

# **1394a + USB2.0 Combo 4 Ports Cardbus**

## **1. Introduction**

This 32bit PC Card can upgrade your laptop computer or notebook computer to have two 1394 ( FireWire ) ports and two USB2.0 / USB1.1 ports.

The adapter supports a 32-bit Cardbus, 1394 transfer rate of 400/200/100 Mb/s and USB transfer rate of 1.5Mb/s, 12Mb/s, 480Mb/s.

### **1.1. Features**

- PC Card 32 bit CardBus fully compliant
- 1.3 mm DC power jack for optional 12V DC Power Adapter
- Completely with drivers for Windows 98, Windows Millennium, Windows 2000 and XP

#### **1.1.1. USB Interface**

- Provides two USB2.0 / USB1.1 ports.
- Compliant with Universal Serial Bus Specification Revision 2.0 (Data Rate 1.5/12/480 Mbps).
- Compliant with Open Host Controller Interface Specification for USB Rev 1.0a.
- Compliant with Enhanced Host Controller Interface Specification for USB Rev 0.95, All USB ports can handle high-speed (480 Mbps), full-speed (12 Mbps), and low-speed (1.5 Mbps) transaction.

#### **1.1.2. 1394 Interface**

- Compliant with IEEE 1394 Open Host Controller Interface specification release 1.1 and IEEE Std 1394a-2000
- Provides two 1394 ports at 100/200/400 Mbps
- Built-in FIFOs for isochronous transmit (2048 bytes), asynchronous transmit (2048 bytes), and receive (3072 bytes)
- 32-bit CRC generation and checking for receive/transmit packets

#### **1.1.3. DC Power Input**

- Power Input : 12V / 1A

- Polarity: Center --- Positive Power (V+), Outer --- Power Return (V-)
- Power Plug: 3.5mm \* 1.3mm \* 9mm

## 1.2. Package Contents

- Combo CardBus Adapter
- This User's Manual
- Driver CD

## 2. Software Installation

To use this Combo CardBus adapter, the host computer must be equipped with one free PCMCIA Card Type II or Type III slot.

**(USB 2.0 and Windows)** USB 2.0 support is ready for Microsoft® Windows® XP and 2000. USB 2.0 drivers are available on Windows Update Site. We recommend you to use the Microsoft Update Catalog feature of the Windows Update Site or visit <http://www.microsoft.com/whdc/hwdev/bus/USB/default.mspx> to have technical details and download / save the new Microsoft USB 2.0 drivers for Windows XP or Windows 2000 to the hard drive. When the Windows wizard automatically indicates that it found a driver for the device, the wizard will copy the required files to the system and start the Driver. After starting the driver the wizard will display a completion dialog, click '**Finish**' to exit the wizard.

### 2.1. Windows 2000 installation

1. Insert Combo Cardbus into an available Cardbus slot.
2. Windows will display the '**Found New Hardware Wizard**'. '**Universal Serial Bus (USB) controller**', Click '**Next**'.
3. Select '**Search for a suitable driver for my device (Recommended)**' and Click '**Next**'.
4. Under '**Optional search locations**' insure that '**Specify a location**' is only checked.
5. Insert the '**Driver CD**' in your CD-ROM/DVD drive, and click '**Next**'.
6. When the '**Found New Hardware Wizard**' dialog appears, click '**Browse**'
7. Point specify a location , example E:\USB2.0 Host\NEC\Win2000\_XP\

- Nehcd.inf , click **'Open'** and click **'OK'**. (If your CD-ROM/DVD drive is E:)
8. When the wizard indicates that it found a driver for the device click **'Next'**.
  9. The wizard will now copy the required files to the system and start the Driver. After starting the driver the wizard will display a completion dialog, click **'Finish'** to exit the wizard.

## **2.2. Windows XP installation**

1. Insert Combo Cardbus into an available Cardbus slot.
2. Windows will display the **'Found New Hardware Wizard'**. **'Universal Serial Bus (USB) controller'**.
3. Select **'Install from a list or specific location (Advanced)'** and insert the **'Driver CD'** in your CD-ROM/DVD drive, and click **'Next'**.
4. Make sure **' Search for the best driver in these locations '** , and **'Include this location in the search:'** are both selected, then click **'Browse'**
5. Point specify a location , example E:\USB2.0 Host\NEC\Win2000\_XP. Click **'OK'**, and click **'Next'**. (If your CD-ROM/DVD drive is E:)
6. If the **'Hardware Installation'** dialog appears, click **'Continue Anyway'**.
7. The wizard will now copy the required files to the system and start the Driver. After starting the driver the wizard will display a completion Dialog, click **'Finish'** to exit the wizard.

## **2.3. Verifying The installation under Windows 2000 and XP**

Follow the instructions in this section to verify that the controller was installed correctly.

1. Right click on **'My Computer'** icon, select **'Properties'**, left click on **'Hardware'** tab, and then on **'Device Manager'** button.
2. Double click **'Universal Serial Bus Controllers'**, If there is no yellow **'!'** or **'?'** in front of
  - NEC PCI to USB Enhanced Host Controller**
  - NEC PCI to USB Open Host controller**
  - NEC PCI to USB Open Host controller**
  - USB Root Hub**
  - USB Root Hub**

The driver has started correctly.

3. Double click on **'IEEE 1394 Bus host Controllers'**, If there is no yellow **'!'** or **'?'** in front of **'Texas Instruments OHCI Compliant IEEE 1394 Host Controller'** the driver has started correctly.
4. To view information about the devices attached to the controller, right click the

'**Devices**' and select Properties from the context menu, then select the tab labeled '**General**'.

## **2.4. Windows 98SE installation**

1. Insert Combo Cardbus into an available Cardbus slot.
2. The Hardware Wizard will display that it found a '**NEC USB Open Host Controller**', click '**Next**'.
3. Select '**Search for the best driver for your device (Recommended)**' and click '**Next**'.
4. Select '**Floppy disk drives**' and click '**Next**'.
5. Select '**The Updated driver (Recommended)**'. NEC USB Open Host Controller, and click '**Next**'. Then click '**Next**' to continue.
6. If display '**Insert Disk**' (please insert the disk labeled windows 98 second Edition CD-ROM) and click OK, Then click '**Finish**' to exit the wizard.
7. The Hardware wizard will display that it found '**NEC USB Open Host Controller**', and click '**Next**'.
8. Select '**Search for the best driver for your device(Recommended)**'. Click '**Next**'.
9. Select '**Floppy disk drives**' click '**Next**', Select '**The Updated driver (Recommended)**' NEC USB Open Host Controller, and click '**Next**'. Then click '**Next**' to continue.
10. If display '**Insert Disk**' (please insert the CD labeled windows 98 second Edition CD-ROM) and click OK, Then click '**Finish**' to exit the wizard, and Remove your Windows 98 second Edition CD-ROM.
11. The Hardware wizard will display that it found '**PCI Universal serial Bus**', and click '**Next**'.
12. Select '**Search for the best driver for your device (Recommended)**'. Click '**Next**'.
13. Make sure the '**Specify a location:**' checkbox is only checked, and insert the '**Driver CD**' in your CD-ROM/DVD drive, then click '**Browse**'.
14. Point specify a location, example E:\USB2.0 Host\NEC\Win98\_me. Click '**OK**', and click '**Next**'. (If your CD-ROM/DVD drive is E:)
15. When the wizard indicates that it found a driver for the device, click '**Next**'. Then click '**Finish**' to exit the wizard.
16. The Hardware Wizard will display that it found a '**Texas Instruments OHCI Compliant IEEE 1394 Host Controller**', click '**Next**'.
17. Select '**Search for the best driver for your device [Recommended]**' and click '**Next**'.

18. Make sure the '**Floppy disk drives**' checkbox is only checked and click '**Next**'.
19. Select '**The Updated driver (Recommended)**'. Texas Instruments OHCI Compliant IEEE 1394 Host Controller, and click '**Next**'. Then click '**Next**' to continue.
20. If display '**Insert Disk**' (please insert the disk labeled windows 98 second Edition CD-ROM) and click OK, Then click '**Finish**' to exit the wizard.

## **2.5. Windows ME installation**

1. Insert Combo Cardbus into an available Cardbus slot.
2. The Hardware wizard will display that it found '**PCI Universal Serial Bus**'.
3. Select '**Specify the location of the driver (Advanced)**', and insert the '**Driver CD**' in your CD-ROM/DVD drive, and click '**Next**'.
4. Make sure '**Search for the best driver for your device (Recommended)**', and '**Specify a location**' are both selected, and click '**Browse**'
5. Point specify a location, example E:\USB2.0 Host\NEC\Win98\_me.  
Click '**OK**', and click '**Next**'. (If your CD-ROM/DVD drive is E:)
6. When the wizard indicates that it found a driver for the device, click '**Next**'. Then click '**Finish**' to exit the wizard.
7. The Hardware Wizard will display that it found a '**Texas Instruments OHCI Compliant IEEE 1394 Host Controller**', Select '**Automatic search for a better driver (Recommended)**'. Click '**Next**'.
8. System will go through the enumeration process and install the driver. At the end of the process, click '**Finish**' to complete the installation.

## **2.6. Verifying The installation under Windows 98SE and ME**

Follow the instructions in this section to verify that the controller was installed correctly.

1. Right click on '**My Computer**' icon, select '**Properties**', left click on '**Device Manager**' tab.
2. Double click '**Universal Serial Bus Controllers**', If there is no yellow '!' or '?' in front of

**NEC PCI to USB Enhanced Host Controller**

**NEC USB Open Host controller**

**NEC USB Open Host controller**

**USB Root Hub**

**USB Root Hub**

The driver has started correctly.

3. Double click on '**1394 Bus Controllers**', If there is no yellow '!' or '?' in front of '**Texas Instruments OHCI Compliant IEEE 1394 Host Controller**', the driver has started correctly.
4. To view information about the devices attached to the controller, right click the '**Devices**' and select Properties from the context menu, then select the tab labeled '**General**'.

