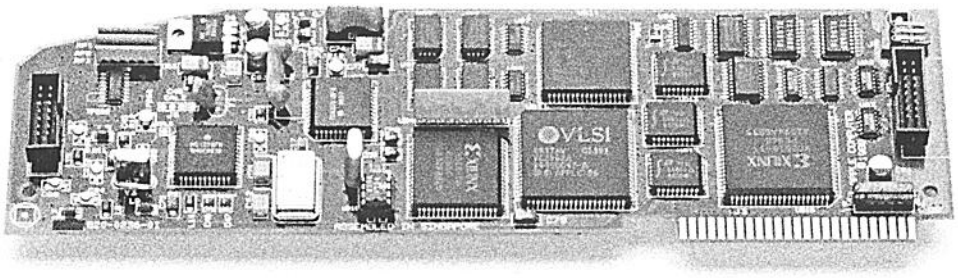
Apple® II Video Overlay Card Owner's Guide



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This equipment has been certified to comply with the limits for a Class B computing device, in accordance with the specifications in Subpart J of Part 15 of FCC rules. See instructions if interference to radio or television reception is suspected.

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.

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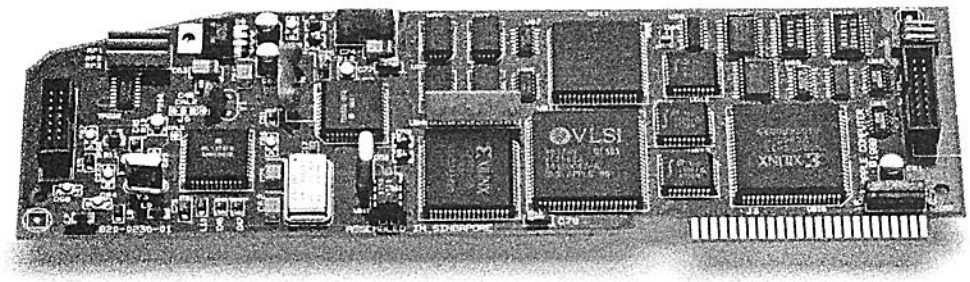

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Radio and television interference

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 of 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 the interference will not occur in a particular installation.

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 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.)
- Consider installing a rooftop television antenna with a coaxial cable lead-in between the antenna and the television.

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" (stock number 004-000-00345-4). This booklet is available from the U.S. Government Printing Office, Washington, DC 20402.

△ **Important** 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 from your authorized Apple dealer. For non-Apple peripheral devices, contact the manufacturer or dealer for assistance. △

P R E F A C E

About This Guide

THIS GUIDE EXPLAINS HOW TO INSTALL AND USE THE APPLE® II VIDEO Overlay Card. Read Chapter 1 for ideas on how you can use the video overlay card. If you want to get started right away, skip to Chapter 2 for instructions on how to install the card and hook up your video equipment. Read Chapter 3 when you're ready to use VideoMix, the software that accompanies the card. And read Chapter 4 for tips on how to create effective video overlays. If you have problems installing or using your card, turn to Appendix A, "Troubleshooting." If you encounter an unfamiliar term, look it up in the glossary at the end of the book.

This guide assumes that you're familiar with how to use your video equipment and your Apple IIGS® or Apple IIe computer. For information about your video equipment, refer to the manual that came with the equipment. For more information about how to use an Apple II, refer to the owner's guide that came with your computer.

C H A P T E R 1

Introduction to Video Overlay

THE APPLE® II VIDEO OVERLAY CARD LETS YOU COMBINE VIDEO WITH computer graphics using your Apple IIGS® or Apple IIe computer. VideoMix—the software that accompanies the card—lets you control how the video and graphics are combined.

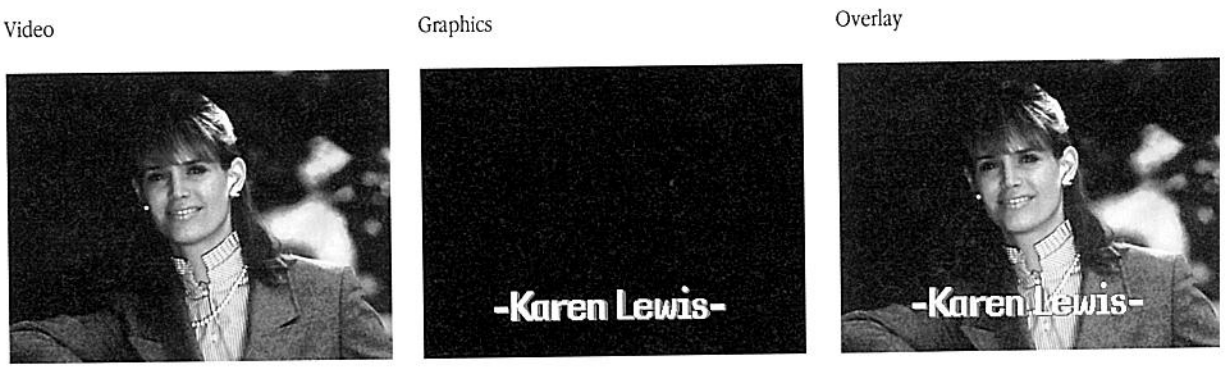
This chapter explains video overlay, briefly describes how the video overlay card works, outlines the steps you follow to make a video overlay, and suggests ways you can use video overlay.

What is video overlay?

Video overlay is the combination of video images and computer graphics. It's called an *overlay* because the graphics appear to be on top of the video.

For example, television stations often use overlays to let viewers know the name of a reporter or interviewee (see Figure 1-1).

■ **Figure 1-1** Video overlay



Video overlay terminology

The terms *video, graphics,* and *overlay* have specific meanings as used in this book. **Video** refers to images produced by an external video source, such as a videocassette recorder (VCR), videodisc player, or video camera. **Graphics** refers to images generated by a computer for display on a computer monitor; graphics includes text, pictures, and animation. An **overlay** is the combined image of video and graphics.

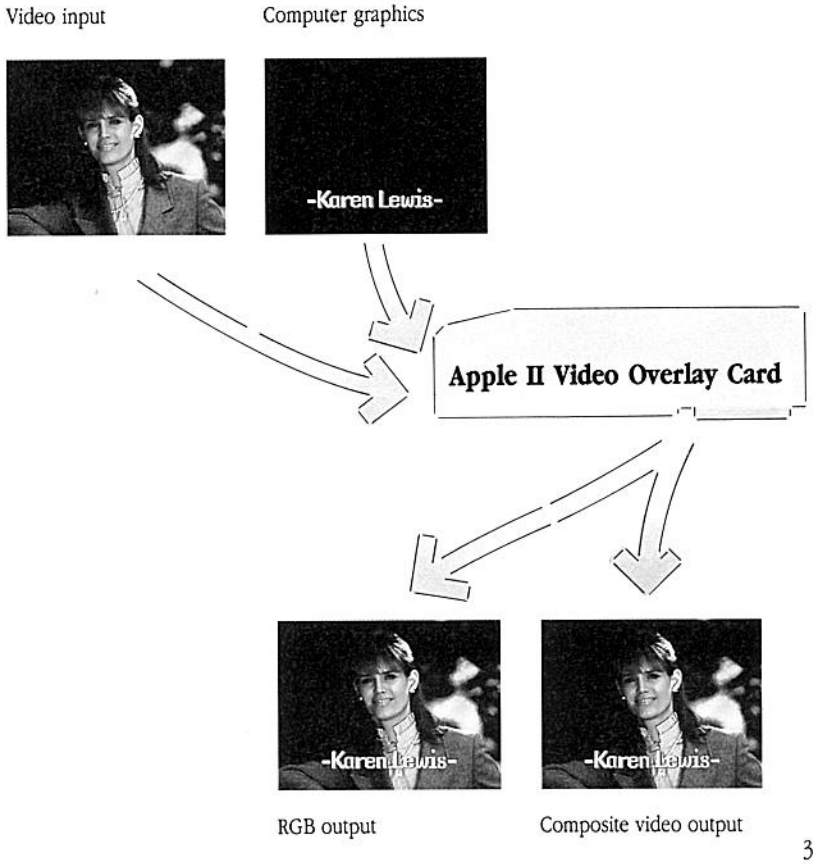
How the video overlay card works

The Apple II Video Overlay Card combines video with graphics to produce overlays.

The video signal comes from a VCR, videodisc player, or video camera that you connect to the card. The graphics can be created in any appropriate application program for the Apple IIGS or Apple IIe .

The card produces overlays and sends them out as both an **RGB** output signal and a **composite video** output signal. You can display the RGB output on an RGB monitor, such as the AppleColor™ RGB Monitor. You can display the composite video output on a composite monitor, such as the AppleColor Composite Monitor. You can also feed the composite video signal into a VCR to record your overlays on videotape.

■ **Figure 1-2** Signals used by the Apple II Video Overlay Card



Steps in making a video overlay

Here are the basic steps involved in making a video overlay:

- Install the video overlay card in your computer and connect your video equipment to the card. (Chapter 2 explains these procedures.)
- Display graphics on your monitor using an application program for the Apple II.
- Play your video source. This lets you display video on your computer monitor.
- If you want to modify the overlay, use the VideoMix software. VideoMix lets you control how the video and graphics are combined. (Chapter 3 explains how to use VideoMix.)
- If you want to save your overlay, record it on videotape. (Chapter 3 explains how to record overlays.)

Examples of video overlay

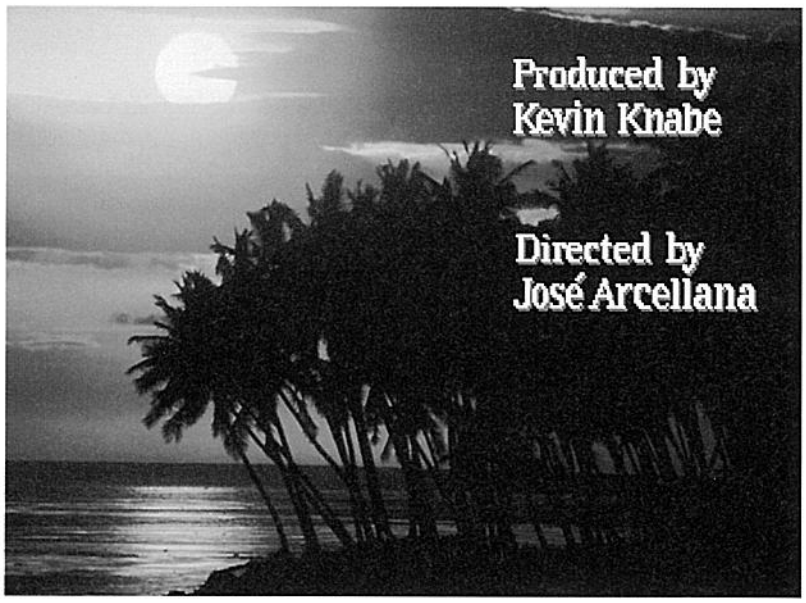
The Apple II Video Overlay Card brings together two technologies—computers and television—and offers many new possibilities. The card is compatible with any Apple II application software. You can use it with paint, animation, titling, presentation, and authoring programs to create graphics effects in video. As you experiment with the video overlay card, you will no doubt discover your own uses for video overlay.

Here are a few suggestions.

Adding text

Using computer graphics, you can display text on the screen to identify people or objects that appear in your video, to emphasize points you are making in a presentation, or to present opening titles and closing credits. Figure 1-3 shows how credits for a video presentation can be displayed over the closing shot.

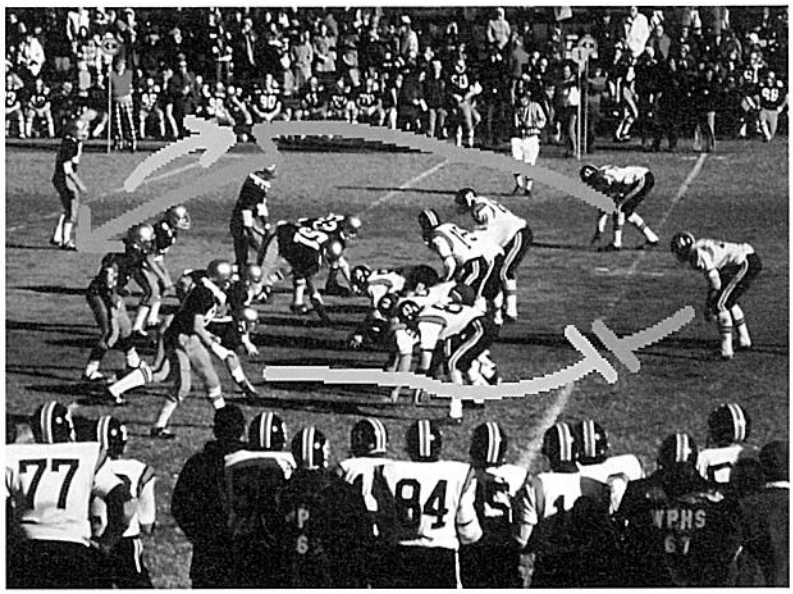
■ **Figure 1-3** Adding text



Highlighting information

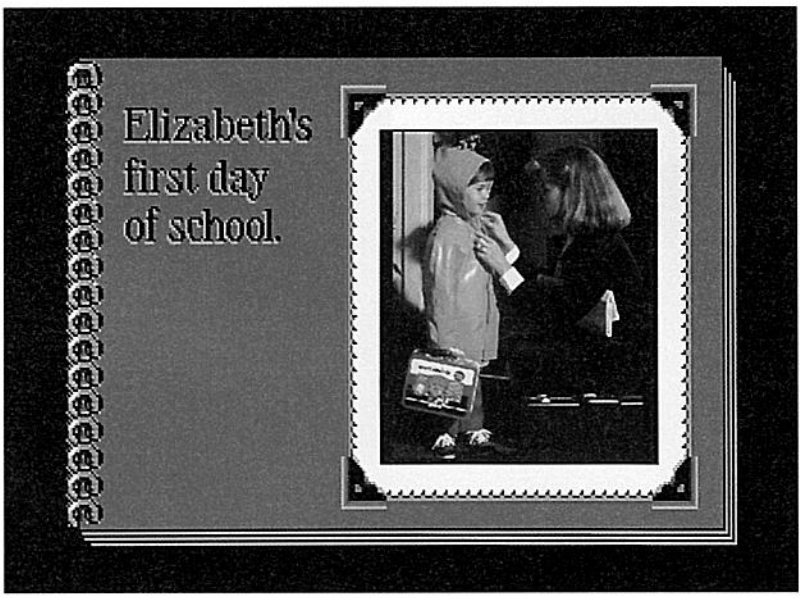
You can use computer graphics to enhance or clarify information presented in your video. In Figure 1-4, for example, colored lines drawn over the video image of a football play show the routes taken by opposing players.

■ **Figure 1-4** Highlighting video with graphics



You can also create overlays in which the graphics are the dominant image and video is used to enhance the graphics. Figure 1-5, for example, shows a photo album in which the "photo" is a moving video image.

■ **Figure 1-5** Highlighting graphics with video



Using graphics to represent real objects

You can combine computer graphics with video to simulate how something would look in the real world. For example, you could show how a house would look on an undeveloped property by combining a computerized drawing of the house with video of the property (see Figure 1-6).

■ **Figure 1-6** Using graphics to represent a real object

Creating special effects

Using VideoMix, you can create overlays in which video is combined with translucent graphics. In Figure 1-7, for example, a translucent map appears over the video image of a city.

Some Apple II software lets you create video effects, such as wipes and dissolves, to make transitions between video and graphics images. (A dissolve is a transition in which one image gradually blends into another. A wipe is a transition in which an image appears to push another image off the screen.)

■ **Figure 1-7** A translucent video overlay

CHAPTER 2

Setting Up

THIS CHAPTER EXPLAINS HOW TO INSTALL THE APPLE II VIDEO OVERLAY CARD in your Apple IIGS or Apple IIe computer and how to connect your video equipment to the card.

Installing the Apple II Video Overlay Card

This section describes how to install the video overlay card in your Apple IIGS or Apple IIe.

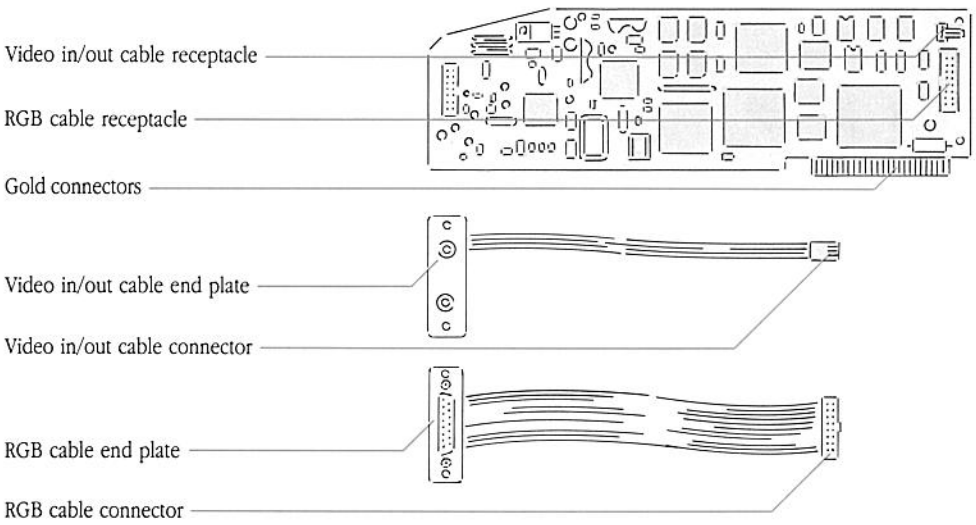
Do you have what you need?

To install the card, you need to unpack the following items from the Apple II Video Overlay Card box:

- Apple II Video Overlay Card
- RGB cable
- video in/out cable
- 4 screws

In addition, you need a small screwdriver.

■ **Figure 2-1** Apple II Video Overlay Card, video in/out cable, and RGB cable



Installing the card

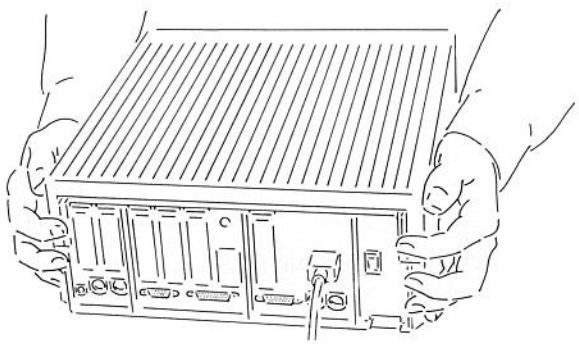
Follow these steps to install the card. Except where otherwise noted, the instructions are the same for the Apple IIGS and the Apple IIe.

1. **If the computer is on, switch off the computer's power, but leave the power cord plugged into a grounded outlet.**

2. **Remove the computer's cover.**

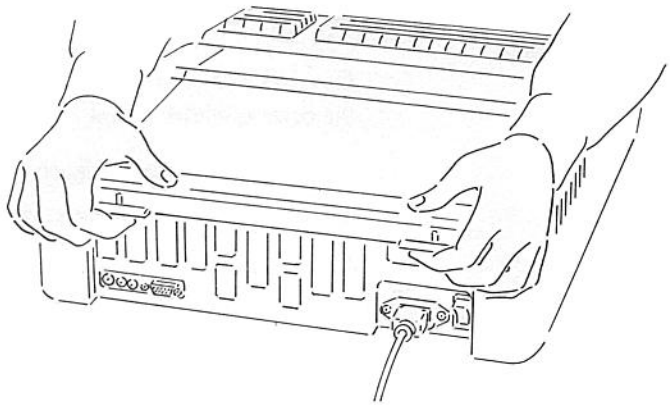
   Apple IIGS: Wrap your hands around the rear corners of the computer's case and push in the cover latches with your index fingers while you lift the cover with your thumbs and middle fingers (see Figure 2-2). When the cover is released, lift it all the way off the case and put it aside.

■ **Figure 2-2** Removing the cover from the Apple IIGS



Apple IIe: Wrap your fingers under the tabs that project from the back of the computer's cover and pull up until the fasteners pop. Slide the cover toward the back of the computer, then lift it off and set it aside.

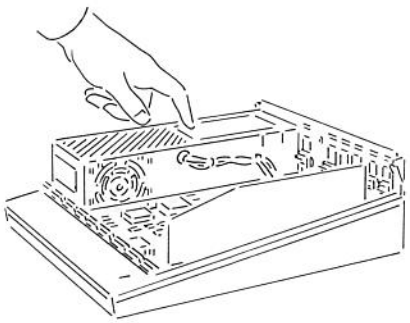
■ **Figure 2-3** Removing the cover from the Apple IIe



3. Touch the power supply case inside the computer.

Touching the power supply case (shown in Figure 2-4) discharges any static electricity that may be on your clothing or body.

■ **Figure 2-4** Touching the power supply case

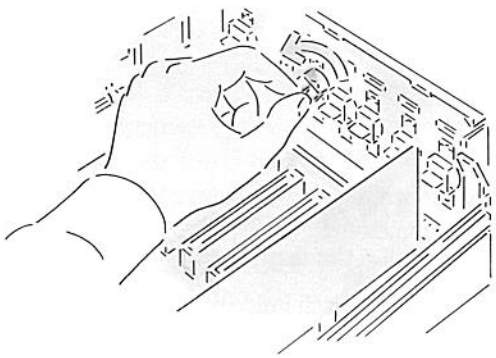


4. Uncover two openings in the back of the computer.

The back of the computer has small, medium, and large openings. Uncover two large openings close to slot 3 (the third slot from the power supply case) by removing two plastic inserts from the back of the computer.

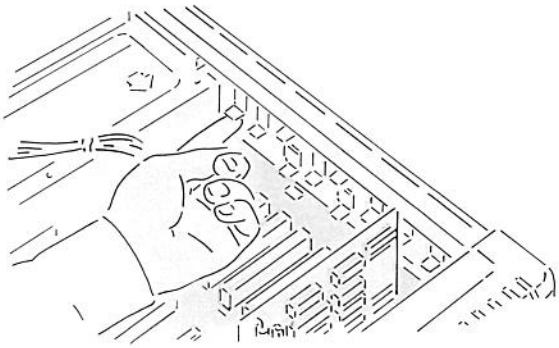
Apple IIGS: To remove an insert, reach inside the back panel and turn the metal fastener connected to the insert counterclockwise until the fastener is aligned vertically (see Figure 2-5). Then remove the fastener from the insert.

■ **Figure 2-5** Removing a plastic insert from the Apple IIGS



Apple IIe: To remove an insert, reach inside the back panel, push up on the plastic tab that protrudes from the bottom of the insert, and push the insert out (see Figure 2-6).

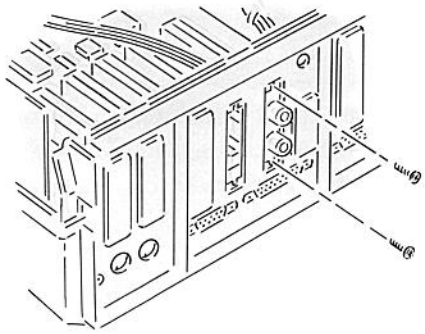
■ **Figure 2-6** Removing a plastic insert from the Apple IIe



5. Attach the video in/out cable end plate to the back of the computer.

Reach inside the computer and insert the end plate on the video in/out cable into one of the openings in the back of the computer. The video-in jack should be above the video-out jack. Screw the end plate in place from the outside, using two of the screws provided and a small screwdriver (see Figure 2-7).

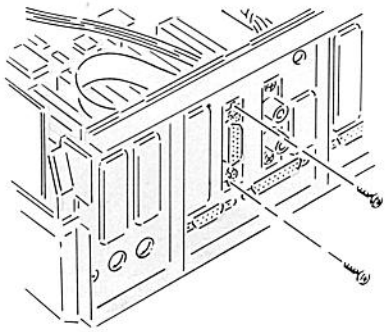
■ **Figure 2-7** Attaching the video in/out cable end plate



6. Attach the RGB cable to the back of the computer.

Reach inside the computer and insert the end plate on the RGB cable into the remaining opening in the back of the computer. Insert the end plate so that the DB-15 connector is oriented as shown in Figure 2-8 to prevent the cable from twisting when you connect it to the card. Screw the end plate in place from the outside, using the two remaining screws and a small screwdriver.

■ **Figure 2-8** Attaching the RGB cable end plate



7. Remove the video overlay card from its antistatic plastic bag.

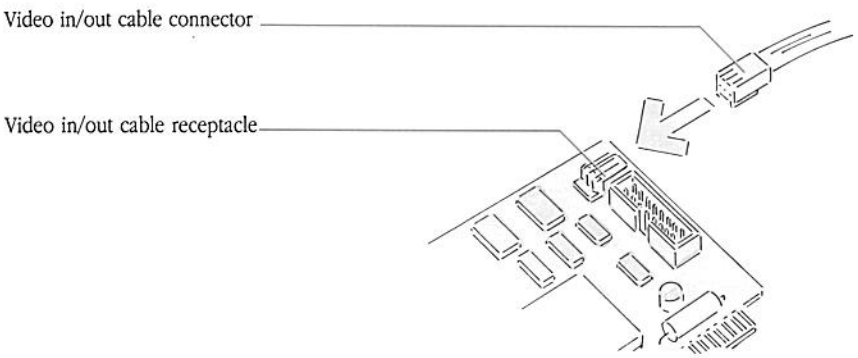
When you handle the card, avoid touching the gold connectors along the bottom edge (see Figure 2-1).

▲ Warning The Apple II Video Overlay Card has been preset and aligned at the factory. There are no user-adjusted controls on the card. Any attempt to adjust controls on the card voids your warranty and could affect performance. ▲

8. Connect the video in/out cable to the card.

Plug the video in/out cable connector into the 3-pin receptacle on the card as shown in Figure 2-9. The connector will snap into place.

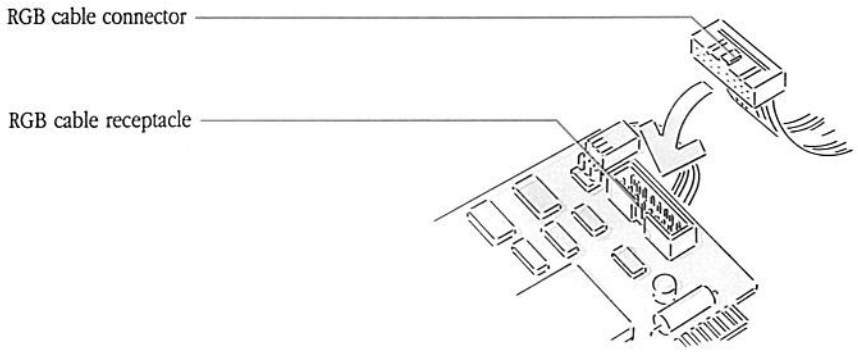
■ **Figure 2-9** Connecting the video in/out cable to the card



9. Connect the RGB cable to the card.

Align the plastic notch on the RGB cable connector with the groove in the receptacle on the card as shown in Figure 2-10. Plug the connector into the receptacle.

■ **Figure 2-10** Connecting the RGB cable to the card



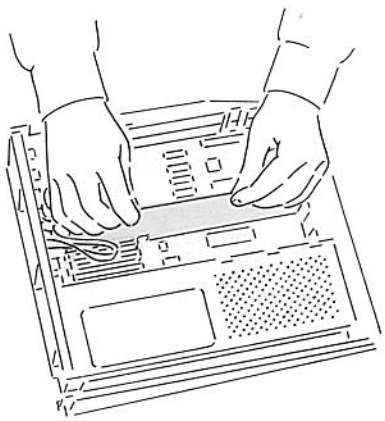
10. Insert the card in slot 3.

Apple IIGS: You *must* insert the card in slot 3—the third slot from the power supply case.

Apple IIe: You may insert the card in any slot except the slot closest to the power supply case. Use slot 3 unless it is already filled.

To insert the card, hold it so the gold connectors on the bottom of the card are closer to the back of the computer. Align the gold connectors with the slot. Push down, rocking the card gently forward and back—keeping it perpendicular to the main logic board—until it is firmly seated in the slot (see Figure 2-11). You'll have to exert some pressure to seat the card securely, but don't wiggle it from side to side.

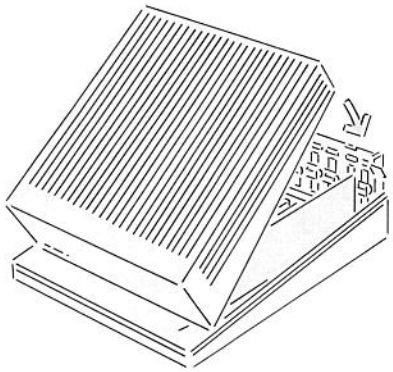
■ **Figure 2-11** Inserting the card



11. Replace the computer's cover.

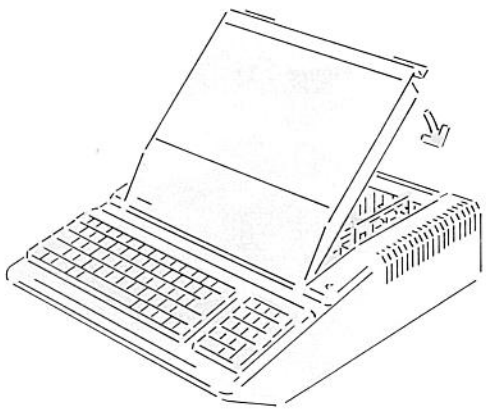
Apple IIGS: Lay the front edge of the cover in the groove in the front of the computer and lower the back edge of the cover into place (see Figure 2-12). Press down on the back corners of the cover until you hear the latches snap shut.

■ **Figure 2-12** Replacing the cover on the Apple IIGS



Apple IIe: Put the cover in place and press down firmly on the back corners until you hear the fasteners pop on both sides (see Figure 2-13).

■ **Figure 2-13** Replacing the cover on the Apple IIe



Connecting video equipment

You can send a video signal to the Apple II Video Overlay Card by connecting a VCR, video camera, or videodisc player to the card.

You can display your overlays by connecting an RGB monitor, a composite monitor, or both to the card.

You can record your overlays as you view them by connecting a VCR to the card.

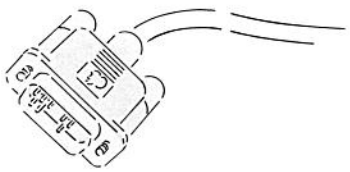
Cables and connectors

To connect your video equipment to the video overlay card, you'll need the proper cables. If your video equipment did not come with cables, you need to buy them at an electronics store. This section describes the types of cables and connectors you can use.

RGB monitor cable

To connect an RGB monitor to the video overlay card, you need a monitor cable with a DB-15 connector (shown in Figure 2-14). This cable comes with the AppleColor RGB Monitor.

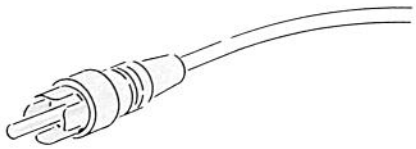
■ **Figure 2-14** RGB monitor cable with DB-15 connector



RCA phono plug

To connect a VCR, videodisc, video camera, or composite monitor to the card, you need a cable with an RCA phono plug (shown in Figure 2-15) on the end that plugs into the card.

■ **Figure 2-15** RCA phono plug



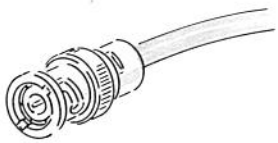
S-VHS connector

You cannot feed an S-VHS (Super-VHS) signal into the video overlay card. If your S-VHS equipment has RCA phono jacks, you can connect a cable with an RCA phono plug from one of these jacks to the video overlay card, but the resulting overlays will have the image quality of standard VHS.

BNC connector

If your video equipment uses a cable with a BNC connector (shown in Figure 2-16), you'll need a cable with a BNC connector on one end and an RCA phono plug on the other. These cables are available at electronics stores.

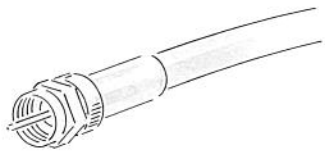
■ **Figure 2-16** BNC connector



RF connector

If your video equipment uses an RF cable (shown in Figure 2-17), it cannot be used directly with the video overlay card. You need to connect the RF cable to a VCR, then connect a cable with RCA phono plugs from the VCR to the card.

■ **Figure 2-17** RF connector



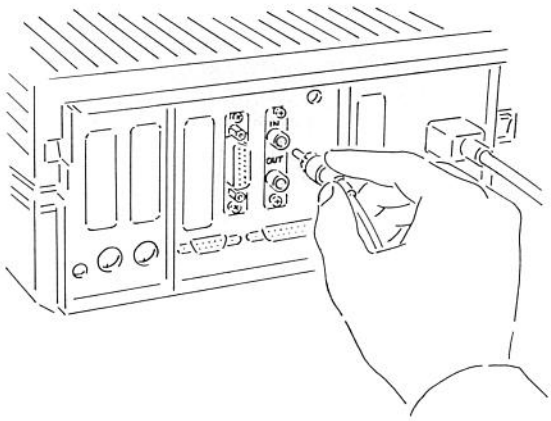
Connecting a video source

You can feed a video signal into the Apple II Video Overlay Card from a VCR, videodisc player, or video camera.

- **To connect a video source to the card, connect a cable from the video-out jack on your video source to the video-in jack on the card.**

The video-in jack is located on the video in/out cable end plate and is labeled "in" (see Figure 2-18). Make sure your cable has an RCA phono plug (shown in Figure 2-15) on the end that fits into the card.

■ **Figure 2-18** Connecting a video source to the card



❖ *By the way:* Most VCRs will send a television signal to the video overlay card if the VCR is tuned to a specific station and no videocassette is playing. You can use this feature to create overlays with television images.

△ **Important** Be sure to use a high-quality video source. If you are using a VCR, make sure the heads are clean. Always record your videocassettes in standard play mode; don't use tapes that have been recorded in long play or extended play modes. △

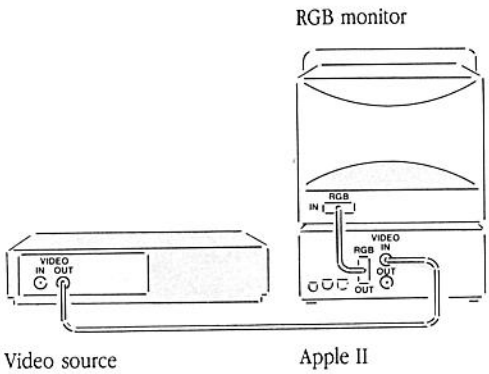
Connecting a monitor

You can view your overlays by connecting an RGB monitor, a composite monitor, or both to the video overlay card.

Connecting an RGB monitor

Figure 2-19 shows how to set up your equipment to display overlays on an RGB monitor.

■ **Figure 2-19** Setup for displaying overlays on an RGB monitor

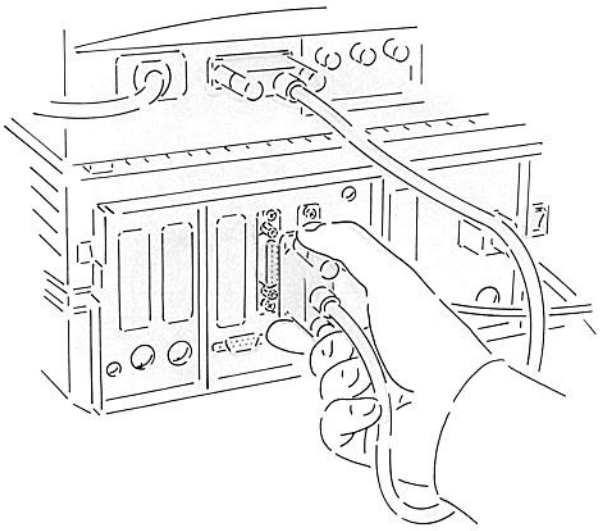


■ **To connect an RGB monitor to the card, connect a cable from the monitor to the RGB port on the card.**

The RGB port is on the RGB cable end plate (see Figure 2-20). Your monitor cable must have a DB-15 connector (shown in Figure 2-14) on the end that connects to the card.

Apple IIGS: If your monitor is already plugged into your computer's built-in RGB monitor port, unplug the cable from the monitor port and plug it into the video overlay card. Otherwise, the monitor will display only computer graphics. You can keep the monitor plugged into the card even when you are not making overlays.

■ **Figure 2-20** Connecting an RGB monitor to the card

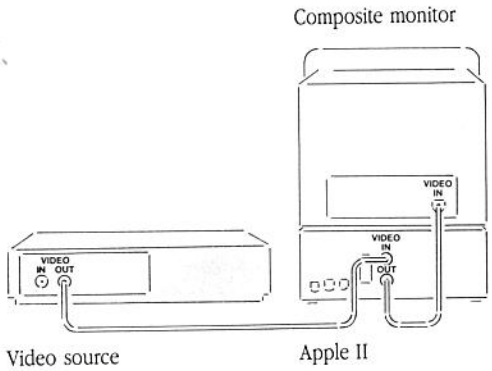


Connecting a composite monitor

This section describes how to set up your equipment to display overlays on a composite monitor *without recording them on a VCR.* If you want to record your overlays, skip to "Connecting a VCR to Record Overlays" on page 29.

Figure 2-21 shows how to set up your equipment to display overlays on a composite monitor.

■ **Figure 2-21** Setup for displaying overlays on a composite monitor

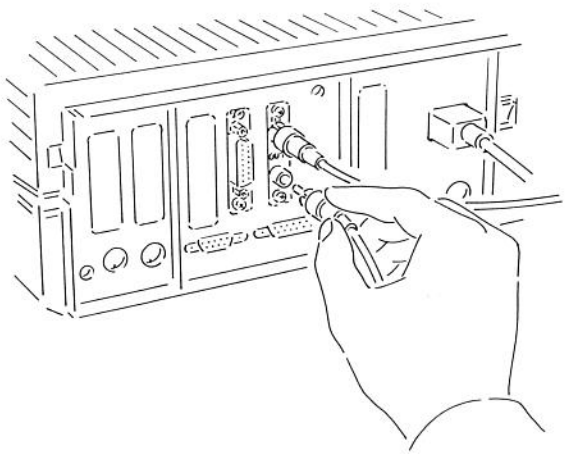


■ **To connect a composite monitor to the card, connect a cable from the video-out jack on the card to the video-in jack on the monitor.**

The video-out jack is located on the video in/out cable end plate and is labeled "out" (see Figure 2-22). Make sure your cable has an RCA phono plug (shown in Figure 2-15) on the end that fits into the card.

If your composite monitor is already plugged into the monitor port built into your computer, unplug the cable from the monitor port and plug it into the video overlay card. Otherwise, the monitor will display only computer graphics. You can keep the monitor plugged into the card even when you are not making overlays.

■ **Figure 2-22** Connecting a composite monitor to the card



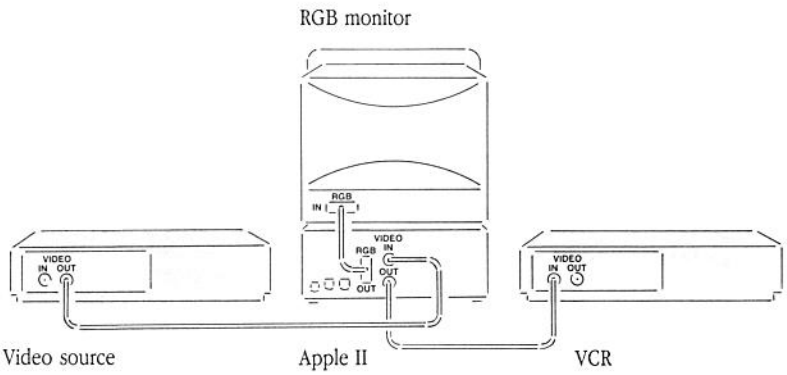
Connecting a VCR to record overlays

You can record your overlays on videocassette by connecting a VCR to the video overlay card. You can display the overlays you are recording on either an RGB monitor or a composite monitor (or a television).

Connecting a VCR and an RGB monitor

Figure 2-23 shows how to set up your equipment to record overlays on a VCR while displaying the overlays on an RGB monitor.

■ **Figure 2-23** Setup for recording overlays on a VCR while displaying the overlays on an RGB monitor



To be able to record overlays on a VCR while you view them on an RGB monitor, follow these steps:

1. **Connect a cable from the video-out jack on the video overlay card to the video-in jack on the VCR you are using to record your overlays.**

   You connect the cable as shown in Figure 2-23. Make sure the cable has an RCA phono plug (shown in Figure 2-15) on the end that connects to the card.

   - *Note:* On some VCRs, you need to switch the VCR to "External," "Aux," or some other special mode when recording through the video-in jack. See your VCR manual for details.

2. **Connect a cable from your RGB monitor to the RGB port on the video overlay card.**

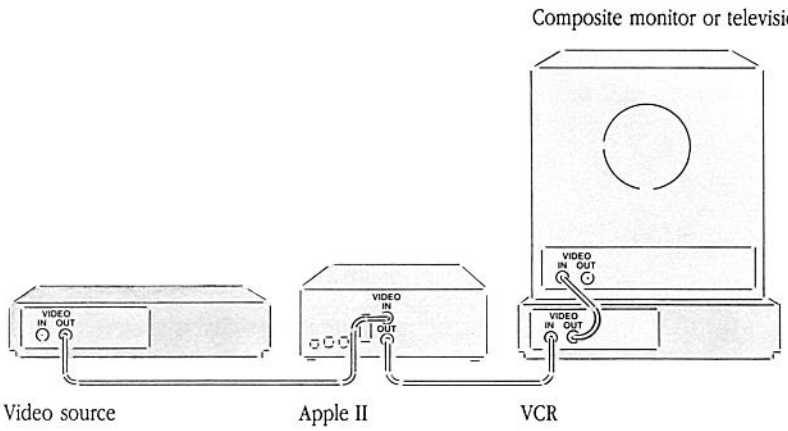
   The RGB port is on the RGB cable end plate (see Figure 2-20). Your monitor cable must have a DB-15 connector (shown in Figure 2-14) on the end that connects to the card.

   Apple IIGS: If your monitor is already plugged into the RGB monitor port built into your computer, unplug the cable from the monitor port and plug it into the video overlay card. Otherwise, the monitor will display only computer graphics. You can keep the monitor plugged into the card even when you are not making overlays.

Connecting a VCR and a composite monitor or television

Figure 2-24 shows how to set up your equipment to record overlays on a VCR while displaying the overlays on a composite monitor or a television.

■ **Figure 2-24** Setup for recording overlays on a VCR while displaying the overlays on a composite monitor or a television



To be able to record overlays on a VCR while you view them on a composite monitor or a television, follow these steps:

1. **Connect a cable from the video-out jack on the video overlay card to the video-in jack on your VCR.**

   You connect the cable as shown in Figure 2-24. Make sure the cable has an RCA phono plug (shown in Figure 2-15) on the end that connects to the card.

   ❖ *Note:* On some VCRs, you need to switch the VCR to "External," "Aux," or some other special mode when recording through the video-in jack. See your VCR manual for details.

2. **Connect a cable from the video-out jack or RF connection on your VCR to the video-in jack or RF connection on your composite monitor or television.**

   For instructions on how to connect your VCR to a composite monitor or a television, see your VCR manual.

Making audio connections

The Apple II Video Overlay Card doesn't accept audio signals, but you can listen to and record sound directly from your audio source. Typically, you'll use the audio that accompanies your input video. Audio can also come from an independent source such as an audio tape recorder or a microphone.

To listen to your audio, plug headphones or powered speakers into the headphone or audio-out jack on your audio source. You can also listen by connecting a cable from the audio-out jack on your audio source to the audio-in jack on a monitor that's equipped with speakers.

To record sound to accompany your overlays, connect a cable from the audio-out jack on your audio source to the audio-in jack on the VCR you are using to record.

If your audio signal is in stereo, you will need connections for both the left and the right channels.

Connecting an interactive video source

Interactive video applications allow you to view specific sequences of video in any order you choose. You control which sequences are played using your computer.

You can create and view interactive video applications by connecting an interactive video source, such as a videodisc player, to the Apple II Video Overlay Card. Your computer controls the interactive video source by sending signals over a video control cable.

In addition to connecting the video source and a monitor, you need to connect a video control cable from the external control jack on the video source to the serial port on your computer.

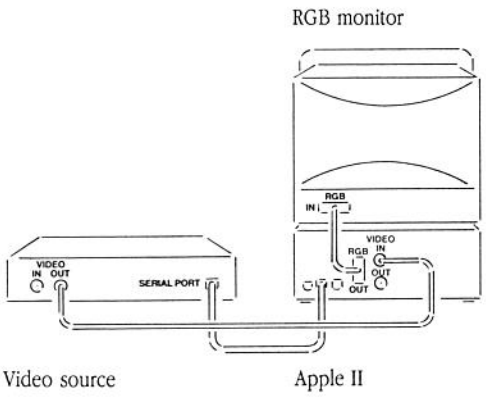
Apple IIGS: Connect the cable to the communications port on the back of your computer.

Apple IIe: Install a serial card, such as the Apple II SuperSerial Card, in your computer, and connect the cable to the serial port on the card.

If you want to create your own interactive video presentations, you need Apple II authoring or presentation software that allows you to send videodisc or videotape control signals over the serial port. Make sure the software is capable of controlling the type of videodisc or videotape you are using.

Figure 2-25 shows how to set up your equipment to view interactive video.

■ **Figure 2-25** Setup for viewing interactive video



CHAPTER 3

Using VideoMix

VIDEOMIX IS THE SOFTWARE THAT ACCOMPANIES THE APPLE II VIDEO OVERLAY Card. You use VideoMix to control how the card combines video and graphics. VideoMix lets you adjust the mix of video and graphics in an overlay and adjust the colors of video displayed on an RGB monitor.

This chapter describes how to install and use VideoMix on both the Apple IIGS and the Apple IIe.

Installing VideoMix

The Apple IIGS version of VideoMix is on the 3.5-inch disk labeled *VideoMix for the Apple IIGS* that you received with the video overlay card. The Apple IIe version is on the 5.25-inch disk labeled *VideoMix for the Apple IIe*. If you have an Apple IIGS with no 3.5-inch disk drive, you can use the Apple IIe version.

Installing VideoMix on the Apple IIGS

The 3.5-inch disk contains VideoMix and the GS/OS operating system for the Apple IIGS. To run GS/OS, you need 512K of RAM, ROM version 01 or later, and a 3.5-inch 800K disk drive. You can use VideoMix with any version of Apple IIGS system software with a version number of 3.1 or later. If you don't have ROM version 01 or later, an upgrade is available at no charge from your authorized Apple dealer or representative.

Make a backup copy of the disk and put the original in a safe place. For instructions on how to copy disks, see the manual that came with your Apple IIGS.

You can use the 3.5-inch disk to start your system and use VideoMix on an Apple IIGS.

The Apple IIGS version of VideoMix is a desk accessory. If you want to install the desk accessory onto your usual startup disk, follow these steps.

1. **Start your computer with the VideoMix disk.**

2. **Insert your startup disk in the second disk drive.**

   If you have only one 3.5-inch disk drive, you'll need to swap disks occasionally during the installation procedure; simply follow the instructions on the screen.

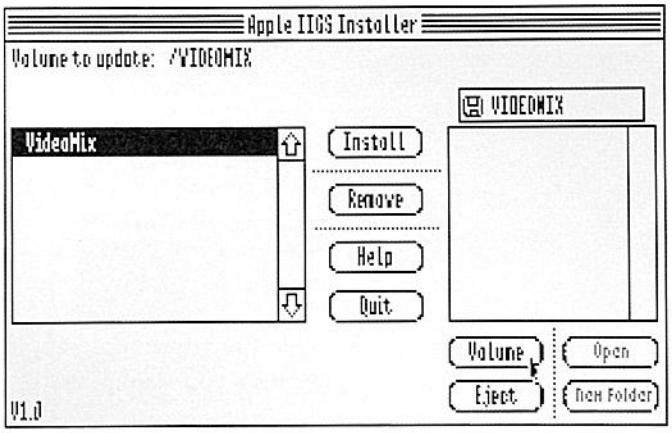
3. **Double-click the icon for the VideoMix disk.**

   The contents of the disk will be displayed.

4. **Double-click the icon labeled INSTALLER.**

   You'll see the dialog box shown in Figure 3-1. VideoMix will be highlighted on the left side of the dialog box.

■ **Figure 3-1** Installer dialog box



5. **Click the Volume button until the name of your startup disk appears above the window on the right side of the dialog box.**

6. **Click Install.**

   The Installer copies VideoMix onto your startup disk.

7. **Click Quit.**

8. **Restart your computer using your startup disk.**

   VideoMix will be on the disk.

Installing VideoMix on the Apple IIe

The 5.25-inch disk provided with your video overlay card contains VideoMix and the ProDOS® system software for the Apple IIe.

VideoMix for the Apple IIe doesn't require special installation. Simply make a copy of the disk and put the original in a safe place. For instructions on how to copy disks, see the *Apple IIe Owner's Guide.*

You can use the copy of the disk to start your system and use VideoMix.

Starting VideoMix

Before you use VideoMix, you should have installed the video overlay card in your computer and connected your video equipment to the computer (see Chapter 2 for instructions).

Starting VideoMix on the Apple IIGS

Follow these steps to start VideoMix on the Apple IIGS.

1. **Start your computer with a startup disk that has VideoMix installed as a desk accessory.**

2. **Open the appropriate application program and display the graphics you want to use in your overlay.**

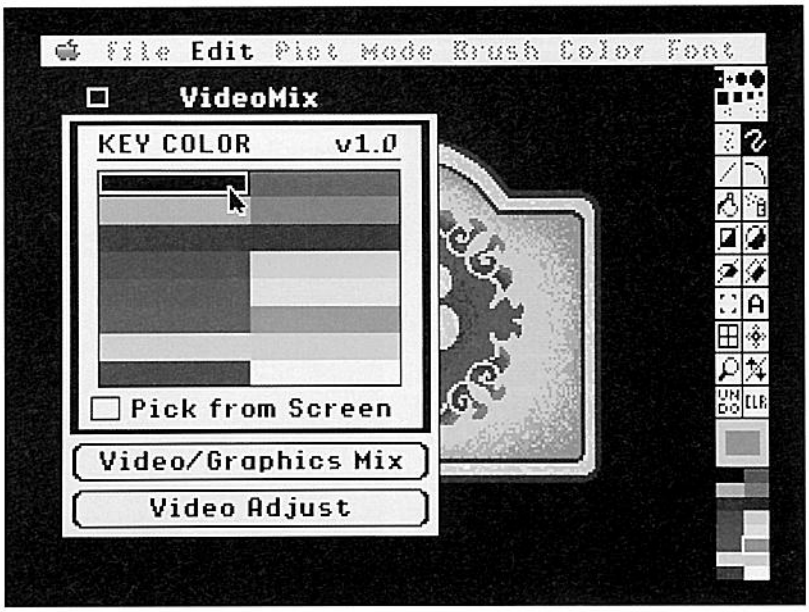
   Your graphics can be text, pictures, or animation. You can create graphics with any appropriate application program for the Apple IIGS or Apple IIe. For instructions on how to create and display graphics, refer to the manual that came with the program.

△ **Important** If you are using an Apple II graphics program that does not have a menu bar with the Apple menu, you must use VideoMix *before* you start your graphics program. Choose VideoMix from the Apple menu on the desktop. △

3. **Choose VideoMix from the Apple menu.**

   You'll see the key-color window shown in Figure 3-2.

■ **Figure 3-2** Apple IIGS key-color window



4. Display the video image you want to use in your overlay.

Press the play button on your video source. The video image and your computer graphics will be displayed on the screen as an overlay. To modify the overlay, use VideoMix.

△ **Important** Your computer graphics may appear to jitter slightly when displayed on a monitor connected to the video overlay card. This is normal and does not indicate a problem with your card.

In order for the Apple II Video Overlay Card to combine graphics with video, the graphics must be displayed in a different manner than normal. As a result, the graphics portion of the overlay may appear to vibrate up and down slightly. You can minimize this effect by avoiding thin horizontal lines and sharply contrasting adjacent colors. △

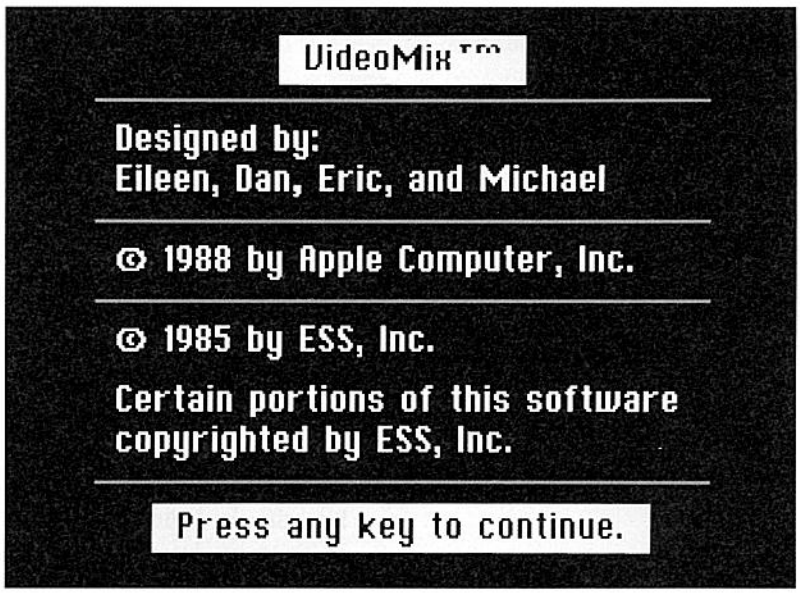
Starting VideoMix on the Apple IIe

Follow these steps to start VideoMix on the Apple IIe.

1. **Start your computer with a copy of the VideoMix disk.**

   You'll see the startup screen shown in Figure 3-3.

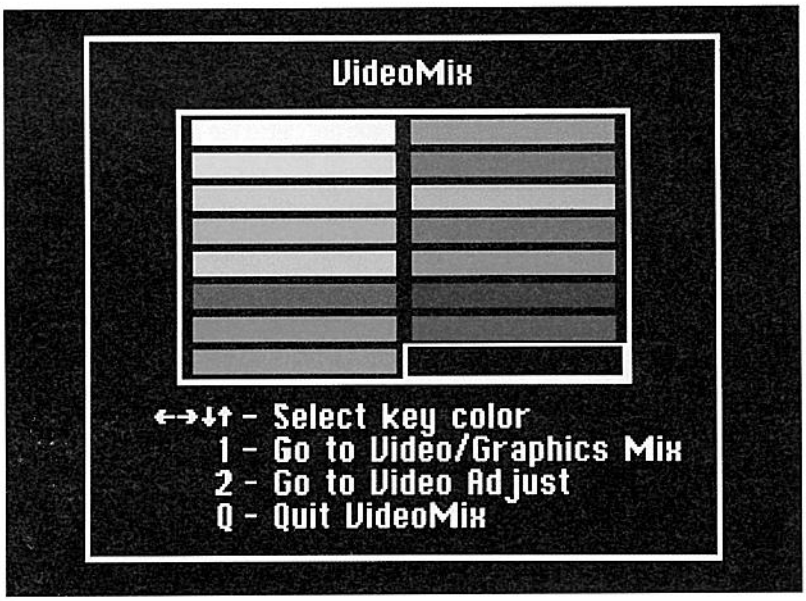
■ **Figure 3-3** Apple IIe VideoMix startup screen



2. **Press any key to continue.**

   You'll see the key-color screen shown in Figure 3-4.

■ **Figure 3-4** Apple IIe key-color screen



3. Display your video.

Press the play button on your video source. The video will be displayed on the screen.

△ **Important** Your computer graphics may appear to jitter slightly when displayed on a monitor connected to the video overlay card. This is normal and does not indicate a problem with your card.

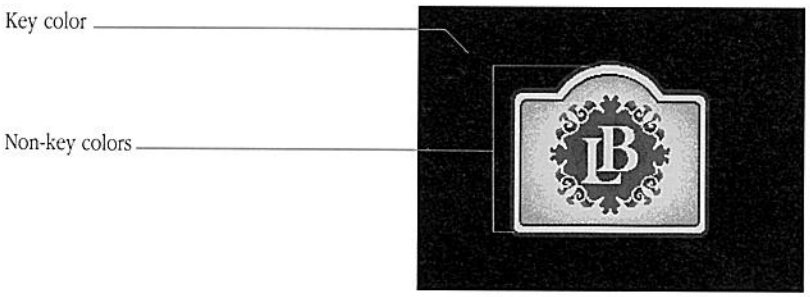
In order for the Apple II Video Overlay Card to combine graphics with video, the graphics must be displayed in a different manner than normal. As a result, the graphics portion of the overlay may appear to vibrate up and down slightly. You can minimize this effect by avoiding thin horizontal lines and sharply contrasting adjacent colors. △

Selecting a key color

Making an overlay requires you to designate one color in your computer graphics as the **key color.** VideoMix treats the key color differently than it does all other colors. All colors other than the key color are treated as a unit and are called the **non-key colors.**

In Figure 3-5, for example, the key color is black (the color of the background). The non-key colors are all colors other than black (the colors of the label).

■ **Figure 3-5** Key color and non-key colors



You create overlays by making either the key color or the non-key colors in your computer graphics transparent—so that video shows through wherever the key color (or the non-key colors if you made them transparent) would have appeared. Usually the key color is the color that you replace with video.

The key color is preset to black. You can select a different key color using VideoMix.

Selecting a key color on the Apple IIGS

The key-color window (shown in Figure 3-2) contains a palette of sixteen colors.

- **To select a key color from the palette, click the rectangle for that color.**

For example, click the white rectangle to make white the key color. VideoMix retains your key-color selection until you choose another color or restart your system.

Picking a key color from the screen

You can also select a key color by pointing to that color in your computer graphics image.

Follow these steps to pick a color from the screen.

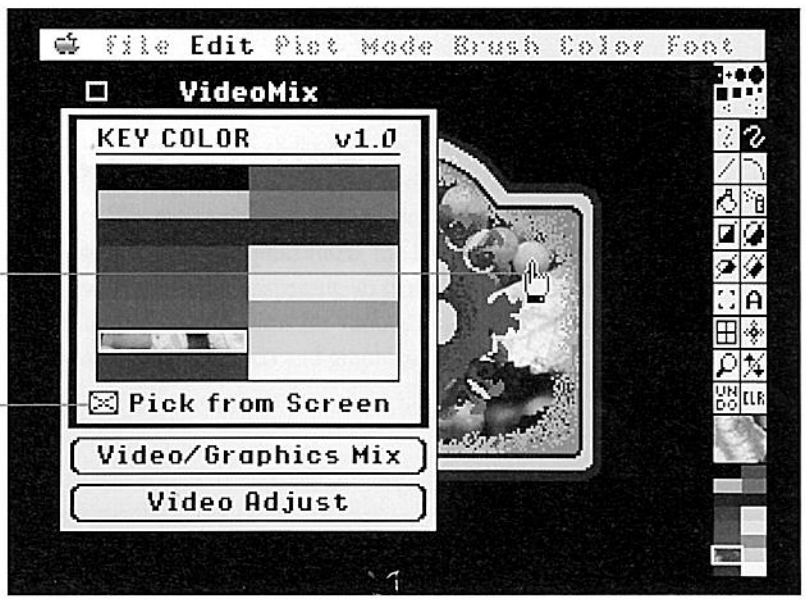
1. **Click the box labeled "Pick from screen."**

   An X appears in the box and a hand with a pointing finger replaces the arrow pointer on the screen.

2. **Click the color of your choice in your computer graphics.**

   For example, to select light pink as your key color, click on a light pink area of your graphics (see Figure 3-6).

■ **Figure 3-6** Picking a key color from the screen



△ **Important** Your computer can display graphics in one of two modes: 320 mode or 640 mode. (See the manual for your graphics program for instructions on how to switch from one mode to another.) In 320 mode, your computer can display sixteen pure colors. In 640 mode, it can display only two pure colors: black and white. All other colors are blended colors formed by a process known as dithering. Dithered colors are formed by displaying two colors in adjacent pixels. Because the pixels are so small and so close together, your eye perceives them as being a single color. For example, light blue is formed by adjacent blue and white pixels.

When you pick a dithered color, the key color is the color of the pixel that you happened to click on. For example, if you pick light blue, the key color would be either blue or white.

Using dithered colors in your computer graphics can create interesting (and sometimes unexpected) translucence effects in your overlay. To avoid these effects, it is best to have your computer in 320 mode when making overlays. If your computer is in 640 mode, it is best to use either black or white as your key color. △

Selecting a key color on the Apple IIe

The key-color screen (shown in Figure 3-4) contains a palette of sixteen colors. One of the colors is always highlighted. You can highlight a different color by using the arrow keys. Use the Left Arrow and Right Arrow keys to move between columns. Use the Up Arrow and Down Arrow keys to move up and down within a column.

- **To pick a key color from the palette, highlight the rectangle for that color.**

  For example, to make white the key color, highlight the white rectangle.

Adjusting the mix of video and graphics

You can adjust the mix of video and graphics in key-color areas and in areas outside the key color. You can make the key-color areas of your computer graphics image appear transparent (so that video shows through), opaque (so that the graphics hide the video), or translucent in different degrees (so that a variable blend of video and graphics results).

Similarly, you can make the non-key colors transparent, opaque, or translucent.

This section gives you instructions on adjusting the VideoMix controls for combining video and graphics on the Apple IIGS and the Apple IIe. The next section, "Settings for the Video/Graphics Mix," describes how to achieve specific visual effects using the VideoMix controls and shows examples.

Adjusting the mix on the Apple IIGS

Follow these steps to adjust the mix of video images and computer graphics on the Apple IIGS.

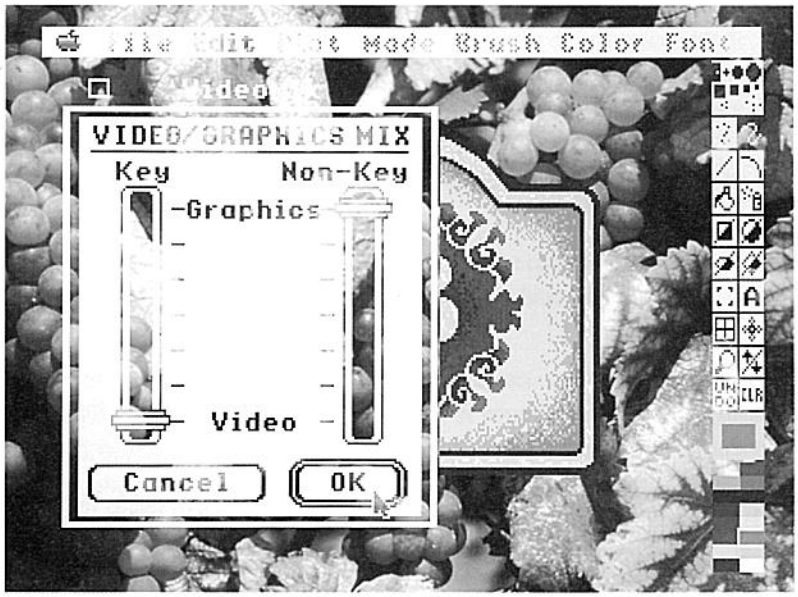
1. **Open the VideoMix desk accessory.**

   Follow the instructions in "Starting VideoMix on the Apple IIGS" on page 38. You'll see the key-color window shown in Figure 3-2.

2. **Click the Video/Graphics Mix button.**

   You'll see the video/graphics mix window (shown in Figure 3-7). The window contains two slider controls. The one on the left controls the mix in the key color; the one on the right controls the mix in non-key colors. The top setting on each control makes the key color or non-key colors opaque, hiding the video; the bottom setting makes the key color or non-key colors transparent, so that video shows through. Five settings in between allow for various degrees of translucence, resulting in different mixes of video and graphics.

■ **Figure 3-7** Apple IIGS video/graphics mix window



3. **Set the mix of video and graphics in the key color by dragging the slider labeled Key to the setting you want.**

   If your video source is playing, you will see how the setting affects the appearance of the key color.

4. **Set the mix of video and graphics in non-key colors by dragging the slider labeled Non-key to the setting you want.**

   If your video source is playing, you will see how the setting affects the appearance of the non-key colors.

5. **Click the OK button to save your settings.**

   VideoMix will retain your settings until you change them or restart your system. To return to the key-color window without saving your settings, click the Cancel button.

❖ *Note:* While using VideoMix, you can return to the default settings (transparent key color and opaque non-key colors) at any time by pressing the Escape key.

Adjusting the mix on the Apple IIe

Follow these steps to adjust the mix of video and graphics on the Apple IIe.

1. **Start VideoMix.**

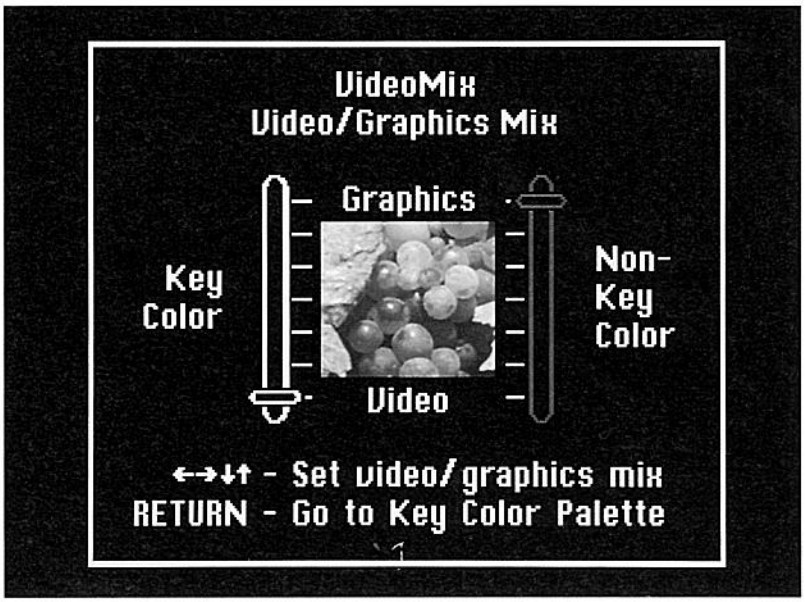
   Follow the instructions in "Starting VideoMix on the Apple IIe" on page 40. You'll see the key-color screen shown in Figure 3-4.

2. **Type 1 and press Return.**

   You'll see the video/graphics mix screen (shown in Figure 3-8). The screen contains two controls. The one on the left controls the mix in the key color; the one on the right controls the mix in non-key colors. The top setting on each control makes the key color or non-key colors opaque, hiding the video; the bottom setting makes the key color or non-key colors transparent, so that video shows through. Five settings in between allow for various degrees of translucence, resulting in different mixes of video and graphics.

   In the center of the screen is a window that displays the key color. If you are playing your video source, the window will show how the key color will appear in an overlay.

■ **Figure 3-8** Apple IIe video/graphics mix screen



3. **Set the mix of video and graphics in the key color.**

   The key-color control is highlighted when you enter the video/graphics mix screen. Use the Up Arrow and Down Arrow keys to change the setting. Pressing the Up Arrow makes the key color more opaque, and pressing the Down Arrow makes it more transparent (allowing more video to show through). If you are playing your video source, you can see how the setting affects the appearance of the key color by watching the window in the center of the screen.

4. **Set the mix of video and graphics for non-key colors.**

   Press the Right Arrow key to highlight the non-key color control. (You can highlight the key-color control again by pressing the Left Arrow key.)

   Use the Up Arrow and Down Arrow keys to change the setting of the non-key color control. Pressing the Up Arrow makes the non-key colors more opaque, and pressing the Down Arrow makes them more transparent (allowing more video to show through).

5. **Press Return to save your settings and return to the key-color screen.**

   VideoMix will retain your settings until you change them or restart your system.

❖ *Note:* While using VideoMix, you can return to the default settings (transparent key color and opaque non-key colors) at any time by pressing the Escape key.

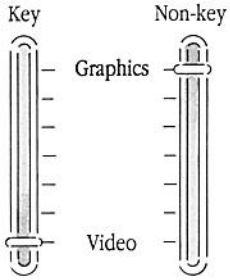
Settings for the video/graphics mix

This section describes how to achieve specific visual effects using the video/graphics mix controls. These instructions apply to both Apple IIGS and Apple IIe versions of VideoMix.

With 7 settings each on the key-color control and the non-key–color control, 49 setting combinations are possible. Experiment with different combinations to see the various visual effects that result.

This section describes several commonly used combinations of settings.

Key color: transparent
Non-key colors: opaque



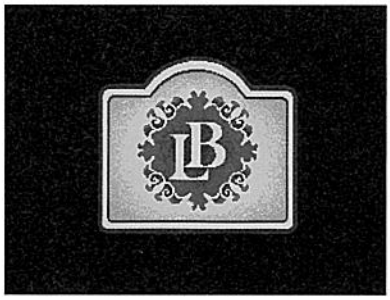
VideoMix is preset to the settings shown on the left, the most common for making an overlay. By setting the key color to Video, you make the key color transparent and allow video to show through the graphics wherever the key color would appear.

Figure 3-9 shows an overlay in which video shows through the transparent key color (the black background), and the non-key colors (the label) remain as graphics.

■ **Figure 3-9** Overlay with a transparent key color and opaque non-key colors

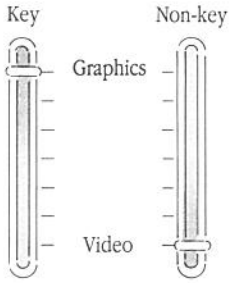
Video

Graphics



Overlay

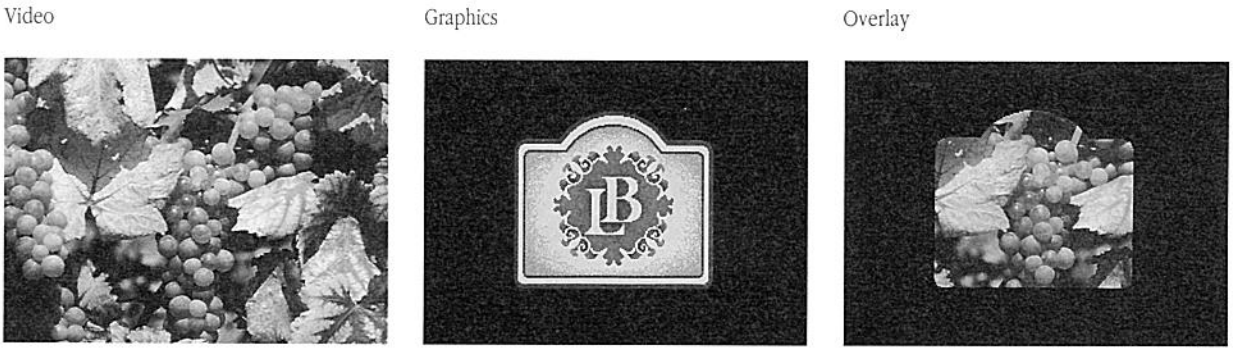
Key color: opaque
Non-key colors: transparent



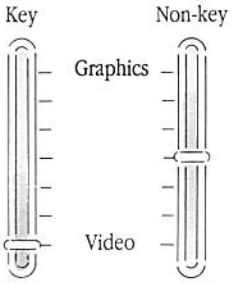
Using the combination of settings shown on the left, the transparent non-key colors allow video to show through the graphics wherever the non-key colors would appear. These settings limit you to having only one color from your graphics (the key color) appear in your overlay.

Figure 3-10 shows an overlay in which the opaque key color (the black background) remains as graphics and the transparent non-key colors (the label) allow video to show through.

■ **Figure 3-10** Overlay with an opaque key color and transparent non-key colors



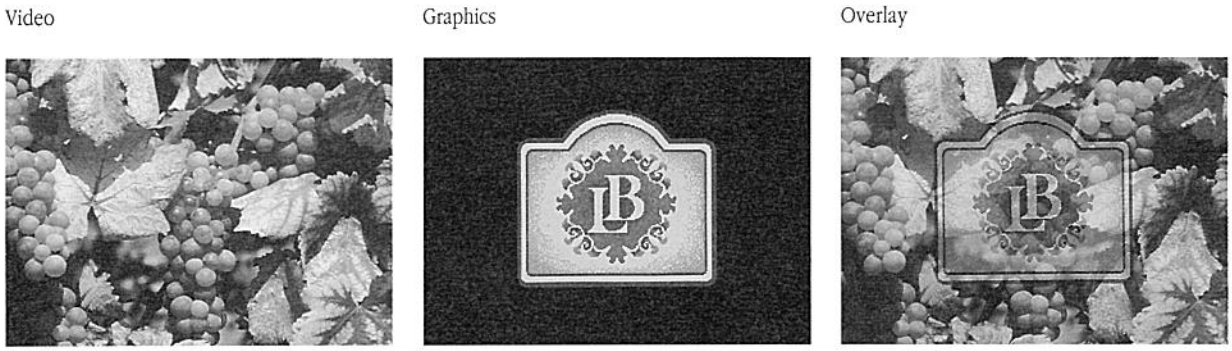
Key color: transparent
Non-key colors: translucent



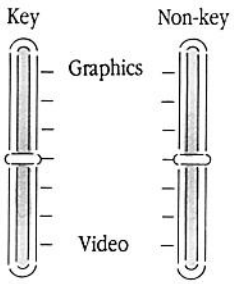
The combination of settings shown on the left results in video showing through the graphics wherever the key color would appear and being somewhat masked by the graphics in the non-key–color areas.

In Figure 3-11, for example, the black background is the transparent key color, and the label is translucent.

■ **Figure 3-11** Overlay with a transparent key color and translucent non-key colors



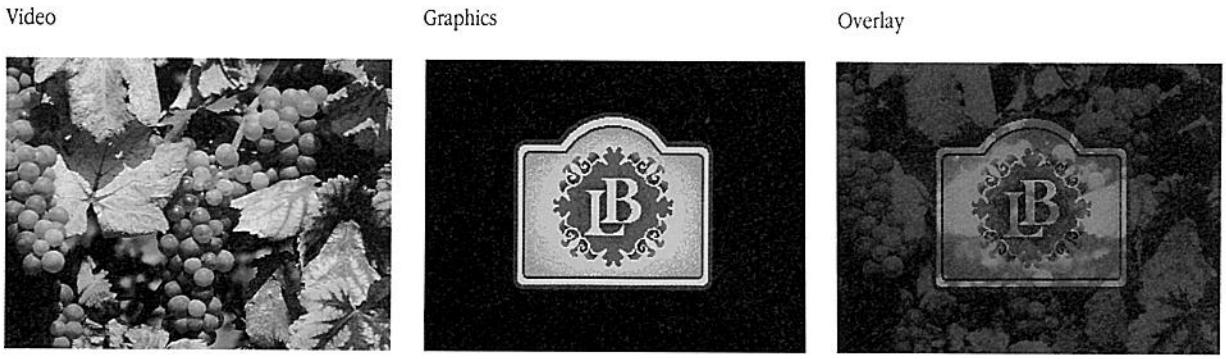
Key color: translucent
Non-key colors: translucent



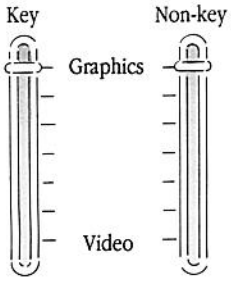
With the settings shown on the left, all the colors in the graphics are translucent, somewhat masking the video image.

Figure 3-12 shows an overlay in which both the key color and non-key colors are translucent.

■ **Figure 3-12** Overlay with all colors translucent



Key color: opaque
Non-key colors: opaque



By making all colors opaque, you don't allow any video to show through the graphics.

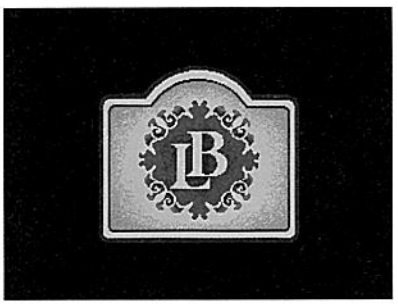
Figure 3-13 shows an overlay in which all colors are opaque and none of the video is visible.

■ **Figure 3-13** Overlay with all colors opaque

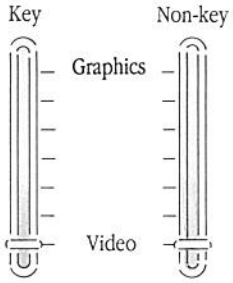
Video

Graphics

Overlay



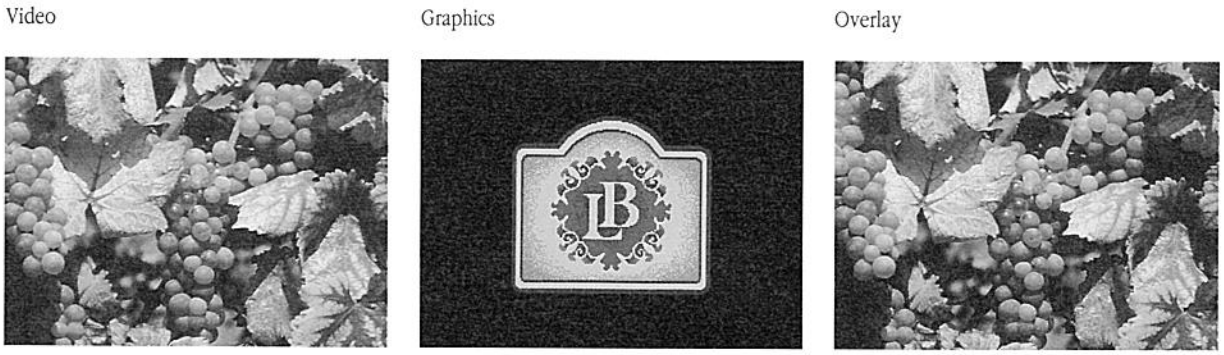
Key color: transparent
Non-key colors: transparent



These settings allow the video to take over the entire screen by making all the colors in the computer graphics transparent. Even the VideoMix controls disappear from the screen. You can make the controls reappear by pressing the Escape key.

Figure 3-14 shows an overlay in which all colors are transparent.

■ **Figure 3-14** Overlay with all colors transparent



Returning to the default settings

While using VideoMix, you can return to the default settings (transparent key color and opaque non-key colors) at any time by pressing the Escape key. Pressing the Escape key again returns your previous settings.

Adjusting tint and color

You can use VideoMix to adjust the tint and color of video appearing on an RGB monitor. You adjust tint and color in much the same way you adjust a color television to display natural-looking flesh tones.

Tint is the relative amount of red and green in a video image. Figure 3-15 shows the range of tint settings—from maximum red, to normal, to maximum green.

■ **Figure 3-15** Tint settings

Color refers to the depth of the colors in a video image. Figure 3-16 shows the range of color settings—from no color, to normal, to maximum color.

■ **Figure 3-16** Color settings

Tint and color adjustments affect only the video image in an overlay that's displayed on an RGB monitor. They do not affect the appearance of the computer graphics, nor do they affect how the overlay appears on a composite monitor or on videotape.

You won't have to adjust tint and color every time you use VideoMix.

Adjusting tint and color on the Apple IIGS

Follow these steps to adjust tint and color on the Apple IIGS.

1. **Open the VideoMix desk accessory.**

   Follow the instructions in "Starting VideoMix on the Apple IIGS" on page 38. You'll see the key-color window shown in Figure 3-2.

2. **Click the Video adjust button.**

   You'll see the video adjust window (shown in Figure 3-17). The window contains arrow controls for tint and color below a transparent rectangle. You can move the video adjust window by clicking in the black bar at the top of the window and dragging it to where you want it. Move the window so that flesh tones in your video image appear in the transparent rectangle.

■ **Figure 3-17** Apple IIGS video adjust window

3. **Adjust the tint by clicking on the arrow controls labeled Tint.**

   Click the upward pointing arrow to increase the amount of green in the video image. Click the downward pointing arrow to increase the amount of red.

   You can change the tint setting quickly by holding down the Command key as you click the arrows.

4. **Adjust the color by clicking on the arrow controls labeled Color.**

   Click the upward pointing arrow to make the colors in the video image deeper. Click the downward pointing arrow to make the colors less intense.

   You can change the color setting quickly by holding down the Command key as you click the arrows.

5. **Click the OK button to save your settings.**

   VideoMix retains your tint and color settings until you change them, even after you restart your system. You cannot cancel your tint and color settings, so make sure the settings are where you want them before clicking OK.

Adjusting tint and color on the Apple IIe

Follow these steps to adjust tint and color on the Apple IIe.

1. **Start VideoMix.**

   Follow the instructions in "Starting VideoMix on the Apple IIe" on page 40. You'll see the key-color screen shown in Figure 3-4.

2. **Type 2 and press Return.**

   You'll see the video adjust screen (shown in Figure 3-18). The screen contains arrow controls for tint and color. Above the controls is a transparent rectangle that displays video from your video source.

■ **Figure 3-18** Apple IIe video adjust screen

3. Adjust the tint.

The control for tint is highlighted when you first see the video adjust screen. Press the Up Arrow to increase the amount of green in the video image. Press the Down Arrow to increase the amount of red.

You can change the tint setting quickly by holding down the Command key as you press the arrow keys.

4. Adjust the color.

Press the Right Arrow key to highlight the color control. (You highlight the tint control again by pressing the Left Arrow key.) Press the Up Arrow to make the colors in the video image deeper. Press the Down Arrow to make the colors less intense.

You can change the color setting quickly by holding down the Command key as you press the arrow keys.

5. **Press Return to save your settings.**

   VideoMix retains your tint and color settings until you change them, even after you restart your system. You cannot cancel your tint and color settings, so make sure the settings are where you want them before you press the Return key.

Quitting VideoMix

This section describes how to quit VideoMix.

Quitting VideoMix on the Apple IIGS

When you have finished setting the controls, quit VideoMix to save your settings.

- **Click the close box in the upper-left corner of the VideoMix desk accessory.**

Quitting VideoMix on the Apple IIe

When you have finished setting the controls, quit VideoMix to save your settings. After you quit, you'll need to start your graphics program to display the graphics for your overlay.

- **Press Q on the key-color screen.**

  You'll see a screen with the message:

```
R - Reboot to next application

Q - Quit to next application
```

Rebooting to your next application

The "Reboot to next application" option restarts your computer without changing the VideoMix settings.

Follow these steps if you want to reboot to your next application.

1. **Remove the VideoMix disk and put the disk for your next application in your startup disk drive.**

   If you are going to make a video overlay, the next application will be your graphics program.

2. **Press R.**

   Your computer will restart using the application on the new startup disk.

Quitting to your next application

The "Quit to next application" option lets you quit VideoMix and open another application (such as your graphics program) without restarting your computer.

Follow these steps to quit VideoMix and open your next application.

1. **Insert the disk with your next application.**

   If you are going to make a video overlay, the next application will be your graphics program.

2. **Press Q.**

   You'll see a screen with the message:

   ```
   ENTER PREFIX (PRESS RETURN TO ACCEPT)
   ```

   Below the message you'll see a blinking cursor and the prefix for your VideoMix program.

3. **Type the prefix for your next application and press Return.**

   You'll see a screen with the message:

   ```
   ENTER PATHNAME OF NEXT APPLICATION
   ```

   Below the message you'll see a blinking cursor.

4. **Type the pathname of your next application and press Return.**

   Your computer will open your next application.

Saving your overlays on videotape

After you have finished using VideoMix, you can save your overlays by recording them on videotape. (Chapter 2 explains how to connect a VCR to the video overlay card to record overlays.) You cannot save overlays on a computer disk.

To record an overlay:

1. **Display your computer graphics on your monitor.**

2. **Play your video source.**

   If your video source is a VCR, you will need a second VCR for recording the overlay.

   > *Note:* Even if you are recording only computer graphics, you should play your video source to ensure that proper signals are sent to the recording VCR. Use VideoMix to make all the colors in your computer graphics opaque (as explained on page 53) so that none of the video shows through.

3. **When the overlay you want to record appears on your monitor, press the record button on the VCR.**

CHAPTER 4

Getting the Most From Video Overlay

VIDEO OVERLAY IS A POWERFUL TOOL. TO USE IT TO ITS FULL POTENTIAL, you should be aware of some basic guidelines for planning and designing overlays. This chapter presents tips to help you avoid the common pitfalls of video overlay and produce overlays that communicate clearly and effectively.

Video overlay tips

Here are some tips for creating effective video overlays.

Planning for computer graphics

As you plan your video presentation, think about how computer graphics could enhance the presentation. Do you want to include opening titles and closing credits, highlight information presented in the video, dazzle the audience with special effects? Try to determine where computer graphics would be useful.

Use graphics only when appropriate

Creating overlays is so much fun that you may be tempted to overuse them. Consider whether you should highlight your video with computer graphics, narration, or a combination. Your overlays will be more effective if you use them judiciously.

Use a consistent design for graphics

Decide on a workable design for your graphics and use it consistently throughout your presentation. For example, always use the same font for text, the same colors for graphic elements such as lines and boxes, and the same kinds of special effects. Consistent use of computer graphics will make your presentation seem unified and easy to follow.

Use a good video source and a good graphics program

Use high-quality video equipment and software that lets you display high-resolution graphics. Clean the heads on your VCR if you haven't cleaned them lately. The better the video and computer images, the better your overlays will look.

Think ahead when you shoot your video

When shooting video for an overlay, try to anticipate where graphics will fit into the shot and leave enough space for them. For example, if you plan to superimpose someone's name below a close-up of her face, make sure you leave room in the lower third of the screen. Think of graphics as an integral part of your composition. Don't make it an afterthought.

Designing for the screen

When designing computer graphics for the screen, less is usually more.

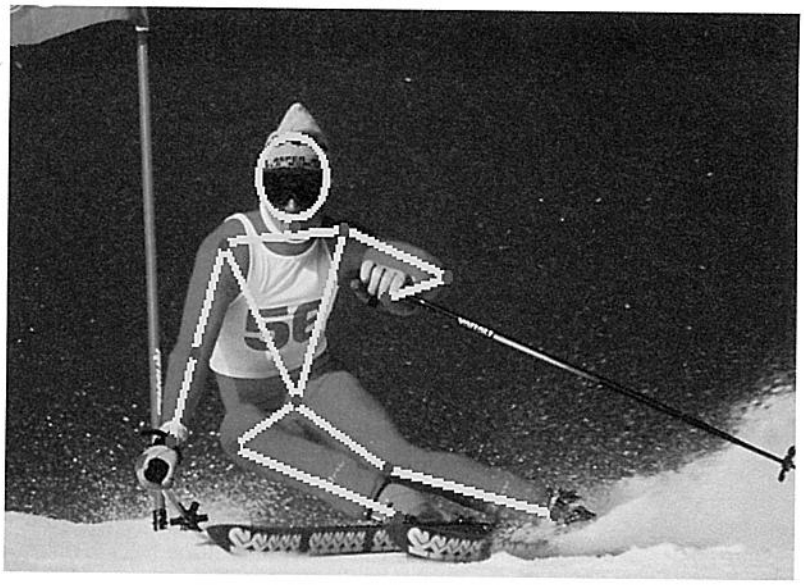
Keep it simple

Don't try to cram too much into a single overlay. If your video has a lot of motion, use simple graphics. If your graphics are complex, use a simple video background, such as a still video scene.

Limit the information in each overlay to one or two clearly made points. If you present too many facts in one overlay, your viewers probably won't remember them. Unlike book readers, television viewers can't flip back a page to review something they missed.

Figure 4-1 shows how you can communicate effectively with simple computer graphics. The graphics of simple stick figures traced over successive video frames help in understanding a skier's technique.

■ **Figure 4-1** Simple computer graphics

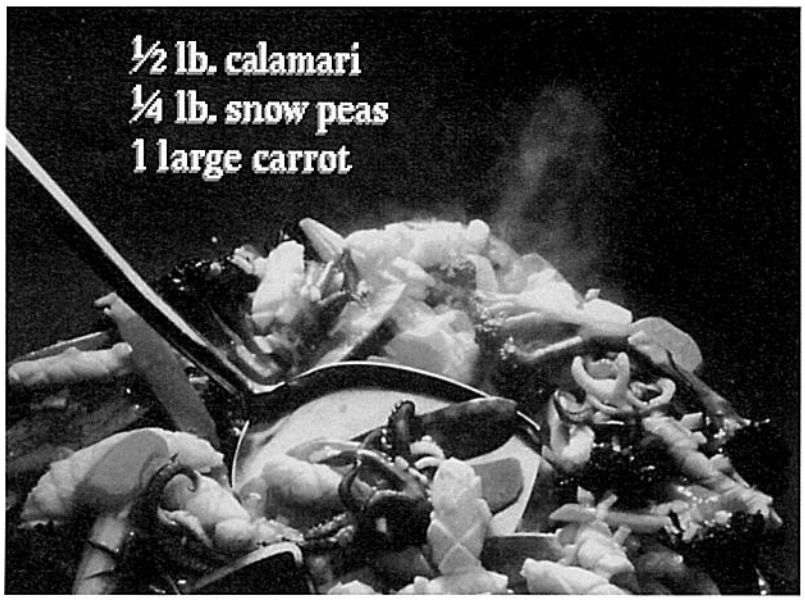


Use readable fonts for text

Bold, simple fonts seem crisp and are easily readable on screen. The color of your text should contrast with the colors in your video image. If you plan to record your overlay on videotape, make the text at least 16 points.

Figure 4-2 shows an overlay in which the text is easy to read and fits nicely in the composition.

■ **Figure 4-2** Effective use of text



Special considerations for composite video

If you want to record your overlays on videotape or display them on a composite monitor, you should keep in mind some special considerations.

Avoid computer graphics that are extremely bright

If the colors in your graphics are too intense, especially if they're hot colors such as bright red, the graphics may appear to vibrate along the edges. You can correct the problem by using a color that is less intense—for example, off-white rather than pure white.

You can also reduce the intensity of a color by making it translucent and allowing some of the video image to blend in using VideoMix.

If you want to record your overlays, display them on a composite monitor or television

Colors displayed on an RGB monitor are more stable than colors displayed on a composite monitor. They are less likely to shimmer or bleed into another color. However, if you are recording your overlays on videotape, a composite monitor or television will show you a closer approximation of the overlay's appearance during playback. By viewing your overlays on a composite monitor or television, rather than an RGB monitor, you will be better able to spot and correct problems before they are recorded on videotape.

Appendixes

Troubleshooting

This section describes problems you may encounter while using the Apple II Video Overlay Card and suggests steps you can take to solve them. If these troubleshooting suggestions don't help, contact your authorized Apple dealer or representative for assistance.

If you have problems with your video equipment, refer to the manual that came with the equipment.

Your monitor screen is dark

- Make sure your computer and monitor are plugged into a working outlet and switched on. If the electrical outlet is controlled by a dimmer switch, use a different outlet.
- Make sure your monitor is plugged into the video overlay card correctly.
- Make sure the RGB cable and video in/out cable are plugged into the video overlay card correctly.
- Make sure the video overlay card is inserted in your computer correctly. If you have an Apple IIGS, make sure the card is in slot 3.
- Check the brightness and contrast controls on the monitor and adjust them to make the screen brighter.

If these steps fail, unplug your monitor from the video overlay card and plug it into the monitor port on the back of your computer. If the monitor works, the problem is with the card. See your authorized Apple dealer or representative. If the monitor doesn't work, the problem is with the monitor. Refer to the manual that came with the monitor for information on where to get assistance.

Your monitor won't display video

- Make sure your monitor is connected to the video overlay card, rather than to the monitor port on the back of your computer.
- Make sure the cable connecting your video source to your computer is plugged into the video-out jack on the video source and the video-in jack on the video overlay card.

- Make sure the video in/out cable and RGB cable are plugged into the video overlay card properly.
- Make sure you have pressed the play button on your video source and that you are not playing a blank videotape. You may not be able to see video if your video source is in a mode other than play.
- Use a high-quality video source. Clean the heads on your VCR if you haven't cleaned them in a while.
- Use high-quality videotape. Always record your tapes in standard play mode; don't use tapes that have been recorded in long play or extended play modes.
- Check the video/graphics mix settings on VideoMix. If both the key color and non-key colors are opaque, change the settings.
- Make sure the key color you have chosen appears in your computer graphics.

Your graphics seem to jitter

It's normal for computer graphics to appear to jitter slightly when displayed on a monitor connected to the video overlay card. This does not indicate a problem with your video overlay card.

In order for the Apple II Video Overlay Card to combine graphics with video, the graphics must be displayed in a different manner than normal. As a result, the graphics portion of the overlay may appear to vibrate up and down slightly. You can minimize this effect by avoiding thin horizontal lines and sharply contrasting adjacent colors.

Video colors on your RGB monitor are unsatisfactory

- Adjust the tint and color using VideoMix.

Your VCR won't record overlays

- Make sure the cable from the video-out jack on the video overlay card is connected to the video-in jack on your VCR.

- Make sure that the record button is pressed on your VCR and that the write-protection tabs have not been removed from your videocassette. See your VCR manual for instructions on recording.
- Make sure the video in/out cable is connected to the card properly.
- Even if you are recording only computer graphics, you should play your video source to ensure that proper signals are sent to the recording VCR. Use VideoMix to make all the colors in your computer graphics opaque (as explained on page 53) so that none of the video shows through.

You cannot start VideoMix on the Apple IIGS

- Make sure the file named VIDEOMIX is in the DESK.ACCS folder on your startup disk and the file named TOOLS.033 is in the TOOLS folder on your startup disk.
- Make sure you're using system software version 3.1 or later and that you have at least 512K of memory, ROM version 01 or later, and a 3.5-inch 800K disk drive. (Early models of the Apple IIGS may need a ROM upgrade, which is available free of charge from your authorized Apple dealer or representative.)

You cannot start VideoMix on the Apple IIe.

- Make sure your computer has at least 128K of memory and enhanced main logic board revision B or later.

Specifications

This section lists the functional specifications of the Apple II Video Overlay Card.

NTSC output

The composite video output meets RS-170A (NTSC) specifications as shown in Table 1. The input must meet RS-170A, and external sync must be selected.

■ **Table 1** Video output

Parameter	Minimum	Typical	Maximum	Unit
Sync Amplitude	245	285	324	mV
	34	40	46	IRE
Horiz. Sync Width	4.5	4.7	4.9	µS
Vertical Sync Pulses		6/6/6		
Equalizer Width	2.3	2.5	2.7	µS
Vertical Pulse Width	26.9	27.1	27.3	µS
Front Porch Width	1.3	1.6	1.9	µS
Horiz. Blanking Width	10.7	10.9	11.1	µS
Vertical Blanking	19	20	21	Lines
Burst Amplitude	245	285	324	mV
	34	40	46	IRE
Number of Burst Cycles	8	9	10	cycles
Breezeway	.4	.6	.8	µS
SC/H Phase	-40	0	40	degrees
SC Frequency Error	-5	0	5	Hz

Environment

Operating temperature:	10° C to 40° C (50° F to 104° F)
Storage temperature:	-40° C to 47° C (-40° F to 116.6° F)
Relative humidity:	20% to 95% (noncondensing)
Altitude:	0 to 3048 m (0 to 10,000 ft)

Service and support

To help you get the best performance from your Apple products, 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 video overlay card, 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 Apple II Video Overlay Card 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
USA

or

Apple Canada, Inc.
7495 Birchmount Road
Markham, Ontario
L3R 5G2
Canada

Apple also offers the Apple*Care*® Service Agreement, which keeps your warranty protection in force for up to three years. Apple*Care* is one of the lowest priced service plans in the industry, and your Apple*Care* 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 Apple*Care* at any time, but for uninterrupted protection, it's a good idea to buy Apple*Care* along with your Apple II Video Overlay Card (or within 90 days of the date you purchase your card). In addition to providing you with complete coverage, purchasing Apple*Care* along with your Apple II Video Overlay Card avoids an owner-paid inspection of your card if your warranty has expired. Apple*Care* is available through your authorized Apple dealer.

For more information

The Apple Programmers and Developers Associaton (APDA™) provides a wide range of technical products and documentation, from Apple and other suppliers, for programmers and developers who work on Apple equipment. For information about APDA, a description of the Apple II Video Overlay Architecture, or a description of the Apple II Video I/O Toolset for application developers, contact

APDA
Apple Computer, Inc.
20525 Mariani Avenue, Mailstop 33-G
Cupertino, CA 95014-6299

1-800-282-APDA (1-800-282-2732)
Fax: 408-562-3971
Telex: 171-576
AppleLink: APDA
Fax: 408-562-3971
TLX: 171-576

If you plan to develop hardware or software products for sale through retail channels, you can get valuable support from Apple Developer Programs. Write to

Apple Developer Programs
Apple Computer, Inc.
20525 Mariani Avenue, Mailstop 51-W
Cupertino, CA 95014-6299

Glossary

authoring software: Programs used to create computer-based instruction.

BNC: A type of connector used in professional video equipment.

color: As used in VideoMix, the depth of colors in a video image. Color settings range from no color, to normal, to maximum color.

composite monitor: A type of monitor that displays **composite video**.

composite video: A video signal composed of image and synchronization signals.

DB-15: A D-shaped connector used to connect a cable to an RGB monitor.

desk accessory: A "mini-application" that is available from the Apple menu (when using GS/OS) regardless of which applications you're using.

dissolve: A video effect in which one image gradually blends into another.

dithering: In displaying a color on a computer screen, the technique of making adjacent **pixels** different colors to give the illusion of a third color. For example, a display of adjacent blue and white pixels appears to be light blue.

genlock: The synchronization of two different sources (such as the Apple II and a video source) so that video and graphics can be displayed together.

graphics: Images generated by a computer for display on screen. Graphics can include text, pictures, and animation.

GS/OS: The current operating system for the Apple IIGS.

Installer: A program used to install **desk accessories** and other software onto a startup disk.

interactive video: A computer application that allows you to view specific sequences of video in any order you choose. You control which sequences are played using your computer.

interlacing: A technique for displaying a video frame by first displaying the odd-numbered lines of the frame and then displaying the even-numbered lines.

key color: One color in a computer graphics image that VideoMix can treat separately from all other colors. The key color can be displayed in an overlay as transparent, opaque, or translucent. See also **non-key colors**.

non-key colors: All colors in a computer graphics image other than the **key color**. The non-key colors are treated as a unit and can be displayed in an overlay as transparent, opaque, or translucent.

NTSC (National Television Systems Committee) format: The color television format used in North America and Japan.

overlay: The combination of video images and computer graphics. Also called *video overlay*.

pathname: The complete name of a file beginning with the name of the disk, the name of the subdirectory (if the file is in one), and the name of the file. The pathname begins with a slash, and the parts of the pathname are separated by slashes. It's called a pathname because it describes the route to a file.

pixel: Short for *picture element*; the smallest dot that can be defined on a screen.

port: A socket on the back panel of a computer where you plug in a cable for connection to a peripheral device or network.

prefix: The first part of a pathname—the name of the disk and the name of the folder or subdirectory.

ProDOS: An operating system developed for standard Apple II computers. *ProDOS* is the abbreviation for *Professional Disk Operating System.*

RCA phono plug: A type of connector used in consumer video equipment for composite video and audio signals.

resolution: The number of pixels per unit of area in a display. A display with a finer grid contains more pixels, and thus has a higher resolution, capable of reproducing more detail in an image.

RF connector: Abbreviation for *radio-frequency connector*; a type of connector used in consumer television equipment to carry broadcast television signals.

RGB: Abbreviation for *red, green, blue*; a method of displaying color video by transmitting the three primary colors as three separate signals.

RGB monitor: A type of color monitor that receives separate signals for each color (red, green, and blue). See also **composite video**.

ROM: Abbreviation for *read-only memory*; memory whose contents can be read, but not changed. Information is placed in ROM during manufacturing. It remains there permanently, even when the computer is turned off.

serial port: A connector on the back panel of the computer used to transmit information between a computer and a peripheral device.

640 mode: On the Apple IIGS, a mode for displaying graphics with a rectangular array of 640 horizontal pixels by 200 vertical pixels. Only two pure colors are displayed in 640 mode (black and white); all other colors are formed through **dithering**. See also **320 mode**.

slot: A long, narrow connector on the computer's main logic board into which you plug an expansion card.

startup disk: A disk that contains operating system software necessary to start your computer.

S-VHS: A high-quality video format that uses a special connector and a video signal that is not compatible with the Apple II Video Overlay Card. Most S-VHS VCRs also have a composite video output, which is compatible with the card.

320 mode: On the Apple IIGS, a mode for displaying graphics with a rectangular array of 320 horizontal pixels by 200 vertical pixels. Sixteen pure colors can be displayed in 320 mode. See also **640 mode**.

tint: As used in VideoMix, the relative amount of red and green in the colors of a video image.

video: As used in this owner's guide, images produced by an external **video source,** such as a VCR, videodisc player, or video camera.

videodisc: A read-only optical medium akin to but larger than compact disc, especially useful for **interactive video** applications.

video output device: A device—such as a composite monitor or VCR—used to display or record video from a composite video signal.

video overlay: See **overlay.**

video source: A device—such as a VCR, videodisc player, or video camera—used to feed a composite video signal into your computer.

wipe: A video effect in which one image appears to push another image off the screen.

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Tell Apple About Your .....

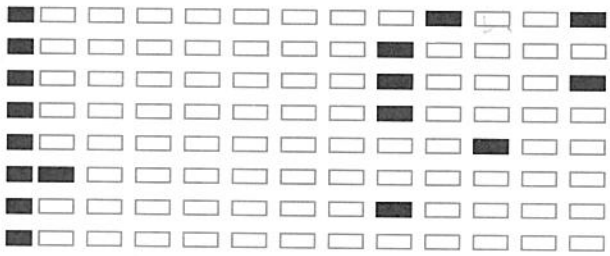
- Please contact your authorized Apple dealer when you have questions about your Apple products. Dealers are trained by Apple Computer and are given the resources to handle service and support for all Apple products. If you need the name of an authorized Apple dealer in your area, call toll-free: 800-538-9696.

- Would you like to tell Apple what you think about this product? After you have had an opportunity to use this product, we would like to hear from you. You can help us to improve our products by responding to the questionnaire below and marking the appropriate boxes on the card at the right with a **# 2 lead pencil**. If you have more than one response to a question, mark all the boxes that apply. Please detach the card and mail it to Apple. Include additional pages of comments if you wish.

1. How would you rate the Apple II Video Overlay Card overall? (**1** = poor. . . **6** = excellent)
2. Where did you first hear about the video overlay card? (**1** = dealer/reseller, **2** = computer magazine, **3** = Apple advertisement, **4** = seminar/trade show, **5** = demonstration videotape, **6** = friend, **7** = other)
3. What influenced your decision to purchase the video overlay card? (**1** = available software, **2** = Apple II Video Overlay Card features, **3** = price, **4** = dealer knowledge of the product, **5** = other)
4. Which Apple II computer are you using with the video overlay card? (**1** = Apple IIGS, **2** = Apple IIe)
5. What video equipment do you use with the video overlay card? (**1** = VCR, **2** = videodisc player, **3** = video camera, **4** = broadcast studio equipment, **5** = other)
6. What categories of software do you use with the video overlay card? (**1** = paint, **2** = animation, **3** = titling, **4** = presentations, **5** = authoring, **6** = other)
7. For what primary application did you purchase the video overlay card? (**1** = titling video, **2** = creating or using interactive applications with overlay, **3** = professional studio work, **4** = other)
8. How easy was your video overlay card to install? (**1** = difficult. . . **6** = very easy)
9. Did you use the *Apple II Video Overlay Card Owner's Guide* to help you install the card? (**1** = no, **2** = yes)
10. How would you rate the *Apple II Video Overlay Card Owner's Guide* overall? (**1** = poor. . . **6** = excellent)
11. Did you find the chapter "Getting the Most From Video Overlay" helpful? (**1** = no, **2** = yes, **3** = didn't read the chapter)
12. Please describe any errors or inconsistencies you may have encountered with the materials. (Page numbers would be helpful.)
13. What suggestions do you have for improving the VideoMix software?
14. What suggestions do you have for improving the Apple II Video Overlay Card?

Thanks for your time and effort.

... Apple II Video Overlay Card



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