

PCI to Serial ATA Control Card

1. Introduction

This is a PCI to 4 ports Serial ATA Control card. It accepts host commands through the PCI bus, processes them, and transfers data between the host and Serial ATA devices. It can be used to control four independent Serial ATA channels. Each channel has its own Serial ATA bus and will support one Serial ATA device. The device supports a 32-bit 66 MHz PCI bus and the Serial ATA Generation 1 transfer rate of 1.5 Gb/s (150 MB/s)

The board should be connected to SATA target device and will take the data, serialize it and output it for transmission over the SATA interface. The board can control four independent Serial ATA channels. Each channel has its own Serial ATA bus and will support one Serial ATA device. The board supports Serial ATA Generation 1 & Generation 2 transfer rate of 1.5Gbps. It comes completely with drivers for Windows 2003, Windows NT 4.0, Windows 2000 and XP. RAID, Redundant Array of Independent Disks, greatly enhances two main areas of data storage: performance and data integrity.

By using RAID 0, also known as Striping, performance of sustained data transfer rates is greatly enhanced by simultaneously writing data to 2, 3 or 4 drives. The second benefit of RAID is data redundancy. RAID 1, Mirroring, writes identical data on two drives or sets of drives, thus protecting the data from a disk failure. If, for any reason, one drive were to fail, your data is secure and available from the mirrored second drive.

2.Features

2.1. PCI Interface

- Compliant with PCI Specification, revision 2.2.
- Integrated PCI DMA engines.
- 32 bit, 66 MHz fully compliant PCI host interface.

2.2. High Speed Serial ATA Interface

- Four high speed Serial ATA interface ports, each supporting 1st generation Serial ATA data rates 1.5Gbps.
- Provides RAID 0 (Striping) to greatly increase the performance of data transfer by simultaneously writing data to 2 drives.
- Provides RAID 1 (Mirroring) to protect the data from a disk failure by writing identical data on 2 drives.
- Provides RAID 0+1 (Mirrored-Striping) combine both Striping and Mirroring technologies to provide both the performance enhancements that come from Striping

and the data availability and integrity that comes from Mirroring.

- Fully compliant with Serial ATA specifications. Supports Spread Spectrum in receiver.

Package Contents

- PCI to Serial ATA Control Card x 1
- User's Manual x 1
- Driver CD or Disk x 1

4. Software Installation

This section provides the information on how to install the drivers of RAID SATA –1.5 Gbps 4Ports PCI Host Adapter for the Windows operating systems:

4.1. Windows NT 4.0 and Windows 2000/XP Fresh Installation

Follow the instructions in this section if you are performing a new installation of Windows NT 4.0 or Windows 2000/XP, and you wish to boot from a device attached to the HBA.

1. Power off the system. Connect the hard drives to the HBA and insert the HBA into a PCI slot. Power up the system.
2. Put your Windows NT/2000/XP CD into the CD-ROM/DVD drive, or the NT/2000/XP boot diskette #1 in the floppy drive if your system cannot boot from the CD.
3. Press F6 for third party SCSI or driver installation at the beginning of text mode installation. Press 's' when setup asks if you want to specify an additional device, and insert the enclosed Driver CD. Press 'Enter' and select “E:\SATA\571S-4 (2.0)”
4. Press 'Enter' to continue on with text mode setup.
5. Follow the setup instructions to select your choice for partition and file system.
6. After setup examines your disks, it will copy files to Windows 2000 installation folders and restart the system. The setup program will continue and finish the installation after restart.
7. Wait until Windows 2000 finishes installing devices, regional settings, networking settings, components, and final set of tasks, reboot the system if it is required.
8. See instructions in section 4.4 to verify HBA was installed correctly.

4.2. Adding the HBA to an existing Windows NT Installation

Follow the instructions in this section to install this HBA on a system already running Windows NT 4.0.

1. Power off the system and connect the hard drives to the HBA and insert the HBA into a PCI slot then power up the system.
2. After OS boots up, Click 'Start'
3. Under 'Settings', click 'Control Panel'.

4. Select 'SCSI Adapters' from the Control Panel.
5. Select the 'Drivers' tab and click 'Add'.
6. Click 'Have Disk'.
7. Insert the enclosed Driver CD: and press 'Enter'.
8. Choose “E:\SATA\571S-4 (2.0)” and click 'OK'.
9. See instructions in section 4.4 to verify controller was installed correctly.

4.3. Adding the HBA to an existing Windows 2000/XP Installation

Follow the instructions in this section to install the driver on a system already running Windows 2000.

1. Power off the system. Connect the hard drives to the HBA and insert the HBA into a PCI slot then power up the system.
2. During OS boot up, Windows 2000 will display the 'Found New Hardware Wizard'. Click 'Next'.
3. Select 'Search for a suitable driver for my device (Recommended)' and Click 'Next'.
4. Insert the Driver CD in your CD-ROM/DVD drive, check Specify a location, uncheck the other boxes, click Next, type in E:\ (If your CD-ROM/DVD is E:\). Click Browse.
5. Points specify a location, example “E:\SATA\571S-4 (2.0)”, click Open then OK.
6. When the wizard indicates that it found a driver for the device click 'Next'.
7. If the 'Digital Signature Not Found' dialog appears, click 'Yes' to continue installing the driver.
8. 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.
9. See instructions in section 4.4 to verify controller was installed correctly.

4.4. Verifying HBA installation under Windows NT, 2000 and XP For Windows 2000/XP

1. Right click on 'My Computer' icon, select 'Properties', left click on 'Hardware' tab, and then on 'Device Manager' button.
2. Double click on 'SCSI and RAID Controllers', If there is no yellow '!' or '?' in front of 'Silicon Image SiI3124 SATA Raid Controller', the driver is started correctly.
3. To view information about the devices attached to the controller, use the SiICfg Utility and click on the device from the list.

For Windows NT 4.0

1. Double click on 'My Computer' icon, select 'Control Panel'; click on 'SCSI Adapters' icon, 'Silicon-ImageSiI3124SATA Raid Controller' should displayed correctly under 'Device' and 'Driver' tab.
2. To view information about the devices attached to the controller, use the SiICfg Utility and click on the device from the list.

4.5. Update new RAID driver on Windows NT 4.0 with existing old driver

1. After OS boots up, Click 'Start'
2. Under 'Settings', click 'Control Panel'.
3. Select 'SCSI Adapters' from the Control Panel.
4. Select the 'Drivers' tab and click 'Add'.
5. Click 'Have Disk'.
6. Insert the Driver CD in your CD-ROM/DVD drive and press 'Enter'.
7. Choose “E:\SATA\571S-4 (2.0)” and click 'OK'.
8. Refer to instructions in section 4.4 to verify controller was installed correctly.

4.6. Update new RAID driver on Windows 2000/XP with existing old driver

1. Right click on 'My Computer' and select 'Properties'. Under the 'System Properties' section, click on 'Hardware' tab, and then on 'Device Manager' click 'SCSI and RAID Controller' and right click 'Silicon Image Ultra-133 Medley ATA Raid Controller'.
2. Click 'Driver', 'Update Driver' and select 'Search for a suitable driver for my device [Recommended]'. Insert the Driver CD in your CD-ROM/DVD drive. Click 'Next' and complete the driver installation.
3. System will go through the enumeration process and install the driver. At the end of the process, click 'Yes' to reboot your system when necessary.
4. See instructions in section 4.4 to verify controller was installed correctly.