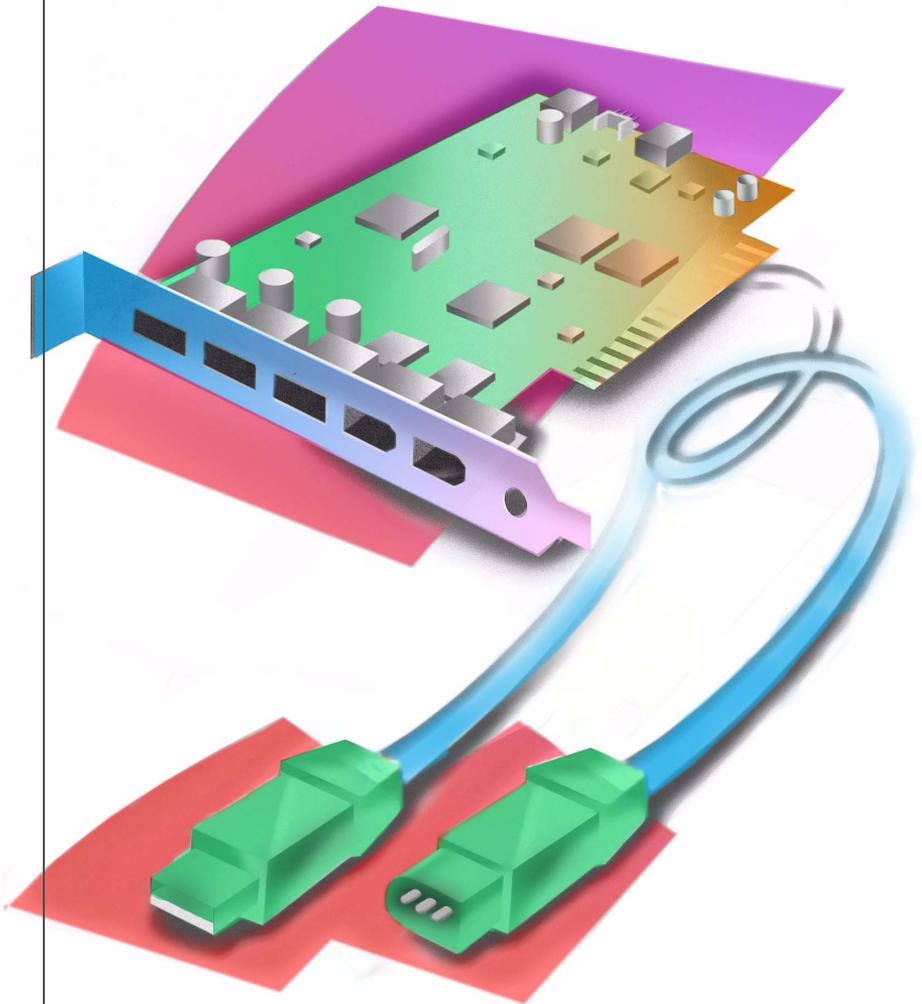




USER'S GUIDE



AUA-3121
DUOCONNECT ADAPTER

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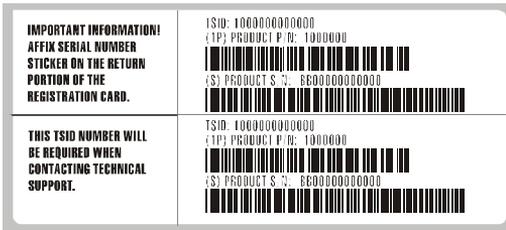
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Technical Support Identification (TSID) Number

- 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.
- For support via Email, submit your question to Adaptec's Technical Support Specialists at ask.adaptec.com.
- 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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Adaptec, Inc.
Legal Department
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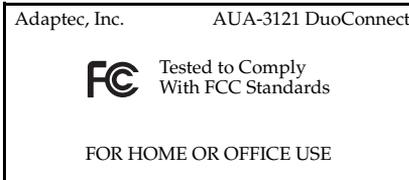
Federal Communications Commission Radio Frequency Interference Statement

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.

This guide explains how to install the DuoConnect Host Bus Adapter in a PCI slot and how to install its associated drivers. It also describes how to connect a USB device and a digital video camera.

Overview

The DuoConnect adapter enables you to connect USB 1.1 (EHCI), USB 2.0 (OHCI), 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.

The DuoConnect adapter is a 32-bit, 33-MHz PCI adapter and works in any PCI slot.

Refer to the Readme file on the DuoConnect CD for a list of operating systems the DuoConnect adapter supports.

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:
 - This *User's Guide*
 - Adobe Acrobat Reader software
 - Drivers
 - Readme file
 - Video editing software

System Requirements

In order to use the DuoConnect adapter, you need

- One of the following types of computers:
 - Windows 2000, Windows Me, or Windows 98 SE computer with a 200-MHz (or faster) processor
 - Power Macintosh Beige G3, Rev. B or newer, with Macintosh OS 9.0.4 and later

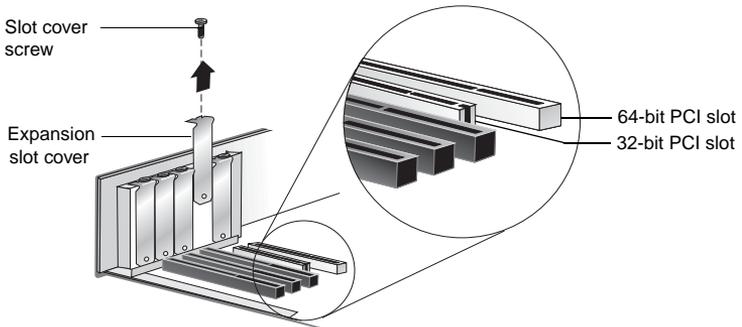


Note: The DuoConnect adapter is not compatible with blue and white G3s. For the latest information on operating system support, see the Readme file on the CD or check the Adaptec Web site at <http://www.adaptec.com>.

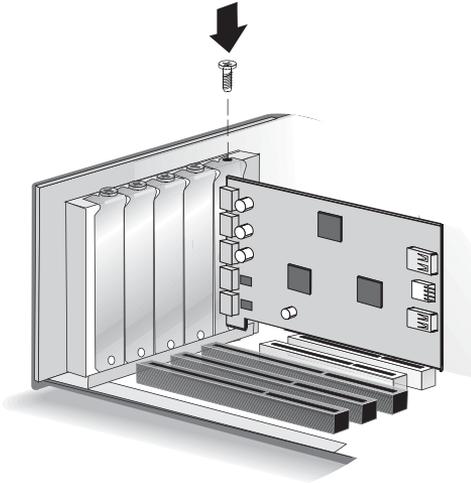
- An available PCI slot (32-bit or 64-bit, 3.3-volt or 5-volt, 33-MHz and 66-MHz)
- A CD-ROM drive

Installing the DuoConnect Adapter

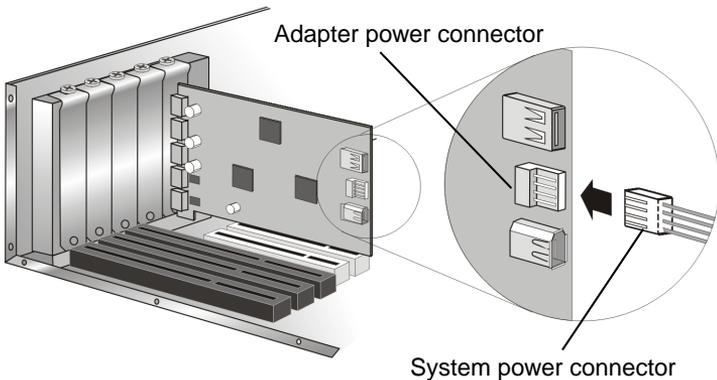
- 1 Discharge any static electricity from your body by touching a grounded metal object (such as the exposed metal parts on the back of your computer).
- 2 Turn off power to the computer and disconnect the power cord.
- 3 Open the computer cabinet. See your computer documentation for specific instructions, 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 Connect the DuoConnect adapter internal power connector to a spare 4-pin mini power connector (similar to the connector on a floppy drive), as shown below. This connector supplies optional bus power to the FireWire ports. If your system does not have a spare power connector, you can buy one at most computer and electronics stores. Check www.adaptec.com for more information.



- 7 Close the computer cabinet and reattach the power cord.

Installing the Windows 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-3121 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.

Windows XP

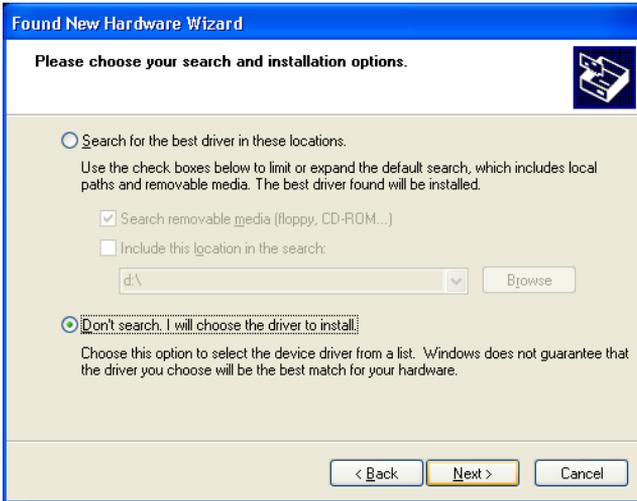
- 1 Start Windows XP.

Windows XP will automatically discover the new hardware and start the Found New Hardware Wizard to walk you through the device driver installation.

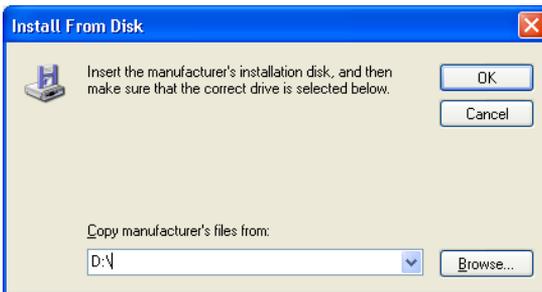
- 2 Select **Install from a list or specific location (Advanced)**, then select **Next**.



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



- 4 Click **Next** again.
- 5 Click **Have Disk**.
- 6 Insert the Adaptec USB2connect 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.

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

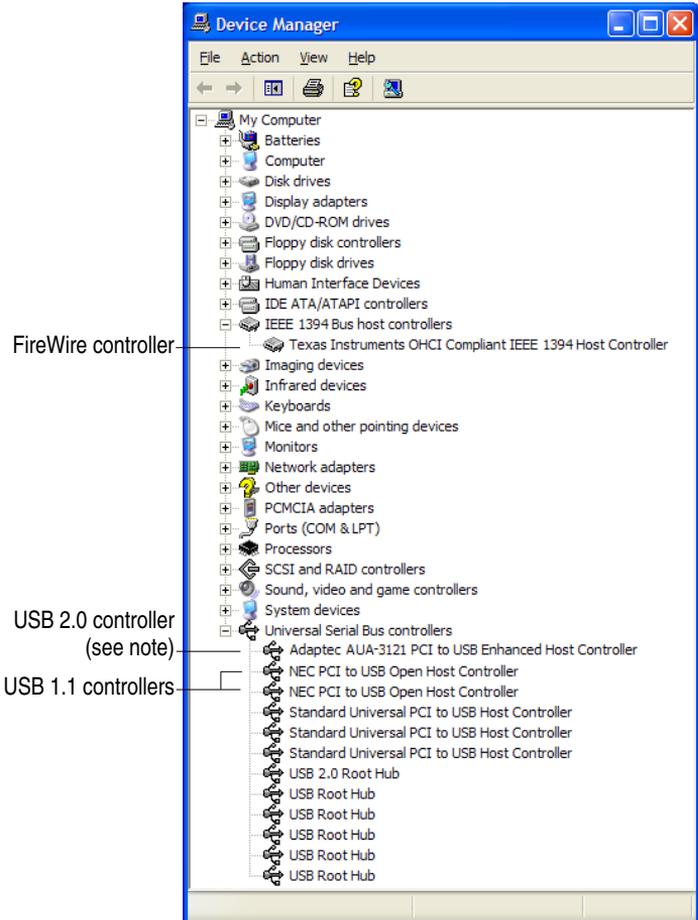


- 8 When the installation is complete, click **Finish**.



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

- 10 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

- 1 Turn on the computer and insert the DuoConnect CD.
- 2 Log in as Administrator



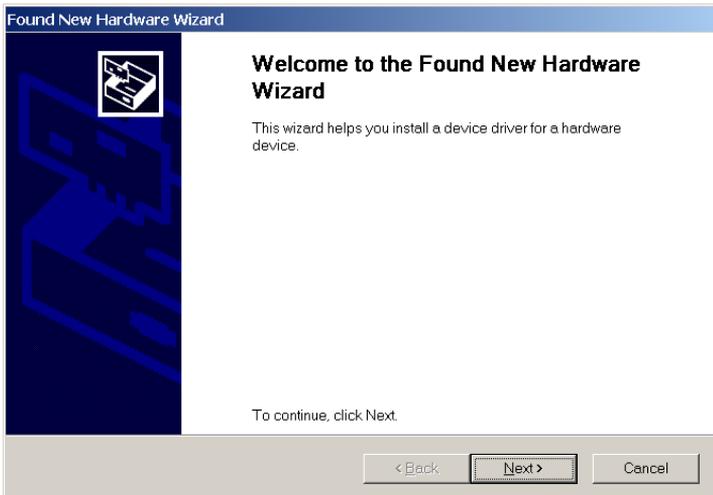
Note: You need to log in as administrator or acquire administrator privileges for your computer in order to complete the driver installation.

During the operating system startup, the adapter is detected and Windows searches for embedded drivers for the card.

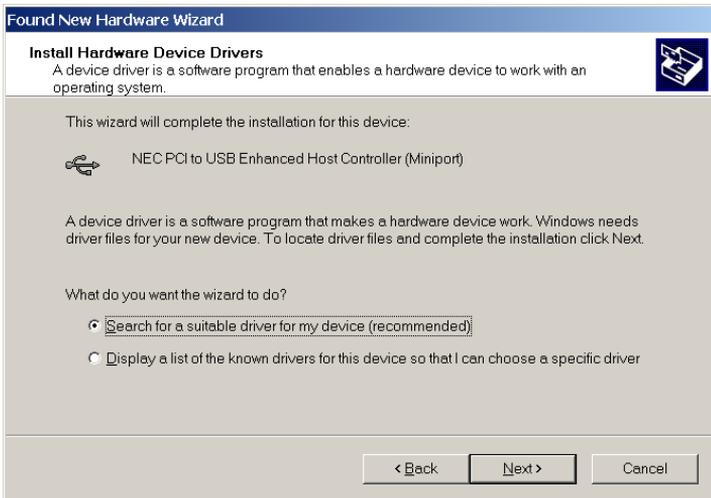


Note: It may take longer than usual for your system to restart because the operating system is locating and installing new drivers.

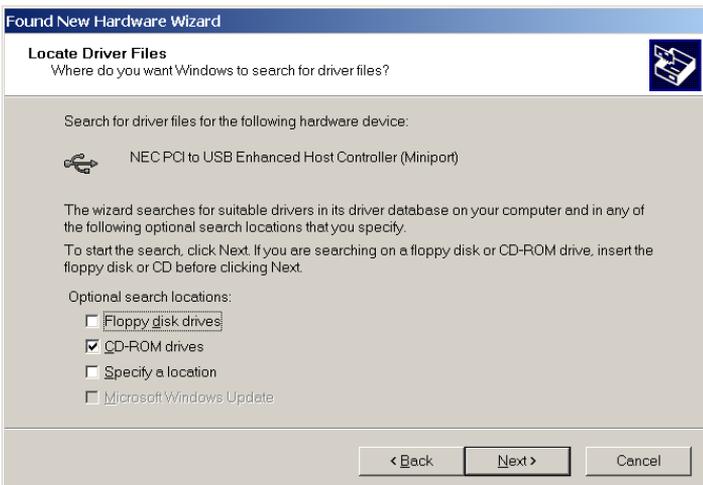
- 3 The Found New Hardware Wizard opens. Click Next.



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



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



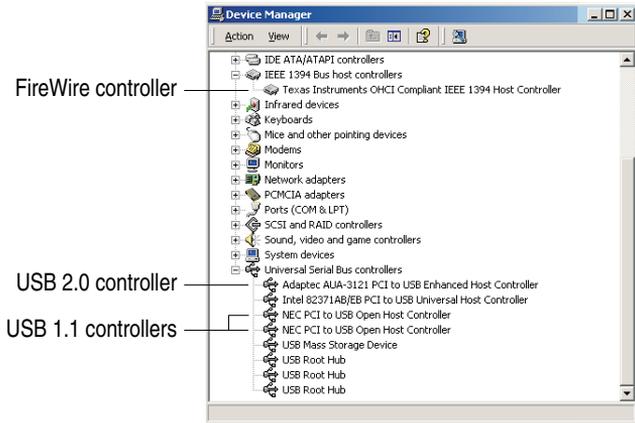
- 6 In the Driver Files Search Results window, ensure that the **Install one of the other drivers** check box is *not* checked, and click **Next**.



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

- 7 When Windows is finished copying drivers, click **Finish**.
- 8 Restart your computer.

- 9 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

- 1 Turn on or restart your computer and insert the DuoConnect CD.
- 2 When the Add New Hardware Wizard appears, select **Automatic search for a better driver (Recommended)** and click **Next**.



- 3 After the driver is copied, click **Finish**.
- 4 Windows will now install the FireWire drivers. Select **Automatic search for a better driver (Recommended)** and click **Next**.



- 5 When Windows has finished copying the FireWire drivers, click **Finish**.

- 6 If you see a message that the PCI Universal Serial Bus driver was not located, select **Automatic search for a better driver (Recommended)**. Then, insert the DuoConnect CD and click **Next**.

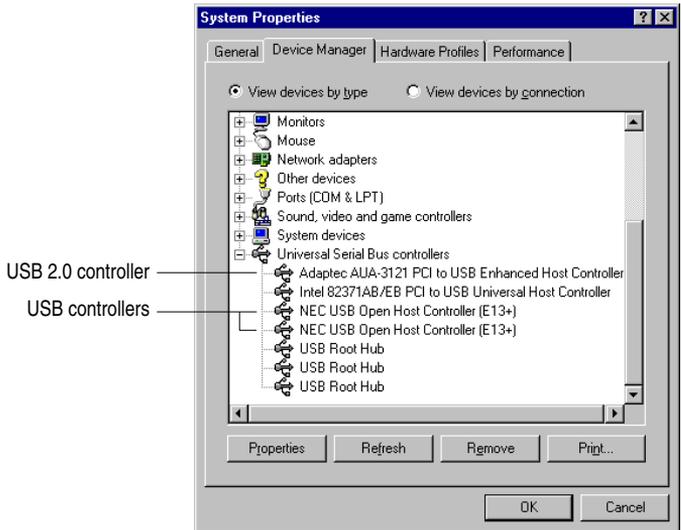
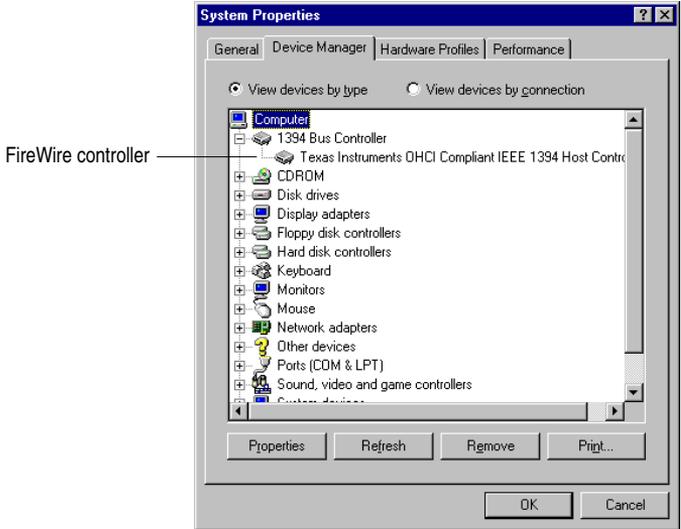


- 7 When Windows has finished copying the USB 2.0 drivers from the DuoConnect CD, click **Finish**.
- 8 Restart your computer.



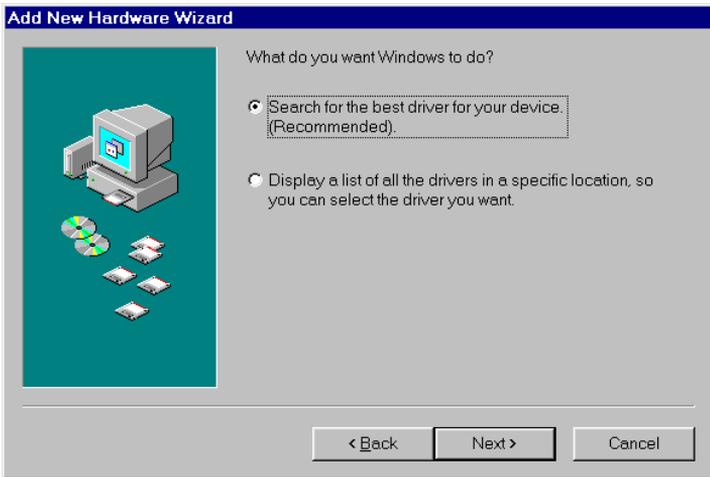
Note: It may take longer than usual for your system to restart because the operating system is locating and installing the new drivers.

- 9 To verify that the driver is 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.

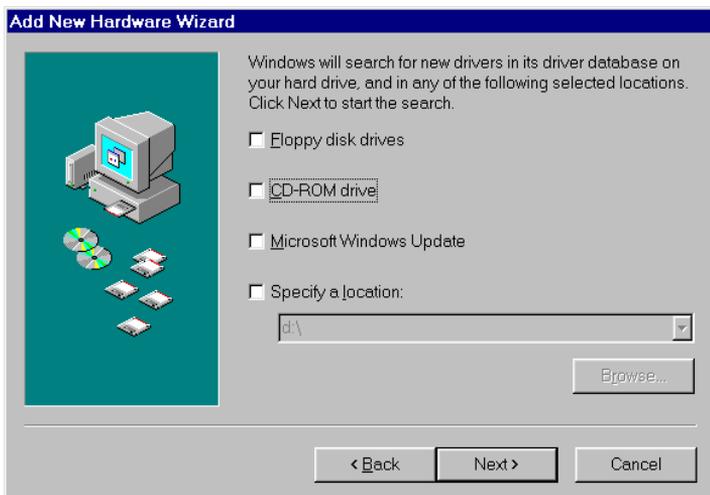


Windows 98 SE

- 1 Turn on or restart your computer and insert the DuoConnect CD.
- 2 When the Add New Hardware Wizard opens, click **Next**.
- 3 Select **Search for the best driver for your device (Recommended)**, and click **Next**.



- 4 In the window that appears, *uncheck* all options and click **Next**.



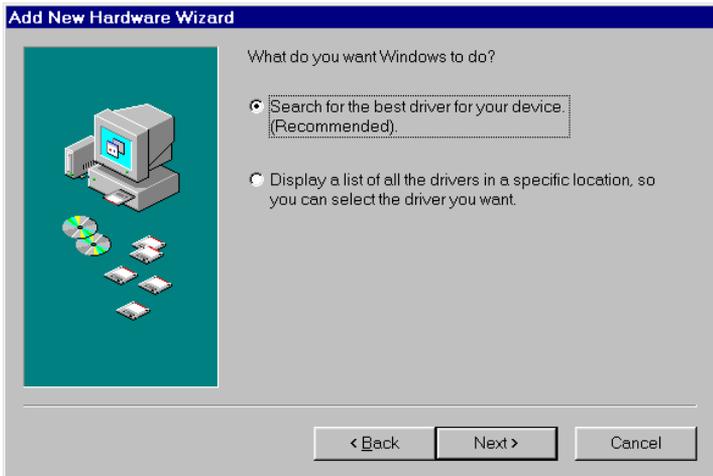
- 5 In the window shown below, click **Next**.



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

- 6 Click **Next** again. If Windows prompts you to restart your computer, click **No**.
- 7 When the Add New Hardware Wizard opens, click **Next**.

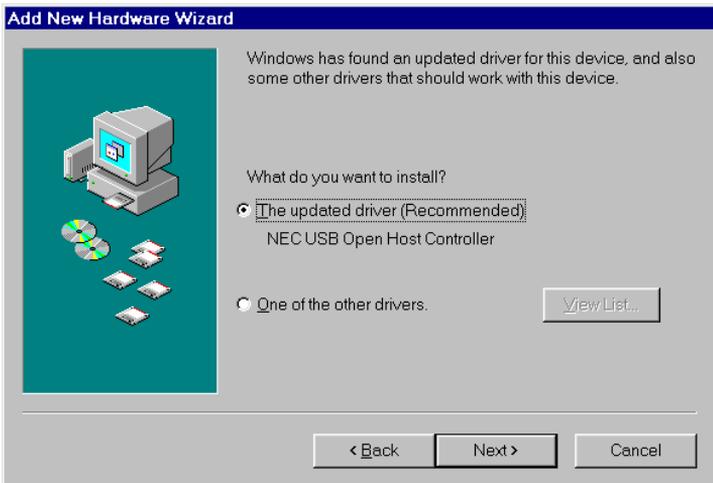
- 8 Select **Search for the best driver for your device (Recommended)**, and click **Next**.



- 9 In the window shown below, *uncheck* all options and click **Next**.

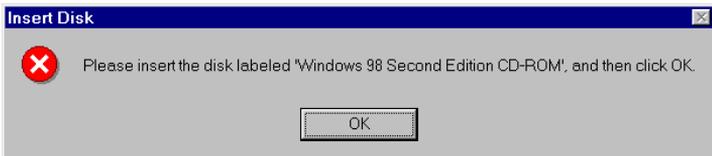


- 10 Select **The updated driver (Recommended)**, and click **Next**.

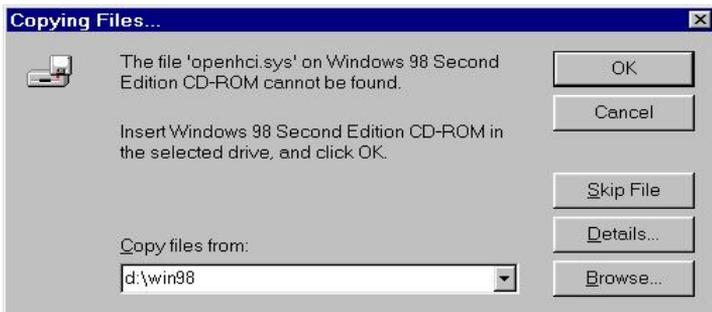


- 11 You may see a message that Windows is searching for the driver. Click **Next**.

- 12 When you see the following prompt, insert your Windows 98 SE CD and click **OK**.



- 13 Type the drive letter for your CD-ROM drive in the **Copy files from** box and click **OK**. Your CD-ROM drive letter may be d (as shown below) or some other letter.





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 98 SE CD.

- 14 When the third driver has been copied onto your system, the following window appears. Click **Finish**.



The driver for the first OHCI (USB 1.1) controller is installed.

- 15 To install the driver for the second OHCI controller, repeat steps 7 through 14.
- 16 The Hardware Wizard starts again and attempts to install the EHCI USB 2.0 drivers. Click **Next**.

- 17 Select **Search for the best driver for your device (Recommended)**, and click **Next**.



- 18 Check the **CD-ROM drive** option, insert the DuoConnect CD, and click **Next**.

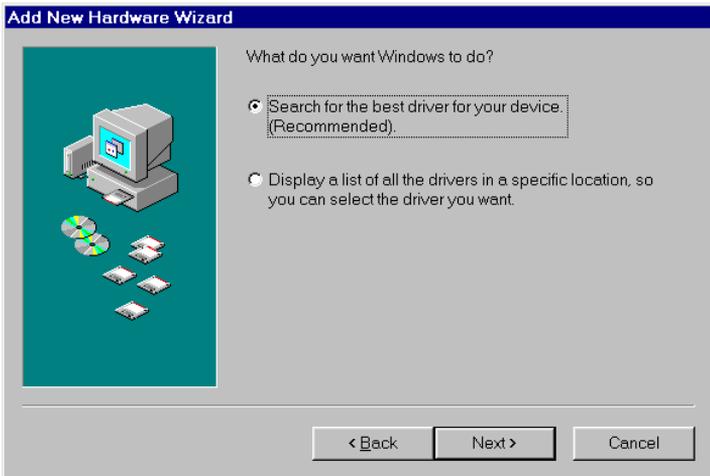


- 19 If the following screen appears, select **The updated driver (Recommended)**, and click **Next**. Otherwise, proceed to [Step 21](#).



- 20 Windows shows you the location of the driver. Click **Next**.
- 21 When Windows is finished copying files, click **Finish**.
- 22 Windows will now install the FireWire drivers. When the wizard starts, click **Next**.

- 23 Select **Search for the best driver for your device (Recommended)**, and click **Next**.



- 24 In the window shown below, *uncheck* all options and click **Next**.



- 25 Select **The updated driver (Recommended)**, and click **Next**.

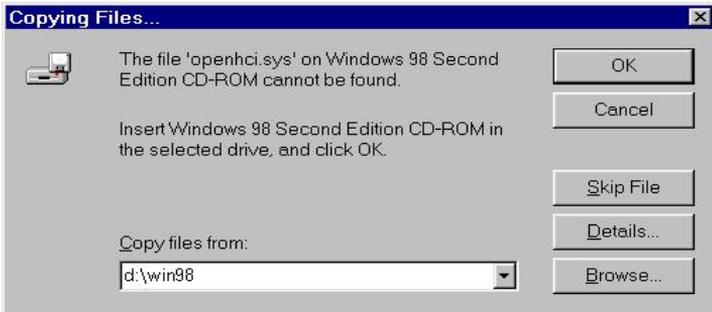


- 26 You may see a message that Windows is searching for the driver. Click **Next**.

- 27 When you see the following prompt, insert your Windows 98 SE CD in your CD-ROM drive and click **OK**.



- 28 Type the drive letter for your CD-ROM drive in the **Copy files from** box, and click **OK**. Your CD-ROM drive letter may be d (as shown below) or some other letter.

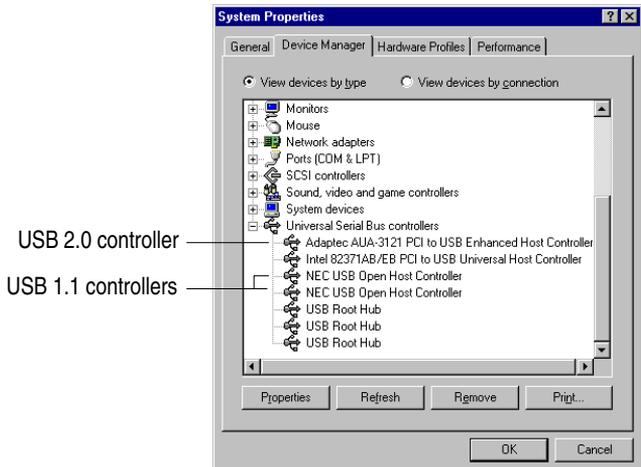
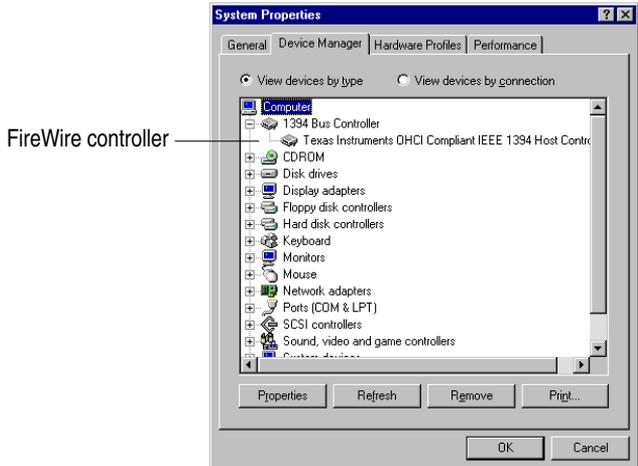


Note: If you have copied your driver files onto your hard drive and know where they are located, you can browse to that folder instead of inserting the Windows 98 SE CD.

- 29 When the following window appears, click **Finish**.



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



Installing the Macintosh Driver

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



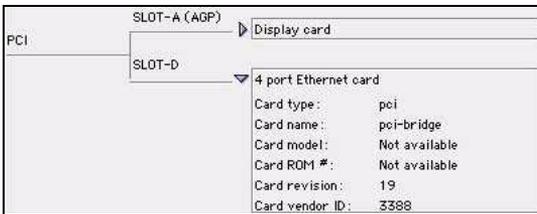
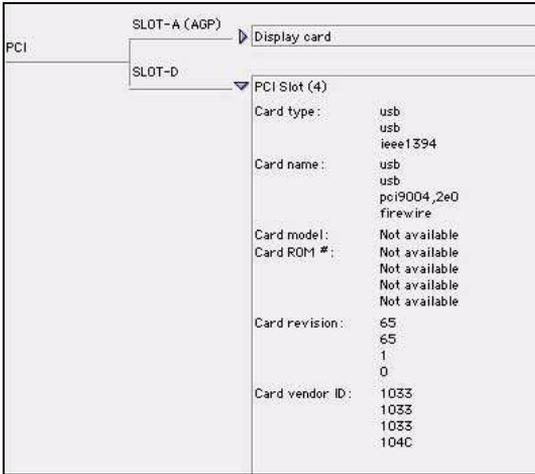
Note: Blue and white G3s are not supported.

- 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.

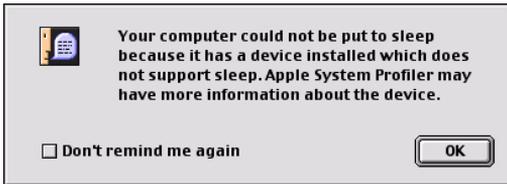
If you are still unable to resolve a problem, see the Adaptec Web site at <http://www.adaptec.com> or the Adaptec Support Knowledgebase at <http://ask.adaptec.com> for additional troubleshooting information.

DuoConnect and Deep Sleep

The DuoConnect adapter does not support Deep Sleep on Power Macintosh G4 computers. When you use the DuoConnect installer as described on [page 27](#), 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.



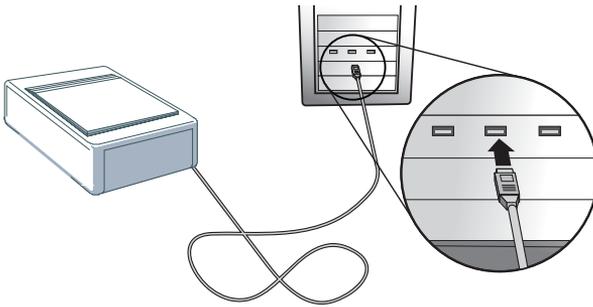
DuoConnect DisableSleep Driver



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

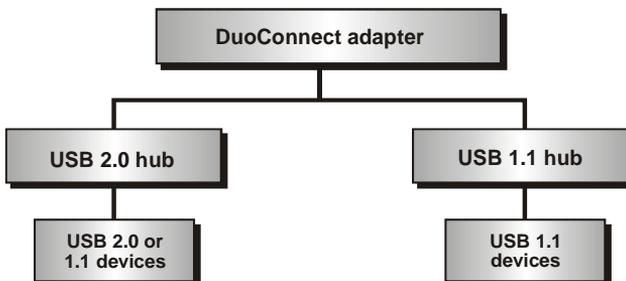
The DuoConnect adapter supports hot-plugging, allowing USB devices to be attached and recognized while the computer is on. Device manufacturers support hot-plugging in different ways. Refer to the instructions for each device for attaching and mounting recommendations.



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.

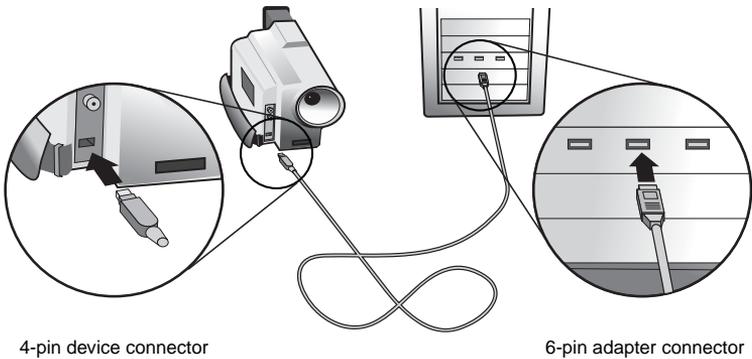


Connecting a Digital Video Camera

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 *User's Guide* and Readme file on the CD.
- *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 27](#) for details.

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



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