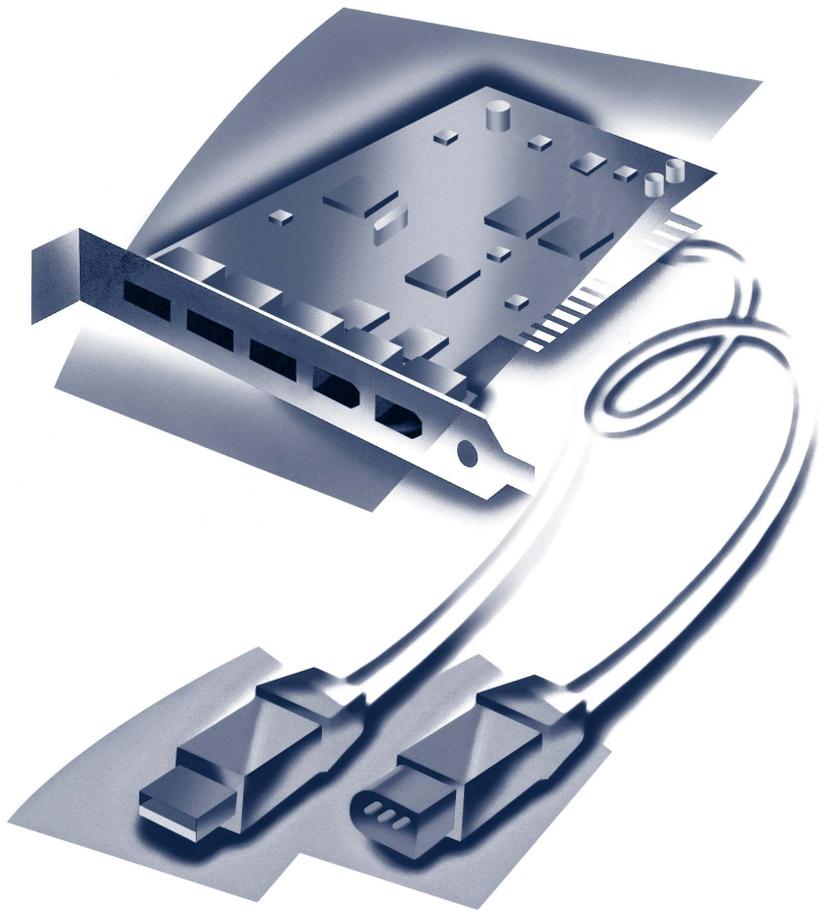


adaptec®

USER'S GUIDE



AUA-3020
DUOCONNECT ADAPTER

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- Before contacting Technical Support, you need your unique 12-digit TSID number. The TSID number identifies your product and support status.
- The TSID number is included on two white, bar-coded labels, like the example below.



Support Options

- Search the Adaptec Support Knowledgebase (ASK) at ask.adaptec.com for articles, troubleshooting tips, and frequently asked questions for your product.
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- To order Adaptec products, including accessories and cables, call +1 408-957-7274. Or, you can order cables online at www.adaptec.com/buy-cables.

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For support via e-mail, submit your question to Adaptec's Technical Support Specialists at ask-de.adaptec.com.
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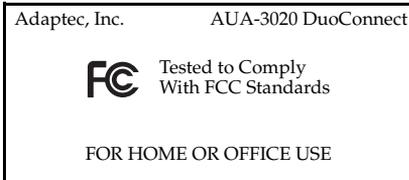
Federal Communications Commission Radio Frequency Interference Statement

WARNING: Changes or modifications to this unit not expressly approved by the party responsible for compliance could void the user's authority to operate the equipment.

This equipment has been tested and found to comply with the limits for a Class B digital device, pursuant to Part 15 of the FCC rules. These limits are designed to provide reasonable protection against harmful interference in a residential installation. This equipment generates, uses, and can radiate radio frequency energy, and if not installed and used in accordance with the instruction manual, may cause harmful interference to radio communications. However, there is no guarantee that interference will not occur in a particular installation. However, if this equipment does cause interference to radio or television equipment reception, which can be determined by turning the equipment off and on, the user is encouraged to try to correct the interference by one or more of the following measures:

- Reorient or relocate the receiving antenna.
- Increase the separation between equipment and receiver.
- Connect the equipment to an outlet on a circuit different from that to which the receiver is connected.
- Consult the dealer or an experienced radio/television technician for help.
- Use a shielded and properly grounded I/O cable and power cable to ensure compliance of this unit to the specified limits of the rules.

This device complies with part 15 of the FCC rules. Operation is subject to the following two conditions: (1) this device may not cause harmful interference and (2) this device must accept any interference received, including interference that may cause undesired operation.



European Union Compliance Statement

This Information Technology Equipment has been tested and found to comply with the following European directives:

EMC Directive 89/336/EEC, as amended by 92/31/EEC and 93/68/EEC

EN 50081-1 (1992)
EN55022 (1994) Class B
EN 50082-1 (1992)
EN61000-4-2 (1998)
EN61000-4-3 (1998)
EN61000-4-4 (1995)
EN61000-4-5 (1995) Surges
EN61000-4-6 (1996) Conducted immunity
EN61000-4-11 (1994) Supply dips of variation



Australian/New Zealand Compliance Statement

This device has been tested and found to comply with the limits for a Class B digital device, pursuant to the Australian/New Zealand standard AS/NZS 3548 set out by the Spectrum Management Agency.



Canadian Compliance Statement

This Class B digital apparatus meets all requirements of the Canadian Interference-Causing Equipment Regulations.

Cet appareil numérique de la classe B respecte toutes les exigences du Règlement sur le matériel brouilleur du Canada.



Japanese Compliance (Voluntary Control Council Initiative)

This equipment complies to class B Information Technology equipment based on VCCI (Voluntary Control Council for Interface). This equipment is designed for home use but it may causes radio frequency interference problem if used too near to a television or radio. Please handle it correctly per this documentation.

In this Guide

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The DuoConnect adapter is a 32-bit, 33-MHz PCI adapter and works in any 2.1 or later PCI slot. It enables you to connect USB 1.1 (OHCI), USB 2.0 (EHCI), and FireWire (IEEE 1394) devices to your PC-compatible or Macintosh computer.

USB 2.0 is the fastest USB standard, capable of transferring data at up to 480 megabits per second. USB 2.0 devices are compatible with USB 1.1 devices.

FireWire is a serial bus protocol similar to USB 2.0. It transfers data at speeds of up to 400 megabits per second and is used with computer peripherals as well as with consumer electronics, such as digital video cameras and game consoles.

This *User's Guide* explains how to install your AUA-3020 DuoConnect Adapter in a PCI slot and how to install its associated drivers. It also describes how to connect your AUA-3020 to a USB device and a digital video camera.

Getting Started

Kit Contents

- DuoConnect adapter
- FireWire cable (6-foot/1.8 meter, 6-to-4-pin FireWire cable used to connect digital video cameras)
- Printed *Adaptec DuoConnect Installation Guide*
- DuoConnect CD containing device drivers, software, and documentation

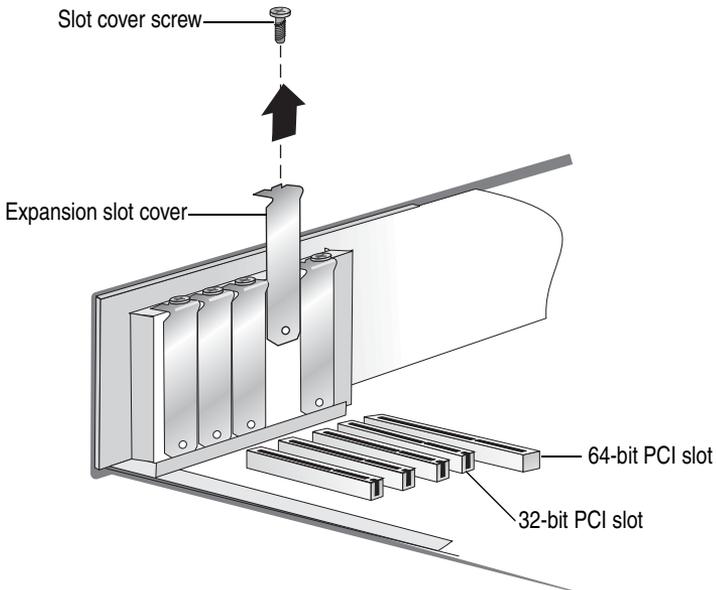
System Requirements

In order to use the DuoConnect adapter, you need

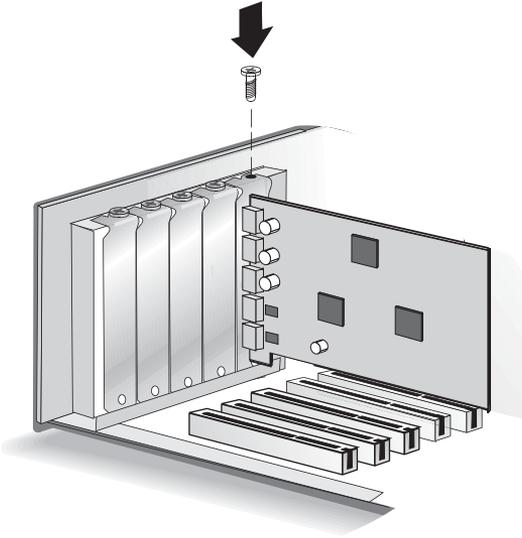
- One of the following types of computers:
 - Windows XP, Windows 2000, Windows Me, or Windows 98SE computer with a 200-MHz (or faster) processor
 - Power Macintosh Beige G3, Rev. B or newer, with Macintosh OS 9.0.4 and later
- An available PCI slot (32-bit or 64-bit, 3.3-volt or 5-volt, 33-MHz and 66-MHz)
- A CD-ROM drive

Installing the DuoConnect Adapter

- 1 Discharge any static electricity from your body by touching a grounded metal object (such as the exposed metal parts on the back of your computer).
- 2 Turn off power to the computer and disconnect the power cord.
- 3 Open the computer cabinet. See your computer documentation for specific instructions, if needed.
- 4 Locate an unused 32-bit or 64-bit PCI expansion slot and remove the expansion slot cover. Save the cover screw for use in [Step 5 on page 4](#).



- 5 Insert the DuoConnect adapter in a PCI expansion slot and press down firmly until the adapter clicks into place. Then, replace the slot cover screw. When installed properly, the adapter should be level with the expansion slot.



- 6 Close the computer cabinet and reattach the power cord. Then, power on your computer.

Installing the Device Drivers

The DuoConnect adapter contains the four controllers:

Controller Type	Number of Controllers	Description
USB 1.1	2	NEC USB OHCI-compliant
USB 2.0	1	Adaptec AUA-3020 PCI to USB EHCI-compliant
FireWire	1	Texas Instruments OHCI-compliant IEEE 1394

When successfully installed, these controllers are displayed separately in the Windows Device Manager.

To install the device drivers for these controllers, follow the instructions provided for your operating system:

- For Windows, see [page 6](#).
- For Macintosh, see [page 28](#).

Installing on Windows Computers

After you install the DuoConnect adapter and power on your computer, Windows recognizes the new hardware and automatically opens the Found New Hardware Wizard.



Note: It may take longer than usual for your system to start because the operating system is locating the new drivers.

To complete the driver installation, follow the instructions for your Windows operating system:

- For Windows XP, see [page 7](#).
- For Windows 2000, see [page 11](#).
- For Windows Me, see [page 15](#).
- For Windows 98SE, see [page 18](#).

Windows XP



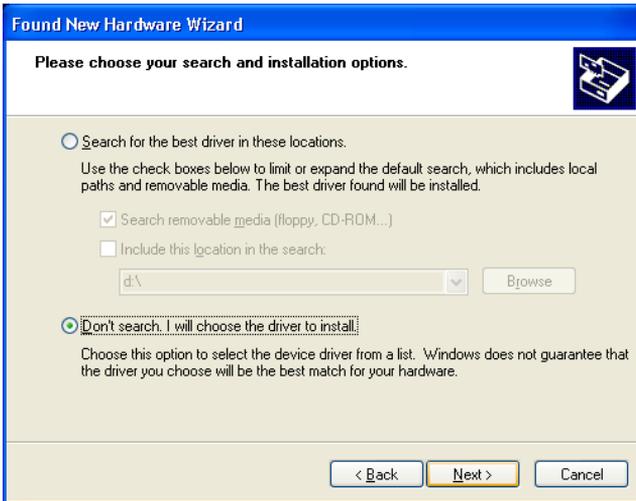
Note: You must be logged on as Administrator or have administrator privileges to install the DuoConnect adapter on Windows XP.

To complete the driver installation:

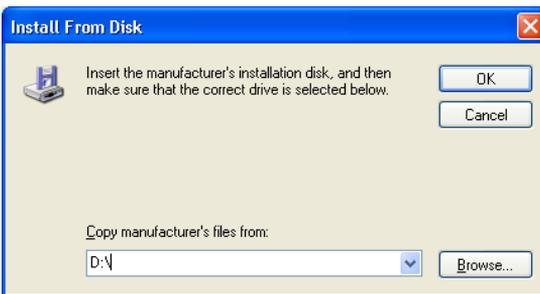
- 1 When the Found New Hardware Wizard opens, select **Install from a list or specific location...**, then select **Next**.



- 2 Select **Don't search, I will choose the driver to install**, then click **Next**.



- 3 Click **Next** again.
- 4 Click **Have Disk**.
- 5 Insert the Adaptec DuoConnect CD into the CD-ROM drive. Type the drive letter for your CD-ROM drive in the **Copy manufacturer's files from box**, as shown below, and click **OK**.



Note: Your CD-ROM drive may have a different drive letter than the one shown in the example above.

- 6 On the next screen, click **Continue Anyway**.



Note: Adaptec drivers have been fully tested and certified to work with the AUA-3020 DuoConnect adapter.

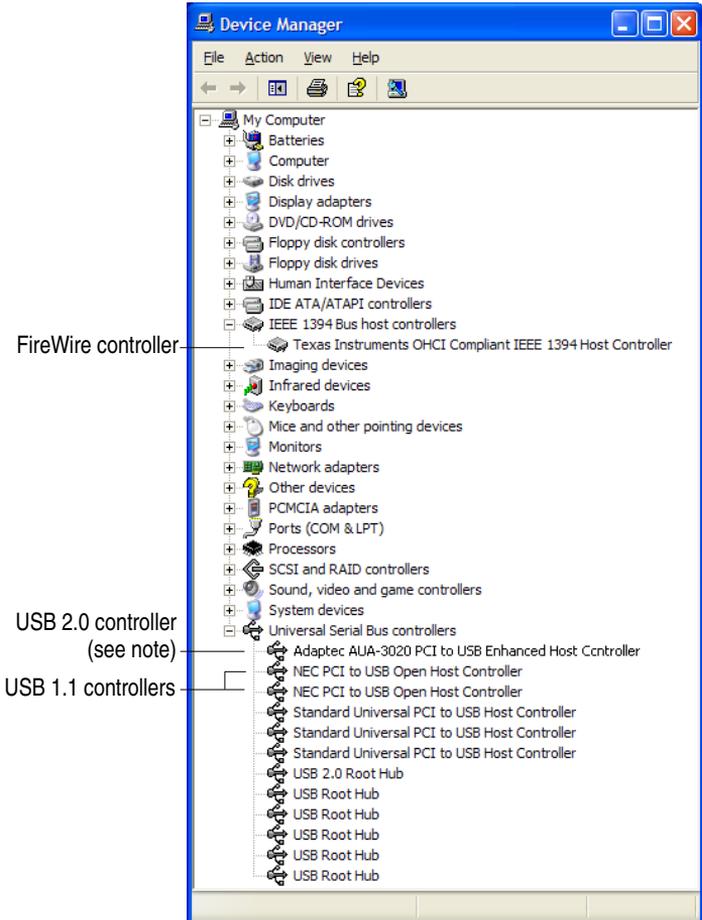


- 7 When the installation is complete, click **Finish**.



- 8 If you are prompted to restart the computer, click **Yes**.

- 9 To verify that the driver is installed, right-click the **My Computer** desktop icon, select **Properties**, click the **Hardware** tab, then click the **Device Manager** button. Expand **Universal Serial Bus controllers** and verify that the information shown below appears.



Note: *USB 2.0 controller* – Your controller is identified by its model number, which may differ from the model number shown in this *User's Guide*.

Windows 2000



Note: You must be logged on as Administrator or have administrator privileges to install the DuoConnect adapter on Windows 2000.

To complete the driver installation:

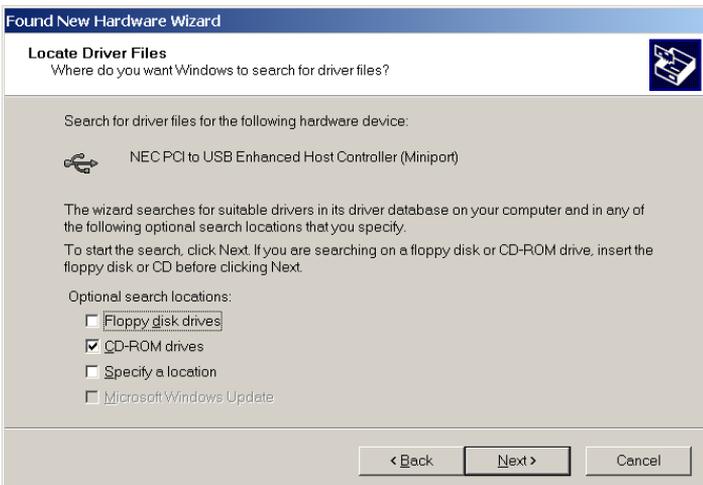
- 1 When the Found New Hardware Wizard opens, insert the DuoConnect CD in your CD-ROM drive, then click **Next**.



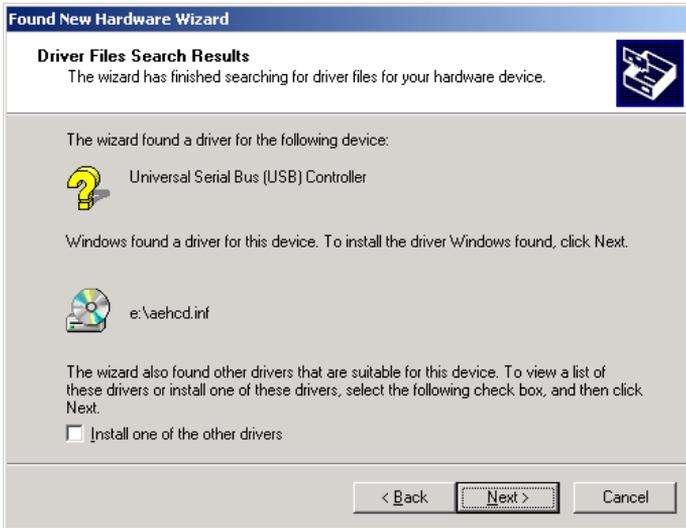
- 2 In the Install Hardware Device Drivers window, select **Search for a suitable driver for my device...**, and click **Next**.



- 3 In the Locate Driver Files window, uncheck all options *except* CD-ROM drives, and click **Next**.



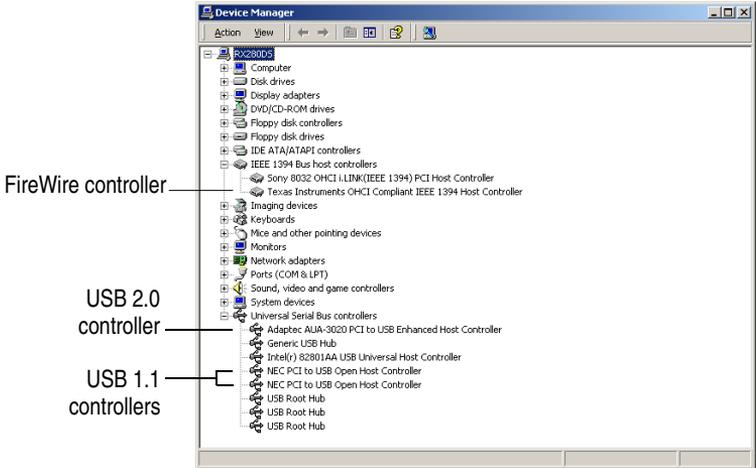
- 4 In the Driver Files Search Results window, ensure that the **Install one of the other drivers** check box is *not* checked, and click **Next**.



Note: The driver name may differ from the one shown in the example above, but it will be a .inf file.

- 5 When Windows is finished copying drivers, click **Finish**.
- 6 Restart your computer.

- To verify that the driver is installed, right-click the **My Computer** desktop icon, select **Properties**, click the **Hardware** tab, and click the **Device Manager** button. Then, expand **IEEE 1394 Bus host controllers** and **Universal Serial Bus Controllers**. Verify that the information shown below appears.



Windows Me

To complete the driver installation:

- 1 When the Add New Hardware Wizard appears, insert the DuoConnect CD in your CD-ROM drive. Select **Automatic search for a better driver...**, then click **Next**.



- 2 After the driver is copied, click **Finish**.
- 3 Select **Automatic search for a better driver...**, then click **Next**.



Windows copies the FireWire drivers.

- 4 Click **Finish**.

- 5 If you see a message that the PCI Universal Serial Bus driver was not located, select **Automatic search for a better driver...**, then click **Next**.



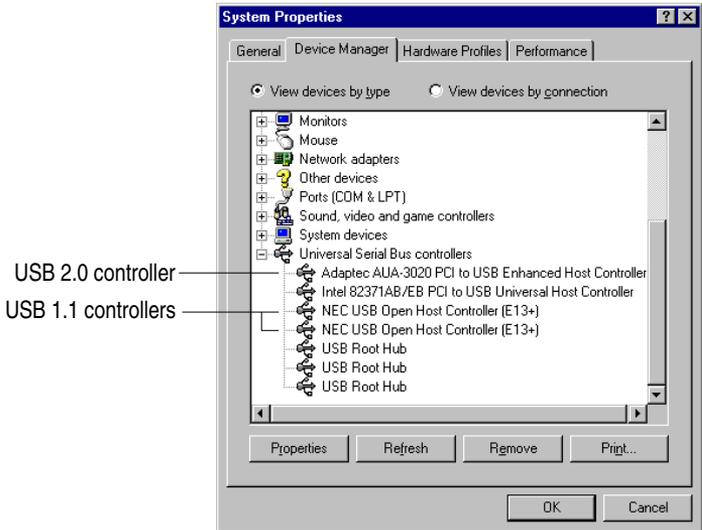
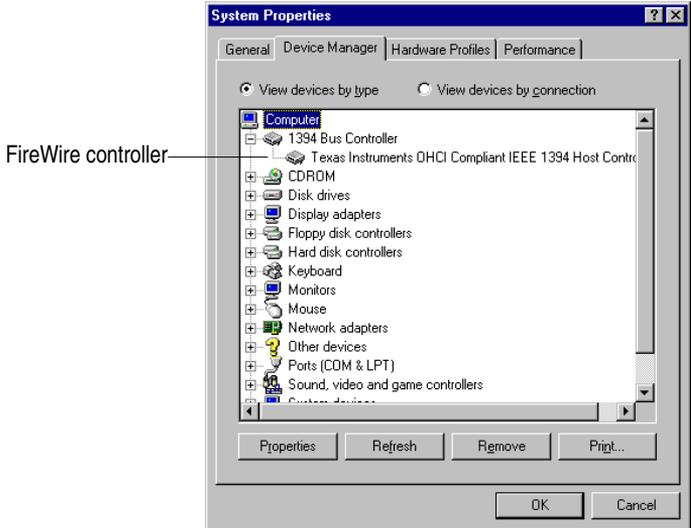
Windows copies the USB 2.0 drivers.

- 6 Click **Finish**.
- 7 Restart your computer.



Note: It may take longer than usual for your system to restart because the operating system is locating and installing the new drivers.

- 8 To verify that the drivers are installed, right-click the **My Computer** desktop icon, select **Properties**, and click the **Device Manager** tab. Expand **1394 Bus Controller** and **Universal Serial Bus Controllers**. Verify that the information shown below appears.



Windows 98 SE

The DuoConnect drivers are installed one at a time on Windows 98SE systems. Carefully follow the instructions provided to ensure all drivers are installed correctly.

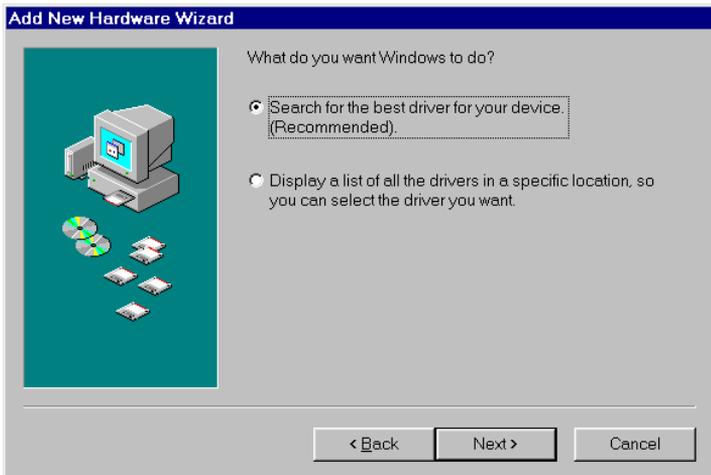


Note: You may need your Windows 98SE CD to complete this installation.

USB 1.1 (OHCI) Driver Installation

There are two USB 1.1 drivers to install. To complete the installation:

- 1 When the Add New Hardware Wizard appears, insert the DuoConnect CD in your CD-ROM drive, then click **Next**.
- 2 Select **Search for the best driver for your device...**, then click **Next**.



- 3 Uncheck all options, then click **Next**.



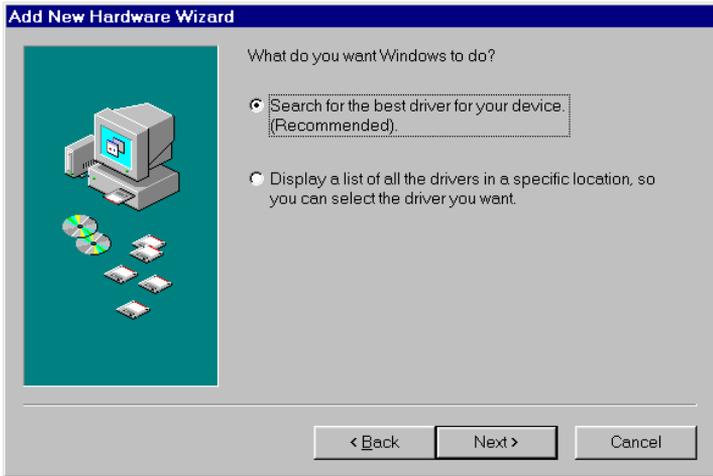
- 4 Click **Next**.



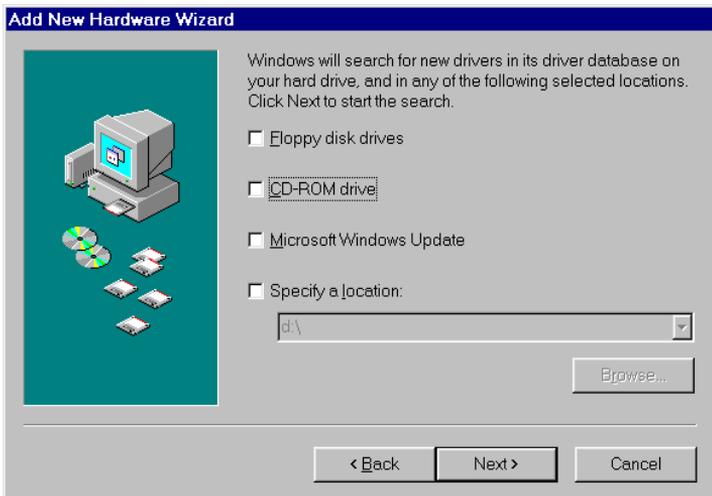
Note: The driver name may differ from the one shown in the example above, but it will be a .inf file.

- 5 Click **Next** again. If Windows prompts you to restart your computer, click **No**.

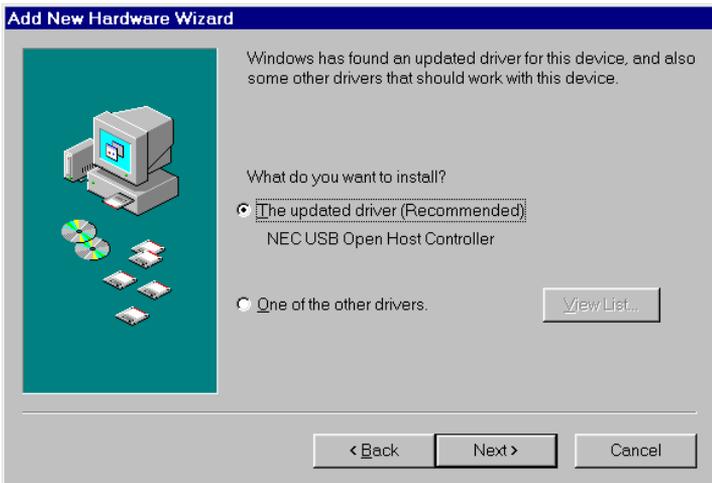
- 6 When the Add New Hardware Wizard opens, click **Next**.
- 7 Select **Search for the best driver for your device...**, and click **Next**.



- 8 *Uncheck* all options, then click **Next**.



- 9 Select **The updated driver...**, then click **Next**.

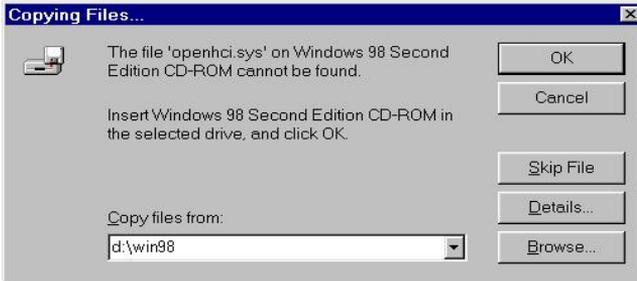


- 10 You may see a message that Windows is searching for the driver. Click **Next**.
- 11 When this prompt appears, insert your Windows 98SE CD, then click **OK**.



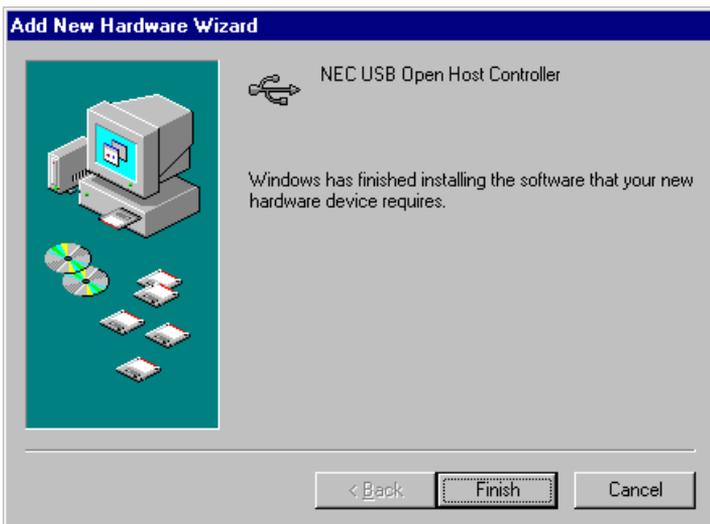
- 12 Type the drive letter for your CD-ROM drive in the **Copy files from** box, then click **OK**.

✔ **Note:** Your CD-ROM drive letter may be different from the one shown in the example below.



✔ **Note:** If you have copied the driver files onto your hard drive and know where they are located, you can browse to that folder instead of inserting the Windows 98SE CD.

- 13 Click **Finish**.



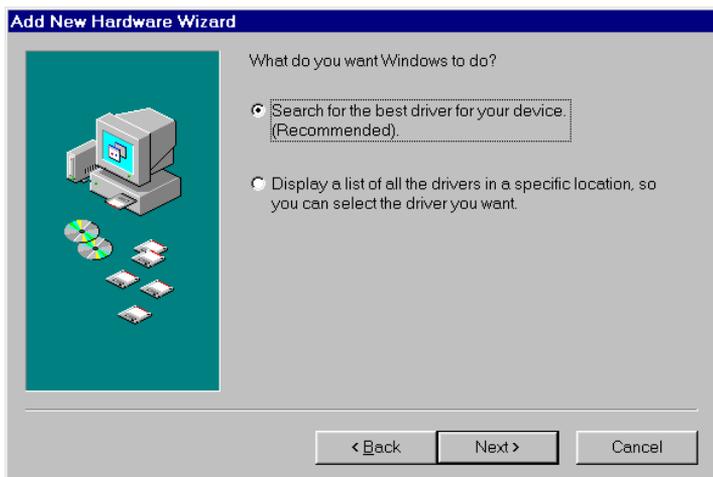
The first driver is installed.

- 14 To install the second USB 1.1 driver, repeat Steps 6 through 13.

USB 2.0 Driver Installation

When both USB 1.1 (OHCI) drivers are installed, the Found New Hardware Wizard starts again. To complete the installation:

- 1 Click **Next**.
- 2 Select **Search for the best driver for your device...**, then click **Next**.



- 3 Select **CD-ROM drive**, insert the DuoConnect CD, then click **Next**.



- 4 If the following screen appears, select **The updated driver...**, then click **Next**. If this screen does not appear, skip to [Step 6](#).



- 5 Click **Next**.
- 6 Click **Finish**.

FireWire Driver Installation

When the USB 2.0 (EHCI) driver is installed, the Found New Hardware Wizard starts again. To complete the installation:

- 1 Click **Next**.
- 2 Select **Search for the best driver for your device...**, then click **Next**.

- 3 Uncheck all options, then click **Next**.



- 4 Select **The updated driver...**, then click **Next**.



- 5 You may see a message that Windows is searching for the driver. Click **Next**.

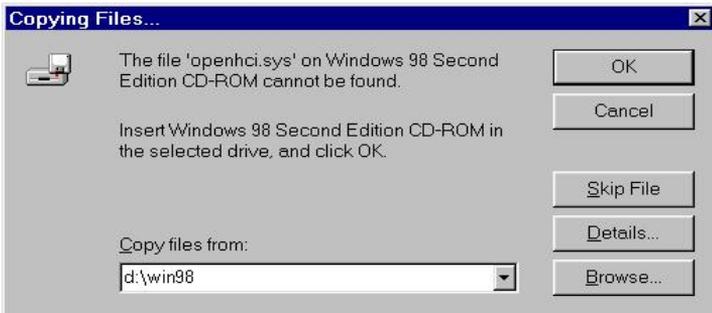
- When this prompt appears, insert your Windows 98SE CD in your CD-ROM drive, then click **OK**.



- Type the drive letter for your CD-ROM drive in the **Copy files from** box, then click **OK**.



Note: Your CD-ROM drive letter may be different from the one shown in the example below.



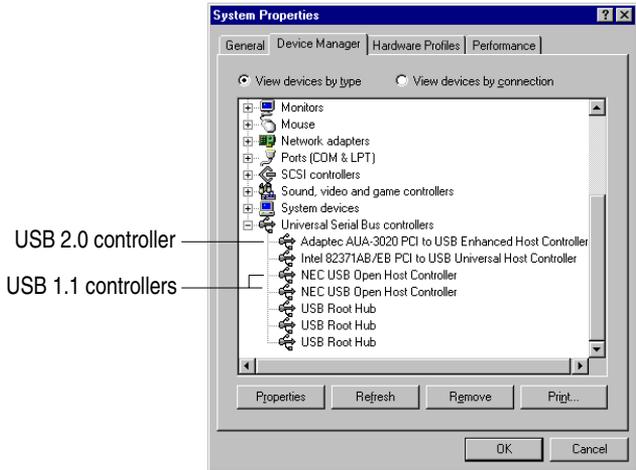
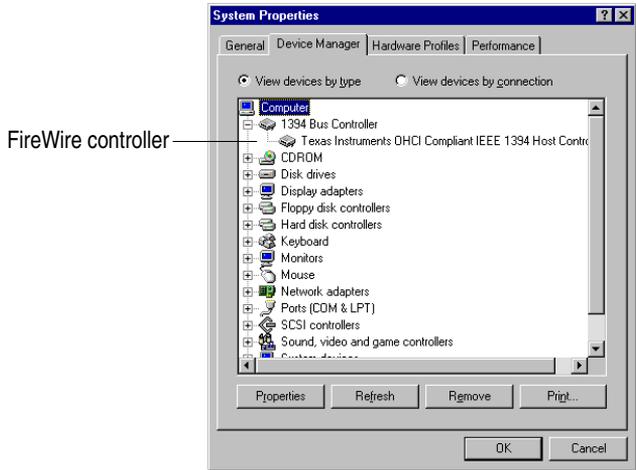
Note: If you have copied your driver files onto your hard drive and know where they are located, you can browse to that folder instead of inserting the Windows 98SE CD.

- Click **Finish**.

Verifying Driver Installation

To verify that the drivers are installed:

- 1 Right-click the **My Computer** desktop icon, select **Properties**, and click the **Device Manager** tab.
- 2 Expand **IEEE 1394 Bus Controller** and **Universal Serial Bus Controllers**. Verify that the information shown below appears.



Installing on Macintosh Computers

Follow the installation instructions for your Macintosh operating system.

Macintosh OS X

The drivers for your DuoConnect card are imbedded in Macintosh OS X. See [DuoConnect and Deep Sleep on page 30](#) to continue.

Macintosh OS 9.x

In this procedure, you install the DisableSleep driver, which prepares your Macintosh computer to use the DuoConnect card.



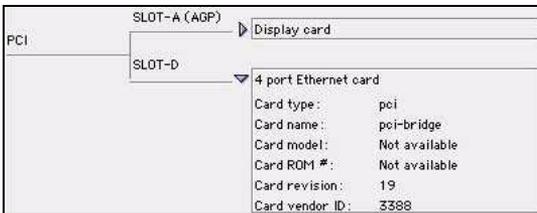
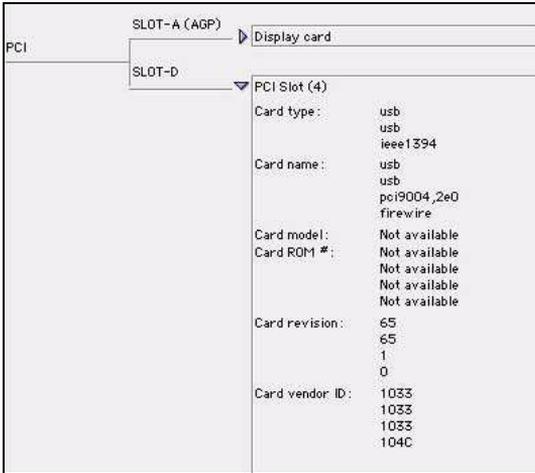
Note: Blue and white G3s are not supported.

- 1 Turn on or restart the computer and insert the DuoConnect CD.
- 2 Double-click the **Start Installation Here** file on the CD.
- 3 Follow the instructions to install the latest Macintosh USB drivers, if necessary.
- 4 Double-click the **DuoConnect Installer** file and follow the instructions.
- 5 After the installation is complete, click **Restart**, if necessary, to make the new settings take effect.
- 6 Verify that the card is seen by your computer by clicking **Apple System Profiler** in the Apple Menu. Then, click the **Devices and Volumes** tab.



Note: The Apple System Profiler (version 2.5.8 or earlier) identifies the DuoConnect adapter incorrectly. If you have one of these earlier versions, download a new version from Apple's software update page.

- 7 Scroll to the PCI area and click the arrow next to each PCI slot to reveal the PCI card information. If the DuoConnect adapter is installed properly, you will see one of the following information listings under one of the slots:



If you do not see the DuoConnect adapter listed, verify that the Apple USB extensions are loaded and enabled. Also, verify that the adapter is seated properly.

If you are still unable to resolve a problem, see the Adaptec Web site at <http://www.adaptec.com> or the Adaptec Support Knowledgebase at <http://ask.adaptec.com> for additional troubleshooting information.

DuoConnect and Deep Sleep

The DuoConnect adapter does not support Deep Sleep on Power Macintosh G4 computers.



Note: If you have Macintosh OS X version 10.1.3 or later, the Deep Sleep feature *is supported*. If you have an earlier version of the Macintosh OS, continue reading this section.

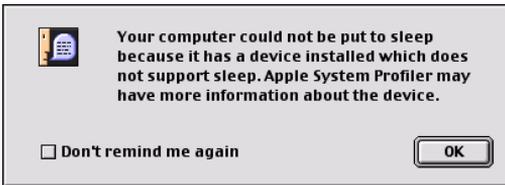
When you use the DuoConnect installer as described on [page 28](#), the

DisableSleep driver (shown at right) is installed and the Deep Sleep feature is

disabled. After you install the DuoConnect driver, if you try to put a Power Macintosh G4 into Deep Sleep, you will see the message shown below.



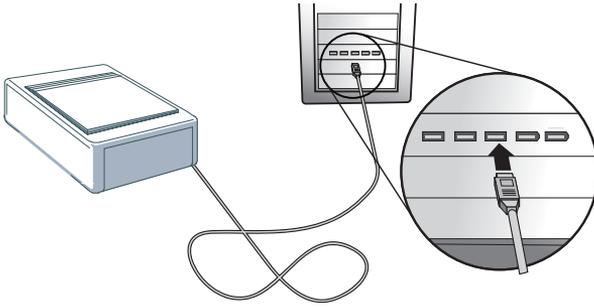
DuoConnect DisableSleep Driver



If you want to remove USB connectivity from your Macintosh computer and continue using Deep Sleep, simply remove the DuoConnect adapter from your computer and the DisableSleep extension is not used.

Connecting USB Devices

You can connect standard USB 1.1 or high-speed USB 2.0 devices to the connectors of the DuoConnect adapter, as shown below.



Hotplugging

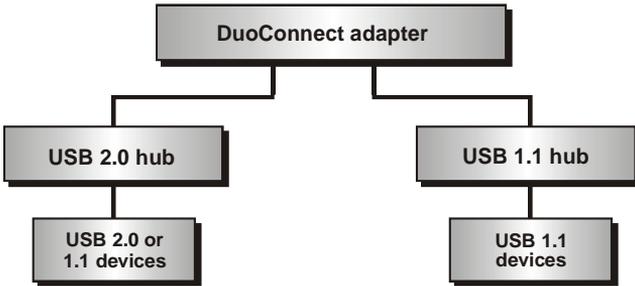
The DuoConnect adapter supports hot-plugging, allowing USB devices to be attached and recognized while the computer is on. Device manufacturers support hot-plugging in different ways. Refer to the instructions for each device for attaching and mounting recommendations.



Note: Moving a device from one adapter connector to another can cause the operating system to initiate a new hardware installation process. Refer to the Readme file for details.

Hubs

The following figure shows the recommended configuration for connecting USB 1.1 and USB 2.0 devices. Note that you *could* connect USB 2.0 devices to a USB 1.1 hub, but the USB 2.0 devices would run at USB 1.1 speeds.

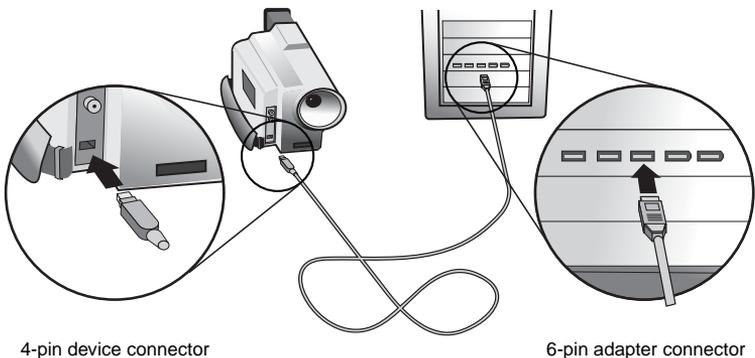


Connecting a Digital Video Camera

Two types of FireWire connectors are commonly used: a 4-pin and a 6-pin. The DuoConnect adapter contains two external 6-pin connectors suitable for use with a camera. Digital video cameras use a 4-pin connector and may not include a cable. (Other peripherals typically use a 6-pin connector.)

To attach a digital video camera

- 1 Using a standard 6-to-4 pin FireWire cable (included in the kit) plug the larger, 6-pin connector of the cable into an external FireWire port on the DuoConnect adapter.



- 2 Plug the smaller, 4-pin connector of the FireWire cable into the FireWire port on your digital video camera.



Caution: When inserting the FireWire 4-pin connector into the digital video camera, make sure the connector and the port are properly aligned. Otherwise, you might bend and damage the pins in the connector of the camera.

Troubleshooting

If you encounter difficulties while installing the DuoConnect adapter, check the following:

- Is your device powered on?
- Is the cable properly connected to the DuoConnect adapter and the device?
- Is the adapter seated evenly in the PCI slot?
- Are your drivers current? Check <http://www.adaptec.com> for the latest driver availability.
- If you encounter any problems with the software, check the Readme file on the CD.
- Ensure that you have the proper drivers for your USB and Firewire devices installed. Refer to each device manufacturer's Web site for the latest available drivers.
- *Windows only:* Is bus mastering support provided and enabled for the PCI slot containing the DuoConnect adapter? Refer to the motherboard documentation for details.
- *Windows only:* Is the driver loaded properly? First, try moving the adapter to a different PCI slot. *Windows 2000 only:* Check the Windows 2000 Event Log. Refer to the Windows documentation for details.
- *Power Macintosh only:* Is the adapter seen by the Apple System Profiler. See [Step 6 on page 28](#) for details.
- *Power Macintosh only:* Check <http://www.apple.com> to ensure that you have the latest Firewire and USB drivers installed.

For more troubleshooting information, visit <http://www.adaptec.com> and <http://ask.adaptec.com>.



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