

# **Raid5 SATAII 4Ports PCI-X Host Card**

## **1. Introduction**

This RAID SATA II –3Gbps 4Ports PCI-X Host Adapter is a PCI to 4Ports Serial ATA host controller board. It provides a 64bit, 133 MHz PCI interface on the host side and four, fully compliant Serial ATA II – 3Gbps ports on the device side to access SATA Hard disk drive. The board can be used to upgrade your desktop computer to have 4Ports Serial ATA Channels and support RAID 5, RAID 0+1, RAID 0, RAID 1 and JBOD features. It accepts host commands through the PCI bus, processes them and transfers data between the host and Serial ATA devices.

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 / 3Gbps. It comes completely with drivers for Windows 2000, Windows XP, and Windows 2003.

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.
- 64 bit, 133MHz fully compliant PCI host interface.

### **2.2. High Speed Serial ATA Interface**

- Four high speed Serial ATA interface ports, each supporting 1st generation & 2<sup>nd</sup> generation Serial ATA data rates 1.5Gbps/ 3Gbps.
- 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.
- 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.

- Provides RAID 5 (Block-level striping with distributed parity), stripes both data and parity information across three or more drives.
- Fully compliant with Serial ATA specifications.
- Supports Spread Spectrum in receiver.

### **2.3. Serial ATA II – 3Gbps RAID External 4 Ports**

- Supports Independent four External Ports
- Special SATA II connectors on External Port to support Mobile HDD, Mobile CD-ROM, Mobile DVD and Mobile CD-RW

## **3. Package Contents**

- RAID5 SATA II – 3Gbps 4Ports PCI Host Adapter
- Users Manual
- 7 Pin e-STAT cable 100cm \*4 (Option)
- Driver CD

## **4. Software Installation**

### **4.1. Windows 2000/XP/2003 Fresh Installation**

1. Power off the system. Connect the hard drives to the controller card and insert the controller card into a PCI slot then power up the system.
2. Put your Windows 2000/XP CD into the CD-ROM/DVD drive, or the 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 Driver CD. Press 'Enter' and select “E:\SATA\572e”.
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. Waiting until Windows 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 4.3 to verify controller was installed correctly.

### **4.2. Adding the controller card to an existing Windows 2000/XP/2003 Installation**

1. Power off the system. Connect the hard drives to the controller card and insert the controller card into a PCI slot then power up the system.
2. During OS boot up, Windows 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\572e”, 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 4.3 to verify controller was installed correctly.

#### **4.3. Verifying controller installation under Windows2000/XP/2003**

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 Sil 3124 SoftRaid5 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.

#### **4.4. Update new driver on Windows 2000/XP/2003 with existing 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 SiI 3124 SoftRaid5 Controller'.
2. Click 'Driver', 'Update Driver' and select 'Search for a suitable driver for my device [Recommended]'. Insert the Driver CD. Press 'Enter' and select “E:\SATA\572e”. 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 4.3 to verify controller was installed correctly.