV) capabilities. If you install an AV card in your Macintosh, see the “Video” topic of Macintosh Guide, available in the Guide (🔍) menu, for information on using Video Monitor.

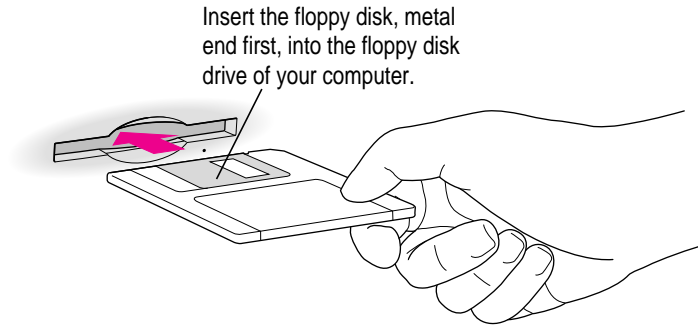
Your computer has several application programs already installed, as well as some programs that you must install before you can use them. (You will need to run each uninstalled application program’s Installer program before the application program will work.) You’ll find the uninstalled programs on your hard disk.

You may want to experiment with AppleScript, one of the programs on your hard disk. With AppleScript you can automate tasks in the Finder and other scriptable programs (programs that support AppleScript). Instructions for using AppleScript are also included in the AppleScript folder.

## Installing application programs

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

In most cases, you'll install an application program on your internal hard disk from floppy disks that contain the program. The following illustration shows how to insert a floppy disk in your computer's floppy disk drive.



For instructions on how to eject floppy disks, see the “Disks” topic of Macintosh Guide, available in the Guide (🔍) menu.

To use your programs most effectively, follow these guidelines:

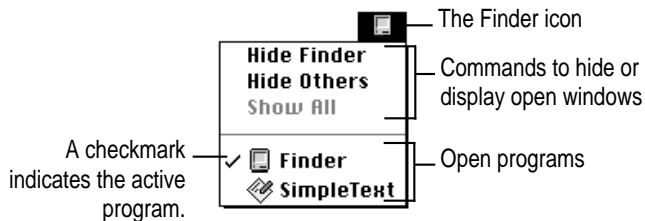
- Put only one copy of each program on your hard disk. Having more than one copy can cause errors.
- Whenever you copy a program disk to your hard disk, be careful not to copy a System Folder. Always check to see what you've copied, and drag any extra System Folders to the Trash.
- If you have problems using a program, read the manuals you received with the program.
- If a program malfunctions consistently, try installing a fresh copy. If that doesn't help, find out from the software manufacturer whether your version of the program is compatible with the system software you're using.

For instructions on how to put a program into the Launcher, see the “Launcher” index topic 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.

## Protecting the information on a disk

If you had a valuable document such as a birth certificate, you'd probably make an extra copy of it for safekeeping. Similarly, you should make a copy of the documents you create on your computer. The extra copy is called a *backup*, and the process of making the copy is called *backing up*.

Once you have a backup, you're protected from accidentally losing the information on your hard disk. In the unlikely event that something happens to your hard disk, you can easily get the information back.

Your computer's hard disk comes with a lot of valuable information already stored on it, including system software and some application programs. The *Macintosh Performa CD* contains a backup copy of all the system software and application programs that came with your computer. See Chapter 5, "Troubleshooting," for instructions on using the CD to reinstall software.

*You should regularly make backup copies of the documents you create.* To make a backup copy of the work you store on your hard disk, drag the icons for individual files or for whole folders to the icon of another disk. You can back up the contents of an entire floppy disk by dragging its icon to another floppy disk or hard disk icon.

You can also purchase a backup program with additional features that make copying faster. For example, some programs have a feature that lets you copy only the new and changed information on your hard disk.

Your computer comes with two programs, Apple Backup and Apple Restore, which you can use to make a set of backup floppies containing the contents of your entire hard disk. See the following sections for instructions on using Apple Backup and Apple Restore.

## Using Apple Backup for the first time

If you have a *Macintosh Performa CD*, you don't need to use Apple Backup, because the CD contains all the software that came with your computer. However, if you don't have the CD as backup, use Apple Backup to copy the software to floppy disks, as backup.

**WARNING** Do not attempt to back up your Macintosh with disks that have been preformatted for an IBM-compatible personal computer.

To use Apple Backup for the first time, follow these steps:

- 1 **Click the Applications grouping button in the Launcher.**

The buttons for application programs available in the Launcher are grouped under the Applications button.

- 2 **Click the Apple Backup button in the Launcher window.**



Apple Backup

The Apple Backup program opens.



**3 Click the Continue button.**

A message appears, showing you how to identify the high-density floppy disks you need.

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

A message appears, telling you how many disks you need to make the copy and approximately how long it will take. Make sure you have enough time and disks to complete the copying. If you stop the copying before it's finished, you'll have to start over again from the beginning.

**5 Click the appropriate button, as follows:**

- If you have enough disks to copy everything, then click the Copy All Files button.
- If you have only enough disks to copy the System information, then click the Copy System Folder button. As soon as you buy more disks, follow the instructions in this chapter to back up everything.
- If you don't have enough disks for either choice, click the Quit button.

**6 Insert a high-density floppy disk into the disk drive.**

A message tells you when it's time to insert another floppy disk.

**7 Lock each disk as you remove it from the computer. Label the disks to indicate the order in which you created them (for example, *Backup 1*, *Backup 2*, and so on).**

To lock a disk, turn it label-side down and use a pen or your fingernail to slide the tab in the lower-right corner of the disk so that the square hole is open. (The disk has two square holes, but only one of them has a moveable tab.)

**8 When a message appears telling you that you've finished, store the labeled and locked floppy disks in a safe, cool place.**



## Using Apple Backup to update your backup copy

If you made a backup copy of your hard disk information on floppy disks using Apple Backup, you can keep your backup copy up-to-date by following the instructions here. *By the way:* Another way to make sure you have up-to-date information is to use a new set of floppy disks to create your backup copy, preserving your original backup. If you are using a fresh set of floppy disks, follow the instructions in the previous section, “Using Apple Backup for the First Time.”

**1 Get the floppy disks that you used to make a previous backup copy.**

Have some extra high-density disks on hand in case there is more information on your hard disk than there was the last time you made a copy.

**2 Turn on your Macintosh, if it's not already on.**

**3 Click the Applications grouping button in the Launcher.**

The buttons for application programs available in the Launcher are grouped under the Applications button.

**4 Click the Apple Backup button in the Launcher window.**



Apple Backup

The Apple Backup program opens.



**5 Click the Continue button.**

A message appears, showing you how to identify the high-density floppy disks you need.

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

A message appears, telling you how many disks you need to copy all files on your hard disk, or to copy just the System Folder. It also tells you approximately how long it will take to make the copy.

*Copy all files or just the System Folder?* Because all the information on your hard disk is important, it's recommended that you make a copy of all the files on the hard disk. But if you don't have enough disks or time right now to make a copy of everything, you can choose to make a copy of just the System Folder.

If you want to be doubly protected, you can make a copy of all files and then start Apple Backup again and make an extra copy of the System Folder. That way, if something goes wrong with your System Folder, you can replace it quickly without having to copy everything back onto your hard disk.

**7 Click the button that corresponds to your choice.**

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

**8 Unlock your first backup floppy disk.**

To unlock the disk, turn the disk label-side down and use a pen or your fingernail to slide the tab in the lower-right corner of the disk so that it covers the square hole. (The disk has two square holes, but only one of them has a moveable tab.)

**9 Insert the disk into the floppy disk drive.**

If you did not unlock the disk correctly, it is ejected and a message appears. Unlock the disk, making sure that the tab snaps into place, and try again.

A message appears, telling you that the disk contains information.

**10 Click the Continue button.**

If there is a problem with the disk, a message appears. Otherwise, copying takes place automatically. A sound alerts you when it's time to insert another disk.

**11 When the disk is ejected, lock and label it.**

To lock a disk, turn it label-side down and use a pen or your fingernail to slide the tab in the lower-right corner of the disk so that the square hole is open.

**12 Repeat steps 7 through 11 for each disk in your stack of backup disks.**

Apple Backup lets you know when you've finished.

**13 Store the disks in a safe, cool place.**

## Restoring the information on your hard disk

If information on your hard disk becomes damaged or lost, you can restore it if you have a backup copy of the information. The *Macintosh Performa CD* contains copies of all the system software and application programs that came with your computer. See the *Macintosh Performa CD* booklet for instructions on using the *Macintosh Performa CD*.

If you used Apple Backup to copy the information on your hard disk to floppy disks, you can use the Apple Restore program to put that information back on your hard disk. You can also use Apple Backup and Apple Restore to replace only the System Folder (the folder that contains the software the Macintosh uses to operate). See the following section, “Using Apple Restore,” for instructions.

### Using Apple Restore

To restore information from the backup floppy disks you made with Apple Backup, follow these steps:

- 1** Make sure your Macintosh is turned off.
- 2** Insert the *Macintosh Performa CD* into your computer’s CD-ROM drive.
- 3** Turn on your Macintosh.
- 4** Immediately press and hold down the ⌘ (Command), Shift, Option, and Delete keys (all at the same time).

This key combination tells your computer not to use its internal hard disk as its startup device.

- 5** As soon as the smiling Macintosh appears on your screen, release the keys.

Your computer recognizes the CD as its startup device, and in a few seconds the Macintosh desktop with a Launcher appears.

- 6 Click the Apple Restore button in the Launcher to open the Apple Restore program.



Apple Restore

In a moment you'll see this screen:



- 7 Read the information on the screen and click the Continue button.

- 8 Insert your first backup floppy disk.

Restoring proceeds automatically. If there is a problem with the disk, you see a message describing the problem.

**IMPORTANT** If at any time during the restore process you see a message reporting that the hard disk is damaged or unreadable, see “Repairing a Damaged Disk” in Chapter 5.



**9 Respond to any messages you see on the screen.**

If Apple Restore finds an item on your hard disk that is newer than an item with the same name on the floppy disk, it asks whether you want the older version of the item to replace the newer version. Use the following guidelines to decide whether or not to replace the item:

- If the item is system software, click **Replace Newer Version**.
- If the item is one of your own files, click **Keep Newer Version**.
- If, after the restore procedure, you still have problems with the disk, repeat the restore procedure and, this time, replace all newer items with the older items.

A sound alerts you when it's time to insert another floppy disk.

**10 Repeat steps 8 and 9 for each disk in your stack of backup disks.**

Apple Restore lets you know when you have finished.

**11 Restart your Macintosh and make sure that everything is back on your hard disk.**

If the Macintosh does not start up, or if it is not working properly, see “Repairing a Damaged Disk” in Chapter 5. If you are able to repair the disk, then try again to restore the information on your hard disk.

If repairing the disk doesn't help, you may need to reinstall system software. See “Installing or Reinstalling System Software” in Chapter 5.

**12 Store your backup disks in a safe, cool place.**





Consult this chapter if you experience  
problems using your computer.

# 5

## 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.

### When you run into trouble

While you're using your computer, you may occasionally 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. 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. For additional troubleshooting information and a list of common questions relating to your system software, see the “Troubleshooting” topic of Macintosh Guide.

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.

## Take your time

When you see an error message, you don't have to take action immediately. The message stays on the screen until you click the OK button or turn off the Macintosh.

To help diagnose and correct the problem, gather as much information on the situation as you can before starting over.

- Make a note of exactly what you were doing when the problem occurred. Write down the message on the screen. Also list the programs you were using and the names of any items you know have been added to the System Folder since the system software was installed. This information will help a service person diagnose the problem. (It is helpful to keep a printed copy of the items in your System Folder. For instructions on printing the contents of a folder, see the “Printing & Fonts” topic of Macintosh Guide, available in the Guide [?] menu.)
- Check the screen for any clues. Is a menu selected? What programs and document icons are open? Note anything else that seems relevant.
- If you were typing text and were not able to save it before the problem occurred, you can write down the parts of the text still visible on the screen so that some of your work will be easy to replace.
- Ask other Macintosh users about the problem you're having; they may have a solution for it.

If you need repair service, consult the service and support information that came with your computer for instructions on how to contact an Apple-authorized service provider or Apple for assistance.

## Start over

Often you can eliminate a problem simply by clearing the computer's memory and starting over.

If you can, save any open documents before restarting the Macintosh. If your system is frozen and does not respond to anything you do, or if you have a “bomb” message on the screen, saving may not be possible. You can try pressing ⌘-Option-Esc to quit the program in use when the problem occurred; if this works, you can then save the documents open in other programs before restarting.

To restart your Macintosh, try the following steps:

- 1 If you can, choose Restart from the Special menu or from the dialog box that's on screen.**

Dialog boxes contain messages from the computer. If something goes wrong, a message may appear on the screen, asking you to restart the computer.

- 2 If you can't choose Restart, hold down the ⌘ and Control keys while you press the Power key (marked with a triangle).**

This key combination restarts the computer. (Use this key combination only when you can't choose Restart from the Special menu.)

- 3 If nothing happens, turn off your computer with the power switch, wait at least 10 seconds, and then turn it on again.**

- 4 If the power switch doesn't turn off the computer, unplug your Macintosh.**

If you suspect that the problem is with other equipment, such as a printer or an external hard disk that's attached to your computer, turn that equipment off for 10 seconds or longer, then turn it on again and restart the Macintosh.

## Rebuild your desktop regularly

A process known as “rebuilding the desktop” helps your Macintosh keep track of data on your disks. It’s a good idea to rebuild the desktop of your disks once a month or so, especially your startup disks. (Although you usually use the hard disk in your computer as a startup disk, you can also start up from any other disk that has system software installed.)

To rebuild the desktop of your internal hard disk, follow these steps:

- 1 Hold down the Option and ⌘ keys while you start up your computer.**

Do not release the keys until you see a message asking whether you want to rebuild the desktop.

- 2 Click OK.**

You can also use this procedure to rebuild the desktop of an external hard disk or a floppy disk. Simply turn on the external hard disk or insert the floppy disk into a floppy disk drive before you turn on the computer.

## Solutions to common problems

### **The computer is turned on, but the screen is dark.**

One of the following is probably the cause:

- You have a screen saver program that darkens the screen when the computer has not been used for a certain period.

Press a key or move the mouse to turn off the screen saver.

- The screen control buttons (⌘) are not adjusted properly.

Press the top screen control button to lighten the screen.

- The Macintosh is not getting power.

Check that the computer's power cord is firmly connected to the computer and plugged into a grounded electrical outlet, and that the outlet has power.

If you are displaying video from your computer on a television screen, it is normal for your computer monitor to be dark.

### **The computer's clock keeps time inaccurately.**

Your computer has a clock that runs continuously. When the computer is turned off, a battery keeps the clock running. If your clock begins to keep time inaccurately, have your Apple-authorized service provider replace the battery.

**When you start up, a disk icon with a blinking question mark appears in the middle of the screen.**



This icon indicates that your Macintosh cannot find the system software it needs to start up. One of the following is probably the cause:

- Your computer may be having a problem recognizing external equipment that uses the Small Computer System Interface (SCSI).

Turn off all external SCSI equipment and disconnect the first SCSI device in the chain from your computer's SCSI port. Then restart the computer. If the computer starts up after you disconnect your SCSI equipment, refer to the manuals that came with the equipment for information on the proper way to connect SCSI equipment and assign SCSI ID numbers.

If you have a printer connected to your computer's SCSI port, make sure your printer is not supposed to be connected to the printer port instead. Check the manuals that came with your printer for information on how to connect it properly.

- System software is not installed on the startup hard disk, the system software is damaged, or the hard disk is not working properly.

Insert the *Macintosh Performa CD*. Then follow the rest of the instructions on repairing a disk to test your startup hard disk and repair any damage.

If repairing the disk doesn't help, follow the instructions in "Installing or Reinstalling System Software" later in this chapter to reinstall system software on your startup hard disk.



**When you try to start up from a floppy disk, a disk icon with an X appears in the middle of the screen, and the floppy disk is ejected.**



This icon indicates that the floppy disk you tried to start up from is not a startup disk.

Wait a few seconds. The computer should start up from its internal hard disk. Make sure you insert floppy disks only after the computer has begun starting up.

**A “sad Macintosh” icon appears, and the computer won’t start up.**



This icon indicates that your Macintosh cannot start up because of a problem with the system software or the computer hardware.

Eject any floppy disks by turning off the computer and then holding down the mouse button while you turn the computer on again. Try starting up with the *Macintosh Performa CD*. (For instructions on how to start up your computer from the CD-ROM disc, see “Starting Up From a CD-ROM Disc” in the section “Repairing a Damaged Disk” later in this chapter.) If the “sad Macintosh” icon appears again, consult the service and support information that came with your computer for information on contacting an Apple-authorized service provider or Apple for assistance.

### **The hard disk icon does not appear on the desktop.**

If you don't see a hard disk icon on the desktop, try the following:

- If the hard disk is internal, shut down your computer, wait at least 10 seconds, and then turn it on again.
- If the hard disk is external, make sure that it is turned on and that its cable is connected firmly; then restart the Macintosh.
- Check the ID numbers of all SCSI equipment connected to your computer. See the manuals that came with your SCSI equipment for information on setting SCSI ID numbers.
- If the hard disk is your startup disk, start your computer with the *Macintosh Performa CD*. (For instructions on how to start up your computer from the CD-ROM disc, see “Starting Up From a CD-ROM Disc” in the section “Repairing a Damaged Disk” later in this chapter.) Then follow the rest of the instructions on repairing a disk to test your startup hard disk and repair any damage.

If repairing the disk doesn't help, follow the instructions in “Installing or Reinstalling System Software” later in this chapter to reinstall system software on your startup hard disk.

### **Icons do not appear correctly on your screen.**

You need to rebuild the desktop—a process that helps your Macintosh keep track of files and folders on your hard disks. For instructions, see “Rebuild Your Desktop Regularly” in the section “When You Run Into Trouble” earlier in this chapter.

If icons do not appear correctly after you rebuild the desktop, restart your computer while pressing the Shift key to temporarily turn off system extensions. When you see the “Welcome to Macintosh—extensions off” message, release the Shift key and press the Option and ⌘ keys until you see a message asking if you want to rebuild the desktop.

### **Your Macintosh can't read a floppy disk.**

If you see a message that a floppy disk is unreadable, try one of the following:

- If the disk has never been used, you may simply need to initialize it. For instructions, see the “Disks” topic of Macintosh Guide, available in the Guide (🔍) menu.
- The disk may be damaged. See “Repairing a Damaged Disk” later in this chapter for information on testing and repairing disks.
- If the disk is a high-density disk previously used on another computer, the disk may have been formatted incorrectly as an 800K disk rather than as a 1440K (high-density) disk. If so, use the other computer to copy the disk's contents onto a properly formatted disk.

If you are trying unsuccessfully to use a DOS floppy disk, consider the following:

- When formatting floppy disks on a DOS computer for use in a Macintosh, users need to format standard double-sided disks as 720K disks and high-density disks as 1440K disks. Because DOS computers allow standard double-sided disks to be formatted in 1440K format and high-density disks to be formatted in 720K format, it's possible that your disk has been given a format that won't work in a Macintosh.

If you think your DOS floppy disk might have a format that doesn't work in a Macintosh, use a DOS computer to copy the contents of your DOS floppy disk onto another DOS floppy disk that has been properly formatted for use in a Macintosh.

### **A dialog box with a bomb appears.**

Your system has a software problem.

- Write down what you were doing when the message appeared and the text of the message.
- Restart your Macintosh. (See “Start Over” in the section “When You Run Into Trouble” earlier in this chapter for instructions.) Most software problems are temporary, and restarting usually corrects the problem.
- Check the startup disk and application program you were using when the dialog box appeared. Make sure that all programs, desk accessories, and system extensions you’re using are compatible with the system software. Reinstalling the system software may correct the problem.
- Sometimes incompatible system extensions or control panels can cause system software problems. Restart while holding down the Shift key; this temporarily turns off all system extensions. If your computer works normally after you do this, use the Extensions Manager control panel to turn on extensions and control panels one at a time. Restart after you turn on each extension. This procedure should identify incompatible extensions and control panels.

For information on using the Extensions Manager control panel to manage system extensions, see the “Setting Options” topic of Macintosh Guide, available in the Guide (🔍) menu.

- If the problem recurs, you may need to reinstall system software. See “Installing or Reinstalling System Software” later in this chapter for instructions.

### **The pointer (⏏) doesn’t move when you move the mouse.**

One of the following situations is probably the cause.

- Your system has a software problem. Try one or more of the following:  
Press ⌘-Option-Esc to quit the application program in use when the problem occurred. If this works, you can save the documents open in other programs before restarting.

Restart your Macintosh. See “Start Over” in the section “When You Run Into Trouble” earlier in this chapter for instructions.

Check the startup disk and program you were using when the problem occurred. Make sure that all programs, desk accessories, and system extensions you're using are compatible with the system software. Try starting up the computer with the *Macintosh Performa CD*. (For instructions on how to start up your computer from the CD-ROM disc, see “Starting Up From a CD-ROM Disc” in the section “Repairing a Damaged Disk” later in this chapter.) If your computer starts up normally, there may be an extension conflict.

Sometimes incompatible system extensions or control panels can cause system software problems. Restart while holding down the Shift key; this temporarily turns off all system extensions. If your computer works normally after you do this, use the Extensions Manager control panel to turn on extensions and control panels one at a time. Restart after you turn on each extension. This procedure should identify incompatible extensions and control panels.

For information on using the Extensions Manager control panel to manage system extensions, see the “Setting Options” topic of Macintosh Guide, available in the Guide (⌘) menu.

If the problem recurs, you may need to reinstall system software. See “Installing or Reinstalling System Software” later in this chapter for instructions.

- The mouse is not connected properly.

Turn the computer off using the power switch, check that the mouse and keyboard cables are connected properly, and then restart the computer.

- Signals from the mouse are not reaching the computer, either because the mouse needs cleaning or because there is something wrong with the mouse.

Clean the mouse according to the instructions in Appendix A of this book.

If you have another mouse or pointing device, try connecting and using it. (Turn off the computer before connecting it.) If the new device works, there is probably something wrong with the mouse you replaced.

If none of these procedures solves the problem, consult the service and support information that came with your computer for instructions on how to contact an Apple-authorized service provider or Apple for assistance.

## Typing on the keyboard produces nothing on the screen.

One of the following is probably the cause:

- Your system has a software problem.

Restart your Macintosh. For instructions, see “Start Over” in the section “When You Run Into Trouble” earlier in this chapter.

Check the startup disk and application program you were using when the problem occurred. Make sure that all programs, desk accessories, and system extensions you’re using are compatible with the system software.

If the problem recurs, you may need to reinstall system software. See “Installing or Reinstalling System Software” later in this chapter for instructions.

- You haven’t selected any text or set the insertion point (I).

Make sure the program you want to type in is the active program. Then place the pointer (⏏) in the active window and click to set an insertion point (I) or drag to select text (if you want to replace the text with your typing).

- The keyboard is not connected properly.

Turn off the computer using the power switch, then check that the keyboard cable is connected properly at both ends.

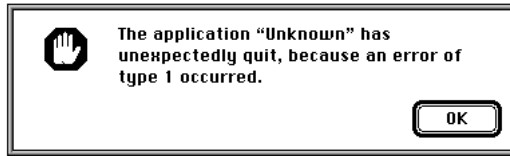
If you have a keyboard with an ADB port (marked with the ⏏ icon) on each end, turn off the Macintosh using the power switch and plug the keyboard cable into the other ADB port on the keyboard. (You may have to unplug the mouse to do this.) Then restart the computer.

- The keyboard is damaged.

If you have access to another keyboard, try using it instead. (Turn the computer off before connecting it.) If the new keyboard works, there is probably something wrong with the one you replaced.

If none of these procedures solves the problem, consult the service and support information that came with your computer for instructions on how to contact an Apple-authorized service provider or Apple for assistance.

You can't start an application program or it quits unexpectedly. Or, when you try to open a program, you see a message that not enough memory is available.



One of the following is probably the cause:

- The Macintosh ran out of memory.

Quit the programs that you have open and then open the program you want to use, or restart your Macintosh.

Use the Memory control panel to turn on virtual memory. For more information on virtual memory, see the “Memory” topic of Macintosh Guide, available in the Guide (🔍) menu.
- The program needs more memory.

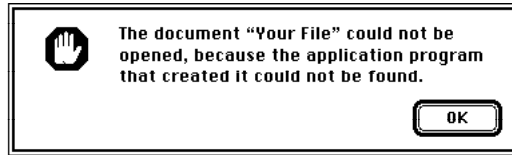
Use the program's Info window to give it more memory. For more information on increasing a program's memory, see the “Memory” topic of Macintosh Guide, available in the Guide (🔍) menu.
- The program requires special hardware and your computer doesn't have the hardware installed.

Check the documentation that came with the program to find out if the program requires a Macintosh with special hardware. Then check the *Technical Information* booklet that came with your Macintosh to find out if your computer is equipped with such special hardware, or if the hardware can be installed. Consult your Apple-authorized service provider for information on installing special hardware in your computer.
- The program is incompatible with your computer.

Check the documentation that came with the program or call the program's publisher to find out if you can use the application with your computer.

**You see a message that an application program can't be found.**

The following dialog box appears if you try to open a document that was created with software that is not on your hard disk.



Normally, you see this message if you try to open a document that came from another Macintosh with software that is different from yours.

- Some documents can be opened by more than one application program. Try starting a program that you think might be able to open the document, then choose Open from the program's File menu to try to open the document.
- Purchase and install the correct software to use the document, or find out if the creator of the document can convert it to a form that one of your programs can use.
- Don't try to open the files in your System Folder. Most of the files in your System Folder are used by your computer for internal purposes and are not intended to be opened.
- Rebuild your desktop by holding down the Option and ⌘ keys while starting up your computer. Keep holding down the keys until you see a message asking whether you want to rebuild the desktop. Click OK.
- If the document is from a DOS computer, use the PC Exchange control panel to specify which Macintosh program will open the document. For information about working with DOS documents on your Macintosh, see the "Using DOS Files & Disks" topic of Macintosh Guide, available in the Guide (🔍) menu.



**You experience problems using a document from a DOS computer.**

If you can't open a DOS document using a Macintosh program, try the following:

- Open the document from within the program by choosing Open in the program's File menu.
- Use the PC Exchange control panel to change the document's type to one that can be opened by the program.

If a DOS document is displayed incorrectly, or you see strange codes or characters in the document, try one of the following:

- Your application program may have special procedures for opening and saving documents with different file formats. See the information that came with your program, or call the program's publisher.
- Try opening the document in another program.

*Note:* Some characters that can be displayed on the Macintosh are not accurately displayed on DOS computers.

For more information about working with DOS documents on your Macintosh, see the "Using DOS Files & Disks" topic of Macintosh Guide, available in the Guide (📖) menu.

## Repairing a damaged disk

If you see a message reporting that a disk is damaged or unreadable, you may need to repair the disk.

### Try these suggestions first

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

- If the hard disk is internal, shut down your Macintosh, wait at least 10 seconds, and then turn it on again.
- If the hard disk is external, make sure that it is turned on and that its cable is connected firmly; then restart the Macintosh.
- If the hard disk is your startup disk, start up with a different startup disk. (See the following section, “Starting Up From a CD-ROM Disc.”)

If, after you start up from a different disk, your hard disk's icon appears on your desktop, reinstall system software on the hard disk. (See “Installing or Reinstalling System Software” later in this chapter.)

If your hard disk's icon does not appear on your desktop, you may need to initialize the disk. (See “Initializing a Hard Disk” later in this chapter.)

- Check the ID numbers of all SCSI equipment connected to your computer. Each device must have a unique ID number. The computer itself has the ID number 7, and the internal CD-ROM drive has the ID number 3. The ID numbers 0, 1, 2, 4, 5, and 6 are available for additional SCSI devices.  
Also check that the chain of devices is terminated properly. For information on setting SCSI ID numbers and terminating a SCSI chain, see the manuals that came with your SCSI equipment.
- If none of these suggestions solves the problem, test the disk by following the instructions given later in this section.

## Starting up from a CD-ROM disc

To test, repair, or initialize a hard disk, or to install system software on a hard disk, you need to start up your computer from another disk. You can start up your computer using the *Macintosh Performa CD* that came with your computer.

The procedure for starting up from the CD varies depending on the condition of the system software on your hard disk. To find out which procedure to use, you must turn on your Macintosh.

The steps that follow tell how to start up from a CD-ROM disc, depending on what you see on your screen.

### If you see a blinking question mark on your screen

The blinking question mark means that your Macintosh is unable to find usable system software on your hard disk.



- 1** Press the Open/Close button of your CD-ROM drive to open the CD-ROM tray.
- 2** Place the *Macintosh Performa CD* disc in the tray with the disc label facing up.  
Make sure the disc is lying flat in the tray.
- 3** Push the tray in, or press the Open/Close button, to close the tray.

Your Macintosh recognizes the CD as a startup disk, and in a few seconds the Macintosh desktop with a Launcher appears.

### If you see the Macintosh desktop

- 1 Press the Open/Close button of your CD-ROM drive to open the CD-ROM tray.**
- 2 Place the *Macintosh Performa CD* disc in the tray with the disc label facing up.**  
Make sure the disc is lying flat in the tray.
- 3 Push the tray in, or press the Open/Close button, to close the tray.**

If the Macintosh Performa CD icon does not appear on your screen, follow the steps in the next section, “Problems Starting Up From the CD?”

If the Macintosh Performa CD icon appears on the right side of your screen, continue with these steps.

- 4 Choose Control Panels from the Apple (🍏) menu.**
- 5 Double-click the Startup Disk icon.**

The Startup Disk control panel window appears.

- 6 Click the CD icon to select it as your startup disk.**
- 7 Choose Restart from the Special menu.**

Your computer recognizes the CD as its startup disk, and in a few seconds the Macintosh desktop with a Launcher appears.

## Problems starting up from the CD?

If you've followed the steps in the previous sections and the Macintosh Performa CD icon does not appear on your screen, follow these steps:

- 1** Insert the *Macintosh Performa CD* into your computer's CD-ROM drive.
- 2** Choose Restart from the Special menu.
- 3** Immediately press and hold down the Command (⌘), Shift, Option, and Delete keys.

The Macintosh Performa CD icon appears on the desktop.

- 4** Choose Control Panels from the Apple () menu.
- 5** Double-click the Startup Disk icon.

The Startup Disk control panel window appears.

- 6** Click the CD icon to select it as your startup disk.
- 7** Close the Startup Disk control panel window.
- 8** Press and hold down the Control, Command (⌘), and Power keys.

## Testing a SCSI hard disk

You can test an Apple SCSI hard disk with the Apple HD SC Setup program, which is on the *Macintosh Performa CD* that came with your computer.

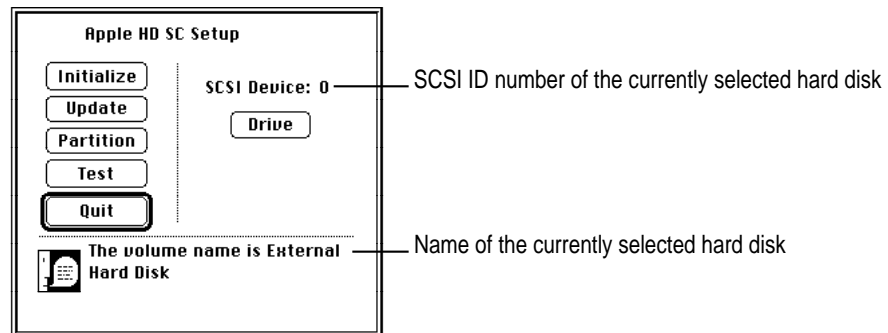
- 1 Start up your computer from the *Macintosh Performa CD*.

See “Starting Up From a CD-ROM Disc” earlier in this section.

- 2 Open the Apple HD SC Setup program.



- 3 Click Drive until the disk you want appears.



- 4 Click Test.
- 5 When a message tells you that testing is complete, click Quit.

If the test reveals a problem, you may be able to correct it by using Disk First Aid or another disk repair program (see the instructions in the next section), or you may need to reinitialize the disk (see “Initializing a Hard Disk” later in this chapter). Consult an Apple-authorized service provider for assistance if necessary.

## How to repair a hard disk or floppy disk

You can repair some types of disk damage by using the Disk First Aid program, which is on the *Macintosh Performa CD* that came with your computer.

- 1 Start up your computer from the *Macintosh Performa CD*.

See “Starting Up From a CD-ROM Disc” earlier in this section.

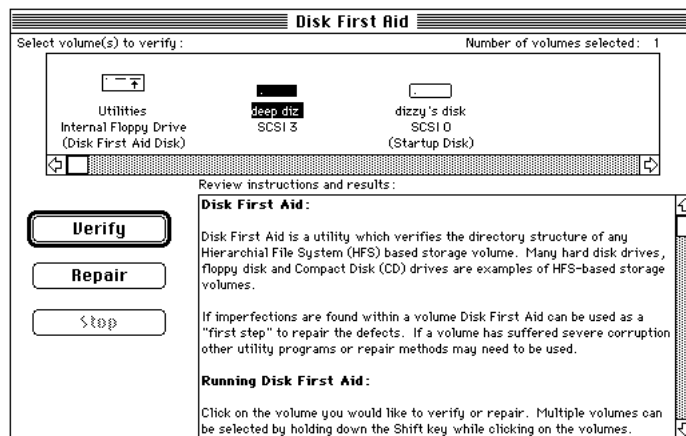
- 2 Open the Disk First Aid icon.



Disk First Aid

- 3 Click the icon of the disk you want to test.

Disk icons appear in a box at the top of the Disk First Aid window.



**4 Click Repair to begin testing and repairing the disk.**

You can't repair the startup disk or the disk that contains the Disk First Aid program, but you can test these disks by clicking Verify. If the program reveals a problem with either of these disks, start up the computer from another disk so that you can repair the damaged disk.

If you want to test and repair another disk, click its icon and then click Repair.

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

### **If Disk First Aid cannot correct the problem**

- Try repairing the disk again. Sometimes repeating the process corrects the problem.
- Use another disk repair or recovery program. Some disk repair programs let you recover information from a damaged disk.
- Consult an Apple-authorized service provider for help.
- Once you have recovered all the information you can and backed it up, erase (reinitialize) the disk. For instructions on reinitializing a floppy disk, see the “Disks” topic of Macintosh Guide, available in the Guide (🔍) menu. For instructions on reinitializing a hard disk, see the next section, “Initializing a Hard Disk.”

If initialization doesn't work, discard the damaged disk (if it's a floppy disk), or take it to your Apple-authorized service provider for repair (if it's a hard disk). Bring the *Macintosh Performa CD* (which you received with your computer) with you to the service provider.



## Initializing a hard disk

You initialize an Apple SCSI hard disk by using a program called Apple HD SC Setup, which is on the *Utilities* floppy disk that came with your computer. If your computer came with a CD-ROM drive and you didn't receive floppy disks, you can find Apple HD SC Setup on the *Macintosh Performa CD*.

- 1 Start up your computer from the *Utilities* disk or the *Macintosh Performa CD*.

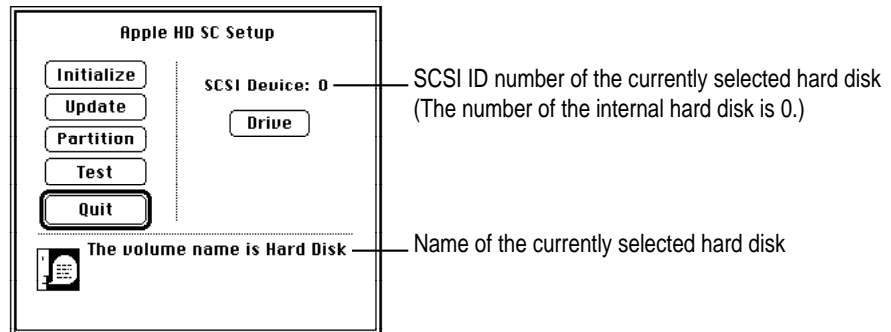
See “Starting Up From a CD-ROM Disc” or “Starting Up From a Floppy Disk” in the section “Repairing a Damaged Disk,” earlier in this chapter.

- 2 Open the Apple HD SC Setup icon.



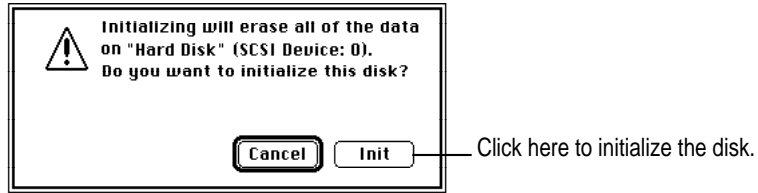
- 3 Click Drive until the disk you want to initialize appears.

You cannot initialize the disk that you used to start up your computer or the disk that contains the Apple HD SC Setup program.



- 4 Click Initialize.

- 5 Click Init to initialize the hard disk.



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

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

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

## Installing or reinstalling system software

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 the application programs you use. System software is kept in the System Folder. When you turn on your computer, it looks for a startup disk, which is a disk that contains the system software. The startup disk is usually the hard disk that's inside your computer, though another hard disk or a floppy disk can also be a startup disk.

### When should you install or reinstall system software?

Your Macintosh 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, you'll need to install system software. See the next section, "How to Install or Reinstall System Software."

If your hard disk already has system software installed on it but there is a problem with the disk or the software, you may see this icon in the middle of the screen:



If this icon appears, first try testing your startup hard disk and repairing any damage. To do this, follow the instructions in "Repairing a Damaged Disk" earlier in this chapter. If repairing the disk doesn't help, you may need to reinstall system software.

### How to install or reinstall system software

You can install or reinstall system software by following the instructions in the *Macintosh Performa CD* booklet that came with your computer.

If you've used Apple Backup to back up the contents of your hard disk, you can use Apple Restore to reinstall system software. For instructions, see "Restoring the Information on Your Hard Disk" in Chapter 4.



Read this appendix for important health and safety instructions, as well as tips on keeping your computer in good working order.



## Appendix A Health, Safety, and Maintenance Tips



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

### 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 office

Here are some guidelines for adjusting the furniture in your office to accommodate your physical size and shape.

- 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.

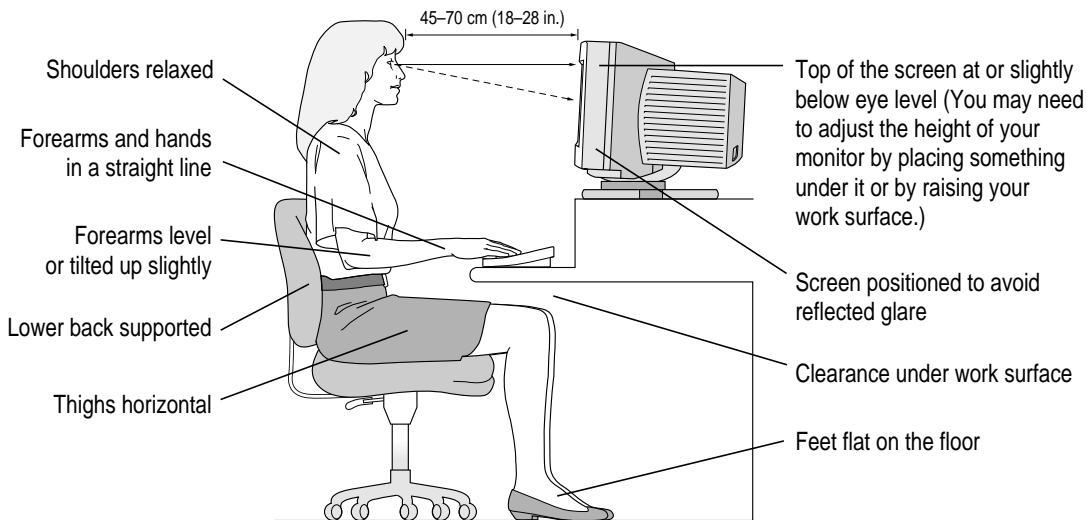
The back of the chair should support your lower back (lumbar region).

Follow the manufacturer's instructions for adjusting the backrest to fit your body properly.

- When you use the computer keyboard, 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.

- Position the mouse at the same height as your keyboard. Allow adequate space to use the mouse comfortably.
- 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).
- Position the monitor to minimize glare and reflections on the screen from overhead lights and windows. You may want to use a tiltable monitor stand. The stand lets you set the monitor at the best angle for viewing, helping to reduce or eliminate glare from lighting sources you can't move.





## Avoiding fatigue

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

## What about electromagnetic emissions?

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

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

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

## Safety instructions

For your own safety and that of your equipment, always take the following precautions.

Turn off the computer completely and disconnect the power plug (by pulling the plug, not the cord) if any of the following conditions exists:

- the power cord or plug becomes frayed or otherwise damaged
- you spill something into the case
- your Macintosh is exposed to rain or any other excess moisture
- your Macintosh has been dropped or the case has been otherwise damaged
- you suspect that your Macintosh needs service or repair
- you want to clean the case (use only the recommended procedure described later in this chapter)

Be sure that you always do the following:

- Keep your Macintosh away from sources of liquids, such as wash basins, bathtubs, shower stalls, and so on.
- Protect your Macintosh from dampness or wet weather, such as rain, snow, and so on.
- Read all the installation instructions carefully before you plug your Macintosh into a wall socket.
- Keep these instructions handy for reference by you and others.
- Follow all instructions and warnings dealing with your system.

**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.

## Handling your computer equipment

Follow these guidelines for handling your computer and its components:

- When setting up your computer, place components on a sturdy, flat surface, and carefully follow all setup instructions.
- When connecting or disconnecting a cable, always hold the cable by its connector (the plug, not the cord).
- Turn off your computer and all its components before connecting or disconnecting any cables to add or remove any component. Failure to do so could seriously damage your equipment.
- Never force a connector into a port. If the connector and port do not join with reasonable ease, they probably don't match. Make sure that the connector matches the port and that you have positioned the connector correctly in relation to the port.
- Take care not to spill any food or liquid on the computer, keyboard, mouse, or other components. If you do, turn your computer off immediately and unplug it before cleaning up the spill. Depending on what you spilled and how much of it got into your equipment, you may have to bring your equipment to an Apple-authorized service provider.
- Protect the computer and its components from direct sunlight and rain or other moisture.
- Keep all ventilation openings clear and unobstructed. Without proper air circulation, components can overheat, causing damage or unreliable operation.

**WARNING** This equipment is intended to be electrically grounded. Your Macintosh 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!

## Handling the monitor

Follow these procedures for handling a monitor:

- Turn down the screen brightness control if you leave the computer turned on for extended periods. If the brightness is not turned down, the image on the screen could “burn in” and damage the screen.

You can also use a “screen saver” program, which dims or varies the image on the screen when the computer has been idle for a specified period of time. These programs are available from independent suppliers and user groups.

- Make sure that the ventilation openings on the computer and the monitor are clear and unobstructed.
- Some large monitors cannot safely be placed on top of the computer. Check the instructions that came with the monitor for setup information.
- If there is interference on the monitor’s screen or on a television or radio near your computer, move the affected equipment farther away.

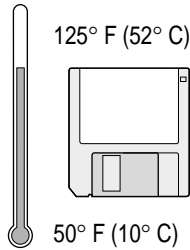
## Handling the keyboard

Take care not to spill any liquid on the keyboard. If you do, turn off your computer immediately.

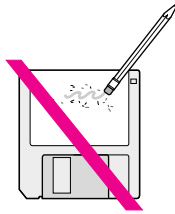
- If you spill liquid that is thin and clear, unplug the keyboard, turn it upside down to let the liquid drain out, and let it dry for 24 hours at room temperature. If, after you take these steps, the keyboard doesn’t work, take it to an Apple-authorized service provider for repair.
- If you spill liquid that is greasy, sweet, or sticky, unplug the keyboard and take it to an Apple-authorized service provider for repair.

## Handling floppy disks

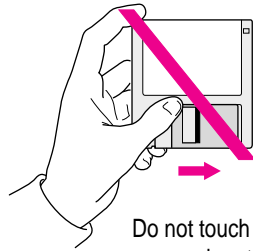
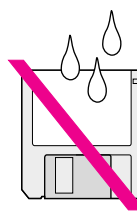
Store disks at temperatures between 50° F and 125° F.



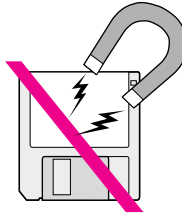
Do not use a pencil or an eraser on a disk or disk label.



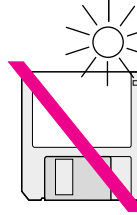
Keep disks dry.



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.

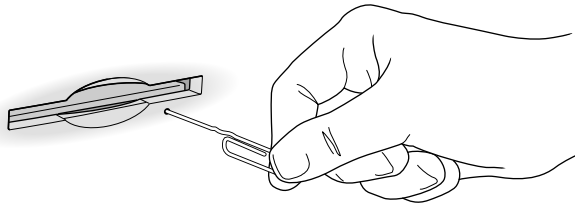
## Ejecting a disk

For instructions on ejecting a floppy disk, a CD-ROM disc, or a removable media disk, see the “Disks” topic of Macintosh Guide, available in the Guide (🔍) menu.

## If you can't eject a floppy disk

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

- Hold down the ⌘ and Shift keys and press the number 1 key on your keyboard to eject a disk in the internal disk drive.
- Turn off the computer. If the disk isn't ejected, then hold down the button on your mouse or other pointing device while you turn the computer on again.
- Locate the small hole near the disk drive's opening, and carefully insert the end of a large straightened paper clip into it. Push gently until the disk is ejected. Do not use excessive force.



If nothing works, take the computer or disk drive to your Apple-authorized service provider to have the disk removed.

## Power supply

The power supply in your computer is a high-voltage component and should not be opened for any reason, even when the computer is off. If the power supply needs service, contact your Apple-authorized dealer or service provider.

## Cleaning your equipment

Follow these general rules when cleaning the outside of your computer and its components:

- Use a damp, soft, lint-free cloth to clean the computer's exterior. Avoid getting moisture in any openings.
- Don't use aerosol sprays, solvents, or abrasives.

### Cleaning the computer case

To clean the case, do the following:

- 1 Turn off the computer completely and then disconnect the power plug. (Pull the plug, not the cord.)**
- 2 Wipe the surfaces lightly with a clean, soft cloth dampened with water.**

### Cleaning the monitor

To clean the screen, put household glass cleaner on a soft cloth and wipe the screen. Don't spray the cleaner directly on the screen, because the liquid might drip into the monitor or computer.

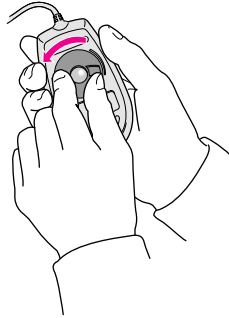
### Cleaning the mouse

The mouse contains a small ball that must roll smoothly for the mouse to work properly. You can keep this ball free of dirt and grease by using the mouse on a clean, lint-free surface and cleaning it occasionally.

You need a few cotton swabs and a clean, soft, lint-free cloth.

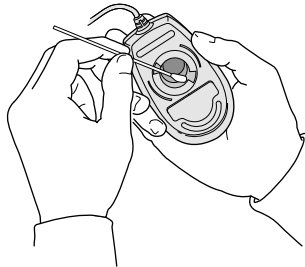
- 1 Turn off your computer.**

- 2 Turn the mouse upside-down and turn the plastic ring on the bottom counterclockwise to disengage it.**



If you have an older mouse, you may need to press the plastic ring (rather than turn it) to disengage it.

- 3 Turn the mouse right-side up with one hand and catch the ring and the ball with your other hand.**
- 4 Clean the three small rollers inside the mouse with a cotton swab moistened with water.**  
Rotate the rollers to clean all around them.



- 5 Wipe the mouse ball with a clean, soft, dry, and lint-free cloth.**
- 6 If necessary, wash the mouse ball with warm soapy water (use a mild soap such as a dishwashing liquid) and then dry the mouse ball thoroughly.**
- 7 Gently blow into the mouse case to remove any dust that has collected there.**
- 8 Put the ball and the ring back in place.**

Your mouse should roll smoothly across your mouse pad or desk. If it doesn't, repeat these instructions carefully.

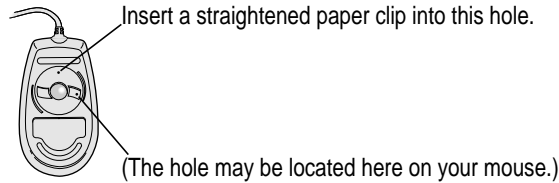


## Locking and unlocking the mouse

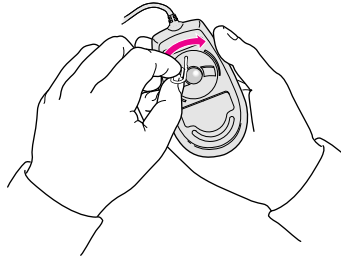
Some mouse devices can be locked so that the ball can't be removed. A locking mouse has a small hole on the plastic ring.

To lock the mouse, follow these steps:

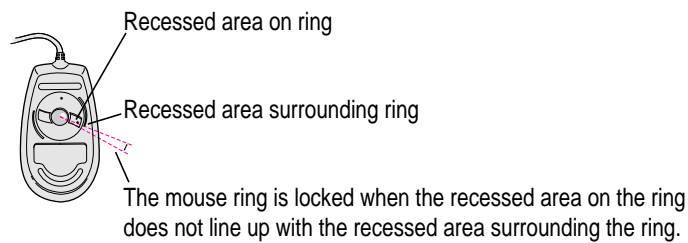
- 1** Insert a straightened paper clip into the hole on the plastic ring.



- 2** Press down on the paper clip while you turn the ring clockwise.

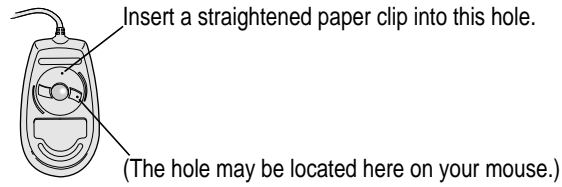


Turn the ring a very short distance, until it stops. When the recessed area on the ring is *not* lined up with the recessed area surrounding the ring, the mouse is locked.

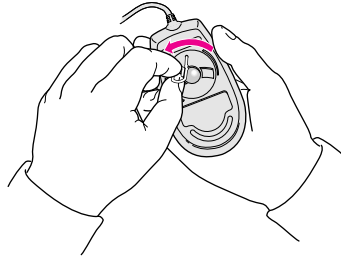


To unlock the mouse, follow these steps:

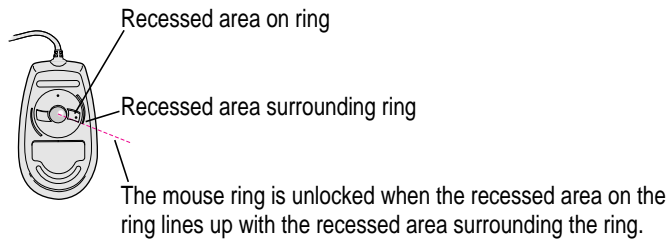
- 1 Insert a straightened paper clip into the hole on the plastic ring.**



- 2 Press down on the paper clip while you turn the ring counterclockwise.**



Turn the ring a very short distance. When the recessed area on the ring is lined up with the recessed area surrounding the ring, the mouse is unlocked.



Read this appendix for instructions on installing an expansion card in your computer.



## Appendix B Installing an Expansion Card



You can install a printed circuit board (called a *card*) for video and graphics applications, networking and communications, additional processing power, or other purposes. The card requires an adapter, which allows it to fit into a connector, called an *expansion slot*, inside the computer.

The Macintosh Performa 6100 series computer can accept one NuBus expansion card and adapter. To purchase an expansion card and a NuBus adapter card, contact an Apple-authorized dealer.

**IMPORTANT** A Macintosh Performa 6100 series computer does not accept NuBus cards that are more than 7 inches in length.

**WARNING** Be sure to use the Macintosh NuBus Adapter Card designed specifically for your model of the computer. Failure to do so could damage the card and your computer.

**IMPORTANT** Some cards may need to be installed by an Apple-authorized service provider. Check the information that came with the card.

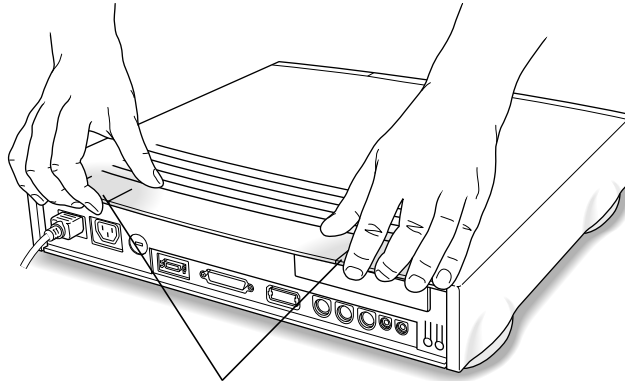
Follow these steps to install an expansion card.

**1 Turn off and unplug the computer.**

Make sure the computer is turned off and unplugged.

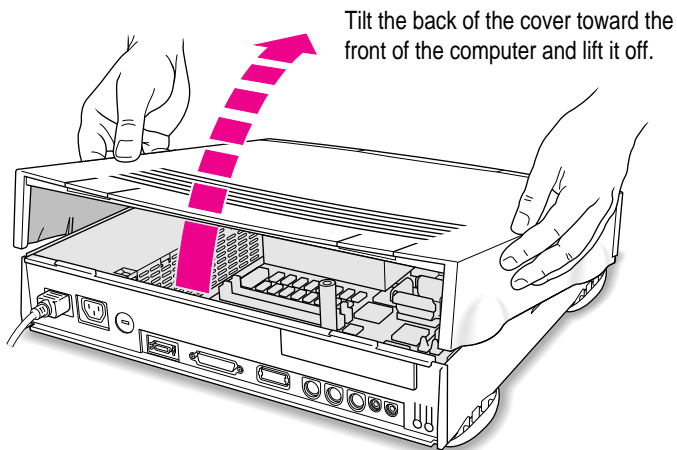
**2 Remove the cover from the computer.**

Pull up on the two latches at the rear corners of the case.



Lift up on the latches.

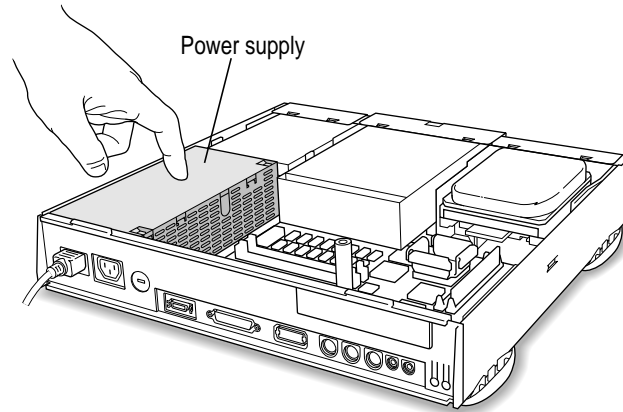
Tilt the cover and slide it toward the front panel. Then lift the cover off.



Tilt the back of the cover toward the front of the computer and lift it off.

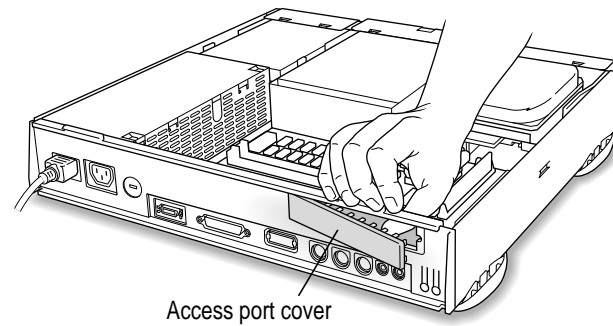
- 3 Touch the metal part of the power supply case inside the computer to discharge static electricity.**

Always do this before you touch any parts, or install any components, inside the computer.



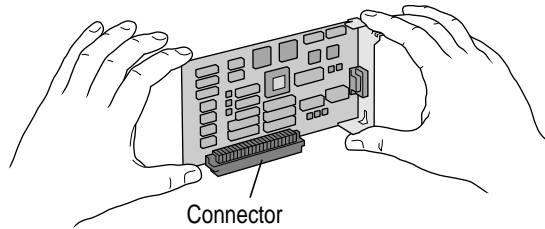
- 4 Remove the cover from the access port on the computer's back panel and set it aside.**

Use your thumb to push out the access port cover.



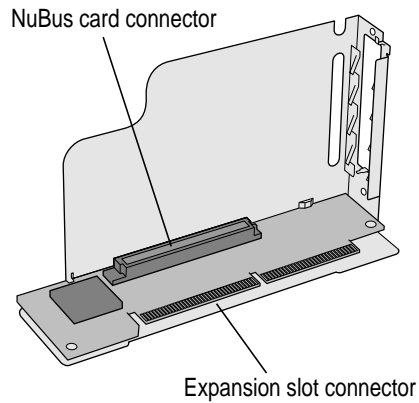
**5 Remove the card from its static-proof bag.**

Handle the card by its edges. Do not touch the connector.



**6 Remove the adapter card assembly from its static-proof bag.**

The adapter card assembly consists of an adapter card attached to a metal bracket. Do not touch the connectors on the card.



Set aside the thumbscrews that came with the adapter card. You'll need them later.

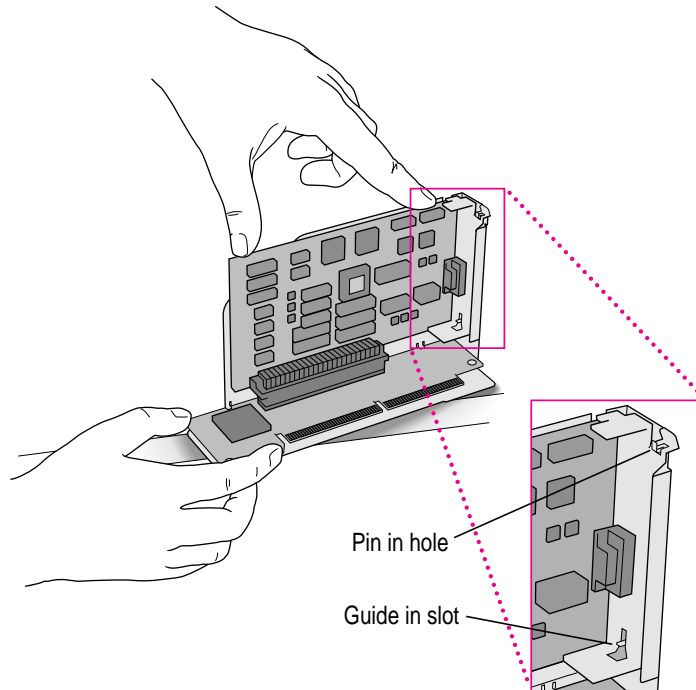
**7 Attach the card to the adapter card assembly.**

Rest the adapter card assembly on the edge of a flat surface, with the metal bracket pointing up.

Slide the NuBus card into the bracket. The pin on the bracket should line up with the hole on the metal end of the card.

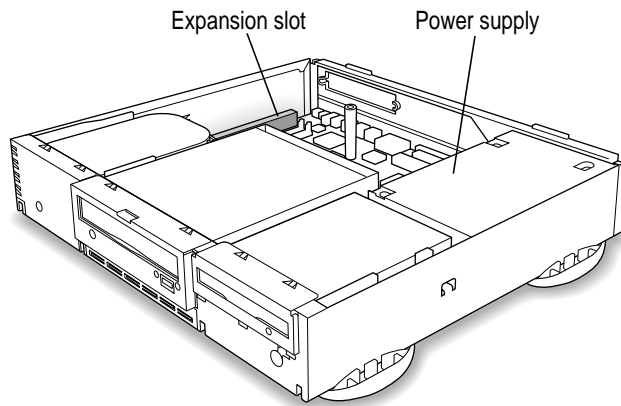
Press gently on the cards to push the connectors together.

When the cards are attached correctly, the pin fits in the hole and the guide fits in the slot, as shown in the illustration.



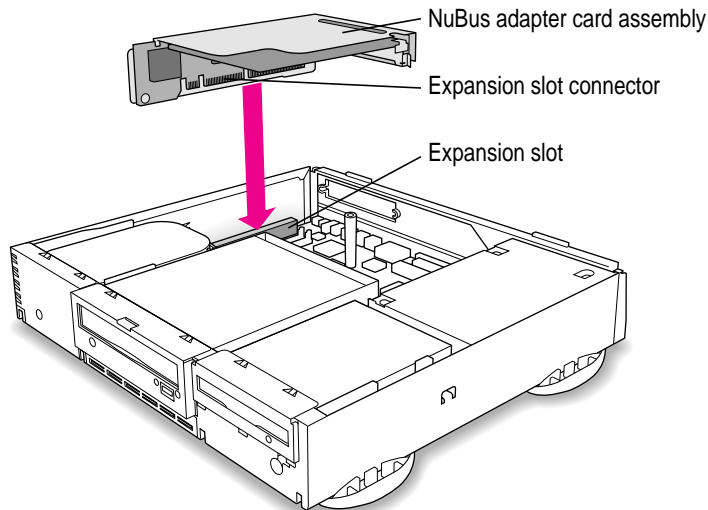
**8** Locate the expansion slot on the main circuit board.

The expansion slot is at the far left edge of the circuit board as you face the front of the computer.



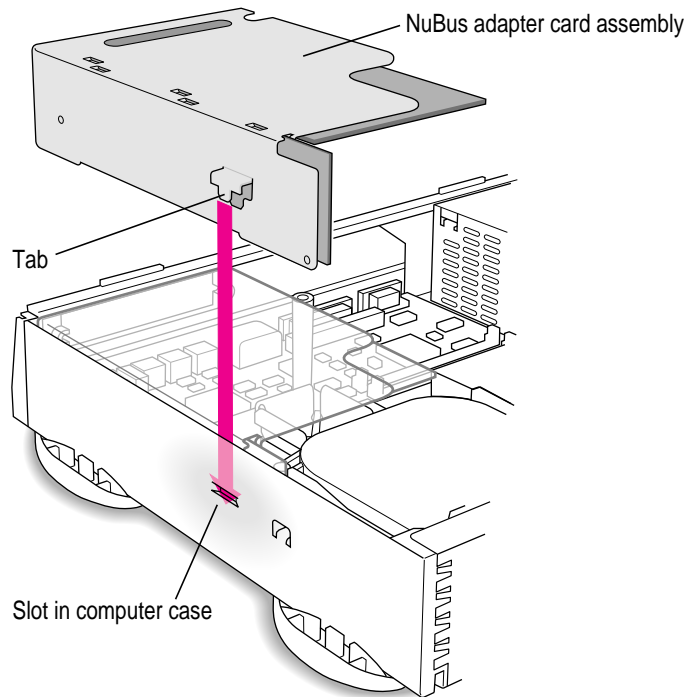
**9** Insert the connector on the adapter card into the expansion slot.

Line up the connector with the slot. Then press down gently but firmly on the adapter card until the connector is fully inserted.



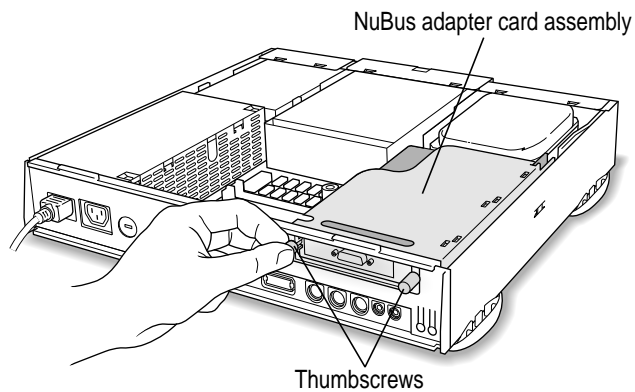


Make sure that the tab on the side of the card assembly slides into the slot on the side of the case.



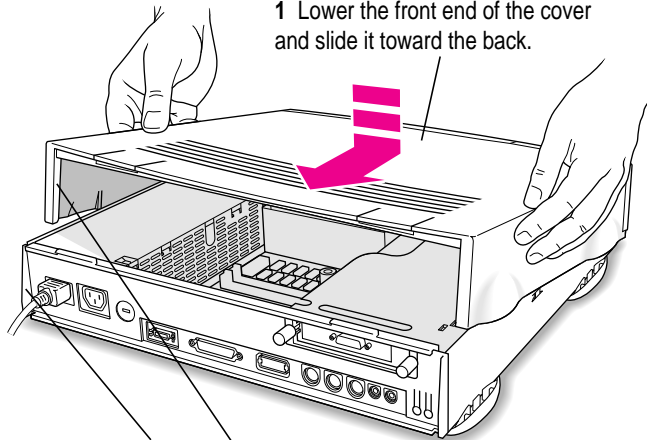
**10** Attach the thumbscrews to the access port on the computer's back panel.

Position the bracket against the access port while inserting and tightening the thumbscrews.

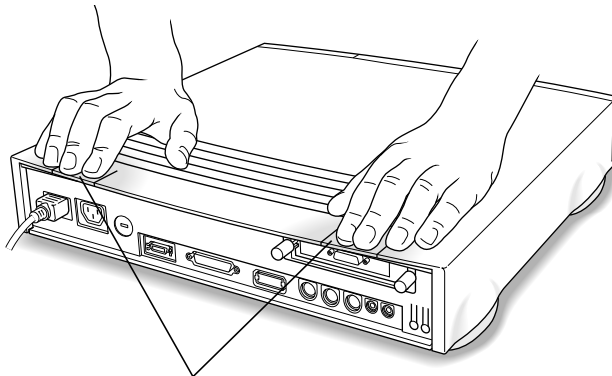


**11** Replace the cover on the computer.

1 Lower the front end of the cover and slide it toward the back.



2 Engage the ribs on the bottom case with the slots in the cover.



3 Press down on the latches to snap them into place.

**WARNING** Always replace the cover before turning the computer on.



## Appendix C

# Adding AV Capability to Your Macintosh Performa



If you purchase and install a Power Macintosh AV Card, you add sophisticated audio/visual capabilities to your Macintosh Performa computer.

The AV card provides video input and output ports that allow you to

- view and capture video images on your computer
- view video from your computer's monitor on a television
- record video from your computer onto videotape

Complete these steps before you use the AV Card:

- Install the necessary software, as described in this appendix.
- Install the card according to the instructions in the *Power Macintosh AV Card User's Guide*, which came with the card.
- Connect your monitor and other equipment, according to the instructions in this appendix.

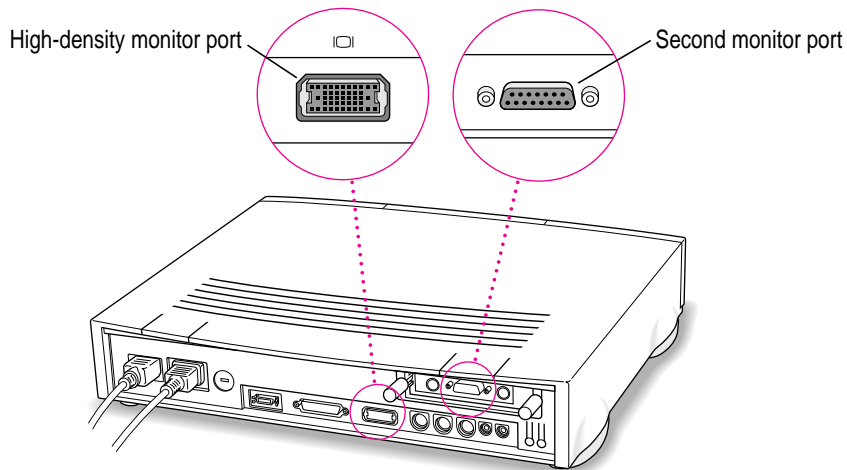
To learn how to use the AV card and software, see the last section, "How to View Video on the Computer Screen," in this appendix.

## Installing the AV software

The software you need, FusionRecorder and Video Monitor, are on the *Macintosh Performa CD* that came with your computer, in a folder called Apple Extras. Drag the folder named For Macintosh AV Versions from the CD onto your hard disk. You will probably want to put it in the Applications folder or the Apple Extras folder on your hard disk.

## Connecting the monitor cable to an AV-equipped Macintosh Performa 6100 series computer

You connect the monitor cable to one of the computer's monitor ports. The AV-equipped Macintosh computer has two monitor ports: a high-density monitor port and a second monitor port.



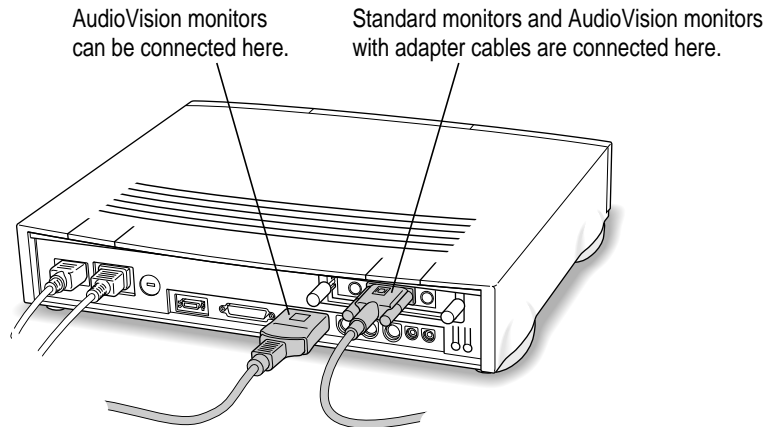
To connect the monitor cable, follow these steps:

- 1 Attach the monitor cable to the monitor.**

On some monitors, the cable is already attached.

**2 Attach the monitor cable to one of the monitor ports on the back of the computer.**

If you have a standard monitor, attach the monitor cable to the second monitor port. If you have an AudioVision monitor, you can attach the monitor cable to the computer's high-density monitor port. However, if you plan to use your AudioVision monitor for video digitizing, you will get better results if you use the adapter cables from the AudioVision adapter kit to attach the monitor to the second monitor port. (If you don't have the adapter kit, you can purchase it from an Apple-authorized dealer.)



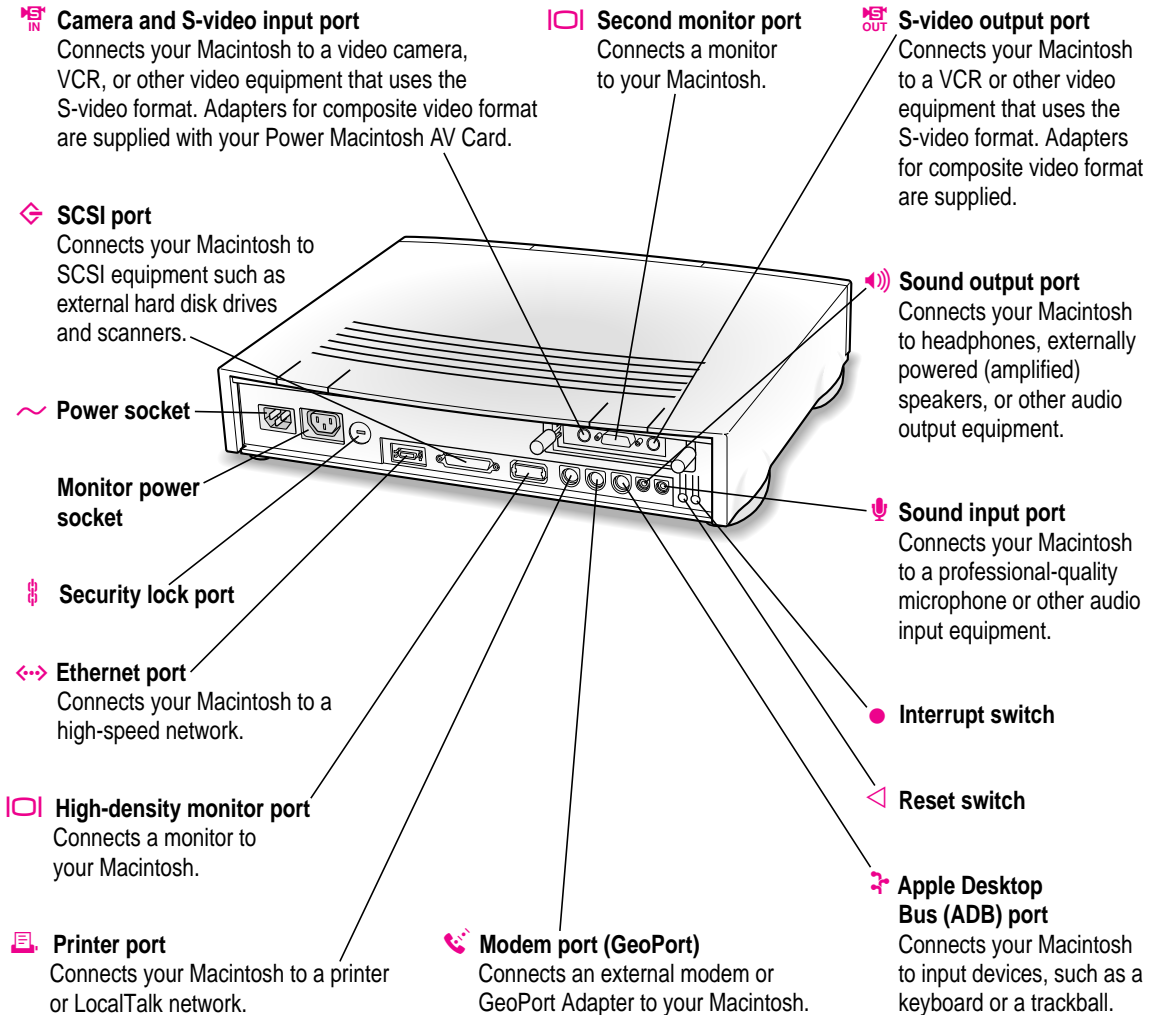
To connect two standard monitors to your AV-equipped Macintosh computer, connect one of them to the second monitor port. Then use a monitor cable adapter to attach the other to the high-density port. You can purchase the adapter from an Apple-authorized dealer.

If one of your standard monitors has a screen larger than 16 inches (measured diagonally), connect it to the second port, not to the high-density port. The high-density port does not support monitors with very large screens.

If you have an AudioVision monitor, see the information that came with the monitor to learn about its special features.

## An AV-equipped Macintosh Performa 6100 series computer

Once you install a Power Macintosh AV Card in your Macintosh Performa 6100 series computer, your computer will have all the ports shown in this illustration. The captions tell you which equipment attaches to which port. Check the following pages, as well as information that came with your equipment, for connection instructions.



## Connecting video equipment

Once you install a video card into your Macintosh, you can connect video equipment so that you can display, edit, and store video images on the computer. You can also view or record the computer's images on a television or videocassette recorder (VCR).

In this section you will learn to

- connect video equipment for input, so that you can view the video images on your monitor, capture single images, or save digitized video in files
- connect video equipment for output, so that you can display or record images or sound from the computer

**WARNING** Before you connect any equipment to your computer, make sure that your computer is plugged in (in order to ground the computer) and turned *off*. If you connect equipment with the computer on, you can damage your computer and your equipment.

Your AV-equipped Macintosh can display and use video images from a variety of sources. To view video on your monitor, you connect video equipment to the video input port on the computer. To display or record the computer's output, you connect video equipment to the video output port.

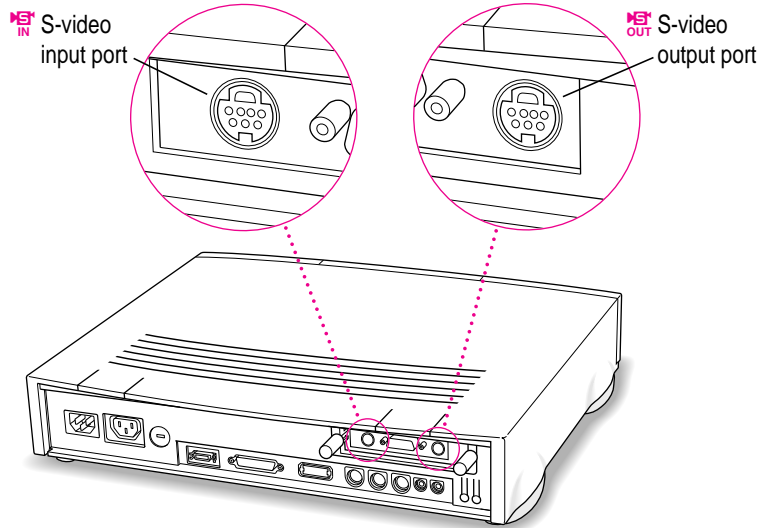
Your Macintosh can work with two major video formats:

- S-video
- composite video

S-video is a high-quality video format used by many video cameras and VCRs. Televisions, most VCRs, and laserdisc players use the composite format. To find out which format your equipment uses, check the manual that came with your equipment.

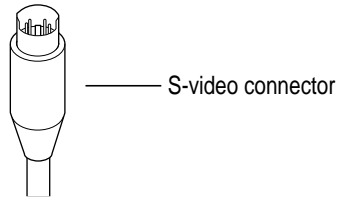
## About your computer's S-video input and output ports

Your AV-equipped Macintosh has two S-video ports. The input port brings in images from connected external equipment, such as a VCR. The output port sends images out from the computer to the external equipment.





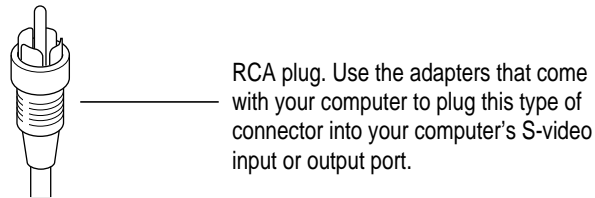
The S-video connector is a round plug with several small metal pins. You can plug this type of connector into your computer's S-video input or output port.




**IMPORTANT** The S-video connector resembles other Macintosh connectors, such as those for a printer, modem, mouse, or keyboard. Don't confuse the connectors; they're not interchangeable.


### Using adapters for composite video

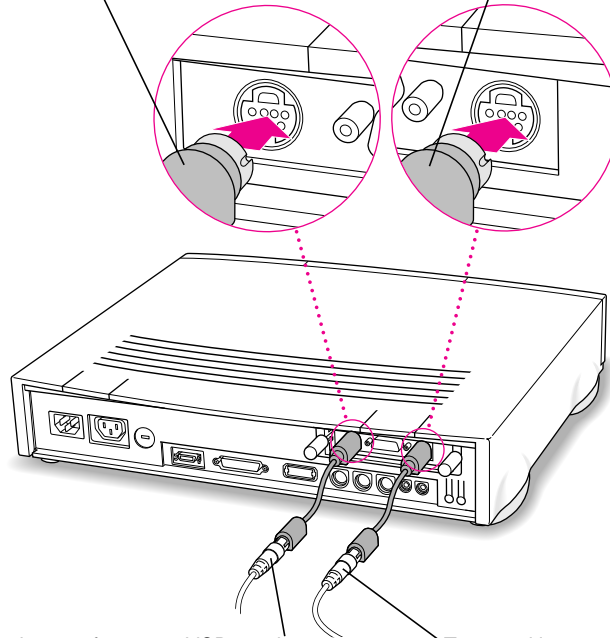
Many video devices use composite video format instead of S-video. The cables for these devices have RCA-type plugs.





Two adapters for RCA plugs come with your computer. To connect a cable with RCA plugs to your computer, connect the RCA plug to one of the adapters, and connect the adapter to the appropriate S-video port (input or output) on the back of your computer.

Connect the end marked with the  icon to the computer's S-video input port. (The curved side of the connector should face up.)

Connect the end marked with the  icon to the computer's S-video output port. (The curved side of the connector should face up.)



To view images from your VCR or other video equipment on your monitor, attach the end of the adapter marked with the  icon to a cable with RCA plugs, then connect the cable's other RCA plug to the video output port on the video equipment.


To record images from your computer on a VCR or other video equipment, attach the end of the adapter marked with the  icon to a cable with RCA plugs, then connect the cable's other RCA plug to the video input port on the video equipment.

## Connecting video equipment for input to the computer

When you connect video equipment to an AV-equipped Macintosh 6100 series computer, you can view video on the computer, capture video frames, and hear the sound from the video equipment through the computer's speaker. The instructions that follow are for connecting a stereo VCR, but you can use them as a model for connecting your computer to any video equipment.

Before you start:

- Make sure that the VCR has a cable with either a composite (RCA plug) connector or an S-video connector.

If the VCR has an RCA plug, make sure you have the adapter for composite video marked with the  icon.

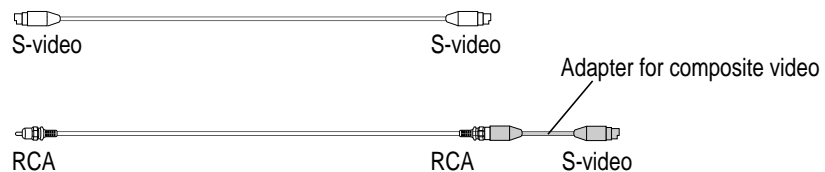
- Place the VCR near the Macintosh.
- Shut down the Macintosh and turn off the VCR.

Then follow these steps:

### 1 Assemble the cables you need to connect the VCR to the Macintosh.

You need the following cables (available at an electronics supply store):

- Video cable with S-video connectors or RCA plugs at each end. (If you're using a video cable with RCA plugs, you'll also need the adapter cable for composite video.)



- Audio cable with dual RCA plugs at one end and a 3.5-mm stereo miniplug at the other end.



You can also use an all-in-one cable (with one video and two audio RCA plugs at each end) if you attach appropriate adapters.

**IMPORTANT** A Y-shaped adapter is supplied with the round microphone for some models of the Macintosh. This adapter is not compatible with your Macintosh.

- 2 Attach one end of the video cable to the Video Out port on the VCR.**

Follow the directions that came with the VCR.

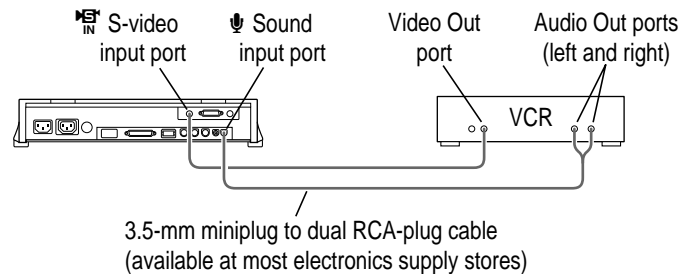
- 3 Plug the other end of the video cable (or adapter) into the S-video input port (S) on the Macintosh.**

If the connector doesn't slide easily into the port, realign it and try again. Don't use force, which could damage the computer or cable.

- 4 Plug the dual RCA plugs on the audio cable into the left and right Audio Out ports on the VCR.**

- 5 Plug the stereo miniplug on the audio cable into the sound input port (S) on the Macintosh.**

Your finished connections should look something like this:



- 6 Turn on the computer and the VCR.**

You can now begin working with the video equipment connected to your Macintosh. For instructions on how to view video images, capture frames, and use video in other ways, see the “Video” topic of Macintosh Guide, available in the Guide (G) menu.


## Connecting video equipment for output from the computer

You can deliver and record a sophisticated presentation by combining the video and sound capabilities of your Macintosh. The steps that follow explain how to set up equipment for recording the computer's output on videotape and adding voice annotation with a microphone.

To ensure that your presentation is recorded on videotape and shown on the television, you must connect the VCR to the computer and the television to the VCR.

Before you start:

- Make sure that the VCR has a cable with either a composite (RCA plug) connector or an S-video connector.

If the VCR has an RCA plug, make sure you have the adapter for composite video marked with the  icon.

- Place the VCR and television near the Macintosh.
- Shut down the Macintosh and turn off the VCR and television.

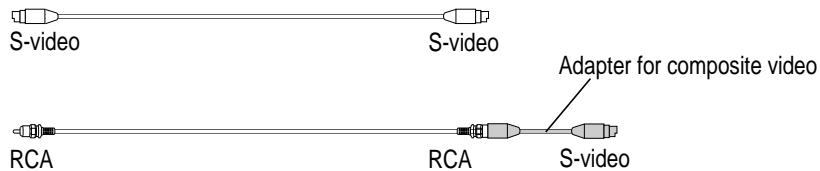
Then follow these steps:

**1 Assemble the VCR, television, microphone, and cables you need.**

Be sure to use a microphone designed for your model of the Macintosh, such as the Apple PlainTalk Microphone.

You need the following cables (available at an electronics supply store):

- Video cable with S-video connectors or RCA plugs at each end. (If you're using a video cable with RCA plugs, you'll also need the adapter cable for composite video.)



- Audio cable with dual RCA plugs at one end and a 3.5-mm stereo miniplug at the other end.



- A cable to connect your VCR to your television.

Use a cable with an RCA or S-video plug to connect the VCR to the television. Do not use a coaxial cable.

You can also use an all-in-one cable (with one video and two audio RCA plugs at each end) if you attach appropriate adapters.

**IMPORTANT** A Y-shaped adapter is supplied with the round microphone for some models of the Macintosh. This adapter is not compatible with your Macintosh.

**2 Attach one end of the video cable to the Video In port on the VCR.**

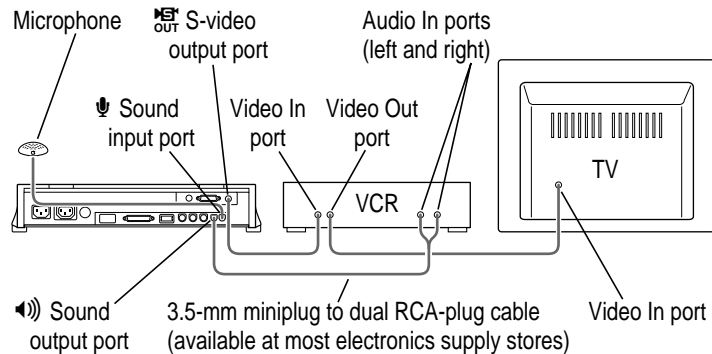
Follow the directions that came with the VCR.

- 3 Plug the other end of the video cable (or adapter) into the S-video output port (S<sub>OUT</sub>) on the Macintosh.

If the connector doesn't slide easily into the port, realign it and try again. Don't use force, which could damage the computer or cable.

- 4 Plug the dual RCA plugs on the audio cable into the left and right Audio In ports on the VCR.
- 5 Plug the stereo miniplug on the audio cable (or adapter) into the sound output port (S<sub>OUT</sub>) on the Macintosh.
- 6 Connect the VCR's Video Out port to the television's Video In port.
- 7 Connect the microphone to the sound input port (S<sub>IN</sub>) on the Macintosh.

Your finished connections should look something like this:




- 8 Turn on the computer, the VCR, and the television.
- 9 Select "line input" on your VCR.


See the manual that came with your VCR for instructions on how to select the line input source.

For further instructions on how to record the computer's output on videotape and add voice annotation, see the "Video" topic of Macintosh Guide, available in the Guide (G) menu.

## Using a television as a monitor

There are two ways to use a television as a monitor:

- As described in the previous section, you can connect a VCR to the computer's S-video output port, and connect a television to the VCR's Video Out port. Then you can record a presentation on videotape as it is displayed on the television.
- You can connect a television directly to the computer's S-video output port and display the computer's images on it. This capability is especially useful if you're using your Macintosh to give a presentation and you have access to a large-screen television. If your television does not support S-video, attach the adapter for composite video as described earlier in this chapter. (Be sure to use the adapter marked with the  icon.)

For further instructions on using a television as a monitor, see the "Video" topic of Macintosh Guide, available in the Guide () menu.



## If you have trouble using a monitor with an AV-equipped Macintosh

Read the information in this section if you are having trouble using monitors with an AV-equipped Macintosh.

**The Monitors control panel indicates that you have two monitors, but you have only one.**

If you have only one monitor and it is connected to the high-density monitor port, the Monitors control panel assumes that a monitor is connected to the second monitor port, even if a second monitor isn't connected. In this situation, the Monitors control panel displays an image of a second, "ghost" monitor.

**IMPORTANT** Do not attempt to move the menu bar to the "ghost" monitor. If you do, follow these steps to restore normal video:

- 1 Shut down your computer. If you cannot see the Special menu, use the power switch to turn the computer off.**
- 2 Connect a monitor to the second monitor port. (For instructions, see the section about connecting a monitor earlier in this appendix.)**

If you have only one monitor, disconnect it from the high-density monitor port, and connect it to the second monitor port.

If your monitor is an AudioVision model, before you can connect it to the second monitor port you must attach the adapter cables from the AudioVision adapter kit. (If you don't have the adapter kit and don't have access to a second monitor, contact Apple for assistance.)

- 3 Restart your computer.**
- 4 Choose Control Panels from the Apple (🍏) menu and open the Monitors control panel.**
- 5 Make sure that the menu bar appears on the picture that represents your monitor.**
- 6 Close the Monitors control panel.**

If you don't want to leave the monitor connected to the second monitor port, you can shut down your computer, disconnect the monitor, and reconnect it to the high-density monitor port before restarting your computer.

*Note:* If you have only one monitor, there are several good reasons to leave it connected to the second monitor port instead of the high-density monitor port:

- You avoid setting up the “ghost monitor” situation just described.
- The second monitor port provides more colors on all monitors 13 inches or larger (measured diagonally), including the AudioVision 14 Display.
- If you are using the S-video input port to connect equipment for capturing video images, you’ll get a better video input frame rate with the monitor connected to the second monitor port.

**You see static or a blank screen after switching from a television to a monitor connected to the second monitor port.**

- Be sure the monitor you want to switch to is connected to your computer.

*Note:* If a monitor isn’t connected to the second monitor port, the television screen will go blank when you switch from the television to the monitor, and you will have to restart your computer to make the desktop appear on the television again. Don’t try to make the desktop appear by dragging the menu bar to the television and selecting Rearrange On Close in the Monitors control panel. (If you do, the menu bar will disappear, and you will have to restart your computer.)

- If you use a PAL-format television as your startup monitor, you must restart your computer before switching to a monitor connected to the second monitor port. Follow these steps each time you switch from a PAL-format television to a monitor:

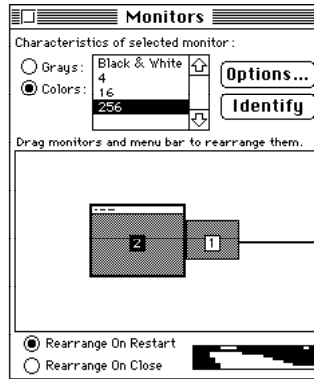
**1 Quit all application programs (save any open documents before quitting).**

**2 Be sure both the television and the monitor are connected to your computer.**

If the monitor is not connected, shut down your computer and then connect the monitor.

**3 Choose Control Panels from the Apple () menu and open the Monitors control panel.**

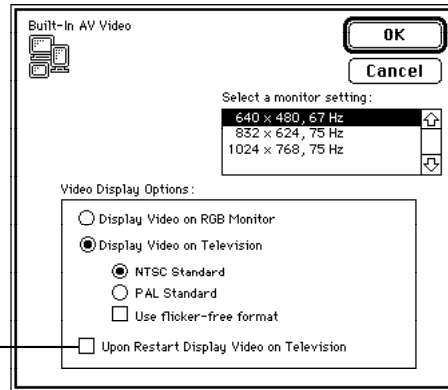
- 4 Click the picture that represents the television, then click Options.



Click here to identify which picture represents the television.

Click the picture that represents the television, then click Options above.

- 5 Make sure the box labeled "Upon Restart Display Video on Television" is not selected.



Make sure this box is not selected.

- 6 Close the Monitors control panel and restart your computer.

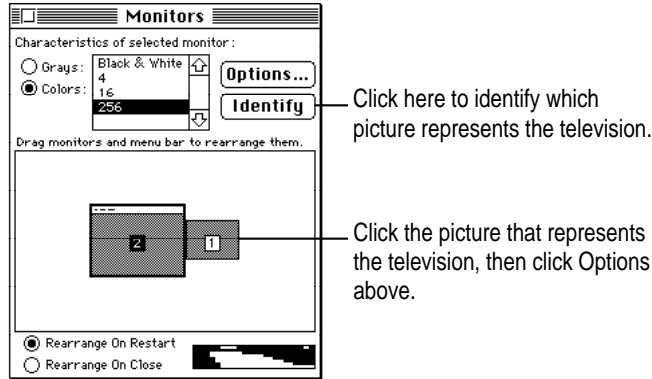
**You see wavy lines or static after switching to a television from a monitor connected to the second monitor port.**

If the regular (RGB) monitor is still connected, switch back to it. If the monitor is no longer connected, or you can't switch back to it, restart your computer. The next time you want to switch to a television, follow these steps:

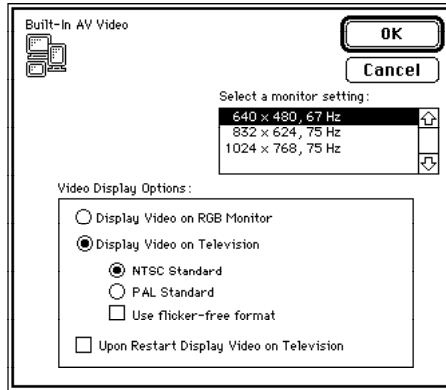
- 1 Quit all application programs (save any open documents before quitting).**
- 2 Be sure both the television and the monitor are connected to your computer.**

If the television is not connected, shut down your computer and then connect the television.

- 3 Choose Control Panels from the Apple () menu and open the Monitors control panel.**
- 4 Click the picture that represents the monitor, and click Options.**



- 5 Select “Display Video on Television”; then select NTSC Standard, PAL Standard, or “Use flicker-free format,” and click OK.



- 6 Click Switch in the dialog box that appears; then close the Monitors control panel.

You can't see the color wheel or other items.

This problem can occur if you use a single monitor and it is not attached to the second monitor port. (See “Connecting the Monitor Cable to an AV-Equipped Macintosh Performa 6100 Series Computer,” earlier in this appendix, for an illustration of the two monitor ports.)

The color wheel, and other color-choosing features, are set to be displayed on a screen that has the greatest color depth. On AV-equipped computers, the second monitor port may provide the greatest color depth. Even though you have no monitor attached to the second monitor port, your computer assumes that a monitor is attached there, and attempts to display the color wheel on that monitor instead of the real monitor.

Follow these steps:

- 1 Choose Control Panels from the Apple (🍏) menu, and open the Monitors control panel. The Monitors control panel displays two pictures representing monitors, even though you have only one monitor.
- 2 Click the picture that represents the “ghost” monitor; then click Black & White.
- 3 Close the Monitors control panel.



Read this appendix to learn  
how to use the special  
keys on your keyboard.

## Appendix D

# Special Keys on Your Keyboard

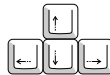


Your computer keyboard contains certain special keys that typewriter keyboards don't have. Many of these keys allow you to give commands to the computer without using the mouse. For example, in many application programs, pressing the ⌘ (Command) key at the same time as the Q key is often an alternative method of quitting a program.

The following table describes what you can do with the special keys on your keyboard. The number of special keys on your keyboard may vary from this list; it depends on the model of keyboard you have.

### Special keys on Apple keyboards

#### Arrow keys



Use to move the insertion point, as an alternative to using the pointer. In some programs, the arrow keys have other functions.

#### Caps Lock key



Use to capitalize a series of letters (numbers and symbols aren't affected).

#### Clear key



Use to delete the current selection (or use the Delete key). In some programs, Clear has other functions.

#### ⌘ (Command) key



Use in combination with other keys as an alternative to choosing a menu command.

*continued* ►

## Special keys on Apple keyboards *(continued)*

### Control key



In combination with other keys, this key provides shortcuts or modifies other actions.

### Delete key



Use to delete 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, pressing this key confirms information you have provided.

### Escape key



The function of this key depends on the program you're using.

### Function keys



Some programs allow you to use the 12 function keys to give commands. You can assign commands or action sequences to function keys with special utility programs.

### Option key



Use in combination with other keys to produce special characters or modify actions.

### Numeric keys



Use to produce numbers and mathematical symbols; some programs use these keys as function keys to initiate actions.

### Power key



On some models, press to turn on the computer. Also press to shut down the computer on certain models.

### Return key



Use to move 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



Use to produce capital letters (or the upper character on the key).

### Other special keys



The function of these keys depends on the operating system and program you're using.

### Tab key



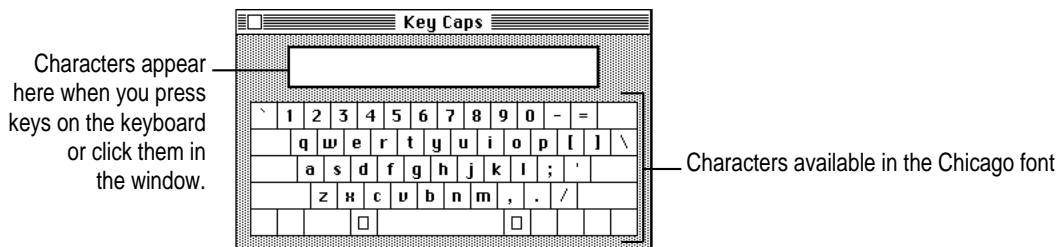
Use to move the insertion point to the next stopping place (such as a tab stop or field in a dialog box or program).



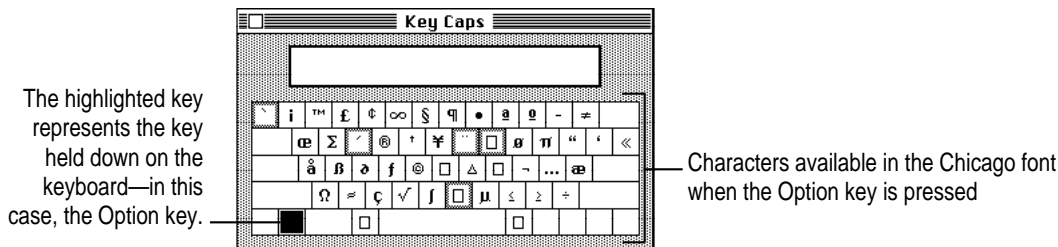
## Typing special characters and symbols

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. You 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

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



## Index

- ⌘-Control-Power key, for restarting computer 51, 120
- ⌘-Option, for rebuilding desktop 52
- ⌘-Option-Esc, for quitting program in trouble 51, 58, 120
- ⌘-Shift-1, for ejecting floppy disk 84
- ⌘-Shift-Option-Delete, to not start up from internal hard disk 45
- 🔍 icon, as Guide menu indicator 11, 13

### A

- accented characters, typing 120
- access port cover, for NuBus expansion card 91
- activating application programs 11
- active program indicator 38
- active window, checking for 11
- acute accent, typing 120
- adapter
  - assembly, for NuBus expansion card 92
  - for composite video format 100
  - for composite video format, installing 103–104
  - for monitor cable 5
- ADB port. *See* Apple Desktop Bus (ADB) port
- air circulation around case 81, 82
- alert sounds, recording 29
- amplifier, stereo, installing 30–31
- Apple Backup program 39–44
  - button for 40, 42
  - updating backup copy with 42–44
  - using for first time 40–41
- Apple Desktop Bus (ADB) port 28, 100
  - icon for 6
  - troubleshooting 60
- Apple Extras folder 35, 98
- Apple HD SC Setup program 68
- Apple menu 12
- Apple PlainTalk microphone
  - installing 31–32
  - port for 28, 100
- Apple Restore program 45–47
  - button for 46
- AppleScript program 35
- Application menu
  - Hide Others command 39
  - icon for 11
  - open programs listed in 38
  - Show All command 39

- application programs 37–39
  - activating 11
  - active, identifying 11, 38
  - additional, on hard disk 37
  - can't be found 62
  - compatibility with computer 61
  - compatibility with system software 56, 60
  - disk repair 69–70
  - disk test, for external hard disks 68
  - disk test, for internal hard disk 67
  - expansion card for 89. *See also* NuBus expansion card
  - installing 35, 37
  - memory problems with 61
  - opening 11, 38
  - open, listed 38
  - quitting unexpectedly 58, 61
  - quitting when system freezes 51
  - screen saver program 53, 82
  - switching between 11, 38
  - troubleshooting 37, 58–62
  - for typing special characters 119–120
- Applications button (Launcher) 40, 42
- arrow keys 117
- arrow pointer on screen
  - frozen 58–59
  - moving 10–11
- audio CDs
  - controlling volume of 33
  - using 29
- audio equipment, installing 29–33
- audio input/output ports (sound input/output ports) 28, 29, 100
- AudioVision monitor 31, 99
- automating tasks 35
- AV (audio-visual) capability
  - adding 97–110
    - Fusion Recorder program for 98
    - installing AV card for 97
    - installing software for 98
    - installing video equipment for 101–110
  - troubleshooting. *See* troubleshooting
  - Video Monitor program for 36, 98
- AV (audio-visual) card 97

## B

- backing up files or disks 39–44
- Balloon Help 24
- basic Macintosh skills 10–11
- battery for clock 53
- blinking question mark disk icon 54, 74
- “bomb” message 51, 58
- brightness control 8
- buttons. *See also* icons
  - Apple Backup (Launcher) 40, 42
  - Apple Restore (Launcher) 46
  - “Huh?” (Macintosh Guide window) 23
  - Index (Macintosh Guide window) 19–20
  - Look For (Macintosh Guide window) 17, 21–22
  - Open/Close, for CD-ROM drive, on computer 27
  - Performa Tutorial (Launcher) 10
  - power (on/off switch) 3, 12
  - Topics (Macintosh Guide window) 17–18

## C

- cables
- checking keyboard 60
- checking mouse 59
- connecting monitor 5
- connecting monitor to AV-equipped computer 98–99
- connecting mouse and keyboard 6
  - and safety concerns 81
- capital letters 117, 118
- Caps Lock key 117
- capturing video frames 106
- card. *See* AV (audio-visual) card; NuBus expansion card
- carpal tunnel syndrome 76

- case
    - cleaning 85
    - closing 96
    - installing NuBus expansion card in 92–94
    - opening 90–91
  - CD-ROM drive
    - ejecting disk from 83
    - location of, in computer 27
    - Open/Close button for 27
    - starting up from 45, 65–66
  - CDs. *See* audio CDs; *Macintosh Performa CD*
  - cedilla, typing 120
  - characters, special 119–120
  - circumflex, typing 120
  - cleaning
    - computer case 85
    - monitor 85
    - mouse 85–86
    - spills 80, 81, 82
  - Clear key 117
  - clock, troubleshooting 53
  - close box 11
  - closing computer 96
  - closing Macintosh Guide window 23
  - color-choosing features,
    - troubleshooting 115
  - Command-Control-Power key, for restarting computer 51, 120
  - Command key 117
  - Command-Option, for rebuilding desktop 52
  - Command-Option-Esc, for quitting program in trouble 51, 58, 120
  - commands
    - assigning to function keys 118
    - shortcuts for 25–26, 117, 118
    - spoken, using 31, 36
  - Command-Shift-1, for ejecting floppy disk 84
  - Command-Shift-Option-Delete, to not start up from internal hard disk 45
  - common problems 53–63. *See also specific problems;*
    - troubleshooting
  - communications, expansion card for 89. *See also* NuBus expansion card
  - composite video format 101
    - adapters for 100, 102
    - adapters for, installing 103–104
    - RCA plug for 103
  - computer case. *See* case
  - connecting. *See* installing
  - connectors, handling 81
  - Control key 118
  - control panels
  - compatibility problems with 58, 59
    - Extensions Manager 58
    - Memory 61
    - Monitors 111–115
    - PC Exchange 62, 63
    - Sound 33
    - Startup Disk 66
    - turning off 58
  - copying files or disks 39
  - cumulative stress disorders (CTDs) 76
  - cursor. *See* pointer
  - customer support hotline 13
- D**
- Delete key 118
  - desk accessories
    - compatibility problems with 56, 58, 59
    - turning off (in Extensions Manager control panel) 58
  - desktop
    - hard disk icon does not appear on 56
    - hiding or showing windows on 39
    - illustrated 11
    - rebuilding 52, 62
    - at startup 7
  - diacritical marks, typing 120
  - dialog boxes 51
  - dimmed icons 38

- discs. *See* audio CDs; Macintosh Performa CD
- Disk First Aid program 69–70
- disk icons
  - with blinking question mark 7, 54, 73
  - with X in center 55
- disk repair program 69–70
- disks. *See* floppy disks; hard disk
- disk test programs 68
- displaying windows on desktop 39
- documents
- DOS 62–63
  - problems with opening 62
- DOS disks 57
- drives. *See* CD-ROM drive; floppy disk drive; hard disk

## E

- ejecting disks 83
  - problems with 84
- electrical safety 2, 79–84, 101
- electromagnetic emissions 79
- electronic mail 35
- ELF (extremely low frequency) emissions 79
- Empty Trash command (Special menu) 11
- entering text. *See* typing
- Enter key 118
- erasing hard disk, by initializing
  - external 71
  - internal 71–72
- erasing selected material 118
- ergonomics 75–79
- error messages 50. *See also* troubleshooting
- Escape key 118
- Ethernet port 28, 100
- expanding computer 27–34
- expansion card. *See* AV (audio-visual) card; NuBus expansion card

- expansion slot 89, 94
  - connector for 92, 94
- extensions
  - compatibility problems with 56, 58, 59
  - turning off (in Extensions Manager control panel) 58
- extremely low frequency (ELF) emissions 79
- eye fatigue problems 77

## F

- fatigue
  - avoiding 79
  - eye problems 77
- files, backing up 39–44
- Finder
  - activating 16
  - active program indicated in 38
  - automating tasks in 35
  - icon for 38
  - Macintosh Guide and 16, 23
  - management programs in 38
  - shortcuts in 25–26
- floppy disk drive
  - ejecting disk from 83
  - inserting disk in 37
  - location of, in computer 27
- floppy disks
  - backing up on 41
  - DOS 57
  - ejecting, from drive 83
  - handling guidelines for 83
  - initializing 57
  - inserting in drive 37
  - locking 41
  - problems ejecting 84
  - problems reading 57
  - rebuilding desktop on 52
  - repairing 69–70
  - troubleshooting 57, 69–70
  - unlocking 43

- For Macintosh AV Versions folder 98
- formatting floppy disks 57
- formatting hard disk
  - external 71
  - internal 71–72
- frozen system, troubleshooting 51, 58–59
- function keys 118
- Fusion Recorder program 98

## G

- GeoPort or modem port 28, 100
- graphics applications, expansion card
  - for 89. *See also* NuBus expansion card
- grave accent, typing 120
- grounding plug 2, 81, 101
- Guide menu 11, 13, 15. *See also* Balloon Help; Macintosh Guide window
  - Hide Balloons command 24
  - Macintosh Guide command 16
  - Shortcuts command 25–26
  - Show Balloons command 24

## H

- handling computer equipment 81–84
  - floppy disks 83
  - keyboard 82
  - monitor 82
  - power supply 84
  - safety concerns 79, 80
- hard disk
  - backing up 39–44
  - damaged 64, 67–70
  - external, erasing 71
  - external, initializing 71
  - external, testing 68
  - installing programs on 37

- installing system software on 73
- internal, erasing 71–72
- internal, initializing 71–72
- internal, location of, in computer 28
- internal, testing 67
- rebuilding desktop on 52
- repairing 64–70
- restoring information on 45–47
- SCSI ID number for 64
- troubleshooting 56, 64–70
- hard disk icon 7, 11
  - failure to appear 56
- hardware components ix, 27, 28
  - in AV-equipped computer 100
  - cleaning 85–86
  - handling guidelines for 81–84
- HD SC Setup program 68
- headphone jack (sound output port) 28, 29, 100
- health concerns 75–79. *See also* safety instructions
  - avoiding fatigue 79
  - cumulative stress disorders (CTDs) 76
  - electromagnetic emissions 79
  - eye fatigue 77
  - musculoskeletal discomfort 76
  - office arrangement and 77–78
  - repetitive stress injuries (RSIs) 75, 76
- help. *See* Balloon Help; Guide menu; Macintosh Guide window; service and support; troubleshooting
- Hide Balloons command (Guide menu) 24
- Hide Others command (Application menu) 39
- high-density monitor port 28, 98, 99
- “Huh?” button (Macintosh Guide window) 23

## I, J

icons. *See also* buttons  
    appearing incorrectly on screen 56  
    Apple HD SC Setup 68  
    bomb 51, 58  
    clicking 11  
    defined 11  
    dimmed 38  
    disk with blinking question mark 7,  
        54, 74  
    Disk First Aid 69  
    disk with X in center 55  
    Finder 38  
    hard disk 7, 11, 56  
    opening, shortcut for 11  
    question mark, as Guide menu  
        indicator 11, 13  
    “sad Macintosh” 55  
    Trash 11

identifying objects on screen 24

Index button (Macintosh Guide window)  
    19–20

information sources 13

initializing DOS disks 57

initializing floppy disks 57

initializing hard disk  
    external 71  
    internal 71–72

insertion point  
    moving with Return key 118  
    moving with Tab key 118  
    setting with pointer 60

installing additional memory 34

installing application programs 35, 37

installing audio equipment 29–33

installing AV (audio-visual) card 97

installing AV (audio-visual) software 98

installing composite video adapters  
    103–104

installing microphone 31–32

installing monitor 4–5  
    more than one 99

installing mouse and keyboard 6

installing NuBus expansion card 91–96

installing stereo amplifier 30–31

installing stereo speakers 33

installing system software 73–74

installing tape recorder 30–31

installing video equipment 101–110  
    electrical safety and 101  
    for input to computer 105–106  
    for output from computer 107–110

Internal HD Format program 67, 71–72

interrupt switch 28, 100

## K

keyboard  
    handling guidelines for 82  
    installing 6  
    shortcuts with 25–26  
    troubleshooting 60

keyboard cable 6  
    checking 60

Key Caps program 119–120

keys, special 117–118

## L

laserdisc player  
    installing, for input to computer  
        105–106  
    S-video input port for 100, 102

Launcher 7  
    Apple Backup button 40, 42  
    Apple Restore button 46  
    Applications button 40, 42  
    Internal HD Format program 71–72  
    Performa Tutorial button 10

light, power-on 8, 27

LocalTalk port 28, 100

locking disks 41

locking mouse 87

Look For button (Macintosh Guide  
    window) 17, 21–22



## M

- Macintosh basics 10–11
- Macintosh desktop 7
- Macintosh Guide window 16–23
  - appearance of 16
  - closing 23
  - “Huh?” button in 23
  - Index button in 19–20
  - Look For button in 17, 21–22
  - moving 23
  - moving to next step in 18
  - opening 16
  - returning to 18
  - searching for general subjects in 17–18
  - searching for specific subjects in 17, 19–20
  - searching for words or phrases in 17, 21–22
  - shrinking and expanding 23
  - tips for using 23
  - Topics button in 17–18
- Macintosh Performa CD 39. *See also*
  - CD-ROM drive
    - Apple Extras folder 35, 98
    - Apple HD SC Setup program 68
    - Apple Restore program 45
    - Disk First Aid program 69–70
    - Internal HD Format program 67
    - starting up from 65–66
- Macintosh Shortcuts window 25
- mail, electronic 35
- maintenance
  - cleaning equipment 85–86
  - equipment-handling guidelines for 81–84
  - keyboard 82
  - power supply 84
- mathematical symbols 118
- memory
  - adding 34
  - insufficient 61
  - virtual 61
- Memory control panel 61
- menu bar 11
- menu commands. *See* commands
- microphone, installing 31–32
- microphone jack (sound input port) 29
- modem port 28, 100
- monitor 27. *See also* screen display
  - AudioVision 99
  - cable adapter for 5
  - cleaning 85
  - extra, in Monitors control panel 111–112, 115
  - handling guidelines for 82
  - installing 4–5
  - installing, on AV-equipped computer 98–99
  - installing more than one 99
  - positioning 77–78
  - startup, using PAL-format television as 112
  - static on 112–115
  - troubleshooting 8, 53
  - turning off 12
  - turning on 7
  - wavy lines on 114–115
- monitor cable 5
- monitor port 28, 98, 99, 100
- Monitors control panel 111–115
  - extra monitor in 111–112, 115
- mouse
  - cleaning 85–86
  - holding 10
  - installing 6
  - locking 87
  - moving 10–11
  - moving arrow with 10–11
  - position of 10
  - shortcuts with 25–26
  - troubleshooting 10–11, 58–59
  - unlocking 88
- mouse button 10
- mouse cable 6
  - checking 59
- mouse pad 10

moving arrow on screen 10–11  
moving insertion point with keys 118  
moving Macintosh Guide window 23  
moving mouse 10–11  
musculoskeletal discomfort 76

## N

networking, expansion card for 89. *See also* NuBus expansion card  
NuBus expansion card 34, 89–96  
    access port cover for 91  
    adapter assembly for 92  
    connector for 92  
    installing 92–94  
    opening computer for 90–91  
    removal warning for 34  
    requirements for 89  
    slot for. *See* NuBus expansion slot  
NuBus expansion slot 89, 94  
    connector for 92, 94  
numeric keys 118

## O

office arrangement guidelines 77–78  
on/off switch (power button) 3, 12  
Open/Close button (CD-ROM drive) 27  
open program, identifying 38  
opening a program 11, 38  
    problems with 61, 62  
opening the computer 90–91  
opening DOS documents, problems with  
    62–63  
opening icons 11  
    shortcut for 25  
open windows, showing 38  
Option key 118

## P

PAL-format television as startup  
    monitor 112  
PC Exchange control panel 62, 63  
Performa Tutorial, starting 10–11  
PlainTalk program 36  
plugging in computer 1–3, 53  
    and safety concerns 80, 81  
pointer  
    “frozen” 58–59  
    moving 10–11  
    setting insertion point with 60  
ports 28  
    Apple Desktop Bus (ADB) 6, 60  
    on AV-equipped computer 100  
    for NuBus expansion card, access  
        cover for 91  
power, expansion card for additional  
    processing 89. *See also* NuBus  
    expansion card  
power button (on/off switch) 3, 12  
power cord  
    for computer 2  
    for monitor 4  
    and safety concerns 80, 81  
Power key 118  
    in restart procedure 51  
power-on light 8, 27  
power problems, troubleshooting 8, 53  
power socket 28, 100  
power supply  
    caution 84  
    location of, in computer 91  
PowerTalk program 35  
printer port 28, 100  
problem solving. *See* Balloon Help;  
    Guide menu; Macintosh Guide  
    window; service and support;  
    troubleshooting  
processing power, expansion card for  
    additional 89. *See also* NuBus  
    expansion card  
programs. *See* application programs

## Q

- question mark disk icon 7, 54, 73
- question mark icon, as Guide menu indicator 11, 13
- questions. *See* Balloon Help; Guide menu; Macintosh Guide window; service and support; troubleshooting
- QuickDraw GX program 35
- quitting programs when system freezes 51, 58

## R

- radio and television interference vi
- random-access memory (RAM)
  - adding 34
  - required for QuickDraw GX and PowerTalk programs 35
- RCA plug, for composite video 103
- rebuilding desktop 52
  - when icons don't appear correctly 56
  - when a program can't be found 62
- recording alert sounds 29
- recording on videotape 109, 110
- reinstalling system software 73
- repair. *See* service and support
- repairing disks 64–70
- repetitive stress injuries (RSIs) 75, 76
- reset switch 28, 100
- Restart command (Special menu) 51
- restarting Macintosh
  - to solve problems 51
  - to turn off system extensions 58
- restoring information, on hard disk 45–47
- Return key 118
- RSIs (repetitive stress injuries) 75, 76

## S

- “sad Macintosh” icon 55
- safety instructions 80. *See also* health concerns
  - grounding plug 2, 81, 101
  - power supply 84
- screen display 56. *See also* monitor
  - dark 8, 53
  - frozen 51, 58–59
  - icons appearing incorrectly on 56
  - identifying objects on 24
    - at startup 7
    - static on 112–115
    - typing produces nothing on 60
    - wavy lines on 114–115
- screen saver programs 53, 82
- scroll arrows 11
- SCSI devices
  - ID numbers on 64, 68
  - terminating chain of 64
  - troubleshooting 54, 56, 64
- SCSI port 28, 100
- security lock port 28, 100
- service and support
  - adding memory 34
  - for hard disk initialization failure 72
  - sources of 13
  - startup problems 55
- setting up computer 1–6
- Shift key 118
  - using, to turn off extensions 58
- Shortcuts command (Guide menu) 25–26
- shortcuts, keyboard and mouse 25–26
- Show All command (Application menu) 39
- Show Balloons command (Guide menu) 24
- Shut Down command (Special menu) 12
- Single Inline Memory Modules (SIMMs) 34

- size box 11
  - slider, in Macintosh Guide window 19
  - slot, NuBus expansion 94
  - connector for 92
  - Small Computer System Interface. *See* SCSI devices; SCSI port
  - socket, power cord
    - for computer 2
    - for monitor 4
  - software. *See* application programs; system software
  - sound, recording 29
  - Sound control panel 33
  - sound input/output ports 28, 29, 100
  - speakers, stereo
    - controlling volume of 33
    - installing 33
  - sound output port for 28, 29, 100
  - special characters 119–120
  - special keys 117–118
  - Special menu
    - Empty Trash command 11
    - Restart command 51
    - Shut Down command 12
  - speech recognition 31, 36
  - spills, cleaning 80, 81, 82
  - spoken commands, using 31, 36
  - starting up 7–8. *See also* restarting Macintosh
    - from CD-ROM drive 45, 65–66
    - from device other than internal hard disk 45
    - troubleshooting 8, 53–56
  - startup disk
    - purpose of 73
    - restarting computer with 51
    - troubleshooting 54, 55, 58, 60
  - Startup Disk control panel 66
  - startup tone 3
  - static on monitor 112–115
  - stereo amplifier, installing 30–31
  - stereo miniplug 30
  - stereo speakers
    - controlling volume of 33
    - installing 33
  - sound output port for 28, 29, 100
  - support. *See* service and support
  - S-video connector 103
  - S-video format 101
  - S-video input/output ports 100, 102
  - switches
    - interrupt 28, 100
    - on/off (power button) 3, 12
    - reset 28, 100
  - switching between programs 11, 38
  - system extensions. *See* extensions
  - System Folder
    - backing up 43
    - disk copy warning 37
    - do not open files in 62
    - printing contents of 50
    - restoring, to hard disk 45–47
  - system software
    - backing up 39–44
    - compatibility problems with 58, 60
    - installing 73
    - purpose of 73
    - reinstalling 73
  - system startup. *See* starting up; startup disk
- ## T
- Tab key 118
  - tape recorder, installing 30–31
  - television
    - PAL-format, as startup monitor 112
    - using as monitor 53, 110
  - television interference vi
  - terminating SCSI chain 64
  - testing hard disk 68

- text, failure to appear on screen 60
- tilde, typing 120
- title bar 11
- tone, computer startup 3
- Topics button (Macintosh Guide window) 17–18
- Trash icon 11
- troubleshooting 49–74. *See also* Guide menu; health concerns; safety instructions
  - ADB port problems 60
  - applications 37, 58–59, 60, 61, 62
  - AV (audio-visual) capability 111–115
  - “bomb” message 51, 58
  - cable connections 6
  - clock 53
  - color-choosing features 115
  - common problems 53–63. *See also* specific problems
  - disk icon with blinking question mark 7, 54, 73
  - DOS documents 62–63
  - error messages 50
  - floppy disks 57, 69–70
  - floppy disks, ejecting 84
  - frozen system 51, 58–59
  - hard disk 56, 64–70
  - icons appearing incorrectly on screen 56
  - information sources 13
  - keyboard 60
  - memory 61
  - monitor 8, 53
  - monitor, extra, in Monitors control panel 111–112, 115
  - mouse 10–11, 58–59
  - opening programs 61, 62
  - pointer does not move 58–59
  - power 8, 53
  - rebuilding desktop 52, 56, 62
  - repairing disks 64–70
  - restarting Macintosh 51
  - “sad Macintosh” icon 55
  - screen display 8, 53, 112–115
  - SCSI devices 54, 56, 64
  - starting applications 61, 62
  - starting up 8, 53–56
  - starting up from CD-ROM drive 67
  - static on screen display 112–115
  - system extensions 56, 58, 59
  - system software 58, 60, 73
  - text-entry problems 60
  - wavy lines on screen display 114–115
- turning off computer 12
  - for solving problems 51
- turning off extensions and control panels 58
- turning off monitor 12
- turning on computer 7
- turning on monitor 7
- tutorial, starting 10–11
- typing. *See also* keyboard
  - accented characters 120
  - capital letters 117, 118
  - diacritical marks 120
  - mathematical symbols 118
  - special characters 119–120
  - with special keys 117–118
  - text, troubleshooting 60

## U

- umlaut, typing 120
- unlocking floppy disks 43
- unlocking mouse 88
- unplugging computer, for solving problems 51
- updating backup copy 42–44

## V

- VCR (videocassette recorder)
  - installing, for input to computer 105–106
  - installing, for output from computer 107–109
  - recording on 109
  - S-video input/output ports for 100, 102
- ventilation 81, 82
- very low frequency (VLF) emissions 79
- video programs, expansion card for 89.  
*See also* NuBus expansion card
- video camera
  - installing, for input to computer 105–106
  - S-video input/output ports for 100, 102
- videocassette recorder. *See* VCR
- video digitizing, adapter cables and 99
- video equipment, installing 101–110
  - for input to computer 105–106
  - for output from computer 107–110
- video formats 101
- video frames, capturing 106
- video images, viewing 106
- Video Monitor program 36, 98
- virtual memory 61
- volume, controlling 33

## W, X, Y, Z

- windows 11
  - bringing to front 11
  - hiding or showing on desktop 39
  - moving Macintosh Guide 23



Apple Computer, Inc.

1 Infinite Loop

Cupertino, California 95014-2084

408.996.1010

030-7427-A

Printed in U.S.A.