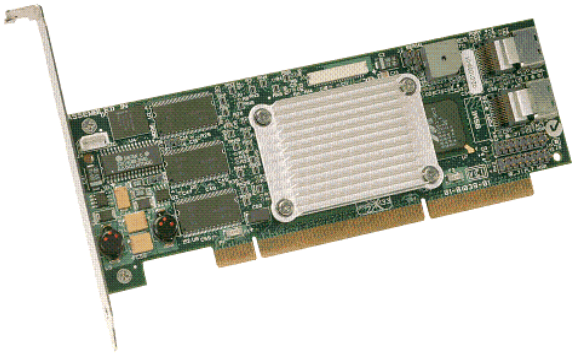
MegaRAID® SATA 300-8XLP RAID Controller

Quick Installation Guide



Thank you for purchasing the MegaRAID® SATA 300-8XLP (low-profile) RAID Controller. Please take a few minutes to read this quick instalation 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.

MegaRAID SATA 300-8XLP CONTROLLER INSTALLATION

CAUTION Make a backup of your data before you change your system configuration. Otherwise, you may lose data.

Step 1 **Unpack the MegaRAID SATA 300-8XLP 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 Make sure the computer is disconnected from the power and from any networks before installing the controller.

Step 3 **Review the Jumpers and Connectors**

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

Figure 1 MegaRAID SATA 300-8XLP RAID Controller Card Layout

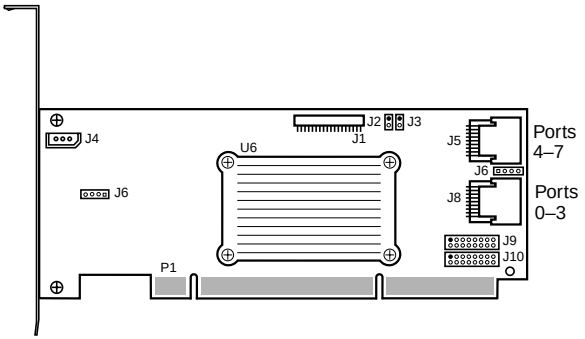


Table 1 describes the jumpers and connectors on the RAID controller.Jumpers and Connectors

Table 1 MegaRAID SATA 300-8XLP RAID Controller 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. When lit, it indicates SATA activity on one or more SATA drives.
J3	Serial Port RS232 Debugger	2-pin jumper. Used for diagnostic purposes.

Table 1 MegaRAID SATA 300-8XLP RAID Controller Card Layout (Cont.)

Jumper/ Connector	Description	Type
J4	I^2C 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 or port multiplier.
J6	Serial Port RS232 Debugger	4-pin jumper. Used for diagnostic purposes.
J8	SATA 300-8XLP Ports	Ports 0–3. The ports connect the cables from the adapter to the SATA physical drives or port multiplier.
J9	LED SATA Activity Connector Interface	16-pin (8x2) jumper. Provides LED interface individually to eight SATA ports. The LED indicates SATA activity on particular ports.
J10	LED Drive Fault Connector Interface	16-pin (8x2) jumper. Provides LED interface individually to eight SATA ports. The LED indicates a drive fault on particular ports.

Step 4 **Install the MegaRAID SATA 300-8XLP Controller**

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

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

Step 5 **Configure and Install the Serial ATA Devices**

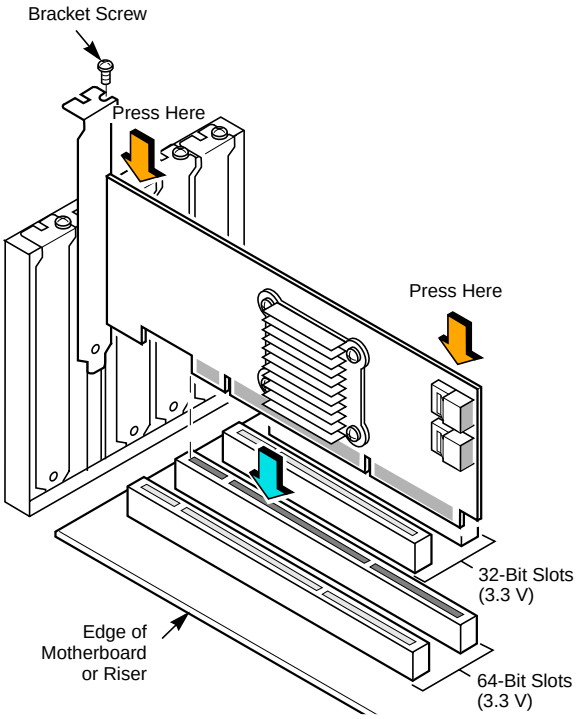
Configure the Serial ATA devices and install them in the host system computer case.

Note: Refer to the documentation for the Serial ATA devices for any pre-installation configuration requirements.

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

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

Figure 2 Installing the SATA 300-8XLP RAID Controller



Step 7 **Power-Up the Computer**

Replace the computer cover and reconnect the power cord(s). Turn on power to the computer. Ensure that the SATA devices are powered up before or at the same time as the host computer. If the computer is powered up before the SATA devices, the devices might not be recognized.

During boot, a MegaRAID BIOS message similar to the following displays:

```
LSI LOGIC MEGARAID BIOS VERSION xxxx
[date]
Copyright(c) 2005, LSI Logic Corp.
HA-1 (Bus x Dev y) LSI MegaRAID SATA
[300-4X, 300-8X, or 300-8XLP] PCI-X
Standard FW xxxx DRAM=xxx MB(SDRAM)
```

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

Step 8 **Run the MegaRAID BIOS Configuration Utility**

When the message "`Press <Ctrl><M>`" appears on the screen, press <Ctrl><M> immediately to run the MegaRAID BIOS Configuration 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 RAID Controller can operate under the MS-DOS operating system 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 *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 Logic web site at: http://www.lsilogic.com/downloads/main.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 review the `readme` file that accompanies the driver.

SUPPORTED RAID LEVELS

The MegaRAID SATA 300-8XLP Controller 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 installing, configuring, or running the MegaRAID SATA 300-8XLP Controller, contact LSI Logic Technical Support:

Phone Support:

1-800-633-4545 (North America)

+44 1344 413 441 (Europe)

Web Site: http://www.lsilogic.com/support/

PN: 80-00100-01 Rev. A

SATA 300-8XLP PN: 01039

DB11-000067-00, Version 1.0, October 2005

Find a list of LSI Logic Corporation's U.S. distributors, international distributors, sales offices, and design resource centers on the LSI Logic web site at:

http://www.lsilogic.com/contacts/index.html