



Macintosh™

Macintosh II



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WARNING

This equipment has been certified to comply with the limits for a Class B computing device pursuant to Subpart J of Part 15 of FCC rules. Only peripheral devices (computer input/output devices, terminals, printers, and so on) certified to comply with Class B limits may be attached to this computer.

Operation with noncertified peripheral devices is likely to result in interference to radio and television reception.



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Radio and television interference

The equipment described in this manual generates and uses 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 complies with the limits for a Class B computing device in accordance with the specifications in Subpart J, Part 15, of FCC rules. These rules are designed to provide reasonable protection against such interference in a residential installation. However, there is no guarantee that the interference will not occur in a particular installation, especially if a "rabbit-ear" television antenna is used. (A rabbit-ear antenna is the telescoping-rod type usually found on television receivers.)

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

If your computer does cause interference to radio or television reception, you can 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 than the television or radio. (That is, make certain the computer and the radio or television set are on circuits controlled by different circuit breakers or fuses.)
- Consider installing a rooftop television antenna with a coaxial cable lead-in between the antenna and television set.

If necessary, consult your authorized Apple dealer or an experienced radio/television technician for additional suggestions.

You may find helpful the following booklet, prepared by the Federal Communications Commission: "How to Identify and Resolve Radio-TV Interference Problems." This booklet is available from the U.S. Government Printing Office, Washington, DC 20402.

Important

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

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Preface

Welcome to Macintosh II



In 1984 Apple introduced a computer unlike anything before it—the Apple® Macintosh™ computer. Easy to learn and use, the Macintosh revolutionized the world's perception of computers. But the innovations didn't stop there. The Macintosh has become more and more powerful: Now it has eight times the memory capacity of the original Macintosh 128K, it's expandable, and it uses more sophisticated system software. And with hundreds of application programs and a generous variety of optional devices to support it, the Macintosh can do more work—faster and better than ever.

This manual introduces you to the new Apple Macintosh II computer. Use the manual now to learn basic Macintosh skills, and pick it up again later to use as a reference. You don't need to know anything about the Macintosh II or any other computer to use this manual. And you won't have to keep learning new ways of doing things. Once you've mastered a few new techniques, you'll use them whenever you use your computer.

❖ *Computer-guided tour:* You can also take a guided tour of the Macintosh II by using the training disk called *Your Apple Tour of the Macintosh II*. In the tour, your Macintosh II demonstrates itself, introducing—in a different way—some of the same skills this manual teaches.

Here's an overview of what's where in this manual:

Chapter 1, "Setting Up Your Macintosh II," shows how to put together the modules of your computer—the monitor, the mouse and the keyboard—and how to install the video card for your monitor.

Chapter 2, "Learning About Your Macintosh II," teaches you how to use the mouse and keyboard to operate your computer, and to get started with your own work (including how to create it, make changes to it, and store it to disk). It also shows you how to start the training disk *Your Apple Tour of the Macintosh II*.

Chapter 3, "Your Macintosh II Step by Step," provides easy step-by-step instructions for organizing, managing, and storing the things you create.

Chapter 4, "Macintosh II Reference," explains the Macintosh interface—the way you interact with the computer no matter what programs you're using.

Chapter 5, "Expanding Your Macintosh II System," tells you how your computer's capabilities can grow with the addition of new products. It also explains some of the applications you can get, and what those applications can do for you.

Chapter 6, "Taking Care of Your Macintosh II," gives you information on how to keep your computer running at peak efficiency—and what to do in case something goes wrong.

Appendix A, "Working With Hard Disks," shows you how to get your hard disk ready for use, and how to use it most effectively once it's set up.

Appendix B, "Macintosh II Specifications," provides the technical details of your computer.

Appendix C, "Expansion Cards and Power Requirements," explains how to figure the power available for the expansion slots.

The glossary defines all the special Macintosh terms you'll come across in this manual.

The index lists the page references for all the topics covered in this manual.

❖ *The Quick Reference Card:* The Quick Reference Card that accompanies the manual describes some shortcuts you may want to learn as you become more familiar with your Macintosh II.

How to use this manual

No matter how much experience you've had with computers, read Chapter 1 to see how to set up your Macintosh II. What you should do next depends on your level of computer expertise.

For the beginner

To start learning about your computer, you can use the training disk called *Your Apple Tour of the Macintosh II*, where you'll learn the basics of using an Macintosh II, with the computer itself as your tutor. (Chapter 2 tells you how to get the disk started.) Using the training disk is an entertaining, fun way to learn, and if you make any mistakes, the computer lets you know and gets you back on track. Or you might prefer to go through the written tutorial in Chapter 2 instead. They cover the same material, but in a slightly different way. Many people go through the disk *and* the tutorial. The idea is to learn in ways that are most comfortable for you.

After the tutorial

When you've finished *Your Apple Tour of the Macintosh II* or the tutorial (or both), you have several options. You can start up the second training disk, *Your Apple Tour of Macintosh II Applications*; this disk will give you an overview of the kinds of applications available for your Macintosh II and how they're used. Then you can continue on with this manual or go to the manual that came with the application you're going to use.

Return to Chapter 3 of this manual when you want to know more about organizing your work or performing specific tasks. Chapter 3 gives step-by-step instructions.

Use Chapter 4 for reference; it covers material you're less likely to need right now.

Chapter 5 explains the optional equipment and application programs available for the Macintosh II.

Read Chapter 6 sometime soon to learn how to keep your computer clean and running up to snuff.

You'll also probably want to use the glossary of Macintosh terms and the index at the back of the book. The index is especially helpful when you need to find step-by-step instructions for carrying out specific Macintosh II tasks.

For the already initiated

If you've already had some experience using a Macintosh computer, you can probably skip the training disk and the tutorial in Chapter 2. The keyboard layout on the Macintosh II is somewhat different from most earlier models, however; see "The Keyboard" in Chapter 4 and, if it applies to you, "Apple Extended Keyboard" in Chapter 5.

Depending on which Macintosh you've used, you might not have experience with the **hierarchical file system**. This file system lets you organize your folders, applications, and documents in a more efficient way than was possible on older Macintosh computers. You'll find details in "The Hierarchical File System" in Chapter 4.

Your Macintosh II works with a number of optional devices: two styles of keyboard, internal and external hard disks, a second internal 3.5-inch disk drive, and more. Additionally, it can work together in new ways with printers, file servers, and other computers on the AppleTalk® Personal Network. Read Chapter 5 for details.

Important

If you already own a Macintosh and have application disks you use as startup disks, you'll want to update the system files on those disks to take advantage of new features. However, if you plan to use the same application disk as a startup disk on the Macintosh II and on an earlier model of Macintosh computer, don't update the disks until you have read "Startup Disks" in Chapter 4.

For the advanced user

This manual is not a technical reference manual. (You may already have noticed that.) Appendix B contains some technical information about the Macintosh II, but if you need more, look for the Apple Technical Library—a series of official technical publications from Apple Computer, Inc., and published by Addison-Wesley Publishing Company, Inc. You'll find the Apple Technical Library in most well-stocked bookstores.

Another source for technical information about the Macintosh II (and other Apple products) is the Apple Programmer's and Developer's Association. For information about the association, call (206) 251-6548. You can also write to

Apple Programmer's and Developer's Association
290 S.W. 43rd Street
Renton, WA 98055

You'll find a membership application for the Apple Programmer's and Developer's Association in the box with your computer.

If you're an applications developer interested in creating programs for the Macintosh, ask your authorized Apple dealer about the Macintosh Programmer's Workshop—a programming environment for the Macintosh that includes an assembler and C and Pascal compilers. Version 2.0 (and any later version) supports the Macintosh II. If you plan to develop applications for sale through retail channels, you can get valuable support from Apple Developer Relations. Write to

Apple Developer Relations
Mailstop 27-W
Apple Computer, Inc.
20525 Mariani Avenue
Cupertino, CA 95014

User groups

Ask your dealer for the name of a Macintosh user group near you. If you live in the United States, you can call (800) 538-9696 for the name, address, and telephone number of up to three Macintosh user groups in your geographical area.

Outside the United States, ask your dealer to get in touch with

The Boston Computer Society	Berkeley Macintosh User Group
One Center Plaza	1442-A Walnut Street #62
Boston, MA 02108	Berkeley, CA 94709
(617) 367-8080	(415) 849-9114

Either of these organizations can provide you with the name of a Macintosh user group near you. You can also join either of these groups or ask them for information on starting your own Macintosh user group.





Chapter 1



Setting Up Your Macintosh II



Setting up your Macintosh II computer is easy and takes only a few minutes. If somebody has already set up your computer for you, you can skip this chapter and go right to Chapter 2; there you'll learn how to use your Macintosh II.

Unpacking

The first thing to do is to make sure you have everything you need to set up a complete system. Take all the materials out of the packing boxes and see if you have everything shown in Figure 1-1:

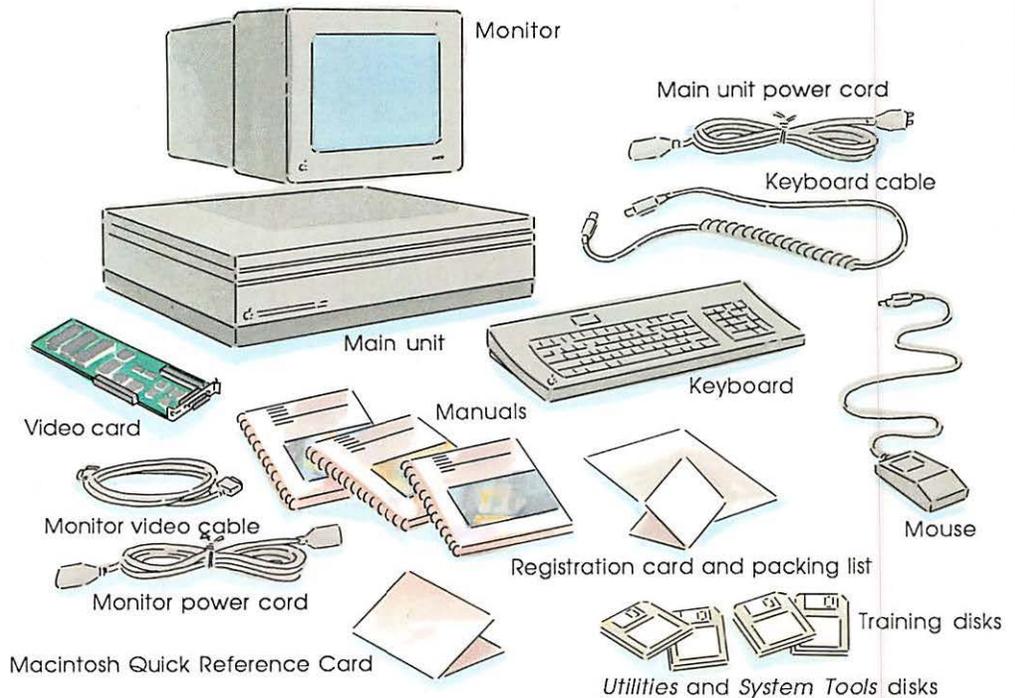


Figure 1-1
What you should have

Check your packing lists to make sure you have everything. Then fill out the registration card and mail it in. (The registration card asks for serial numbers; you'll find them either on the bottom or at the back of each module.) In the unlikely event that something is missing, call your authorized Apple dealer immediately.

❖ *Different keyboard?* Your keyboard might look different from the one in Figure 1-1. Apple offers two keyboards: the Apple Keyboard and the Apple Extended Keyboard. You can find out more about the extended keyboard in Chapter 5, "Expanding Your Macintosh II System."

Choose a sturdy place to set up your system—no card tables or other surfaces that could be tipped or knocked over. To avoid glare, pick a place where light won't be reflected into your eyes and you won't be facing bright light.

Your computer needs to be plugged into a three-hole grounded outlet. If you have more than two devices that need to be plugged into the wall, you should get a grounding power strip. Available at any electronics or hardware store, a power strip is like a wall socket with four to eight outlets; many of these power strips come with an on/off switch for convenience and a surge protector (which acts like a circuit breaker if there's a surge of power on the incoming electrical lines).

❖ *Save the packing material:* Store away the boxes and all the packing material. Repack your computer system if you have to move it over long distances (that is, any distance that requires a car or airplane) to protect the system from rough handling and jarring. It's especially important to repack your computer if it has an internal hard disk.

Before you go on, turn the main unit so that you're looking at the back of it. Figure 1-2 shows you what the ports, connectors, and so on are all about:

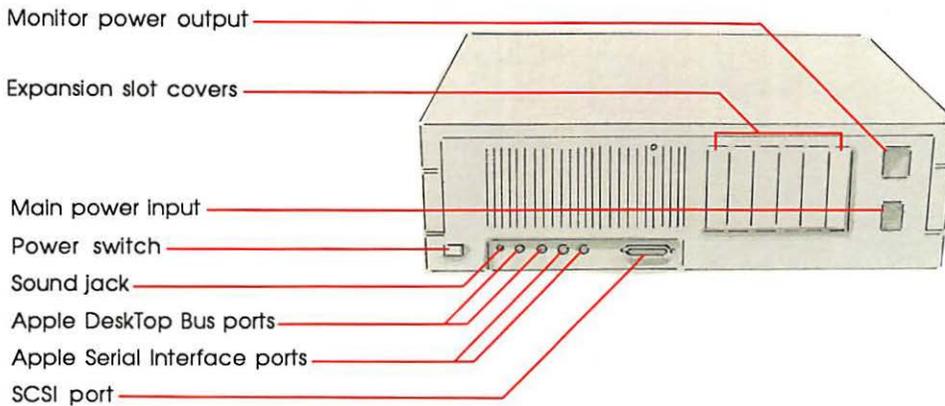


Figure 1-2
Back of the main unit

You will be using a number of these ports and receptacles as you set up your Macintosh II. One item you'll find on the back of the main unit, the **power switch**, is there when you have to use it but is not intended for regular use. In the normal course of events, you turn on the computer with the Power On key at the top of the keyboard, and you turn it off by choosing Shut Down from the Special menu that appears on the Finder screen. (Don't worry if these terms are new to you. You'll learn exactly what to do in Chapter 2, "Learning About Your Macintosh II.")

If you encounter a problem with the computer and for some reason cannot use the Shut Down command to turn it off, you can push the power switch instead. (Be sure you only push it once.) Wait a few seconds, and the computer will turn itself off. Then you can start it again by pressing the Power On key. Note that this method of turning off the computer can be fairly drastic, and you may lose any work you had not previously saved on a disk.

Important safety instructions

You're almost ready to plug in your Macintosh II, but first read these important safety instructions.

Warning This equipment is intended to be electrically grounded. Your computer is equipped with a three-wire grounding plug—a plug that has a third (grounding) pin. This plug will fit only a grounding-type 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 plug. Do not defeat the purpose of the grounding plug!

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

Disconnect the power plug (by pulling on the plug, not the cord) under these circumstances:

- if the power cord or plug is frayed or otherwise damaged
- if anything is spilled into the case
- if your equipment is exposed to rain or any other excess moisture
- if it has been dropped or if the case has been otherwise damaged
- if you suspect that your computer needs servicing or repair
- whenever you clean the case

Be sure that you always do the following:

- Keep all air vents clear. Leave 4 to 6 inches of clearance between the vents on both sides of the main unit and any object that may restrict air flow. If you place your monitor on top of the main unit, it should not lie "flat"; make sure it sits at least 8 mm (.314 inches) above the surface of the main unit. (Apple monitors come with little rubber "feet" to raise them the correct distance, allowing for air to circulate properly.)
- Keep your equipment away from any source of liquid (such as wash basins, bathtubs, and shower stalls). If you drink coffee while you're at your computer, take care not to spill.
- Keep it protected from damp or wet weather.

- Read all the installation instructions carefully before you plug the product into a wall socket.
- Keep these instructions handy for reference.
- 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 cables.

To clean the case:

1. **Disconnect the power plug by pulling on the plug, not the cord.**
2. **Wipe the case with a clean, soft cloth moistened with water.**
Wipe the surfaces lightly, but do not wipe the monitor screen. For cleaning the screen, use only a dry, soft cloth.

Plugging it all together

Now you can begin to pull together the modules of your computer system. Assemble the system in the order given in the next few pages.

Connecting the power cord

The first step in assembling your computer system is attaching and plugging in the power cord. The plugged-in power cord acts as a ground for the system, protecting its components from static electrical discharge.

To connect the power cord:

1. **Connect the socket end of the power cord into the main power input—the bottom receptacle on the right side, viewed from the rear. (See Figure 1-2.)**

The connector above the main power input is for the monitor power output; you'll read about that in a moment.

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

Warning

Do not turn on the computer system until you've completed the entire installation process. Turning on the system at the wrong time could result in electrical shock to you or cause damage to your computer system's components.

If the power has been on, turn it off and wait at least 5 minutes before connecting anything to or disconnecting anything from your computer. There are several ways to turn off the computer. If you know how to choose Shut Down from the Special menu, do that. If you're still unfamiliar with how to use such commands, push once on the external power switch (found on the back of the main unit) and wait for it to shut itself down. (See Figure 1-2 if you need help locating the power switch.) If all else fails, pull the plug on the power cord (from the three-hole grounded outlet).

Connecting the monitor

Apple provides color and monochrome monitors to go with your Macintosh II. (They're described under "Monitors and Video Cards" in Chapter 5.) Basic installation is the same for all the monitors. The monitor connects to your computer through the socket on a peripheral card (in this case, a video card) installed in an expansion slot in the computer's main unit.

Here are the stages you'll go through to install your monitor. Right after this general list, you'll find specific steps for each stage of the procedure:

- installing the video card in the main unit
- connecting the monitor's video cable
- connecting the monitor's power cord

Installing the video card in the main unit

Follow these steps to install the video card.

1. Remove the lid from the computer's main unit. (See Figure 1-3.)

- Using a Phillips-head screwdriver, loosen and remove the security screw holding the lid to the main unit. (It's at the top center of the rear panel.)
- Wrap your hands around the rear corners of the case (as shown in Figure 1-3).

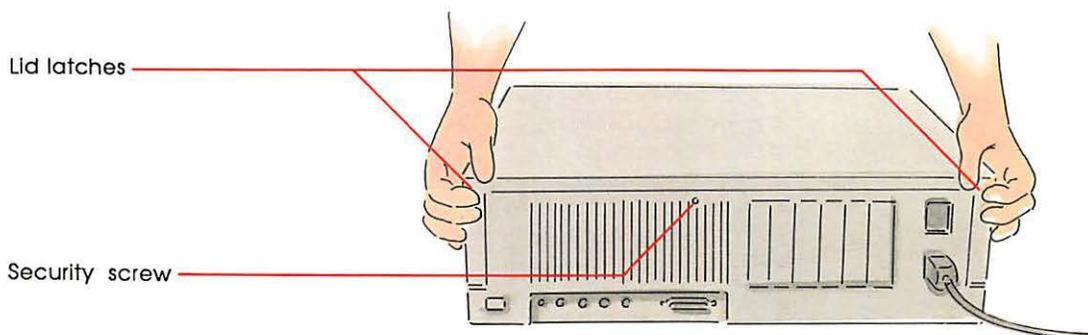


Figure 1-3
Removing the lid

- Press on the latches as you lift up on the back of the lid.
 - When you feel it release, lift the lid all the way off the case and put it aside.
2. Touch the power supply case inside the computer to discharge any static electricity that might be on your clothes or body. (See Figure 1-4.)

Warning

It's OK to touch the power supply if you've just unpacked it. However, the power supply can get hot in normal use. If the computer has been on, shut it off and wait at least 5 minutes before touching the power supply.

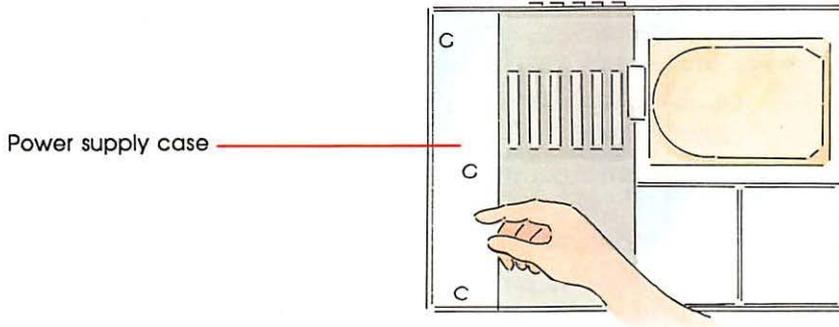


Figure 1-4
Touching the power supply case

3. Choose the expansion slot you want to use. (See Figure 1-5.)

The expansion slots are the narrow, plastic strips running along the bottom of the main unit, near the back. Which one you use doesn't matter.

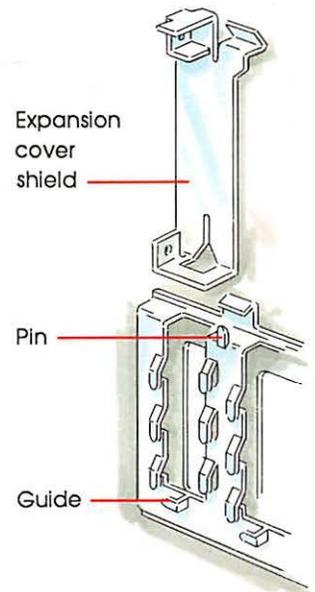
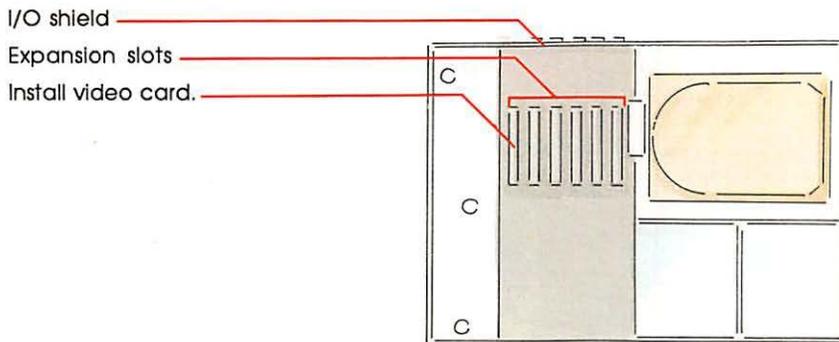


Figure 1-5
Expansion slots and expansion cover shield

4. Remove the expansion cover shield that's behind the expansion slot you plan to use by lifting up until the shield is free of the guide and pin.

Save the shield; you will need it later if you take the card out of the slot. The card itself has a shield attached to it that will replace the shield you just removed.

5. Push out the plastic hole cover that lines up with the slot you plan to use. (See Figure 1-6.)

- Grasp the cover with your thumb inside the computer and your fingers outside.
- Push the cover out with your thumb and set it aside.

6. Insert the video card into the expansion slot.

- Pick up the video card by the top of the metal bracket and the top of the card's other end. (Be careful not to touch the pins on the bottom of the card.)
- The expansion cover shield on the card attaches to the inside of the back panel in the same way as the shield you removed in step 4. Align the card so that the guide fits through the lower slot in the shield on the card and the pin sticks up slightly through the hole at the top of the shield. (See Figure 1-7.)

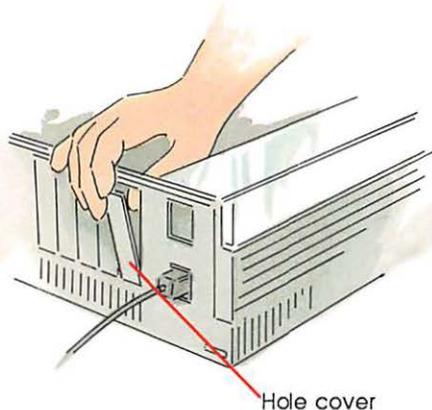


Figure 1-6
Removing the plastic hole cover

Pin in hole

Guide in slot

Connector aligned over slot

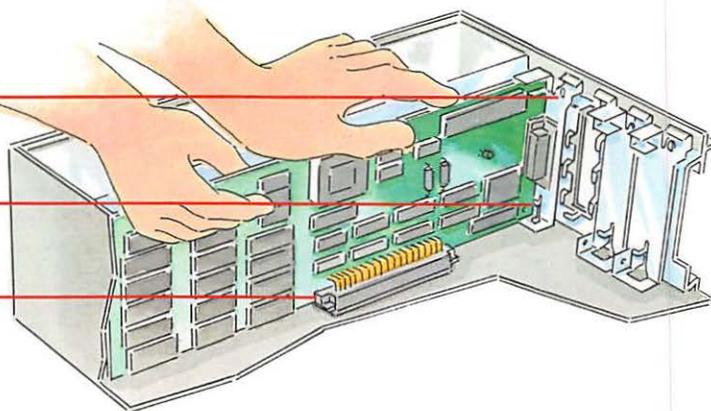


Figure 1-7
Aligning the card

- Align the connector on the bottom of the card, directly over the slot.
- Place one hand along the top edge of the card, directly over the connector area, and push down firmly until the connector is fully seated. (See Figure 1-8.)

Important Don't force the card. If you meet a lot of resistance, pull the card out and try again.

Don't wiggle the card from side to side when you insert it. Wiggling the card puts unnecessary stress on the card and slot.

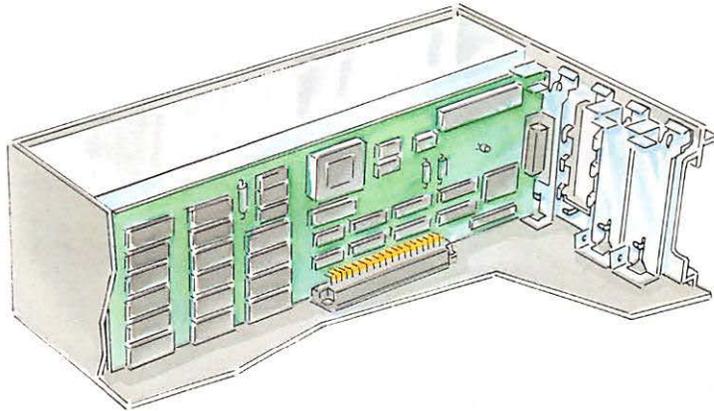


Figure 1-8
Inserted card

You can test to see if the card is properly connected by lifting the card gently. If it resists and stays in place, it's connected.

❖ *Universal card installation:* If you have purchased other peripheral devices that require cards, install them now, too.

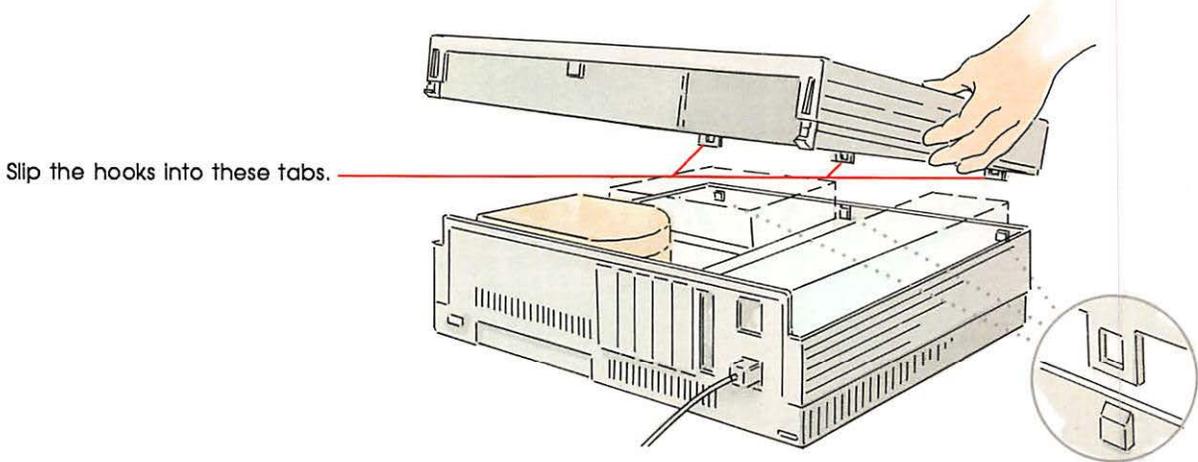
You can use this same method (that is, repeat steps 1 through 6) for installing all expansion cards in your Macintosh II at any time. Remember: if the computer has been running, let it cool down for 5 minutes before you open up the main unit. Of course, you should also read and follow any instructions that come with other expansion cards you may have.

Important If you plan to install more than one card, see Appendix C for details on the power available for the expansion slots.

7. Replace the lid on the main unit. (See Figure 1-9.)

- Tip the front of the lid down so that it catches the three hooks under the lid in the front of the main unit's case.
- Lower the back of the lid onto the case until the rear latches snap into place.
- Replace and tighten the security screw.

Caution When reinstalling the lid, ensure that it is properly seated before turning on the power. To check, press firmly down at the two rear and three front latch positions.



Slip the hooks into these tabs.

Figure 1-9
Replacing the lid

Connecting the video cable

With the back of the main unit still facing you, place your monitor near the main unit. Turn the monitor so that its back is also facing you. Then follow these steps to connect the video cable. (See Figure 1-10.)

1. Push one end of the video cable (both ends are the same) into the video socket on the back of the monitor.

The socket is marked with a video icon.

2. Tighten the thumbscrews on the jack to prevent the connection from coming loose and to prevent radio and television interference.

3. Connect the other end of the video cable to the socket on the video card, and tighten the thumbscrews.

Connect the cable to the card through the opening in the rear of the computer.

- ❖ *More than one card?* If you have installed more than one expansion card, be careful to plug the video cable into the *video* card.

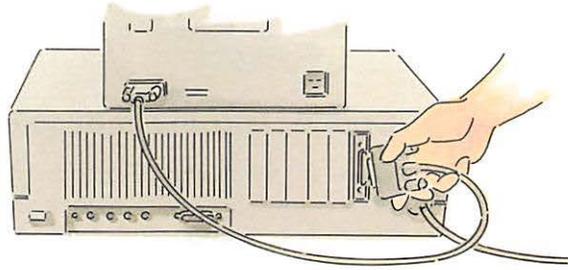


Figure 1-10
Connecting the video cable

Connecting the monitor's power cord

Follow these steps to connect the monitor's power cord. (See Figure 1-11.)

1. Push the socket end of the monitor power cord into the monitor power input receptacle on the back of the monitor.

The plug is marked with a power icon.

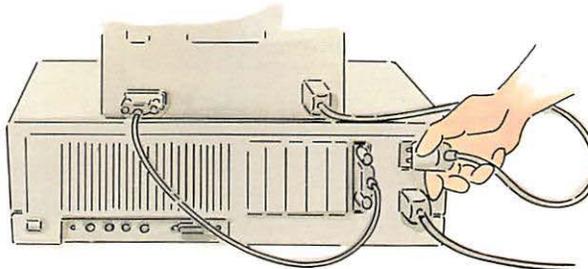


Figure 1-11
Connecting the monitor power cord

2. Connect the other end of the power cord to the monitor power output receptacle on the back of the main unit.

The monitor power output is on the right side of the main unit, just above the main power input receptacle.

For information about adjusting brightness and contrast (and alignment, in the case of the color monitor), see the manual that came with your monitor. But don't adjust anything yet; to save yourself the trouble of turning around the monitor and main unit again, wait until you've attached the keyboard and the mouse.

Connecting the mouse and the keyboard

There are several ways to connect the mouse and the keyboard. The steps below show how to connect the mouse to the keyboard and finally how to connect the keyboard to the main unit. When you've completed this procedure, you'll find information on alternative ways to connect these devices.

- ❖ *Avoid premature power on:* The steps are presented in this order so that the last thing you do is connect the keyboard to a power source. Once the keyboard has power, anyone could accidentally press the Power On key and turn on your computer before it's appropriate.

Place your keyboard near the back of the main unit with the keyboard facing you. Then follow these steps.

1. **Plug the mouse cable into the connector on the right side of the keyboard. (See Figure 1-12.)**

If you're left-handed, plug it into the connector on the left side.

This kind of arrangement is known as a **daisy chain**. (In effect, the mouse will be connected to the computer through the keyboard.)

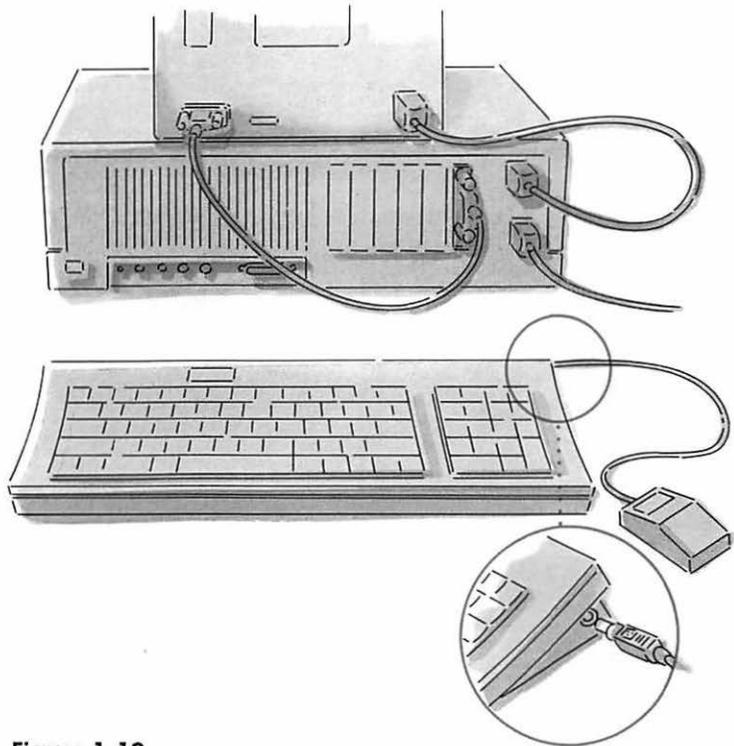


Figure 1-12
Connecting the mouse

2. **Plug one end of the keyboard cable into the remaining connector on the keyboard.**

3. Plug the other end of the keyboard cable into either of the two round connectors on the back of the main unit. (See Figure 1-13.)

The connectors are just to the right of the sound jack.

Your Macintosh II works with a variety of keyboards. Keyboards may look different, but you attach them to the main unit in the same way.

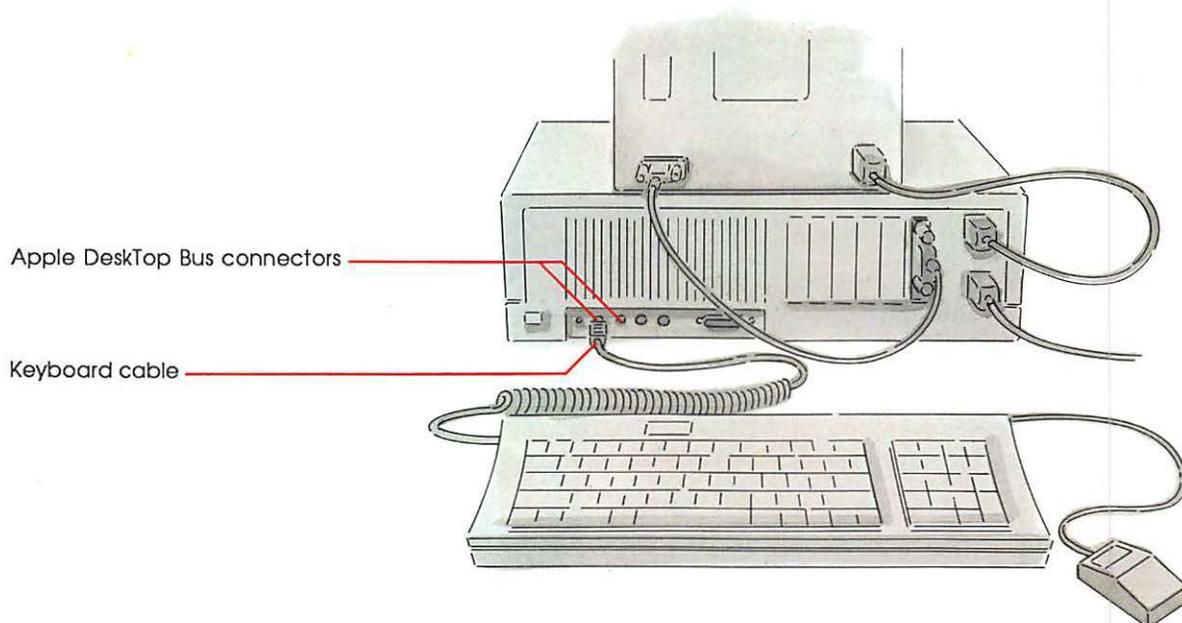


Figure 1-13
Connecting the keyboard to the main unit

Why two connectors?

The official name for this set of connectors is the **Apple DeskTop Bus™**. It's called a *bus* because several different devices (the keyboard, the mouse, and other Apple DeskTop Bus devices such as a graphics tablet, a joystick, or another keyboard) can send information along one "bus line" to the computer. Your Macintosh II has two of these connectors. Figure 1-14 shows different ways to connect other Apple DeskTop Bus devices.

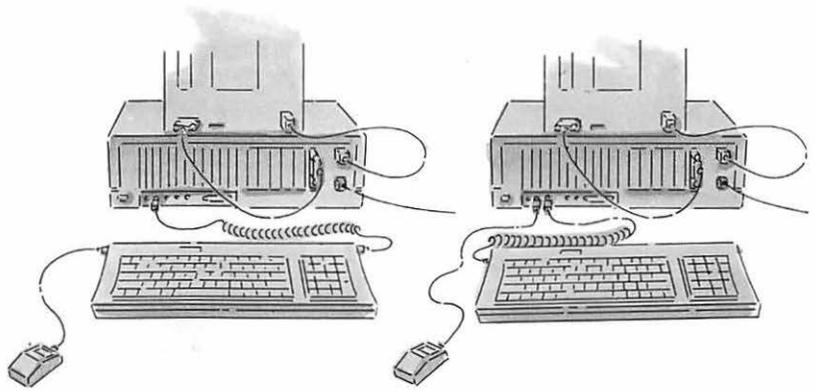


Figure 1-14
Alternative configurations

You might prefer to plug the mouse into the other connector on the back of the Macintosh II, leaving the second connector on the keyboard free for now. It's up to you. Figure 1-14 shows two possible arrangements.

If you have other Apple DeskTop Bus devices to attach to your system, you can either daisy-chain them to the keyboard or use one of the back panel connectors.

Ready to go?

Once you're satisfied that everything is connected properly, you'll want to arrange your Macintosh II components conveniently in your work area. Turn the main unit so that it's facing you. Place the monitor where you want it (on top of the main unit is fine), and position the keyboard and mouse where you can reach them comfortably.

Warning Always keep your computer's main unit flat, sitting on its rubber feet. Standing it on edge defeats the cooling design and is likely to make your computer overheat. This may eventually damage the main unit. (See Figure 1-15.)

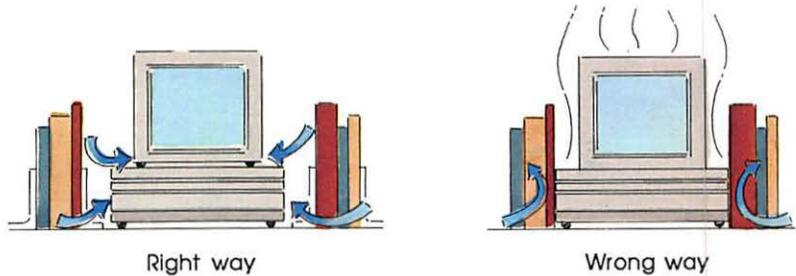


Figure 1-15
Leave room for air to circulate

Other devices

You may have purchased other equipment, such as a printer, an external disk drive, or a modem. You'll find instructions for connecting those devices in the manuals that came with them.

Warning There is one **SCSI** port on the back of the main unit. (SCSI, commonly pronounced "skuh-zee," is short for *Small Computer System Interface*.) If you're using an external SCSI device of any kind, you must connect that device to the SCSI port. Connecting a SCSI device to the wrong port can damage your system. You can also damage the system if you mistakenly connect a non-SCSI device (with an RS-232 plug, for example) to this port. Read the manual that came with the device; also read "Adding SCSI Terminators" in Appendix A for important instructions about SCSI terminators.

Internal hard disk users

If your system includes an internal hard disk, you might need to prepare it for use; this is explained in Appendix A, "Working With Hard Disks." For the veteran Macintosh user, that's easy—go to Appendix A now. But if you're new, the procedure requires a few techniques you need to learn first. Skip setting up your hard disk for now and go on to Chapter 2, "Learning About Your Macintosh II." After you've mastered some Macintosh techniques, go to Appendix A and get your hard disk ready for use.

Let's get started!

Now that your system's all set up (or set up as much as it needs to be for now), go on to Chapter 2 and learn how to start using your Apple Macintosh II computer.





Chapter 2



**Learning About
Your Macintosh II**

Documents are whatever you create with Macintosh applications—information you enter, modify, view, or save.

An **application** is a software program that helps you perform your work. It's short for *application program*, and is often used interchangeably with *program*.

If you've used "traditional" computers, you'll really appreciate the Macintosh difference. No more guessing what the computer wants. No more memorizing long commands with names only a programmer could love. With Macintosh, you're in charge.

Macintosh removes a lot of the mystery about using computers. Every action you take has an effect you can see—so you're always in control of what happens. And you don't have to keep tedious details in your head, because Macintosh keeps track of them for you. You're free to think about what you want to do rather than how to get your computer to do it.

This chapter teaches what you need to know to use your Macintosh II—how to create **documents**, make changes to them, and put them away. It all happens with a few basic techniques, the same Macintosh techniques you'll use whenever you work with almost all Macintosh **applications** on your Macintosh II.

Training disk or tutorial?

You're almost ready to start up your Macintosh II computer and see it in action, but first you have a choice to make. The material presented in this chapter is also taught on one of the training disks that came with your computer—*Your Apple Tour of the Macintosh II*. Both the book and the disk are designed to give you first-hand experience using the computer, but in different ways.

The training disk is an interactive guide to the Macintosh II. That means it teaches you Macintosh concepts and techniques, prompts you step by step, and corrects you when you've made a mistake. It provides you with an entertaining but controlled learning environment.

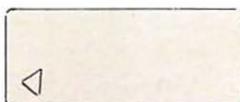
The tutorial in this chapter uses real software applications to teach you the same techniques. Here, you're in the actual working environment that you'll use whenever you work with your Macintosh II. Even with the actual software applications, you won't make any

mistakes if you follow the directions step by step. Whether you use the disk or the tutorial is up to you. You may find it helpful to use both.

If you would like to take the guided tour, follow the steps below in "The Training Disk." If you'd rather stay with the printed page, skip now to the section "The Tutorial." Either way, you'll be a confident Macintosh user in no time.

The training disk

Follow these steps to start up *Your Apple Tour of the Macintosh II*.



Power On key



1. Turn your computer on by pressing the Power On key (at the top of the keyboard).

A beep lets you know it's started. If this is the first time you've turned on the power, a small yellow sheet of plastic will pop out of the disk drive (or drives, if your system includes the optional second internal drive). Remove the plastic piece from the disk drive, but don't discard it; if you ever need to transport your Macintosh II, you'll want to insert the plastic piece to prevent damage during shipping.

An **icon** (a small picture) representing a Macintosh disk appears on the screen. The blinking question mark shows that the Macintosh II is ready for you to insert a disk.

Important

If the icon with the blinking question mark does not appear and your system includes the internal hard disk, someone may already have prepared the hard disk for you. For now, turn off the Macintosh II. (To turn the system off at this time, push once on the power switch on the back of the main unit. Facing the back of the main unit, you'll see the power switch in the bottom-left corner. (See Figure 1-2.) Once the power is off, wait a few seconds and follow step 2. Then press the Power On key to turn the computer back on again. If that doesn't work, go on to "Problems Starting Up?" later in this chapter. If none of the suggestions there works, contact your authorized Apple dealer or representative.



Label side up, metal end first

Figure 2-1
Inserting the training disk

- 2. Insert the disk labeled *Your Apple Tour of the Macintosh II* into the disk drive, metal end first, label side up.**

If you have two disk drives, insert the disk into the one on the right.

When the disk is most of the way into the disk drive, the Macintosh II automatically pulls it in, and the disk “kerchunks” into place. As the Macintosh II starts up the guided tour, you’ll hear a series of soft noises. After a few moments, you should see a display welcoming you to Macintosh II.

- 3. Adjust the brightness and contrast controls on your monitor to the level you want.**

See the manual that came with your monitor for instructions.

Brightness

Contrast

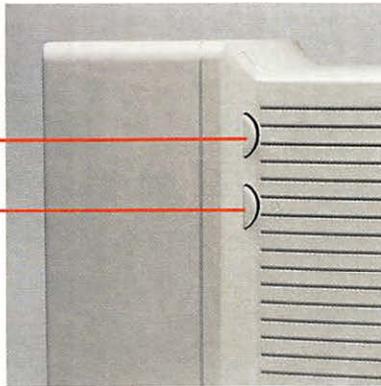


Figure 2-2
Monitor brightness and contrast controls

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

You’ve already begun to learn about Macintosh II.

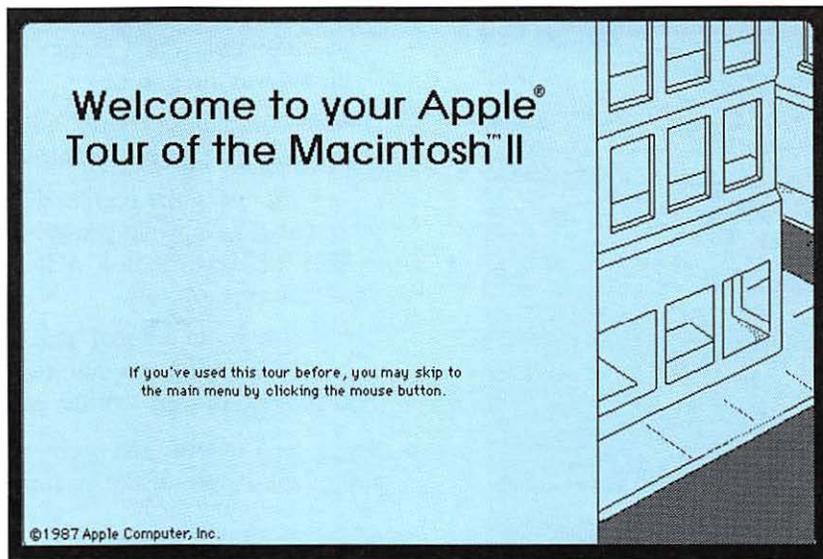


Figure 2-3
Opening screen of the training disk

Use the training disk as long as you like. Anything you need to know to use the disk will be explained right on the screen.

Problems starting up?

If what's in Figure 2-3 doesn't appear on your screen, go through this checklist to see if you can identify the problem:

- Is the computer plugged into a power source?
- Is the power cord plugged into the computer?
- If your computer is plugged into a power strip, is the power strip turned on?
- Is the monitor connected to the computer properly?
- Is the monitor power cord plugged in?
- Is the computer turned on? (Look for a light on the front left side of the main unit.) If there's no light, push the Power On key.

- Is the monitor on? (Look for a light on the front of the monitor.) See the manual that came with the monitor if you need help turning on the power.
- Is the brightness control adjusted correctly? See Figure 2-3 to locate the brightness control on the monitor.
- Are you using the correct disk? To check, hold down the Apple and Shift keys while you press the 1 key on the main keyboard. This will eject the disk. Make sure it's titled *Your Apple Tour of the Macintosh II*.
- If you have an internal hard disk, did you turn off the Macintosh II before inserting the training disk? (See the "Important" message at the end of step 1 of the procedure.)

If you can't identify the problem yourself, get help from your authorized Apple dealer or representative.

What to do when you're finished

When you're ready to stop using the training disk:

1. Choose Let's Quit from the main menu.

This will shut down the computer and eject the training disk.

2. Take the training disk out of the drive.

3. To continue working with the Macintosh II, you can do one of the following:

- Go through the written tutorial (below) for some additional practice.
- Insert the second training disk, *Your Apple Tour of Macintosh II Applications*. Then press the Power On key (at the top of the keyboard) to restart the computer and learn about some of the many applications you can run on your Macintosh II.
- Press the Power On key to restart the computer, insert the **System Tools disk**, and experiment with the Finder.
- Start any of your applications (following the instructions in the manual that came with the application).

The **System Tools** disk contains important utilities you can use to maintain and update your computer system and application disks.

Important You may have to use the Installer on the *System Tools* disk to update the system software on your application disks before they'll work on the Macintosh II. (It's easy!) You'll find instructions for using the Installer in Chapter 3, "Your Macintosh II Step by Step."

If your system includes the internal hard disk, go now to Appendix A to get your hard disk set up and running.

The tutorial

If you used the training disk *Your Apple Tour of the Macintosh II*, you already know how to get your system started, so the following steps will sound familiar. Just follow the numbered steps until you get into new territory.

Follow these steps to start up the Macintosh II.



Power On key



1. Turn on your computer by pressing the Power On key (at the top of the keyboard).

A beep lets you know it's started. If this is the first time you've turned on the power, a yellow sheet of plastic will pop out of the disk drive (or drives, if your system includes the optional second internal drive). Remove the plastic piece from the disk drive, but don't discard it; inserting it in the disk drive prevents damage during shipping if you ever need to transport your Macintosh II.

An **icon** representing a Macintosh disk appears on the screen. The blinking question mark shows that the Macintosh II is ready for you to insert a disk.

Important If somebody has already set up your system for you and your system includes the internal hard disk, your screen might not show the disk icon with the blinking question mark. Instead it might look like the one in Figure 2-5. Don't panic—everything is still all right.



Figure 2-4
Inserting the *System Tools* disk

2. Insert the disk labeled *System Tools* into the disk drive, metal end first, label side up.

If you have two disk drives, use the one on the right. When the disk is most of the way into the disk drive, the computer automatically pulls it in, and the disk “kerchunks” into place.

The soft hum means your computer is getting information from the disk. A message appears, welcoming you to Macintosh, and after a few seconds you’ll see this screen:

Icon

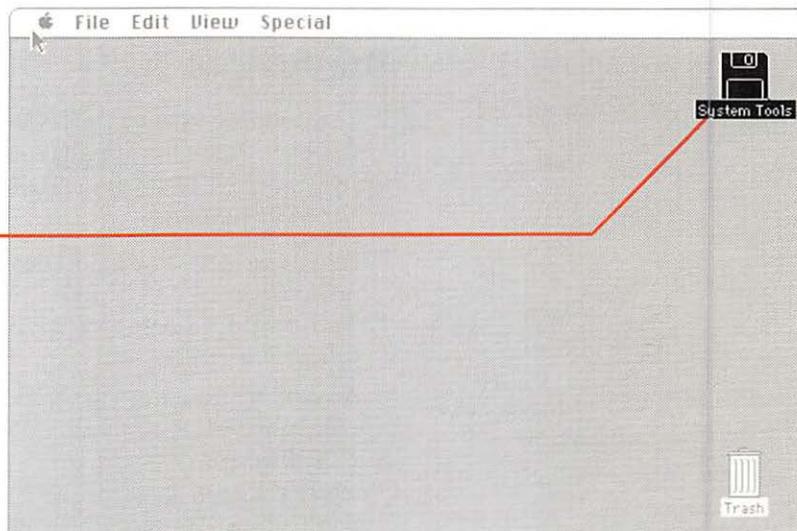


Figure 2-5
Finder screen

This is the Macintosh II **Finder**, a special application you use to organize and manage your documents, and to start other applications. You use the Finder every time you start your Macintosh II or move from one application to another. It’s like a “home base” for operating your computer’s applications.

3. Adjust the brightness and contrast controls on your monitor to the level you want.

See the manual that came with your monitor for instructions.

The working environment is called the **desktop**. While most computer screens look like the departing flight schedule at a busy airport, the Macintosh desktop can be as clear and clean as you want to make it; it's yours to arrange any way that pleases you. You can slide documents around, organize your work in folders, throw things away, or get what you want to work on next—just by moving the mouse and pressing the mouse button.

The bar at the top of the screen contains menus; you'll see how to use them a little later. The icons on your desktop always let you know what's available. Right now you see icons that represent

- the *System Tools* disk you inserted
- the **Trash**, where you can discard what you don't need anymore
- ❖ *Different screen?* If your screen doesn't look like this, someone else has probably used this lesson and arranged the desktop in a different way. After you learn in the next section how to use the mouse, see "Handling Windows" in Chapter 3 to close all windows that may have been left open. If someone has already set up the optional internal hard disk, you'll see an extra icon. For the time being, just ignore the hard disk icon as you go through the rest of this tutorial. If you have other troubles starting up, read the suggestions in "Problems Starting Up?" earlier in this chapter.

Mouse basics

Your Macintosh II responds instantly to every movement you make with the **mouse**. You can start applications and get documents, work on them, and put them away again—just by moving the mouse and pressing the **mouse button**. The best way to see how this works is to try it.

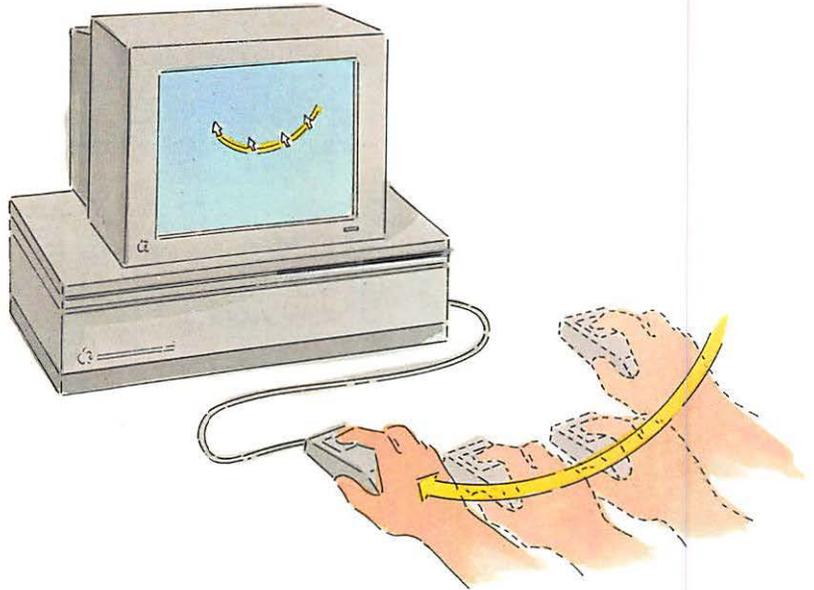


Figure 2-6
Controlling the pointer

Moving the pointer by moving the mouse

1. Watch the screen while you roll the mouse on a flat surface next to your computer. For now, don't press the mouse button.

Every move you make with the mouse moves the **pointer** in exactly the same way.

Usually the pointer is shaped like an arrow, as it is now, but it changes shape depending on what you're doing. For instance, it becomes an **I-beam** when it's positioned over text you can edit, or a **wristwatch** when the Macintosh II is doing something that takes a little time.

You'll have the best control if you hold the mouse with the mouse cable pointing directly away from you.

2. Pick the mouse up and put it down in a different place.

If you run out of room for the mouse—if it goes off the table, for instance, or runs into the Macintosh II itself—lift the mouse and put it down again where you have more room. Lifting the mouse doesn't move the pointer.

Using the mouse might feel a little awkward at first, but it will soon be second nature.

Selecting by clicking an icon

Macintosh lets you organize your desktop any way you want, so the first thing to do with your mouse is arrange the desktop to suit you. This may not seem like a big deal now, but you'll appreciate it when your desktop gets cluttered with icons. To move an icon, you first **select** it to let your Macintosh know this is what you want to work on next. You select icons by using a technique called **clicking**.

1. **Position the pointer on the Trash icon.**

Make sure the tip of the pointer is on the icon.

2. **Click the icon by pressing and immediately releasing the mouse button.**

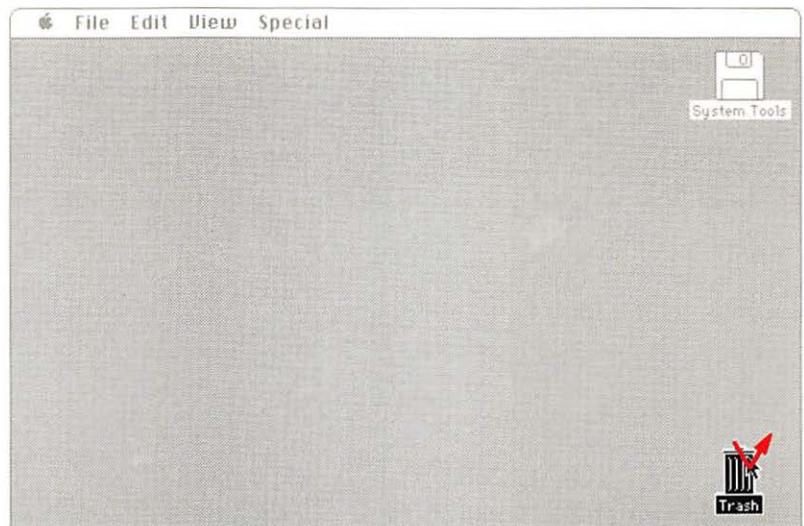


Figure 2-7
Selecting an icon

As you click the icon, it becomes **highlighted**. What was white is now black, and vice versa. The highlighting shows that you selected it. Notice that the System Tools icon is no longer highlighted. Selecting has a specific meaning in the Macintosh vocabulary: you always select the information you want to work on next.

3. Click the System Tools icon.

Now the System Tools icon is selected, and the Trash icon is no longer selected.

When clicking, try not to move the mouse as you release the mouse button. Practice clicking each icon in turn until you can click without moving the mouse at all.

Dragging an icon

Once you've selected an icon, you can use the mouse to move the icon with a technique called **dragging**.

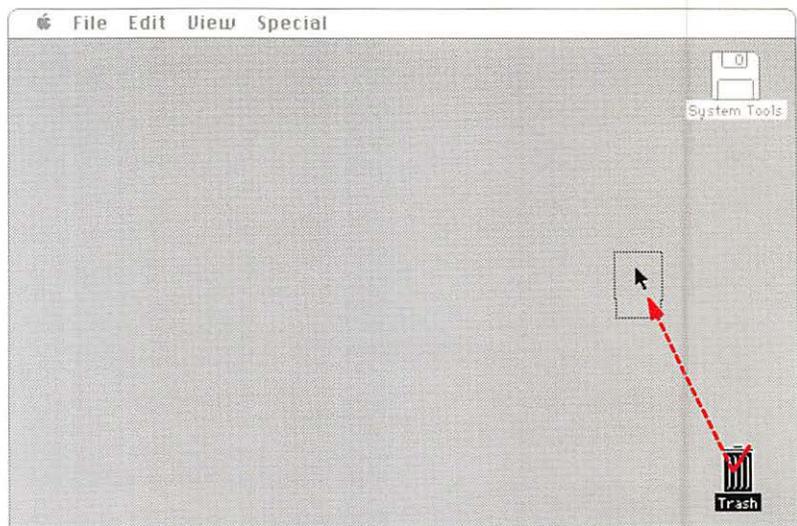


Figure 2-8
Dragging an icon

1. Position the pointer on the Trash icon.

2. Press and hold the mouse button while you move the mouse.

When you press the mouse button, you select the icon. As you move the mouse, the pointer moves and drags an outline of the icon and its name along with it. So you always know where you were—and where you're going.

3. Release the mouse button.

The icon snaps to its new place.

Try this again with the System Tools icon. Move the icon all the way to the left. Notice that it won't go off the edge of the screen, so you don't have to worry about losing it. Remember, lifting the mouse has no effect on what you're doing (but releasing the mouse button does end the current dragging and places the icon where it was when you released the mouse button).

If you change your mind, you can cancel a drag in process by moving the pointer into the menu bar at the top of the screen and releasing the mouse button. Practice dragging until you can easily put the icons wherever you want them.

You've learned how to use the mouse to point to and select information you want to work on, and you've seen how you can drag icons to arrange your desktop. Next you'll learn how to act on what you select by choosing a command from a menu.

❖ *Take a break:* You can take a break from this lesson at any point. Just leave the Macintosh II switched on and pick up where you left off. If the computer has been switched off, make sure the *System Tools* disk is inserted, switch the computer back on, and pick up where you left off.

Selecting and choosing

Whenever you work with your Macintosh II, you tell it two things: what you want to work on, and what you want to do. First, you tell the Macintosh II what you want to work on by selecting it as you've been doing with icons on the desktop. Then you tell the Macintosh II what you want to do with the selection. You usually do this by **choosing** a command from a menu.

Now you want to work on the *System Tools* disk, and you need to **open** its icon to examine its contents.

Selecting the System Tools icon

- Position the pointer on the System Tools icon and click.

This is the same thing you did before. Now the System Tools icon is selected, and you can choose a command for it.

Pulling down a menu

Along the top of the screen, in the **menu bar**, are titles of the **menus**.

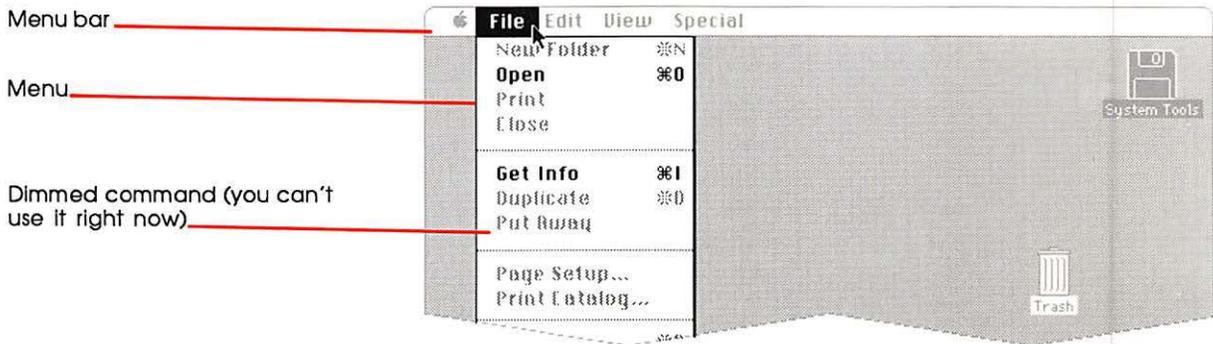


Figure 2-9
Pulling down a menu

1. Position the pointer on the word *File* in the menu bar. Among other things, the File menu lets you open icons.

2. Without moving the mouse for now, press and hold the mouse button. Release it when you're finished looking.

Pressing the button while you're pointing to a menu title causes the title to be highlighted and a menu to appear. The menu contains **commands** you can carry out on what you've selected. (Commands that you can't use right now—the Print command, for instance—appear dimmed in the menu.) When you release the mouse button, the menu disappears.

Choosing a command from a menu

To choose a command from a menu, you use the same dragging technique you used to move icons.

1. Position the pointer again on the word *File* in the menu bar.
2. This time, press the mouse button and hold it down while you drag the pointer to the word *Open*; then release the mouse button.

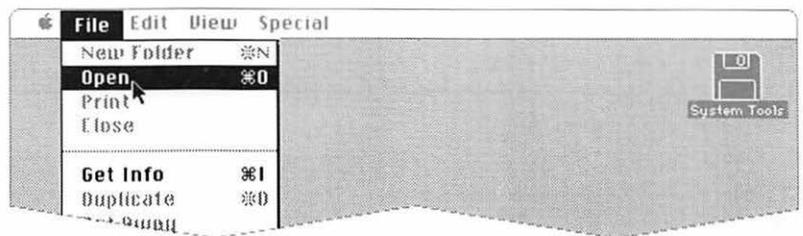


Figure 2-10
Choosing a command

As you drag through a menu, each usable command is highlighted in turn. If you change your mind about choosing a command, move the pointer off the menu and release the mouse button. Nothing is chosen unless you release the mouse button while one of the commands is highlighted.

When you release the mouse button with the Open command highlighted, an outline zooms out of the System Tools icon, and the screen is almost filled by a **window**. This window displays a **directory** of icons that represent the contents of the *System Tools* disk. (If a window doesn't appear, make sure the System Tools icon is selected before you choose Open from the File menu.)

The System Tools icon is hollow now to show that the icon has been opened into a window.

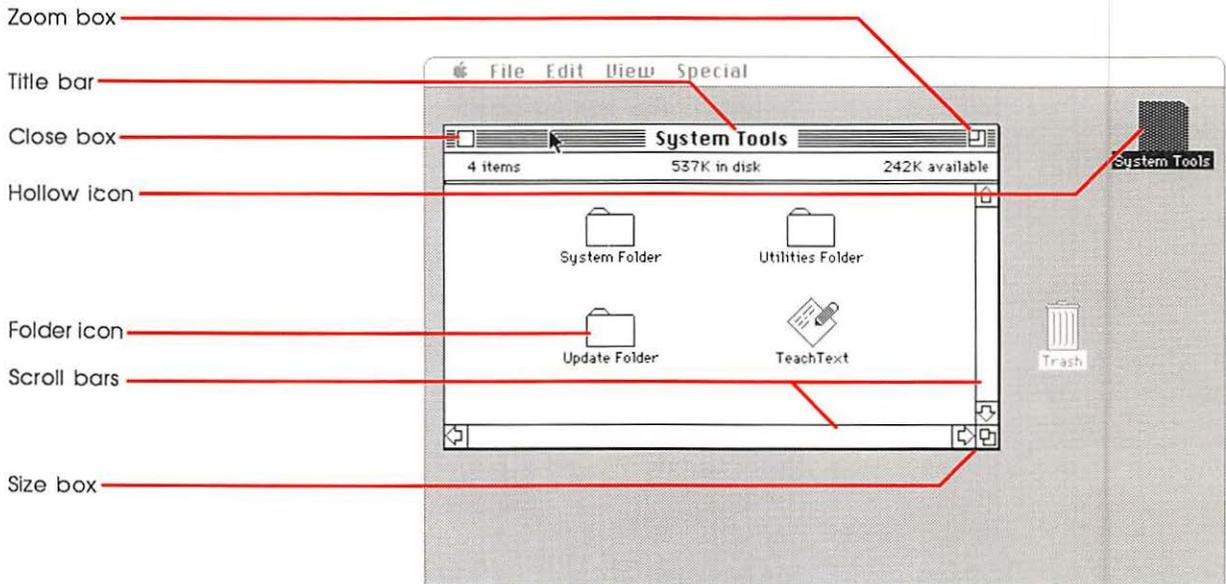


Figure 2-11
System Tools window

The title of the System Tools window appears in the **title bar** at the top of the window. Below the title bar is information about the window's contents. Along the right and bottom are **scroll bars** that let you get around in large directories or documents. In the bottom-right corner is the **size box** you use to change the size of a window. At the top-left corner is a **close box**, and at the top-right corner is a **zoom box** that zooms the window out so it nearly covers the screen. In a few minutes, you'll see how to use these parts of a window to manipulate it.

Folders hold documents, applications, or other folders on the desktop.

Utility programs are special applications that usually change something in a system file. You'll learn more about utility programs in Chapters 3 and 4.

To sum up what you've done so far: first you selected something (the System Tools icon), then you chose a command (Open). You'll follow this same pattern whenever you work with your Macintosh II: *select* some information, then *choose* an action for it.

There are four icons in the System Tools window; they represent **folders** and an application that are on the *System Tools* disk:

- The System Folder holds the **system software** the Macintosh II needs to operate.
- The Utilities Folder contains special **utility programs** you'll use later, after you've worked with your system for a while.
- The **Update Folder** contains documents that give you late-breaking information about your computer or software.
- TeachText** is the application you use to read the documents in the Update Folder.

You'll learn more about the Update Folder and TeachText as you go through this tutorial.

- ❖ *Other utilities:* Your Macintosh II comes with lots of utilities; some are included on a separate utilities disk and are explained in the *Macintosh System Utilities User's Guide*.

Manipulating windows

Just as you can arrange icons on the desktop to suit you, you can also arrange windows to your liking.

Changing the size of a window

When you're working on a document on your desktop, it's great to have a wide-open window so you can really see what's there. But small windows also have advantages. You can move small windows around on your desktop to see the contents of more than one window at a time. Large or small, to change a window's size, you use the size box in the bottom-right corner of the window.

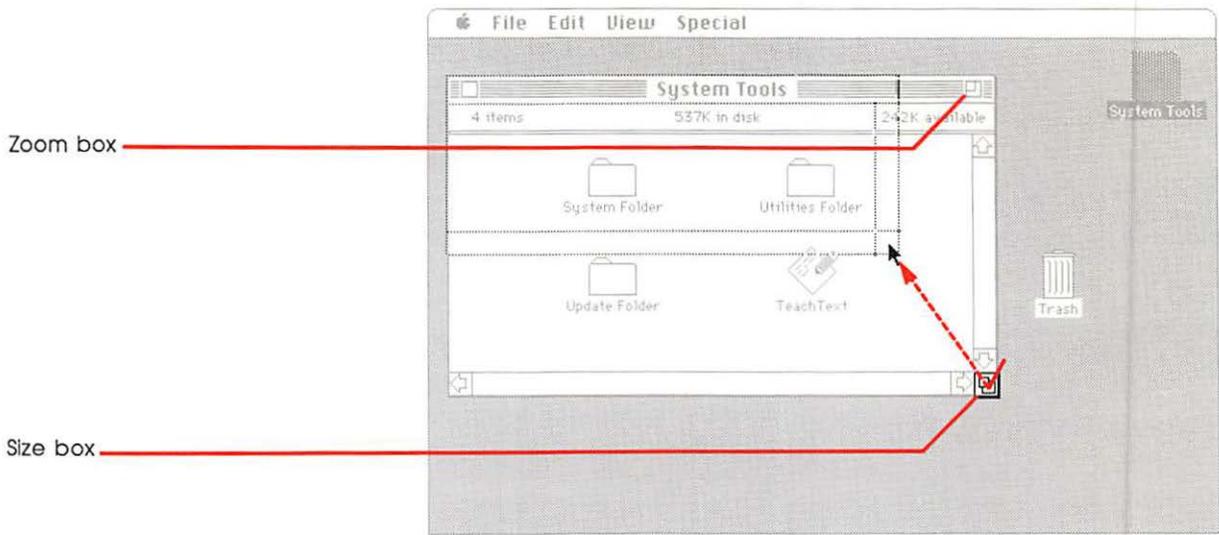


Figure 2-12
Using the size box

- 1. Position the pointer on the size box, and drag it up and to the left.**

As you drag, a dotted outline follows. The farther to the left you drag, the narrower the outline becomes; the farther upward you drag, the shorter it becomes. When the outline is as small as you can make it, it stops moving. When you release the mouse button, the window changes size.

The contents of the window don't change at all when you change a window's size. The only thing that changes is how much you can see.

- 2. Position the pointer on the zoom box and click.**

The window zooms out to nearly fill the screen.

- 3. Click the zoom box again.**

The window returns to its former size. Using the zoom box lets you use every square inch of the screen for what you're currently working on and, with a single click, brings you back to your former view.

Experiment with controlling the size of the System Tools window. Drag the size box down and to the right to make the window bigger again. Then try all different lengths and widths. Use the zoom box and notice how the Macintosh II always shrinks the window back down to whatever size it was before you zoomed it out.

Moving a window

You can move windows on your desktop just as you moved icons. To move a window, drag it by its title bar. Don't, however, drag it by the zoom box or the close box, the small box on the left in the title bar. The close box is just for closing the window.

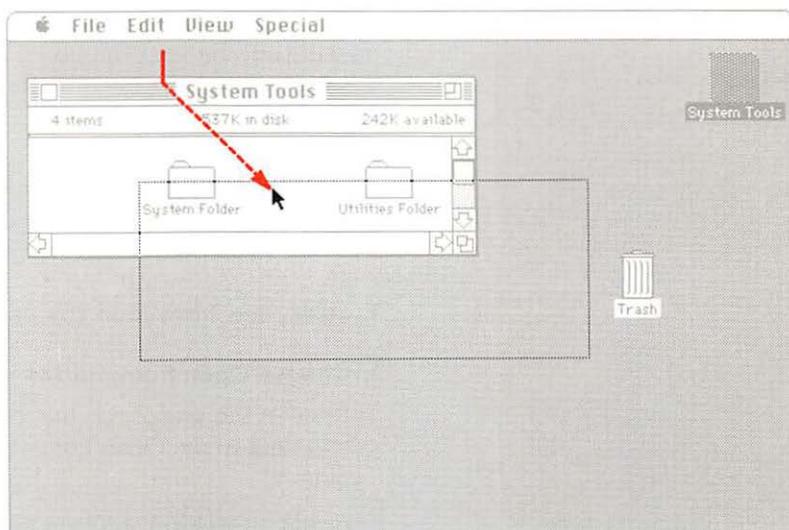


Figure 2-13
Moving a window

1. Position the pointer anywhere on the title bar of the System Tools window (except in the zoom or close box).

2. Drag the System Tools window by pressing and holding down the mouse button while you move the mouse.

Just as when you dragged icons, a dotted outline of the window follows your movements. When you release the mouse button, the window moves to the new location.

If you release the mouse button before you have the window where you want it, just “pick the window up” again. If you change your mind about moving it, cancel the drag by moving the pointer into the menu bar and releasing the mouse button. Just as icons stayed within the limits of the desktop, so do windows. You can't lose them by dragging too far.

Practice your new skills. When you can manipulate the window easily, making it any size and putting it anywhere you want on (or partially off) the desktop, go on to the next activity.

Opening another icon

Use your new window-handling expertise to get the System Tools window out of the way if you need to. Shrink it down and move it around so you can see the Trash icon.

1. Select the Trash icon (by clicking it).

2. Choose Open from the File menu.

Position the pointer on the menu title, press the mouse button and drag to the Open command, and then release the mouse button.

A second window appears on the desktop, probably overlapping the first (depending on where you left the first window and what size you made it).

Making a window active

With Macintosh, you can have many windows on your desktop at a time. When there's more than one window, the Macintosh II needs to know which one you're working on at the moment so that the commands you choose and the text you type end up in the right place. The window you're working on is always in front of all the others. It's called the **active window**, the place you want the next action to happen.

The active window's title bar is highlighted with narrow horizontal lines on either side of the title. The active window also usually has a size box in the bottom-right corner and scroll bars on the right side and on the bottom.

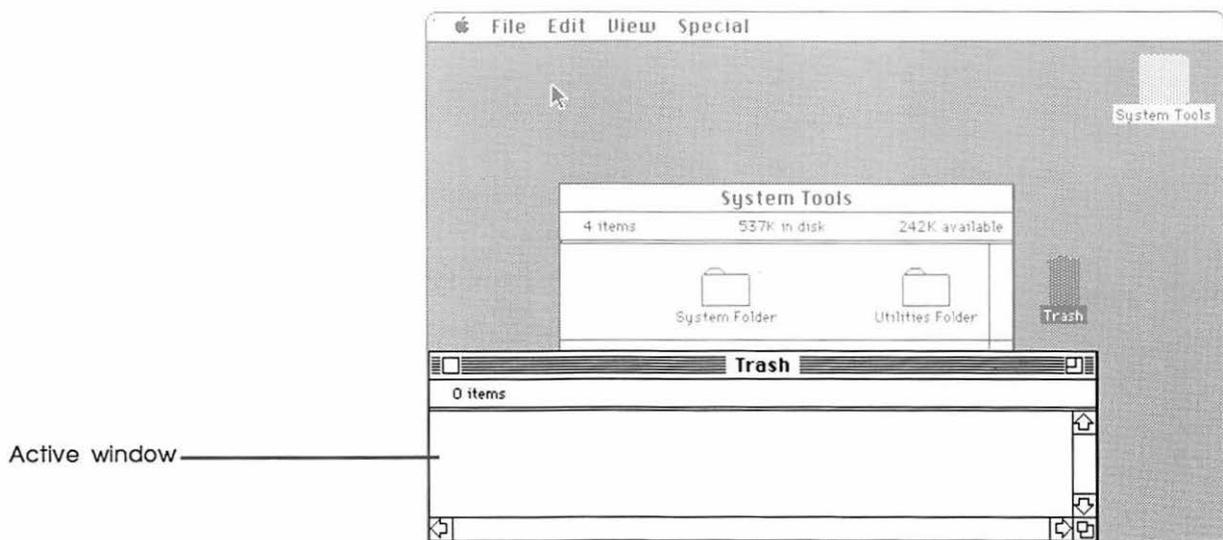


Figure 2-14
Overlapping windows

When you opened the Trash icon, it automatically became the active, frontmost window—the window you're working in. The System Tools window is also open on the desktop, but it's no longer the active window. To work in the System Tools window again, you make it active by clicking anywhere inside it.

If you left the System Tools window small before you opened the Trash window, it may be completely hidden by the Trash window now. You know how to move windows and change their size, so if you can't see the System Tools window, move the Trash window or change its size until you can see the System Tools window again. It doesn't have to be completely visible. As long as you can see part of it, you can make it active.

1. Click in the System Tools window.

The window is brought to the front of the desktop. Its title bar is highlighted, and scroll bars and a size box appear to show it's the active window. Whenever you want to work in a window that isn't already active, you first make it active by clicking in it.

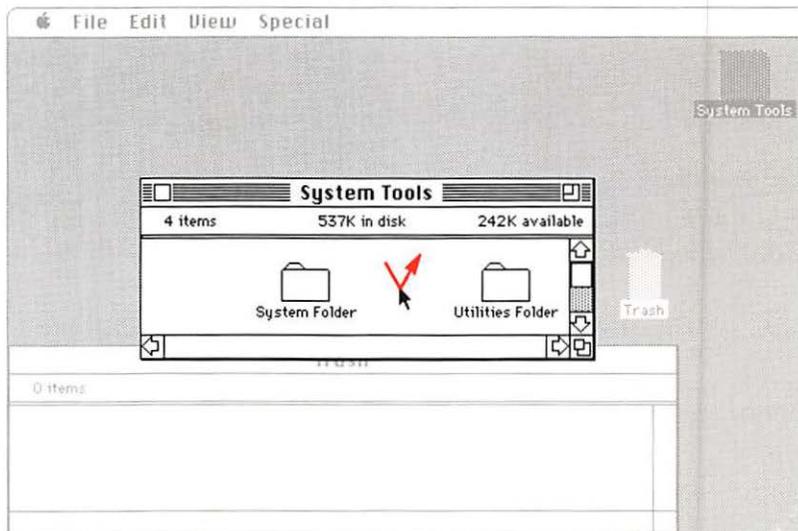


Figure 2-15
Making a window active

Your desktop might not look exactly like the one here. Your Macintosh II does exactly what you tell it to do; the size and position of your windows are up to you.

2. Click in the Trash window.

Now it moves in front of the System Tools window again.

Experiment with arranging your desktop—making each window active in turn, changing its size, and moving it.

- ❖ *Hint:* Sometimes you need to move a window in order to see its size box. And you sometimes need to change a window's size, or move it, to see a window it's covering.

Opening other icons

You can open icons in a **directory window**, such as the System Tools window, just as you opened icons on the desktop. You know how to open an icon by selecting it and choosing Open from the File menu. There's a shortcut: you can do the same thing with a technique called **double-clicking**. Try it to open the System Folder in the System Tools window. (If necessary, first make the Trash window smaller; then make the System Tools window active and large enough that the System Folder icon is visible.)

1. Position the pointer on the System Folder, and quickly press and release the mouse button *twice*.

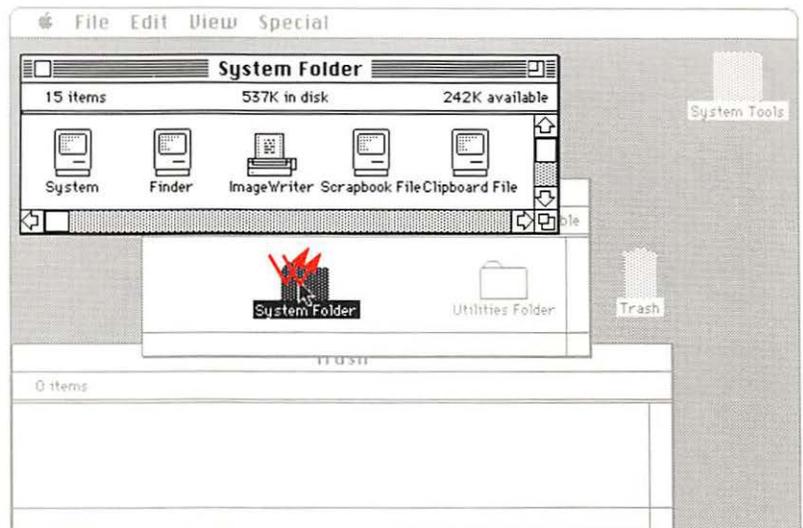


Figure 2-16
Opening an icon in a window

Inside the System Folder are icons that represent system files; these contain information the Macintosh II needs.

If the System Folder window doesn't appear when you double-click, shorten the interval between your clicks. That way the Macintosh II will be able to interpret your actions as a double-click, and not just as separate *single* clicks. Now you have two ways to open icons.

See "Using the Hard Disk Installer" in Appendix A and "Using the Installer" in Chapter 3 for more information on how to use these utility programs.

2. Open the Utilities Folder, either by double-clicking it or by selecting it and choosing Open from the File menu.

If necessary, first move the System Folder window. The Utilities Folder contains icons that represent utility programs—system tools you'll use later to set up your internal hard disk (if your system includes that option) and to install printers and Macintosh II system software on other disks.

Closing a window

You can have as many as 12 windows open on your desktop, but to keep things tidy, you might want to **close** some when you're finished working on them, and open them again when you need them.

1. Make the Trash window active by clicking in it.
2. Choose Close from the File menu.

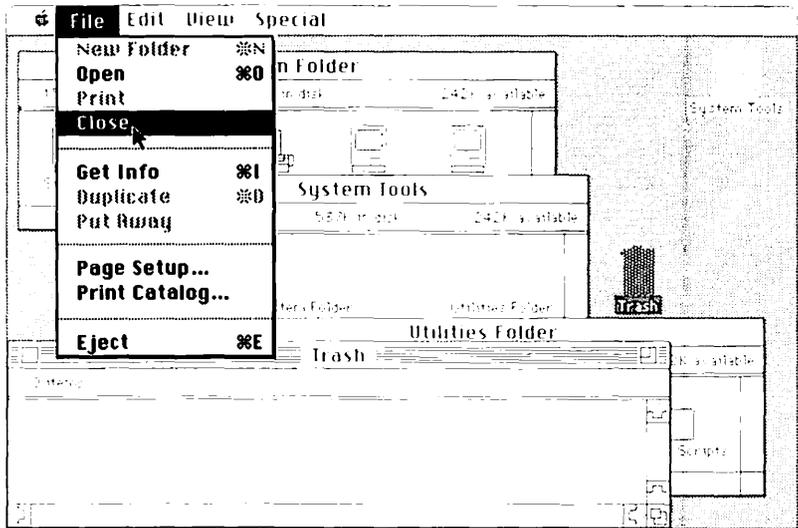


Figure 2-17
Choosing Close

The window collapses back to an icon. Whenever you choose Close from the File menu, the frontmost, active window is closed, and the next window behind it becomes active.

Now close the Utilities Folder window by using another shortcut. The close box in the title bar lets you close an active window with a single click.

3. Make the Utilities Folder window active if it's not already.

4. Click the close box.

It's the same as choosing Close from the File menu.

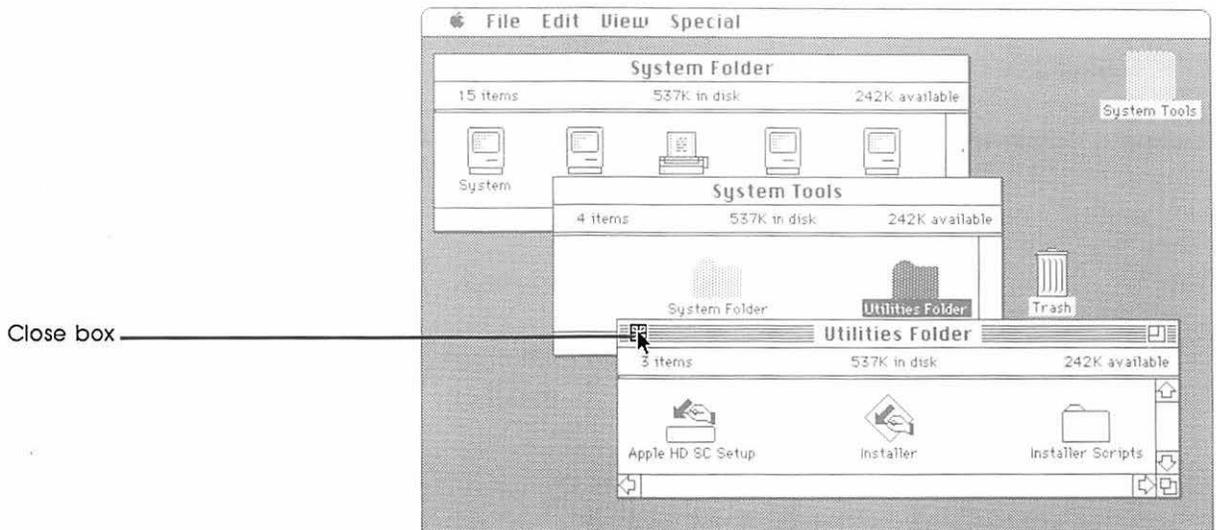


Figure 2-18
Using the close box

Using the scroll bars to see more

Windows on the desktop often can't show you the entire directory or document all at once, even when you've made the window very large. There's often more information than can fit in the window at one time.

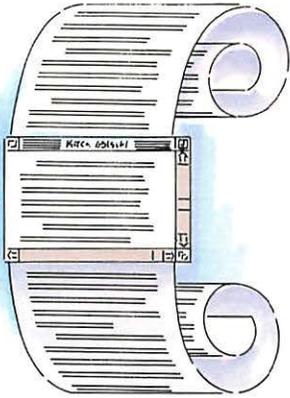


Figure 2-19
Scrolling a document

The scroll bars in an active window let you move what's in the window so you can see more of it.

1. Make the System Folder window active if it isn't already.
2. Make the System Folder window small enough that some of the icons are hidden from view.
3. Click the scroll arrow that points down.

More icons come into view. You can also scroll up, right, or left. You can also scroll by dragging the box in the scroll bar.

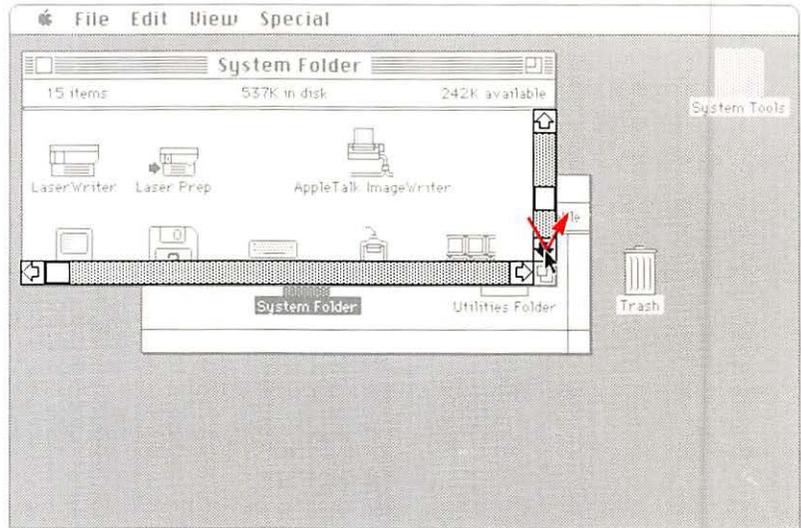


Figure 2-20
Using scroll arrows

If you want to know more about scroll bars, see “Scrolling” in Chapter 3.

4. Drag the box in the vertical scroll bar to the top of the scroll bar and release the mouse button.

Nothing in the window moves until you release the mouse button.

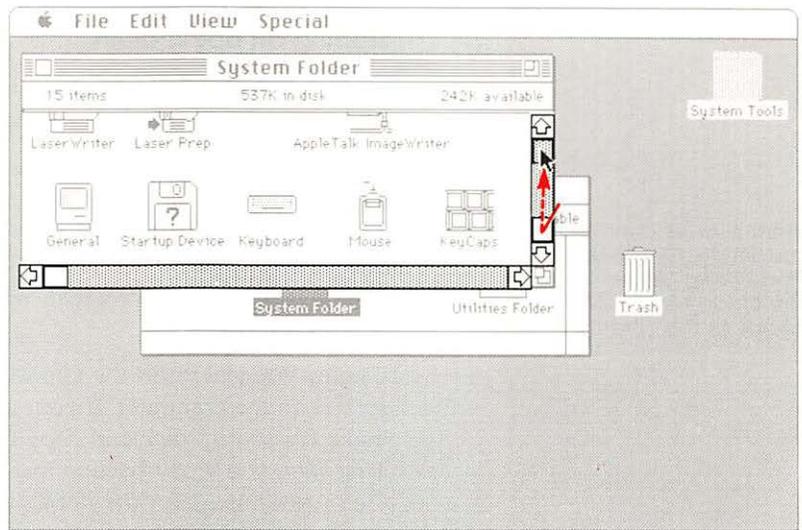


Figure 2-21
Using the scroll box

Using applications

You might be wondering what all of this has to do with your work—the documents you’ll create with Macintosh applications. You’ll use the skills you just learned in nearly all applications. You usually select information and choose commands in consistent ways. And windows are always opened and closed, changed in size, moved, and made active by using the same techniques you just learned.

In addition to helping you manage your documents—copying them, renaming them, removing them, for example—the Finder lets you start applications and get documents, and then put your documents away when you're finished working on them.

Starting an application

In this section, you'll learn how to start up an application and use that application to create a new document.

Most of the applications you'll use with the Macintosh II come on their own disks. The application you'll use in the next few sections—TeachText—is already on the *System Tools* disk, the disk you used to start this tutorial. (You'll also find TeachText on the *Utilities* disk.) Like the *System Tools* disk, most application disks can be **startup disks**.

Startup disks contain the system files—at least Finder and System—that the Open Macintosh needs to start itself.

Usually you just insert the application disk into the disk drive and switch on the computer. If your system includes a hard disk, you can make it a startup disk and copy the application onto the hard disk. That way, you won't have to insert any disk to start up the computer. (See Appendix A for the details *after* you finish this tutorial.)

❖ *Copy-protected disks:* Some application manufacturers **copy protect** their disks. That means you can't make another copy of the disk. But most copy-protected applications can be used with a hard disk. The application's manual should explain how.

1. Close the System Folder window if you haven't done so already.

2. Make the System Tools window larger, if necessary, to see the TeachText icon.

Use the technique you learned earlier for changing the size of a window.

3. Open the TeachText icon, either by double-clicking it or by selecting it and choosing Open from the File menu.

You see the TeachText screen—an empty window ready for you to type in some text.

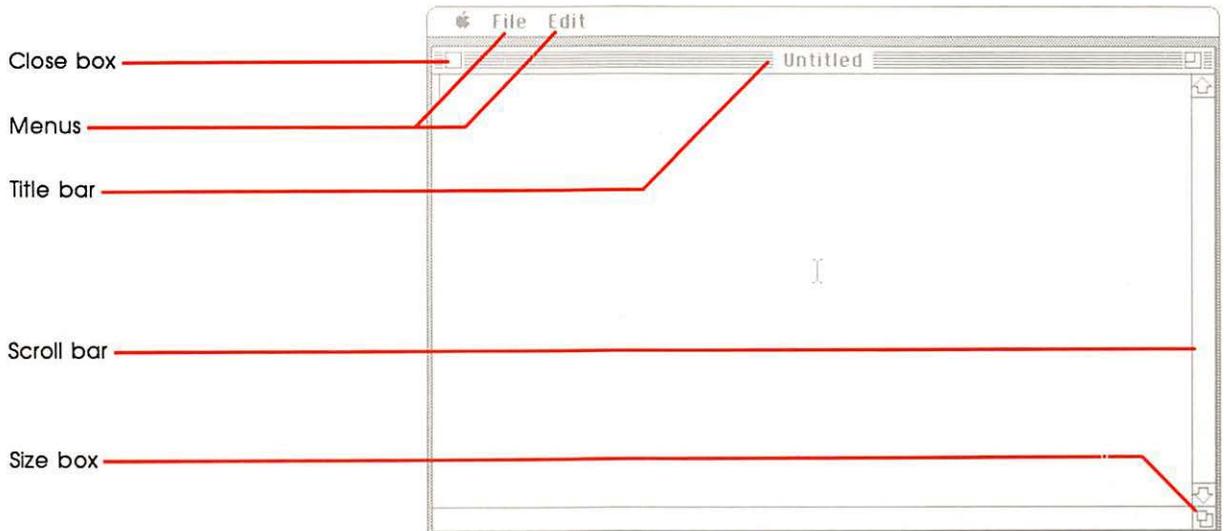


Figure 2-22
TeachText screen

For now, you'll use TeachText as a sample application to learn how to use applications. You'll learn about other ways to use TeachText later in this tutorial.

Like most applications, TeachText has its own menus, title bar, close box, size box, and scroll bar. Also like most applications, TeachText always opens with an "Untitled" window. You create whatever you want with the application and then name the document when you save it.

Creating a new document

Now that you've started TeachText, you need to use the keyboard to create a new document. The Macintosh II keyboard, similar to a typewriter keyboard is used mainly for typing text and numbers. On the screen, a blinking vertical bar marks the **insertion point** where text you type will be inserted. If you make a mistake, use the Delete key to erase and then start typing again. You don't have to use the Return key to start a new line. The application starts new lines for you.

■ **Use the keyboard to type this sample paragraph:**

The following is my best guess for a production schedule. Please keep in mind that it is subject to change once reality gets underway. Let me know if I'm cheating anyone of the time he or she needs, or if I'm not allowing for black holes.

Most applications that let you enter and edit text—such as word processing applications—start the new lines for you. This feature is **word wraparound**, so called because if a word is too long to fit at the end of a line, the word wraps around to the next one automatically.

You'll have a chance later to learn more about adding and editing text, but now you need to give the document a name and save it on the disk.

Saving your work on a disk

With most applications, the work you do at your keyboard is stored as you do it in a special area of the computer's memory, where it stays *temporarily* until you save it on a disk, start another application, or turn off your computer. **Saving** the information on a disk makes a permanent record of what you've done—a file you can duplicate, modify, print, and so on. If you don't save your work on a disk but do change applications or turn off the computer, any work that was in the computer's memory will simply be erased; you will not have a permanent record of what you did. Sometimes that's appropriate, but be sure you understand the implications of saving or not saving your work.

1. Choose Save from the File menu.

A **dialog box** appears. Whenever your Macintosh II needs more information from you, it presents a dialog box with buttons to click, such as OK or Cancel, and sometimes with a place for you to type additional information. Dialog boxes can also alert you if you're about to do something that could cause you to lose information; they give you a chance to cancel what you were about to do. When the messages are alerting you, they're often accompanied by an Alert Sound.

The dialog box that appears now gives you the chance to save your document on any disk. This time, you'll save your document directly on the *System Tools* disk, without placing it inside a folder. (For now, just ignore the list of files in the dialog box window.)

There's a text box for you to type the name of your document.

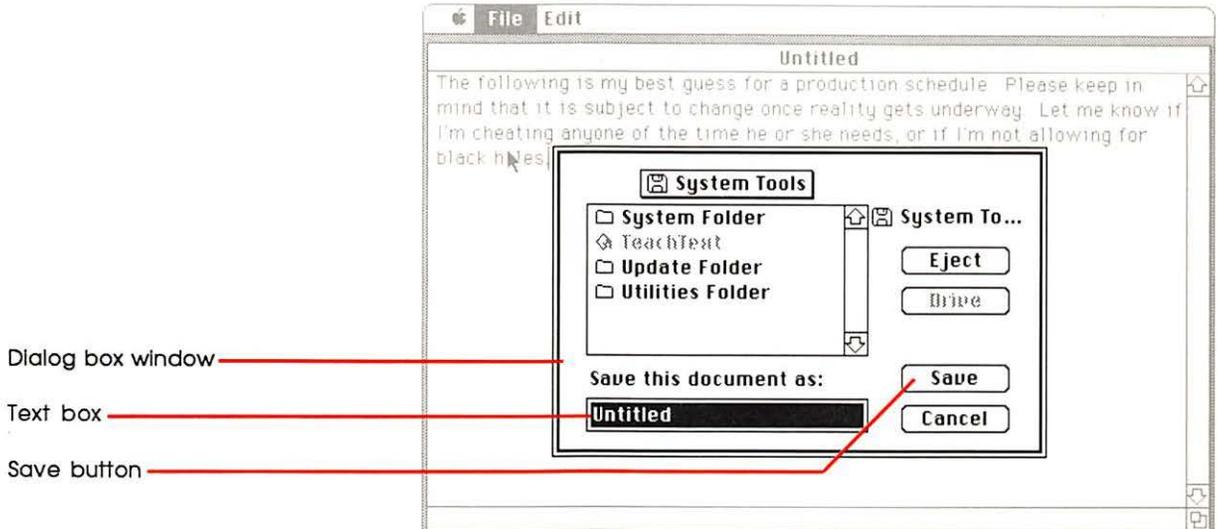


Figure 2-23
A dialog box

2. Type **F**irst Memo.

3. Click the **S**ave button.

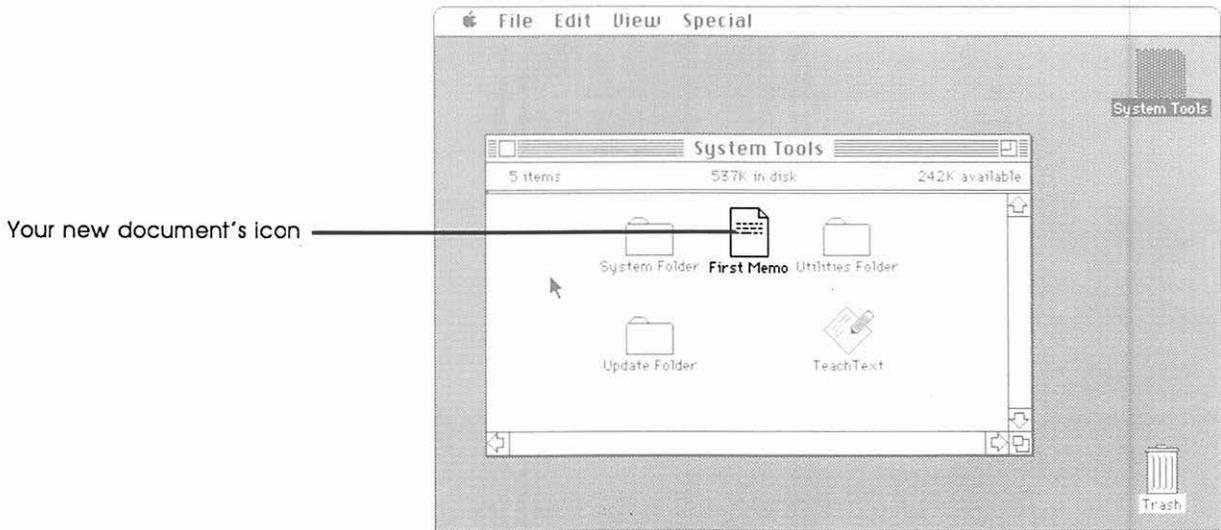
Your document is saved on the disk just as it appears on the screen. After the Macintosh II saves the document, it returns you to the document window. Now the title bar shows the name you just gave to the document.

Once you've given your document a name, if you continue working on it, make a habit of choosing the Save command from the File menu about every 15 minutes or so. (It's a good thing to do while you're waiting for your next inspiration.) That way, if your Macintosh II gets switched off or there's a power failure, you'll never lose more than 15 minutes' worth of work.

With your work saved on the disk, you can quit TeachText and return to the Finder.

4. Choose Quit from the File menu.

The desktop appears again. But now the icon of your new document appears in the System Tools window.



Your new document's icon

Figure 2-24
New document icon

This new icon represents the document you created, and below it is the name you gave it. All documents you create have a specific icon related to the application you used to create them. This helps you identify which application you used to create each of your documents. When you work on this document again, you'll select and open its icon just like any other icon.

Editing text

Now you know how to create and save a document. In this section, you'll use your first Macintosh memo to learn how to make changes to what you've just written.

1. Open the First Memo Icon.

Opening the document you want to work on also starts the application you need to do the work. You don't have to open the application in order to open the document; once a document has been saved, you can open it directly from the Finder (and it will automatically open the application).

The TeachText application starts, and the document you saved earlier reappears, just as it was when you saved it.

2. Select a new insertion point by clicking in front of the word *subject*.

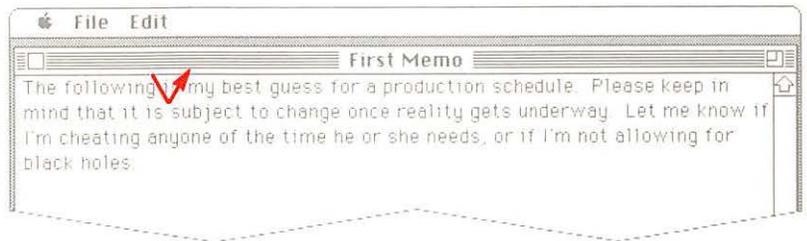


Figure 2-25
TeachText document

You're moving the insertion point to where you want to add text.

3. Type *not*.

What you type appears at the insertion point. (Don't forget to add a space after *not*.) You probably noticed that when you added text, the words on the other lines rewrapped to accommodate the extra word.

Now you'll select some text and move it to another part of the document.

4. Select the entire second sentence by positioning the pointer after the period that follows the word *schedule* and dragging to the end of the sentence.

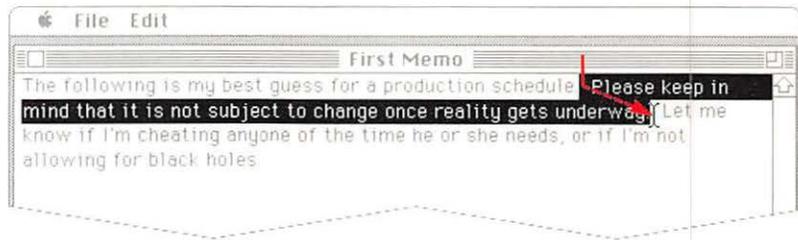


Figure 2-26
Selecting text

First drag down, and then drag to the right. (Be sure you include the period at the end of the sentence.) If you move the pointer off the sentence, you might select more than just the sentence. If this happens, just start dragging over again; nothing unexpected can happen while you're just selecting text.

When you drag through text, you're selecting information to work on, as you did when you selected icons. You selected icons by clicking them; you select text by dragging across it or down through lines of text.

5. Choose **Cut** from the **Edit** menu.

The sentence vanishes. Whenever you choose **Cut** or **Copy** from the **Edit** menu, whatever you cut or copy is put in a holding place called the **Clipboard**, ready for you to **paste** to a different location if you want. (You use **Copy** when you just want to copy text, rather than move it somewhere else. **Copy** works just like **Cut**, except it leaves the text you selected in the document.)

6. Select a new insertion point by clicking after the period that follows the word *holes*.

See "Editing Text" in Chapter 3 for a summary of how to enter and edit text.

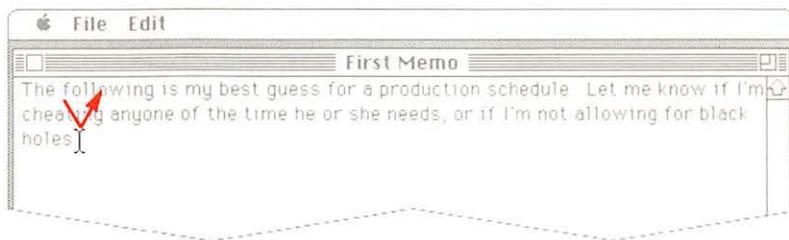


Figure 2-27
Moving the insertion point

7. Choose Paste from the Edit menu.

The contents of the Clipboard—in this case, the sentence you just cut—are pasted into the location you selected.

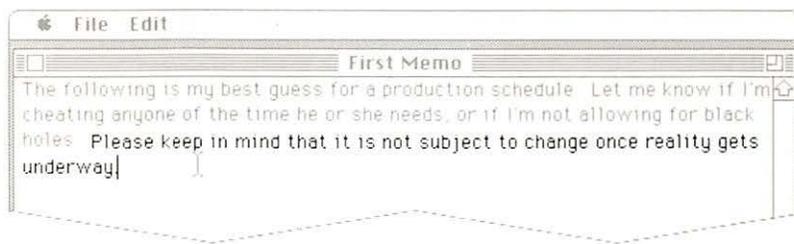


Figure 2-28
Pasting in text

The contents stay on the Clipboard until you choose Cut or Copy again, so you can continue to paste them. You can paste within one document or between two documents created with the same application. The contents also stay on the Clipboard when you leave an application, so you can cut and paste between applications.

For example, you can draw a picture with MacPaint™ and use it to jazz up a report you create with MacWrite™. Or borrow a passage from a MacWrite document and paste it into an overhead slide you're preparing with MacDraw™.

Whether you're using the Finder or another application, you can usually view the contents of the Clipboard. (Some applications provide a menu selection for this.)

Saving a document with a different name

Now that you've edited your original memo, you need to save your revision. When you're finished making changes to a document, you have two choices for saving. You can choose Save from the File menu, and the revised document is saved with the same name you gave the original. That's fine if you don't want to keep a separate copy of the original document; but you may want to save the revision and keep the original, too. (For example, you may have a form letter that you keep as an original; you can personalize the letter and save different versions with new names.) For that you choose Save As from the File menu.

1. Choose Save As from the File menu.

A dialog box appears. (It's the same one you saw when you named your first memo.) The name of the original document appears highlighted in the text box.

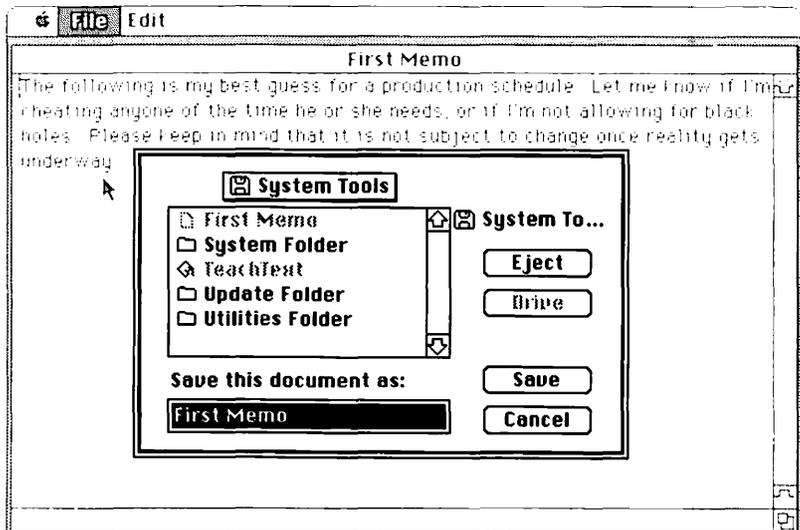


Figure 2-29
Save As dialog box

You can edit the names of documents just as you would other text. (If you want, you can just type a new name for the document rather than edit the old one.)

2. Position the pointer at the beginning of the word *First* and drag to the end of the word to select it.
3. Type **Second**.

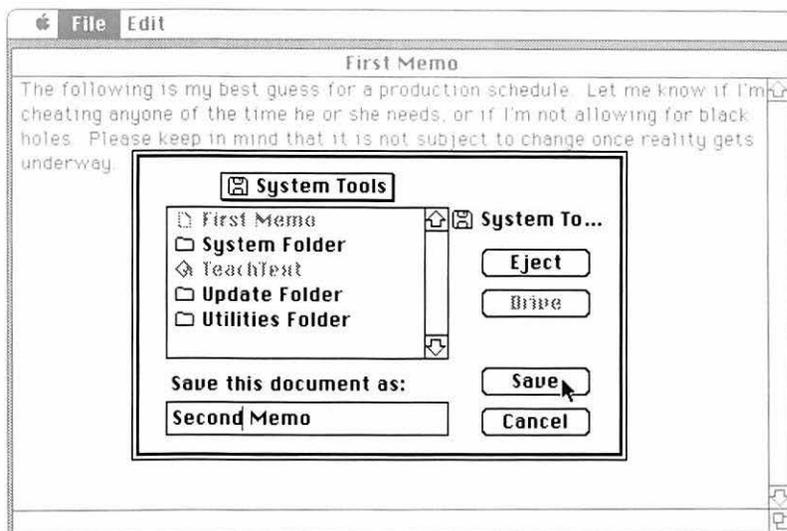


Figure 2-30
Changing a document's name

4. Click the **Save** button.

You've saved the revised memo with a new name, and you return to the document you just renamed. Notice that the title bar changes again to show the name you just gave the revised memo.

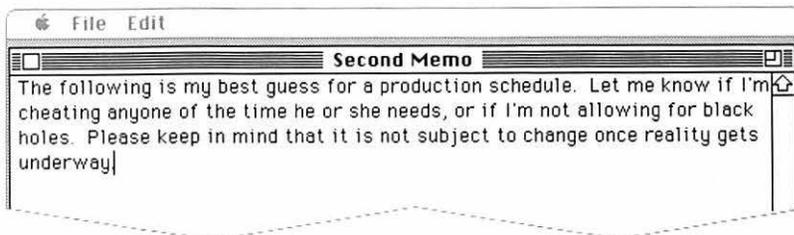


Figure 2-31
Document with its new title

5. Choose Quit from the File menu.

You return to the desktop, where you see an icon for the revised memo with the name you just gave it.

Organizing documents

You've seen how to use the Finder to start an application and open a document, save it, and quit the application to return to the Finder. The Finder also helps you organize your documents—group them together with related documents, duplicate them, rename them, copy them to another disk, or throw them away.

Using folders

You'll soon accumulate many documents on the disks you'll be using. At some point, you might want to arrange your desktop so that related documents are grouped together. Macintosh folders work just like ordinary file folders to help you organize your documents. For instance, you can keep all your monthly status reports together in one folder. Or you can group all your MacPaint illustrations together, or keep each one with the report it illustrates. Macintosh lets you organize your documents however you want them.

You already have three folders on the *System Tools* disk. To organize your own work, you have an endless supply of empty folders.

1. Start a new folder by choosing New Folder from the File menu.

A folder named *Empty Folder* appears in the System Tools window.

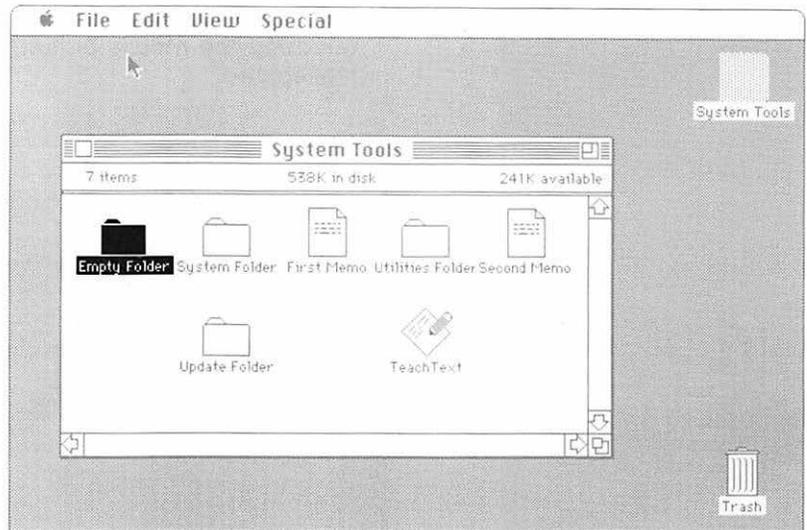


Figure 2-32
Starting a new folder

The empty folder is automatically selected when you create it, so you can rename it just by typing. (If you can't see the entire icon, you can make the window larger or move the icon.)

If you already have a folder named *Empty Folder* on the desktop, the folder you create will be named *Copy of Empty Folder*.

2. Type Memos Folder and press Return.

Here you press Return to confirm your new folder name. *Empty Folder* is renamed *Memos Folder*.

Usually you have to click icons you want to rename. This prevents inadvertently renaming selected icons when you don't really want to. But you don't have to click newly created folders to rename them.

You can also select, cut, and paste the icon names, just as you would other text. Usually, however, when you want to rename an icon, it's easier just to select the icon and replace the old name by typing a new one.

3. Drag the two document icons to the Memos Folder icon, releasing the mouse button when the Memos Folder is highlighted.

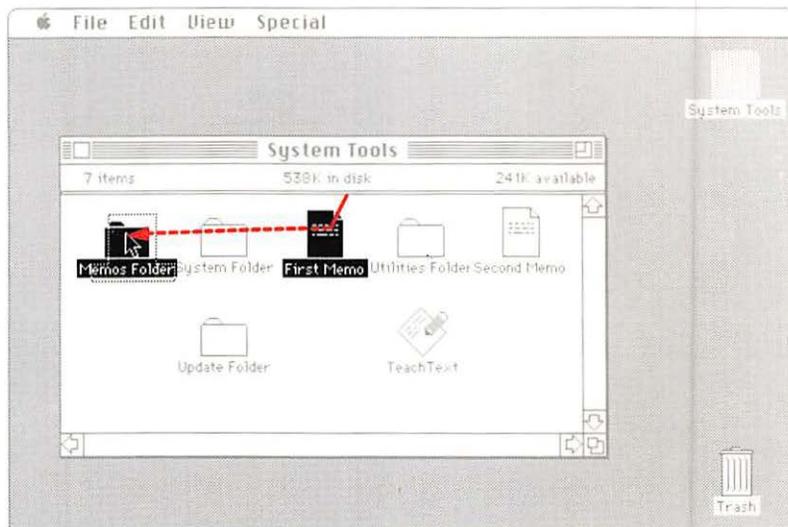


Figure 2-33
Dragging a document to a folder

When you cover the folder icon with the outline of each document icon, the folder icon is highlighted. You “drop” the document icons into the folder by releasing the mouse button. The folder icon is no longer highlighted, and your document icons disappear into the folder.

4. **Open the Memos Folder icon.**
You see the icons that represent your two documents.

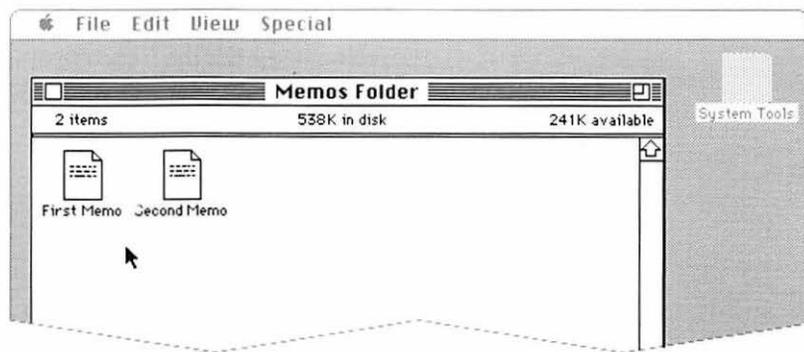


Figure 2-34
Memos Folder opened

When you drag a document icon to a folder, you file the document there. You can also drag an icon into an open folder window; the result is the same.

Nesting folders

Large-capacity disks—especially hard disks—can hold hundreds of documents and folders. At some point, you may find it helpful to place folders *within* other folders to keep your work organized. For example, you may want to keep an application and all the documents you created with it in one folder. (You can put applications in folders, too.)

1. **Close the Memos Folder window if it's not already closed.**
2. **Choose New Folder from the File menu.**
You see an empty folder in the System Tools window.
3. **Name the new folder by typing `TeachText Folder` and pressing Return.**
4. **Put the Memos Folder icon and the TeachText icon into the TeachText Folder.**
Use the technique you just learned for placing documents in folders.

5. Open the TeachText Folder.

You see both the TeachText application icon and the Memos Folder in the TeachText Folder window.

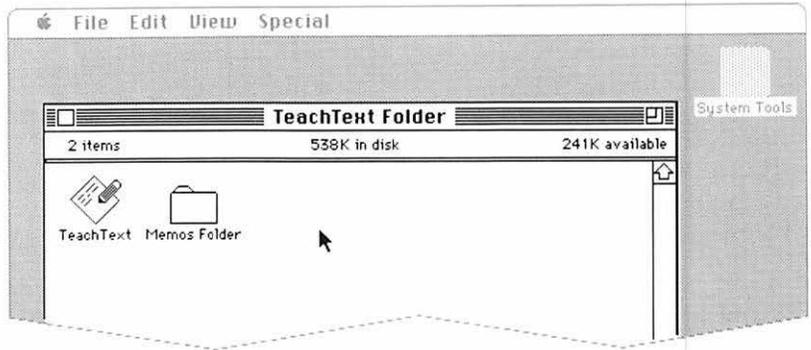


Figure 2-35
TeachText Folder opened

6. Open the Memos Folder.

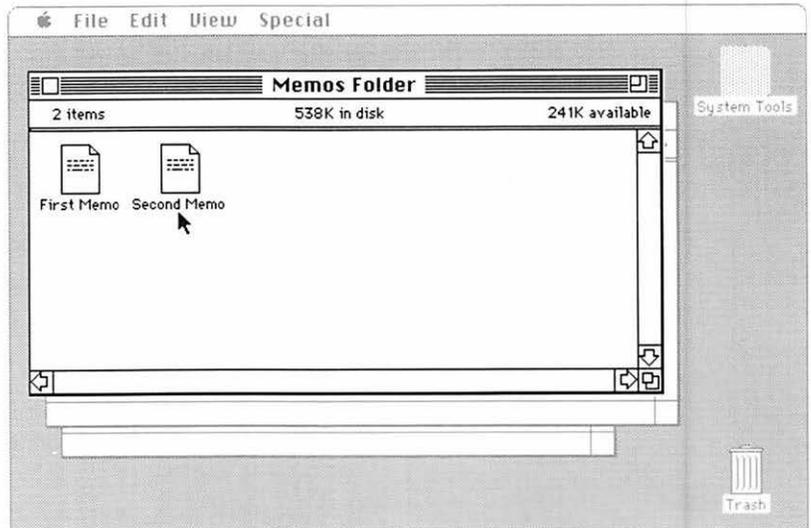


Figure 2-36
Layers of windows

Notice that each folder has its own window. The active window is the folder you just opened. (But you can still change the active window by clicking anywhere in another window.)

7. Close the Memos Folder and then the TeachText Folder.

As you close each folder's window, it collapses back into its icon in the previous window, until you reach the System Tools window.

Placing folders within folders is called **nesting**. You can continue nesting folders as deep as you want, but most people find that retrieving documents and applications nested more than four levels becomes tedious. Fortunately, you won't misplace them; you can find any application, document, or folder by using Find File, a desk accessory designed to help you keep track of the contents of large-capacity disks. (See "Using Find File" in Chapter 3 and "Find File" in Chapter 4.)

When you nest folders, you create a hierarchy. When all of the folders on a disk are closed and the disk's directory window is open, you're looking at the top level of the hierarchy. When you open a folder on the top level, its directory window shows you the second level of the hierarchy.

8. Open the TeachText Folder.

You see the second level.

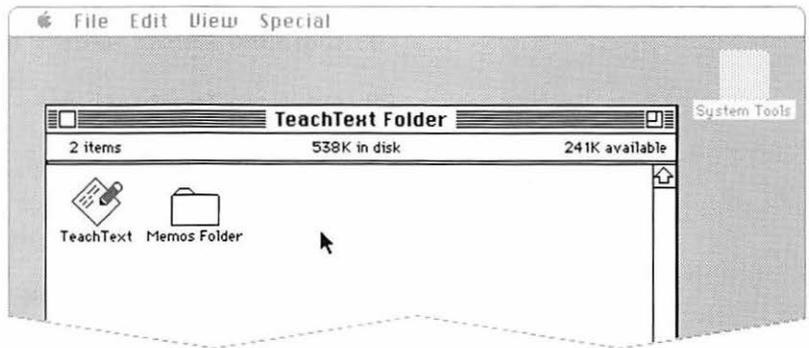


Figure 2-37
Second level of the file hierarchy

If there's a folder in that second level—in this case, the Memos Folder—when you open it, you see the third level, and so on.

9. Open the Memos Folder.

You see the third level of the hierarchy—the two memos.

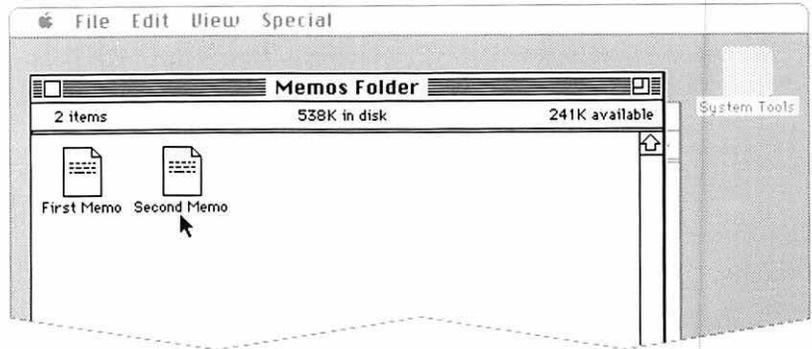


Figure 2-38
Third level of the file hierarchy

Working in the hierarchical file system

When you're working with an application, moving around in the **hierarchical file system** would be tedious (and confusing) if you had to quit the application and use the Finder to go back and forth through all those folder windows whenever you wanted to open a new document. Fortunately, you can open and save documents within an application.

1. **Close the Memos Folder if it's not already closed.**
2. **Open the TeachText icon.**
3. **Close the Untitled window.**

Either click the close box or choose Close from the File menu. You don't want to start a new document right now.

4. **Choose Open from the File menu.**

You see the following dialog box.

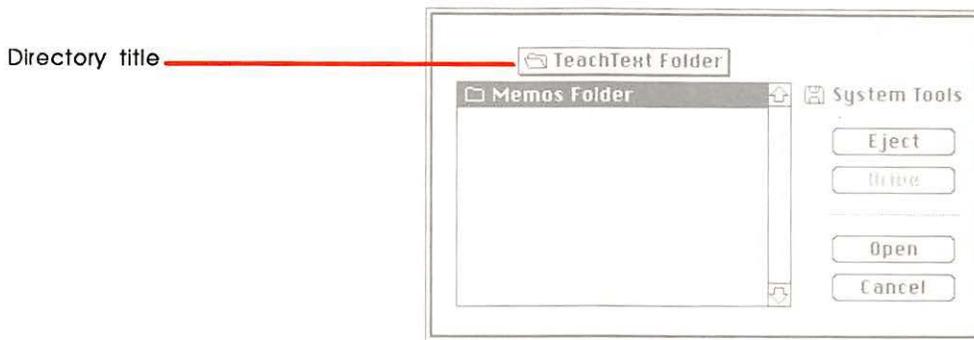


Figure 2-39
Dialog box for the Open command

A directory title shows you the name of the folder you're presently working in—in this case, the TeachText Folder. The box beneath it shows you all the other items in the TeachText Folder you can open with this application—in this case, only the Memos Folder.

5. To open the Memos Folder, click the Open button.

As you open the Memos Folder, you move down through the hierarchy. The directory title changes to remind you where you are in the hierarchy, and the box shows you what's on the level you just moved to—in this case, the two documents in the Memos Folder. The selected document is the one that will open when you click Open. If you want to open the other document, click anywhere on the other document's name to select it, and then click Open.

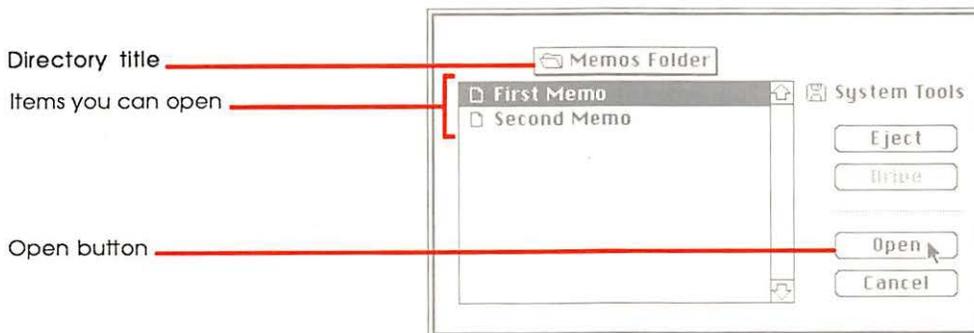


Figure 2-40
The next level in the hierarchy

If you want to open a document that's located somewhere else in the hierarchy, you can move to another level by using the pull-down list below the directory title.

6. **Position the pointer on the directory title, and press and hold down the mouse button.**

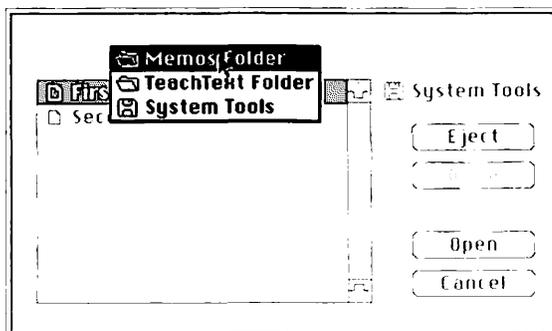


Figure 2-41
Directory hierarchy

This pull-down list is similar to the menus you used earlier, except rather than showing commands, this shows the path through the hierarchy back to the top level. (The top level is always the last one on the list.)

7. **Choose the TeachText Folder.**

You choose the level you want by dragging down the list to get to it.

The directory title changes again, and you see the contents of the TeachText Folder in the box—the Memo's Folder.

8. **Pull down the list below the directory title again and choose System Tools.**

The directory title changes again, and you see the folders on the top level of the hierarchy—in this case, the System Folder, the TeachText Folder, the Utilities Folder, and the Update Folder.

So far, all you've seen in the window are folders and the documents you can open with TeachText. When you open a document from within an application, the dialog box shows you only folders and documents that you can open with that application. If you open a folder and you don't see anything listed in the window, that's because that folder doesn't contain anything you can open with the application you're using.

You've been moving through the hierarchy on the *System Tools* disk. For now, you'll work only on this disk, but if you wanted to open a document on another disk, you could see what's on the other disk by clicking the Drive button on the right side of the dialog box. (If you don't have a disk in another drive, the Drive button appears dimmed.) When you click the Drive button, you see the name of the disk change in the top-right corner of the dialog box, and you see the folders and documents on the top level of that disk in the window.

If you have a one-drive system, or if you just want to switch disks in a disk drive, you can click the Eject button. This ejects the disk from the drive and lets you insert another disk. The new disk's name appears in the top-right corner of the dialog box, along with its folders and documents in the window.

Now open one of the memos.

9. Open the TeachText Folder.

10. Open the Memos Folder.

11. Open either of the two memo documents.

You use a similar technique in moving through the hierarchy when you save a document.

12. Choose Save As from the File menu.

You don't need to make any changes to the document. Right now, you just want to save a version of the document with a different name.

You see the familiar Save/Save As dialog box.

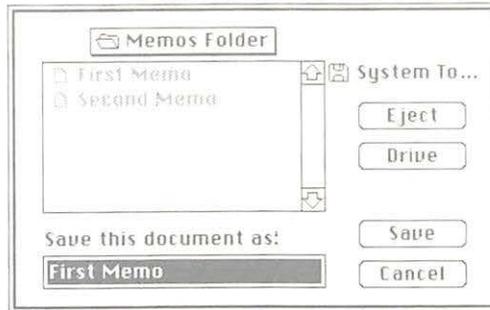


Figure 2-42
Save As dialog box

13. Type Third Memo.

This time, before clicking the Save button, you'll choose a different level of the hierarchy to save the document on.

14. Pull down the list below the directory title and choose the TeachText Folder.

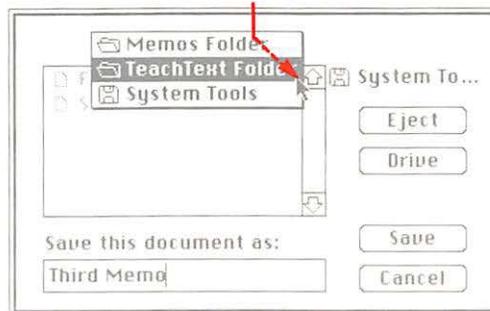


Figure 2-43
Choosing TeachText Folder

You see the contents of the TeachText Folder—the TeachText application and the Memos Folder. The directory title changes again to show you where you are in the hierarchy.

When you're *saving* a document, you see in the window all the applications, folders, and documents on the same level. Seeing everything gives you a chance to make sure you're not saving this document with the same name as something else that's already there. That way, you won't inadvertently lose anything by using the same name.

15. Click the Save button.

You saved the new document in the TeachText Folder.

16. Choose Save As from the File menu.

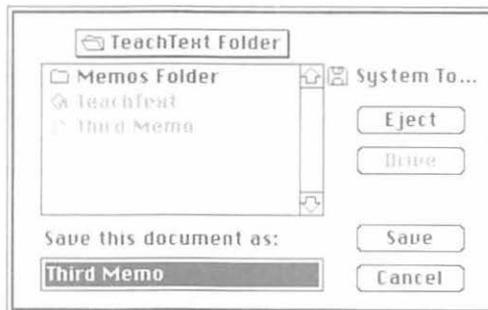


Figure 2-44
Changing a document's name

Again, you see the dialog box. This time, you see the name of the document you just saved listed in the window along with the other items in the TeachText Folder. Now you have memos saved at two different levels of the hierarchy—one at the second level in the TeachText Folder, and two at the third level in the Memos Folder.

17. Because you aren't going to save anything, click the Cancel button.

18. Choose Close from the File menu.

You're finished with this document.

Selecting more than one icon

You've learned a lot about organizing your work, but there's more. So far, whatever action you've taken has been on one document at a time. You can also take most actions on several documents at once. For example, you can move several documents from one place to another, discard them in the Trash, or find out information about them. One of the ways to select more than one icon is by using the dragging technique.

- 1. Close the TeachText Folder window if it's not already closed.**
(You'll need a window with lots of icons.)
- 2. Open the System Folder.**
- 3. Use the size box or the zoom box to make the window bigger so that you'll have plenty of room.**
- 4. Position the pointer outside one corner of a group of icons in the window, and drag diagonally to the opposite corner of the group.**

As you drag, a dotted rectangle appears around the icons you're selecting. When you release the mouse button, the icons are selected. You can select any group of icons that can be enclosed in a rectangle. Be sure you start dragging outside an icon. If you position the pointer on an icon, you select just that icon.

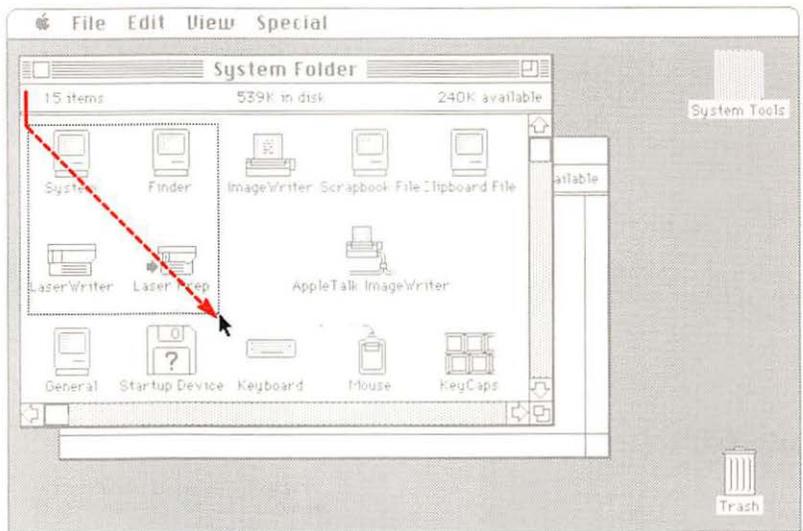


Figure 2-45
Selecting a group of icons

Now you can drag the whole group.

5. Position the pointer on one of the icons, and drag the whole group to another part of the window.

Make sure the pointer is on one of the icons. (It doesn't matter which one.) They keep their arrangement and move "information." The icons stay selected until you click anywhere outside any of them.

You can also choose a command to act on a group of selected icons. For example, you can find out information about an entire group of documents.

6. Choose Get Info from the File menu.

An **information window** appears for each icon that's selected. As each new window appears on the desktop, it overlaps the window that appeared before it.

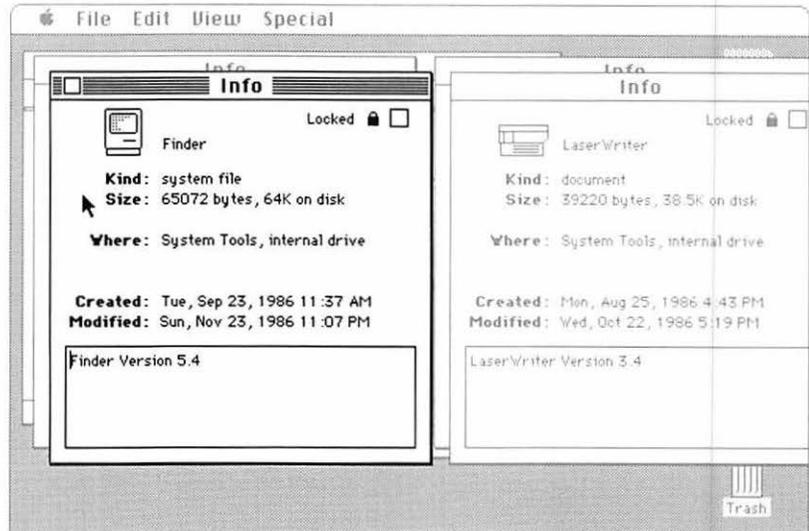


Figure 2-46
Overlapping information windows

You can move these information windows or make them active like any other windows on the desktop, but you can't change their size or scroll through them.

Software manufacturers sometimes use the comment box in the information window to show the software's version number. Applications and system software are often improved and updated, and version numbers are assigned to these updates so you can always see if you're using the most current version. Just select the application's icon, and choose Get Info from the File menu.

7. Close each information window in turn by choosing Close from the File menu or by clicking the close box.

Each time you choose Close or click its close box, the active window closes.

There's another way to select more than one icon. Sometimes the icons you want to select aren't lined up in such a way that you can drag a rectangle around them. If they're scattered about, you can select more than one by **Shift-clicking**.

If any icons are still selected, first click outside any of them before you select one again.

8. Select any icon by clicking it.

9. Hold down the Shift key on the keyboard, and click a second icon.

The second icon can be any icon in the same window. You can even scroll to a different part of the window and Shift-click.

You can continue to select more icons as long as you hold down the Shift key when you click.

Any action you choose now will affect all the selected icons. You can choose a command for them or move them by dragging the whole group.

Changing your view

You can use the Finder's View menu to look at your documents in different arrangements.

1. Choose the By Name command from the View menu.

The contents of the active window are arranged alphabetically by name. You can also view them by date, by size, by kind, or with small icons that give you more space in the directory window.

2. Choose the By Icon command from the View menu.

Now the items in the window are arranged the way they were when you first started the system.

Reading Read Me documents

Earlier in this tutorial, you used TeachText to learn how to start up an application and create, edit, and save documents. But there's another reason TeachText is included on the *System Tools* disk. You can use TeachText to read **Read Me documents**—without having to use a full-feature word processing application.

With TeachText, Apple Computer and other manufacturers can include Read Me documents with new applications and hardware products, or with updated versions of system software, to make sure the information you get is as up-to-date as possible. (It's a lot faster to create a document on a disk than it is to produce an insert for the book!) And some applications and desk accessories may not need a whole manual to teach you how to use them: the document may be all you need to learn how to use the product.

When you get a new application or system software disk and see a Read Me document on the disk, use TeachText to open the document. You can read the document on the screen, or (if you have a printer attached to your Macintosh II) you can print the document so you have a copy of it on paper.

Now you'll use TeachText to read a Read Me document on the *System Tools* disk.

1. **Close the System Folder window if it's not already closed.**
2. **Open the Update Folder.**

You see a Read Me document in the window.

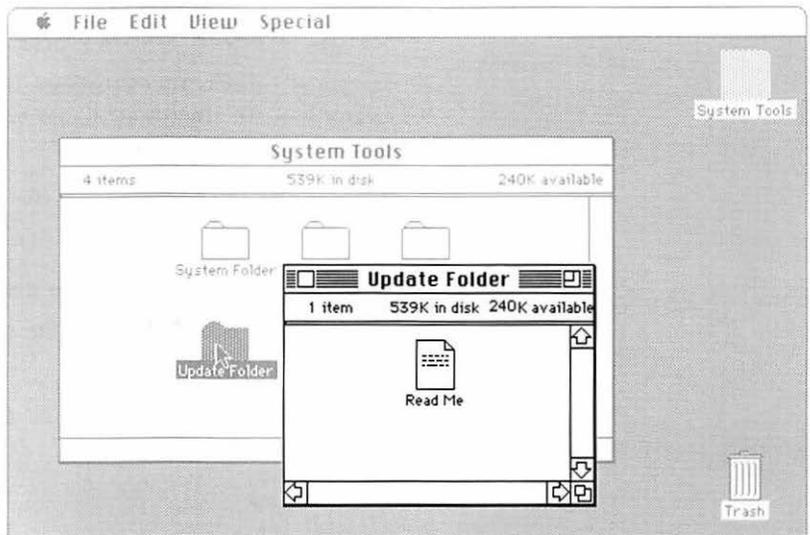


Figure 2-47
Read Me document icon

3. Open the Read Me document.

This Read Me document gives you important information about updating your application disks. You can read it now or come back to it later when you've finished this tutorial.

If you have a printer attached to your computer, you can print a copy of the document. (Wait until you finish this tutorial.) See "Printing" in Chapter 3 for instructions.

4. Close the Read Me document.

5. Choose Quit from the File menu.

6. Close the Update Folder to return to the desktop.

Using a desk accessory

Macintosh **desk accessories**—the Alarm Clock and Calculator, for example—are always available when you're on the Macintosh desktop or in an application.

You choose desk accessories from the Apple menu on the far-left side in the menu bar.

1. Choose Alarm Clock from the Apple menu.

The clock is displayed on the screen.



Figure 2-48
Alarm Clock

2. Click the "lever" on the right side of the clock.

The Alarm Clock expands to display and let you set whatever is highlighted in the bottom panel—the time, date, or alarm.

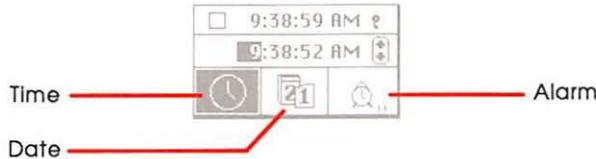


Figure 2-49
Alarm clock settings

See "Using Desk Accessories" in Chapter 3 and "Desk Accessories" in Chapter 4 for descriptions of the other accessories in the Apple menu.

You can click the icon that represents what you want to set, and then click the digits you want to change. Click the up arrow to advance the numbers, or click the down arrow to go backward. Click in the top panel to set the clock.

To display just the Alarm Clock again, click the lever. When you're finished with the desk accessory, click its close box.

Before you go

You're almost finished with this tutorial. Before you go, you may want to drag TeachText from the folder you made earlier to the System Tools window so you can find it easily later. If someone else is likely to use the *System Tools* disk and this tutorial after you, it might be helpful to the next person if you drag the TeachText Folder to the Trash—but be sure to remove TeachText from the folder first!

Updating startup disks

At some point, you may need to update your other startup disks with the system files on the *System Tools* disk so you can use them with your Macintosh II. Some applications' startup disks may have earlier versions of Macintosh system software (the files in the System Folder). They may not work on the Macintosh II until you update them. To update your startup disks, you use the **Installer**, a utility program in the Utilities Folder on the *System Tools* disk. To find out if your startup disks need updating, you can check the version numbers for the two files Finder and System.

First check the Finder.

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

Your computer ejects the disk from the disk drive.

- 2. Insert the application's startup disk, and then press the Power On key.**

- 3. Choose About the Finder from the Apple menu.**

A window will appear that tells you the version number of the Finder on that disk. (The lower the number, the earlier the version.) The Finder should be version 5.4 or later.

Now check the System file.

- 4. Click anywhere in the window to close the window.**

- 5. Open the application disk's icon if it's not already open.**

6. Open the System Folder.

7. Select the System icon, and choose Get Info from the File menu.

Most application disks include the version number of the System file in the comment box in the information window. If you don't see a version number in the comment box, check the manual that came with the application. The System file should be version 4.0 or later.

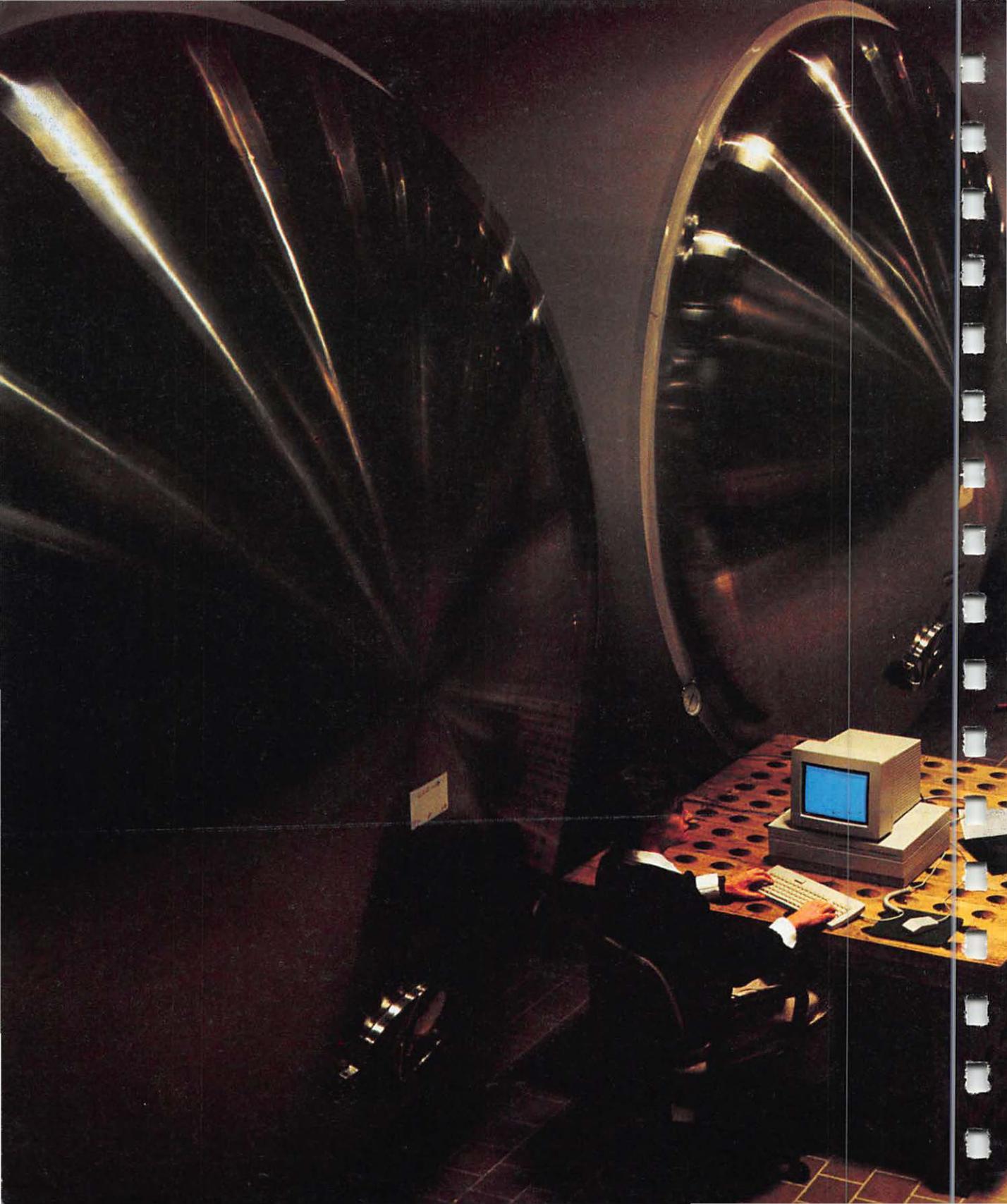
If the application's Finder and System files are earlier versions, see "Using the Installer" in Chapter 3 for step-by-step instructions on updating the disk.

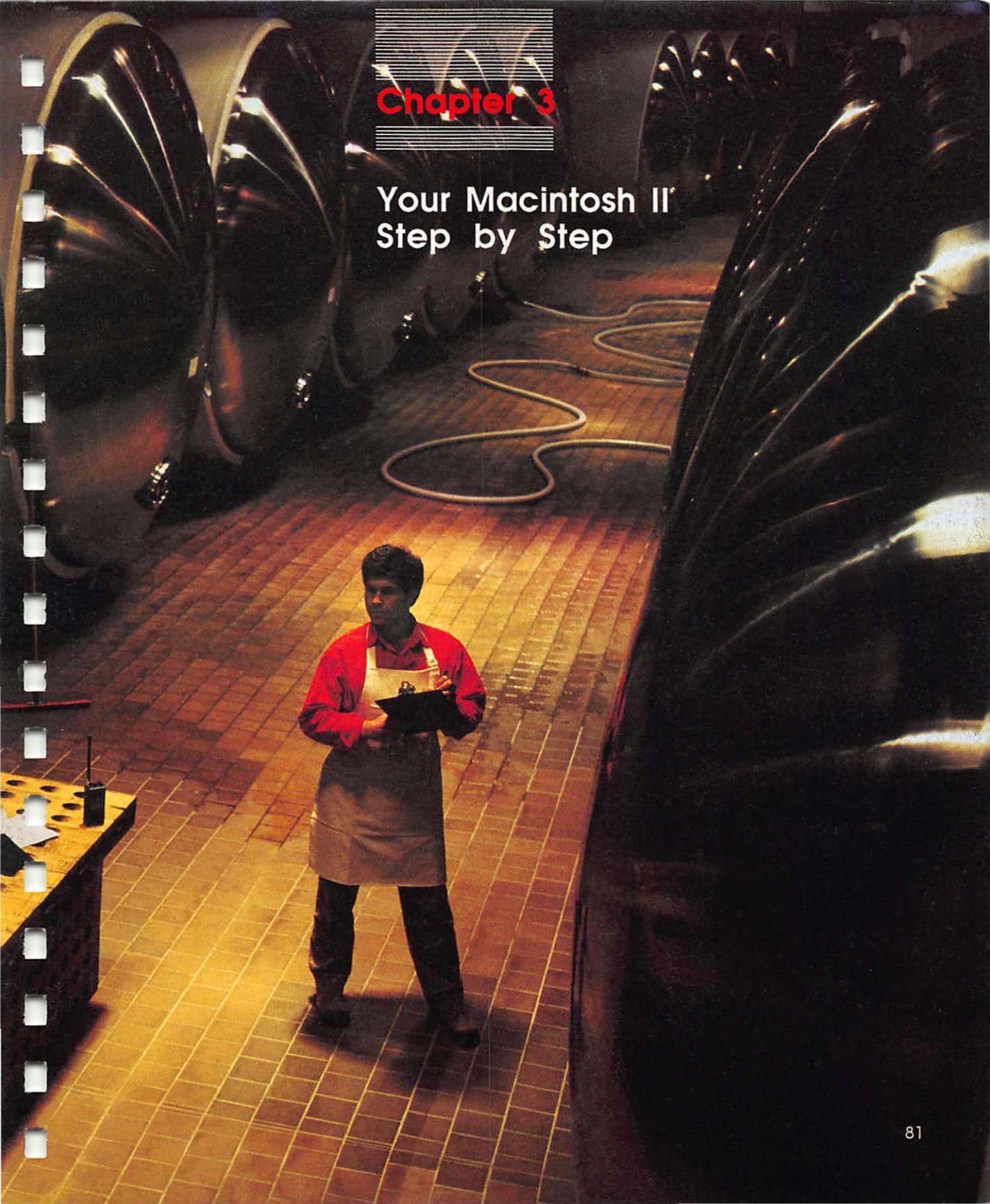
Important

Once you update an application's startup disk, you will be able to use the disk as a startup disk on most earlier models of the Macintosh computer (the exception is the Macintosh 128K). If you plan to use the same application disk as a startup disk on the Macintosh II *and* on an earlier model of Macintosh computer, don't update the disk until you've read "Startup Disks" in Chapter 4. (Also be aware that some applications may have compatibility problems with the new system software.)

Starting your own work

You probably have some work you want to do on your Macintosh II. But first, if your system includes the internal hard disk, go now to Appendix A, "Working With Hard Disks," to get your hard disk set up and running. If you'd like to know more about the Macintosh II before you start using an application, read Chapter 4, "Macintosh II Reference." Be sure to use the Installer to update each startup disk, and then read the manuals that came with the applications you want to use. When you want some reminders or more information about using the Finder to organize your work, come back to Chapter 3 of this book, "Your Macintosh II Step by Step." Enjoy!





Chapter 3

Your Macintosh II
Step by Step

This chapter tells you how to perform specific tasks. It summarizes the basic techniques you'll use whenever you work with your Apple Macintosh II computer—from clicking and dragging to using the desk accessories in the Apple menu. It also describes the steps to take when you want to use the Finder to manage your documents and disks. For example, you'll read how to move a document from one disk to another, how to copy a document or an entire disk, and how to remove documents.

How to use this chapter

You don't have to read this chapter in any particular order; each topic is independent of the others. When you want to know how to do something (use the mouse, print or copy a document, or rename a folder, for example), go to the section on that topic. There you'll find a brief, general discussion and step-by-step instructions for performing specific tasks. Read the column labeled for the task you want to perform and follow the steps, reading down the column.

A frame of reference

This chapter tells you in the most compact way possible how to perform Macintosh tasks. Depending on your level of expertise, you might need more detailed information than you'll find here. Nearly everything in this chapter is covered in greater depth in Chapter 4, "Macintosh II Reference." Look in that chapter to see how each of these topics fits into the Macintosh II's big picture.

Major topic

General discussion

Step-by-step instructions for performing a task

Subtopics

Using the Control Panel

You use the **Control Panel** from the Apple menu to personalize your computer to your way of doing things. In the Control Panel, you select icons that represent parts of your computer system. Selecting an icon brings up a box of features for you to choose among.

Make sure you update each of your startup disks to have the current Control Panel.

See "Control Panel" in Chapter 4 for more information.

To set Desktop Pattern

You can customize your desktop by selecting from a variety of desktop patterns or designing your own.

1. Click the General icon if it isn't already highlighted.

The Control Panel shows a miniature desktop where you can look at a pattern and a magnified view of the pattern.

2. Change the pattern as you wish.

Click (or drag through) dots to change them from black to white or vice versa.

Click the white "menu bar" in the miniature desktop to see a sample pattern. (Click on the right to see the next pattern, click on the left to see the preceding pattern.)

Set the pattern by clicking the miniature desktop below the white bar.

With a color monitor, change the color of the dots in the pattern by selecting the dots and clicking one of the eight colors in the color bar. To choose different colors, double-click on a color in the color bar to bring up a color wheel.

To set Rate of Insertion Point Blinking

When you click the pointer to insert text in a document, the insertion point blinks so it's easier to see on the screen. You can adjust the rate of its blinking.

1. Click the General icon if it isn't already highlighted. Use the scroll bar if necessary to bring the General icon into view.
2. Click any button from Slow to Fast to set the rate at which the vertical bar marking the insertion point blinks.

To set Menu Blinking

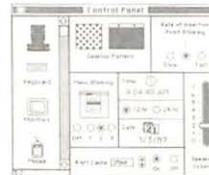
1. Click the General icon if it isn't already highlighted. Use the scroll bar if necessary to bring the General icon into view.
2. Click any button from 1 to 3 to determine the number of times menu items blink. If you don't want menu items to blink, click Off.

To set the Time

1. Click the General icon if it isn't already selected.
2. To select a time format, click either 12 hr. or 24 hr.
3. Click the digits you want to change, then click the up or down arrow to scroll the numbers higher or lower.

To set the Date

1. Click the General icon if it isn't already selected.
2. Click the digits you want to change, then click the up or down arrow to scroll the numbers higher or lower.



Summary of mouse techniques

You can do all your work on the computer (except type text and numbers) with five mouse techniques:

- *click*, to select or make active
- *press*, to cause a continuous action
- *drag*, to select or move
- *double-click*, to open icons quickly
- *Shift-click*, to include a selection in a group (or deselect it)

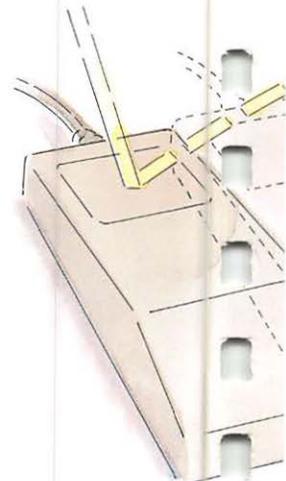
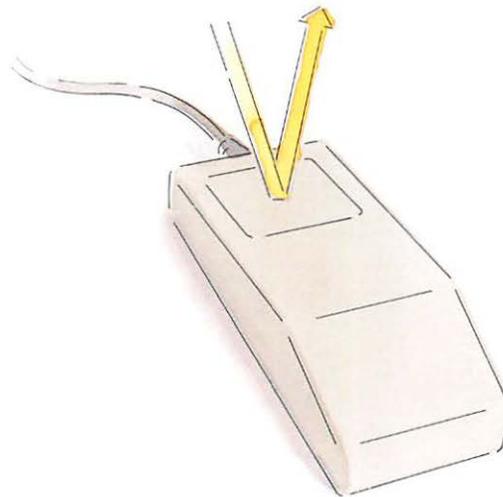
To click

1. Position the pointer on what you want to select or make active.
2. Press and quickly release the mouse button.

To press

1. Position the pointer on a menu title, a scroll arrow, or wherever you want the action to happen.
2. Without moving the mouse, press and hold down the mouse button.

As long as you hold down the mouse button, the effects of pressing continue. Pressing on scroll arrows results in continuous scrolling. Pressing on a menu title pulls down the menu and keeps it down until you release the mouse button.



To drag

1. Position the pointer on something.
2. Press and hold down the mouse button, and move the mouse.
3. Release the mouse button.

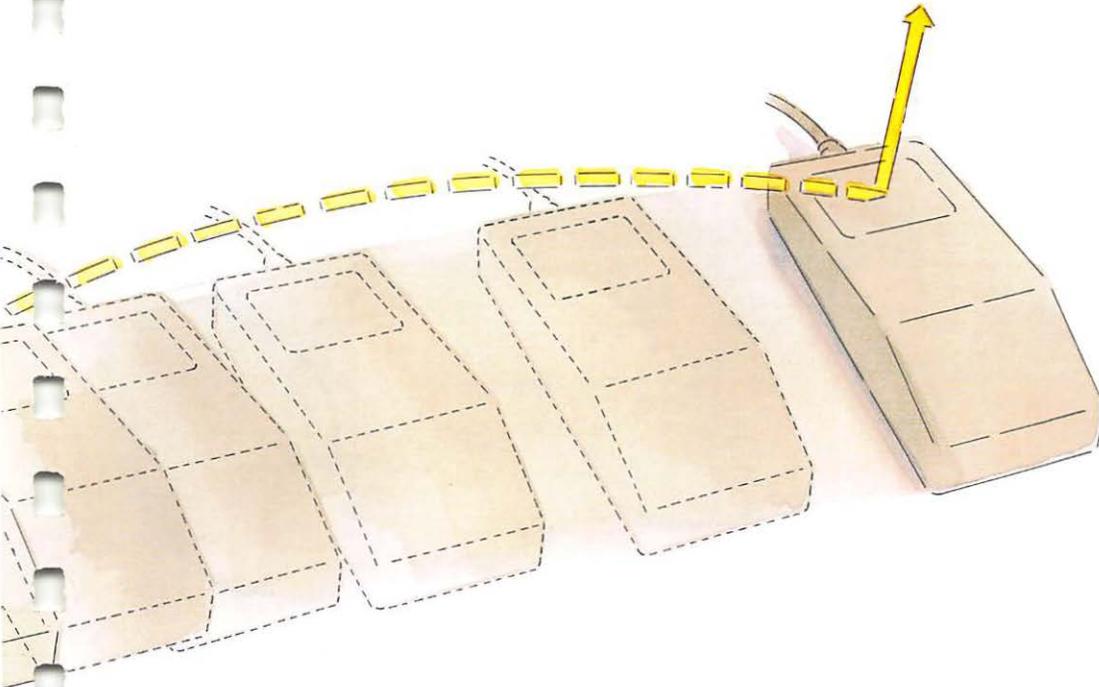
You can usually cancel dragging by moving the pointer back to where it started. Cancel dragging in a menu by moving the pointer off the menu. Cancel moving an icon or window by moving the pointer into the menu bar.

To double-click

1. Position the pointer on something.
2. Press and release the mouse button twice in quick succession.

To Shift-click

1. Select something by clicking or dragging.
2. Hold down the Shift key while you continue to select (or deselect) by clicking.



Handling windows

A window frames its contents. The contents can be a directory of a disk or folder, a desk accessory, or a document you create with an application.

A window always has a title bar and may have

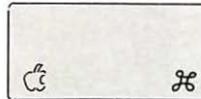
- scroll bars
- a close box
- a size box
- a zoom box

Each application's manual tells you more about windows in that application.

To activate a window

1. Find an inactive window (one without horizontal lines in its title bar).
2. Click anywhere in the window.

Activating a window brings it to the front, where it can overlap or completely cover other windows. To see covered windows, move the active window or make it smaller.



To move a window

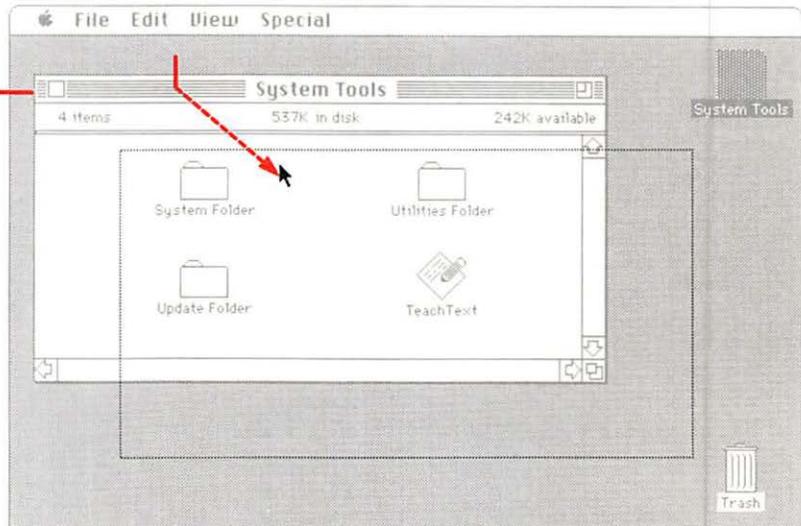
1. Position the pointer anywhere in the title bar of the window except the close box or zoom box (if any).
2. Drag the window to a new location.

The window becomes the active window if it's not already.

To cancel the move, move the pointer into the menu bar. You can't drag a window completely off the desktop.

To move a window without activating it, hold down the Apple key while you drag.

Title bar



To close a window

1. Activate the window by clicking anywhere inside it.
2. Choose Close from the File menu or click the close box on the left side of the title bar.

Some windows don't have a close box. When that's the case, you can usually close the window by clicking anywhere inside it. If an application doesn't have a close box or a Close command, read that application's manual to find out how to close its window.

To zoom a window

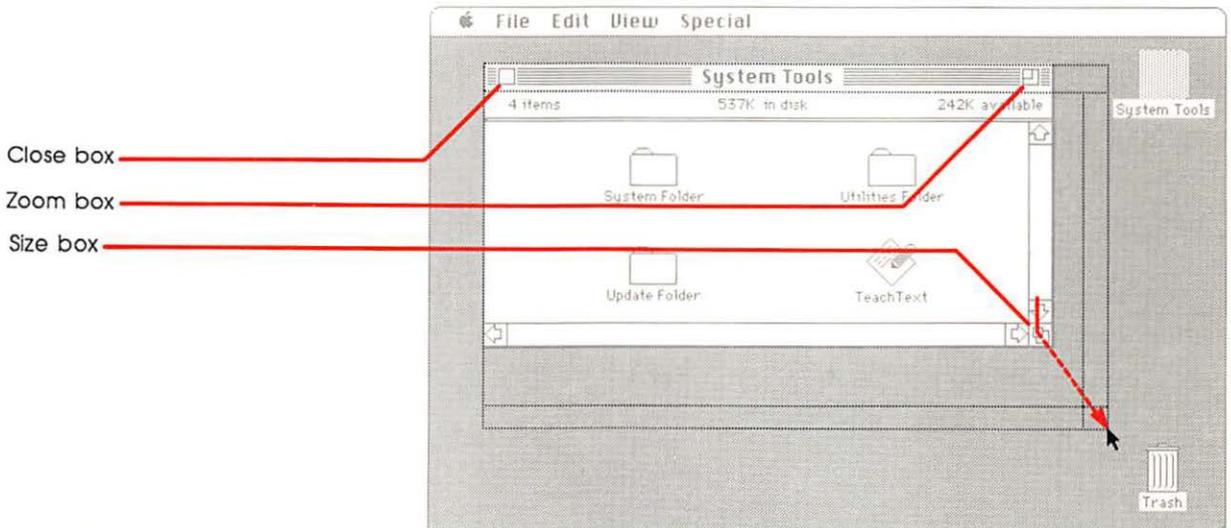
1. To expand the window, click the zoom box in the top-right corner of the title bar.
2. To shrink the window back to its original (smaller) size, click the zoom box again.

Some windows don't have a zoom box.

To change a window's size

1. Activate the window by clicking in it.
2. To use the size box, move the window if necessary so that the size box in the bottom-right corner is visible.
3. Drag the size box or click the zoom box.

Dragging horizontally changes the width, dragging vertically changes the height, and dragging diagonally changes both. The new dimensions take effect only when you release the mouse button.



Scrolling

Scroll bars let you see more of a directory (that is, a list of a disk's contents) or more of a document.

To scroll line by line

1. Determine whether you want to see the area preceding or following the part of the screen you're looking at now.
2. Click the arrow that points in the direction of what you want to see.

You can scroll continuously line by line by pressing the scroll arrow.

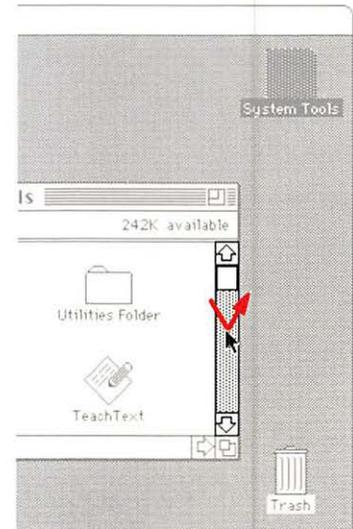
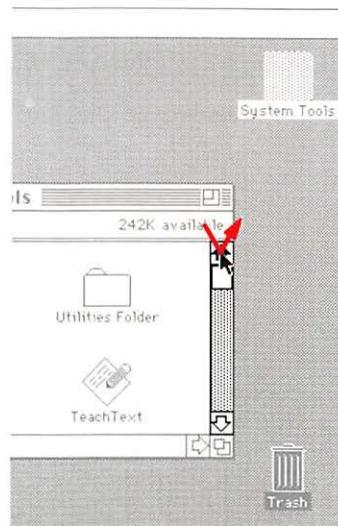
To scroll by the windowful

1. Note the position of the small white box in the gray scroll bar.

If the scroll box is at the very top or bottom of the scroll bar, you can only scroll in one direction. If there is a gray area above and below the box, you can scroll in either direction.

2. Click in the gray area of the scroll bar.

You can scroll continuously by the windowful by pressing in the gray area of the scroll bar.



To scroll quickly to any part of a directory or document

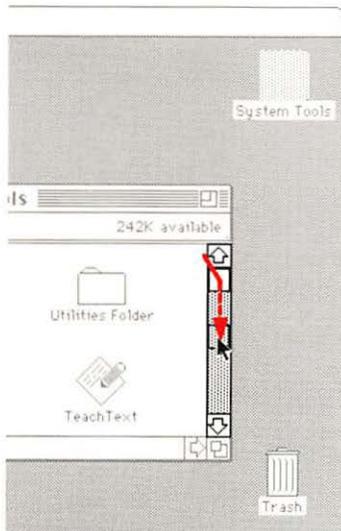
1. Determine what part of the directory or document you want to see.

The vertical scroll bar represents the length of the directory or document.

2. Drag the scroll box to a place in the scroll bar that represents that approximate position.

For example, if you want to go to about the middle of a directory or document, drag the scroll box to the middle of the scroll bar.

Some applications show the page numbers in the scroll box.



Selecting icons

In the Finder, you select by clicking or dragging.

See each application's manual for instructions on how to select information in that application. See "Editing Text" and "Renaming" in this chapter for more about how to select icon names and how to edit them.

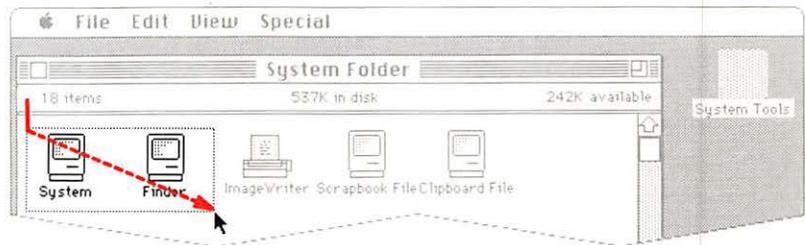
To select an icon

- Click anywhere on it.
Clicking an icon's name also selects the icon.

To select more than one icon

When they're grouped together:

1. Position the pointer outside one corner of a group of icons.
 2. Drag to the opposite corner.
- You can choose **Select All** from the **Edit** menu to select all icons in the active window.
- If you *don't* want to include one of the icons, you can deselect it; just hold the **Shift** key down and click the icon.



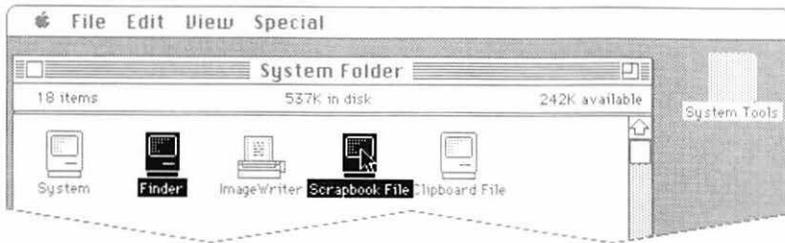
When they aren't grouped together:

1. Select one icon by clicking.
2. Hold down the Shift key while you continue to select icons by clicking.

Holding the Shift key down while you click a selected icon deselects it.

You can also Shift-click to select more than one item in directories you've arranged in text views (that is, views other than by icon).

You can select more than one icon only when they're in the same window or they're all on the desktop.



Editing text

In the Finder, you can enter and edit

- the names of disks, documents, folders, and applications
- text in desk accessories such as Scrapbook and Note Pad
- text in the comment box of information windows (which you open by choosing Get Info from the File menu)

See each application's manual for more on how to enter and edit text in that application.

To insert text

1. Click to select the insertion point.

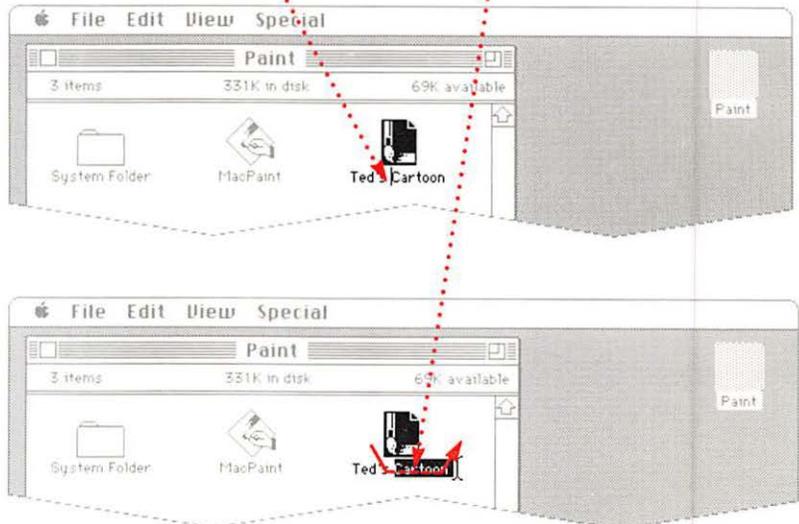
You can also use the direction keys to move the insertion point.

2. Type to add text at the insertion point.

When there's no existing text (sometimes in dialog boxes, for example), the insertion point may already be selected.

To select text

1. Drag across the text (diagonally if there's more than one line) to the end of the text you want to select.
2. Double-click a word to select it quickly.



To move text

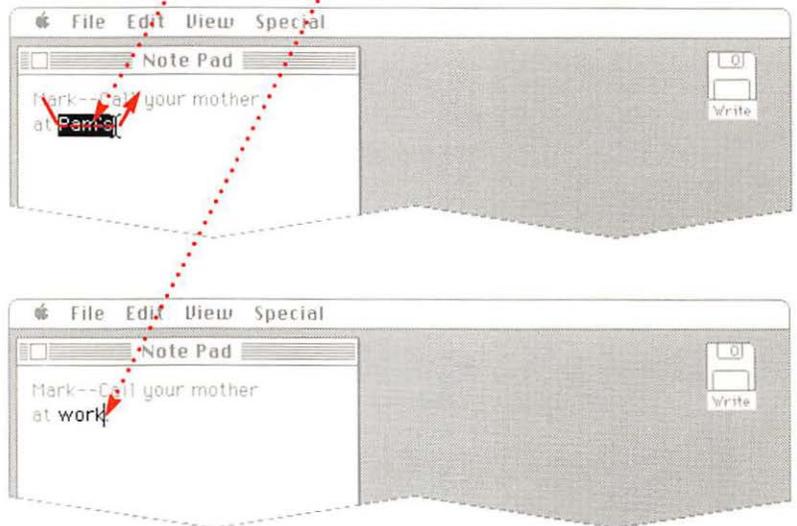
1. Select by dragging across the text.
2. Choose Cut from the Edit menu.
3. Select the insertion point by clicking where you want the text to go.
4. Choose Paste from the Edit menu.

To copy text

1. Select the text by dragging across it.
2. Choose Copy from the Edit menu.
3. Select the insertion point by clicking where you want the copied text to go.
4. Choose Paste from the Edit menu.

To replace text

1. Select the text by dragging across it.
2. Type what you want to replace the text with, or choose Paste from the Edit menu to replace the text with what was last cut or copied.



To remove text

1. Select the text by dragging across it.
2. Press the Delete key or choose Cut or Clear from the Edit menu.

If you really want to remove the text (rather than move it somewhere else), the Delete key is the fastest way to do it.

Using the Delete key doesn't affect the contents of the Clipboard.

Using desk accessories

Desk accessories, always available in the Apple menu, are mini-applications you can use in the Finder and in most applications. Desk accessories let you do simple calculations while you're working on a word processing document, tell the computer which printer to use, and even keep a scrapbook full of your favorite illustrations or text you use in a variety of documents.

Some desk accessories—the Alarm Clock, Calculator, Chooser, Control Panel, Find File, Key Caps, and Scrapbook—are installed automatically on your application disks when you update them with the system software on the *System Tools* disk. (See “Startup Disks” in Chapter 4.) You can also use the **Font/DA Mover** to add or remove desk accessories from your startup disks. (See the *Macintosh System Utilities User's Guide* for information on using the Font/DA Mover.)

The desk accessories installed on a startup disk are available in the Apple menu whenever that disk is the current startup disk. The *Utilities* disk includes a desk accessory file with Note Pad and Puzzle—desk accessories you might want to add to other startup disks. You can also purchase additional desk accessories and add them to your startup disks.

This section explains how to use the Chooser, the Control Panel, Find File, and the Scrapbook. See “Desk Accessories” in Chapter 4 for information about other desk accessories.

Using the Chooser

You use the **Chooser** desk accessory (from the Apple menu) to connect to or disconnect from an AppleTalk network, to choose between devices connected directly to your computer's Printer or Modem ports, or to choose printers, file servers, or other devices on the AppleTalk network. (See "AppleTalk Personal Network" in Chapter 5 for more information.)

The Chooser shows icons for the devices available to you, based on the resources of the current startup disk. In order to ensure that you get the most out of the Chooser, you'll want to know about the Installer—a utility program that installs the Chooser so it appears on the Apple menu and updates the most current resources on your startup disk. For more information, see "Using the Installer" later in this chapter.

If you use the Chooser from within an application to change printers, choose Page Setup and confirm the settings you want before you choose Print.

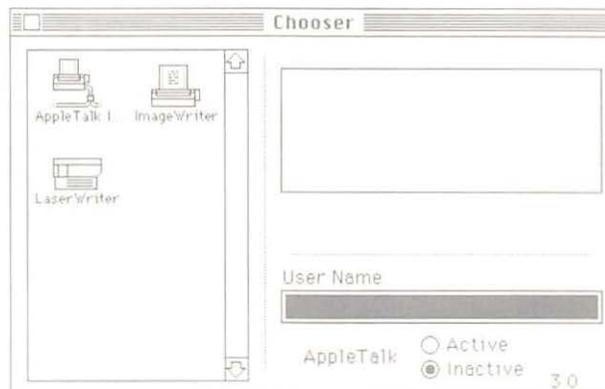
To connect or disconnect AppleTalk

AppleTalk is a communications network you can use to connect computers and to share printers and other devices on the network.

1. Click Active if you're physically connected to AppleTalk.
2. Click Inactive if you're physically disconnected from AppleTalk.

The AppleTalk connection setting should always match whether you're connected to AppleTalk or not. When you physically connect or disconnect AppleTalk, always come here immediately and click the appropriate box.

3. Type your name in the User Name box so the network can let other users know when you're using a shared device.



To choose a printer connected directly to your computer

1. Click the icon that represents the printer you want to use.

When you click the icon, a box appears that presents icons for the Printer and Modem ports.

2. Click the icon that represents the port your printer is connected to—either the Printer port or the Modem port.

The ports on the back of your computer are marked with icons to let you know which one is for the printer and which one is for the modem.

To choose a device on an AppleTalk network

1. Click the icon that represents the type of device you want to use.

If necessary, use the scroll bar to find the icon you want.

When you click an icon, a Select box appears and lists the names of all the devices available on your network.

2. Click the device name to select the device you want.
3. Type your name in the User Name box so the network can let other users know when you're using a shared device.

For more information, see "AppleTalk Personal Network" in Chapter 5.

To choose a device on another AppleTalk network

AppleTalk networks can be linked together to form an interconnected series of AppleTalk **zones**. If your network is linked with other AppleTalk networks and you have access to multiple zones, use the Chooser to scan for devices on those zones.

1. Click the icon that represents the type of device you want to use.

If necessary, use the scroll bar to find the icon you want.

When you click an icon, two new boxes appear. The Zones box lists all zones you have access to, and the zone that first appears highlighted is the one your computer is on. The Select box lists the names of all devices (of the type you just chose) that are connected to the highlighted zone.

2. Scan each zone by clicking on its name until you find the device you want to use.
3. Click the device name to select the one you want.
4. Type your name in the User Name box so the network can let other users on the network know when you're using a shared device.



Using the Control Panel

You use the **Control Panel** from the Apple menu to personalize your computer to your way of doing things. In the Control Panel, you select icons that represent parts of your computer system. Selecting an icon brings up a box of features for you to choose among.

Make sure you update each of your startup disks to have the current Control Panel.

See "Control Panel" in Chapter 4 for more information.

To set Desktop Pattern

You can customize your desktop by selecting from a variety of desktop patterns or designing your own.

1. Click the General icon if it isn't already highlighted.

The Control Panel shows a miniature desktop where you can look at a pattern and a magnified view of the pattern.

2. Change the pattern as you wish.

Click (or drag through) dots to change them from black to white or vice versa.

Click the white "menu bar" in the miniature desktop to see a sample pattern. (Click on the right to see the next pattern; click on the left to see the preceding pattern.)

Set the pattern by clicking the miniature desktop below the white bar.

With a color monitor, change the color of the dots in the pattern by selecting the dots and clicking one of the eight colors in the color bar. To choose different colors, double-click on a color in the color bar to bring up a color wheel.

To set Rate of Insertion Point Blinking

When you click the pointer to insert text in a document, the insertion point blinks so it's easier to see on the screen. You can adjust the rate of its blinking.

1. Click the General icon if it isn't already highlighted.

Use the scroll bar if necessary to bring the General icon into view.

2. Click any button from Slow to Fast to set the rate at which the vertical bar marking the insertion point blinks.

To set Menu Blinking

1. Click the General icon if it isn't already highlighted.

Use the scroll bar if necessary to bring the General icon into view.
2. Click any button from 1 to 3 to determine the number of times menu items blink.

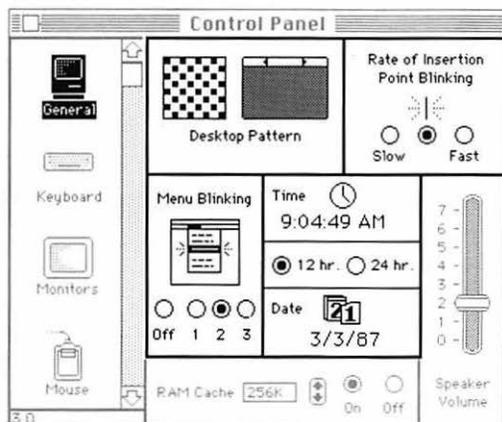
If you don't want menu items to blink, click Off.

To set the Time

1. Click the General icon if it isn't already selected.
2. To select a time format, click either 12 hr. or 24 hr.
3. Click the digits you want to change; then click the up or down arrow to scroll the numbers higher or lower.

To set the Date

1. Click the General icon if it isn't already selected.
2. Click the digits you want to change; then click the up or down arrow to scroll the numbers higher or lower.



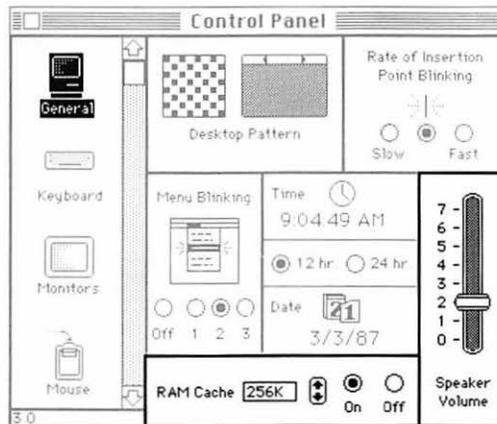
To use RAM Cache

Using the **RAM cache** can greatly speed up your work, allowing an application to store some of the information it needs in a part of memory you reserve just for this. When the application needs the information again, it doesn't have to go to the disk but can get it much more quickly from the RAM cache in memory.

1. Click the General icon if it isn't already highlighted.
2. Set RAM Cache On.

3. Use the arrows to scroll to the amount of memory you want to use for the RAM cache.

Because the RAM cache takes some space in memory, you may not want to use it with applications that require large amounts of memory. A rule of thumb is to use no more than one fourth of the computer's available memory (no more than 256K if your system doesn't have a RAM expansion kit).



To set Speaker Volume

1. Click the General icon if it isn't already highlighted.
2. Adjust for the volume you want by dragging the knob up or down.

Setting the lowest volume makes the computer alert you subtly by blinking the menu bar rather than by making an Alert Sound.

For more control over sound, click the Sound icon to set preferences for the Alert Sound. (Scroll the menu on the left side of the Control Panel to see the Sound icon.)

To set Key Repeat Rate

When you press and hold down a character key, the Macintosh II begins repeating that character. You can set the rate at which a key you press will repeat.

1. Click the Keyboard icon if it isn't already selected.

If necessary, use the scroll bar to bring the Keyboard icon into view.

2. Click any button from Slow to Fast to set the rate.

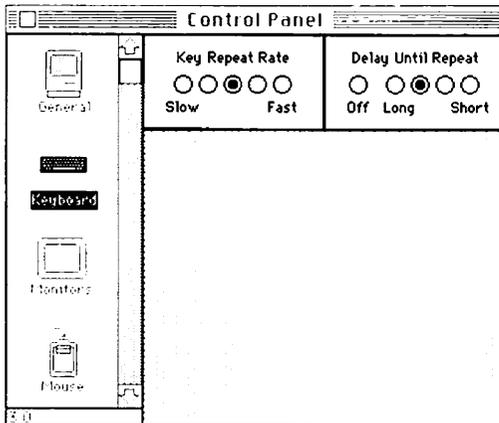
To set Delay Until Repeat

1. Click the Keyboard icon.

Use the scroll bar if necessary to bring the Keyboard icon into view.

2. Click any check box from Long to Short to set the length of time the computer waits before repeating a key you're pressing. Click Off to turn off key repeating.

Set a longer delay if you're getting a lot of repeated characters when you don't intend them.



To set Monitor Status for a single monitor

If you have a single monitor connected to your computer, you specify whether you want to see colors or grays and how many of either your monitor will display.

1. Click the Monitor icon if it isn't already highlighted.

The monitor controls will appear.

2. Click Color or Monochrome.

With a color monitor, even though you may prefer color most of the time, you might want monochrome when you're doing a lot of word processing.

Monochrome monitors won't show color, of course, but you can click either Monochrome or Color to vary the quality of the grays on your screen.

Clicking Monochrome gives you a true gray scale—evenly spaced shades of gray. Clicking Color gives you the gray equivalents of colors. (The grays you see depend on the luminance of the colors represented. It's like watching a color show on a black-and-white television set.)

3. Scroll to the number of colors or shades of gray you want.

If you clicked Monochrome in step 2, the heading will say No. of Grays. If you clicked Color, it will say No. of Colors.

With the standard video card, you can get a maximum of 16 colors or grays. With the video card expansion kit installed, you can get a maximum of 256. (More colors or grays means drawing to the screen will be a bit slower.)

If you choose to limit the number of grays to two, you will not be seeing a true gray scale. Black and white will be the only colors on your screen. (This will look the same as the screen on earlier versions of the Macintosh.)

4. If your monitor is color, click the Convergence Test button to check the convergence pattern.

This will help you verify that the red, green, and blue light beams are aimed correctly for the best color picture. (If you don't know how to adjust color convergence, see the monitor manual.)

With a monochrome monitor, convergence pattern is not an issue, but it's OK to click the Test button if you're curious.

Once you've completed these selections, your monitor is set. And you can always come back and change your choices when your needs change.

To set Monitor Status for multiple monitors

With multiple monitors (all connected to your Macintosh II), you make the same choices as you would with a single monitor—and you repeat some parts of the process for each of your monitors. You also position your monitors to suit your needs, select a Main Monitor, and fine tune the way your monitors relate to each other. (For more information, see “Monitors and the Control Panel” in Chapter 4.)

1. Click the Monitors icon if it isn't already highlighted.

The monitor controls will appear.

The box at the bottom of the panel shows an icon for each of the monitors connected to your main unit. The first time you bring up the panel, monitor 1 will be highlighted to show that it is the “selected monitor.” (You will select each monitor in turn when you are ready to make choices about that monitor's status. See step 5.)

2. Click Color or Monochrome for the selected monitor.

With a color monitor, even though you may prefer color most of the time, you might want monochrome when you're doing a lot of word processing.

Monochrome monitors won't show color, of course, but you can click either Monochrome or Color to vary the quality of the grays on your screen.

Clicking Monochrome gives you a true gray scale—evenly spaced shades of gray.

Clicking Color gives you the gray equivalents of colors. (The grays you see depend on the luminance of the colors represented. It's like watching a color show on a black-and-white television set.)

3. Scroll to the number of colors or shades of gray you want.

If you clicked Color in step 2, the heading will say No. of Colors. If you clicked Monochrome, it will say No. of Grays.

With the standard video card, you can get a maximum of 16 colors or grays. If you have installed the video card expansion kit, you can get a maximum of 256. (More colors or grays means drawing to the screen will be a bit slower.)

If you choose to limit the number of grays to two, you will not be seeing a gray scale. Black and white will be the only colors on your screen. (This will look the same as the screen on earlier versions of the Macintosh.)

4. If the selected monitor is color, click the Convergence Test button to check the convergence pattern.

This will help you verify that the red, green, and blue light beams are aimed correctly for the best color picture. (If you don't know how to adjust color convergence, see the monitor manual.)

If the selected monitor is monochrome, convergence pattern is not an issue, but it's OK to click the Convergence Test button if you're curious.

5. In the box at the bottom of the panel, click an icon to select the next monitor for which you want to define characteristics.
- ❖ Repeat steps 2 through 5 for each of your monitors.

6. Identify the positions of your monitors.

In the lower part of the panel, drag each icon to the correct position according to the actual location of the corresponding monitor in your work area. That is, if monitor 2 sits on a shelf above monitor 1, drag its icon to sit on top of the icon for monitor 1, and so on. Continue placing the icons until you've reproduced your entire monitor setup.

Put simply, in order to coordinate activities among multiple monitors, your computer wants to know where they are. You create a replica of your setup by positioning monitor icons to correspond to the physical arrangement of monitors in your work area.

7. Identify your main monitor by dragging the menu bar to the appropriate icon.

The Main Monitor is the one on which you'll find the standard menu bar. In effect, it's your base of operations. You can designate any one of your monitors as the Main Monitor.

When you first use this panel, monitor 1 will automatically be selected as the main monitor. You can change that setting or leave it as is.

8. If you have changed the positions of any monitor icons or identified a new main monitor, close the Control Panel and choose Restart from the Special menu.

You must restart the computer for these changes to take effect.

To set Mouse Tracking

1. Click the Mouse icon.

Use the scroll bar if necessary to bring the Mouse icon into view.

2. Change the Mouse Tracking speed to meet your style.

Click a button from Slow to Fast to make the pointer movement speed variable.

If you set the mouse speed faster, you won't have to move the mouse as far as you otherwise would when you want to jump to another part of the screen.

OR

Click the Very Slow (Tablet) button to keep the pointer speed constant.

To set Your Double-Click Speed

1. Click the Mouse icon.

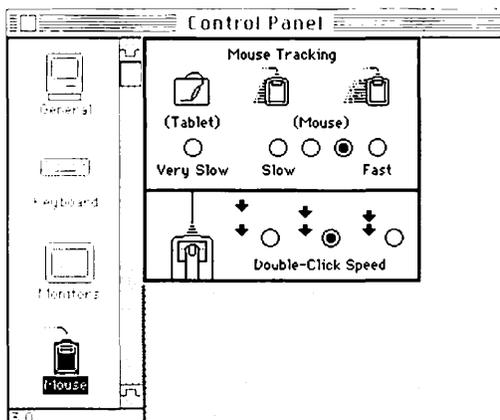
Use the scroll bar if necessary to bring the Mouse icon into view.

2. Change the double-click speed to match your own speed.

Click the leftmost button for the computer to interpret fairly slow successive clicks as a double-click.

Click the rightmost button if you've got a fast mouse-button finger.

Click the middle button if you're somewhere in-between.



To set the sound controls

1. Click the Sound icon.
2. Set the volume you want by dragging the knob up or down.

At the lowest level, the computer blinks the menu bar to alert you (with no sound).

This control is the same one that appears when you click the General icon. Setting the volume in either place moves the knob in both places.

3. In the Alert Sound Setting box, click the sound that suits you best.

There are several choices available. The speaker plays back each sound as you click it, and you can try them all to find the one you prefer to hear when the computer wants to get your attention.

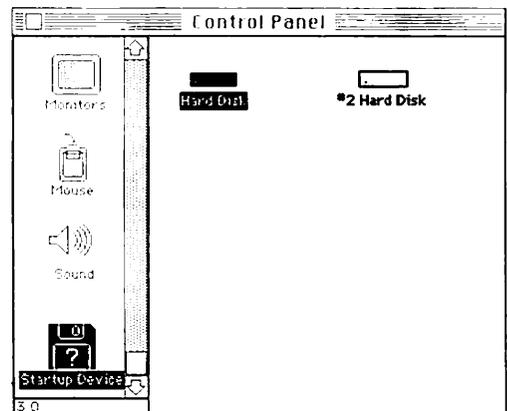
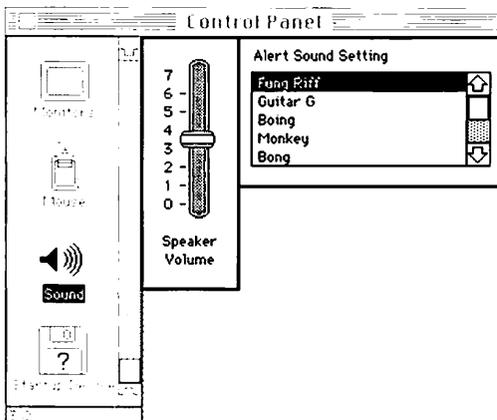
To set Startup Device

1. Click the Startup Device icon.
Use the scroll bar if necessary to bring the Startup Device icon into view.

The icons that appear represent all the devices that might contain the information the computer needs to get started.

2. Click the device you want your computer to start from.

Until you change it, this will be the disk drive your computer will start from each time you turn your computer on (assuming there's no startup disk in one of the 3.5-inch disk drives).



Using Find File

You use the **Find File** desk accessory to find any folder or file (a document, application, resource, or system file) on the disk.

The hierarchical file system makes it easy to store dozens of documents away in different folders—especially on a hard disk. You can even store several documents or folders with the same name in different places, or in folders within folders within folders. (See “Managing Documents, Folders, and Applications” later in this chapter.) But with all that flexibility you may sometimes lose track of where you’ve stored a particular document. Find File locates the file or folder you ask for.

When you see the name of the file you want and *select* it, Find File also tells you when a file was created, when you last changed it, how big it is, and how much space it takes up on the disk. In addition, Find File will show you where in the hierarchical file system it found the file you wanted. Find File will even move the file to the desktop for you.

You can use Find File either from the Finder or from within an application.

Find File will make an Alert Sound when it’s finished searching.

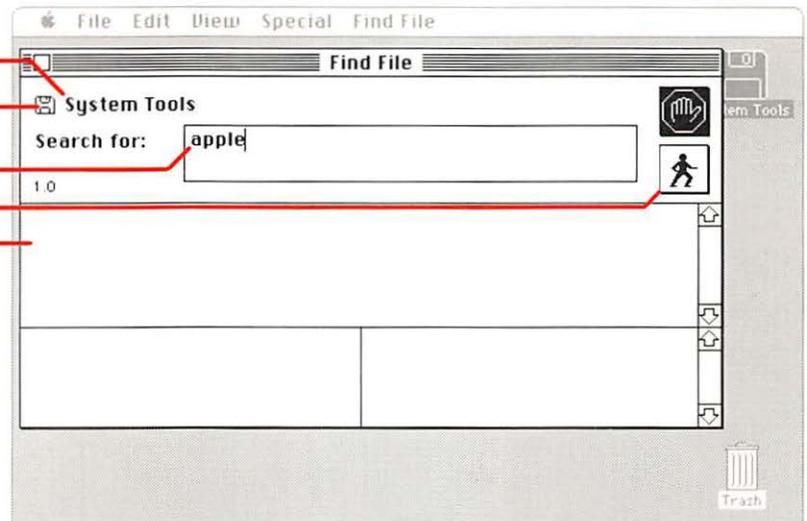
To use Find File in a search

1. Choose Find File from the Apple menu.

The Find File box comes up, and a new menu title, Find File, appears on the menu bar.
2. Type the name (or part of the name) of the file you’re looking for.

If you type *apple*, Find File will look for any folder or file that has the word *apple* in any part of its title—for example, *Letter to Apple* or *applesauce*.

- Current disk name
- Click here to change drives.
- Type title to look for here.
- Click here to start search.
- Matching titles appear here.



If you type several words (or partial words) separated by spaces, Find File will look for titles that have all of the words in them. (Technically speaking, it does an AND search.) For example, *apple letter* finds *Letter to Apple*, but not *applesauce* or *Letter to Mom*, because only *Letter to Apple* contains both *apple* and *letter*.

□ To search for a file on a disk in another drive, click on the current disk's icon in the top-left corner of Find File's window.

3. To focus the search, choose Search Here from the Find File menu.

You will see a standard file dialog box. With large-capacity hard disks, it's possible to create multiple files with the same (or similar) names. This dialog box lets you select drives, eject disks, and limit the search to suit your needs.

□ To change disks, click Eject.
□ To change drives, click Drive.

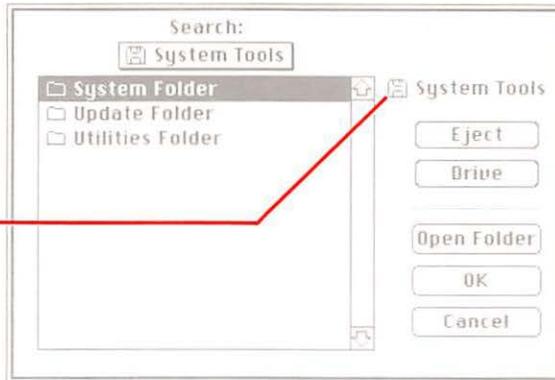
□ To open a selected folder, click Open Folder (or double click on the folder's name.)

□ To close an opened folder and drop back one level in the directory, click on the disk named above the Eject button.

□ To select the current folder or disk for searching, click OK.

□ To cancel limited searching, click Cancel.

Click here to close an opened folder.



4. Click the Running Man icon (or press Return).

Find File starts a systematic search of all the folders and files on the current disk, looking for titles that match what you've typed into the Search for box.

Each time it finds a match, Find File displays the name of that file or folder.

To stop the search, click the Stop button. Once you click Stop, the search is canceled (and clicking the running man again will not resume the search).

When Find File has finished searching, it makes an Alert Sound.

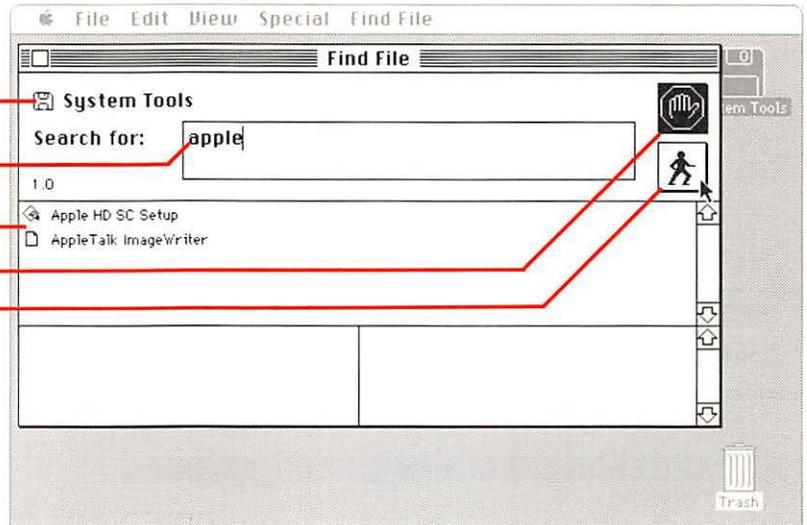
Click here to change disks.

Here's what you wanted.

These names all matched.

Stop icon

Running Man icon



5. Select the file or folder you're interested in.

In the box at the bottom right, Find File shows you the path to that file or folder.

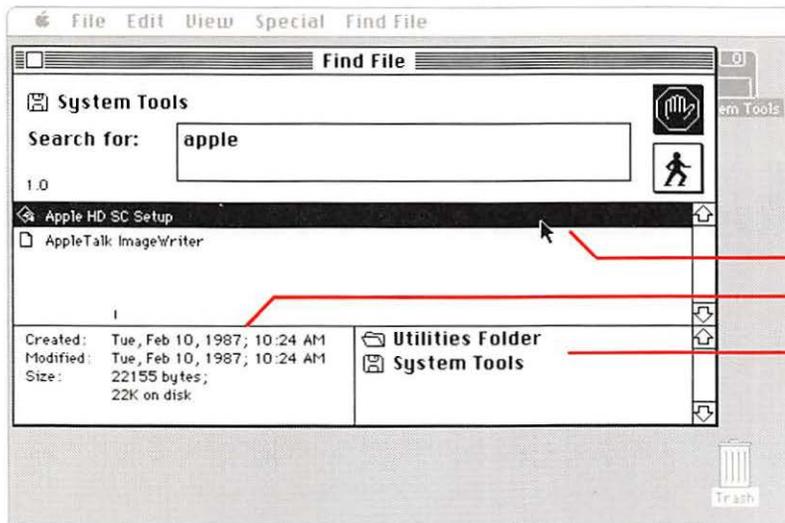
In the box at the bottom left, you'll find valuable information about the file or folder you've selected.

You don't have to wait for Find File to stop searching to get information; just click the title you're interested in at any time.

6. Choose Move to Desktop from the Find File menu.

The file selected (in step 5) will be moved automatically from where it was stored to the desktop where you can easily work with it.

If the file stays on the desktop while you work on it, you can use the Put Away command to put it back exactly where it came from. Of course, you can put it into any window or folder you choose.



Select a title here.

Here's information about it.

Here's where it is.

Using the Scrapbook

You can paste your favorite pictures and text into the **Scrapbook** and retrieve them whenever you want to use them again. You can cut, copy, and paste images among the Scrapbook, your documents, and any desk accessory that uses text. (For example, you might keep your letterheads there.)

The contents of the Scrapbook are stored in the Scrapbook file on the current startup disk. You can move these Scrapbook files among your startup disks to customize the disks with the contents you want. (See “Copying or Moving a Document, Folder, or Application” later in this chapter and “The Current Startup Disk” in Chapter 4.)

Depending on the size and contents of the image you paste into the Scrapbook, you might not see the entire image until you paste it somewhere else.

To add an image to the Scrapbook

1. With a document or desk accessory open, select the text or pictures you want to add to the Scrapbook.

See each application’s manual for how to select using that application.

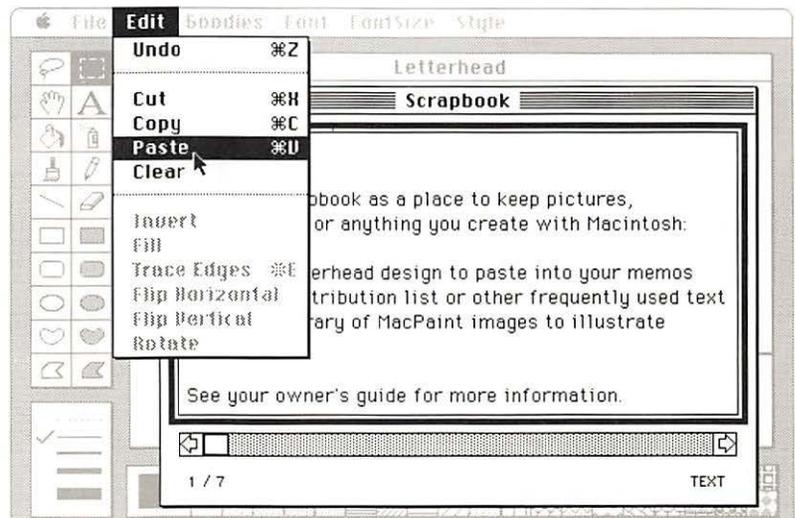
2. Choose Cut or Copy from the Edit menu.

Choosing Cut removes the original; choosing Copy just copies it. What you selected is placed on the Clipboard, where it remains until you next choose Cut or Copy.

3. Choose Scrapbook from the Apple menu.

4. Choose Paste from the Edit menu.

The image is pasted in front of the current image in the Scrapbook. The text on the bottom left tells you the position this image has in the Scrapbook. The text on the bottom right tells whether the image is text or a picture. (In certain cases it may indicate which application the image came from.) You can use the scroll bar to look at the different items in the Scrapbook. (See “Scrolling” earlier in this chapter.)



To remove an image from the Scrapbook

1. Open the Scrapbook and make it active.
2. Scroll to the image you want to remove. (See "Scrolling" earlier in this chapter.)
As each image appears in the Scrapbook window, it is automatically selected.
3. Choose Cut or Clear from the Edit menu.

The image is removed from the Scrapbook.

To move or copy an image from the Scrapbook to a document

1. Open the Scrapbook and make it active.
2. Scroll to the image you want to move or copy.
The current image is automatically selected.
3. Choose Cut or Copy from the Edit menu.

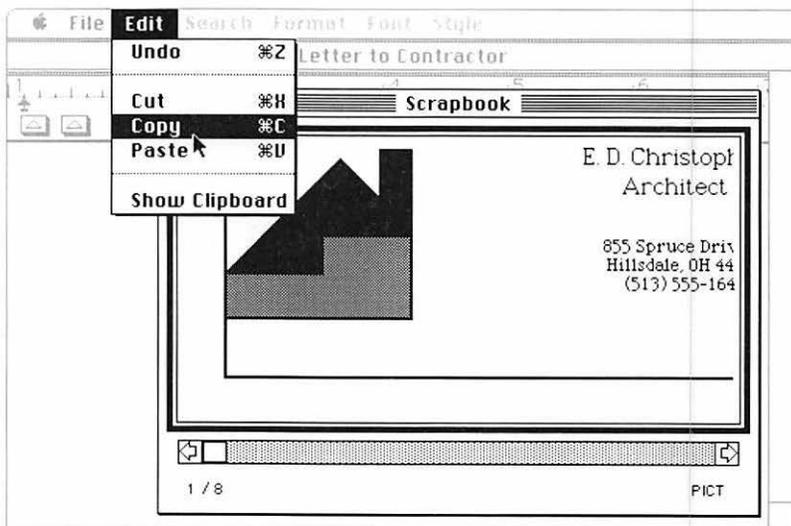
The image is placed on the Clipboard, where it remains until you next choose Cut or Copy.

4. Open the document you want to add the image to.

If the document is already open, just click in it to make it the active window.

5. Select the place you want the image pasted into.
6. Choose Paste from the Edit menu.

The image is pasted into the document.



Managing documents, folders, and applications

This section summarizes how to use the Finder to manage your documents, folders, and applications—how to copy, move, discard, rename, lock, or just rearrange them. It also includes a summary of how to manage your documents when you're using an application. It shows you how the folders you create in the Finder appear when you're saving and opening documents within applications.

How you organize your work on the desktop is up to you. You can nest folders one inside the other to create as many hierarchical levels as you want, and you can view the contents of each folder arranged by icon, name, date the file was last modified, size, or type. Choosing a different view from the View menu instantly rearranges the active directory window in the view you choose. For example, you can quickly see which document is taking the most space or which is the latest version of a report you're preparing.

The desktop itself is always arranged by icon.

You can do any of your desktop work with the directories in any arrangement, and you can have different directories in different arrangements at the same time. Every item in a directory is represented by an icon, no matter what arrangement you have the directory in. In any of the text views, the icon is small and appears to the left of each name. You can click, double-click, drag, or Shift-click this icon just as you would its counterpart in an icon view of the directory.

Creating and opening documents

You *create* a new document by opening the application you want to use.

When you're using an application, you can create more documents by choosing New from the File menu. See "Managing Documents Within an Application" later in this chapter.

You *open* an existing document from the Finder by opening the icon that represents the document you want to work on. The application you'll use with that document starts automatically.

You can also open an existing document while working in an application. See "Managing Documents Within an Application" later in this chapter.

To create a new document

1. Select the icon for the application you want to use.

If necessary, insert the disk that contains that application, open the disk icon and any folders you need, and scroll until you see the application icon.

2. Choose Open from the File menu.

The appropriate application starts. Usually a new, untitled document appears; you'll name it the first time you save it.

You can also double-click the icon to open the application.

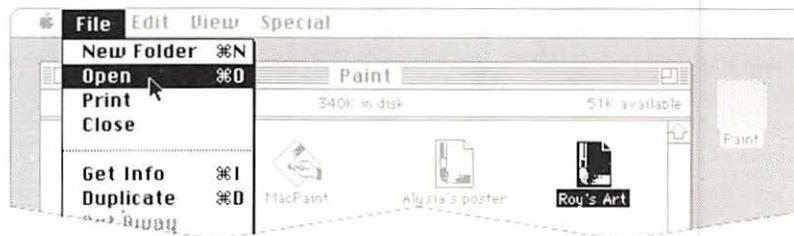
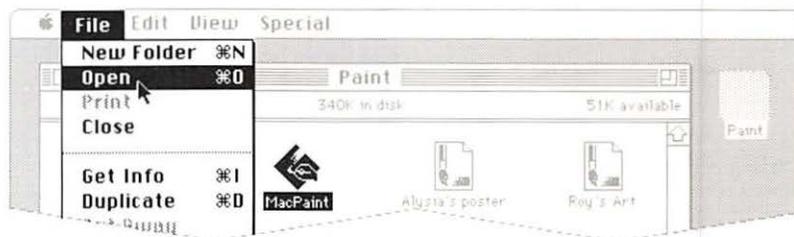
To open an existing document

1. Select the icon that represents the document you want to work on.

If necessary, insert the disk or disks that contain that document and the application you used to create it, open the disk icon and any folders you need, and scroll until you see the document icon.

2. Choose Open from the File menu.

You can also double-click the icon to open it.



Using folders

Folders let you create a hierarchy of system files, applications, and documents so you can arrange your work in whatever way you want and get at what you need quickly.

If you work with just a few applications and a moderate number of documents, you may prefer *not* to nest many levels of folders within folders. It's easier to see everything that's on a disk without having lots of folders to rummage through. But if you have many documents, and especially if you have a hard disk, folders help you get rid of clutter you're not interested in at the moment, and they greatly speed up access to what you do want.

No matter how deeply you nest folders, you can always find a document by using the Find File desk accessory. See "Using Find File" earlier in this chapter.

For more information on the hierarchical file system, see "The Hierarchical File System" in Chapter 4.

To create a new folder

- Choose New Folder from the File menu.

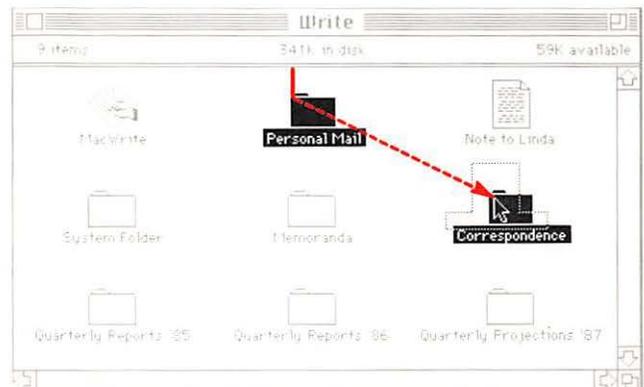
A folder named *Empty Folder* appears in the active window. You can rename it by typing.

To place a folder and its contents inside another folder

- Drag the folder to the folder icon or window you want it in.

The folder you drag (the *source folder*) and its contents are placed inside the folder you drag to (the *destination folder*). If the destination folder is on a different disk, the source folder is copied rather than moved.

If the destination folder already contains a folder with the same name, you'll be asked whether you want to replace the existing folder. Clicking OK replaces the existing folder and its contents with the source folder and its contents, whether or not the folders' contents include duplicate names.



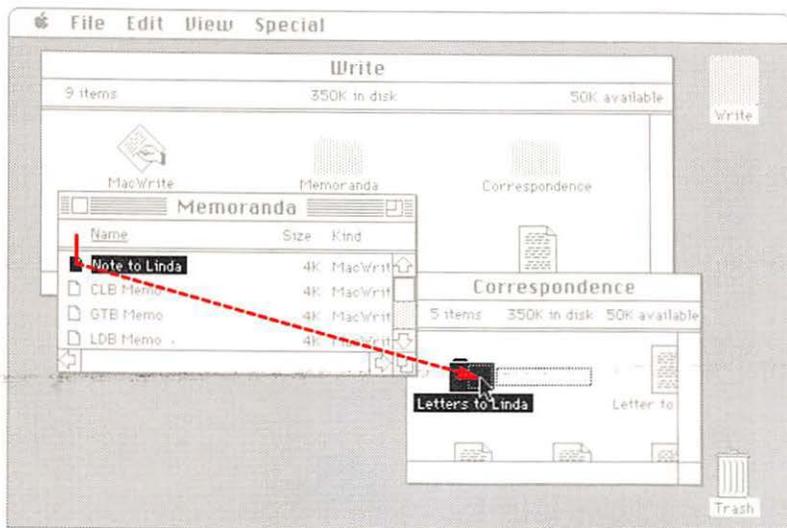
To move a document, folder, or application from one folder to another

- Drag the item you want to move from the folder it's in to the folder icon or window you want to move it to.

If the destination folder is on a different disk, the item is copied, rather than moved, to the new folder. If the destination folder already contains an item with the same name, an alert box will appear, asking you to rename the item you're moving.

To use folders within an application

See "Managing Documents Within an Application" later in this chapter.



Renaming

You can rename a document, folder, application, or disk whenever its icon is visible in the Finder. (You may need to insert the disk that contains what you want to rename, open the disk icon and any folders you need to, and scroll until you see the icon.)

If you rename a disk, write the name on the disk label. That way, when the computer asks you to insert a specific disk, you'll know which one it needs.

You can usually use the Save As command within an application to save a document after assigning it a different name. See "Managing Documents Within an Application" later in this chapter.

To rename an icon

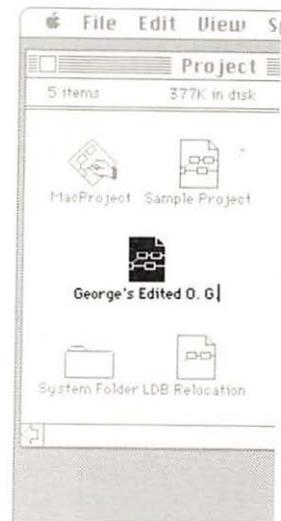
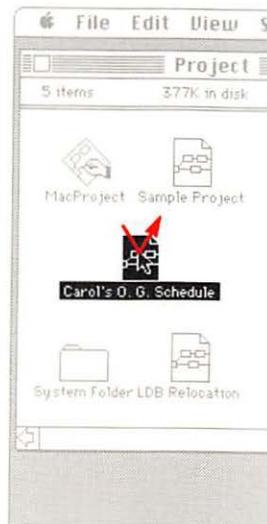
1. Select the icon that represents what you want to rename.
2. Type the new name.

You need to click an icon or its name to rename it, even if the icon is already selected. (This prevents your renaming something when you don't intend to.) There are some exceptions: when you create a new folder by choosing New Folder from the File menu or when you duplicate an item on the same disk or copy it to a different disk, typing renames whatever's selected, without your having to click on it.

The selected text (the old name) is replaced by the new text you type.

Use names that will help you identify the contents (the more specific, the better). Document and folder names can be up to 31 characters (though a name that long is a little unwieldy), and disk names can be up to 27 characters. You can use any character on the keyboard, except a colon (:). You can use uppercase or lowercase letters and put spaces between words.

3. If necessary, use the Edit menu to edit the text.



Copying or moving a document, folder, or application

You can use the Finder to copy a document, folder, or application to the same disk whenever you can see its icon. You might do this to make a backup copy. (See also “Copying an Entire Disk” later in this chapter.) Or you might want to make a copy of a document to work on without altering the original. For example, you might do this to create forms, letterheads, or templates.

You can copy a document, folder, or application to another disk whenever both disk icons—the one that holds the source and the one that represents the destination—are present. The source disk must be opened into a directory window so you can select the document, folder, or application you want to copy; the destination disk can be either in icon form or opened into a directory window.

To make a copy of a document while using an application, see “Managing Documents Within an Application” later in this chapter.

To copy to the same disk

1. Select the icon that represents the document, folder, or application you want to copy.

If necessary, insert the disk or disks that contain what you want to copy, open the disk icon and any folders you need to, and scroll until you see the icon.

See “Selecting Icons” earlier in this chapter for how to select more than one icon to duplicate.

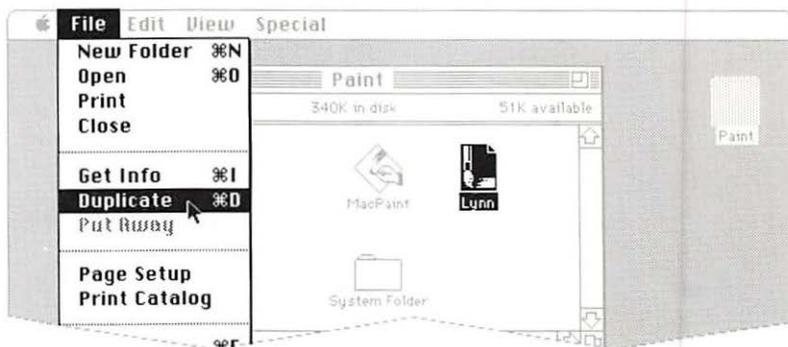
2. Choose Duplicate from the File menu.

A new icon appears. The duplicate icon has the same name as the original, preceded by the words *Copy of*.

You can drag the duplicate copy to any folder, disk icon, or window.

3. Rename the duplicate.

You can rename any duplicate copy of a document or folder by typing immediately after you create the copy. Any other time, you must click the icon that represents what you’re renaming before you type the new name. See “Renaming” earlier in this chapter.



To copy or move to a different disk

1. If necessary, insert the destination disk (so its icon will be present).
2. If necessary, insert the disk that contains what you want to copy.

If you're using a one-drive system, eject the destination disk before you insert the source disk.

3. Open the disk icon and any folders you need to, and scroll until you see the icon that represents what you want to copy.

See "Selecting Icons" earlier in this chapter for how to select more than one icon to copy.

4. Drag what you want to copy to its destination.

You can drag it to a disk or folder directory window, or to an icon (even a hollow icon) that represents the disk or folder you want it to be in.

In an open directory window, you can place the icon wherever you want. If you drag to an icon, the Finder places the item in the next available spot.

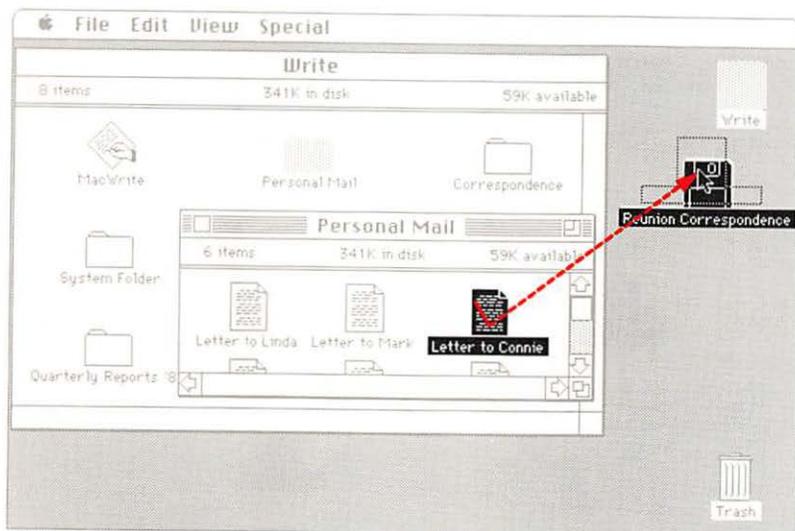
If you're using a one-drive system, the computer will present a series of dialog boxes, asking you to insert alternately the source disk and the destination disk.

If the destination disk already contains an item with the same name, you'll be asked to confirm that you want to replace the current contents with what you're copying.

The copy appears in the window you dragged to. (If you dragged to a disk or folder icon, the copy will appear in the directory window when you open the icon.)

5. If you're moving (rather than copying), drag the original to the Trash.

Whenever you drag from one disk to another, a copy of what you move is left behind for safekeeping. If you want to reclaim the space on the original disk, you can drag the remaining icon to the Trash and choose Empty Trash from the Special menu.



Removing or recovering an item

You can throw away a document, folder, or application whenever you can see its icon. The Trash can be visible as an icon or opened into a directory window.

When you put an item in the Trash, the Trash icon “bulges” to let you know there’s something in it.

What you put in the Trash is not immediately gone forever. If you open the Trash and can see the icon for a document, folder, or application in the Trash window, you can recover it.

Things won’t stay in the Trash indefinitely, but you can usually recover what you’ve thrown away unless one of these events occurs:

- You choose Empty Trash from the Special menu.
- The Finder needs the space.
- You start an application.
- You eject the disk the items came from by dragging it to the Trash.

To remove a document, folder, or application

1. Open the window that contains what you want to remove, and scroll until you see the icon or icons.
2. Drag the icon or icons that represent what you want to remove to the Trash icon or window.

Discard the contents of an entire disk by choosing Select All from the Edit menu and then dragging any item to the trash; the rest will follow.

To reclaim the space immediately, choose Empty Trash from the Special menu. (But be aware that you won’t be able to recover anything once you’ve emptied the Trash.)

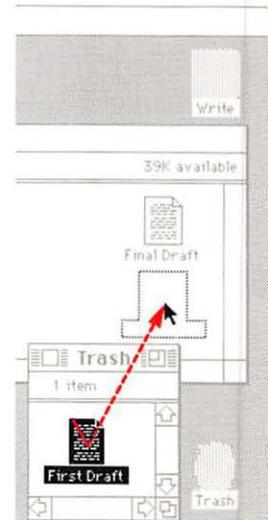


To recover a document, folder, or application

You can recover an item as long as you can see its icon in the Trash window.

1. Open the Trash window and scroll until you can see the icon that represents what you want to recover.
2. Drag the icon out of the Trash window onto the desktop or into another window.

If you can’t remember where items in the Trash came from, you can *select* what you want to recover and choose Put Away from the File menu. This puts the item back where it came from originally.



Locking a document or application

Locking a document or application prevents it from being renamed, thrown away, or changed. You can, however, open and print locked documents.

See “Disks” in Chapter 4 to learn how to lock disks physically.

To lock a document or application

1. Select the icon for the document or application you want to lock.
2. Choose Get Info from the File menu.

The information window appears, filled with information about the item.

3. Click Locked.

The Locked box is checked.

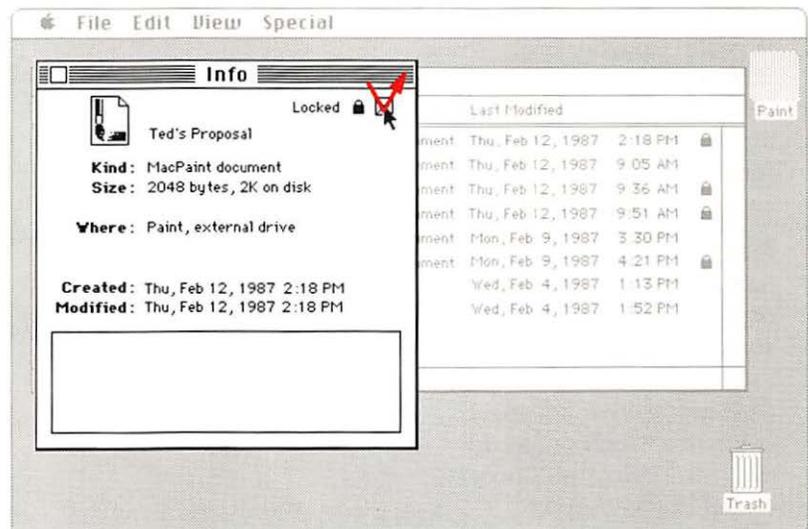
Directories in text views indicate which of your documents and applications are locked by displaying a small padlock (to the right of the document's name).

To unlock a document or application

1. Select the icon for the document or application you want to unlock.
2. Choose Get Info from the File menu.

The information window appears, filled with information about the item.

3. Click the checked Locked box.



Printing

In the Finder, you can print a document, a group of documents (if they were created by the same application), the contents of the entire screen, or a disk or folder directory. (With an ImageWriter® II, you can also print the contents of the active window.) You can print a document whenever you can see its icon and a disk that contains its application is currently inserted. When you print from the Finder, the document's application is opened automatically.

To print a document while using an application, see "Managing Documents Within an Application" later in this chapter.

If you're using an ImageWriter II, make sure that the printer is ready, the select light is on, and the paper is at the top of a form.

If you're using a printer other than the ImageWriter II, if you have more than one printer, or if your printer is attached somewhere other than the Printer port, use the Chooser desk accessory to tell the computer which printer to use. See "Using the Chooser" earlier in this chapter.

To choose a printer

1. Choose the Chooser desk accessory from the Apple menu.
2. Make sure the printer named and selected in the Chooser list box is the one you want to print to.

If the printer named is not correct, select the one you want. See "Using the Chooser" earlier in this chapter.

To print a document from within the Finder

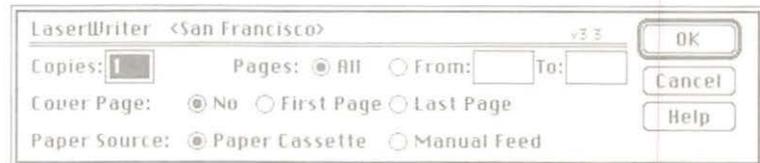
1. Select the icon that represents the document you want to print.

If necessary, insert the disk or disks that contain the document and the application you used to create it, open the disk icon and any folders you need to, and scroll until you see the document icon.

2. Choose Print from the File menu.

One or more dialog boxes might appear, with options for printing your document.

When you are printing documents from the Finder, Page Setup (from the File menu) does not apply.



To print a group of documents from the Finder

1. Select the document icons.

See “Selecting Icons” earlier in this chapter to see how to select more than one document to print.

If necessary, insert the disk or disks that contain those documents and the application you used to create them, open the disk icons and any folders you need to, and scroll until you see the document icons.

2. Choose Print from the File menu.

The selected documents will be printed.

To print the current contents of the entire screen

1. Make sure you are connected to an ImageWriter II.

You can't use this method with a LaserWriter®.

2. With Caps Lock down, hold down the Apple and Shift keys while you press 4.

If you're also pressing the mouse button, the action will start when you release the button.

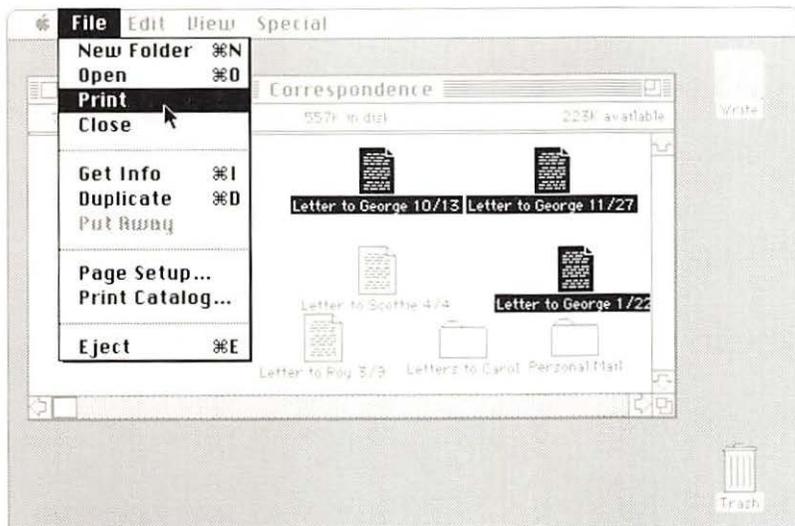
To print the current contents of the active window

1. Make sure you are connected to an ImageWriter II.

You can't use this method with a LaserWriter.

2. Hold down the Apple and Shift keys while you press 4.

If you're also pressing the mouse button, the action will start when you release the button.



To print the first-level directory of a disk or folder

1. In the Finder, select the disk or folder icon whose directory you want to print, or make the directory window active.
2. Choose Page Setup from the File menu to set paper size, printing orientation, and other options.
3. Choose Print Catalog from the File menu.
A dialog box will appear.
4. Select printing options from the choices that appear in the dialog box, and click OK or press Return.

The directory is printed in whatever view you have it arranged.

Anderson et al.			
Name	Size	Kind	Last Modified
<input type="checkbox"/> Anderson contract	14K	MacWrite document	Thu, May 21, 1987 7:37 AM
<input type="checkbox"/> Celebration Invitations	9K	MacPaint document	Wed, May 20, 1987 9:19 PM
<input type="checkbox"/> Kudos	--	folder	Tue, May 19, 1987 5:23 PM
<input type="checkbox"/> Permits	--	folder	Wed, May 6, 1987 9:14 AM
<input type="checkbox"/> Presentation Cover Art	13K	MacPaint document	Thu, Apr 23, 1987 5:16 PM
<input type="checkbox"/> Anderson Proposal Final	15K	MacWrite document	Thu, Apr 23, 1987 2:19 PM
<input type="checkbox"/> Status Reports	--	folder	Fri, Apr 17, 1987 7:09 PM
<input type="checkbox"/> Anderson Plan Additions	14K	MacDraw document	Fri, Apr 17, 1987 7:04 PM
<input type="checkbox"/> Anderson Proposal III	16K	MacWrite document	Thu, Feb 26, 1987 6:45 PM
<input type="checkbox"/> Subcontractors	--	folder	Sat, Feb 7, 1987 3:23 PM
<input type="checkbox"/> Anderson Proposal	17K	MacWrite document	Mon, Jan 26, 1987 4:53 PM
<input type="checkbox"/> Financial Analysis	--	folder	Thu, Jan 15, 1987 10:37 AM
<input type="checkbox"/> Anderson proposal II	17K	MacWrite document	Wed, Jan 14, 1987 9:35 PM
<input type="checkbox"/> Evaluations	--	folder	Fri, Jan 9, 1987 10:11 AM
<input type="checkbox"/> Transmittals	--	folder	Wed, Jan 7, 1987 12:28 PM
<input type="checkbox"/> Anderson Site Plan	27K	MacDraw document	Tue, Dec 2, 1986 9:45 PM
<input type="checkbox"/> Miscellaneous Notes	--	folder	Mon, Jul 7, 1986 1:26 PM

Using the MiniFinder

You may want to install the documents and applications you use most often in the MiniFinder. It's less cluttered than the Finder, but it has few of the Finder's features.

You can install the MiniFinder on any disks that contain applications, whether or not they're startup disks. The computer always starts up with, and applications quit to, any MiniFinder on the current startup disk.

To install what you want in the MiniFinder

1. In the Finder, select what you want to place in the MiniFinder.
2. Choose Use MiniFinder from the Special menu.

You can select up to 12 mixed or matched documents and applications, as long as they are in the same directory window (drag them there if necessary). Any applications needed to work on documents in the MiniFinder must be on the same disk, but don't have to be in the MiniFinder. If you move an application to a different folder after you've installed the MiniFinder, however, the MiniFinder won't be able to find it.

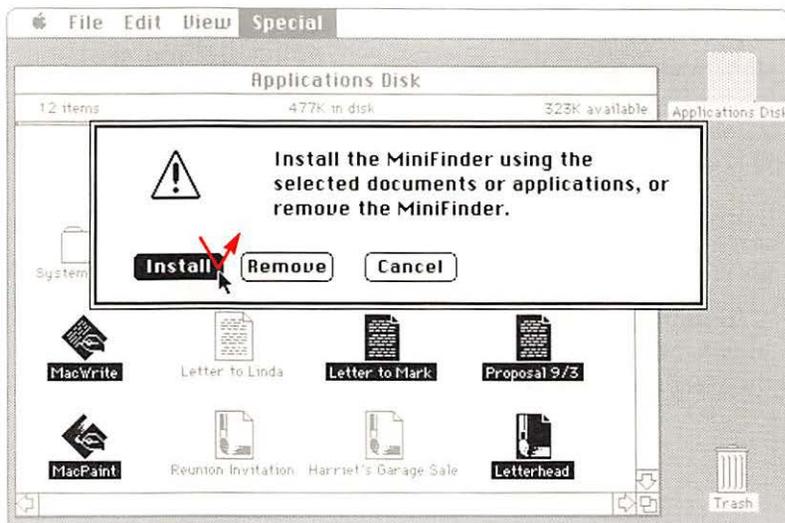
See "Selecting Icons" earlier in this chapter.

If the command is dimmed, the disk may be locked.

3. Click Install.

A MiniFinder icon is placed in the System Folder.

The next time you start your computer using this disk, or quit an application on this disk, the MiniFinder will appear instead of the usual desktop.



To use the MiniFinder

1. Open an application or document in the MiniFinder by selecting it and clicking Open or by double-clicking its icon.
2. When you are finished with that application or document, you have several choices:
 - Return to the Finder by clicking Finder or pressing Enter. (Click Drive to change drives, if necessary.)
 - Open other applications on the same or different disks by clicking Open Other.A dialog box appears. It's the same dialog box you see when you choose Open within an application, but in the MiniFinder you see and open applications rather than documents. See "Managing Documents Within an Application" later in this chapter.
 - Eject any inserted disks and restart the computer by clicking Restart.
 - To see MiniFinders installed on other disks, use the Eject and Drive buttons.

To change what is included in the MiniFinder

1. In the MiniFinder, click Finder.

Use the Drive button first if necessary.
2. In the Finder, select what you want to place in the MiniFinder.

See "Selecting Icons" earlier in this chapter.

You can select up to 12 mixed or matched documents and applications.

The documents and applications you select must be in the same directory window. Drag them there if necessary. Any applications you need to work on documents in the MiniFinder must be on the same disk, but they don't need to be in the MiniFinder. If you move an application to a different folder after you've installed the MiniFinder, the MiniFinder won't be able to find it.
3. Choose Use MiniFinder from the Special menu.
4. Click Install.

To remove the MiniFinder

1. In the MiniFinder, click Finder.

Use the Drive button first if necessary.
2. Choose Use MiniFinder from the Special menu.
3. Click Remove.

Dragging the MiniFinder icon to the Trash also removes the MiniFinder.

Managing documents within an application

You can do quite a lot of document management without leaving the application you're using. You can open documents, close them, save them, and print them. And you can organize your work using the same folders you create in the Finder.

Usually when you choose Open or Save As within an application you can see the names of folders you created in the Finder.

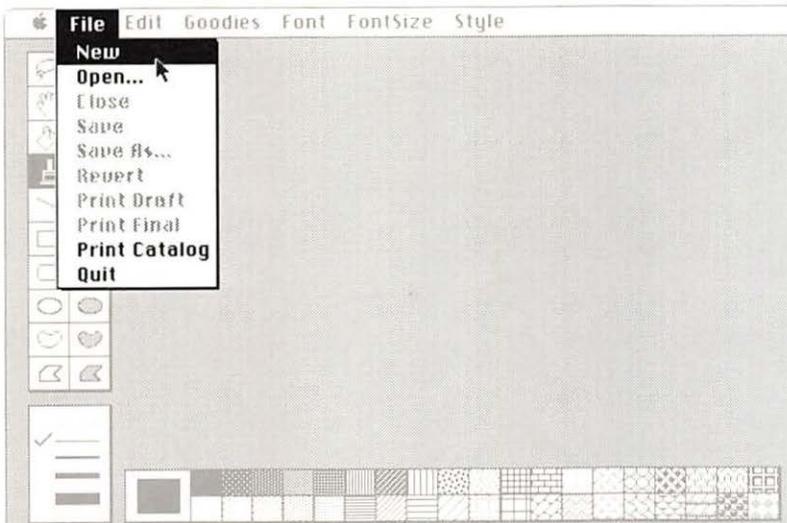
To create a new document

1. If necessary, save any unsaved changes and then choose Close from the File menu to close the current document.

With some applications, you can have just one document open at a time.

2. Choose New from the application's File menu.

A new document appears. In most applications, you name the document the first time you save it; in a few applications, you must name the document as soon as you create it.



To open an existing document

1. If necessary, save any unsaved changes and then choose Close from the File menu to close the current document.

With some applications, you can have just one document open at a time.

2. Choose Open from the application's File menu.

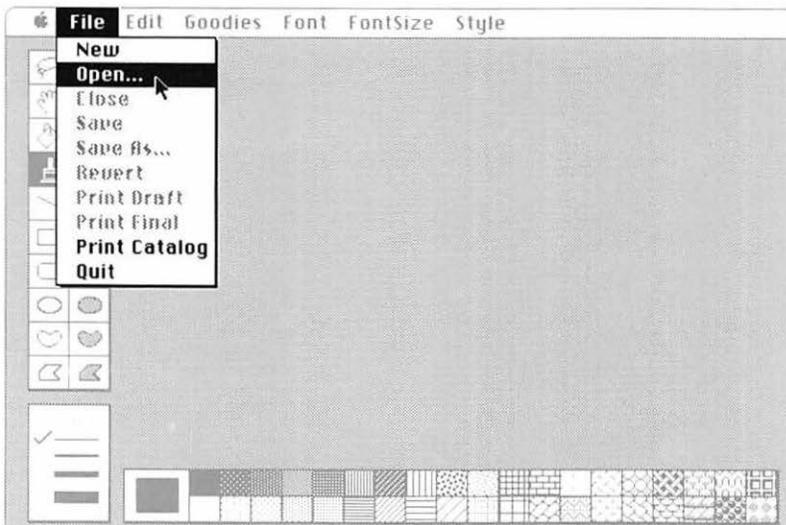
A dialog box appears, with a directory of the current folder or disk. The directory name (and a folder or disk icon) is above the alphabetized list of the directory's contents; the name of the current disk (and a disk icon) appears to the right.

The folders in this dialog box correspond to the folders you create in the Finder. You open them by selecting them and choosing Open, or by double-clicking them.

Within applications, folders show only the documents the current application can open, even if the corresponding folders in the Finder contain other documents or applications.

□ To see the contents of a folder in the current directory, select its name and click Open, or just double-click on its name.

You see the contents (both folders and documents) of the folder you open. You can move through the entire hierarchy of folders in this same way, opening folders within the currently open folder, until you reach the document you want to open.



□ To trace your way back through the hierarchy of folders, press on the directory name and choose the folder you want.

A list appears below the directory name when you press on the name or anywhere in the bar that contains the name. Each folder in the hierarchy is in the list, and the disk directory (which includes anything on the disk that's on the desktop or not in any folder) is at the end of the list.

□ To close the currently opened folder and drop back to the preceding level in the directory, click on the disk icon that appears above the Eject and Drive buttons. (You can repeat this until you get to the top of the hierarchy.)

□ To see documents and folders on other disks, use the Drive and Eject buttons.

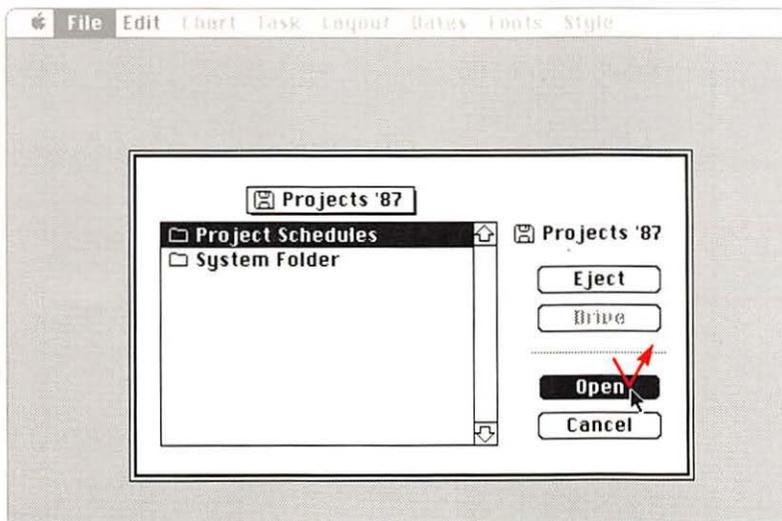
Clicking Drive (or pressing the Tab key) always brings you to the top level of any disk inserted in a second drive.

3. Open the document you want to work on by clicking on its name and then clicking Open (or just double-click on its name).

To select a document or folder in the current directory quickly, type the character or characters you want to find and to select. If you *pause* while typing, the next character you type is considered a new request rather than a continuation of the old. The Delay Until Repeat setting in the Control Panel determines how long the pause can be before subsequent typing begins a new request.

You can also use the direction keys to move up and down the list of names.

You always enter the hierarchy of documents and folders at the place you last opened a document from or saved a document to.



To save a document

A document is stored only temporarily until you save it on a disk.

- Choose Save from the application's File menu.

Use the Save rather than the Save As command for routine, periodic saving of your document. The Save command saves a document with its original name on the same disk. Choose Save As when you want to save the current document with a different name, or to copy it to a different folder or disk.

If this is a new document that hasn't yet been saved, you see the same standard file dialog box that appears when you choose the Save As command. See "To Save a Document With a Different Name, or in a Different Folder, or on a Different Disk" in the next column.

To save a document with a different name, or in a different folder, or on a different disk

1. Choose Save As from the application's File menu.

A standard file dialog box appears, with a directory of the folders contained in the current folder or disk. The directory name (and a folder or disk icon) is above the alphabetized list of the folders it contains; the name of the current disk (and a disk icon) appears to the right.

The folder names in this dialog box correspond to the folders you create in the Finder.

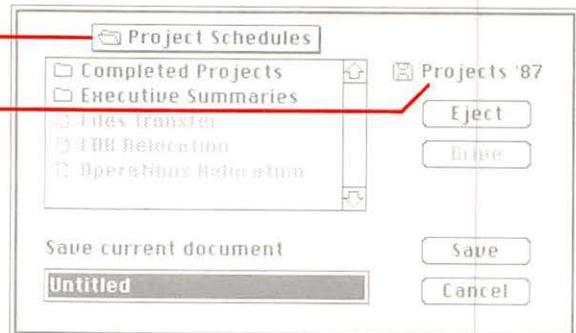
□ To see folders or documents inside a folder in the directory, double-click on the folder's name. You see any folders within the folder you opened.

You can move through the entire hierarchy this way. Open folders within the currently open folder, until you open the one you want to save your document in.

When you're saving (rather than opening) documents, you see the entire contents of the destination folder. All items except folders appear dimmed.

Directory name

Current disk



□ To move back through the hierarchy of folders, press on the directory name and choose the folder you want.

A list appears below the directory name when you press on the name or anywhere in the bar that contains the name. Each folder in the hierarchy is in the list, and the disk directory (which includes any folder on the disk that's on the desktop or not in any other folder) is at the end of the list.

□ To see folders on other disks, use the Drive and Eject buttons.

□ To close the currently opened folder and to drop back to the preceding level in the directory, click on the disk name.

Clicking Drive or pressing the Tab key always brings you to the top level of any disk inserted in a second drive.

2. Type a new name for the document if it's a new document or if you want to change the current name; otherwise it will be saved with the same name.

You can use any character or symbol on the keyboard except a colon (:). You can use uppercase or lowercase letters and put spaces between words. Names can be any length up to 31 characters, but long names can become unwieldy. It's usually best to limit them to the space you have to type them in.

3. To save the current document in the folder named at the top of the list, click Save.

You always enter the hierarchy of documents and folders at the place you last opened a document from or saved a document to.

Even though more than one document on a disk can have the same name as long as they're in separate folders, it may be easier to keep track of documents if you give each version a different name.

To print a document while within an application

1. Choose Page Setup to set printing options such as page orientation and paper size.

If you tend to use the same setup all the time, you can usually skip this step.

2. Choose Print from the File menu.

In most applications, one or more dialog boxes appears. You can click the various options to control the way your printed document will look. See "Printing" earlier in this chapter for information about printing from the Finder.

If you're using a printer other than an ImageWriter II, if you have more than one printer, or if your printer is attached somewhere other than the Printer port, use the Chooser desk accessory to tell the computer which printer to use. Some applications may not let you use the Chooser; choose Quit and use the Chooser in the Finder. See "Using the Chooser" earlier in this chapter.

Managing disks

You'll use the Finder to manage entire disks as well as the documents, folders, and applications on them. Renaming disks works the same as renaming any icon. See "Renaming" earlier in this chapter.

Chapter 4, "Macintosh II Reference," contains additional information about disks.



Initializing a 3.5-inch disk

Whenever the computer encounters a disk it can't interpret, a dialog box appears and asks whether you'd like to initialize the disk. With an 800K disk drive, you have three choices: to initialize the disk with a one-sided format, to initialize with a two-sided format, or to eject without initializing.

Initialize single-sided disks to be one-sided and double-sided disks to be two-sided. (Single-sided disks hold 400K worth of information; double-sided disks hold 800K.) Disks that are initialized one-sided don't use the hierarchical file system and don't show any folder names when you use the standard file from within applications, as you do whenever you choose Open or Save As from the application's File menu. To use folders within applications, you need both a double-sided disk initialized two-sided and a startup disk.

No matter how you initialize them, you always insert disks in the same way—metal end first, label side up.

In the Finder, you can initialize disks that have information on them by choosing Erase Disk from the Special menu. This erases everything on the disk (after giving you the appropriate warnings, of course) and gives you the same initialization choices you get with a new disk.

You can initialize disks from within an application without losing any information in memory, so you can initialize them as you need them.

To initialize both sides of a double-sided disk

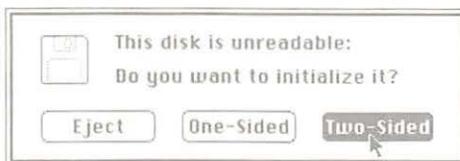
1. Insert a double-sided (800K) disk you want to initialize.
2. In the dialog box that appears, click Two-Sided.

Initialization will begin, and you'll have to wait a few seconds.

3. Type a name for the disk.

To avoid confusion, be sure to give disks different names.

Initializing a disk this way installs the hierarchical file system, letting you use folders within an application as well as in the Finder. Whenever you choose Open or Save As or save an untitled document while you're in an application, you'll see and be able to use the same folders you use in the Finder. See "Using Folders" and "Managing Documents Within an Application" earlier in this chapter, and "The Hierarchical File System" in Chapter 4.



To initialize a disk so you can use it in a 400K disk drive

Once you've initialized a disk with the two-sided format, you can't use it in a 400K disk drive; the 400K disk drive won't be able to read it. You'll be asked if you want to initialize the disk, and clicking Initialize will erase everything on the disk.

Never initialize a single-sided disk with the two-sided format. The second side of the disk has not been tested for reliability, and you could lose all the information on the disk.

1. Insert the disk you want to initialize.
2. Click One-Sided.

Initialization will begin, and you'll have to wait a few seconds.

3. Type a name for the disk.

To avoid confusion, be sure to give disks different names.

You can initialize an 800K disk to be one-sided so you can use it in a 400K disk drive. But it makes only half the disk space available to you and doesn't install the hierarchical file system, so you won't be able to use folders within applications on the disk.

Ejecting a disk

To get information from or save information onto a disk not currently inserted, you sometimes first need to eject a disk.

If the computer needs the ejected disk later, it will ask for it.

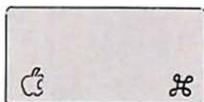
To eject a disk

1. Select the icon that represents the disk you want to eject.

Or you can make the disk directory window active if you've opened the disk icon.

2. Choose Eject from the File menu.

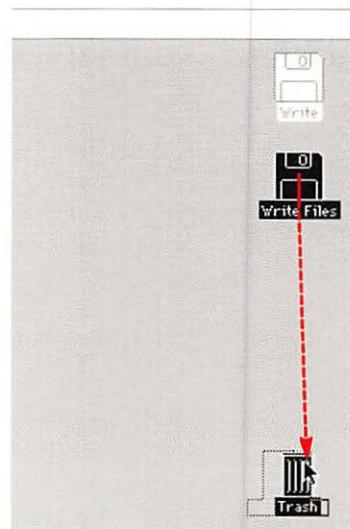
Or hold down the Apple key and press E.



Dragging a disk icon to the Trash both ejects the disk and removes the icon from the desktop. (The computer won't ask for it again.) If you drag the current startup disk to the Trash, the computer ejects the disk but doesn't remove its icon. Nothing on the disk is erased, in either case.

Choosing Eject usually ejects a disk (if one's inserted and it's not a hard disk), even if none is selected. The Finder looks for an inserted disk to eject.

Choosing Restart from the Special menu also ejects any inserted disks and restarts the computer. Choosing Shut Down ejects any inserted disks and shuts the computer off.



Creating a startup disk

Your computer needs certain information to be able to start up properly. Disks that contain this information (in system files such as System and Finder in the System Folder) are called **startup disks**. Because this information can take a fair amount of room on a disk, you probably won't want to have all your disks be startup disks—especially if you're using more than one disk drive. But unless you're using a hard disk, you need to use a startup disk each time you start your computer.

In the Finder, the current startup disk's icon appears in the top-right corner of the desktop.

See "Startup Disks" in Chapter 4.

- ❖ *Hard disk users:* Use your hard disk as your startup disk. See Appendix A, "Working With Hard Disks."

To create a startup disk

1. Insert a startup disk.

If you're using a one-drive system, eject this disk before going on to the next step, by choosing Eject from the File menu.

2. Insert a new disk (or any disk with enough space for the System Folder you want to add).

If the disk isn't initialized for a Macintosh computer, you'll be asked if you want to initialize it. See "Initializing a 3.5-Inch Disk" earlier in this chapter.

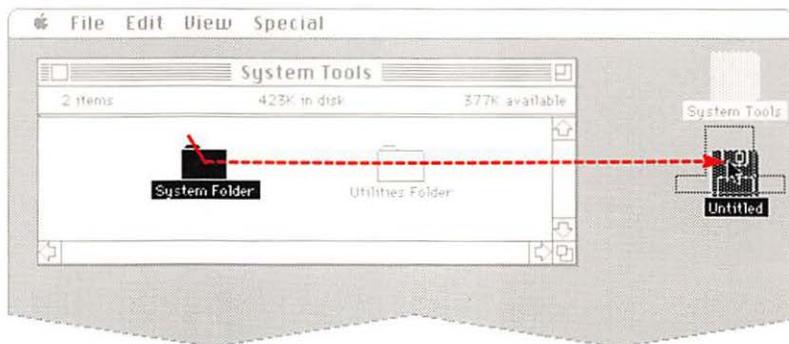
3. Drag the System Folder to the new disk icon.

Startup disks can also contain applications and documents, depending on how much space you have on the disk.

To make a startup disk a nonstartup disk

You may want to turn a startup disk into a nonstartup disk (a disk just for storing documents), especially if you're using a hard disk as your main startup disk.

1. Start the system using any disk other than the one you want to be a nonstartup disk.
2. Insert the disk you want to change to a nonstartup disk.
3. Drag the System Folder to the Trash.



Copying an entire disk

You can copy an entire disk whenever you can see both its icon (the source disk icon) and the icon of the disk you want to copy to (the destination disk icon).

Give each disk a unique, meaningful name (either when you're asked to name a new disk or after you finish the copying process). If each disk has a unique name, it will be easier to keep track of your documents, and you'll know which disk to insert when the computer asks you for a specific disk. See "Names of Disks and Documents" in Chapter 4.

To copy a disk

1. Insert both the source disk and the destination disk.
2. Drag the source disk icon to the destination disk icon.

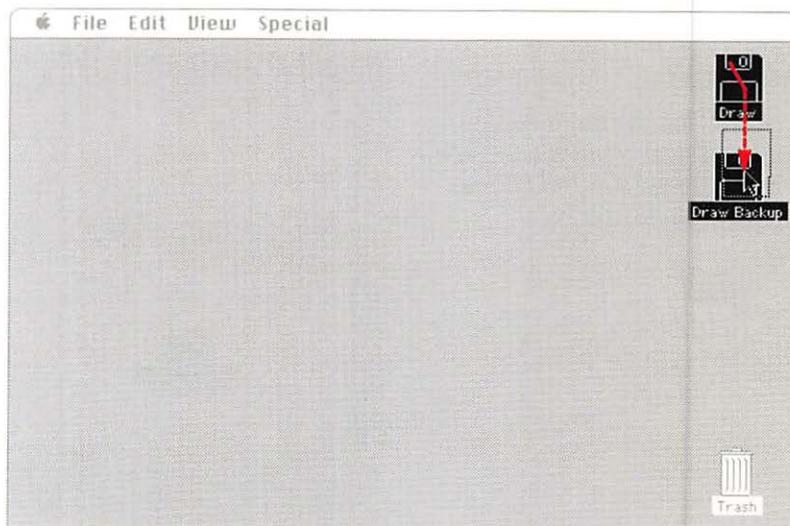
If necessary, first eject any other disk by selecting its icon and choosing Eject from the File menu. If you're using a one-drive system, insert and eject the destination disk, and then insert the source disk.

If the destination disk is a new disk, you'll be asked if you want to initialize it. See "Initializing a 3.5-Inch Disk" earlier in this chapter.

You'll be asked to confirm that you want to replace the existing contents of the destination disk with the contents of the source disk.

The computer will tell you if there's not enough room on the destination disk—if you're trying to copy a full 800K disk to a 400K disk, for example.

If you're dragging to a hard disk, items with the same name on the hard disk aren't replaced. Instead, the system creates a folder with the name of the source disk, and its contents are copied into that folder.



Using the Installer

You use the **Installer** to update startup disks and to install resources on startup disks. Printing resources are system files that usually have the same names as the printers themselves.

Peripheral devices such as hard disks and file servers also have resources.

It's a good idea to use the Installer to keep all of your startup disks current with the latest system files available. You can see which version of the Finder you're using by choosing About the Finder from the Apple menu. The version number should be 5.4 or later. Check with your authorized Apple dealer for possible further updates.

With a startup disk that uses a Finder version 4.1 or earlier, folders and all their contents may not appear when you choose Open or Save As within an application, or folders may appear empty in the Finder. Don't worry if this happens. Just use the Installer to update the startup disk. Your "missing" folders and their contents will reappear the next time you choose Open or Save As.

If you don't update your startup disks, characters you type on your keyboard may produce the wrong results in certain applications. For example, typing "=" may generate "," instead.

Although the Macintosh II lets you move items in and out of System Folders just as with any other folder, leave the System and Finder together in the same System Folder. Use the Installer to keep each of your startup disks current rather than dragging these files among startup disks.

Applications you purchase may not include the latest system files on their startup disks. If your system doesn't include the internal hard disk, update each startup disk you use with your Macintosh II in this same way. If you have a hard disk, just copy all your applications to the hard disk and start your computer from the hard disk.

To use the Installer to update or install resources on startup disks

1. Start the Macintosh II with the System Tools disk.

You can't replace the system files on the current startup disk because the system is using them.

The Installer is in the Utilities Folder on the *System Tools* disk. Use it there or copy the Installer, the System Folder, the Font/DA Mover, and the Installation Scripts folder to another disk.

2. Open the Installer.

Either select the icon and choose Open from the File menu or double-click the icon.

3. Insert the startup disk you want to update.

If you have only one 3.5-inch drive, first eject the disk that contains the Installer.

The Installer will update the disk named at the top right. If that is not the disk you want, click Drive to search for other disks.

4. Select Macintosh II Update and any other printing resources you want.

Shift-click to select more than one item in the list.

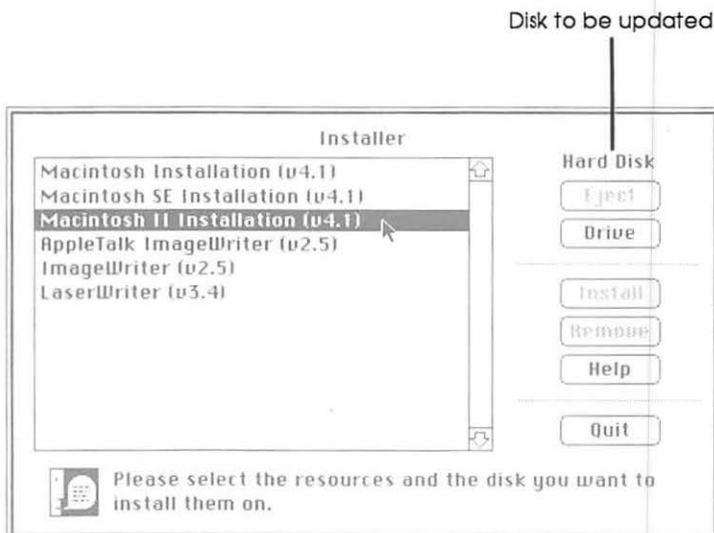
As you select each resource, the Installer checks the disk's available memory and informs you how much free space will be left on the disk after the update is complete. (This takes a few seconds for each selection.)

5. Click the Install button.

Installing Macintosh II automatically updates any existing system resources on the disk. You can also select any printing resources you want to add.

If you intend to use the disk you're updating on an Macintosh II and on another model of Macintosh computer, select Universal System Update instead of Macintosh II. Universal System Update requires more disk space, but it lets you use the disk on most models of the Macintosh computer (except the Macintosh 128K).

You can use the Font/DA Mover to customize the disk with the fonts and desk accessories you want to use with it. See the *Macintosh System Utilities User's Guide* for information on the Font/DA Mover.







Chapter 4

Macintosh II Reference

The first half of this chapter describes your Apple Macintosh II computer in general. Although some details may change from application to application, this is the way your computer usually works.

“Finder Reference” and “Finder Menus” provide specific information about the Finder, the application for organizing and managing your documents. These sections of the chapter describe the functions and effects of windows, icons, and menus in the Finder, and also discuss the things the Finder manages.

The last part of this chapter describes some shortcuts you can use when you are working with your Macintosh II.

What Macintosh II is: Its parts

The basic Apple Macintosh II computer system includes the monitor, the main unit, the keyboard, and the mouse. The monitor is where you keep track of what you're doing. The **main unit** is really the heart of the computer and contains

- the processor—which does the actual work of the computer
- 1 megabyte (1MB) of memory—where the computer stores the information you're currently using
- a built-in 800K disk drive—which records and retrieves the information that's stored on a disk
- an optional hard disk (internal or external)—for added disk space (20, 40, or 80 megabytes) and greater efficiency and speed
- slots that will accept expansion cards—which allow you to add to the capabilities of your Macintosh II

Besides getting information from the disk drive, your computer can also get information directly from you when you use the keyboard or the mouse, or from other peripheral devices (through the **SCSI port** or the **serial ports** on the back of the main unit). These computer parts that you can see and touch are called **hardware**.

Software is the collective term for all the programs your system uses. For example, the Macintosh II comes with system software and utilities programs, many of which work behind the scenes keeping your desktop organized and making it easier for you to do your work. In addition, there are a great many application programs you can use—such as MacWrite for words, MacPaint for pictures, MacDraw for structured graphics, MacTerminal™ for electronic communications, and MacProject™ for project management.

You can add to your basic computer system as your needs grow, choosing from a large and constantly growing family of hardware and software products. See Chapter 5, “Expanding Your Macintosh II System,” for a few ideas.

Where does your information go?

When you open an existing document so you can revise it (the perfect first draft has yet to be created), the computer leaves the original on the disk and brings a *copy* into the computer's **memory**. When you've finished making changes on the copy, you decide whether you want to keep the new version or not.

You usually have the option of saving the new version with the original name, saving it with a different name, or not saving it at all. If you save the new version with the same name as the original, it replaces the original on the disk. If you don't use the same name, with most applications the original on the disk isn't changed. It's like having an original document and making photocopies of it to edit. When you've tried different changes and are satisfied with a particular version, you can change the original.

Any document you're working on is being held—temporarily—in the computer's memory. If you accidentally trip over the power cord or the electricity goes off, everything you've done—but haven't saved—vanishes forever. So that your work will be there when you need it, save it on a disk (by choosing Save from the File menu) every 15 minutes or so. That way you'll never lose more than

a coffee break's worth of work. (With certain data base programs you can lose everything—even what you've saved—if there's a power failure of any sort. If the work you're doing in a data base is important, it's a good idea to make frequent backup copies of your work on a 3.5-inch disk for insurance.)

- ❖ *Automatic saves:* Some applications save changes you make to a document as soon as you make them; the manual that comes with the application lets you know if this is the case.

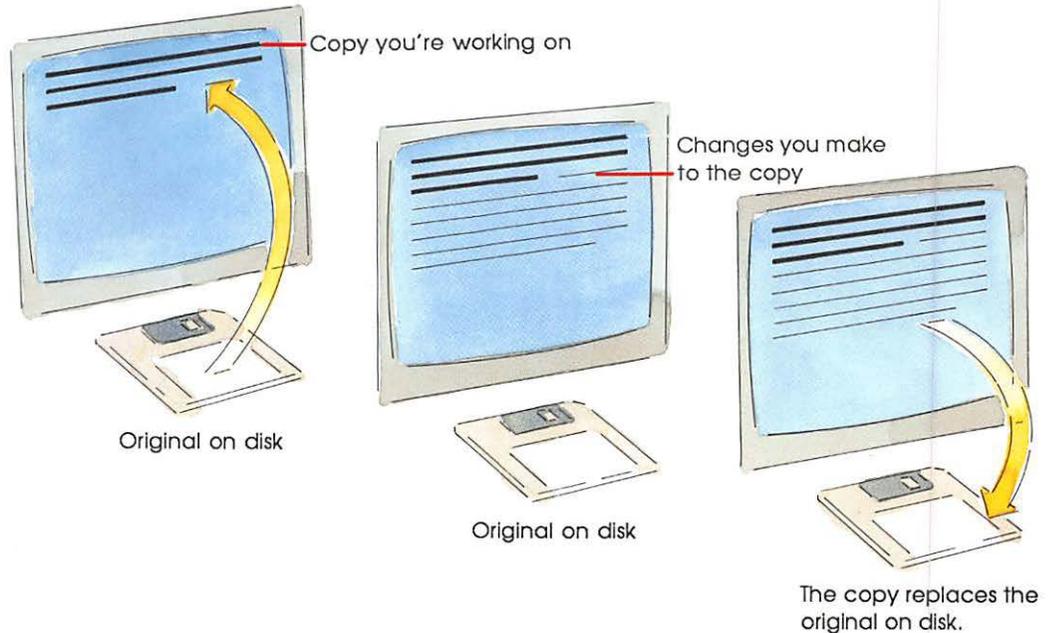


Figure 4-1
Where information goes

The keyboard

Your computer's keyboard includes character keys, numeric keys, arrow keys, and other special keys. This section gives a brief description of what the keys do.



Figure 4-2
Keyboard

Character keys

The character keys are just like keys on a typewriter. Use them to type any character, including numbers and symbols such as =, [, and \$. Character keys repeat when held down. Use the Control Panel to set the rate of repeating; see “Using the Control Panel” in Chapter 3.

Numeric keys

In addition to the numerals 1 through 0 along the top of the keyboard, there is also a built-in numeric 10-key pad on the right side of the keyboard. For accountants and others who enter a lot of numbers and use calculators frequently, this pad will be familiar.

Arrow keys

The arrow keys (sometimes called *cursor keys*) let you use the keyboard to move around the computer screen when it's inconvenient to use the mouse.

Special keys

Some keys are used in combination with character keys to produce different characters or to issue menu commands. Others perform more specific actions. These keys are described below, starting at the top of the keyboard and moving counterclockwise.

Power On

This is the long key at the top of your keyboard. You press it to turn on your system when it's been turned off.

Esc

Esc stands for *Escape*, and that's what this key is usually for. (It generally means the opposite of Return or Enter.) Pressing Esc usually cancels a choice or gets you out of tight spots. Not all applications use Esc.

Tab

The Tab key moves the insertion point horizontally to the next stopping place (such as a tab stop). In dialog boxes, pressing Tab usually selects the next place to supply information.

Control

Like the Apple key, the Control key works in combination with other keys to provide shortcuts or to modify other actions.

Shift

When you hold down the Shift key, character keys produce uppercase letters or the upper character on the key. Sometimes Shift modifies other actions: for instance, in the Finder holding down the Shift key while you click lets you select more than one icon.

Caps Lock

The Caps Lock key is a Shift key for letters only. When the Caps Lock key is engaged, letter keys produce uppercase letters, but number and symbol keys aren't affected.

Option



Generally, if you hold down the Option key while you press other character keys, the result will be an optional character set of accented and special characters. If you press the Option key along with the Shift key (or Caps Lock), you'll get another version of some optional characters. Figure 4-3 shows the optional characters in the Chicago font.



Figure 4-3
Optional characters

White = Characters produced by holding down the Option key while you type another character

Red = Characters produced by holding down the Option key and the Shift key while you type another character

You can use the Key Caps desk accessory to see the optional characters in any font installed in the current startup disk's System file. See "Desk Accessories" later in this chapter.

Using the Option key with certain character keys lets you enter accented characters:

Option-`	` (grave accent)
Option-e	´ (acute accent)
Option-i	ˆ (circumflex)
Option-u	¨ (umlaut)
Option-n	˜ (tilde)

Typing the Option key combination followed by another character produces that character accented with that diacritical mark. (For example, if you hold down the Option key and press the grave key, then release those keys and type a, you'll get *à*— as in *à la carte*.) If for some reason a character can't be accented by the mark you've chosen, you get the mark, followed by the character. Typing the Option key combination twice gives you the diacritical mark alone.

Apple



Holding down the Apple key (it's the one with the  and the cloverleaf symbols) in combination with another key is often a shortcut to choosing a command from a menu. When there is an Apple key equivalent to a command in a menu, it will be listed in the menu. Sometimes the Apple key modifies other actions: for instance, holding down the Apple key while typing a period (.) sometimes cancels a long operation in progress—such as printing.

Important

The Apple key has two icons on it: one looks like a cloverleaf, and the other is an apple. Earlier Macintosh keyboards had just the cloverleaf, and many applications refer to this key as the Command key. If your application tells you to press the Command key, this is the key it means.

Enter

In a dialog box, pressing Enter is the same as clicking the button that confirms the default command (such as OK) or the outlined button if there is one. In this context, Enter and Return operate the same way. Certain software applications (such as spreadsheet programs or data base managers) will require that you press Enter (*not* Return) when you want to put data into specific fields.

Clear

Clear deletes the current selection, just as the Delete key does. In some applications, Clear may have other functions. See each application's manual.

Delete

The Delete key deletes the current selection. When the selection is simply the insertion point, Delete backs over and deletes text.

Return

The Return key moves the insertion point to the beginning of the next line. In a dialog box, pressing Return is the same as clicking the button that confirms the default command (such as OK) or the outlined button if there is one.

Disks

Disks store information and come in different sizes and shapes. The next few sections apply mostly to 3.5-inch disks. Hard disks are discussed in more detail in Chapter 5, "Expanding Your Macintosh II System," and in Appendix A, "Working With Hard Disks."

Apple 3.5-inch double-sided disks store 800 kilobytes (800K), or about 160 pages per disk, and are labeled *Double Sided*. Some space on each disk is used for keeping track of the disk's contents. (This is where the disk's directory information is stored.) The amount of space set aside for the directory depends on how much information is on the disk.

Initializing disks

Before your Macintosh II can get information from or save information to disks, the disks need to be **initialized** in a format your computer understands. (A blank disk is like a parking lot without divider lines. Before it can "park the cars," your computer has to "draw in the white lines.") Any time you insert an

uninitialized disk or a disk your computer can't read (because it's damaged or it's initialized for a different kind of computer), a message appears asking you (1) if you'd like to initialize the disk for the computer and (2) whether you want to initialize the disk to be one-sided or two-sided.

The Macintosh II's 800K disk drive(s) can read disks initialized with either a one-sided or a two-sided format, and can use the older-style 400K disks. In other words, it's all right to use a combination of one-sided and two-sided, 400K and 800K disks.

If you're using 800K disks, you'll usually initialize them with a two-sided format. This kind of initialization gives you the full 800K of space on the disks so that you can use both sides of the disk to store applications and data. It also gives you the hierarchical file system (letting you use folders within applications as well as in the Finder). The one-sided format gives you only 400K of storage and normally gives a "flat" directory system, in which the titles of folders don't show up in the directory window when you store or retrieve documents within applications.

Important

Be sure to initialize 400K disks to be one-sided only. Although the computer will sometimes let you initialize a 400K disk to be two-sided, the second side of the disk has not been tested for reliability, and you'll regret the decision to initialize both sides the day you lose all the information on the disk.

If you've initialized an 800K disk two-sided, you *cannot* use it in a 400K disk drive. If you try, a dialog box asks if you want to initialize the disk with a format the drive can read. Clicking Initialize erases all the information on the disk.

If you are using an application and insert an unformatted disk, you can initialize the disk from within the application without losing any information currently in the computer's memory.

You can also initialize disks that have information on them by using the Erase Disk command in the Special menu in the Finder. This erases everything on the disk and asks whether you want to reinitialize the disk.

Table 4-1 shows specific information on which disks to use in which drive.

Table 4-1
Disks and drives

	400K disk drive	800K disk drive
400K disk initialized one-sided	yes	yes*
800K disk initialized one-sided	yes	yes†
800K disk initialized two-sided	no	yes

* You might want to copy applications from 400K disks to two-sided 800K disks. Some applications, however, may be copy-protected. You can continue to use these applications from one-sided 400K disks. You can always copy a 400K data disk to an 800K disk, and gain the extra 400K for your own work.

† 800K disks can be initialized to be one-sided, but you'll be able to use only 400K on the disk and you won't see folders within applications on this disk.

Locked disks

You can prevent any information on a 3.5-inch disk from being changed by sliding the colored tab toward the edge of the disk (revealing a small hole). This is called **locking** a disk. You can lock specific documents and applications (and folders, if you're using a file server such as AppleShare™) by choosing Get Info from the File menu. See "Locking a Document or Application" in Chapter 3 for instructions.

When a disk is locked, you can't add new information to it or change any information on it. You can open (and usually print) the documents it contains, but you won't be able to save, delete, rename, move, duplicate, or change any information on it.

To allow the disk to be altered again, slide the tab to cover the hole.

- ❖ *Locked disks and applications:* Some applications might not work with a locked disk, and the Finder can't remember anything you've done on the desktop when you're using a locked disk. Some desk accessories might not work properly if the current startup disk is locked.

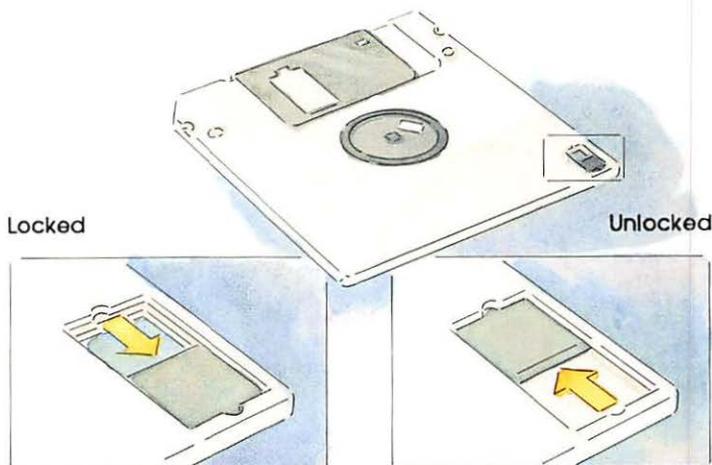


Figure 4-4
Locking and unlocking a disk

Names of disks and documents

Every disk, document, application, and folder has a name. You name disks when you initialize them, you name documents when you save them for the first time (some applications make you name a document as soon as you create it), and you usually name folders when you create them. You can change a name at any time with the Finder.

There are a few restrictions to the names you can give. A disk name can contain up to 27 characters (including spaces); a document or folder name can contain up to 31 characters.

A name can't contain a colon (:). Other than that, you can use any characters you can type on the keyboard.

You can have multiple documents or folders with the same name as long as they're in separate folders and the disk is initialized two-sided (or is a hard disk) and allows for the hierarchical file system.

You can't have two items with the same name in the same folder. When comparing names, your computer considers uppercase and lowercase letters to be equal, so *saturday* and *Saturday* are the same.

Important Don't give documents the same name as applications. If you move a document named *MacWrite* to a folder that has the MacWrite application in it, you'll be asked if you want to replace the existing MacWrite. Clicking OK will destroy the application and replace it with the document.

It's a good idea to give disks unique names. Sometimes your computer will ask you for a specific disk by name, and it's confusing to have a lot of disks with that same name. (Your computer can be very picky about which one it wants.) It's also a good idea to write each disk's name on its label.

Startup disks

The *System Tools* disk that came with your computer contains system files the computer needs to get itself started. Disks that contain these files are called **startup disks**.

These system files are stored in the System Folder. Because the computer expects to find them there when it needs to use them, you should keep them in the System Folder.

A startup disk always includes in the System Folder at least a System file and a Finder file (both represented by Macintosh icons). It also usually includes at least one printing resource, such as the ImageWriter, AppleTalk ImageWriter, LaserWriter, or LaserWriter Prep file. You should also find other files on a startup disk—Scrapbook file, Clipboard file, and so on. These files contain information that's used only by certain applications and desk accessories.

Besides giving your computer the information it needs to get itself started, the System Folder on the startup disk determines

- which fonts you have available when you use an application (in the System file on the startup disk you're using)
- which desk accessories are in the Apple menu (also in the System file)
- what's in the Scrapbook desk accessory (whatever's in the Scrapbook file on the startup disk)
- which version of the Finder you're using
- which devices can be controlled by the Control Panel

If you don't have a hard disk

If you don't have a hard disk, you may need to use the Installer on the *System Tools* disk to update the system files on your application disks before using them as startup disks. After you update an application's startup disk, you will be able to use it as a startup disk on most earlier models of the Macintosh computer (the exception is the Macintosh 128K).

- ❖ *400K disks?* If you have applications on 400K disks, do not try to convert those disks to startup disks. (There probably isn't room.) Instead, you'll have to start the computer from another disk, then insert the 400K application disk and start the application.

See "Using the Installer" in Chapter 3 for instructions on how to update disks with the latest system software.

Customizing startup disks

Fonts and desk accessories are kept in the System file (inside the System Folder). You can use the Font/DA Mover (Font and Desk Accessory Mover) to customize the System file on a startup disk so that it contains your most useful fonts and desk accessories. (You can't just open the System files and drag things back and forth.)

An application you purchase might have special fonts or desk accessories suited to that particular application. The Font/DA Mover lets you copy these to the System file on any other startup disk (as long as there's room on the disk, of course). See the *Macintosh System Utilities User's Guide* for instructions on using the Font/DA Mover.

You can also drag other files (not fonts or desk accessories) from the System Folder on one disk to the System Folder on the startup disk you are customizing. For example, you might want a copy of a Scrapbook file—to have different Scrapbook contents available from time to time.

The current startup disk

When you turn on your computer, it looks for a startup disk—the disk whose system files the computer will use. Because you can have startup disks in different drives at the same time, your computer uses an order of precedence in looking for a startup disk. Searching in this order, it uses the first startup device it finds:

- right-hand disk drive
- left-hand disk drive (if there is one)
- startup device set in the Control Panel
- internal hard disk
- devices connected to the SCSI port in declining device priority number (from 6 to 0)

See “Using the Control Panel” in Chapter 3 to learn about setting a startup device.

If you have an external hard disk, see “Drive” in Appendix A and the manual that came with the disk to read about SCSI device priority numbers.

Switching startup disks

The startup disk is the one whose icon appears in the top-right corner of your desktop. Sometimes you want to switch to a different startup disk while you're working—another startup disk might have special desk accessories or fonts you want to use. (And sometimes the Macintosh II will switch startup disks because of an action you've taken, whether you wanted to switch or not.)

The Macintosh II switches to a different startup disk whenever you do any of the following:

- You restart the computer using a different startup disk.
- You restart the computer after you've changed the startup device (from the Control Panel).
- You hold down the Option key while you open an application that's on another startup disk.
- You hold down the Option and Apple keys while you double-click the Finder icon on the disk you want to switch to. (Don't hold down these keys too long or the Rebuild Desktop dialog box will appear.)

Arranging your work on disks efficiently

In general, how you arrange your work on disks depends on the size of your system, the printer or printers you're using, and the way you want to organize your work. Your computer lets you arrange documents, folders, and applications however you want on your disks. (See "Copying or Moving a Document, Folder, or Application" and "Removing or Recovering a Document, Folder, or Application" in Chapter 3.)

- If you're using a system with a hard disk, you can keep everything on it: System Folder, applications, and documents. Use 3.5-inch disk drives to make backup copies and to hold applications that can't be moved to the hard disk because of copy protection.
- If you're using a system with two 3.5-inch disk drives (and no hard disk), you might decide to keep more than one application on a startup disk in the right-hand disk drive and keep documents you create with those applications on nonstartup disks in the left-hand disk drive.
- If you're using a one-drive system, you can minimize the amount of disk-swapping you have to do by keeping just one application and the documents you create with it on a startup disk. (Your computer asks you to swap disks when it can't find the information it needs on the currently inserted disk.)

It's a good idea to keep about 50K available on your startup disks. (Information about the space available appears in the window for that disk, below the title. You can also select the startup disk and choose Get Info from the File menu to see how much space is free.) Applications usually need a little working space on the current startup disk, even when the document you're working on is on another disk.

If you need more space on your startup disks—if you have AppleTalk and a LaserWriter with many fonts installed in your System file, for example—you can keep applications together with documents on nonstartup disks in an alternate drive. (Nonstartup disks do not have a System Folder containing the System and Finder files.)

There are a couple of things you can do to save space on startup disks:

- Drag any printing resources you don't need to the Trash (making sure you have backup copies of these resources in case you need them in the future). For example, if you exclusively use an ImageWriter directly attached to your computer, you can drag the AppleTalk ImageWriter and AppleTalk LaserWriter files to the Trash.
- Remove fonts or desk accessories you don't need from its System file. See the section on the Font/DA Mover in *Macintosh System Utilities User's Guide*.
- ❖ *Outgrowing your disks?* When the information you need spreads to more disks than you can easily handle, the best solution is a hard disk drive. With it, you can keep everything on the hard disk and use 3.5-inch disks just to move information to or from the hard disk. See Chapter 5 for a description of Apple's hard disk drives.

Windows

Windows present information. You can have multiple windows on your desktop so you can view more than one set of information at the same time. Most windows can be moved, changed in size, scrolled through, or closed. Windows can also overlap each other.

When more than one window is open, one is frontmost and that's where all the action happens. Clicking anywhere in a window brings it to the front and makes it active.

Although a window might be “buried” under others, it cannot be dragged completely off the screen or made so small that you can’t see it.

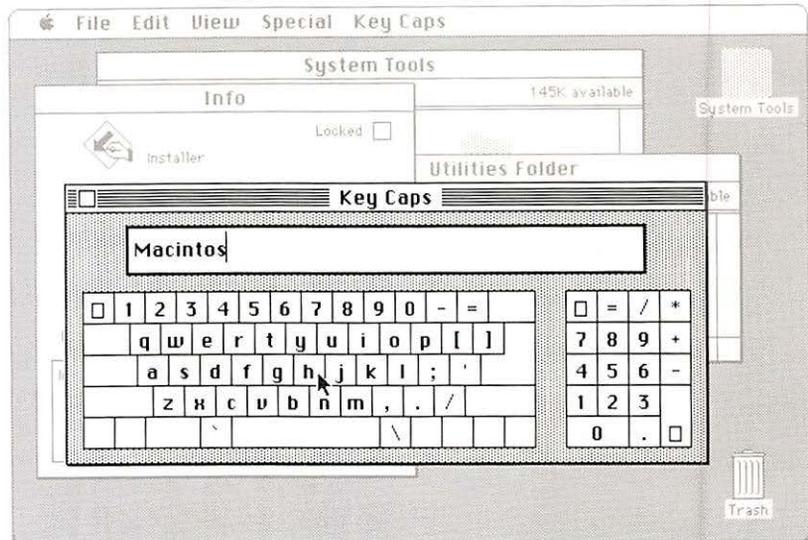


Figure 4-5
Overlapping windows

Windows might behave a little differently within an application. See each application’s manual for an explanation of windows in that application.

The Clipboard: Cutting and pasting

You can move information within a document, among documents created with the same application, among documents created with different applications, or among desk accessories and documents. The information you’re moving or copying is held on the Clipboard. The Cut, Copy, and Paste commands in the Edit menu let you move information between the Clipboard and the active window. Most applications have a Show Clipboard command in their Edit menu that shows you the current contents of the Clipboard.

Within an application, information sent to the Clipboard keeps **attributes** such as text sizes and styles, or any attributes unique to that application. When moving between applications, usually only the text or the picture, in a fixed format, is exchanged. Attributes are often left behind.

The Clipboard contents are kept in the computer's memory, as long as the computer doesn't need the memory for something more pressing. If the Clipboard's contents grow too large, they are temporarily saved in the Clipboard file on the current startup disk.

Dialog boxes

Whenever your computer needs more information from you, it displays a dialog box with buttons to click and sometimes with space for you to enter additional information (such as the name for a new document).

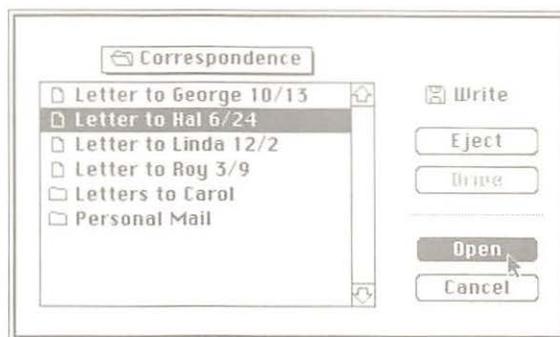


Figure 4-6
A dialog box

If you're about to do something that could make you lose information, a message in the dialog box alerts you and asks you to confirm that you want to go ahead anyway. In boxes with these messages, one of the buttons—the “safest” alternative—is usually boldly outlined. Pressing Enter or Return is the same as clicking the boldly outlined button or, if there isn't one, the button that confirms the command.

A warning message might have one or more Alert Sounds along with it. If loud sounds annoy you, use the Control Panel desk accessory to lower the speaker volume. (If you turn the speaker volume all the way off, the menu bar blinks to warn you even more subtly.) See "Using the Control Panel" in Chapter 3.

Desk accessories

You choose desk accessories from the Apple menu on the far left side of the menu bar. Desk accessories are available while you're using the Finder or most applications.

You can use the Cut, Copy, and Paste commands in the Edit menu to move or copy text or pictures among some desk accessories (the Scrapbook and Note Pad, for example) or to or from another window. See "Editing Text" in Chapter 3.

With most applications, you can keep one or more desk accessories open on your desktop while you work on documents. Other windows that are made active may obscure desk accessories. You make accessories active by clicking them or choosing them again from the Apple menu, and you move them by dragging their title bars. You close them either by clicking their close boxes or by choosing Close from the File menu.

With some applications (MacPaint, for example), you need to close desk accessories in order to work on a document.

All desk accessories are closed automatically when you open a document or application from the Finder or when you quit an application.

The Apple menu usually contains the accessories that are installed in the System file on the current startup disk.

Alarm Clock



Figure 4-7
Alarm Clock

When you choose Alarm Clock, a compact clock displays the hour, minute, and second. To see more, click the lever on the right side of the time. (Click the lever again to go back to the compact clock.) With the lever down, two more panels appear. The bottom panel displays icons for time, date, and alarm. Select one of these icons, then use the middle panel to “set” whatever you selected.

Set what’s currently displayed in the middle panel by clicking the digits you want to change. Arrows appear on the right. Click the up or down arrow to scroll the numbers higher or lower. Or use the keyboard to type the numbers. Press the Tab key to move to the next field (for example, from month to day to year).

To set the alarm, first click the Alarm icon. Then click the alarm button on the left side of the middle panel. You’ll notice that the Alarm Clock icon now displays small radiating lines, signifying that it’s set to make a sound at the appropriate time. The computer makes an Alert Sound when the alarm goes off, and the Apple menu title blinks until you unset the alarm by clicking the alarm button off. (Choosing Alarm Clock from the Apple menu also turns the alarm off, but it doesn’t unset it.)

When the clock is active, the time and date are automatically selected (even though they aren’t highlighted), so you can copy and paste them into the document you’re working on or into a desk accessory that accepts text.

You can also change the time and date using the Control Panel. See “Control Panel” later in this chapter and “Using the Control Panel” in Chapter 3.

Calculator



Figure 4-8
Calculator

The Calculator works like an ordinary four-function pocket calculator. To operate it, click the buttons or use the keyboard. (You can also use the 10-key pad, of course.)

You can copy the calculation results (which are automatically selected) and paste them into any document or another desk accessory. You can also copy numbers from a document and paste them into the calculator's display.

Chooser

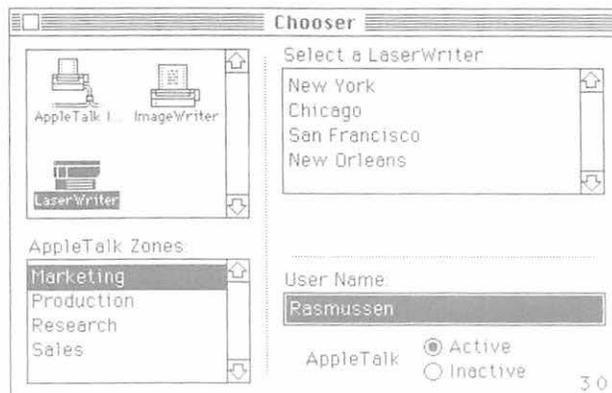


Figure 4-9
Chooser

A **zone** is a network that is part of a series of inter-connected networks. Connecting networks together makes it possible to have larger networks and take advantage of more shared devices (printers, for example). For more information, see "AppleTalk Personal Network" in Chapter 5.

A **resource** is a system file that appears on the startup disk and makes it possible for your system to communicate with devices (such as printers and the mouse). These files usually have the same name as the device they support.

The Chooser lets you choose devices (usually printers) connected directly to the Macintosh II's Printer and Modem ports, or devices on an AppleTalk network. If you have **zones** on your AppleTalk network, the Chooser lets you scan those zones for devices in them. You also use the Chooser to connect or disconnect the AppleTalk network.

The Chooser lets you select any device or print from any attached printer for which there's a **resource** on the current startup disk.

The *System Tools* disk includes printing resources for the ImageWriter (which work with either an ImageWriter or an ImageWriter II), LaserWriter, and AppleTalk ImageWriter (which lets you use an ImageWriter II with an installed AppleTalk card on AppleTalk). You can use the Chooser to print on any of these printers.

To use the Chooser to print with a LaserWriter or AppleTalk ImageWriter, to connect to a **file server**, or to select a printer on an AppleTalk network (assuming these resources are available to you), see "Using the Chooser" in Chapter 3.

To read more about AppleTalk and about zones, see "AppleTalk Personal Network" in Chapter 5.

Control Panel

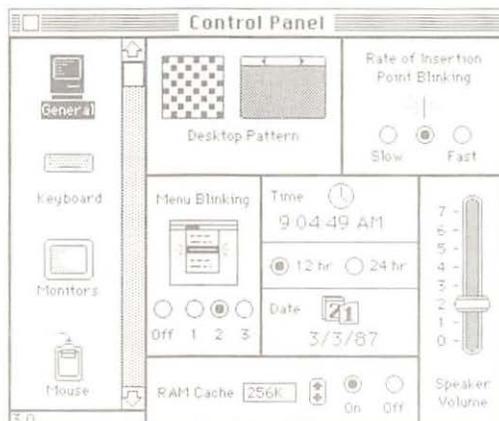


Figure 4-10
Control Panel

The Control Panel lets you set your preferences for such things as speaker volume, repeating key rate, location of the startup disk, and even the background pattern and color of your desktop. The Control Panel settings are remembered by the computer itself and aren't affected by the current startup disk. (This is in contrast to the Chooser settings, most of which are stored in the System file of the current startup disk.) When you switch your system off, the built-in battery provides power for the computer to remember the settings.

See "Using the Control Panel" in Chapter 3.

Monitors and the Control Panel

The Monitor part of the Control Panel offers a number of choices—whether you have one monochrome monitor or six color monitors connected to your Macintosh II system. Here are some general rules you should understand:

- The choices you make can be changed when your needs change.
- Some of your choices will depend on whether a monitor is color or monochrome.
- Some of your choices will depend on how many monitors you have.

If you have one monitor, you use this panel to specify color or monochrome, to select the number of colors or grays you want to see on your screen, and (on a color monitor) to test color convergence.

If you have multiple monitors (all connected to your Macintosh II), you make the same choices described above. You can also position your monitors to suit your needs and fine tune the way they relate to each other.

This is where having multiple monitors gets to be fun! Depending on how you've arranged your monitors, you can take advantage of multiple screens to coordinate a large-scale display of a single item. For example, with four monitors lined up side by side, you can display a train—caboose on the leftmost screen, engine on the rightmost screen, and other cars in between. Or with six monitors stacked in twos, side by side, you can show one large spreadsheet.

For instructions on using this part of the Control Panel, see "To Set Monitor Status for a Single Monitor" or "To Set Monitor Status for Multiple Monitors" in Chapter 3.

Find File

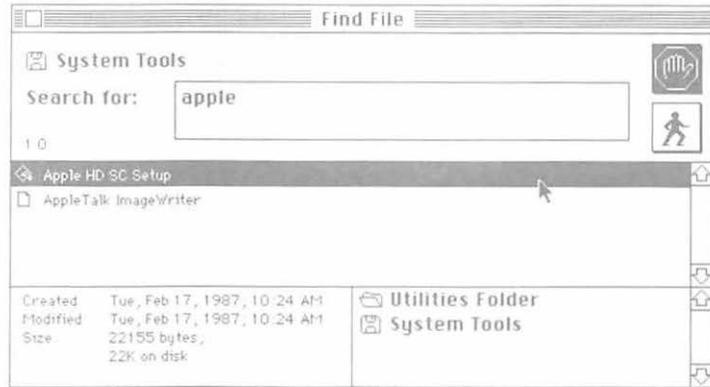


Figure 4-11

Find File

Find File helps you locate folders and files on your disks. This desk accessory becomes more and more useful as the number of files you have grows—for example, when you have a hard disk.

You type keywords in Find File's Search for box. Find File searches through your disk, and then displays the names of all files and folders that have those keywords as part of their name. When you select a name from the list, Find File gives you information about it: when it was created and last changed, how big it is, and so on. Find File also shows you the path through the hierarchical file system that you take to get to that file.

Because searches on hard disks with lots of files can take a while, Find File lets you begin a search and then go back to work on something else. (It beeps when it's finished searching.) Once your search is complete, you can select a file and have Find File move it to the desktop for you.

See "Using Find File" in Chapter 3.

Key Caps

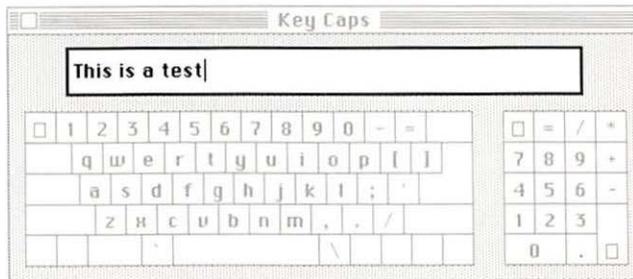


Figure 4-12
Key Caps

When the Key Caps desk accessory is the active window, a Key Caps menu appears in the menu bar. The menu always contains the fonts installed in the current startup disk's System file. (These are the fonts that will be available in any application you use with this startup disk.) Choosing a font lets you see its characters in the Key Caps window as they'd appear as typed text. With any font you choose, you can use the Option, Shift, and Caps Lock keys to see the characters each key or combination of keys produces.

Text you type on the keyboard or enter by clicking Key Caps keys appears in the text box at the top of the Key Caps window. You can edit this text in the usual way and cut and paste it among other desk accessories or any document.

With the Key Caps desk accessory active, press the Option, Shift, or Caps Lock key or press the Option and Shift keys together; the Key Caps desk accessory displays the characters you can type while holding down that key or combination of keys.

See "The Keyboard" earlier in this chapter to learn how to produce accented characters using the diacritical marks in the optional character set.



Figure 4-13
Note Pad

Note Pad

With the Note Pad, you can jot down a few notes and keep them separate from the document you're working on. Or you can type text and edit it even if you're using an application that doesn't allow text editing in the usual way. Use the Edit menu to cut and paste text into and out of the Note Pad when you want to preserve a snippet of information in a handy place.

You have 8 numbered pages of Note Pad paper, each holding just over 500 typed characters. Turn to the next page by clicking the turned-back corner of the top page. Turn to the preceding page by clicking the bottom-left corner of the Note Pad.

Notes you type are automatically saved and stored in the Note Pad file on the current startup disk. You can copy Note Pad files among disks or remove them to gain space on the disks. You can keep more than one Note Pad file on the same disk by renaming all but one of them or keeping them in other folders. Give the name *Note Pad* to the one you want to use, and be sure it's in the System Folder. When you choose Note Pad from the Apple menu, you always see the Note Pad whose contents are in the same folder as the System file and Finder on the current startup disk.

Scrapbook

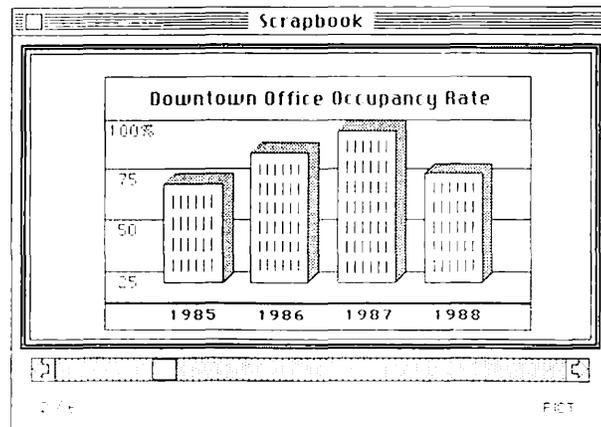


Figure 4-14
Scrapbook

Keep in the Scrapbook pictures and text you frequently use. You might keep your letterhead there, or illustrations from your favorite graphics program. Paste something you cut or copied from another desk accessory or a document. And copy or cut the current picture or text (which is automatically selected) to paste into other documents or desk accessories. Use the scroll bar to look through the Scrapbook.

The contents of the Scrapbook are stored in the Scrapbook file on the current startup disk. You can copy Scrapbook files among disks or remove them to gain space on the disks. You can keep more than one Scrapbook file on the same disk by renaming all but one of them or keeping it in another folder. (Your computer uses the one named *Scrapbook*.) When you choose Scrapbook from the Apple menu, you always see the Scrapbook whose contents are in the same folder as the System file and Finder on the current startup disk.

See “Using the Scrapbook” in Chapter 3.

TeachText



Figure 4-15
TeachText icon

TeachText is an uncomplicated application that lets you write, read, and edit your own text documents. If you went through the tutorial in Chapter 2, you used TeachText and learned some basics.

TeachText also provides a means for Apple Computer and other software developers to make sure that the information you get on a new product is as up-to-date as possible. When you open an application's directory window and see a Read Me document, the document contains last-minute information that probably couldn't be included in the application's manual. (It's a lot quicker to create a document on the disk than it is to produce an insert for a book!) You use TeachText to gain access to this Read Me information.

The TeachText application is on the *Utilities* disk, and any Read Me documents are contained in an Update Folder, also on that disk. There are two ways to get to TeachText documents you want to read:

- Open the TeachText application (by selecting its icon and choosing Open from the File menu or by double-clicking on the TeachText icon). The first window you see will be empty and will say *Untitled* in the title bar. Close the window (by clicking the close box or by choosing Close from the File menu). Then

choose Open from the File menu, and a dialog box appears with the names of folders and documents (including the Read Me documents) you can read in TeachText. Select and open the document you want to read. (You can also use TeachText to read text-only documents you've created in your favorite word processor.)

- In the Finder, open the Update Folder by selecting its icon and choosing Open from the File menu or by double-clicking on the icon. Then select and open any document you want to read. The TeachText application will start automatically.

You can print any document that appears in the TeachText window, but you will not be able to change any part of a Read Me document.

When you are using TeachText to write your own documents, you can use all the normal editing functions. You can cut or copy from TeachText to the Clipboard, and you can paste what you put on the Clipboard. However, you will not be able to open up the Clipboard to see what's on it.

If you want to try using TeachText to write or edit something, go through the tutorial in Chapter 2.

Finder reference

The Finder is the application for managing documents and directing traffic between you and the disk.

Common Finder tasks include

- opening, closing, copying, discarding, moving, and renaming documents, folders, applications, and disks
- organizing documents, applications, and folders on the desktop, in folders, and on disks
- ejecting disks
- initializing disks
- write-protecting documents
- getting information about your folders, documents, and applications with the Get Info command from the File menu
- turning off your computer with the Shut Down command from the Special menu

Some of the Finder's capabilities are also available while you're using an application. You can open new documents, save work on a disk (using the same folders that appear in the Finder), examine the contents of disks and their folders, eject disks, print the current document, or return to a previous version of a document without returning to the Finder.

You work in the Finder by selecting and dragging icons, by double-clicking, and by choosing commands from menus. (See "Selecting Icons," "Dragging Icons," and "Finder Menus" later in this chapter.)

What the Finder manages

Applications and documents

Applications and documents are represented in their closed state as icons (or as a list in a text view). You can open, close, rename, duplicate, discard, or organize applications and documents on disks and in folders.

Disks

You see the contents of disks in directory windows. Disks can contain system files, documents, applications, and folders. Each item is represented by an icon that you can select and drag; you can choose to see disks' contents arranged in several ways with the View menu.

A disk newly inserted into a disk drive appears as a black disk icon (that is, it's automatically selected). The icon becomes dimmed when you open its window.

Ejected disks

How you choose to eject a disk determines what's there for the Finder to manage.

If you choose Eject from the File menu, the disk will be ejected and a dimmed icon will stay on the desktop. The Macintosh II will remember the contents of that disk as long as the dimmed icon is

there. You can open the disk icon (or any folder inside it) into a directory window; however, any items in the window will also appear dimmed. (You can drag a dimmed icon just as you would an icon that's not dimmed.)

As long as the ejected disk's icon remains on the desktop, the Finder will ask you to reinsert the ejected disk any time it is needed. If you want to avoid this, drag the ejected disk's icon to the Trash to remove it.

If you drag the disk to the Trash, the disk will be ejected and its icon will be removed from the desktop. This leaves nothing behind for the Finder to manage, and many times that's exactly what you want.

Important If the disk icon you drag to the Trash is the current startup disk, its dimmed icon will remain on the desktop. You will not be able to remove or open the icon without reinserting the startup disk. (Or you can choose Shut Down from the Special menu, insert another startup disk, and press the Power On key to start again.)

See "Startup Disks" and "Arranging Your Work on Disks Efficiently" earlier in this chapter for more information about disks.

The desktop

The desktop in the Finder is a handy temporary resting place for icons. If you're concentrating on only a few documents and applications at a time, and they're on different disks or in different folders, you can drag all the documents to the desktop and work on them there. You can even close the windows for the folders and disks they came from; the Finder will remember where the documents belong.

You can put icons back where they came from by selecting them on the desktop and choosing Put Away from the File menu.

The Trash

The Trash is a receptacle for files and folders you want to throw away. When you discard a folder, the folder and its entire contents disappear.

You can't throw away anything on a locked disk or any documents that have been individually locked; you must unlock the disk or file first.

When you open the Trash icon, it shows the last few files you discarded. You can recover those files by dragging them out of the Trash back onto the desktop.

As something goes into the Trash, the icon will “bulge.” If you want to empty it—and reclaim the space the discarded files take up—choose Empty Trash from the Special menu. In fact, whether you empty it or not, files stay in the Trash only for a short while. The Finder empties the Trash when it needs the space, as well as any time you start an application or choose Shut Down or Restart from the Special menu.

Dragging a disk to the Trash ejects the disk and removes its icon from the desktop; it has no effect on the contents of the disk. (If the disk is the current startup disk, dragging its icon to the Trash ejects it but leaves the dimmed icon on the desktop.)

Folders

Use folders to arrange your applications, documents, and other files in ways that make sense to you. You can leave your applications, documents, and other files in the disk window, or you can put them in folders. (You make new folders by using the New Folder command in the File menu.) You can even put folders within other folders. See the next section, “The Hierarchical File System,” for more information on using folders.

To see the contents of a folder, open the folder just as you would a disk icon—by selecting the folder icon and choosing Open from the File menu or double-clicking on the icon. The folder icon opens into a directory window.

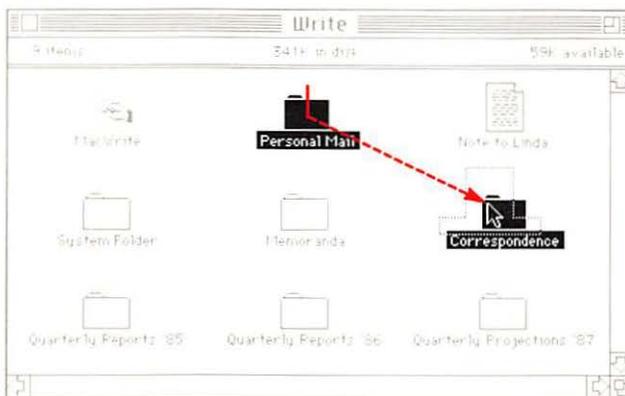


Figure 4-16
Placing one folder inside another

The hierarchical file system

Folders let you arrange your applications and documents in a hierarchy. When you open a disk and see a folder (or file) in the disk's directory window, you're looking at the top level of the hierarchy. When you open that folder, you see another window that shows you what's inside—probably more files and folders. Now you're looking at the second level of the hierarchy. If when you open one of the folders on this second level you see yet another folder, that folder will open onto the third level—and so on.

You can **nest** files (that is, place files and folders within other folders within other folders, and so on) as deeply as you like. Most people, however, find that retrieving a file nested more than four levels deep becomes tedious.

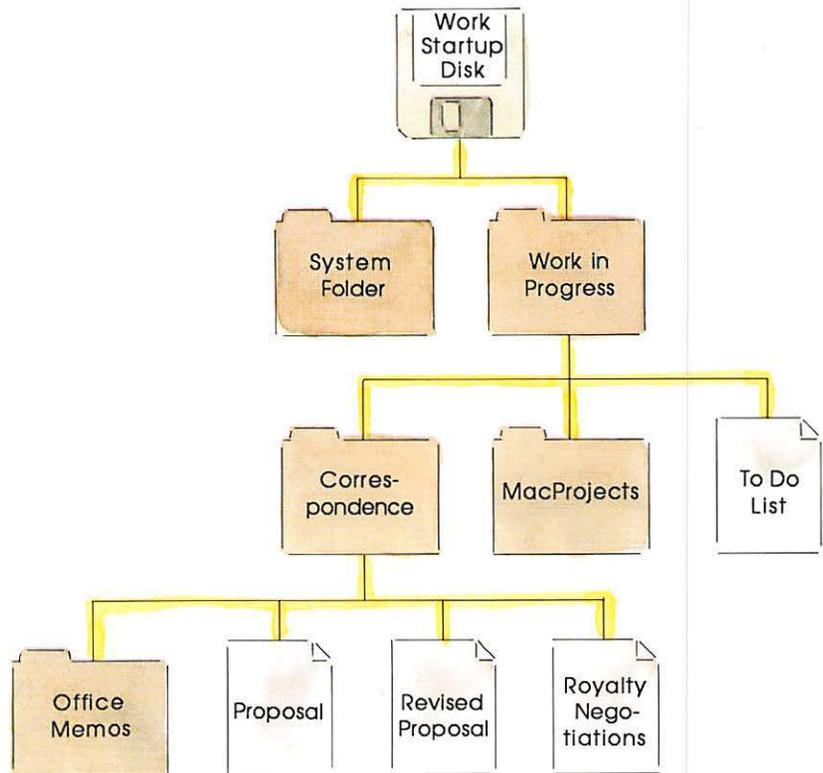
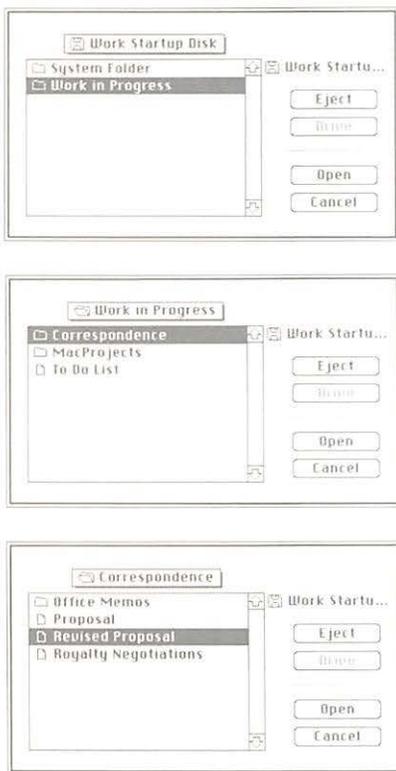


Figure 4-17
Hierarchical file structure

Luckily, you don't have to worry about misplacing a file, even a deeply nested one. If you know its name, you can find any file or folder by using Find File. See "Find File" earlier in this chapter.

Within applications

The hierarchical file system can be especially helpful when you're working within an application. Whenever you choose Open or Save As from the File menu within an application or save a document for the first time using the Save command, you see the same hierarchy of folders you created in the Finder (as long as the disk is initialized appropriately). See the sections on initializing disks in Chapter 3 and this chapter and "Managing Documents Within an Application" in Chapter 3.

A dialog box appears with a directory of the current folder or disk. The directory name (and a folder or disk icon) is above the alphabetized list of the directory's contents; the name of the current disk (and a disk icon) appears to the right.

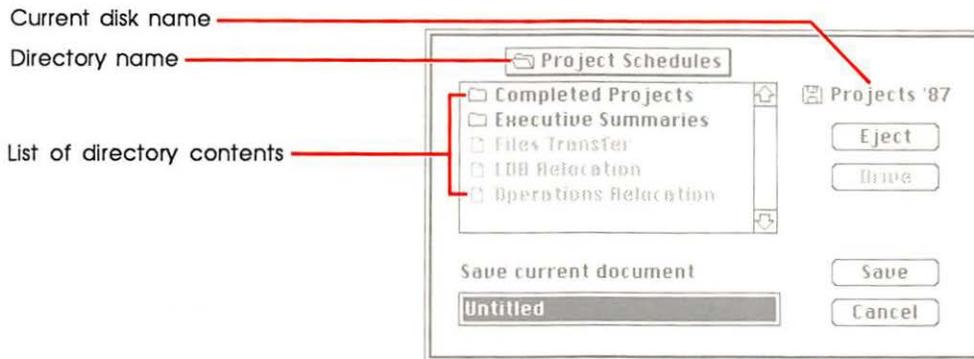


Figure 4-18
Directory dialog box

The folders in this directory dialog box correspond to the ones you create in the Finder, with one notable difference: these folders show only the documents the current application can open, even if the corresponding folders in the Finder contain other documents or applications.

You open these folders in the same way you open folders in the Finder—by selecting them and choosing Open or by double-clicking on them. You can also use the arrow keys (or drag the mouse) to move up and down the list of names until you find what you want to select and open.

You can move through the entire hierarchy of folders in this same way, opening folders within the currently open folder, until you reach the document you want to open.

❖ *A shortcut when you know what you want:* If you know the name of a document or folder in the current directory and want to select it quickly, type the character or characters you want to find. As you type each character, the system highlights any documents or folders that “qualify.” For example, as you type M, the selection bar moves to the first name beginning with M in the list. As soon as you type a second letter, the system will find

the first name that begins with both letters, and so on. However, if you are hesitant and pause too long while typing, the next character you type is considered a new request rather than a continuation of the old. (The Delay Until Repeat setting in the Control Panel controls how long the pause can be before subsequent typing begins a new request.)

When you choose Open or Save As, the first directory you see is for the folder (or disk if you're at the top level) that you last saved a document to or opened a document from. You can move up or down the hierarchy to open or save documents.

You can keep documents or folders with the same name on the same disk, as long as they're in different folders.

Selecting icons

Clicking an icon once selects it. (Clicking it twice opens it.) Once an icon is selected, the Edit menu commands operate on that icon's name (unless it's locked), and the File menu commands work on what the icon represents.

When more than one icon is selected, the editing commands in the Edit menu are dimmed.

You can select a group of icons only if they're all in the same window or all on the desktop. If you want to work on a number of documents in different folders or disks, drag them to the desktop and select them all there.

Operations on a group of icons are usually performed one by one—printing a group of documents, for example.

Dragging icons

Dragging an icon from one place to another moves that icon to the new place. You can drag an icon onto the desktop; to the Trash icon, a folder, or a disk; or into an open folder, disk, or Trash window.

Dragging an icon from one place to another on the same disk (including to a folder on the same disk) merely moves the icon to the new place. Dragging an icon to another disk (including to a folder on that disk) makes a copy and leaves the original behind for safekeeping. (If you don't want the original left behind, just drag it to the Trash afterward.)

If you drag an icon to another disk and there's already an item with that same name on that disk, you're asked if you want to replace it with the icon you're dragging. (In other words, if you drag the application *MacWrite* to a disk with a folder named *MacWrite*, you'll be asked to confirm that you want to replace the folder with the application. If you say *yes*, you'll lose what was there.)

Table 4-2 summarizes what happens when you drag icons to different places on the desktop.

Table 4-2
Dragging icons

Dragging...	To a folder on the same disk	To a folder on a different disk	To a different disk	To a hard disk	To the Trash
A document	Moves it there	Copies it there	Copies it there	Copies it there	Discards it
A folder	Moves it there	Copies it and its contents there	Copies it and its contents there	Copies it and its contents there	Discards it and its contents
An application	Moves it there	Copies it there	Copies it there, replacing any duplicate applications in the root folder	Copies it there, replacing any duplicate applications in the root folder	Discards it (with a dialog box to confirm the discard)
A disk	(Alert box tells you it can't be done.)	(Alert box tells you it can't be done.)	Copies it there, replacing any existing contents	Copies it into a new folder, adding to any existing contents	Ejects it and removes its icon (unless it's the current startup disk)

You can drag locked documents, but you can't drag anything to or from a locked disk. See the Get Info command in "File Menu" later in this chapter.

Finder menus

Each application presents its commands in menus that you pull down from the menu bar. Together with dragging icons, the Finder's menus allow you to do all your desktop management tasks.

Apple menu



Figure 4-19
Apple menu

About the Finder...

This item shows the version number and the authors of the Finder, as well as the memory size of the Macintosh you're using.

Desk accessories

Choosing a desk accessory makes that accessory appear on the desktop. You can use the Edit menu to cut, copy, and paste the information in most desk accessories.

The desk accessories are explained more fully in "Using Desk Accessories" in Chapter 3 and in "Desk Accessories" earlier in this chapter.

File menu

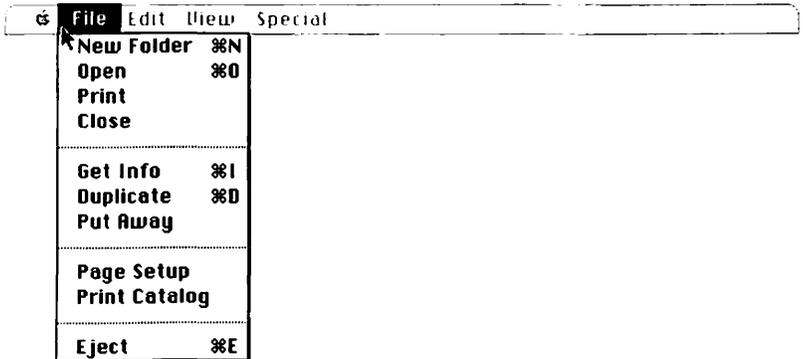


Figure 4-20
File menu

The commands in the File menu operate on icons and windows.

New Folder

New Folder creates an empty folder that can hold documents, applications, or other folders. New folders appear in the active window on the desktop (as opposed to on the desktop itself), and you can type a name immediately after creating an empty folder. If no directory windows are open, the New Folder command is dimmed. See “Folders” earlier in this chapter.

Open

The Open command opens the selected icon into a window. If the icon represents a document, opening it also starts an application and loads the document so you can work on it. If the icon represents an application, opening it usually gives you a new, untitled document.

In order for you to open a document, the application that created it must be on a currently inserted disk.

If you select a document and an application, the Finder attempts to use that application with the document. For example, selecting MacWrite (the word processing program) along with a text-only

document that you created with MacTerminal (the telecommunications program) opens MacWrite to work on the text-only document.

If you select more than one icon and choose Open, the Finder tries to open the first icon's application to work on all the other selected icons (assuming the application can handle more than one document).

Print (from the Finder)

The Print command prints the documents represented by the selected icon or icons (assuming, of course, your printer is hooked up correctly). If you select a group of icons, they'll all be printed. The documents must always be created by the same application.

In order to print a document, you must have the application that created it on a disk whose icon appears on the desktop. Document printing from the Finder follows the rules and printing procedures of that document's application.

With most applications, when you choose Print a dialog box appears. Select the options you want, and click OK or press Return. See each application's manual for more information on how to print with that application. See each printer's manual for information about using that printer.

Close

The Close command closes the active window, zooming it back down to its icon. The icon remains selected. (If the active window is a desk accessory, it just disappears.) The next frontmost window, if there is one, becomes the active window.

Get Info

Get Info opens a window that displays information about whatever the selected icon represents. The displayed information includes

- the kind of item (document, folder, or application)
- if it's a document, which application created it
- the date it was created
- the date it was last changed
- the size of it
- which disk and drive it belongs to

You can add text by typing in the text box and editing it as you edit any text.

The Locked check box lets you lock a document or application (but not a folder). When the Locked box is checked, that document or application can't be thrown away and its name can't be changed. You can't save any changes to a locked document.

You can still drag or open a selected icon while its information window is open.

Duplicate

The Duplicate command duplicates the selected items on the same disk. The duplicates are named *Copy of*, followed by the name of the original.

Duplicating a folder duplicates the folder and all its contents. If you had previously moved a document, folder, or application from the folder to the desktop or a window, that item will not be duplicated. (The system will assume that you meant not to include the item.)

Put Away

Put Away returns any selected documents, folders, or applications on the desktop or in the Trash window back to the folders and disks they belong to. This command is dimmed when no icons are selected on the desktop or in the Trash window.

Page Setup

Page Setup lets you set up the page size, orientation, and other options for directories that you print using the Print Catalog command. The Page Setup command doesn't work with documents that you print from the Finder; each document's page setup is controlled by the Page Setup command within the application that created it.

Print Catalog

Print Catalog prints the actual contents of the active directory window, in whatever view you have the directory arranged. (See "View Menu" later in this chapter.) What you see gets printed—icons, document names, and so on—as opposed to the contents of documents.

Eject

The Eject command ejects the selected disk or the disk represented by the active window. If no disk is selected, the Finder looks for an inserted disk to eject, starting with the current startup disk.

Whenever a disk has been ejected, its icon and the icons belonging to it are dimmed to show they're no longer available. (You can also eject a disk by dragging its icon to the Trash.)

Edit menu

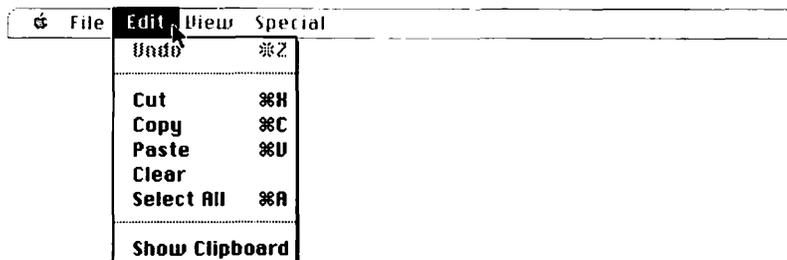


Figure 4-21
Edit menu

The Finder's Edit menu allows you to edit

- the names of disks, documents, applications, or folders
- text in an information window (opened by selecting the icon and choosing Get Info from the File menu)
- text or pictures in desk accessories
- ❖ *Icons:* You cannot use this menu to cut or copy icons. You reproduce icons by dragging or duplicating them. See "Dragging Icons" and "Duplicate" earlier in this chapter.

Selecting an icon also selects its title. Anything you subsequently type replaces the old text. Clicking the selected text itself makes an insertion point appear. You can edit this text the same way you edit any text.

Undo

This command undoes your last text-editing action in some applications and desk accessories that use text. It may undo other actions in some desk applications. For example, if you choose Get Info from the file menu and type something wrong in the text box, you can choose Undo to reverse the typing and start fresh.

Cut

Cut removes the selected material and places it on the Clipboard (replacing the previous contents if any).

Copy

Copy puts a copy of the selected text or picture on the Clipboard (replacing the previous contents if any). The “original” stays where it was when you selected it.

See also “Duplicate” earlier in this chapter.

Paste

Paste puts a copy of the contents of the Clipboard at the insertion point. You can continue to paste copies until you cut or copy a new selection (which replaces the old contents of the Clipboard).

Clear

Clear removes the selected material *without* placing it on the Clipboard. The contents of the Clipboard (if any) remain intact.

Select All

This command selects all icons in the active window or, if no windows are open, all icons on the desktop.

Show Clipboard

Show Clipboard displays a window with the current contents of the Clipboard—that is, whatever you last cut or copied.

View menu

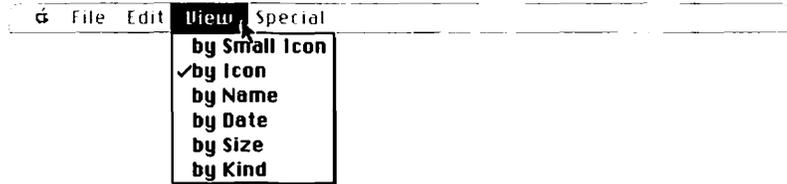


Figure 4-22
View menu

You might keep your directory windows arranged by icon most of the time. But the commands in the View menu also let you view directories of disks, folders, or the Trash in other arrangements.

In any text view of a disk or folder directory, small icons appear to the left of each document, folder, or application title. Icons and text in titles behave the same way in whatever view you choose. Clicking either an icon or its title selects the item; the pointer then becomes an arrow when you move it over the icon itself (in case you want to move or copy the item, or to select something else) and an I-beam when you move it over the item's title (in case you want to place an insertion point for editing). Dragging an unselected icon or title moves or copies the item—depending on where you drag it. See “Dragging Icons” earlier in this chapter.

The current view of the active window is marked in the View menu by a check.

By Small Icon

By Small Icon shows the contents of the active directory window with small icons to the left of the icon names. This view is especially helpful when you have large numbers of documents and applications on a disk—when looking at your hard disk, for example.

By Icon

By Icon shows the contents of the active directory window as icons, just as on the desktop.

By Name

By Name lists the contents of the active directory window alphabetically by name. Uppercase and lowercase are considered equal.

By Date

By Date lists the contents of the active directory window chronologically by modification date. The document you changed most recently is listed first. Folders' modification dates indicate when you created them or when you changed their contents by adding or removing items from them.

By Size

By Size lists the applications and documents in the active directory window by size, largest first. By Size is useful for seeing which documents are taking the most room on the disk. Folders are listed alphabetically by title at the bottom of the list, following the applications and documents (but their size is not shown).

By Kind

By Kind lists the contents of the active directory window by whether each item is a document, application, or folder. For a document, it tells which application created it.

Special menu



Figure 4-23
Special menu

Clean Up

Clean Up is only available when you have chosen By Small Icon or By Icon views of your directories. The command you see will change slightly, depending on certain variables:

- If you have an active directory window with no icons selected, the command will say Clean Up Window. If you choose it, the icons will be arranged in neat rows and columns on an invisible grid, filling in from left to right and top to bottom.
- If you have one or more icons selected, the command will say Clean Up Selection. When you choose it, each selected icon will move to the nearest available space on the grid—not necessarily filling in from left to right and top to bottom. (To deselect all icons, click in the gray area of the desktop.)
- If no directory windows are active and no icons are selected, the command will say Clean Up Desktop and will move icons on the desktop to the nearest available space on the grid.
- ❖ *Neater icons:* If you hold down the Option key while you press on the Special menu, the command will simply say Clean Up. Choose it (while still holding down Option) to display the icons in an active directory window (or the desktop if there is no active window) neatly and compactly.

Empty Trash

Empty Trash permanently discards the contents of the Trash and makes the space it took on the disk available for you to use immediately. (The Finder empties the Trash automatically whenever it needs the space, when you choose Shut Down or Restart from this menu, or when you start an application.)

Erase Disk

Erase Disk completely erases and initializes the disk whose icon you've selected. A dialog box will offer the usual choices about initializing the disk.

You can't erase the current startup disk because your computer needs information on that disk in order to work. If you want to erase a startup disk, start your computer using a different disk.

See "Initializing Disks" earlier in this chapter for more information about initializing.

Set Startup

Set Startup lets you jump immediately into an application when you start the computer, without going through the Finder. You set the startup application by selecting it in the Finder and choosing Set Startup. The next time you start your computer using this disk, you'll go immediately into the application.

To reset the startup to the Finder, quit the application, open the System Folder if necessary, select the Finder icon, and choose Set Startup again.

Use MiniFinder...

Use MiniFinder lets you isolate (and group together for quick access) the applications and documents you want to use for a particular task. Once they're in the MiniFinder, you can get to them without having to go through everything in the Finder. See "Using the MiniFinder" in Chapter 3 for details on how to use the MiniFinder.

Restart

Restart ejects any inserted disks (first saving any necessary information), empties the Trash, and then restarts the computer. This is not only a shortcut but the best way to restart the Macintosh when you need to use a different startup disk.

Shut Down

Shut Down ejects any inserted disks (first saving any necessary information), empties the Trash, and then turns off the computer.

Macintosh II shortcuts

In general, shortcuts are just quicker ways to do things you can ordinarily do some other way. Some shortcuts apply only to a specific application; each application's manual explains its own.

Double-click

Double-clicking an icon opens it. In text, double-clicking a word selects the entire word.

Shift-click

Holding down the Shift key and clicking adds to an existing selection. As long as you hold the Shift key down, the first selection isn't deselected when you make a new selection. For example, in the Finder when you're selecting icons, you can select more than one by holding down the Shift key while you continue clicking icons. If you have a group of selected icons and want to deselect one of them, you can use Shift-click to deselect it. In some applications, Apple-click does the same thing.

Close box

Clicking the close box (in the active window's top-left corner) closes the window. This is the same as choosing Close from the File menu.

Zoom box

Clicking the zoom box (in the active window's top-right corner) expands the window to full size. Clicking the zoom box on an expanded window returns it to its former position and size.

Enter and Return keys

Pressing the Enter or Return key in response to a dialog box is the same as clicking the button that confirms the command or the outlined button if there is one.

Tab key

Pressing the Tab key in response to a dialog box usually selects the next place to supply information.

In the dialog boxes you see when you choose Open or Save As within an application, pressing Tab is the same as clicking Drive.

Delete key

Pressing the Delete key with a selection is the same as choosing Clear from the Edit menu. Unlike the Cut command, the Delete key doesn't affect the Clipboard.

Apple key



You can issue many commands (including most commands in the Edit menu) by holding down the Apple key while you press a character key. Commands that have Apple-key equivalents show the key to press to the right of the command in the menu.

Holding down the Apple key while typing a period (.) sometimes stops whatever's happening—printing a document, for example.

Holding down the Apple and Shift keys while pressing the 1 key ejects the disk in the right-hand drive; holding them down while pressing 2 ejects the disk in the left-hand drive.

Important

If you're using an application and there are any open documents with unsaved changes, you may lose those changes if you eject disks this way. If you're not sure whether there are unsaved changes, it's better to eject disks in the normal way—clicking an Eject button, choosing Eject from the File menu, dragging a disk icon to the Trash, or choosing Restart or Shut Down from the Special menu.

Holding down the Apple and Shift keys while pressing 3 creates a MacPaint document with the current contents of the screen. (MacPaint is the original graphics program for the Macintosh series of computers; it's available at your authorized Apple dealer.)

Holding down the Apple and Shift keys while pressing 4 prints the current contents of the active window on an ImageWriter printer.

With the Caps Lock key down, holding down the Apple and Shift keys while pressing 4 prints the contents of the entire screen on an ImageWriter printer.

Selecting by typing

In the directory that appears when you choose Open within an application, any characters you type are matched character for character to select names in the directory. If you type a *b*, the first name beginning with a *b* (or the first name to follow alphabetically if there are no *b*'s) is selected. As you continue to type, additional characters are matched. If you type *br*, for example, the first name beginning with *br* is selected, and so on. The Delay Until Repeat setting in the Control Panel determines how long you can pause between characters before the computer considers the next character a new request. See "Using the Control Panel" in Chapter 3.

Finder shortcuts

These shortcuts are specific to the Finder. Most of them let you do "expert" functions.

Option key

Holding down the Option key while you choose Close from the File menu closes all open windows.

If your directory is in an icon view, holding down the Option key while you choose Clean Up from the Special menu will realign the icons in the active window to a grid pattern.

Holding down the Option key while you double-click a disk or folder icon opens the icon as usual, and you can open an application or document in the resulting window. The shortcut is that once you return to the Finder, the window will be closed and the application or document put away.

Apple key

Holding down the Apple key while you drag a window moves the window *without making it active*.

With your directory in an icon view, you can hold down the Apple key while you drag and then release an icon. When you release the icon, it will snap into alignment with the grid used by the Clean Up command (in the Special menu).

Holding down the Apple key while you double-click a dimmed icon makes that icon's window active.

Option and Apple keys

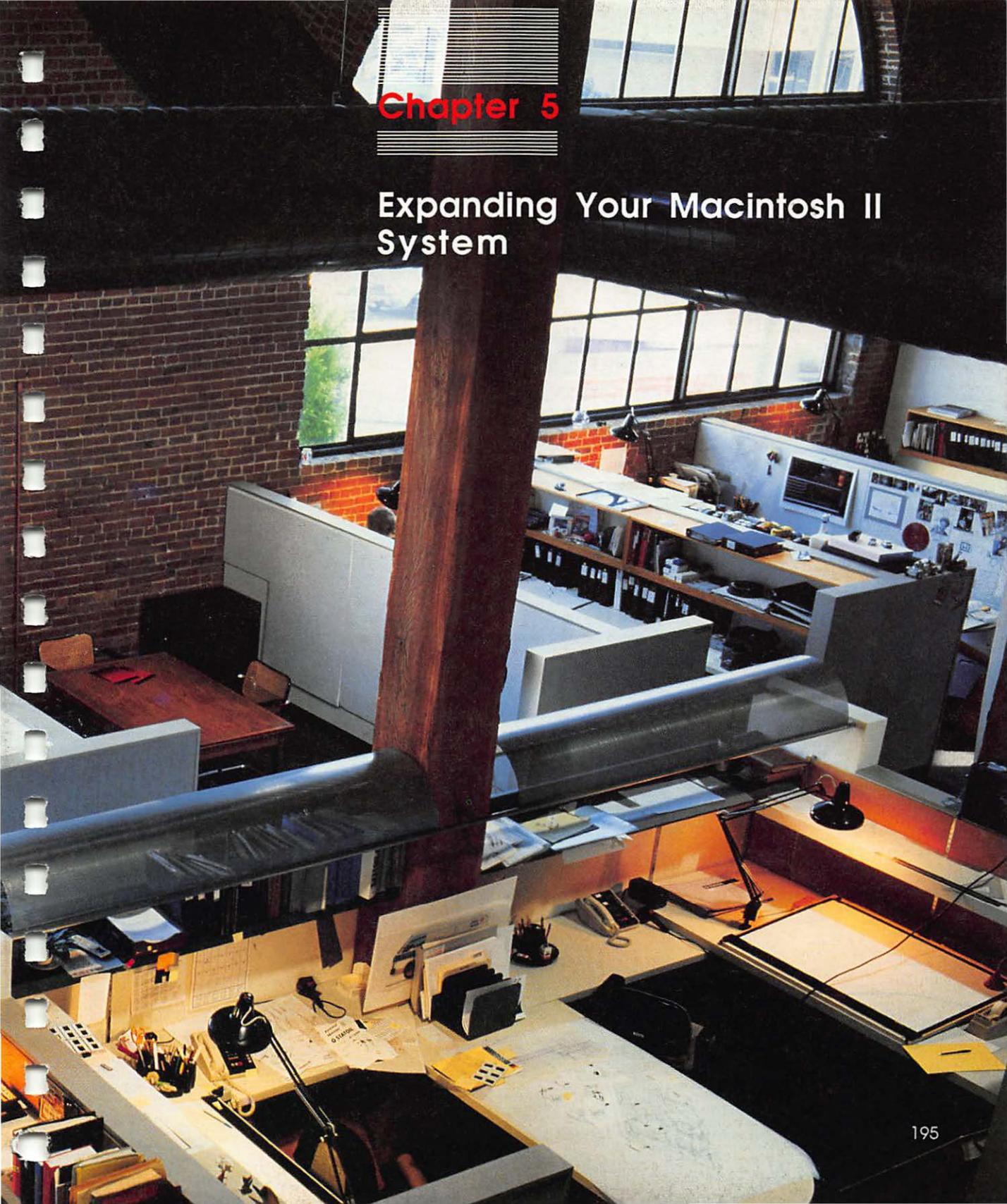
Holding down the Option and Apple keys while you double-click a Finder icon makes the disk the Finder is on become the current startup disk (if it has a system file on it).

Miscellaneous

Dragging a disk to the Trash is an easy way to eject the disk. If the disk is not the current startup disk, this will also remove its icon from the desktop.

If you hold down the mouse button as you press the Power On key (and continue holding it down), you'll eject any disks in both drives. This is useful when you insert a 3.5-inch disk before turning on the computer, then change your mind and want it back.





Chapter 5

Expanding Your Macintosh II System

Applications

No matter what kind of work you have to do, there's an Apple Macintosh II application to help you do it.

MacWrite

With MacWrite, you create documents that look the same on the screen as they'll look when you print them. Rather than working around a lot of commands embedded in your text, what you see is what you get. You use the mouse to select text and remove, copy, or move it. You can customize your documents with many fonts and styles, and you can control margins or line spacing with a single click.

- ❖ *MacWrite version:* You should use MacWrite version 4.6 or later with your Macintosh II.

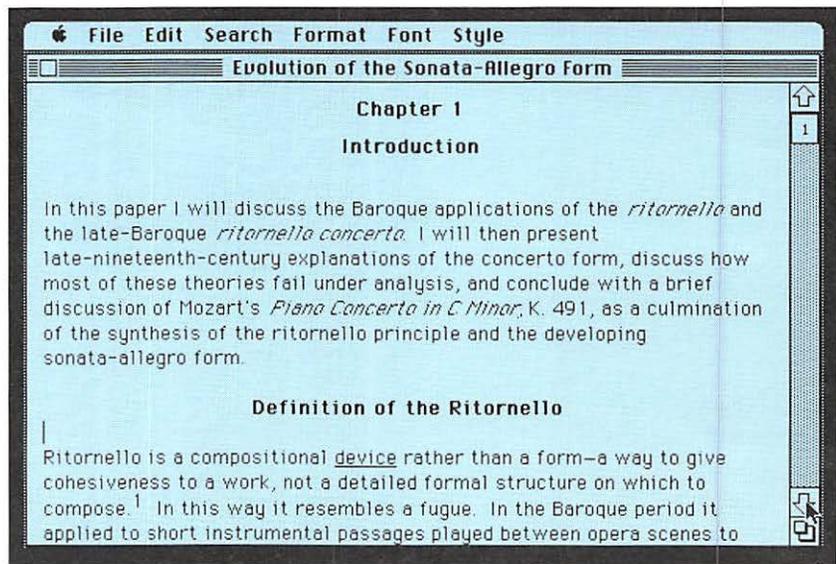


Figure 5-1
MacWrite

You can add pictures from your favorite graphics program to documents you create with MacWrite or copy MacWrite text to a graphics program. With your Macintosh II, words and pictures mix beautifully.

MacPaint

MacPaint brings out the artist in everyone. Whether it's a technical illustration for a research project or a sketch for a party announcement, you can do it with MacPaint. You can use MacPaint's drawing tools to draw perfectly structured shapes or your own freehand designs. You can type text in distinctive fonts, sizes, and styles and add text from other applications as well.

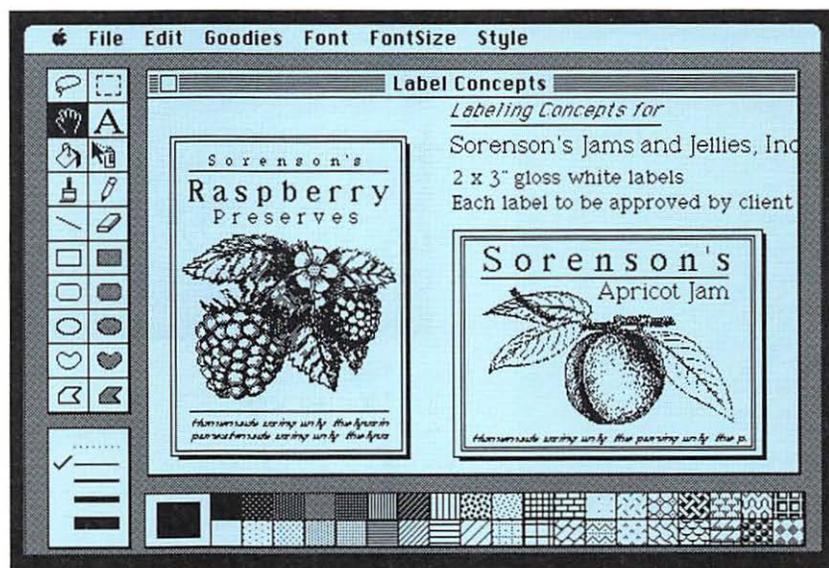


Figure 5-2
MacPaint

MacTerminal

MacTerminal lets you communicate with the rest of the world. You can gain access to information services such as The Source, CompuServe Information Services, or Dow Jones News/Retrieval; call electronic bulletin board systems (BBS); exchange information with other computers; and send and receive electronic mail.

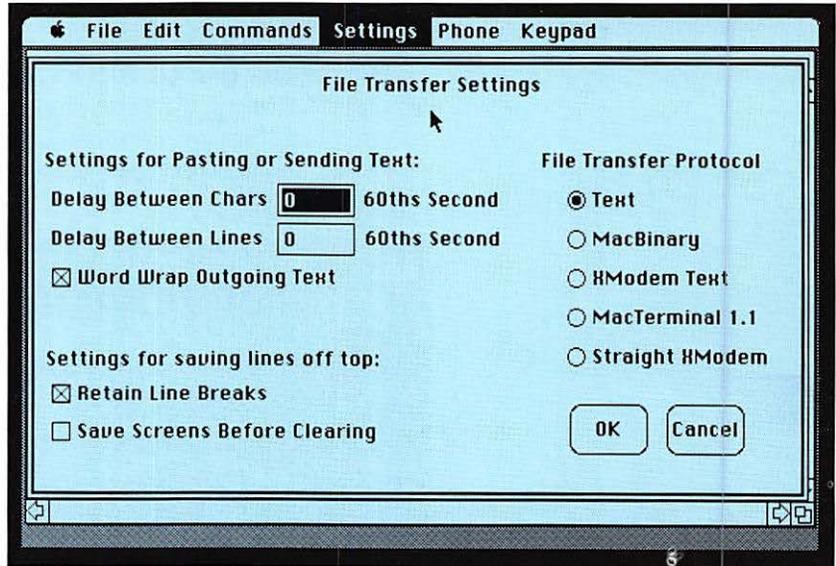


Figure 5-3
MacTerminal

MacProject

Project management and scheduling have never been easier. You tell MacProject what tasks are involved in your project and what resources you have. MacProject calculates the “critical path” to completion and estimates costs in money and time. If you miss (or beat!) a deadline, or if your available resources change, MacProject recalculates everything in a flash.

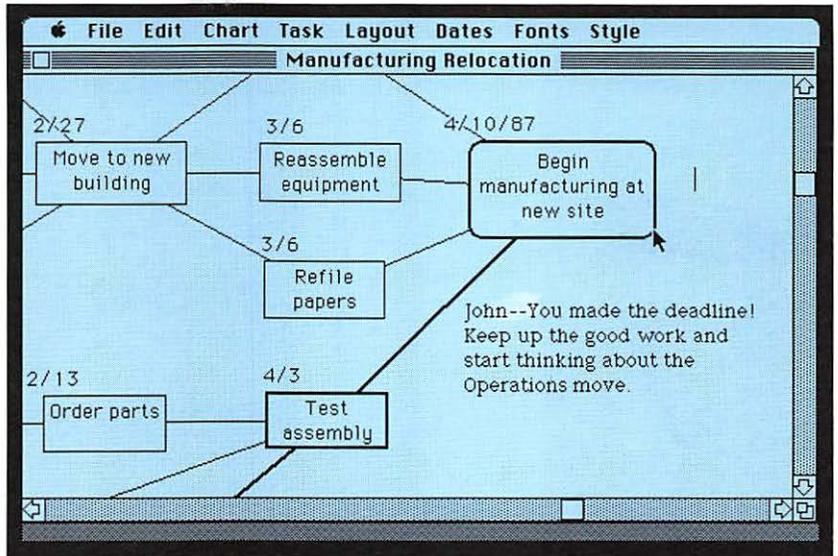


Figure 5-4
MacProject

MacDraw

MacDraw lets you create structured graphics on your computer. You can prepare perfect flow charts, diagrams, graphs, technical drawings, and organizational charts, as well as freehand drawings. You can add text in different fonts, sizes, and styles.

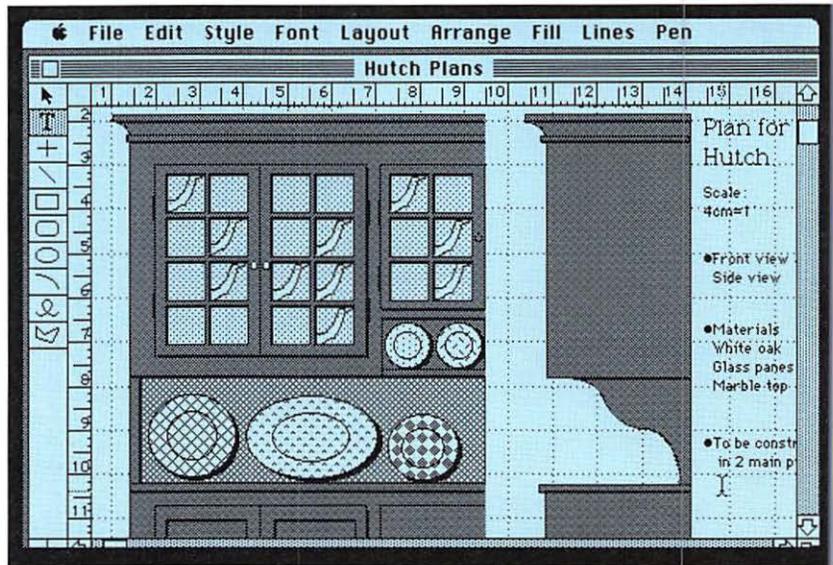


Figure 5-5
MacDraw

AppleShare

AppleShare™ workstation software lets your Macintosh II computer communicate with file servers on the AppleTalk network, sharing information, applications, and storage resources with other users. Alternatively, AppleShare server software turns your Macintosh II into a powerful file server on AppleTalk, sharing its resources with many users on the network.

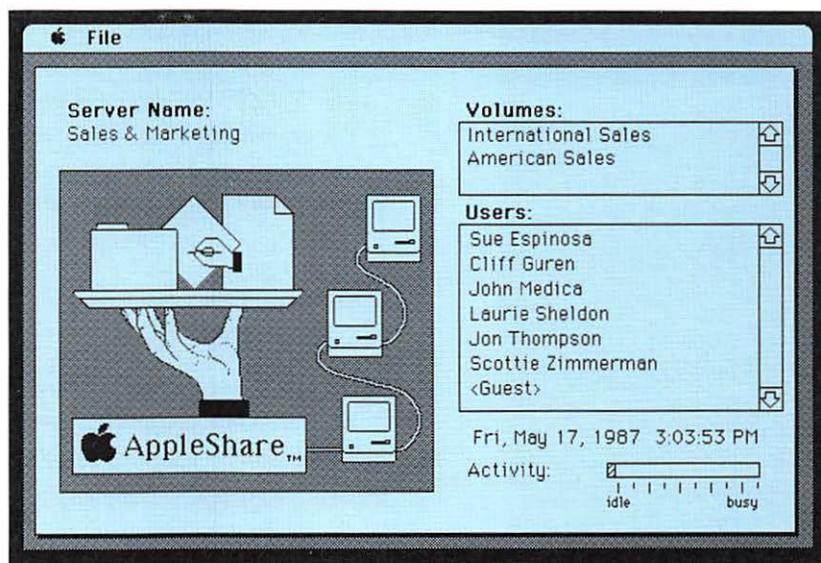


Figure 5-6
AppleShare

And many more...

Top software developers have developed many more applications for your computer. (Contact your authorized Apple dealer for availability.) You can choose from

- electronic spreadsheets for budgeting, forecasting, and answering “What if?” questions
- data base management programs for helping you keep track of everything from inventories to prospective clients to your favorite restaurants
- charting programs for turning numbers nobody understands into charts everyone understands
- programming languages, publishing programs, spelling checker programs, and hundreds more for getting your work done (and games or educational programs for when you need a break)

Hardware

Your Apple Macintosh II computer is a versatile machine, designed to grow as your computing needs grow. There are many devices you can add to your computer system to expand its capabilities, and many more are on the way.

800K disk drive

With an additional 800K disk drive built into your computer, you can work much faster and more efficiently. Copying disks becomes a one-step operation—disk swapping is eliminated. And you can keep system files and applications on one disk, and all your documents on another. See “Disks” in Chapter 4.

Second internal drive

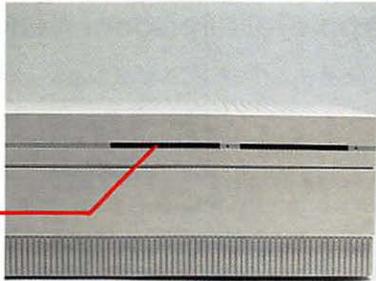


Figure 5-7
Second 800K disk drive

Apple SCSI hard disks

Apple SCSI hard disks are extremely fast information storage and retrieval systems. You can store hundreds of applications and documents all in one place, letting you work much more quickly and efficiently than with 3.5-inch disks. Hard disks for your Apple Macintosh II computer are available in 20-, 40-, and 80-megabyte configurations, in both built-in and external models.



Internal



External

Figure 5-8
SCSI hard disks

AppleTalk Personal Network

The AppleTalk Personal Network is a low-cost local area network that's as easy to set up and use as your computer. AppleTalk lets everyone in your work group communicate with each other (sending documents or electronic mail much faster than ordinary telecommunications). With AppleTalk, you can also share the cost of high-performance resources such as the LaserWriter or powerful mass-storage devices—at a fraction of the cost of other networks.

Your AppleTalk network system can grow to serve a virtually limitless number of computers by linking separate networks together. (Using a hardware bridge and accompanying software, you form an interconnected series of AppleTalk zones; each computer in the entire network can have access to any shared resource anywhere in the network.) Whatever your networking needs are, AppleTalk can fill them.

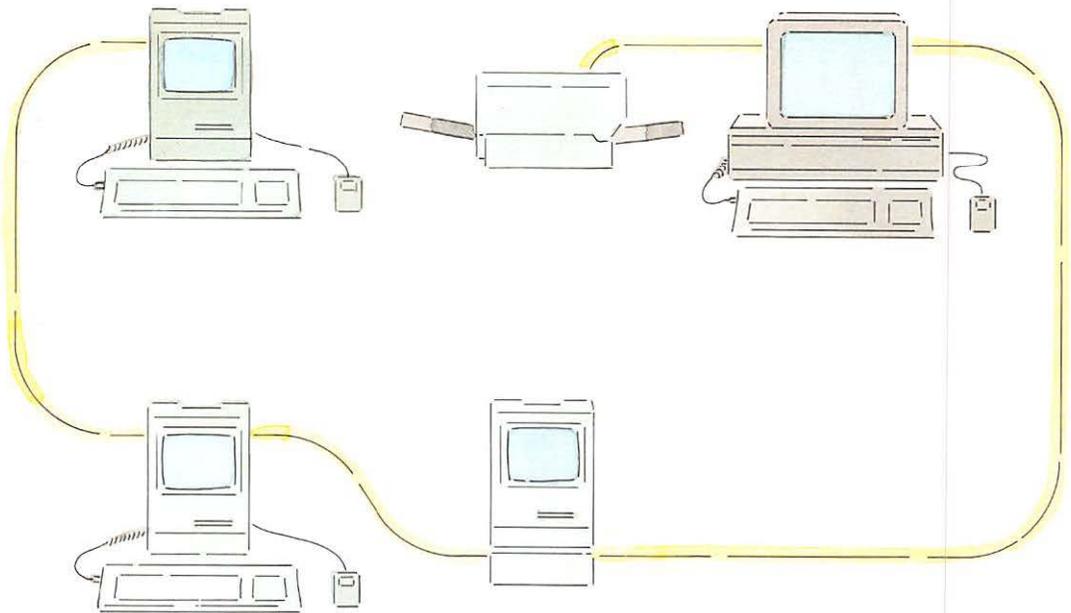


Figure 5-9
AppleTalk

Apple ImageWriter II printer

With an Apple ImageWriter II printer attached to your computer, you can get high-quality printed copies at a low cost. And with the AppleTalk option (requiring the AppleTalk card), you can connect a number of computers to the printer.

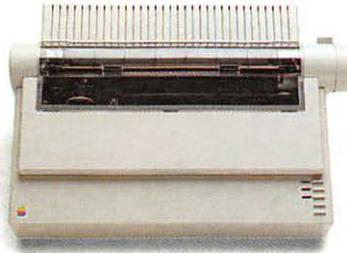


Figure 5-10
ImageWriter II

Apple LaserWriter printer

The Apple LaserWriter printer gives you near-typeset-quality printed copies of your work, for a lot less money than you'd expect. And LaserWriter printers use the AppleTalk Personal Network so you can share them with the people you work with.



Figure 5-11
LaserWriter

Apple Personal Modem

An Apple Personal Modem lets your computer communicate with the rest of the world using telephone lines. You can send and receive messages through electronic mail, subscribe to news services, find out the latest price of your stocks, or gain access to an entire university library from your computer. Your Apple dealer can tell you about the Macintosh telecommunications possibilities, including MacTerminal.



Figure 5-12
Apple Personal Modem

Monitors and video cards

You can choose a monochrome or color monitor for your Macintosh II system:

- 12-inch Apple High-Resolution Monochrome Monitor
- 13-inch AppleColor™ High-Resolution RGB Monitor

The 12-inch monitor, with a density of 76 dots per inch, lets you see more than half a page high and a full page wide. It's perfect for word processing and most business applications.

The 13-inch monitor has a density of 69 dots per inch with full RGB (red/green/blue) color. Use it for any application where color is a plus.

The standard video card will drive either of these monitors and allow either 16 colors or 16 shades of gray.

With the video card expansion kit, you can select colors from a palette of millions and display up to 256 colors. See your Apple dealer for details.

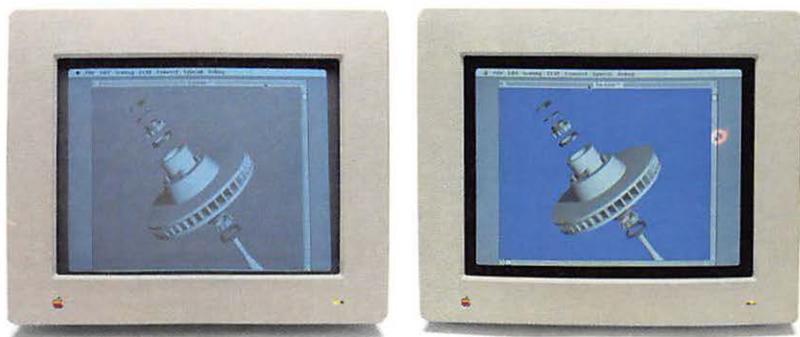


Figure 5-13
Monitors

Memory expansion

Your computer comes with 1 megabyte (1 MB) of memory on the main logic board. You can upgrade your system to 2, 4, 5, or 8 megabytes of memory, letting you work faster, more efficiently, and with far larger documents. Because there's no system overhead associated with added memory, you can more than double your computer's working space. And with Apple Computer's new Single In-line Memory Module (SIMM), it takes your dealer just a few minutes to give you all the memory you need for the most demanding applications.

Apple Extended Keyboard

The Apple Extended Keyboard was designed with additional keys to allow you to run alternate applications and operating systems such as MS/DOS and UNIX. See the manuals that came with these programs to learn how to take advantage of the additional keys.

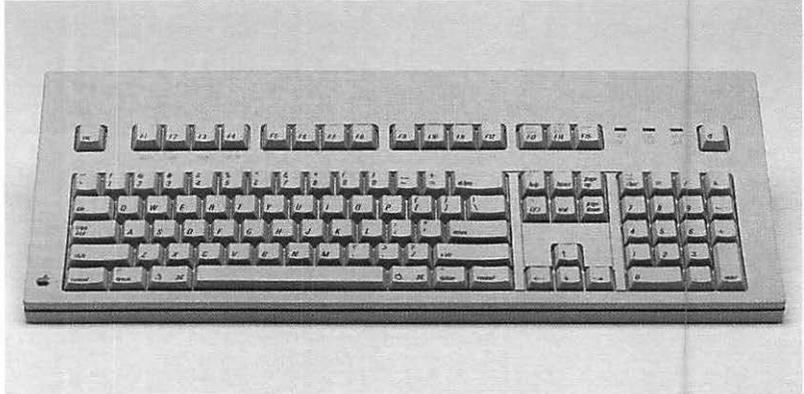


Figure 5-14
Apple Extended Keyboard

Macintosh Programmer's Workshop (MPW)

If you're interested in developing applications for the Macintosh II, ask your authorized Apple dealer about the Macintosh Programmer's Workshop. MPW is a programming environment for the Macintosh that includes an assembler and C and Pascal compilers. Version 2.0 supports the Macintosh II.

If you plan to develop applications for sale through retail channels, you can get valuable support from Apple Developer Relations.

Write to

Apple Developer Services
Mailstop 27-W
Apple Computer, Inc.
20525 Mariani Avenue
Cupertino, CA 95014



Chapter 6

Taking Care of
Your Macintosh II



UNITED

3859

The first thing to know: You'll never damage your Macintosh II computer by clicking in the wrong place or pressing the wrong key. Your computer is no more fragile than a television set. And if you follow the few suggestions here, you and your computer will be together for a long time.

The main unit

Give your computer plenty of space—enough so air can circulate on all sides, even the bottom. Make *sure* air can circulate around each of the ventilation slots on the top and sides of the main unit. The vents on the sides of the main unit are exhaust vents (where heat escapes), and the vent on the top is an air intake (allowing cool air in). Don't use the main unit on thick-pile carpet or upholstery, or anything else that will block its ventilation.

Be careful not to spill liquids on your computer. It probably won't survive a cup of coffee spilled into it.

The computer can tolerate about the same range of temperatures as you can, but don't let it sit outside in direct sunlight or expose it to rain (much less hail, sleet, or snow). The main unit may feel warm to the touch after it's been on for a while. This is just the heat generated inside escaping.

Important Proper ventilation is important to the life of the computer. Be sure to leave a 4- to 6-inch clearance between the side vents on the main unit and any object that might restrict air flow. Always keep your computer's main unit flat, sitting on its rubber feet. Standing it on edge defeats the cooling design, and is likely to make your computer overheat. This will eventually damage the main unit. (See Figure 6-1.)

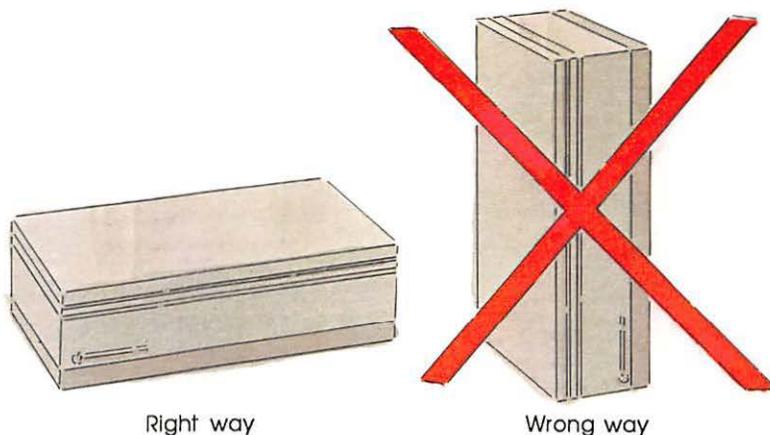


Figure 6-1
How to place the main unit

If you choose to leave your computer on all the time, remember to turn down the brightness or contrast when you're not using it; if your computer is left on for long periods (days or weeks), the image on the screen will start to "burn in," and the screen may be permanently damaged.

Extend hard disk life

If your computer has a hard disk and you plan to be away from it for eight hours or more, shut off your entire computer system to extend the hard disk's life. While the computer part of your system can stay on indefinitely, the disk drive will eventually wear out.

The monitor

There are a number of ventilation slots on the top of the monitor. These vents allow heat to escape, so be sure to leave them unobstructed. Don't set anything—even a piece of paper—on the top of the display monitor.

The keyboard

Try not to spill anything on the keyboard. It can be ruined by a spilled soft drink or anything that leaves a sticky residue. If you spill something on the keyboard and it stops working:

- If the liquid is sweet or sticky, unplug the keyboard and take it to your authorized Apple dealer for repair or replacement.
- If the liquid is thin and clear, try unplugging the keyboard, turning it upside down to let the liquid drain out, and drying it for 24 hours at room temperature. If it still doesn't work, take it to your Apple dealer.

The mouse

Be careful not to drop the mouse or let it hang from a table by its cable. Just use common sense in treating it as carefully as you can.

The surface your mouse moves on should be as smooth, clean, and dust-free as possible.

Clean the mouse once a month to keep it running efficiently:

1. Turn the mouse upside down, and rotate the black plastic dial counterclockwise as far as it will go.
2. Holding one hand over the ball and dial to catch them, turn the mouse right side up. (See Figure 6-2.)

The dial and the ball will drop into your hand.

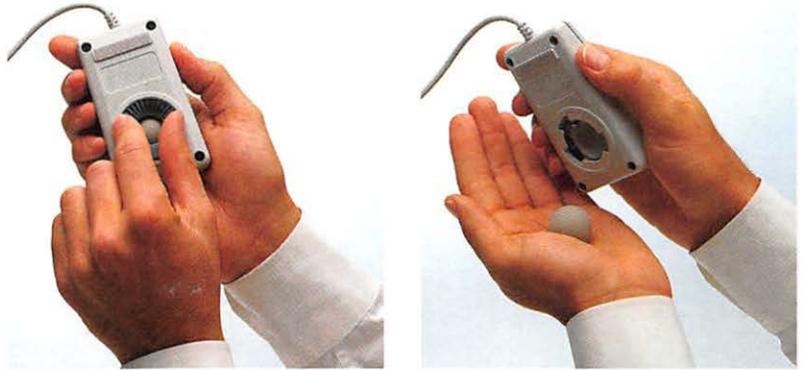


Figure 6-2
Disassembling the mouse

3. Inside the case are two plastic rollers, similar to those on a tape recorder. Using a cotton swab moistened with alcohol or tape head cleaner, gently wipe off any oil or dust that has collected on the rollers, rotating them to reach all surfaces. (See Figure 6-3.)
4. Wipe the ball with a soft, clean, dry cloth.

Don't use tissue or anything that may leave lint, and don't use a cleaning liquid.

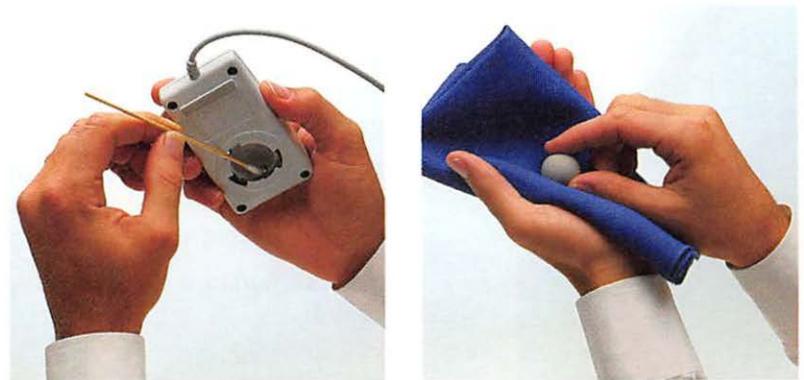


Figure 6-3
Cleaning the mouse

5. Blow gently into the case to remove any dust that has collected there, or use a low-powered vacuum cleaner.

Portable car vacuums are ideal.

6. Put the ball back into its case, and lining up the indicator on the dial with the O on the back of the case, reinsert the dial and turn it clockwise as far as it will go.

It will click when firmly in place.

Disks

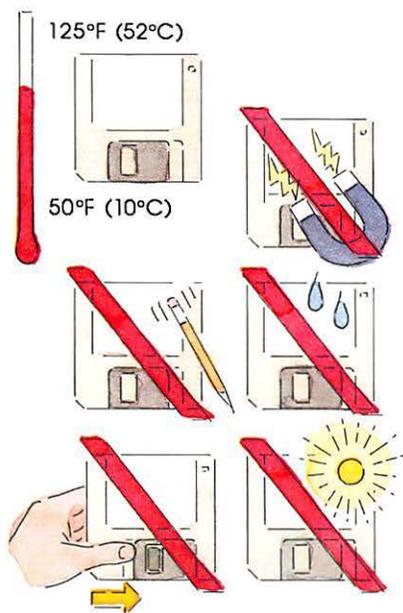
Although Apple 3.5-inch disks are pretty rugged, they do have a few modest physical requirements—about the same as audio cassette tapes have. Your disks should be kept dry, away from extreme temperatures (don't lay them on top of your computer or store them on the seat of your car), out of direct sunlight, and out of reach of anything that contains a magnet, such as a telephone. (Magnetic fields can scramble the information on the disk.)

When the disk is inserted into the disk drive, the metal covering on the disk case slides out of the way so the computer can get information from and save information onto the disk. When the disk is out of the disk drive, the metal covering closes by spring action to protect the disk underneath it. Never touch the exposed disk under the metal covering.

Other than that, you don't have to treat disks especially carefully. You can carry them around in your briefcase or coat pocket or mail them to your aunt in Cooperstown. (Two fit nicely in a business envelope.)

Be sure to make a copy of any disks you can't do without. (See "Copying an Entire Disk" in Chapter 3.) It's no fun losing a report the night before you were going to make final corrections.

You can purchase disks in a 10-pack from your authorized Apple dealer.



The clock battery

Your computer has a clock that runs continuously, even when the computer is switched off. (Choose Alarm Clock from the Apple menu to see it.) When the computer is off, the clock runs on battery power. There are two batteries, and they will probably last about eight years. If the computer system fails to start or the clock begins to lose accuracy, see your dealer for a replacement.

Service and support

To help you get the best performance from your computer system, Apple Computer has established a worldwide network of full-support Apple dealers. If you need answers to technical questions or information about product updates, your Apple dealer can help you. Apple's Technical Support organization backs each dealership to ensure prompt and reliable assistance.

If service is required on your computer, take it to your authorized Apple dealer. Each authorized Apple dealer is required to employ Apple-trained service technicians and to use Apple parts in performing repairs. If you have moved, take your computer to the nearest authorized Apple dealer. There are more than 3,000 authorized Apple dealers in the United States alone. For the authorized Apple dealer nearest you in the United States, call (800) 538-9696; in Canada, (800) 268-7682. Or, if you prefer, write to

Apple Computer, Inc.
Attn: Customer Relations
20525 Mariani Avenue
Cupertino CA 95014

Apple also offers the AppleCare[®] Service Agreement, which keeps your warranty protection in force for up to three years. AppleCare is one of the lowest priced service plans in the industry, and your AppleCare agreement will be honored at all participating authorized Apple dealers within the country of purchase—an added benefit if you relocate. Local service means time saved in getting your Apple system back to work.

You may purchase *AppleCare* at any time, but for uninterrupted protection, it's a good idea to buy the *AppleCare* along with your computer system (or within 90 days of the date you purchase your system). In addition to providing you with complete coverage, *AppleCare* purchased along with your computer avoids an owner-paid inspection of your system if your warranty has expired. *AppleCare* is available through your authorized Apple dealer.

If something goes wrong

If your computer stops working, try the suggestions in Table 6-1; if it still doesn't work, take it to your authorized Apple dealer. See "Troubleshooting Your SCSI Hard Disk" in Appendix A for help with hard disk problems.

Warning Any time you detect a serious problem with the operation of your computer, unplug the power cord. This is the easiest way to turn off the power in an emergency. Contact your authorized Apple dealer to diagnose and correct problems.

Table 6-1
Troubleshooting

Symptom	What's probably wrong	What to do
The screen is dark.	The monitor or computer isn't getting power, or the brightness or contrast controls are turned way down.	Check the brightness and contrast controls on the monitor; adjust them to make the screen brighter. Make sure the computer is turned on and the power cord is firmly attached to both the main unit and the wall outlet. If the outlet is controlled by a wall switch, see that the switch is on. If the outlet is controlled by a dimmer switch, use a different outlet. (See your monitor's manual.)

Symptom	What's probably wrong	What to do
When you insert a disk, the screen is bright, but the desktop doesn't appear.	When you start up the computer or insert a disk, the computer presents one of several icons that give you information about itself or the disk you inserted. Each icon gives you information about possible problems.	The question mark means the computer is switched on and ready for you to insert a startup disk. 
		The "happy Macintosh" means everything's fine to this point. 
		An X usually means the disk you inserted to start up the computer isn't a startup disk. It can also mean the disk is damaged. Use the power switch on the back of the main unit to switch off the computer and try restarting with a different disk. 
A dialog box with a bomb icon appears.	There's a serious problem with the software.	The "sad Macintosh" appears when the computer can't go any further because of a problem with the system software. Sometimes this indicates a hardware problem. See your dealer. You may have to eject the disk manually and unplug the system. 
		The error codes presented in the dialog box are very technical and, unless you're an expert, won't mean much. Try clicking the Restart button in the dialog box (restarting the computer with the same disk). If the problem occurs again, abandon that disk and try a different copy of the software.

Symptom	What's probably wrong	What to do
Moving the mouse has no effect on the pointer.	The mouse might not be firmly connected. If the mouse is connected to the keyboard, make sure the keyboard itself is plugged in. If the connections are good, the mouse may not be working properly.	Is the mouse firmly connected to the computer? Is it moving on a smooth, clean surface? Does the mouse need cleaning? (See "The Mouse" earlier in this chapter for instructions.) If the problem doesn't seem to be with the mouse, check the software by first restarting the computer, then trying another disk. If there seems to be a software problem you can't solve by restarting or by trying another disk, tell your Apple dealer about it.
Typing on the keyboard produces nothing on the screen.	You might be in a situation that doesn't allow typing. (For example, while in MacPaint you have to select the tool for entering text, or typing won't work.) The keyboard connection might be loose, or the keyboard broken.	Make sure you're in a situation that allows typing. Use the Key Caps desk accessory to check each key. Make sure the keyboard is connected securely. Open an information window and try typing there. If this doesn't help, see your Apple dealer.
You can't save anything on a disk.	There are several conditions that might cause this problem: <ul style="list-style-type: none"> <input type="checkbox"/> The disk is not formatted. <input type="checkbox"/> The disk is full. <input type="checkbox"/> The disk is locked. <input type="checkbox"/> The disk drive isn't working. 	Usually a message appears in a box describing the exact problem. If not, take the following steps: Eject the disk and see if the plastic tab is in the locked position. (If you can't eject it in the usual way, see the next part of this table.) Reinsert the disk. Check to see if there's room for more information on the disk by selecting the disk and choosing Get Info from the Finder's File menu. Try using a different disk. If you still have trouble saving anything, the disk drive probably isn't working correctly. Take the computer to your Apple dealer for help.

Symptom	What's probably wrong	What to do
You can't eject the disk.	Your computer can't get the information it needs to eject the disk in the usual way.	Choose Shut Down from the Special menu. Then hold down the mouse button while you press the Power On key. This should eject the disk. If not, find the small hole to the right of the disk drive. Insert a straightened paper clip or similar small object and push. This ejects the disk if all else fails.
The computer shuts down without warning.	The air vents on the sides and top of the main unit may have been blocked or covered in some way, causing the system to overheat. (Or the room temperature may have been too high.) Thermal protection circuitry may have shut down the computer to prevent damage to the hardware.	Check the clearance around the air vents, and remove anything blocking the flow of air to the ventilation system. Also check the ambient temperature. Give the computer time to cool down (at least half an hour), and try starting it again.
The fan seems to be noisier than usual.	If the computer is heating up, the fan will work harder.	Check the clearance around the air vents, and remove anything blocking the flow of air to the ventilation system. Also check the ambient temperature and do what you can to cool the room you're working in. If it is not possible to lower the temperature, turn off the computer.

General symptoms and cures

If none of these specific symptoms or cures seem to fit, consider the three general ways in which your computer could be ailing:

- The application you're using could have failed to run properly just this once after it was copied from the disk into memory.
- The disk you're using has damaged files on it.
- The computer is on the blink.

If you've checked the specific symptoms in this chapter and you still can't get any response from your computer, try turning it off briefly and then on again. If this works and this time you're able to complete what you tried before, it was just a glitch. (That's a technical term.) If you find yourself in the same dilemma after restarting the computer, the problem is with the disk (possibly your hard disk if it's the current startup disk). Try another disk (one without any valuable documents on it, so you don't risk losing them).

Miscellaneous software problems

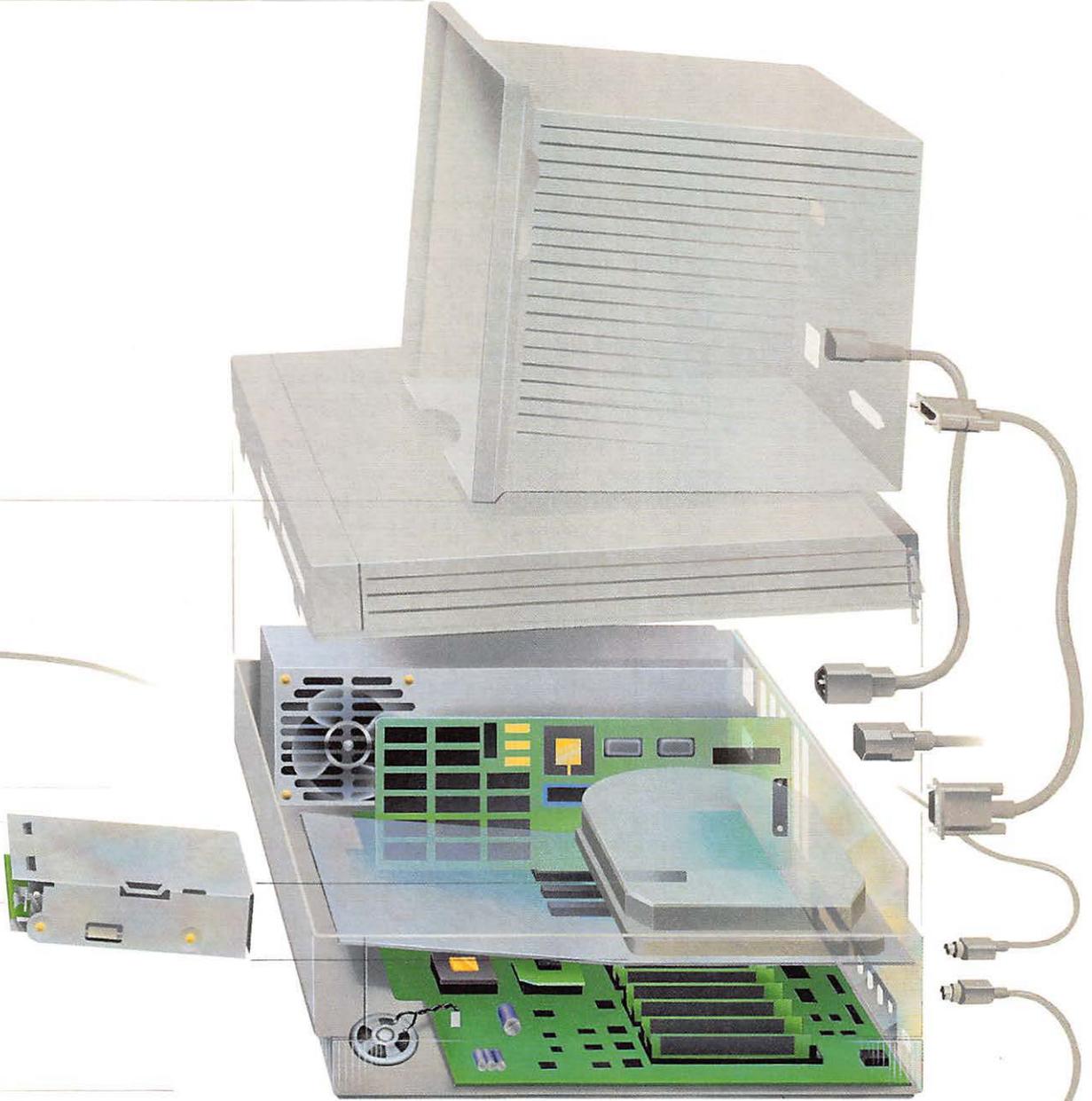
You can avoid many software problems by always keeping each of your startup disks current with the latest system software. See "Using the Installer" in Chapter 3. If you have the same problem with all disks, the computer most likely has a problem. Take it to your Apple dealer.

Some applications might require their own customized system files to work properly. In this case, hold down the Option key while you double-click the application to force the computer to switch to another startup disk. This is especially useful if you're using a hard disk. See "Startup Disks" in Chapter 4.

Some applications use data files (such as help files) that must be kept together in one folder. If you drag that folder from a one-sided disk to a disk that's initialized two-sided or a hard disk, the application may not be able to find the data files. Try moving the data files to the same folder as the application.

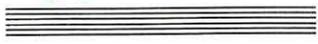


Appendixes





Appendix A



Working With Hard Disks

A hard disk lets you work more quickly and more efficiently. You work more quickly with a hard disk because it transfers information to and from your computer's main memory faster than a 3.5-inch disk does; you don't have to wait for your disks to catch up with you when you store or retrieve information. You work more efficiently with a hard disk because you can store large amounts of information on it—from 25 to 100 times as much as you can store on a 3.5-inch disk, depending on your hard disk's capacity.

You work with a hard disk and a 3.5-inch disk in the same way; how you open a disk, copy programs and data, and organize information in folders is identical. In fact, the only real difference is that you can't eject a hard disk. You can think of a hard disk as an oversized disk that always stays in its drive. (See "Getting the Most Out of Your Hard Disk" later in this appendix.)

To prepare your hard disk, you need to initialize it. Then, to make it a startup disk (so that starting your system is automatic), you need to install the system software.

❖ *External hard disk users:* Setting up an external hard disk is nearly the same as setting up an internal hard disk. The only differences are that, with an external hard disk, you need to attach the hard disk to the computer and you need to plug the hard disk into a power source. See the manual that came with your external hard disk for details.

The hard disk installer is identified by the Apple HD SC Setup icon in the Utilities Folder.

Using the hard disk installer

You use the **hard disk installer** to initialize your hard disk, update your disk when you get new hard disk resources, and do regular maintenance testing.

Initializing your hard disk

Initializing a hard disk prepares the disk to store information and installs a file called *Driver Resource*, which contains a program that tells your computer how to work with the disk.

Important

Someone may have already prepared your hard disk for you. If that's the case, you probably won't want to initialize the hard disk again; reinitializing a disk wipes out any information already stored on it.

To see if your hard disk has already been prepared, choose Restart from the Special menu. (If you have an external hard disk, switch it on and wait about 10 seconds before choosing Restart.) Any 3.5-inch disks will be ejected from the disk drives, and your computer will reset itself and then try to restart.

If the hard disk is already prepared, in a few seconds you'll see the Macintosh II Finder. You can skip to "Getting the Most Out of Your Hard Disk."

If you see a question mark on the display for more than a second or two, you need to prepare the hard disk. Read on.

Here's how to initialize your hard disk:

1. Shut the computer off using Shut Down from the Special menu.
2. Insert the *System Tools* disk into the right-hand drive.
3. Restart the computer by pressing the Power On key at the top of the keyboard.
4. Select the System Tools icon, and open it by choosing Open from the File menu or double-clicking the icon.
5. Select the Utilities Folder icon, and open it by choosing Open from the File menu or double-clicking the icon.

Among other icons, you see the Installer and Apple HD SC Setup.



Figure A-1
Utilities Folder

6. Select the Apple HD SC Setup icon, and open it by choosing Open from the File menu or double-clicking the icon.

The Apple HD SC Setup dialog box appears:



Figure A-2
Apple HD SC Setup dialog box

❖ *Multiple hard disk users:* If you're setting up an external hard disk and you have at least one other external SCSI hard disk, make sure that the device priority number in the dialog box matches the priority switch number that appears on the back of your hard disk. The internal hard disk (if you have one) is priority number 0. See "Drive" in the next section for more information.

7. Click Initialize.

Another dialog box comes up, giving you a chance to change your mind; it warns you that the initialization process erases the whole disk.

8. Click OK to start the process.

As the hard disk begins operating, various messages appear on the display, explaining what's going on in the meantime. The initialization process will take about 10 minutes for a 20-megabyte drive.

9. Name the disk.

When initialization is over, a dialog box comes up, asking you to give your hard disk a name. The name can have up to 27 characters, including spaces. You can use any character except the colon (:).

10. Click Quit.

You return to the Finder, and you see the Hard Disk icon on the right side of the desktop with the name you've given it.

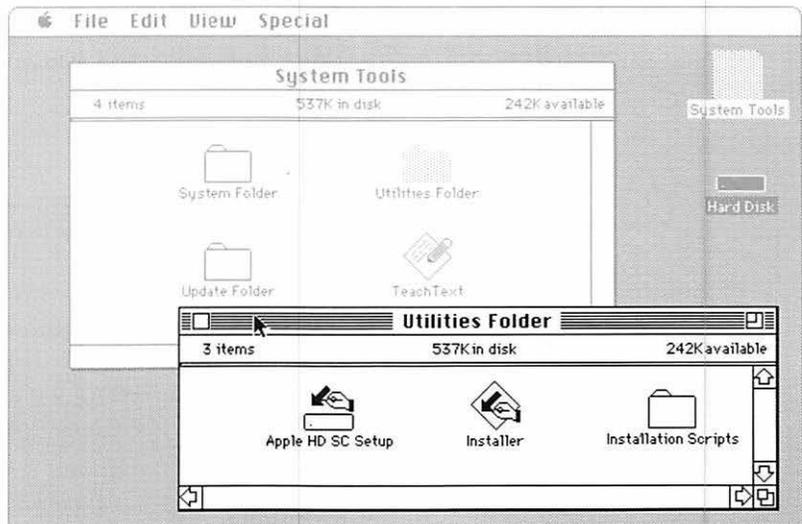


Figure A-3
Hard Disk Icon on the desktop

Other hard disk installer functions

The dialog box in Figure A-2 has four other buttons besides Initialize. You already know about the Quit button; the other three—Update, Test, and Drive— let you perform maintenance functions on your hard disk.

Update

Click the Update button to install an updated resource on the hard disk. (From time to time, Apple Computer releases improved versions of software; your authorized Apple dealer can tell you when an updated resource becomes available.) Updating your hard disk software lets you get improved performance without any risk to the information already stored.

You also use this function to reinstall the resource if you have certain kinds of problems with the hard disk. See "Troubleshooting Your SCSI Hard Disk" later in this appendix.

Test

Click the Test button to start a test of your hard disk. The test takes about 4 minutes (for a 20-megabyte drive) and checks to make sure your hardware is working properly. (It doesn't check any software, and it has no effect on information you've stored on the disk.)

You can run the test any time you want. In fact, it makes sense to run this test once a month or so to make sure that everything is working OK. (Sometimes this test can spot a problem before it becomes obvious, and before any of your data is affected.)

If your hard disk fails the test, immediately copy any files you haven't backed up yet. Then try to reinitialize and retest your hard disk. If it fails the test again, run Disk First Aid. (You'll find instructions for running this application in the *Macintosh System Utilities User's Guide*.) If it still fails, stop using the hard disk and contact your authorized Apple dealer. (If the dealer has to work on the disk, all your files will be erased in the process.)

Drive

Click the Drive button when you want the Macintosh II to search for the next available disk drive. In other words, this button serves the same purpose as the Drive button on directory dialog boxes you see frequently.

- ❖ *If you have a non-Apple SCSI disk drive:* The Drive function will not include any non-Apple SCSI disk drives in the search. The updates to system software you will be installing cannot be guaranteed to work on all third-party hardware.

When you click Drive in this dialog box, the system will tell you the device priority number for each device it finds. This is simply for your information; you cannot change the device priority from this dialog box.

Installing system software

Making your hard disk a startup disk lets you start your computer without putting a 3.5-inch disk into the drive. You can make your hard disk a startup disk by installing system software on it.

To install system software on your hard disk, you have a choice of two procedures:

- With the computer turned off, insert the *System Tools* disk into a 3.5-inch drive. Then press the Power On key. Open the *System Tools* disk icon and then open the Installer icon (in the Utilities Folder), and bring up the Installer dialog box. Select Macintosh II Installation and click Install. The advantage of this procedure is that the installation will include only the resources required for your Macintosh II.
- Drag the System Folder from the *System Tools* disk to the hard disk.

If you're using more than one external hard disk with a System file, be sure to set the proper startup device in the Control Panel. See "Using the Control Panel" in Chapter 3.

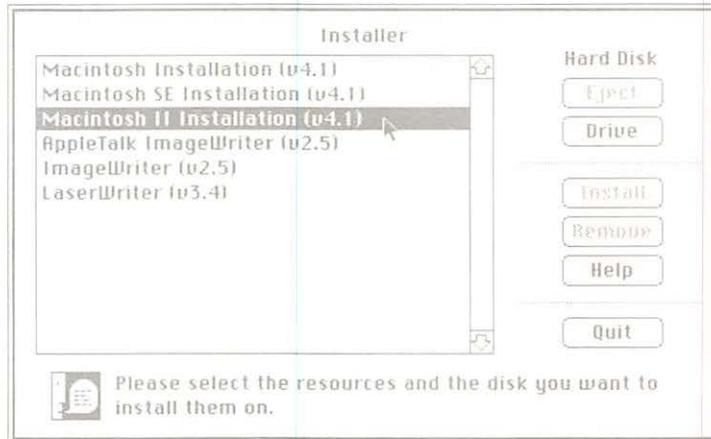


Figure A-4
Installer dialog box

Getting the most out of your hard disk

While you can approach using your hard disk as though it were a 3.5-inch disk, there are certain precautions you should take:

■ **Organize your files carefully.**

Hard disks let you keep large numbers of applications, documents, and other files a mouse-click away. Without careful organizing, you can scatter your files all over the place. Be sure to organize your files into folders in a way that makes your job easiest. And if you happen to misfile a document or application in the wrong place, use the Find File desk accessory to help you locate it. (See “Using Find File” in Chapter 3.)

■ **Always choose Shut Down (from the Special menu in the Finder) to turn off your computer.**

When you choose Shut Down, the computer is able to put everything away safely before it turns itself off.

Turning off the computer by another means (such as pushing the power switch) while the hard disk is working can cause the disk to lose information. Sometimes it can damage the disk directory. If this happens, try using the Disk First Aid program. If that doesn't help, you'll have to reinitialize the hard disk—and in the process lose all the information on the disk.

■ **Back up everything.**

Some people back up information stored on their hard disks weekly; more prudent people back up their work on a daily basis. The important thing is to make backup copies regularly. Hard disks are reliable, but accidents do happen. Copy individual documents from the hard disk to a 3.5-inch disk manually. Use the Hard Disk Backup program described in the *Macintosh System Utilities User's Guide* to back up large groups of documents.

■ **Shut off your hard disk when you're not using it.**

Mechanical things tend to wear out faster than electronic things. Your hard disk contains mechanical devices that are always in motion. While your hard disk has been designed to give you thousands of hours of trouble-free use, you can extend its life

considerably if you shut it down when you're through using it for the day (that is, if you expect to be away from it for eight hours or so).

Your hard disk is part of an integrated computer system (even if your disk is an external one), so shut down the whole system rather than just the hard disk. (Of course, if you have an internal hard disk, you *must* shut off the main unit to shut off the hard disk.) You needn't bother shutting off the system if you'll be using it again within a few hours.

Terminators are sandwich-like devices that fit between a SCSI cable and a SCSI device, or between two SCSI connectors. There must be *no more than two* terminators in a SCSI chain: one at the start of the chain, and one at the end.

Adding SCSI terminators

Hard disks and other devices connected to the SCSI port on the back of the main unit must have the proper number of **terminators** for the devices to work correctly and to prevent damage to the SCSI chip inside your computer.

Whether or not you need (or don't need) a terminator can be confusing. Sometimes there is a terminator inside a SCSI device where you can't see it, as with an Apple internal hard disk. (A device's documentation will tell you if it has a terminator.) And sometimes the 18-inch cable that you need to connect external devices to the SCSI connector acts as a terminator. Find the situation that applies to you in the following list. In all cases, it's assumed that you're using Apple's 18-inch SCSI cable to go from your computer to the first SCSI device.

- *Internal hard disk to a single external Apple device.* Add a terminator between the SCSI cable and the SCSI connector on the external Apple device.

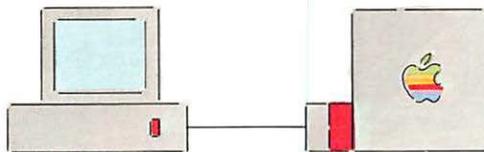


Figure A-5
Connecting an Apple device to a hard disk

- *Internal hard disk to multiple external Apple devices.* Add a terminator between the SCSI cable and the SCSI connector on the last device in the chain.

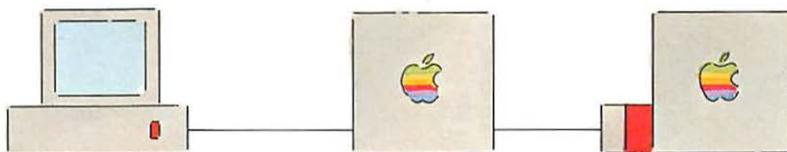


Figure A-6

Connecting multiple Apple devices to a hard disk

- *No internal hard disk to a single external Apple device.* Add a terminator between the SCSI cable and the SCSI connector on the external Apple device.

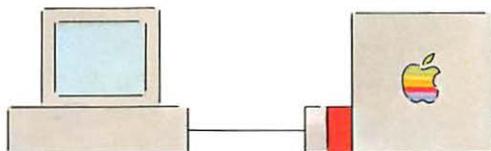


Figure A-7

Connecting an Apple device to a Macintosh II without a hard disk

- *No internal hard disk to multiple external Apple devices.* Add a terminator between the SCSI cable and the SCSI connector on the first external Apple device in the chain; then add a terminator between the SCSI cable and the SCSI connector on the last device in the chain.

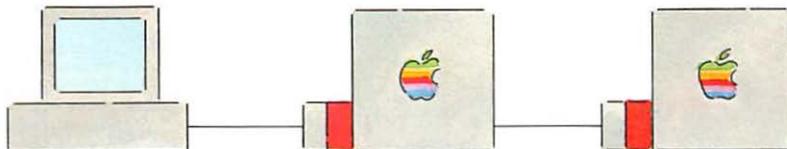


Figure A-8

Connecting multiple Apple devices to a Macintosh II without a hard disk

- *Internal hard disk to a single external non-Apple device.* If the external device does not have a built-in terminator, add a terminator between the SCSI cable and the external device's SCSI connector. If the device has a built-in terminator, you don't need to add one.

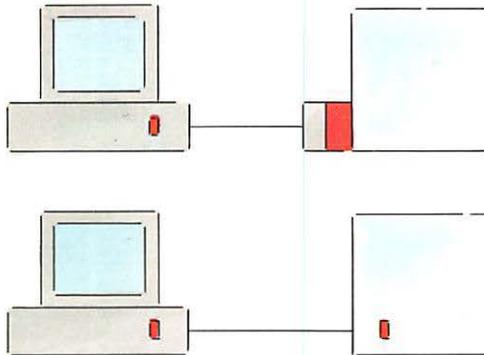


Figure A-9

Connecting a non-Apple device to a hard disk

- *Internal hard disk to multiple external non-Apple devices.* If none of the devices has a built-in terminator, add a terminator between the SCSI cable and the SCSI connector on the last device in the chain. If one of the devices in the chain has a built-in terminator, place that device at the end of the chain and don't add any terminators.

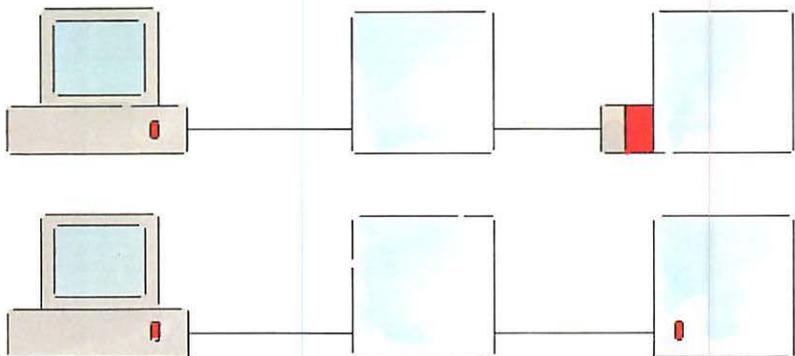


Figure A-10

Connecting multiple non-Apple devices to a hard disk

- *No internal hard disk to a single external non-Apple device.* If the external device does not have a built-in terminator, add a terminator between the SCSI cable and the external device's SCSI connector. If the device has a built-in terminator, you don't need to add one.

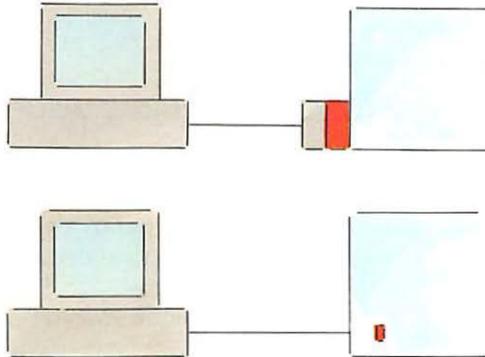


Figure A-11
Connecting a non-Apple device to a Macintosh II without a hard disk

- *No internal hard disk to multiple external non-Apple devices.* If none of the devices has a built-in terminator, add a terminator between the SCSI cable and the first non-Apple SCSI device in the chain. Then add a terminator between the last cable and the SCSI connector on the last device in the chain. If one of the devices in the chain has a built-in terminator, place that device at the end of the chain and eliminate the second terminator.

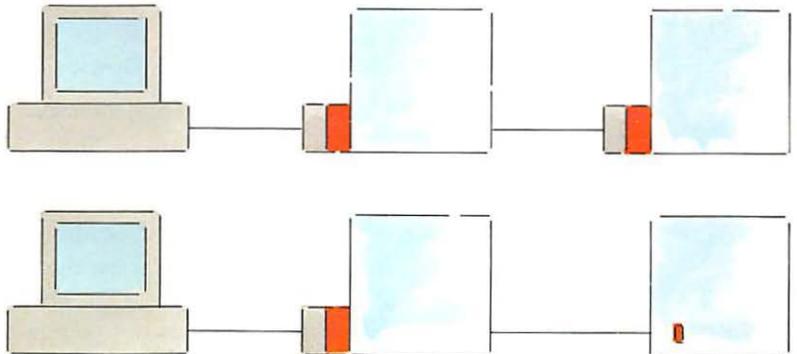


Figure A-12
Connecting multiple non-Apple devices to a Macintosh II without a hard disk

Warning

You can have no more than two terminators in the entire SCSI chain. More than two terminators in the chain may damage your computer. If more than one of the non-Apple devices in the chain has a built-in terminator, remove that terminator or have your Apple dealer remove it. Check the manual that came with the device to be sure.

Troubleshooting your hard disk

From time to time, you might experience some problems with your hard disk. Here are some common symptoms and what to do about them. For more symptoms and cures associated with an external hard disk, see the manual that came with your disk.

■ **The Hard Disk icon doesn't appear on the Finder desktop.**

- Your hard disk might not be initialized.
- All external hard disks must be turned on and running for at least 10 seconds before your computer is switched on.
- The hard disk resource might be damaged. To find out:
 1. Insert the *System Tools* disk.
 2. Run the Apple HD SC Setup application.
 3. Click Update.
 4. When the setup is complete, click Quit.

If the resource was the problem, the Hard Disk icon should appear on the desktop.

- If the hard disk you're having trouble with is a startup disk, the System file on the hard disk might be damaged. To find out:
 1. Choose Shut Down from the File menu.
 2. Insert the *System Tools* disk.
 3. Restart the computer.
 4. Open the System Folder on the *System Tools* disk.
 5. Drag the System file from the *System Tools* disk to the System Folder on the hard disk, replacing the potentially damaged file. (You may lose some fonts and desk accessories, but you can recopy them easily using Font/DA Mover.)

6. Eject the *System Tools* disk by choosing Eject from the File menu.

7. Choose Restart from the Special menu.

If the System file was the problem, the Hard Disk icon should appear on the desktop. However, this procedure can cause you to lose some fonts and desk accessories that were in your original System file.

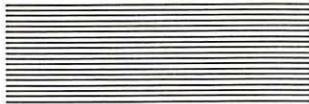
- You might have lost power while the hard disk was in use. If so, try using the Disk First Aid program to recover. As a last resort, contact your authorized Apple dealer.

■ **An application in a folder won't open.**

Move the program out of the folder onto the desktop and try again.

■ **When you select the Apple HD SC Setup icon, you see the message "Drive selection failed."**

An external hard disk isn't connected properly or it isn't switched on. See "Getting the Most Out of Your Hard Disk" earlier in this appendix for information about connecting SCSI devices. Make sure that terminators and cables are seated properly.



Appendix B



Macintosh II Specifications

Processor	MC68020, 32-bit architecture, 15.6672 MHz clock frequency
RAM memory	1 MB, expandable to 8 MB on board; expandable to 2 GB in NuBus slots
ROM memory	256K (standard)
Coprocessor	68881 floating-point device (IEEE standards)
Memory management	Software, optional 68851 PMMU (Paged Memory Management Unit)
3.5-inch disk	800K per formatted double-sided disk, hard-shell media (second unit optional)
Hard disk	Options include 20 MB, 40 MB, and 80 MB SCSI hard disks, internal and/or external
Monitors	Options include 12-inch, 640-by-480-pixel monochrome; 13-inch, 640-by-480-pixel RGB
Interfaces	Two 8-pin mini-circular serial (RS-422) ports, one DB-25 SCSI port, two Apple DeskTop Bus (ADB) ports, six NuBus internal slots supporting full 32-bit address and data lines

Sound generator	Apple custom sound chip (ASC) including 4-voice wave-table synthesis and stereo sampling generator capable of driving stereo mini-phone jack headphones or stereo equipment
Input voltage	90 to 140 VAC and 170 to 270 VAC, automatically configured
Frequency	48 to 62 Hz
Max power	230 watts, not including monitor power
Mouse	Mechanical tracking, optical shaft encoding 3.54 pulse per mm (90 pulse per in) of travel
Operating temperature	10° C to 35° C (50° F to 95° F)
Storage temperature	-40° C to 47° C (-40° F to 116.6° F)
Relative humidity	5% to 95% (noncondensing)
Altitude	0 to 3048 m (0 to 10,000 ft)

	Weight	Height	Width	Depth
Main unit	10.9 to 11.8 kg (24 to 26 lb)	140 mm (5.51 in)	474 mm (18.66 in)	365 mm (14.37 in)
Apple Keyboard	1.0 kg (2 lb 4 oz)	44.5 mm (1.75 in)	418.3 mm (16.5 in)	142 mm (5.6 in)
Mouse	.17 kg (6 oz)	27.9 mm (1.1 in)	53.3 mm (2.1 in)	96.5 mm (3.8 in)
Apple Extended Keyboard (optional)	1.6 kg (3 lb 10 oz)	56.4 mm (2.25 in)	486 mm (19.125 in)	188 mm (7.4 in)
Apple High-Resolution Monochrome Monitor	7.7 kg (17 lb)	255 mm (10.04 in)	310 mm (12.2 in)	373 mm (14.68 in)
Apple High-Resolution RGB Monitor	15.45 kg (34 lb)	281 mm (11.06 in)	344 mm (13.54 in)	402 mm (15.83 in)



Appendix C



Expansion Cards and Power Requirements

There are limits to the amount of electrical power available for the six expansion slots in the main unit of your Macintosh II. Under most circumstances, this should not create a problem. However, if you plan to install several cards, it is a good idea for you to take time to assess the power requirements for the combined cards. Installing a group of cards that make excessive demands on available power may cause damage to one or more cards or to the computer itself. Forewarned is forearmed.

There are three kinds of current from which a card can draw power. They are identified as

- +5V bus current
- +12V bus current
- 12V bus current

Each card will draw power from these sources in varying combinations and in varying amounts, but that in itself will not cause a problem. You need to determine the requirements of each of your cards, add those numbers together, and verify that the *totals* do not exceed the limits. Table C-1 defines those limits.

Table C-1
Power limits

Type of current	Recommended total for all six slots
+5V bus	12.8 amps
+12V bus	1.3 amps
-12V bus	1.0 amps

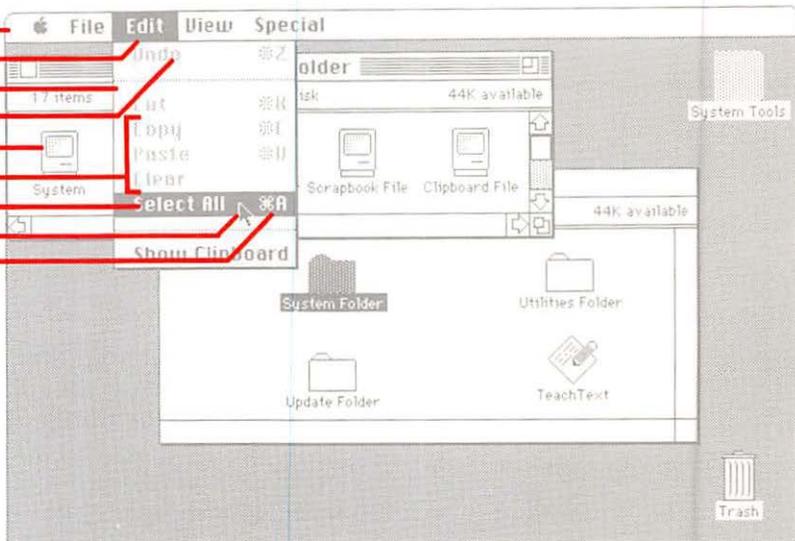
In order to calculate total power requirements, you'll have to identify the specifications for your cards. You should be able to find that information on the package or in the instructions that came with each card. Once you know how much power is required (and from which type of current), you can add up the figures and determine whether your cards as a group may exceed the limits.

For example, assume you have four cards with these requirements:

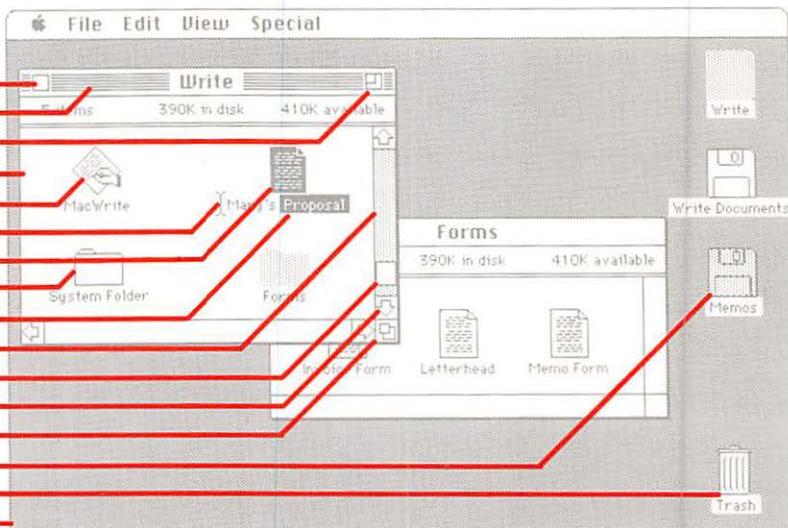
- +5V bus 8 amps total for four cards
- +12V bus .7 amps total for four cards
- 12V bus .632 amps total for four cards

These totals are all within the limits, and you can safely install all four cards. However, if you should purchase two more cards, you will have to add in their requirements to be sure that the totals are still acceptable.

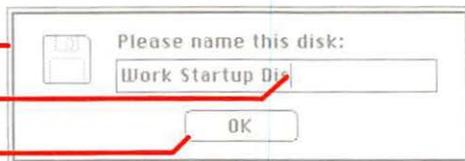
- Menu bar
- Menu title
- Pull-down menu
- Dimmed command
- System Icon
- Commands
- Highlighted command
- Pointer
- Apple-key equivalent



- Close box
- Active window's title bar
- Zoom box
- Directory window
- Application Icon
- I-beam pointer
- Document icon, selected
- Folder Icon
- Selected text
- Scroll bar
- Scroll box
- Scroll arrow
- Size box
- Disk Icon
- Trash
- Desktop



- Dialog box
- Insertion point
- Button





Glossary



active window: The frontmost window on the desktop; the window where the next action will take place. An active window's title bar is highlighted.

Alarm Clock: A desk accessory that displays the current date and time.

Apple DeskTop Bus: The set of connectors on the back of the main unit that you use to attach the keyboard, mouse, and other Apple DeskTop Bus devices (such as hand graphics tablets, hand controls, and specialized keyboards).



Apple key: A key that, when held down while another key is pressed or a mouse action is performed, causes a command to take effect. Sometimes called the *command key*.

Apple menu: The menu on the far left in the **menu bar**. Its title is an Apple symbol.

application program: A tool to manipulate information and help you perform your work. Sometimes called an *application* or a *program*.

attributes: Information associated with text you type. Text attributes include the size and style as well as the font you choose.

bridge: A device that lets you connect AppleTalk networks together. See also **zone**.

button: The places in dialog boxes where you click to designate, confirm, or cancel an action. See also **mouse button**.

Calculator: A desk accessory that works like a four-function pocket calculator. You can cut and paste calculation results into your documents.



Cancel button: A button that appears in dialog boxes. Clicking this button cancels the command.



Caps Lock key: A key that, when engaged, causes subsequently typed letters to appear in uppercase. It works like a Shift key except that it doesn't affect numbers or symbols.

character keys: The keys on the Macintosh II keyboard for letters, numbers, symbols, punctuation, Return, Tab, and the Space bar.

check box: The small box or circle associated with an option in a dialog box that, when clicked, adds or removes the option.

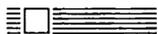
choose: To pick a command by dragging through a menu. Usually you do this after you've selected something for the computer to act on.

Chooser: A desk accessory that lets you configure your Macintosh II system to print on any printer for which there's a printing **resource** on the current startup disk. If you're part of an AppleTalk network, you use the chooser to connect and disconnect from the network and to choose among devices connected to the network. You can also specify a user name that the Macintosh II shows when you're using a network resource—when you're printing on a LaserWriter, for example.

click: To position the pointer on something, then press and quickly release the mouse button.

Clipboard: The holding place for what you last cut or copied.

close: To turn a window back into the icon that represents it.



close box: The small white box on the far left side in the title bar of an active window. Clicking a close box closes the window.

command: A word or phrase, usually in a menu, describing an action for the computer to perform.

Control Panel: A desk accessory you use to personalize your computer to your own way of doing things. Use the Control Panel to change the speaker volume, set the clock, create a RAM cache, and set many other preferences.

copy protect: To make a disk uncopyable. Software publishers frequently try to copy protect their disks to prevent them from being illegally duplicated by software users.

current startup disk: The startup disk whose system files the Macintosh II is currently using. See also **startup disk**.

cut: To remove something by selecting it and choosing Cut from the Edit menu. What you cut is placed on the Clipboard.

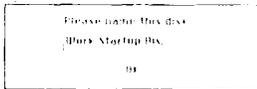
daisy chain: A group of devices linked together sequentially. See also **Apple DeskTop Bus**.



Delete key: A key that removes the current selection or moves the insertion point backward, removing the previously typed character.

desk accessories: “Mini-applications” that are available on the desktop from the Apple menu regardless of which application you’re using. Examples are the Calculator, Alarm Clock, and Scrapbook.

desktop: Macintosh’s working environment—the menu bar and the gray area on the screen.



dialog box: A box containing a message requesting more information from you. Sometimes the message is a warning that you’re asking your computer to do something it can’t do, or that you’re about to destroy some information. In these cases, the message is often accompanied by an Alert Sound.



dimmed command: A command that appears dimmed in the menu. You can’t choose a dimmed command.

dimmed icon: An icon that represents a disk that has been ejected, or a document, folder, or application belonging to a disk that has been ejected. You can select and open dimmed disk or folder icons, but you can’t open the documents and applications on them.

directory: A pictorial, alphabetical, or chronological list of the contents of a folder or a disk.

directory window: The window that shows you the contents of a disk.



disk: The magnetic medium on which the computer stores information. Your computer can use a 3.5-inch disk or a hard disk.



disk drive: The mechanism that holds the disk, retrieves information from it, and saves information on it. A hard disk drive has the disk permanently encased. A 3.5-inch disk drive requires that you insert a 3.5-inch disk.



document: Whatever you create with Macintosh II applications—information you enter, modify, view, or save. See also **file**.

double-click: To position the pointer where you want an action to take place, and then press and release the mouse button twice in quick succession without moving the mouse.

drag: To position the pointer on something, press and hold the mouse button, move the mouse, and finally release the mouse button. When you release the mouse button, you either confirm a selection or move an object to a new location.

driver: See **resource**.

Enter key: A key that confirms or terminates an entry or (sometimes) a command.

expansion slot: A connector inside the Macintosh II's main unit that lets you install expansion cards to enhance the computer's performance.

file: A collection of information stored on a disk—a document, a system file like the System file or Finder, an application, and so on.

file server: A combination of controller software and a mass storage device that allows computer users to share common files and applications through a network.

Finder: An application that allows access to documents and other applications. You use it to manage documents and applications, and to get information to and from disks.

Find File: A desk accessory that lets you find any folder or file on the disk. It will also show you where in the hierarchical file system it found what you wanted.

folder: A holder of documents, applications, or other folders on the desktop. Folders allow you to organize information in any way you want.

font: A collection of letters, numbers, punctuation marks, and other typographical symbols with a consistent appearance. An example of a font is Geneva.

Font/DA Mover: A utility program that lets you add fonts and desk accessories to your System file.

hard disk: A disk drive that has the disk permanently encased. See also **disk drive**.

hard disk installer: A utility program that lets you initialize your hard disk, update your disk when you get new hard disk resources, and do maintenance testing. The hard disk installer is identified by the Apple HD SC Setup icon in the Utilities Folder.

hardware: Anything about the computer that you can see or touch.

hierarchical file system: A way of using folders to organize documents, applications, and other folders on a disk to organize and look at related information. Folders (analogous to subdirectories in other systems) can be nested in other folders to create as many levels of a hierarchy as you need. Opening a folder presents only the information you've put into that folder, so you can concentrate on that information without viewing everything on the disk.

highlight: To make something visually distinct from its background, usually to show that it has been selected or chosen.

I-beam: A type of pointer used in entering and editing text.

icon: A graphic representation of an object, a concept, or a message. Icons are often objects associated with the Finder.

information window: The window that appears when you select an icon and choose Get Info from the File menu. It supplies information such as size, type, and date, and it includes a place for adding notes.

initialize: To prepare a disk to receive information. You can initialize 800K disks on both sides or on just one side.

insertion point: The spot in a document where something will be added. You select an insertion point by clicking. It's represented by a blinking vertical bar.

Installer: A utility program that lets you choose an Installation script for updating your system software.

kilobyte (K): A unit of measurement consisting of 1024 (2^{10}) bytes. In this usage, *kilo* (from the Greek, meaning a thousand) stands for 1024. Thus 64K memory equals 65,536 bytes. See also **megabyte**.

local area network (LAN): A group of computers linked physically by a network of communication cables.

lock: To prevent documents from being edited, discarded, or renamed, or to prevent entire disks from being altered.

main unit: The computer console, which contains the processor, co-processor, memory, the built-in disk drive(s), and an optional SCSI hard disk.

megabyte (MB): A unit of measurement equal to 1024 kilobytes, or 1,048,576 bytes. See also **kilobyte**.

memory: The place in the computer's main unit that stores information while you're working with it. The Macintosh II includes at least 1MB of memory you can use for your work, and at least 256K of ROM (read-only memory) that stores certain system information permanently. See also **random-access memory** and **read-only memory**.

menu: A list of commands that appears when you point to and press the menu title in the menu bar. Dragging through the menu and releasing the mouse button while a command is highlighted chooses that command.

menu bar: The horizontal strip at the top of the screen that contains menu titles.

menu title: A word or phrase in the menu bar that designates one menu. Pressing on the menu title causes the title to be highlighted and its menu to appear below it.

mouse: The small device you roll around on a flat surface next to your computer. When you move the mouse, the pointer on the screen moves correspondingly.

mouse button: The button on the top of the mouse. In general, pressing the mouse button initiates action wherever the cursor is pointed or inserted. Releasing it confirms the action.

nest: To place folders inside other folders. See **hierarchical file system**.

numeric keys: Keys on the right side of the keyboard that let you do numeric entry and calculation quickly. Sometimes called a *10-key pad*.

open: To create a window from an icon so you can view a document or directory.

option card: A card that contains electronic circuits that implement specialized functions. Option cards are installed by your dealer. Some examples are co-processors and accelerators. See **expansion slot**.

Option key: A key used like the Shift key to give an alternate interpretation to another key you type. You use it to type foreign characters or special symbols.

paste: To put a copy of the contents of the Clipboard—whatever was last cut or copied—at the insertion point.

peripheral device: A piece of computer hardware—such as a disk drive, printer, or modem—used in conjunction with a computer and under the computer's control. Peripheral devices are usually physically separate from the computer and connected to it by wires or cables.

pointer: A small shape on the screen, most often an arrow pointing up and to the left, that follows the movement of the mouse.

port: A socket on the back panel of the computer where you can plug in a cable to connect a peripheral device, another computer, or a network.

Power On key: A key at the top of the keyboard used to turn on the Macintosh II.

power switch: A switch located on the back of the main unit that you can use to turn off the computer when the Shut Down command is not available for some reason. This switch should not be used in the normal course of events.

press: To position the pointer on something and then hold down the mouse button without moving the mouse.

printing resource: A system file that lets you print on a corresponding printer attached to the computer. Sometimes called a *printer driver*.

RAM: See **random-access memory**.

RAM cache: RAM you can designate to store certain information an application uses repeatedly. Using the RAM cache can greatly speed your work, but may need to be used sparingly or not at all with applications that require large amounts of memory. You set the RAM cache in the Control Panel.

random-access memory (RAM): The part of the computer memory that stores information temporarily while you're working on it. RAM can contain both application programs and your own information. Information in RAM is temporary, gone forever if you switch the power off. An exception to this is a small amount of memory used to save settings, such as the Alarm Clock and Speaker Volume, that's powered by battery when your computer is switched off. Compare **read-only memory**.

Read Me documents: Documents (included on application and system software disks) that provide you with late-breaking information about the product. You'll usually find Read Me documents in the Update Folder on the disk.

read-only memory (ROM): The part of memory that contains information the computer uses (along with system files) throughout the system, including the information it needs to get itself started. Information in ROM is permanent; it doesn't vanish when you switch the power off. The Macintosh II contains at least 256K of ROM. Compare **random-access memory**.

resource: A file in a System Folder that tells the computer how to work with a device. Sometimes called a *driver*.



Return key: A key that makes the insertion point move to the beginning of the next line. It's sometimes used to confirm or terminate an entry or a command.

ROM: See **read-only memory**.

save: To store information on a disk.

Scrapbook: A desk accessory in which you save frequently used pictures and text.

scroll: To move a document or directory in its window so that you can see a different part of it. You can also scroll the directory in some dialog boxes.



scroll arrow: The arrow on either end of a scroll bar. Clicking a scroll arrow moves the document or directory one line. Pressing a scroll arrow scrolls the document continuously.

scroll bar: A rectangular bar that may be along the right or bottom of a window. Clicking or dragging in the scroll bar causes the view of the document to change.



scroll box: The white box in a scroll bar. The position of the scroll box in the scroll bar indicates the position of what's in the window relative to the entire document.

SCSI: An acronym for **Small Computer System Interface**; pronounced "skuh-zee."

SCSI port: The port on the back of the main unit to which you connect SCSI devices. See **Small Computer System Interface**.

select: To designate where the next action will take place. To select, you click or drag across information.

selection: The information (including, but not limited to, the insertion point) affected by the next command. The selection is usually highlighted.

serial interface: An interface in which information is transmitted sequentially, a bit at a time, over a single wire or channel.

serial port: The connector on the back of the main unit for devices that use a **serial interface**.

Shift-click: A technique that allows you to extend or shorten a selection by holding down the Shift key while you select (or deselect) something related to the current selection.



Shift key: A key that, when pressed, causes subsequently typed letters to appear in uppercase and causes the upper symbol to appear when number or symbol keys are typed.



size box: A box on the bottom-right corner of most active windows that lets you resize the window. See also **zoom box**.

Small Computer System Interface (SCSI): An industry standard interface that provides high-speed access to peripheral devices.

software: Instructions for the computer to carry out. The computer reads these instructions from disks inserted into the disk drive or from a hard disk.

startup disk: A disk that contains the system files the computer needs to get itself started. A startup disk must have at least a Finder and a System file. It may also contain files such as printing resources, Scrapbook, and Clipboard. Most people who have a hard disk use it as the startup disk.

style: A stylistic variation of a font, such as italic, underline, shadow, or outline.

system file: A file the computer uses to start itself up or to provide system-wide information. Although system files are represented by icons just as documents and applications are, they can't be opened in the usual way. You can, however, alter the contents of system files. For example, you can use the Font/DA Mover to change the contents of the System file or change the contents of the Scrapbook or Note Pad files by using those desk accessories. See also **startup disk**.

system software: The set of files and resources in the System Folder that the computer uses to run itself.

System Tools disk: A disk that comes packed with the Macintosh II. The *System Tools* disk contains important utilities you can use to maintain and update your computer system and application disks.



Tab key: A key that, when pressed, moves the insertion point to the next tab marker or, in a dialog box with more than one place to enter information, to the next text box.

TeachText: An application on the *System Tools* disk that lets you read **Read Me documents**.

terminator: A device that fits between a SCSI cable and a SCSI device, or between two SCSI connectors in a SCSI chain. Sometimes these are built inside a SCSI device. There should be no more than two terminators in a SCSI chain—one at the start of the chain, and one at the end.

text box: The places in any dialog box where you can type information.

title bar: The horizontal bar at the top of a window that shows the name of the window's contents and lets you move the window.



Trash: An icon on the desktop that you use to discard documents, folders, and applications.

Update Folder: A folder on the *System Tools* disk, and on other application and system disks, that contains **Read Me documents**.

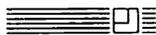
utility program: A special-purpose application that alters a system file or lets you perform some useful function related to a system file. Examples are the Font/DA Mover and the Installer.

window: The area that displays information on the desktop. You view documents through a window. You can open or close a window, move it around on the desktop, and sometimes change its size, edit its contents, and scroll through it.

word wraparound: The automatic continuation of text from the end of one line to the beginning of the next. Word wraparound lets you avoid pressing the Return key at the end of each line as you type.

wristwatch: The cursor icon that you see on the screen when the computer is performing an action for which you have to wait.

zone: A network in a series of interconnected networks, joined through **bridges**.



zoom box: The small box on the right side of the title bar of some windows. Clicking the zoom box expands a window to its maximum size. Clicking it again returns the window to its original size. See also **size box**.



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Tell Apple About Your

- Please contact your authorized Apple dealer when you have trained by Apple Computer and are given the resources to help you need the name of an authorized Apple dealer in your area.
 - Would you like to tell Apple what you think about this product, we would like to hear from you. You can help us to complete the questionnaire below and marking the appropriate boxes on it. If you have more than one response to a question, mark all the boxes. Please include additional pages of comments if you wish.
1. How would you rate the Macintosh II overall? (1=poor... 6=excellent)
 2. Where did you purchase your Macintosh II? (1=dealer, 2=company, 3=university, 4=university, 5=government purchase, 6=Certified Developer)
 3. Did you own an Apple computer before buying your Macintosh II?
 4. How much experience have you had with computers? (1=none, 2=beginner, 3=intermediate, 4=advanced)
 5. Where is your Macintosh II used most often? (1=work, 2=home, 3=school, 4=other)
 6. What software applications do you use most often with your Macintosh II? (1=spreadsheet, 2=word processing, 3=data base, 4=communications, 5=business graphics, 6=other)
 7. What 3.5-inch disk drives do you use with your Macintosh II? (1=one Apple internal, 2=two or more Apple external, 3=one non-Apple external, 4=two or more non-Apple external, 5=non-Apple external)
 8. What type and size of hard disk drives do you use with your Macintosh II? (1=40 MB, 2=80 MB, 3=other, 4=shared mass storage)
 9. What is the memory configuration of your Macintosh II? (1=1 MB, 2=2 MB, 3=4 MB, 4=8 MB, 5=other)
 10. What monitors are you using with your Macintosh II? (1=AppleColor™ High-Resolution RGB Monitor, 2=AppleColor™ High-Resolution RGB Monitor, 3=other monitor, 4=large screen display, 5=other)
 11. What printer do you use with your Macintosh II? (1=LaserWriter™, 2=other dot matrix printer, 3=daisy wheel printer, 4=other)
 12. What type of expansion cards are installed in your Macintosh II? (1=performance accelerator, 2=communications or network interface, 3=other)
 13. If you are connected to a network, which type is it? (1=AppleLink™, 2=other)
 14. Do you run the UNIX® operating system? (1=no, 2=yes)
 15. What keyboard are you using with your Macintosh II? (1=Apple Keyboard, 2=other)
 16. What other devices do you use with your Macintosh II? (1=Apple Mouse™, 2=Apple Keyboard™, 3=Apple Mouse™, 4=Apple Keyboard™, 5=other Apple DeskTop Bus™ input device, 6=other)
 17. How would you rate the product training disks overall? (1=poor... 6=excellent)
 18. How would you rate the *Macintosh II* owner's guide overall? (1=poor... 6=excellent)
 19. Please describe any errors or inconsistencies you may have noticed in the product training disks or the *Macintosh II* owner's guide that would be helpful.)
 20. What suggestions do you have for improving the Macintosh II product training disks or the *Macintosh II* owner's guide?

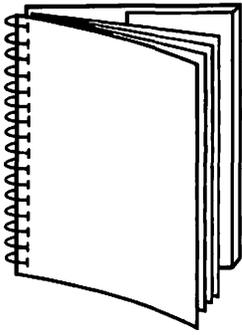
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Macintosh II

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