



Apple
Video System



User's Guide





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Important safety information

The following guidelines are provided in accordance with the National Electrical Code (NEC).

Important Please read and observe these safety instructions and the other safety information in this manual and those that come with other Apple products.

Grounding plug

Your computer is equipped with a three-wire grounding plug, a plug having a third (grounding) pin. This plug will only fit into a grounding power outlet. This is a safety feature. If you are unable to insert the plug into the outlet, contact your electrician to replace your obsolete outlet. Do not defeat the safety purpose of the grounding plug.

Outdoor antenna grounding

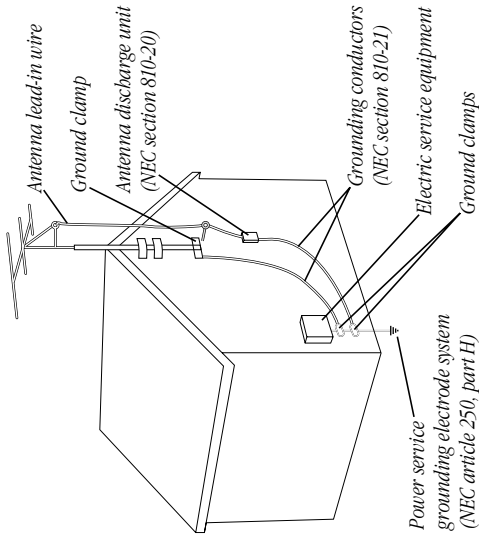
If an outside antenna or cable system is connected to the product, be sure the antenna or cable system is grounded so as to provide some protection against voltage surges and built-up static charges. Article 810 of the National Electrical Code, ANSI/NFPA 70, provides information about proper grounding of the mast and supporting structure, grounding of the lead-in wire to the antenna discharge unit, size of grounding conductors, location of the antenna discharge unit, connection to grounding electrodes, and requirements for the grounding electrode. See the National Electrical Code illustration in the next section.

Power lines

An outside antenna system should not be located in the vicinity of overhead power lines or other electric light or power circuits, or where it can fall into such power lines or circuits.

Warning When installing an outside antenna system, extreme care should be taken to avoid touching such power lines or circuits, as contact with them might be fatal.

Example of antenna grounding:



Notice to cable TV system installer

See section 820-40 of the NEC, which provides guidelines for proper grounding and, in particular, specifies that the cable ground be connected to the grounding system of the building, as close to the point of cable entry as practical.

Communications regulation information

FCC statement

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

Radio and television interference

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

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

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

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

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

If necessary, consult the service and support information that came with your computer for instructions on how to contact an Apple-authorized service provider or Apple for assistance. Or, contact an experienced radio/television technician for additional suggestions. You may find helpful the following booklet, prepared by the Federal Communications Commission: *Interference Handbook* (stock number 004-000-00345-4). This booklet is available from the U.S. Government Printing Office, Washington, DC 20402.

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

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

DOC statement

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

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

VCCI statement

情報処理装置等電波障害自主規制制について

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

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

取扱説明書に従って正しい取り扱いをしてください。

P R E F A C E

This manual tells you how to install and use the video input card and software so that you can

- view video from a variety of sources in a window that you can move or resize
- adjust the color and sound
- capture a single image or a series of images on disk

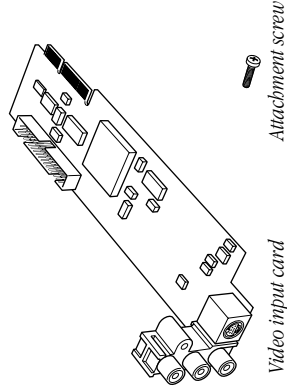
Installing the Video Input Card and Software

This chapter covers installing the video input card and software. It also shows how to connect video equipment to the card.

If you purchased your computer with the video input card already installed, skip this chapter and turn to Chapter 2, “Learning About the Software.”

What you should have

Check your package to make sure you have both the video input card and an attachment screw.



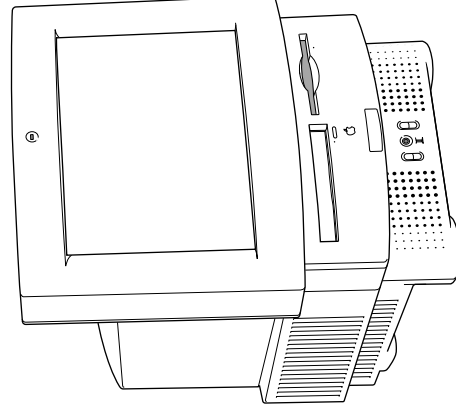
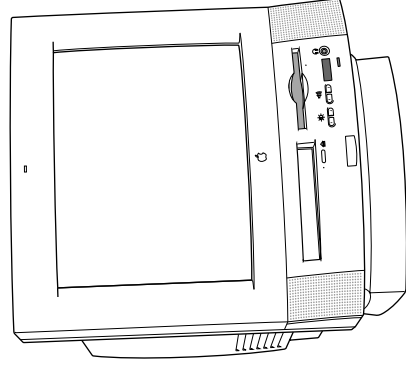
Installing the video input card

You install the video input card by attaching the card to the computer and then connecting the card to your video equipment. The steps for attaching the card to the computer vary slightly depending on whether or not the computer has a built-in monitor.

Installing the card in a compact computer

If your system has a built-in monitor, continue with the steps in this section. Otherwise, go to the section that follows, "Installing the Card in a Modular Computer."

Your compact computer may look like either of the computers pictured below; the steps for installing the card vary slightly depending on which model you have. If your computer looks like Style A, follow the first set of steps to install the video input card. If your system looks like Style B, skip to the next section, "Installing the Card in Style B."



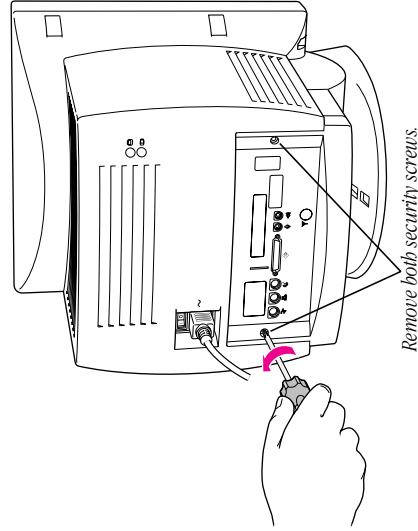
Installing the card in Style A

- 1 Turn off the computer.
- Choose Shut Down from the Special menu, or press the Power key on the keyboard.
- Press the power switch at the back of the computer. Press the side of the switch marked with the **O** symbol.
- 2 Unplug all the cables except the power cord from your computer.

Leaving the power cord plugged in helps protect the computer from electrostatic discharge damage.

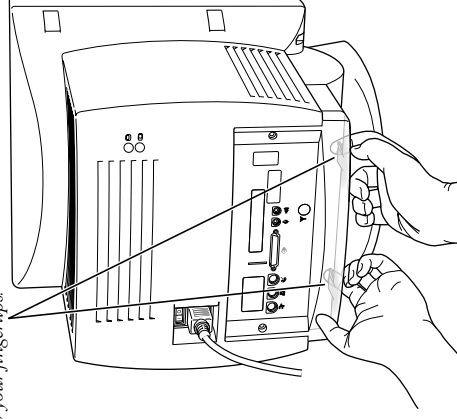
Important To avoid generating static electricity that may damage components, do not walk around the room until you have finished installing the card and closed the computer. Additionally, move the logic board as little as possible while it is outside the computer.

- 3 Use a Phillips screwdriver to remove the two security screws from the back panel.



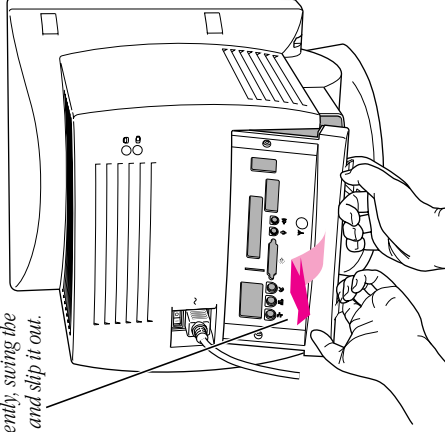
- 4 Locate the two latches on the underside of the computer's case with your fingertips.

Locate the two latches on the underside of the computer's case with your fingertips.



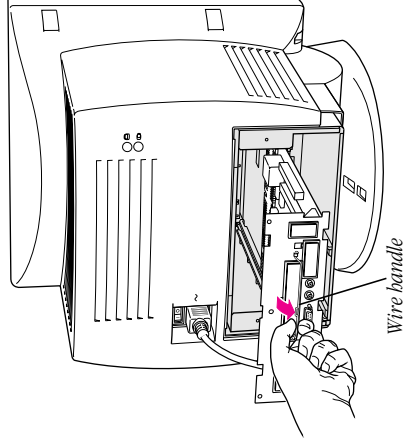
- 5** Pulling gently, swing the panel up and slip it out.

Pulling gently, swing the panel up and slip it out.



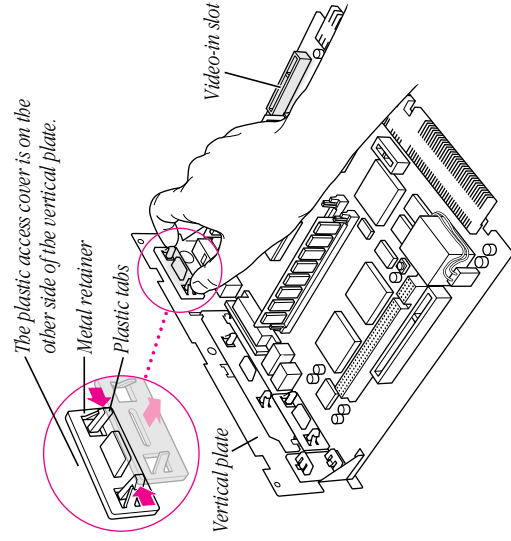
Remember: Don't walk around the room until you have finished installing the card and closed the computer. Move the logic board as little as possible while it's outside the computer.

- 6** There is a wire handle on the back of the logic board. Swing it down and use it to pull the logic board toward you.

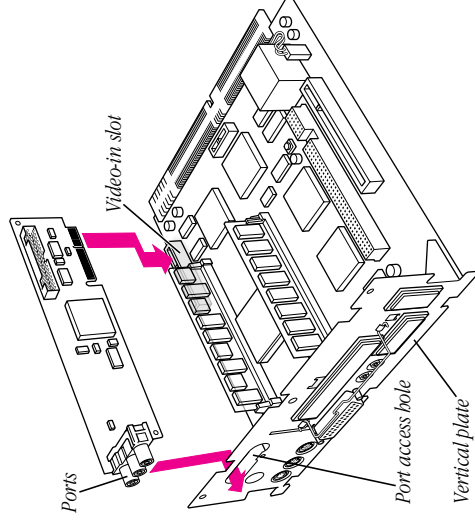


The logic board is plugged into a slot inside the computer. You may have to brace the computer with your other hand and pull firmly at first. Slide the entire logic board all the way out of the computer.

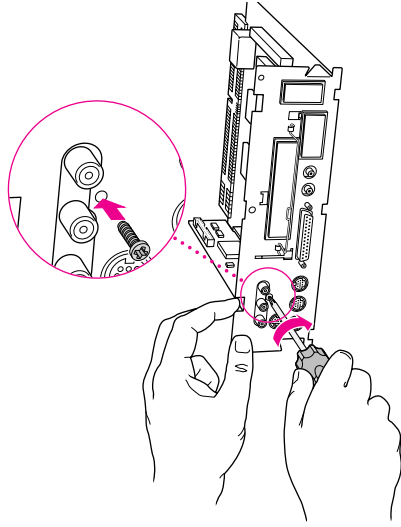
- 7** Locate the video-in access cover on one side of the vertical plate attached to the logic board. Remove the cover from this opening by squeezing together the plastic tabs that hold it in place.



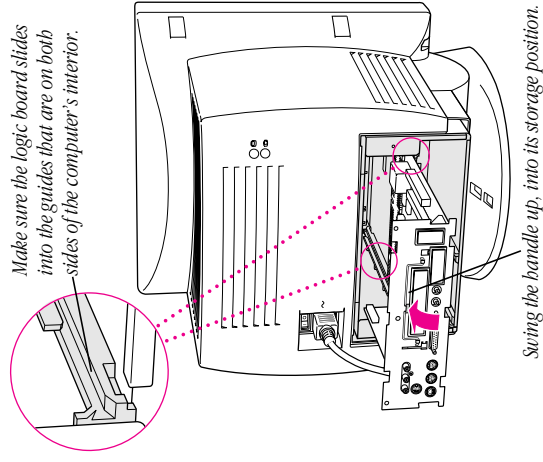
- 8** Remove the video input card from its static-proof bag. Handle the card by its edges in order to avoid touching the connectors.
- 9** Plug the video input card into the video-in slot on the logic board, fitting the three ports on the card into the port access hole you uncovered in the previous step. Make sure the card is firmly seated in the slot.



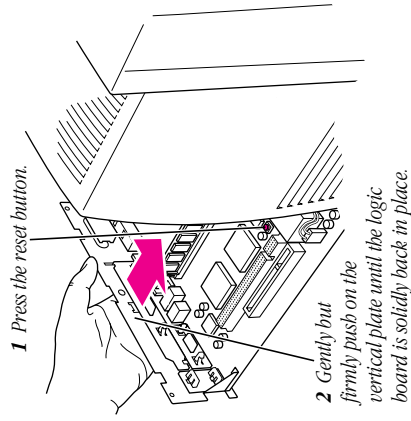
- 10** Screw the card to the vertical plate on the logic board. (Use the provided attachment screw.)



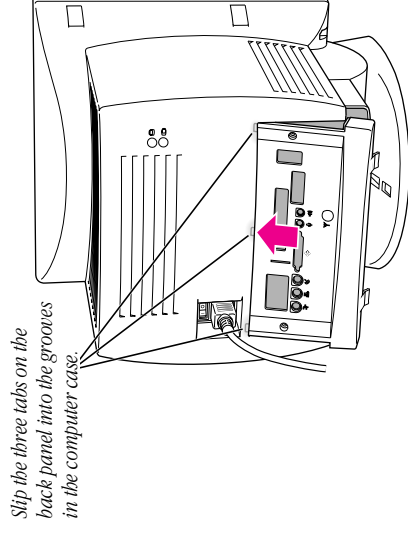
- 11** Swing the wire handle on the logic board back up into its storage position, securing it under its catch. Then fit the logic board into the guide rails on both sides of the computer's interior.



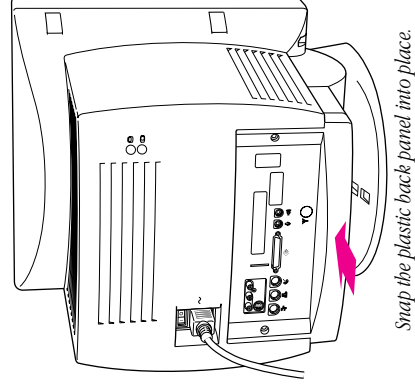
12 Press the reset button on the right side of the logic board, then gently but firmly push the board back into place within the computer. You'll need to push a little harder at the end to make sure the connectors at the back of the board are seated in their slot.



13 Slip the three tabs at the top of the back panel into the matching grooves in the computer case.



14 Snap the bottom of the panel into place, making sure it is flush with the back of the computer.



- 15** Reinsert the security screws on both sides of the back panel.
- 16** Reconnect any cables you disconnected at the start of this process.

You may need to reset the date and time on the computer. If so, see the documentation that came with your computer.

You can skip the steps that follow (“Installing the Card in Style B”), and the next section, “Installing the Card in a Modular Computer,” and go on to the section titled “Installing the Software.”

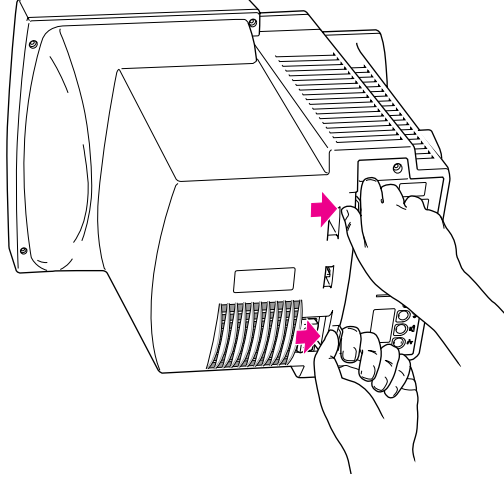
Installing the card in Style B

- 1** Turn off the computer.
 - Choose Shut Down from the Special menu, or press the Power key on the keyboard.
 - Press the power switch at the back of the computer.
 - Press the side of the switch marked with the **O** symbol.
- 2** Unplug all the cables except the power cord from your computer.

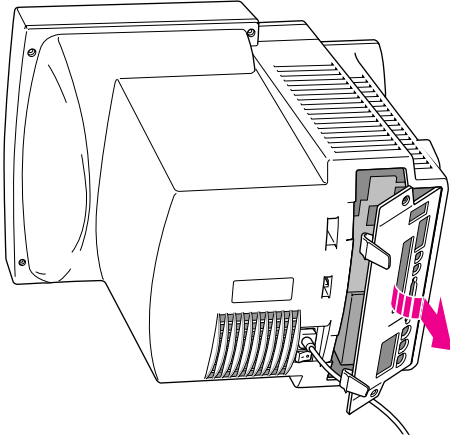
Leaving the power cord plugged in helps protect the computer from electrostatic discharge damage.

Important To avoid generating static electricity that may damage components, do not walk around the room until you have finished installing the card and closed the computer. Additionally, move the logic board as little as possible while it is outside the computer.

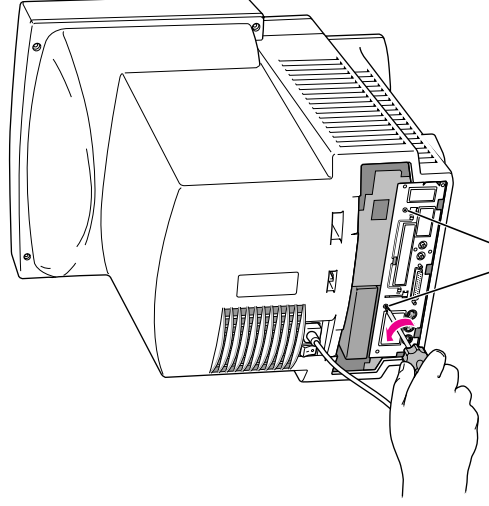
- 3** If there are screws securing the back panel, remove them with a Phillips screwdriver. Then press down with your thumbs to loosen the clips on either side of the back panel.



4 Pulling gently, swing the panel down and slip it out.



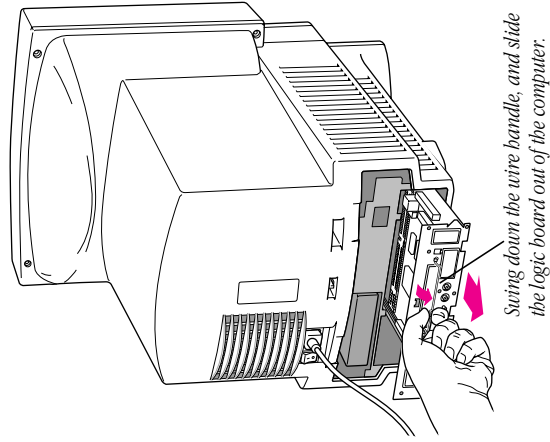
5 Remove both retainer screws from the vertical plate behind the back panel.



Remove both retainer screws from the vertical plate.

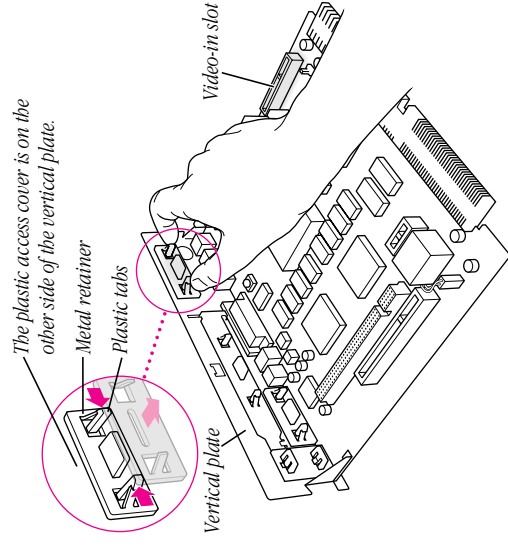
Remember: Don't walk around the room until you have finished installing the card and closed the computer. Move the logic board as little as possible while it's outside the computer.

- 6** There is a wire handle on the back of the logic board. Swing it down and use it to pull the logic board toward you.

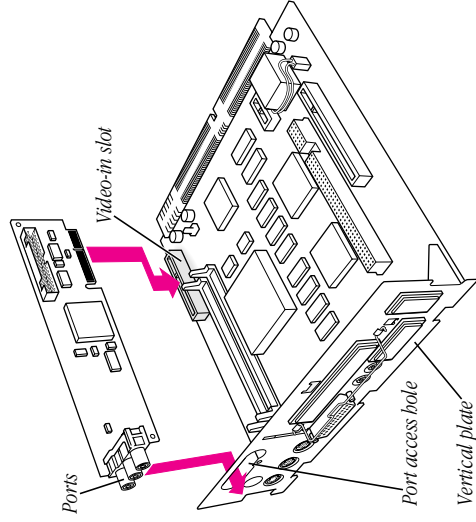


The logic board is plugged into a slot inside the computer. You may have to brace the computer with your other hand and pull firmly at first. Slide the entire logic board all the way out of the computer.

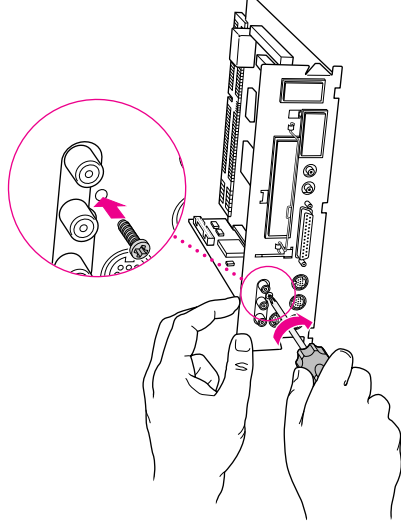
- 7** Locate the video-in access cover on one side of the vertical plate attached to the logic board. Remove the cover from this opening by squeezing together the plastic tabs that hold it in place.



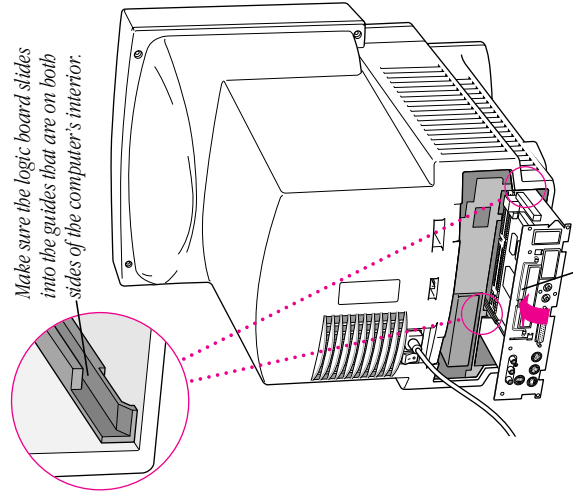
- 8** Remove the video input card from its static-proof bag. Handle the card by its edges in order to avoid touching the connectors.
- 9** Plug the video input card into the video-in slot on the logic board, fitting the three ports on the card into the port access hole you uncovered in the previous step. Make sure the card is firmly seated in the slot.



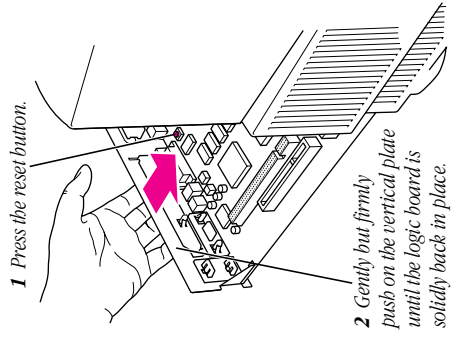
- 10** Screw the card to the vertical plate on the logic board. (Use the provided attachment screw.)



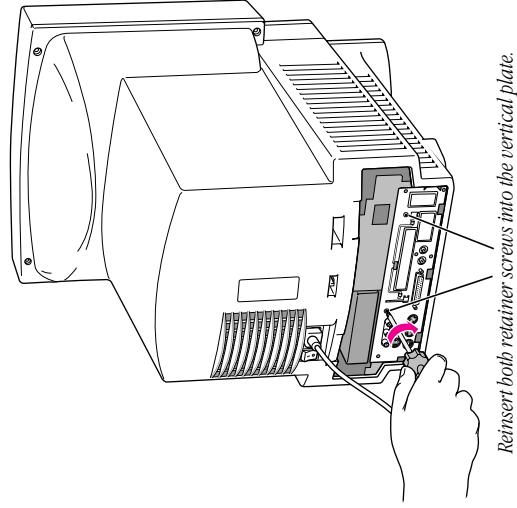
11 Swing the wire handle on the logic board back up into its storage position, securing it under its catch. Then fit the logic board into the guide rails on both sides of the computer's interior.



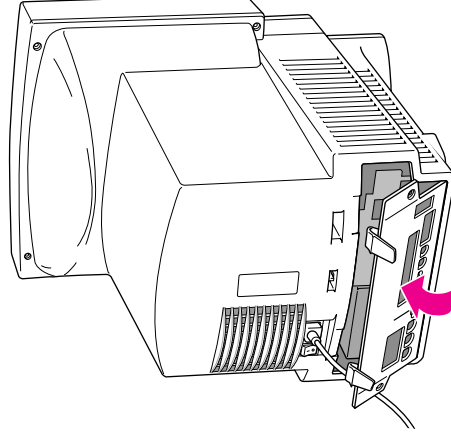
12 Press the reset button on the logic board, then gently but firmly push the board back into place within the computer. You will need to push a little harder at the end to make sure the connectors at the back of the board are seated in their slot.



- 13** Reinsert the retainer screws into the vertical plate on the logic board.



- 14** Slip the tabs at the bottom of the back panel into the matching grooves in the computer case. Then press down on the clips and snap the top of the panel into place, making sure it is flush with the back of the computer.

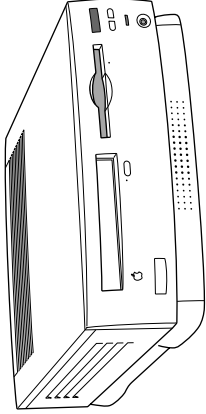


- 15** If you removed security screws from the back panel in step 3, reinsert them.
- 16** Reconnect any cables you disconnected at the start of this process.

You may need to reset the date and time on the computer. If so, see the documentation that came with your computer. You can skip the next section, "Installing the Card in a Modular Computer," and go on to the one that follows, "Installing the Software."

Installing the card in a modular computer

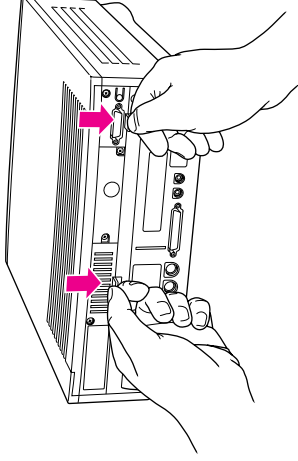
If your system has a separate monitor, like this one, continue with the steps below. If the monitor is built into your system, go back to the previous section, "Installing the Card in a Compact Computer."



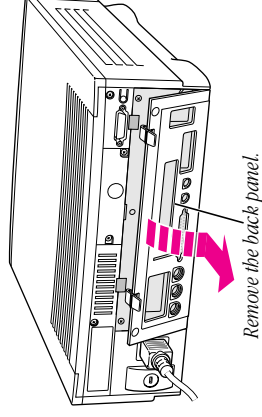
To install the video input card in a computer with a separate monitor, follow these steps:

- 1** Press the Power key on the keyboard to shut down your computer.
You can also choose Shut Down from the Special menu.
 - 2** Unplug all the cables except the power cord from your computer.
Leaving the power cord plugged in until you're ready to remove the logic board from the computer helps protect the computer from electrostatic discharge damage.
- Important** To avoid generating static electricity that may damage components, do not walk around the room until you have finished installing the card and closed the computer. Additionally, move the logic board as little as possible while it is outside the computer.

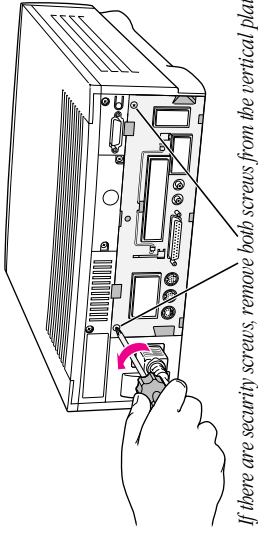
- 3** Place your thumbs on the two tabs at the top of the plastic panel, and press down.



- 4** Pulling gently, swing the panel down and slip it out.



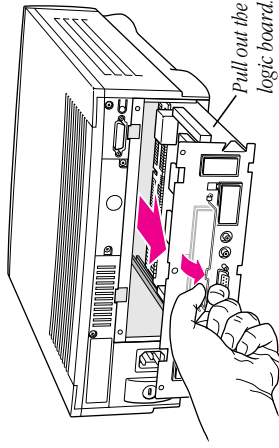
- 5** If there are security screws on the vertical plate on the back of the computer, remove them with a Phillips screwdriver.



- 6** Unplug the power cord from your computer.

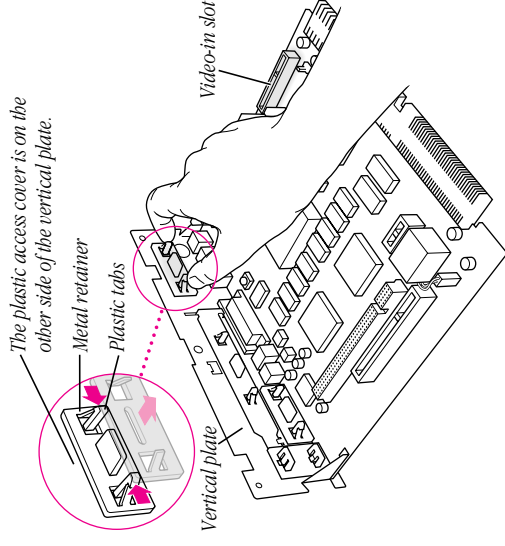
Remember: Don't walk around the room until you have finished installing the card and closed the computer. Move the logic board as little as possible while it's outside the computer.

- 7** Swing the handle out from its storage position, then grasp the handle and gently but firmly pull it toward you. The vertical plate and the logic board to which it's attached slide all the way out of the computer.



- 8** Squeeze the plastic tabs on the video input port's access cover and pull the metal retainer so the access cover can come off.

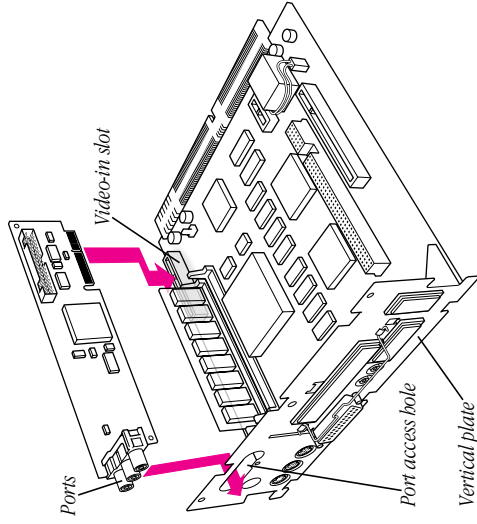
When you remove the access cover, you can see the hole that the video input card's ports slide through (as described in step 11).



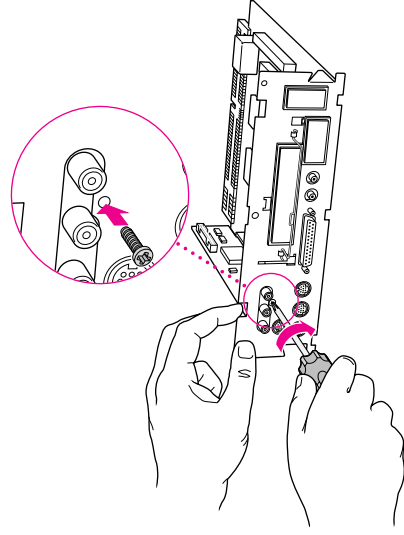
- 9** Remove the video input card from its static-proof bag. Hold the card by its edges to avoid touching any connectors.

- 10** Locate the video-in slot on the logic board.

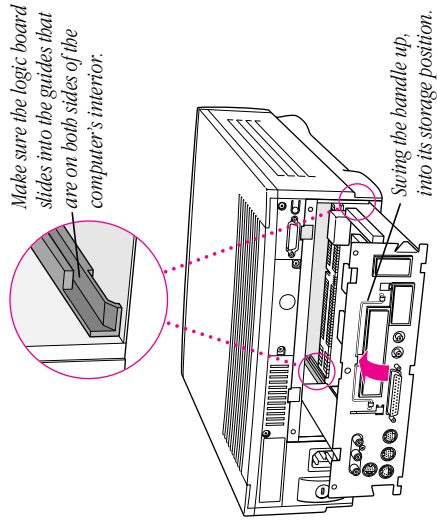
- 11** Slip the ports on the end of the card through the port access hole and gently but firmly press the card down into its slot.



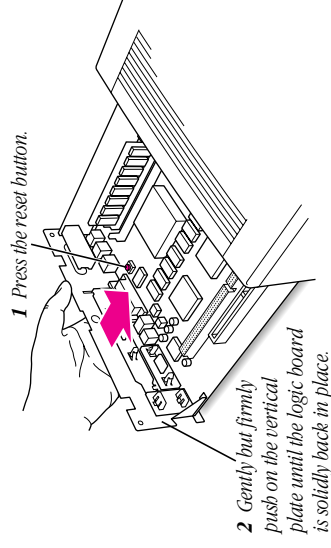
- 12** Screw the card to the vertical plate on the logic board. (Use the provided attachment screw.)



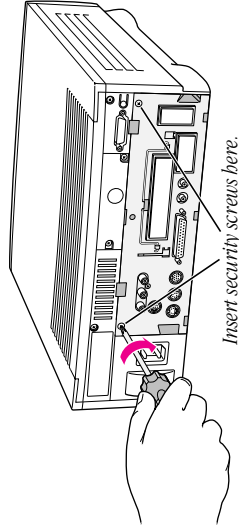
- 13** Slip the base of the logic board into the guide rails inside the computer case and swing the handle back into its storage position.



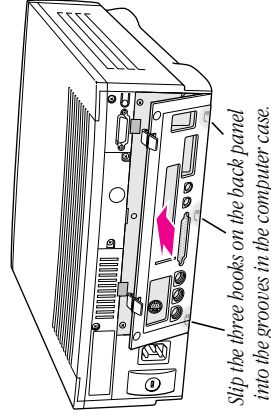
- 14** Press the reset button on the logic board, and then slide the logic board back into the computer case.



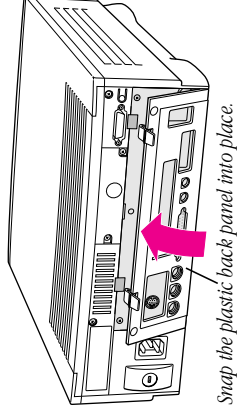
- 15** If you removed security screws, reinsert and tighten them now.



- 16** Slip the three hooks at the base of the plastic back panel into the grooves in the computer case.



- 17** Swing the plastic back panel up and snap it into place.



- 18** Reconnect the power cord and any cables you disconnected at the start of this process.

If you need to reset the date and time on your computer, see the documentation that came with your computer.

Installing the software

The Apple Video Player application program lets you watch video on your computer. Follow these instructions to install the Apple Video Player program.

- 1** Start the computer.
- 2** Insert the *Video Software Installer* disk into the floppy disk drive.
- 3** Double-click the disk icon to open it.
- 4** Double-click the Installer icon.
- 5** Click Install.
The program is installed automatically.
- 6** When the installation is complete, click Restart.

Connecting video equipment

If you want to see video on your computer from a VCR, laserdisc player, video camera, or other video equipment, you need to connect the equipment to the ports on the video input card.

You can connect one piece of equipment to the S-video port or one piece to the composite video port on the video input card. Equipment connected to the S-video port presents a higher quality video image.

Preparing to connect video equipment

- Before you start, make sure that
- both the Macintosh and the video equipment are turned off
- you place the video equipment near your Macintosh
- you determine which type of video connector you need for your video equipment (see the next section)

Determining which video connector you need

Check the Video Out port on your video equipment. It should look like one of the ports pictured below.

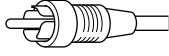


S-video port



Composite video port (RCA-type)

If the Video Out port is composite, it requires a composite (RCA plug) connector. See “Connecting Video Equipment If You Use a Composite (RCA Plug) Video Connector.”

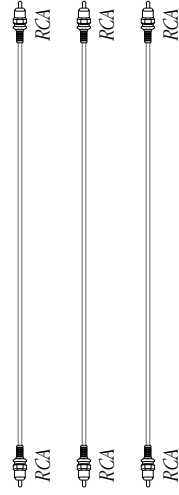


If the Video Out port is S-video, it requires an S-video connector. See “Connecting Video Equipment If You Use an S-video Connector.”

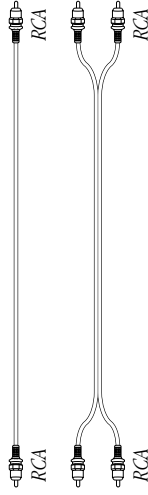


Connecting video equipment if you use a composite (RCA plug) connector

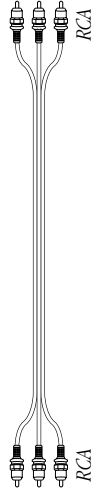
To connect your video equipment you need one video cable and two audio cables, all with RCA plugs at both ends. The cables can be separate or joined. You can purchase cables at electronics supply stores.



or



or

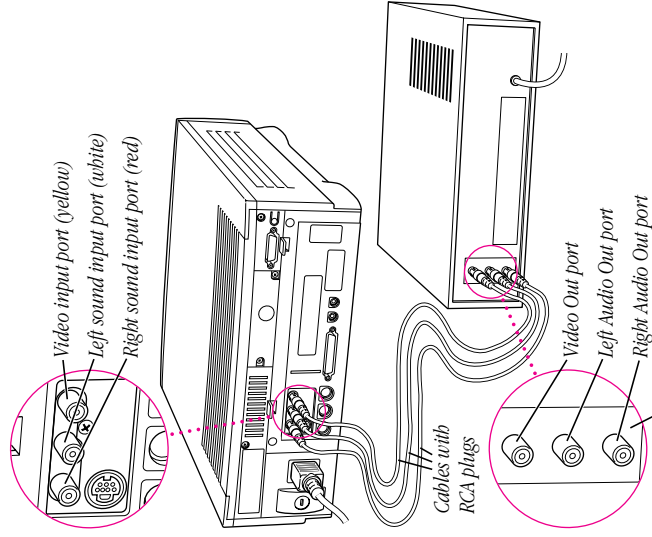


- 1 Make sure that both the Macintosh and the video equipment are turned off.
- 2 Attach one end of the video cable to the Video Out port on the video equipment.
- 3 Plug the other end of the video cable into the yellow composite video input port on the video input card.
- 4 Insert the RCA plugs on one end of the audio cables into the left and right Audio Out ports on the video equipment.

5 Insert the RCA plugs on the other end of the audio cables into the left (white) and right (red) sound input ports on the video input card.

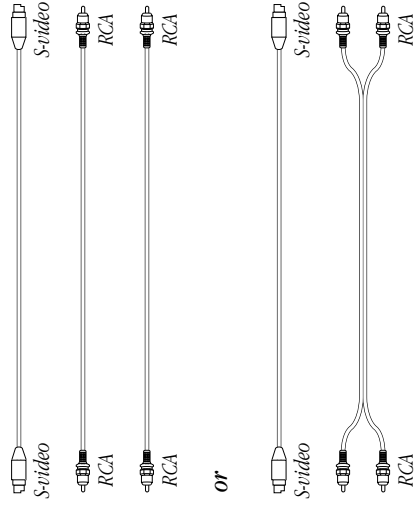
Be sure to plug the cable from the Left Audio Out port on the video equipment to the left sound input port on the computer. Connect the right ports in the same way.

The video input card ports are exactly the same on a system with a built-in monitor, and the card itself is in about the same position on the back of the unit as in the illustration below.



Connecting video equipment if you use an S-video connector

To connect your video equipment you need one video cable with S-video connectors on both ends and two audio cables with RCA plugs at both ends. The RCA cables can be separate or joined. You can purchase cables at electronics supply stores.



- 1** Make sure that both the Macintosh and the video equipment are turned off.
- 2** Attach one end of the video cable to the Video Out port on the video equipment.
- 3** Plug the other end of the video cable into the S-video input port on the video input card.

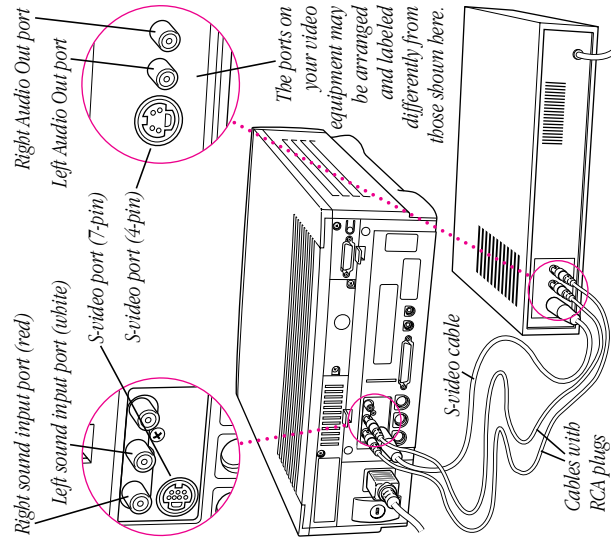
About the S-video port: The S-video port accepts both 4-pin and 7-pin connectors.

If the connector doesn't slide easily into the port, realign it and try again. Avoid using force, which could damage the card or the connector.

4 Insert the RCA plugs on one end of the audio cables into the left and right Audio Out ports on the video equipment.

5 Insert the RCA plugs on the other end of the audio cables into the left (white) and right (red) sound input ports on the video input card.

The video input card ports are exactly the same on a compact computer, and the card itself is in about the same position on the back of the unit as in the illustration below.



Your video equipment is now connected to the video input card.

Learning About the Software

This chapter contains the information you need to set up and use the Apple Video Player application program. Topics include

- opening the Apple Video Player and the video window
- setting and using a keyboard shortcut
- changing the video source
- adjusting the sound and the picture
- changing the size of the video window
- changing the color of the windows
- setting the video input standard (NTSC, SECAM, or PAL)

See also Chapter 3, “Capturing Video Images.”

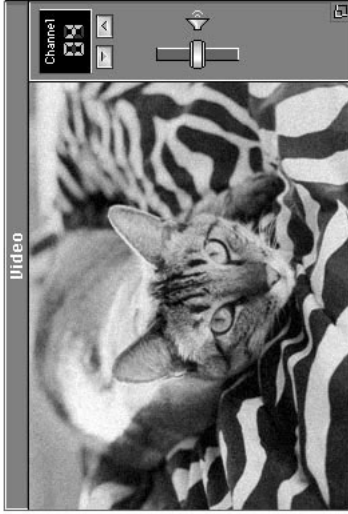
Opening the Apple Video Player

To use the Apple Video Player application program, open it by double-clicking its icon in the Apple Extras folder on your hard disk.



Apple Video Player

When the Apple Video Player program opens, a video window appears.



Setting and using a keyboard shortcut

You can also open the Apple Video Player program by pressing a preset key or combination of keys. When you press this "hot" key, you switch to the Apple Video Player program no matter what computer program you are currently in.

To set a hot key:

- 1 With the Apple Video Player program active, choose Hot Key from the Setup menu.

The Hot Key dialog box appears.

- 2 Press the key or key combination you want to use for your hot key.

You can use one or more (up to four) of the modifier keys—⌘, Option, Control, and Shift—plus any other key.

Don't use a key combination that is already used by other programs. For example, don't use ⌘-P, which is a keyboard shortcut for printing in most programs.

- 3 Click OK.

Your new hot key is ready to use.

If you find that your hot key replaces a keyboard shortcut in another program, repeat these steps to choose another hot key.

Changing the video source

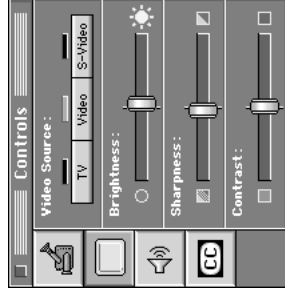
You can view pictures from the equipment connected to the video input card.

To change the video source setting, follow these instructions:

- 1 Choose Show Controls Window from the Windows menu. The Controls window appears.
- 2 Click the video screen icon.



The screen controls appear.



- 3 Click the video source you want to use.

Choose Video if your device is attached to the composite video port on the video input card, or S-Video if your device is attached to the S-video port on the video input card.

The source change takes effect as soon as you make it.

Adjusting the sound

When you are watching video in the video window, you can adjust the sound's volume, balance, and tone.

Changing the sound volume

There are three ways to change sound volume:

- Use the volume buttons on the front of the computer.
 - Drag the slider next to the speaker on the video window.
 - Press the Up Arrow key or Down Arrow key on the keyboard.
- To mute the sound, click the speaker on the video window or press **⌘-M** on the keyboard. To turn the sound back on, click the speaker or press **⌘-M**. The sound will also go back on if you adjust the volume using any method.

You can also click anywhere in a slider's track to move the slider to that position. The sound adjustments take effect immediately, so you can monitor your changes.

Adjusting speaker balance and tone

To adjust the speaker balance, bass, or treble:

- 1 Choose Show Controls Window from the Windows menu.
- 2 Click the sound icon.



- 3 Drag the appropriate slider to adjust the sound.

You can also click anywhere in a slider's track to move the slider to that position. The sound adjustments take effect as you make them, so you can monitor your changes.

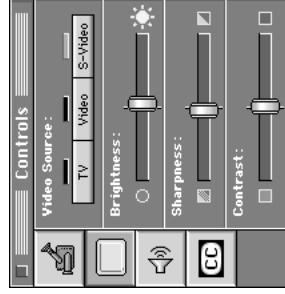
Adjusting the picture

To adjust the brightness, sharpness, and contrast of the picture:

- 1 Choose Show Controls Window from the Windows menu. The Controls window appears.
- 2 Click the video screen icon.



The screen controls appear.



- 3 Drag the appropriate slider to adjust the picture to your liking.

You can also click anywhere in a slider's track to move the slider to that position. The picture adjustments take effect as you make them, so you can monitor your changes.

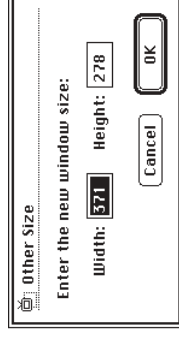
Changing the video window size

There are several ways to change the size of the video window. You can make choices from the Windows menu, use a keyboard shortcut for the three most common sizes, drag the size box, or click the zoom box.

Choosing menu commands

You can choose different video window sizes from the Windows menu:

- Smallest Size uses about 1/16 of the screen.
- Normal Size uses about 1/4 of the screen.
- Largest Size uses as much of the screen as it can. On monitors that are 640 by 480 pixels or smaller, Largest Size hides both the menu bar and the screen controls. Moving the mouse makes the menu bar visible.
- Other Size opens a dialog box in which you can enter your own size.



Width must be in the range 160 to 640 pixels. Height must be in the range 120 to 480 pixels.

Keep your proportions: The usual video window width-to-height ratio is about 4 to 3. Setting other proportions distorts the video image.

Using keyboard shortcuts

There are three keyboard shortcuts for changing the video window size:

- **⌘-1** sets the smallest size.
 - **⌘-2** sets normal size.
 - **⌘-3** sets the largest size.
- Clicking the zoom box alternates between the current size and the largest size.

Dragging the size box

If you drag the size box, the horizontal and vertical dimensions of the screen change proportionally.

If you drag the size box while holding down the Shift key, the image becomes distorted. (It stretches or shrinks in the direction that you drag.)

Changing the window color

You can set a new color for the border surrounding the video window by choosing Window Color from the Windows menu. The current color is checked. The choices are Dark Gray, Green, Blue, Magenta, Red, and Gold.

“Window Color” is not the display color: The Window Color command has no effect on the colors you see in the video window. For information on setting the brightness, sharpness, and contrast in the video window, see “Adjusting the Picture” earlier in this chapter.

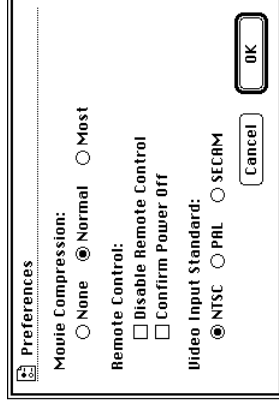
Setting the video input standard

The video input standard determines how the Apple Video Player program interprets video (S-video or composite) signals. This standard is preset to your region in the Apple Video Player software. In most cases, you won’t need to change it.

NTSC is the standard video signal for most of the Americas and Japan. PAL is common in Western Europe, Australia, most of Asia, and parts of South America and Africa. SECAM is used in France, Eastern Europe, and parts of Asia and Africa.

To change the video input standard, follow these steps:

- 1 Choose Preferences from the Setup menu.
The Preferences dialog box appears.



- 2 Choose the Video Input Standard setting you need.
If the setting you choose produces a strange image (for example, the picture is too small or the colors are odd), try another setting.

Capturing Video Images

This chapter gives instructions for using the Apple Video Player application program to capture

- individual (still) images
- sequences of moving images (as QuickTime movies)

The images in the video window can come from any video equipment connected to your video card.

You'll need to open the Apple Video Player program before following the instructions in this chapter. (See "Opening the Apple Video Player" in Chapter 2.)

Capturing individual images

You have two ways to capture a single image—by using the capture controls in the Controls window or by using the Copy Display command in the Edit menu.

Capture controls

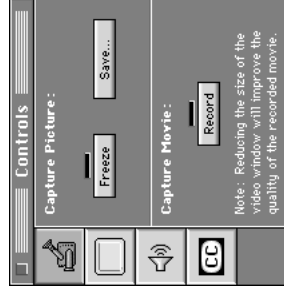
When you use the capture controls in the Controls window, you can freeze the screen image before you save it. Additionally, the capture controls let you save the image directly on a disk.

Follow these steps:

- 1 Choose Show Controls Window from the Windows menu. The Controls window appears.
- 2 Click the video camera icon.



The capture controls appear.



- 3 Wait until you see the image you want to capture.

The Controls window can remain open without affecting what happens in the video window.

- To freeze the video image at the current frame, click Freeze. The video freezes, and you can decide if you want to save the current frame.
- To unfreeze the video, click Freeze again.
- To save the current video frame on a disk, click Save. If the video isn't already frozen, it freezes at the current frame until you complete the Save operation.

A dialog box appears so you can specify where to save the image. When you click Save, the image is saved as a PICT file under the name that you supply. (A PICT file can be opened by most graphics programs.)

Copy Display command

To capture the current screen image by copying, choose Copy Display from the Edit menu or press **⌘-C**.

Important When you use Copy Display or press **⌘-C**, the current screen image is copied to the Clipboard. The image is not saved on a disk. (To save an image that's on the Clipboard, you must paste it into a document or the Scrapbook.)

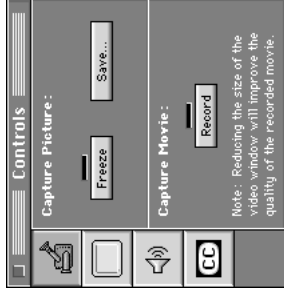
Capturing movies

You can capture video sequences (moving images) as QuickTime movies.

Video capture does not work as well with virtual memory on. For best results, turn off virtual memory. To check whether it is on or not, open the Memory control panel. If the On button for virtual memory is selected, click the Off button to turn virtual memory off.

To capture video images, follow these steps:

- 1 Choose Show Controls Window from the Windows menu. The Controls window appears.
- 2 Click the video camera icon. The capture controls appear.



- 3 Wait until the sequence that you want to capture begins. The Controls window can remain open without affecting what happens in the video window.
- 4 Click Record. Recording begins and the Record button changes to a Stop button.

- 5 Click Stop when you've recorded as much as you want.

(If you don't click the Stop button, recording continues until the hard disk is full.)

A dialog box appears, in which you can specify a name and location for your movie.

You can also preview the QuickTime movie before you save it.

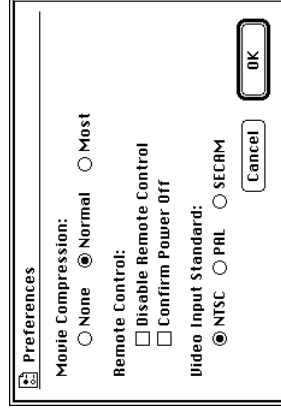
Use as small a size as you can: The amount of disk storage that a movie takes is directly related to the size of the video window—the larger the window, the more disk space you use. By choosing Smallest Size from the Windows menu before you record, you may be able to save more than 50% in storage space. (A movie that uses about 75 megabytes per minute at the normal video window size will use only about 35 megabytes per minute at the smallest video window size.)

See “Changing the Video Window Size” in Chapter 2.

Using compression

With compression you can store movies in a much smaller space than they would normally require. To use compression, follow these steps before you record a movie:

- 1 Choose Preferences from the Setup menu.
The Preferences dialog box appears.



- 2 Click one of the buttons under Movie Compression.

None means that no compression takes place. *Normal*, the preset choice, uses anywhere from 12 to 50% of the disk space that *None* uses; the less movement in each frame of the movie, the greater the savings. *Most* uses slightly less disk space than does *Normal*.

To save the most space you can, choose the smallest size video window and the most compression.

Note: Compression affects picture quality: the more compression you use, the grainier the picture.

Troubleshooting

This chapter suggests what to do if problems occur when you're using the video input card hardware and software.

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

You see a blank screen when you change to video mode.

- Be sure your video equipment is securely connected to the appropriate video port and your equipment is turned on.
- You may have the wrong video source selected. Go to the screen controls in the Controls window and click the appropriate Video Source button.

Unexpected things happen when you try to switch modes using a keyboard shortcut.

- Check the keyboard shortcut by choosing Hot Key from the setup menu. Be sure the key combination is not used by one of your other programs. For instance, in most Macintosh programs ⌘-P sends a document to the printer. On the desktop, ⌘-N creates a new untitled folder.

You can't see the volume slider on the video window.

- The video window is too small or too large. Change the size by making a choice from the Windows menu or by dragging the size box.

The image is too small or it's filled with odd colors.

- The video input standard is set incorrectly. Choose Preferences from the Setup menu and select a different setting.

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The Apple Publishing System

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

Text type is Apple Garamond. Display type is Helvetica® Black. Ornaments are custom symbols designed for Apple Computer.

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