

USB2.0+FireWire+SATA+PATA Combo

Quick Installation Guide

1. Introduction

This combo board allows you to add USB 2.0, FireWire (1394), and Serial ATA interface into your computer at once!

1-1 Features and Benefits

- Full compliant with PCI Plug-n-Play 2.2
- **USB 2.0 interface:**
 - Compliant with USB specification rev. 2.0
 - Four USB 2.0 ports support hi-speed (480Mbps), full-speed (12Mbps) and low-speed (1.5Mbps) data transfer modes for simultaneous operation of multiple USB 2.0/1.1 devices
- **FireWire (1394) interface:**
 - Compliant with IEEE 1394-1995, P1394a-2000 and OHCI 1.1 standards
 - Three FireWire (1394) (2 ext. , 1 int.) ports support multiple device connections for up to 63 devices
 - Supports serial bus data transfer rates of 100, 200 and 400Mbps
 - Works with FireWire (1394) devices including hard drives, scanners, CD-RW/DVD-ROM drives, DV camcorders, removable drives and other audio/video devices such as set-top box
- **Serial ATA and Ultra ATA interface:**
 - Compliant with Serial ATA Specification, revision 1.0
 - Breaks the 137GB barrier. Supports various brands of large capacity Serial ATA and UltraATA hard disk drives
 - Provides two independent channels for connecting one Serial ATA hard drive and one Ultra ATA hard drive
 - Supports Serial ATA data transfer rate of 150MB/s (1.5Gb/s) and Ultra ATA data transfer rates up to 150MB/s

- Backward compatible with existing Ultra ATA 133/100/66 hard disk drives
- Features independent 256-byte FIFOs per channel for host reads and writes
- Features Watch Dog timer for fault resiliency

1-2 System Requirements

- Pentium II or equivalent PC computer with one available PCI slot
- Windows 98SE/ME/2000/XP or above
- Recommended system for Digital Video creating/editing:
 - Pentium II 400 MHz computer
 - 64MB RAM and CD-ROM drive
 - 1 GB of available hard disk space
 - Video card with 4MB RAM
 - Windows 98SE or later

2. Installation

2-1 Static Electricity Precaution

One of the routine precautions you must be aware of when working with computer components is the problem of static electricity discharge.

Caution: Static Electricity Discharge may permanently damage your system. To avoid possible static electricity discharge during the installation, please follow the guidelines below:

- Discharge any static electricity build up in your body by touching a large grounded metal surface or the computer case (if plugged in) for a few seconds.
- During the installation, avoid any contact with internal parts.

2-2 Hardware Installation

General instructions for installing the card are provided below, since the design of computer cases and motherboards vary. Refer to your computer's manual for further information, if needed

1. Turn OFF the power to your computer and any other connected peripheral devices.
2. Unplug the power cord from the back of the computer.
3. Remove your computer's cover.
4. Remove the slot bracket from an available PCI slot.
5. To install the card, carefully align the card's bus connector with the selected PCI slot on the motherboard. Push the board down firmly, but gently, until it is well seated.

2-3 Software Installation

This section provides information on how to install the *USB 2.0, IEEE 1394, and Serial ATA* drivers.

2-3.1 Windows 98SE Driver Installation

For a new Windows 98SE fresh installation

1. Install the board, then boot up your system.
2. Follow Microsoft procedures to install Windows 98SE.
3. Once Windows has installed and booted, double click **My Computer / Control Panel / System**. Select **Device Manager** tab.
4. Double click **?PCI Universal Serial Bus** listed under **?Other Devices**.
5. Insert **USB 2.0 driver** disk into your floppy drive.

6. Select **Driver** tab then click **update Driver** button.
7. While **wizard searches for updated drivers** displays **NEC PCI Universal Serial Bus**, click **Next**.
8. Select **Search for a better driver than the one your device is using now [Recommended]**, then click **Next**.
9. Check **Specify a location**, type **A:**, click **Next**.
10. Select **The updated driver [Recommended], NEC PCI TO USB Enhanced Host Controller** then click **Next, Next**, then click **Finish**.
11. When **NEC PCI to USB Enhanced Host Controller** displays, click **Close**.
12. Double click **? PCI Mass Storage Controller** listed under **? Other Devices**.
13. Select **Driver** tab, then click **update driver** button.
14. When **wizard searches for updated drivers** displays **PCI Mass Storage Controller** displays, click **Next**.
15. Select **search for a better driver than the one your device is using now [Recommended]**, then click **Next**.
16. Remove your **USB 2.0 driver** and insert **Serial ATA driver** into you floppy drive.
17. Check **specify a location**, then type **A:**, click **Next**.
18. When **Update Device Driver Wizard** displays **Silicon Image SiI-3112 Serial ATA Controller**, click **Next**, and then press **Finish**.
19. When **Silicon Image SiI-3112 Serial ATA Controller** displays, click **Close**.
20. Please restart your Windows system to complete the installation.

For an existing Windows 98SE Driver Installation

1. Install the board, then boot up your system,
2. While **Add New Hardware Wizard** displays **PCI standard PCI-to-PCI Bridge**, click **Next**.
3. Choose **search for the best driver for your device (Recommended)**, and click **Next, Next, Next**, then click **Finish**.
4. While **Add New Hardware Wizard** displays **NEC USB Open Host Controller**, click **Next**.
5. Choose **search for the best driver for your device (Recommended)**, and click **Next, Next, Next, Next**.
6. Insert Windows 98SE CD-Title into your CD-ROM drive, click **OK**, then click **Finish**.
7. Step 3 to 5 will be proceeded once again.
8. While **Add New Hardware Wizard** displays **PCI Universal Serial Bus**, click **Next**.
9. Insert **USB 2.0 driver** disk into your floppy drive, then click **OK**.
10. Choose **search for the best driver for your device. (Recommended)**, then click **Next**.
11. Check **Specify a location**, type **A:**, click **Next, Next, Next**, then click **finish**.
12. While **Add New Hardware Wizard** displays **PCI OHCI Compliant IEEE 1394 Host Controller**, click **Next, Next, Next**, then click **Finish**.
13. While **Add New Hardware Wizard** displays **PCI Mass Storage Controller**, click **Next**.
14. Remove your **USB 2.0 driver disk** and insert **Serial ATA**

driver disk into your floppy drive, then click **OK**.

15. Choose **search for the best driver for your device (Recommended)**, and click **Next**.
16. Check **specify a location, type A:**, then click **Next**.
17. When **Windows driver file search for the device: Silicon Image SiI- 3112 Serial ATA Controller** displays, click **Next**, then click **Finish**.
18. Please restart your Windows system to complete the installation.

2-3.2 Verify Installation for Windows 98SE

1. Click **Start, Settings, Control Panel**. Double click **System**.
2. Click **Device Manger**.
3. Double click **SCSI Controllers, Silicon Image SiI-3112 Serial ATA Controller** will be listed.
4. Double click **1394 Bus controllers, PCI OHCI Compliant IEEE 1394 Host Controller** will be listed.
5. Double click **Universal Serial Bus controllers** the following will be listed:
 - NEC PCI to USB Enhanced Host Controller
 - NEC PCI to USB Open Host Controller
 - NEC PCI to USB Open Host Controller
 - USB 2.0 Root Hub Device
 - USB Root Hub
 - USB Root Hub

2-3.3 Windows ME Driver Installation

For a new Windows ME fresh installation

1. Install the board, then boots up your system.
2. Follow Microsoft procedures to install Windows ME accordingly.
3. Once Windows has installed, double click **My Computer/Control Panel /System**, Select **Device Manager** tab.
4. Double click **?PCI Universal Serial Bus** listed under **?Other Devices**.
5. Insert **USB 2.0 driver** disk into your floppy drive.
6. Select **Driver** tab and click **Update Driver** button.
7. Select **Specify the location of the driver (Advanced)**, and then click **Next, Next, Next**, then click **finish**.
8. When **NEC PCI to USB Enhanced Host Controller** displays, click **Close**.
9. Double click **?PCI Mass Storage controller** listed under **?Other Devices**.
10. Select **Driver** tab and click **Update Driver** button.
11. Remove your **USB 2.0 driver** disk and insert **Serial ATA driver** disk into your floppy drive.
12. Select **Specify the location of the driver (Advanced)**, and then click **Next, Next, Next**, then click **finish**.
13. When **Silicon Image SiI-3112 Serial ATA Controller** displays, click **Close**.
14. Please restart your Windows system to complete the installation.

For an existing Windows ME Driver Installation

1. Install the board, then boots up your system.
2. When **Add New Hardware Wizard** displays **PCI standard PCI-to-PCI bridge**, choose **Automatic search for a better driver (Recommended)**, and click **Next**, then click **Finish**.
3. While **Add New Hardware Wizard** displays **VIA OHCI Compliant IEEE 1394 Host Controller**, choose **Automatic search for a better driver (Recommended)**, and click **Next**, then click **Finish**.
4. Insert **USB 2.0 driver** disk into your floppy driver.
5. While **Add New Hardware Wizard** displays **PCI Universal Serial Bus**, choose **Automatic search for a better driver (Recommended)**, and click **Next**.
6. When **NEC PCI to USB Enhanced Host Controller** displays, click **finish**.
7. While **Add New Hardware Wizard** displays **PCI Mass Storage Controller**, choose **Automatic search for a better driver (Recommended)**, then click **Next**.
8. When **Silicon Image SiI-3112 Serial ATA Controller** displays, click **Finish**.
9. Remove the **USB 2.0 driver** disk, then click **Yes** to restart your system and complete the installation.

2-3.4 Verify Installation for Windows ME

1. Click **Start, Settings, Control Panel**. Double click **System**.
2. Click **Device Manger**.
3. Double click **SCSI Controllers**, then double click **Silicon Image SiI-3112 Serial ATA Controller** will be listed.
4. Double click **IEEE 1394 Bus controllers, VIA OHCI**

Compliant IEEE 1394 Host Controller will be listed.

5. Double click **Universal Serial Bus controllers** the following will be listed:

NEC PCI to USB Enhanced Host Controller

NEC PCI to USB Open Host Controller [E13+]

NEC PCI to USB Open Host Controller [E13+]

USB 2.0 Root Hub Device

USB Root Hub

USB Root Hub

2-3.5 Windows 2000 Driver Installation

For a new Windows 2000 fresh installation

1. Install the board, then boots up your system.
2. Execute the Windows 2000 installation program
3. Restart the computer when prompted by Windows installation
4. At the Windows 2000 Setup screen promptly press **F6** to install the driver for the **Serial ATA** controller.
5. Press **S** to specify the location of the driver.
6. Insert the prepared new diskette (Serial ATA Driver) into your floppy drive, then press **Enter**.
7. While **Silicon Image SiI 3112 Serial ATA Controller** appears in the box, press **Enter**.
8. Press **Enter** to finish the **Serial ATA** driver installation, then follow the on screen instructions to complete Windows 2000 installation.

9. After Windows has installed and booted, double click **My Computer/ Control Panel/System**, then select **Hardware** tab, then click **Device Manager** button.
10. Double click **?Universal Serial Bus (USB) Controller**.
11. Select **Driver** tab, click **Update Driver** button, then click **Next**.
12. Select **search for a suitable driver for my device [Recommended]**, then click **Next**.
13. Insert **USB 2.0 driver** disk into your floppy drive, then click **Next, Next**, then click **Finish**.
14. When **NEC PCI to USB Enhanced Host Controller Properties** displays, click **Close** .
15. Please restart your Windows system to complete the installation.

For an existing Windows 2000 installation

Windows 2000 will automatically detect the presence of new hardware in Plug-n-Play compliant systems when system boots up.

1. After installing the board, then boot up your system.
2. When **Found New Hardware Wizard** displays, click **Next**.
3. While **?Universal Serial Bus (USB) Controller** displays, choose **Select for a suitable driver for my device (Recommended)**, then click **Next**.
4. Insert **USB 2.0 driver** disk into your floppy drive.
5. Check **Specify a location**, type **A:**, click **OK**, click **Next**.
6. While **Found New Hardware Wizard** displays **NEC PCI to USB Enhanced Host Controller**, then click **Finish**.
7. When **Found New Hardware Wizard** displays, then click **Next**.

8. After **? Mass Storage Controller** appears, choose **Select for a suitable driver for my device (Recommended)**, then click **Next**.
9. Remove your **USB 2.0 driver** disk and insert **Serial ATA driver** disk into your floppy drive.
10. Check **Specify a location**, type **A:**, click **OK**, then **Next**.
11. When **Silicon Image SiI-3112 Serial ATA Controller** displays, click **YES**, then click **Finish**.
12. Remove the **Serial ATA driver** disk, and then click **Yes** to restart your system and complete the installation.

2-3.6 Verify Installation for Windows 2000

1. Click **Start, Settings, Control Panel**. Double click **System**.
2. Click **Hardware**, then click **Device Manger**.
3. Double click **SCSI and RAID Controllers**, **Silicon Image SiI-3112 Serial ATA Controller** will be listed.
4. Double click **IEEE 1394 Bus host controllers**, **VIA OHCI Compliant IEEE 1394 Host Controller** will be listed.
5. Double click **Universal Serial Bus controllers**, the following will be listed:

NEC PCI to USB Enhanced Host Controller

NEC PCI to USB Open Host Controller

NEC PCI to USB Open Host Controller

USB 2.0 Root Hub Device

USB Root Hub

USB Root Hub

2-3.7 Windows XP Driver Installation

For a new Windows XP fresh installation

1. Install the board, then boots up your system.
 2. Execute the Windows XP installation program
 3. Restart the computer when prompted by Windows installation
 4. At the **Windows XP Setup** screen promptly press **F6** to install the driver for the **Serial ATA** controller.
 5. Press **S** to specify the location of the driver.
 6. Insert the prepared new diskette (Serial ATA Driver) into your floppy drive, then press **Enter**.
 7. While **Silicon Image SiI 3112 Serial ATA Controller** appears in the box, press **Enter**.
 8. Press **Enter** to finish the **Serial ATA** driver installation, then follow the on screen instructions to complete Windows XP installation.
 9. After Windows has installed and rebooted, click **My Computer**, using the mouse button on the right, click **Manage**, then click **Device Manager**.
 10. Double click **Universal Serial Bus (USB) Controller**.
 11. Select **Driver** tab, click **Update Driver** button, then click **Next**.
 12. While **Universal Serial Bus (USB) Controller** displays, choose **Install from a list or specific location [Advanced]**, then click **Next**.
 13. Insert the **USB 2.0 driver** disk into your floppy drive.
 14. Check **Include this location in the search**, type **A:**, click **OK**
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then click **Next**.

15. While **Hardware Installation** displays **NEC PCI to USB Enhanced Host Controller**, click **Continue Anyway**, then click **finish**.
16. When **Found New Hardware Wizard** displays **USB 2.0 Root Hub Device**, choose **Install from a list or specific location [Advanced]**, then click **Next**.
17. Remove the **Serial ATA driver** disk and insert **USB 2.0 driver** disk into your floppy drive.
18. While **Hardware Installation** displays **USB 2.0 Root Hub Device**, click **Continue Anyway**, then click **finish**.
19. Please restart Windows system to complete the installation.

For an existing Windows XP installation

Windows XP will automatically detect the presence of new hardware in Plug-n-Play compliant systems, when system boots up.

1. Install the board, then boot up your system.
2. When **Found New Hardware Wizard** displays **Universal Serial Bus (USB) Controller**, choose **Install from a list or specific location [Advanced]**, then click **Next**.
3. Insert the **USB 2.0 driver** disk into your floppy drive.
4. Check **Include this location in the search**, type **A:**, click **OK**, then click **Next**.
5. While **Hardware Installation** displays **NEC PCI to USB Enhanced Host Controller**, click **Continue Anyway**, then click **finish**.
6. When **Found New Hardware Wizard** displays **? Mass Storage Controller**, choose **Install from a list or specific location [Advanced]**, then click **Next**.

7. Remove the **USB 2.0 driver** disk and insert **Serial ATA driver** disk into your floppy drive.
8. Check **Include this location in the search**, type **A:**, click **OK**, then click **Next**.
9. When **Silicon Image SiI 3112 Serial ATA Controller** displays, click **Continue Anyway**, then click **finish**
10. When **Found New Hardware Wizard** displays **USB 2.0 Root Hub Device**, choose **Install from a list or specific location [Advanced]**, then click **Next**.
11. Remove the **Serial ATA driver** disk and insert **USB 2.0 driver** disk into your floppy drive.
12. While **Hardware Installation** displays **USB 2.0 Root Hub Device**, click **Continue Anyway**, then click **finish**.
13. Remove the driver disk, and restart your system and complete the installation.

2-3.8 Verify Installation for Windows XP

1. Click **My Computer** using the mouse button on the right, then click **Manager**.
2. Select **Device Manger**.
3. Double click **SCSI and RAID Controllers, Silicon Image SiI 3112 Serial ATA Controller** will be listed.
4. Double click **IEEE 1394 Bus host controllers, VIA OHCI Compliant IEEE 1394 Host Controller** will be listed.
5. Double click **Universal Serial Bus controllers** the following will be listed:

NEC PCI to USB Enhanced Host Controller

NEC PCI to USB Open Host Controller

NEC PCI to USB Open Host Controller

USB 2.0 Root Hub Device

USB Root Hub

USB Root Hub



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