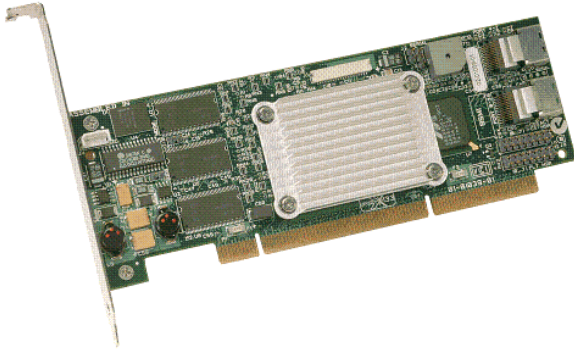# MegaRAID® SATA 300-8XLP RAID Controller

Quick Installation Guide

Thank you for purchasing the MegaRAID Serial ATA (SATA) 300-8XLP (PCI-X low profile) RAID controller. Please take a few minutes to read this quick installation guide before you install the controller. If you need more information about any topic covered in this guide, refer to the other documents on your *MegaRAID Universal Software Suite* CD.

> **Note:** The MegaRAID SATA 300-8XLP RAID Controller supports SATA I and SATA II.

You can use the intelligent Battery Backup Unit 01 (LSIiBBU01) with the MegaRAID SATA 300-8XLP. For more information about this battery, refer to the *MegaRAID Battery Backup Unit User's Guide* on the *MegaRAID Universal Software Suite* CD.

MegaRAID SATA 300-8XLP INSTALLATION

⚠️ **CAUTION** Back up your data before you change your system configuration. Otherwise, you might lose data.

Step 1 **Unpack the MegaRAID SATA 300-8XLP RAID Controller**

Unpack the controller in a static-free environment. Remove it from the antistatic bag and inspect it for damage.

If the controller appears to be damaged, or if the *MegaRAID Universal Software Suite* CD is missing, contact LSI Logic or your MegaRAID OEM support representative.

The CD contains utility programs, device drivers for various operating systems, and the following documentation:

- *MegaRAID SATA 300 Storage Adapters User's Guide*
- *MegaRAID Configuration Software User's Guide*
- *MegaRAID Device Driver Installation User's Guide*
- Software license agreement

Step 2 **Prepare the Computer**

Turn off the computer and unplug the power cord(s) from the back of the power supply. Remove the cover from the computer.

⚠️ **CAUTION** Before you install the controller, make sure that the computer is disconnected from the power and from any networks.

Step 3 **Review the Jumpers and Connectors**

Figure 1 shows the location of the jumpers and the connectors on the MegaRAID SATA 300-8XLP. The jumpers are set at the factory, and you usually do not need to change them.

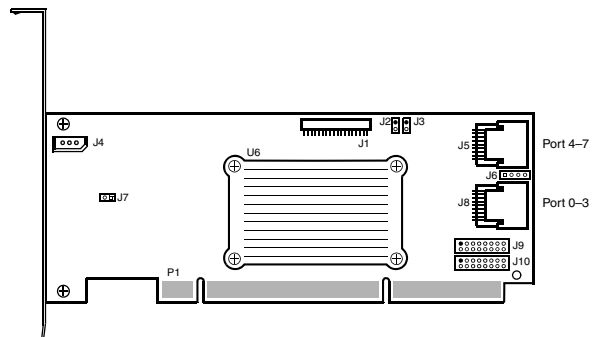**Figure 1   MegaRAID SATA 300-8XLP Card Layout**

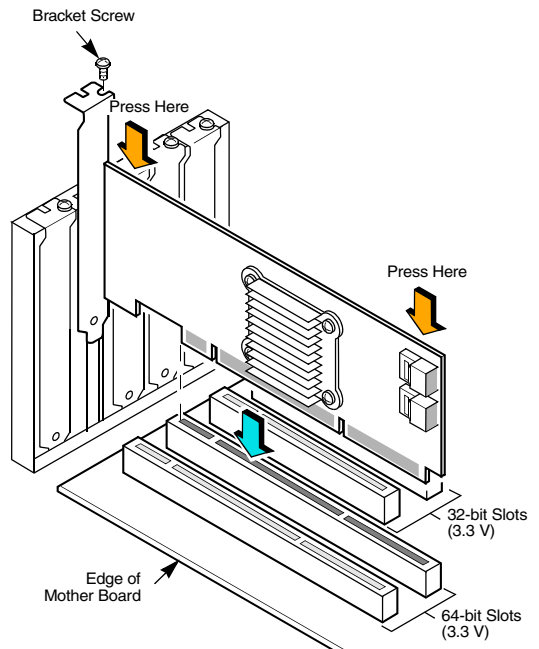Table 1 describes the jumpers and the connectors on the MegaRAID SATA 300-8XLP.

Table 1   MegaRAID SATA 300-8XLP Card Layout

Jumper/ Connector	Description	Type
J1	Battery Pack connector	20-pin connector. Provides interface to the remote battery pack.
J2	LED SATA Activity connector	2-pin connector. Provides LED interface to indicate SATA activity on one or more SATA drives.
J3	Firmware Initial-ization Mode Select	2-pin connector. If the firmware flashed onto the board is corrupted, you must install a jumper on J3 (this holds the CPU core in reset), so that you can flash the firm-ware. Remove the jumper after you flash the new firmware. No jumper: This is the setting during normal operation (Mode 3). This is the default. Jumper: This holds the CPU core in reset (Mode 0). 1. The card does not function as a RAID controller if this jumper is mounted.
J4	I^{2}C Interface	3-pin connector. Communicates with storage enclosure processor (SEP) devices.
J5	SATA 300-8XLP Ports	Ports 4–7. These ports connect the cables from the adapter to the SATA physical drives.
J6	Serial Port RS232 Debugger	4-pin jumper. Used for diagnostic purposes.
J7	BIOS Enable header	2-pin header. The BIOS function is enabled or dis-abled in software depending on the status of this jumper. No jumper: BIOS is enabled. This is the default. Jumper: BIOS is disabled. 2. The card does not function as a RAID controller if this jumper is mounted.
J8	SATA 300-8XLP Ports	Ports 0–3. The ports connect the cables from the adapter to the SATA physical drives.

Table 1   MegaRAID SATA 300-8XLP Card Layout

Jumper/ Connector	Description	Type
J9	LED SATA Activity Interface connector	16-pin (8x2) jumper. Provides LED interface individually to eight SATA ports. The LED indicates SATA activity on specific ports.
J10	LED Drive Fault Interface connector	16-pin (8x2) jumper. Provides an LED interface individually to eight SATA ports. The LED indi-cates a drive fault on specific ports.

Figure 2   Installing the MegaRAID SATA 300-8XLP RAID Controller

Bracket Screw
Press Here
Press Here
32-bit Slots (3.3 V)
Edge of Mother Board
64-bit Slots (3.3 V)

Step 4   Install the MegaRAID SATA 300-8XLP

Insert the MegaRAID SATA 300-8XLP in a PCI-X slot on the mainboard, as shown in Figure 2. Press down gently but firmly to seat the card properly in the slot. Secure the RAID controller to the computer chassis with the bracket screw.

Note: Refer to your mainboard guide for information about the PCI-X slot.

Step 5   Configure and Install the SATA Devices in the Host Computer Case

Refer to the documentation for the SATA devices for any pre-installation configuration requirements.

Step 6 **Connect the MegaRAID SATA 300-8XLP to the Serial ATA Devices**

Connect the SATA cables between the MegaRAID SATA 300-8XLP and the Serial ATA devices. Refer to Figure 1 to view jumper and connector locations on the controller.

Step 7 **Turn on the Power to the Computer**

Replace the computer cover and reconnect the power cord(s). Turn on the power to the computer. Ensure that the SATA devices are powered on before or at the same time as the host computer. The firmware takes several seconds to initialize. During this time the adapter scans the Serial ATA ports.

Step 8 **Run a Configuration Utility**

Run a configuration utility to configure the physical arrays and the logical drives. When the message "`Press <Ctrl><M>`" appears on the screen, press CTRL+M immediately to run the BIOS Configuration Utility. You can press CTRL+H to run the WebBIOS Configuration Utility, which is a web-based utility.

Note: Refer to the *MegaRAID Configuration Software User's Guide* on the *MegaRAID Universal Software Suite* CD for detailed steps on configuring physical arrays and logical drives.

Step 9 **Install the Operating System Driver**

The MegaRAID SATA 300-8XLP can operate under various operating systems. To operate under these operating systems, you must install the software drivers.

The *MegaRAID Universal Software Suite* CD includes drivers for the supported operating systems, along with documentation. You can view the supported operating systems and download the latest drivers for RAID adapters on the LSI web site at: http://www.lsilogic.com/cm/DownloadSearch.do.

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

Refer to the *MegaRAID Device Driver Installation User's Guide* on the *MegaRAID Universal Software Suite* CD for details on installing the driver. Be sure to use the latest service packs

provided by the operating system manufacturer and to review the `readme` file that accompanies the driver.

SUPPORTED RAID LEVELS

The MegaRAID SATA 300-8XLP supports disk arrays using the following RAID levels:

- **RAID 0 (Data striping):** Data is striped across all disks in the array, enabling very fast data throughput. There is no data redundancy. All data is lost if any disk fails.
- **RAID 1 (Disk mirroring):** Data is written simultaneously to two disks, providing complete data redundancy if one disk fails. The maximum array capacity is equal to the available size of the smaller of the two hard drives.
- **RAID 5 (Disk striping with distributed parity):** Data is striped across all disks in the array. Part of the capacity of each disk stores parity information that reconstructs data if a disk fails. Provides good data throughput for applications with high read request rates.
- **RAID 10 (RAID 1 and RAID 0 in spanned arrays):** Uses mirrored pairs of disks to provide complete data redundancy. Provides high data throughput rates.
- **RAID 50 (RAID 5 and RAID 0 in spanned arrays):** Uses both parity and disk striping across multiple disks to provide complete data redundancy. Provides high data throughput rates.

TECHNICAL SUPPORT

For assistance in installing, configuring, or running the MegaRAID SATA 300-8XLP RAID Controller, contact LSI Logic Technical Support:

E-mail:

support@lsil.com

eurosupport@lsil.com (Europe)

Phone Support:

1-800-633-4545 (North America)

+44 1344 413 441 (Europe)

Web Site:

http://www.lsilogic.com/support/support_form.html

http://www.lsilogic.com/support/phone.html