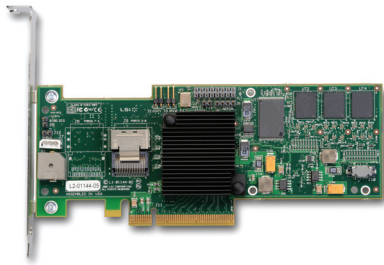# MegaRAID® SAS 8704EM2

Four-Port 3Gb/s PCI Express SAS/SATA RAID On Chip Adapter

Space-Saving RAID Adapter for Cost-Sensitive SAS/SATA Environments

KEY ADVANTAGES

- Low-profile MD2 form factor -- best fit for high density servers
- Fastest cache available – 667MHz DDRII
- One internal Mini-SAS connector for connecting SAS and SATA hard drives
- Proven LSI SAS1078 storage processor with RAID 5 and RAID 6 support

FEATURES

- Four internal SAS/SATA ports
- One Mini-SAS 4i connector (SFF8087)
- 3Gb/s throughput per port
- LSISAS1078 RAID on Chip
  - 500MHz PowerPC
  - Hardware RAID 5 & 6 engine
- x8 PCI Express Host Interface
- 128MB 667MHz DDRII cache memory
- Optional battery backup module
  - Direct attach
  - Rated 72 hours
- Connect up to 32 SAS and/or SATA drives
  - Up to 4 devices direct-connect
  - Up to 32 devices using SAS expanders
- RAID levels 0, 1, 5 and 6
- RAID Spans 10, 50 and 60
- Auto-resume on array rebuild
- Auto-resume array reconstruction
- Online Capacity Expansion (OCE)
- Online RAID Level Migration (RLM)
- Create 64 logical volumes
- Up to 64TB LUN support
- Comprehensive management tools
- Extensive online configuration options
  - Advanced monitoring and event notification
- Real-time and background media error monitoring and repair technologies

High-Performance RAID for 1U/2U Application Servers

The MegaRAID SAS 8704EM2, a second generation SAS/SATA RAID product from LSI, provides high-performance and cost-effective data protection for systems using SATA or SAS hard drives. Architected with a x8 PCI Express host interface, 667MHz DDRII memory, and the LSI SAS1078 ROC controller, the MegaRAID SAS 8704EM2 is a powerful RAID solution for traditional application servers employing four direct-connect drives or up to 32 drives using SAS expanders. With a true MD2 low-profile form factor, this adapter is ideal for today's data centers where space is at a premium.

RAID 6 for Advanced Data Protection

The MegaRAID SAS 8704EM2 supports all key RAID levels including RAID 6 and 60 for increased fault tolerance. RAID 6 tolerates two simultaneous drive failures, and thus the ability to manage unrecoverable media errors during re-builds. This is particularly useful when using a lot of high-capacity SATA disk drives.

Intuitive RAID Management Utility

The MegaRAID Management Suite™ provides the essential software tools to efficiently manage MegaRAID products, whether deployed in an enterprise or small business. LSI offers a collection of applications and tools including a pre-boot setup utility and a full spectrum of online RAID management utilities. This new suite of applications allow administrators to adjust SAS topology views from the system host, controller and disk enclosure down to the logical and physical drive level. Extending to enterprise deployments, these tools scale to easily configure, monitor and manage RAID volumes locally or over the LAN network.

Intelligent Battery Backup Support

The MegaRAID LSIiBBU06 is a battery-backup module that protects the integrity of the cached data on a MegaRAID controller in the event of a complete power or server failure. This add-on module, which connects directly to the adapter, has the added functionality to automatically charge the battery pack and communicate with the host system the battery status, such as voltage, temperature, and capacity.

Solution Provided	**Four-port internal SAS/SATA solution for cost-sensitive 1U and 2U application server environments using up to 32 SAS or SATA hard drives.**
Physical Dimensions	MD2 Low profile (6.6" X 2.536")
Connectors	**One Mini-SAS SFF8087 4i internal connector**
Device Support	Up to 32 SAS and/or SATA hard drives with SAS expanders
Host Bus Type	■ x8 lane PCI Express 1.0a compliant ■ PCI Power Management Specification 1.1 compliant
Data Transfer Rates	Up to 3Gb/s per port
I/O Processor/SAS Controller	**LSI SAS1078 RAID on Chip (ROC)**
Cache Memory	128MB 667MHz DDR II SDRAM
Battery Backup Unit	**LSIiBBU06, an intelligent battery backup module option that directly connects to the adapter**

Key RAID Data Protection Features	■ RAID levels 0, 1, 5, and 6
	■ RAID spans 10, 50 and 60
	■ Online Capacity Expansion (OCE)
	■ Online RAID Level Migration (RLM)
	■ Auto resume after loss of system power during arrays array rebuild or reconstruction (RLM)
	■ Configurable stripe size up to 1MB
	■ Fast initialization for quick array setup
	■ Check Consistency for background data integrity
	■ Patrol read for media scanning and repairing
	■ 64 logical drive support
	
	■ DDF compliant Configuration on Disk (COD)
	■ S.M.A.R.T support
	■ Hot Spare support
	  – Automatic rebuild
	  – Global and dedicated
	  – Enclosure affinity
	  – Emergency SATA hot spare for SAS arrays
	■ Enclosure management
	  – SES (inband)
	  – SGPIO (sideband)

Operating Temperature	**Maximum ambient: 50°C (40°C w/iBBU)**
Operating Voltage	+3.3V
Warranty	**3 years, free advanced technical support, advanced replacement option**
Regulatory Certifications	EN55022, EN50082, EN60950; FCC Class A, Class B; Ul1950; UL; CSA C22.2; VCCI; AS3548; BSMI; MIC
RAID Management	**MegaRAID Management Suite** ■ MegaRAID Storage Manager ■ MegaCLI (command-line interface) ■ WebBIOS
OS Support	Extensive support includes Microsoft® Windows® Vista/ Server 2008/Server 2003/2000/XP, Linux®, Solaris (x86) and more. * Visit the LSI download Center for the most complete list of supported operating systems: *lsi.com/support*

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For more information and sales office locations, please visit the LSI web sites at: lsi.com lsi.com/contacts

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