LSI Logic MegaRAID[®] SATA150-2 Controller



Thank you for purchasing the MegaRAID SATA150-2 Serial ATA RAID controller. Please take a few minutes to review this guide before beginning the installation process. If you require further explanation, please refer to the SATA150-2 PCI to Serial ATA RAID Storage Adapter User's Guide on your Universal Driver Suite CD.

Contents for the SATA150-2

You should have received the following:

- a MegaRAID SATA150-2 Serial ATA RAID controller
- a driver and documentation CD (Universal Driver Suite CD) containing:
 - the SATA150-2 PCI to Serial ATA RAID Storage Adapter User's Guide
 - the SATA150-2 device driver and RAID management software
 - a software license agreement
 - a warranty registration card

Technical Support

If you need help installing, configuring, or running the SATA150-2, contact LSI Logic Technical Support:

Phone:	678-728-1250 or 800-633-4545 #3
Web Site:	http://support.megaraid.com/support/index.html
E-mail:	support@lsil.com

SATA150-2 Controller Installation

<u>Caution:</u> Make a backup of your data before you change your system configuration; otherwise, you might lose data.

Use the following steps to install the SATA150-2.

Step	Action
1	Unpack the SATA150-2 and inspect it for damage.
2	Turn the computer off and unplug the power cord.
3	Remove the cover.
4	Check the jumper settings on the main board.
5	Insert the SATA150-2.
6	Configure the Serial ATA devices.
7	Connect the Serial ATA cables to the Serial ATA devices.
8	Replace the computer cover and turn the power on.
9	Configure the physical arrays and logical drives.
10	Install software drivers for the desired operating systems.

Step 1: Unpack

Unpack and install the hardware in a static-free environment. The SATA150-2 is packaged inside an anti-static bag between two sponge sheets. Remove the controller card and inspect it for damage. Contact LSI Logic or your MegaRAID OEM support representative if the card appears damaged or if any items are missing.

Step 2: Power Down the System and Remove the Power Cord

Turn off the computer and remove the power cord from the back of the power supply.

Step 3: Remove the Cover

Remove the cover from the chassis. Disconnect the system from any networks before installing the controller card.

Step 4: Configure Main Board

Correctly configure the main board for the SATA150-2. Each SATA150-2 that you install requires a PCI Interrupt Request.

Step 5: Insert MegaRAID SATA150-2

Choose a PCI slot and align the SATA150-2 bus connector to the slot. Press down gently but firmly to properly seat the card in the slot. Figure 1 shows how to insert the SATA150-2 in a PCI slot. Screw the bracket to the computer frame.



Quick Hardware Setup Guide

Figure 1 Inserting the SATA150-2 in a PCI Slot



Step 6: Configure the Serial ATA Devices

See the Serial ATA device documentation for any pre-installation configuration requirements.

Step 7: Connect Serial ATA Cables

Connect the Serial ATA cables between the Serial ATA devices and the SATA150-2.

The SATA150-2 provides two Serial ATA connectors. J1 is the Serial ATA Port 0 connector. J2 is the Serial ATA Port 1 connector. Figure 2 provides the location of the connectors on the SATA150-2.

Figure 2 SATA150-2 Board Layout



Step 8: Power Up

Replace the computer cover and reconnect the AC power cords. Turn power on to the computer.

During boot, the MegaRAID BIOS message appears:

MegaRAID BIOS Version x.xx date (c) Copyright 2003, LSI Logic Corporation, USA MegaRAID SATA Adapter Card found at PCI Bus No:xx Dev No:xx

The firmware takes several seconds to initialize. During this time, the adapter scans the Serial ATA ports.

Step 9: Run MegaRAID BIOS Setup

Press <Ctrl><M> to run the MegaRAID BIOS Configuration Utility. See the MegaRAID SATA150-2 RAID Controller User's Guide on the Universal Driver Suite CD for information about running MegaRAID BIOS Setup.

Step 10: Install the Operating System Driver

MegaRAID can operate under MS-DOS or any DOS-compatible operating system using the standard AT BIOS INT 13h Hard Disk Drive interface. To operate with other operating systems, you must install software drivers.

The Universal Driver Suite CD includes drivers for the operating systems. In addition, you can view the supported operating systems and download the latest drivers for RAID adapters on the LSI Logic web site at: http://support.megaraid.com/support/download.cfm.

Access the download center and follow the steps to download the driver.

Refer to the *MegaRAID Device Driver Installation User's Guide* on the *Universal Driver Suite* CD for information about installing the driver. Be sure to use the latest Service Packs provided by the operating system manufacturer and review the readme file that accompanies the driver.

RAID Levels Supported

RAID 0

RAID 0 provides disk striping across all drives in the RAID subsystem. RAID 0 does not provide data redundancy, but does offer the best performance speed increase. RAID 0 distributes data into smaller blocks and writes a block to each drive in the array. The stripe size parameter, set during the creation of the RAID, determines the size of each block.

RAID 0 offers high bandwidth. By distributing a large file into smaller blocks, the SATA150-2 can simultaneously read or write several logical drives. RAID 0 involves no parity calculations to complicate the write operation. This makes RAID 0 ideal for high bandwidth applications that do not require fault tolerance.

RAID 1

The controller writes data simultaneously to two disks, providing complete data redundancy in case one disk fails. The array capacity is half of total disk space.

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