

IEEE 1394b PCI Express Host Controller



● Introduction

PCI Express is the next revolution in I/O interconnect standards that will deliver the bandwidth and features required by PCs, consumer electronics and communications devices. The architecture is a cost-effective, low-pin count, and point-to-point technologies offering maximum bandwidth, reducing cost and design complexity and enabling smaller form factors. This card is the best solution for IEEE 1394 b/a FireWire PCI Express and the interface has a potential transfer rates of 2.5 Gbps using a single-lane (or x1) PCI Express link.

IEEE 1394b provides high performance serial I/O standard of FireWire 800 technology. The FireWire 800 implementation of the IEEE 1394b standard supports transfer speeds up to 800 Mbps and device distances can now be up to 100 meters. IEEE 1394b PCI Express host card is particularly great for use with FireWire 800 multimedia peripheral and fully backward compatible with IEEE 1394a FireWire 400 devices, such as digital video (DV) camcorders, external enclosure.

● IEEE1394 Features

IEEE 1394b standard is a high-speed serial bus designed to deliver high data transfer speeds at a low cost, and with the low degree of latency required by a peripheral bus or by a backup to a traditional parallel bus. Among its key features are:

- **Software:** Orange Micro 1394b software enable better performance of the hardware and data transfer.
- **High Speed:** Speeds of 100, 200, 400, and 800 Mbps are supported.
- **Isochronous Support:** Deterministic bandwidth allocation guarantees bandwidth for time-sensitive applications, such as real-time video feeds, that could otherwise be disrupted by heavy bus traffic.
- **Flexible Topology:** Devices can be daisy-chained and no central bus supervision is required. Besides, it supports peer to peer function and allows up to 63 devices to be connected in a chain through its standard 6-pin or 9-pin FireWire ports.
- **Hot-Plug Support:** The bus is dynamically reconfigured whenever new nodes are added, which means users don't have to configure node IDs or unique termination schemes.
- **Cable Power:** Low-cost peripherals can be powered directly from the 1394 cable, so no dedicated power supply is needed.
- **1394 End devices:** IEEE 1394 interfaces have already been incorporated into a variety of devices, including PC cameras, DV camcorders, DV recorders, digital still cameras, high-speed hard disk drives, CD/ DVD ROM drives.

● Specifications

- Designed to meet PCI Express Base Specification Revision 1.1.
- Single-lane (or x1) PCI Express throughput supports rates of 2.5 Gbps.
- Compliant with 1394 Open Host Controller Interface Specification 1.1.
- Supports data transfer rates of 100, 200, 400 and 800Mbps.
- Provides three external and one internal (sharing) FireWire 800/400 ports.
- Built-in 4-pin power connector for receiving extra power supply from system.
- Fully compliant with IEEE P1394b and backwards supports 1394a-2000 as well as 1394-1995 standards.
- Hot-swapping feature allows you to connect/disconnect devices without powering down the system.
- Support Microsoft Windows 2000, XP, Vista, and 7 (X86/X64) operation system.

● Package List

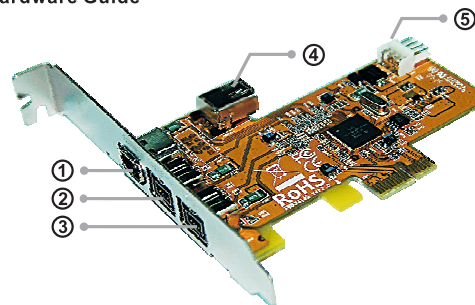
Please check if the following items are present and in good condition upon opening your package. Contract your vendor if any item is damaged or missing.

1. IEEE1394b/a PCI Express Host Controller
2. User's Manual (this document)

Optional Accessories:

1. IEEE1394 Cable
2. ULEAD DVD/CD Editing Software

● Hardware Guide



- ① FireWire 400 6-pin IEEE1394a External port
- ②③ FireWire 800 9-pin IEEE1394b External port
- ④ FireWire 400 6-pin IEEE1394a Internal port
(① & ④ port can not be use at the same time)
- ⑤ 4-Pin Internal Power Connector

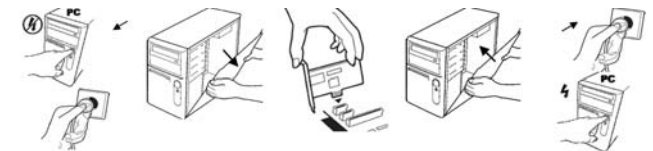
● System Requirement

1. Pentium-class computer with one available x1, x4, x8 or x16 PCI Express slot.
2. Microsoft Windows 2000, XP, Vista and 7 operation system.
3. Recommended system for Digital Video creating/editing:
 - Pentium4 2.0GHz computer with 256MB RAM and CD/DVD-ROM drive
 - 400MB of available hard disk space or above
 - Video card with 32MB RAM or above (AGP or PCI Express VGA Card)

● Hardware Installation

Follow the instruction given below to install the PCI Express Card:

1. Turn your computer off and remove the power plug from the plug socket.
2. Remove the cover from the computer case.
3. Remove the metal cover plate on the rear of a free PCI Express slot.
4. Insert the card into one free PCI Express slot and screw it firmly on the bracket side.
5. Place the cover back onto the computer.
6. Insert the plug into the plug socket.



● Driver Installation

Once the Windows 2000, XP, Vista, and 7 startup, IEEE1394b PCI-E card will be installed automatically without driver installation. System tray shows up "AGERE OHCI Compliant 1394 Host Controller" installed ready information.



In order to ensure 1394b FireWire800 data transfer performance, we suggest installing assigned driver for Windows 2000/XP/Vista 32/64-bit operation system. User can download driver from unibrain official website for free. (Microsoft already included 1394b driver in Windows 7 operation system.)

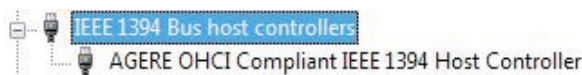
<http://www.unibrain.com/download/download.asp>

IEEE 1394b PCI Express Host Controller

● Hardware Verify

Click on the "Device Manager" tab in System Properties, which you access from the Windows Control Panel. You should see an entry for the driver you installed under IEEE1394 Bus host controllers item.

Start > Controller Panel > System > Device Manager



● Troubleshooting

■ If the card and devices connected to the computer do not seem to be working properly, please perform following basic troubleshooting steps:

1. Check that all cables are correct and securely connected.
2. Make sure the devices are turned on.
3. Make sure the devices are getting the power they require.
4. If a powered repeater is connected, make sure it is turned on.
5. If the devices are connected in a daisy chain and you have problems after disconnecting a device, please reconnect the device. Normally, the device will be enabled. If not, please restart the computer and see if the problem clears up.
6. Make sure there is no problem with the card installation.

■ The computer can NOT detect the IEEE 1394 PCI Express card

1. Make sure that the PCI Express cards is correctly plugged into the PCI Express slot; if not, turn off the computer and plug it in again
2. If the PCI Express card is plugged in correctly, see if the golden connectors on the card are clean; if not, clean the connector surface.
3. If still NOT, please change another PCI Express slot on your motherboard.
4. The board itself might be defective. You can try another motherboard testing IEEE 1394 PCI Express card working or not.

■ I can NOT install IEEE 1394 PCI Express card driver properly.

IEEE1394 driver bounds with Microsoft Windows system, please upgrade the latest "Service Packs" on your software vendor website, for example <http://www.microsoft.com> . We suggest updating your operation system to Windows 2000 service pack 4, Windows XP service pack 2, Windows Vista service pack1 or later version.

■ Computer failed to start after inserting the IEEE 1394 PCI Express card.

Turn off the computer, remove the IEEE 1394 PCI Express card, and try to restart the computer. If the computer starts successfully, then the IEEE1394 PCI Express card might be defective or not plugged into PCI Express slot properly. Please contact the dealer you bought the card from or turn off the computer and plug it in again.

■ How to deal with there is a yellow exclamation point on AGERE OHCI IEEE 1394 Host controller.

This exclamation point usually means there is a resource conflict between the IEEE 1394 PCI Express card and another card in your system. Shutdown your computer and move the card to another available slot. If you do not have any free slots, swap slots with another card in your system. Restart your computer. Windows will then re-configure itself and re-assign resources. Check your device manager again. If the exclamation point is still there then repeat the process until it no longer appears.

■ Why no sound is obtained from the camera in video software?

Connect the camera's sound output to the "LINE-IN" on your sound card.

■ Digital video device failed to work.

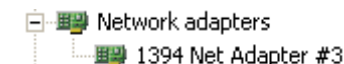
1. If the connection between your computer and DV devices terminates (e.g. the error message starts with can NOT initialize...), try turning the DV device off and then turning on again, or disconnect the cable between the PC and the device and then reconnects it again!!
2. You may need to restart your system. Turn off computer and DV device, wait several seconds, turn on your computer, and then turn on your DV or tape deck when your computer has completed the star-up process.
3. If the device needs an external power supply, connect the power source. If it does NOT, please check the power requirements for device-they must not exceed the 12-Volt and 500mA specifications. Or you can plug the 4Pin Power connector on the board to provide your device stable power output.

■ I get choppy sound or video that does not appear smooth:

Check the amount of RAM in your system. The recommended amount is 256MB or higher, preferably 512MB or more. Editing DV takes up large amounts of disk space. As your hard drive fills up the slower it performs. Try to free up space on your hard drive by deleting unneeded programs and files. Optimized your system.

■ How to use IEEE 1394 network in Windows XP ?

A '1394 Net Adapter' will also be installed automatically in Windows XP. This can be used to make a fast network connection between two Windows XP systems via a FireWire connection. (Please check the device manager)



If you have two computers which operate Windows XP (for example, a PC and a NB) and both computers have a FireWire connection, then you can make a direct, fast network connection between these computers via one FireWire cable.

Note: This network connection cannot be used together with an existing LAN network and it works under Microsoft Windows XP and Sever 2003 operation system only. (Windows Vista and 7 do NOT support)

Follow the instructions as below:

1. Connect the FireWire cable to the FireWire port on both computers.
2. Start Windows XP on both systems.
3. Click on "Start > All Programs > Accessories > Communications > Network Setup Wizard" to start the network configuration program.
4. Follow the on-screen instructions.
5. Select the '1394 Net Adapter' as the network connection.
6. Enter the network settings which you require. For example, you can make a shared Internet connection if one computer has a modem.
7. Follow the Wizard on both computers.
8. After completing the Wizard, click on "Start > Connect to > Show All Connections". If the card has been installed correctly, the FireWire (IEEE 1394) network will be displayed here.

See the Windows XP or Sever2003 Help function for detailed information on how to create and manage the network connection.

