Ultra ATA/133 Host Adapter

User's Manual

FC CE

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Chapter 1
Introduction

1-1 Introducing the Ultra ATA/133 Host Adapter

This adapter is an ultra high-speed dual channel Ultra ATA/133 PCI Host Adapter for use in Pentium-class computers. It achieves burst data transfer rates up to 133MB/sec and supports drive capacities greater than 137 GB. It's enhanced BIOS auto-detect device types and fine tunes to the best performance for each connected hard drive.

1-1.1 Key Features and Benefits

- Compliant with UltraDMA6 ATA/133 specification

- Compliant with PCI v2.2 Plug-n-play

- Provides two independent Ultra ATA channels (built-in 256-byte FIFOs per channel) for faster data transfer

- Supports Ultra DMA 0-6 and Multi-word DMA 0-2

- Breaks the 137GB barrier! Supports hard drives larger than 137GB

- Co-exists with on-board IDE controller

- CRC (Cyclical Redundancy Check) error-checking provides data verification and achieves flawless data transfer

- Flash BIOS for easy upgrade

- Full ACPI power management support

- Works with various brands of Ultra ATA 133/100/66/33 hard disk drivers and ATAPI devices including CD-ROM, CD-R/RW, DVD-ROM, and zip drives

1-1.2 System Requirements

- Pentium-class computer with one available PCI slot
- Windows 98SE/ ME/ 2000/ XP and NT 4.0
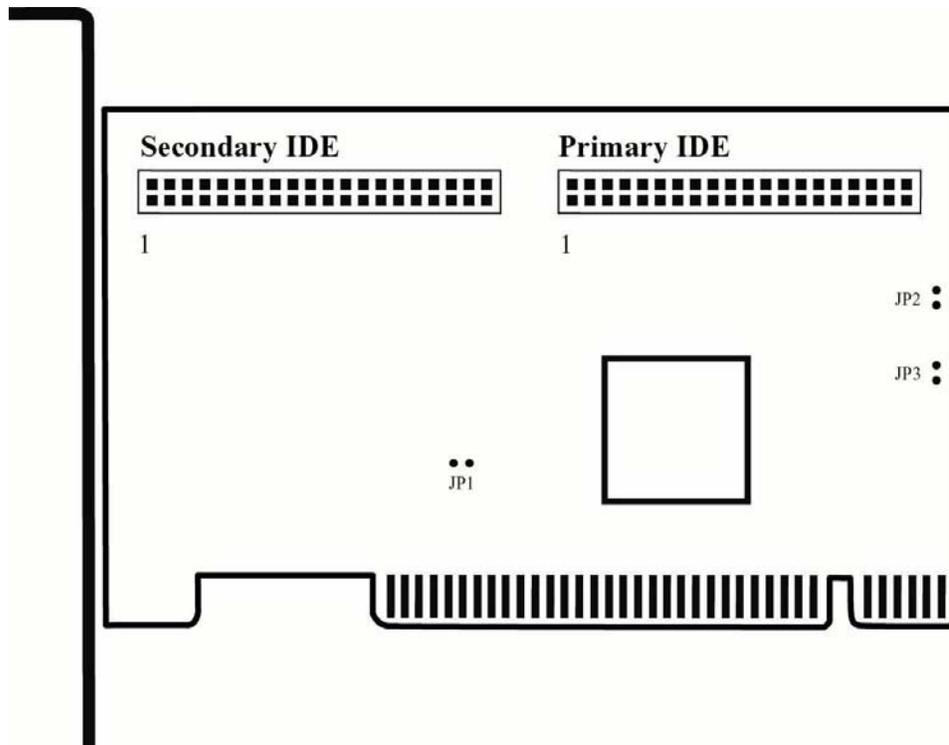
1-1.3 Board Layout

Figure 1-1 Ultra ATA/133 Host Adapter Board Layout

Note:

1. Connector JP2 and JP3 are for hard drive LED

1-2 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.

Note: Leave the product in its static-resistant bag until you are ready to

install it.

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. Handle cards only by their external edges.

Chapter 2
Installation

This chapter will guide you through the installation of *Ultra ATA/133 Host Adapter* in your computer.

2-1 Hardware Installation

General instructions for installing the board are given since the design of computer chassis varies. Refer to your computer reference manual for further information, if needed.

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. Handle cards only by their external edges.

1. Turn OFF the power to your computer and any other connected peripheral devices. Unplug the power cord from the back of the computer.

2. Remove your computer's cover.

3. Select an available PCI slot; remove the slot bracket by unscrewing the holding screw and sliding it out. Save this screw for securing the Ultra ATA/133 Host Adapter *after* it is installed.
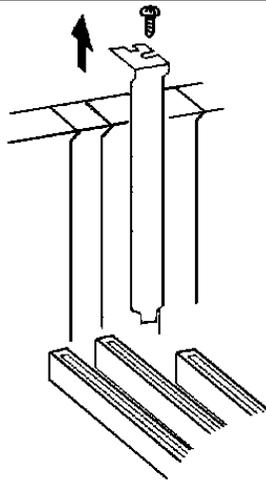
Figure 2-1: Remove the Slot Bracket

4. To install Ultra ATA/133 Host Adapter, carefully align the board's bus connector to the PCI slot on the motherboard. Push the board down firmly, but gently, until it is well seated.

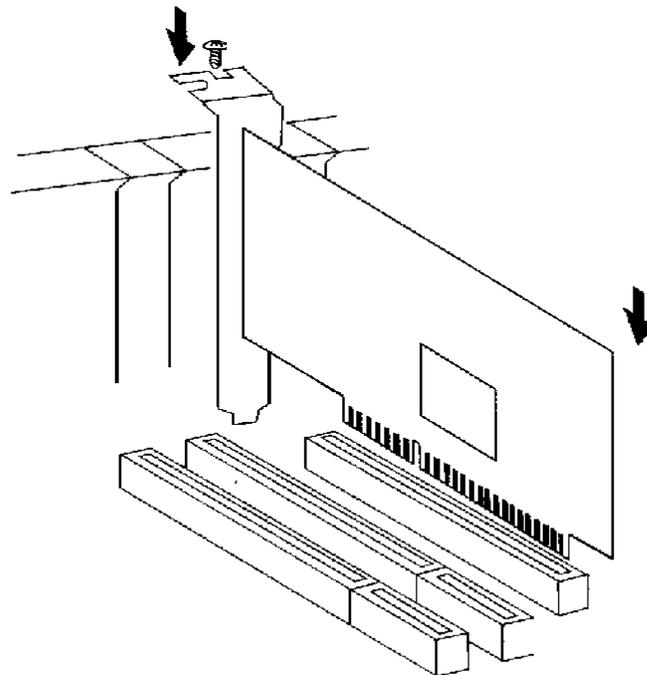   **Note:** Hold the card by its external edges only. Try to avoid touching the components, connectors or pins.

Figure 2-2: Installing the board

5. Secure the board to the rear slot panel. Continue to the next section for device connection.

2-2 Devices Connection

This Ultra ATA/133 Host Adapter is a dual channel Ultra ATA/133 controller that supports up to four IDE hard disk drives or ATAPI devices. If you plan to use the second IDE channel **(SECONDARY IDE),** you will need to purchase another 40-pin / 80-wire Ultra ATA ribbon cable.

Note: Only 40-pin/80-wire Ultra ATA cable can give hard disk UDMA 133 performance. Also, we suggest not to connect a fast hard drive with a slower IDE / EIDE device (such as CD-ROM or tape backup drive) on the same channel.

1. If you plan to install two hard disk drives on the **PRIMARY IDE** channel, make sure you configured the drives as a *Master and Slave,* according to the manufacture instructions. The same rule must be followed for connecting hard disk drives to the **SECONDARY IDE** channel.

2. Attach one end of the Ultra ATA cable that was included with this adapter to the **PRIMARY IDE** connector on the board. Make sure pin 1 on the cable (indicated by the colored stripe) matches pin 1 on the **PRIMARY IDE** connector.
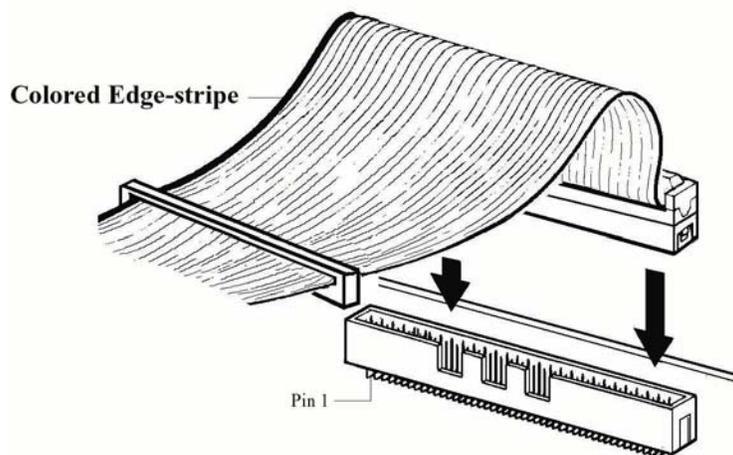

Figure 2-3 Connecting the Cable to On-Board Connector

3. Attach the other end of the Ultra ATA cable to the connector of a drive. Note that the ribbon cable has two connectors. If you have one hard disk drive, connect the end connector to the drive *(drive C)*.   If you have two drives, the middle connector attaches to **drive D**. Make certain that pin 1 on the cable (indicated by the colored stripe) matches pin 1 on the hard disk drive's connector when making the connections.
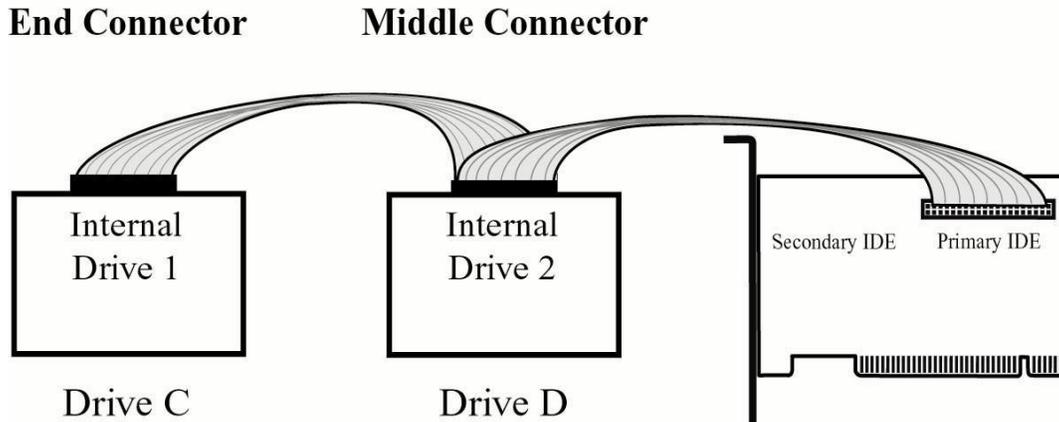
Figure 2-4: Connecting Internal Drives

4. The same procedure applies when making connection to SECONDARY IDE.

5. After making all your internal connections, replace the computer's cover and screws. Then reconnect the power cord and cables to the back of the computer.

6. You are now ready to install the software drivers.

2-3 Installing the Software Drivers

2-3.1 Installation with new Windows 98SE

1. Install the board and follow Microsoft procedures to install Windows 98 SE accordingly.

2. Once Windows has been installed, right click **My Computer** and click **Properties**. Select **Device Manager** tab.

3. Double click **PCI Mass Storage Controller** listed under **Other Devices**.

4. Select **Driver** tab, then click **Update Driver** button.

5. Insert the driver diskette and click **Next**.

6. Select **Search for the best driver for your device** and click **Next**.

7. Check **Specify a location,** uncheck the other boxes, type in **A:**, then click **Next**. Click **Next** again**,** then **Finish**.

8. Remove the driver diskette and restart Windows to complete driver installation.

2-3.2 Installation with existing Windows 98SE

1. When the system starts, the **Add New Hardware Wizard** dialog box will appear. Click **Next**.

2. Select **Search for the best driver for your device** and click **Next**.

3. Insert the driver diskette. Check **Specify a location** and type in **A:** and click **Next**.

4. Click **Next** and then **Finish**, respectively.

5. Remove the driver diskette and restart the computer to complete driver installation.

2-3.3 Installation with new Windows ME

1. Install the board and follow Microsoft procedures to install Windows ME accordingly.

2. Once Windows has been installed, right click **My Computer**, then click **Properties**. Select **Device Manager** tab.

3. Double click **PCI Mass Storage Controller** listed under **Other Devices**.

4. Select **Driver** tab, then click **Update Driver** button.

5. Insert the driver diskette, select **Automatic search for a better driver (Recommended)**, then click **Next**.

6. Click **Finish**, remove the driver diskette and click **Yes** to restart Windows to complete driver installation.

2-3.4 Installation with existing Windows ME

1. When the system starts, the **Add New Hardware Wizard** dialog box will appear.

2. Select **Search for the best driver for your device** and then click **Next**.

3. Insert the driver diskette. Check **Specify a location** and type in **A:** and click **Next**.

4. Click **Next** and then **Finish**.

5. Remove the driver diskette and restart the computer to complete driver installation.

Verify Proper Installation for Win 98SE/ME

1. Go to **My Computer/Control Panel/System/Device Manager**.

2. Double click **Hard disk Controllers, Silicon Image SiI 0680 Ultra/133 Controller** is listed.

3. Highlight **Silicon Image SiI 0680 Ultra/133 Controller** and click **Properties**. A message **This device is working properly** is displayed in the dialog box, the driver has been correctly installed. If any error message is displayed, remove **Silicon Image SiI 0680 Ultra/133 Controller** listing, restart Windows and reinstall the drivers.

2-3.5 Installation with new Windows NT 4.0

1. Install the board and follow Microsoft procedures to install Windows NT 4.0 accordingly.

2. At the **Windows Setup** screen, press **F6** to specify and add the driver.

3. Press **S**, select **Other**, then press **Enter**.

4. Insert the driver diskette and press **Enter**.

5. Select **SiI 0680 ATA/133 Controller for NT 4.0** and press **Enter**.

6. Press **Enter** to continue and follow on-screen instructions to complete Windows NT 4.0 installation.

2-3.6 Installation with existing Windows NT4.0

1. After installing the board, boot up Windows NT. Select **My Computer / Control Panel / SCSI Adapters**, then click on the **Drivers** tab.

2. Select **Add...** then **Have Disk...**

3. Insert the driver diskette into the floppy driver and type in **A:,** then click **OK**.

4. Highlight "**Silicon Image SiI 0680 ATA/133 Controller**" and click **OK**.

5. Remove the driver diskette and select **Yes** to restart the computer.

Verify Proper Installation for Windows NT4.0

1. Go to **My Computer / Control Panel / SCSI Adapters**

2. Highlight **Silicon Image SiI0680 ATA/133 Controller** from the **SCSI Adapter** listing and select **Properties**.

3. A message **This device is working properly** is displayed in the dialog box, the driver has been correctly installed.

2-3.7 Installation with new Windows 2000

1. Install the board and follow Microsoft procedures to install Windows 2000 accordingly.

2. At the **Windows 2000 Setup** screen, press **F6** to install the driver.

3. Insert the driver diskette. Press **S**, then press **Enter**.

4. Select **SiI 0680 ATA/133 Controller for Windows 2000/XP** and press **Enter**.

5. Press **Enter** to continue and follow on-screen instructions to complete installation.

2-3.8 Installation with existing Windows 2000

1. After installing the board, boot up Windows 2000. Windows will attempt to detect the controller.

2. When **Found New Hardware Wizard** appears, select **Search for a**

suitable driver for my device (recommended) and click **Next**.

3. Insert the driver diskette into the floppy drive, check **Floppy disk drive** and click **Next**. Click **Next** again to continue.

4. If the **Digital Signature Not Found** message appears, click **Yes**.

   Note: If prompted for Windows 2000 CD-ROM, insert the CD into your CD-ROM drive and click **OK**. Type in **D:\I386** (assuming D: is your CD-ROM drive) and click **OK** and then **Finish**.

5. Click **Finish** and restart Windows to complete driver installation.

2-3.9 Installation with new Windows XP

1. Install the board and follow Microsoft procedures to install Windows XP accordingly.

2. At the **Windows Setup** screen, press **F6** to install the driver.

3. Insert the driver diskette. Press **S** then press **Enter**.

4. Select **SiI 0680 ATA/133 Controller for Windows 2000/XP** and press **Enter**.

5. Press **Enter** to continue and follow on-screen instructions to complete Windows XP installation.

   Note: When the **Software Installation** warning pops up, click **Yes**. And when the **Hardware Installation** warning pops up, click **Yes** again.

2-3.10 Installation with existing Windows XP

Important: *If the hard disk drive connected to your controller has a boot partition, do not connect this drive until the driver for the controller has been completely installed in Windows XP. Follow the instructions below to install the driver for the controller first, shut down your system and connect the hard disk drive. The controller is now ready for operation.*

1. After installing the board, boot up Windows XP. Windows will attempt to detect the controller.

2. When **Found New Hardware Wizard** appears, Insert the driver diskette into the floppy drive, select **Install the software automatically**

(Recommended), and click **Next**.

3. At the next window, choose the entry with **A:\si680.inf** under heading **location**.

4. When a warning message pops up, click **Continue Anyway**.

5. Click **Finish** to complete installation.

Verify Proper Installation for Windows 2000/XP

1. Go to **My Computer / Control Panel / System**.

2. Click **Hardware** then click **Device Manager**.

3. Double click **IDE ATA / ATAPI Controllers**, then double click **Silicon Image SiI0680 ATA/133 Controller** to display driver properties.

4. A message **This device is working properly** is displayed in the dialog box, the driver has been correctly installed.

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