

MegaRAID[®] SATA 300-8X RAID Controller


Quick Installation Guide



Thank you for purchasing the MegaRAID[®] SATA (Serial ATA) 300-8X (PCI-X) 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 related documents on your *MegaRAID Universal Software Suite CD*.

The SATA 300-8X supports the Battery Backup Unit 03 (LSIBBU03) and the intelligent Battery Backup Unit 01 (LSIBBU01). For more information about these batteries, refer to the *MegaRAID Battery Backup Unit User's Guide* on the *MegaRAID Universal Software Suite CD*.

MegaRAID SATA 300-8X CONTROLLER INSTALLATION

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

Step 1 Unpack the SATA 300-8X

Unpack and install the MegaRAID SATA 300-8X RAID 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 Adapter 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.



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 300-8X RAID Controller. The jumpers are set at the factory, and you usually do not need to change them.

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

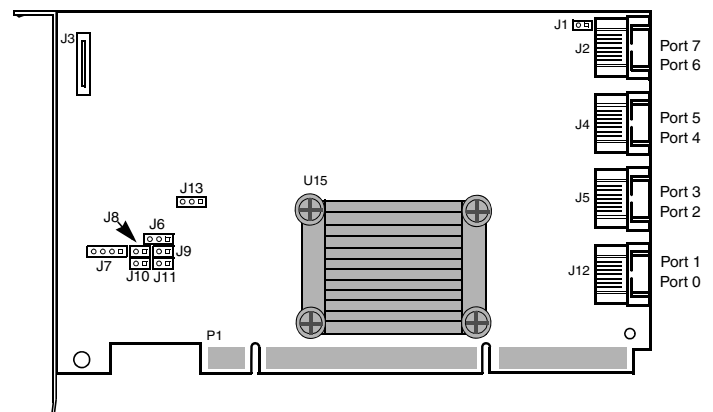


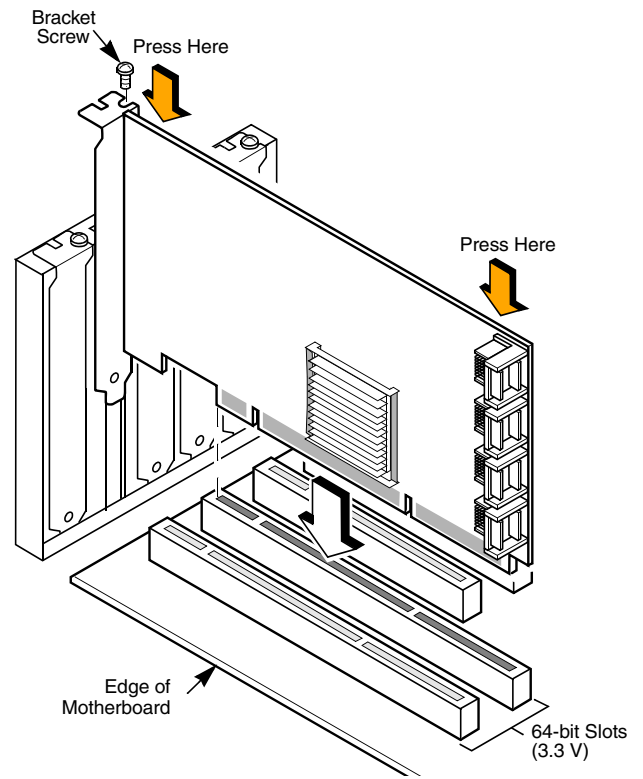
Table 1 describes the jumpers and connectors on the RAID controller.

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

Table 1 Jumpers and Connectors

Jumper, Connector	Description	Type
J1	LED SATA Activity Connector	2-pin connector. When lit, it indicates SATA activity on one or more SATA drives.
J2, J4, J5, J12	SATA 300-8X Ports	Ports 0–7. Used to attach the cables from the adapter to the SATA hard drives.
J3	BBU Daughter Card Connector	40-pin connector. Connector for an optional backup battery pack.
J6	Serial Port RS232 Interface	3-pin connector. Used for diagnostic purposes.
J7	I ² C Interface	4-pin connector. The I ² C interface is for communication with storage enclosure processor devices.
J8	Write Pending Activity (dirty cache) LED	2-pin connector. Connector for enclosure LED. Provides a signal that indicates when the onboard cache memory contains data and that a write from the cache to the hard drives is pending. Optional.
J9	Serial EEPROM Interface	2-pin jumper. When equipped with a connector from a serial programming device, J9 provides the interface for programming the onboard manufacturing-tracking serial EEPROM.
J10	BIOS Disable	2-pin jumper. Jumpered: BIOS disabled Unjumpered: BIOS enabled. This is the default.
J11	Mode Select	2-pin jumper. Reserved for LSI use.
J13	I ² C Interface	3-pin connector. The I ² C interface is for communication with storage enclosure processor devices.

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



Step 4 Install the MegaRAID SATA 300-8X RAID Controller

Insert the MegaRAID SATA 300-8X RAID Controller in a PCI-X slot, as shown in Figure 2. Press down gently but firmly to make sure that the card is properly seated in the slot. Attach the SATA 300-8X to the computer chassis with the bracket screw.

Step 5 Configure and Install the Serial ATA Devices in the Host Computer Case

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

Step 6 Connect the SATA 300-8X Storage Adapter to the Serial ATA Devices

Connect the Serial ATA cables between the SATA 300-8X storage adapter and the Serial ATA devices. Refer to the board graphic in step 3 to view connector locations on the board.

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. During boot, a MegaRAID BIOS message displays.

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

Run the BIOS 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 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 SATA 300-8X 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 the drivers for the supported operating systems. You can view the supported operating systems and download the latest drivers for RAID adapters on the LSI Logic web site at

<http://www.lsillogic.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.

applications with high read request rates. (3–8 disk drives)

- **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. (4–8 disk drives)
- **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. (6–8 disk drives)

TECHNICAL SUPPORT

For assistance in installing, configuring, or running the MegaRAID SATA 300-8X 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.lsillogic.com/support/>

SUPPORTED RAID LEVELS

The MegaRAID SATA 300-8X RAID 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. (1–8 disk drives)
- **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. (2 disk 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



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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.lsillogic.com/contacts/index.html>

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