# LSI® 6Gb/s PCI Express® 3.0 SATA+SAS RAID Controllers

## 4 and 8-port, 6Gb/s SATA+SAS to PCI Express 3.0 RAID Controllers

### Unmatched RAID Performance for Next-Generation Servers and Storage

Today's data center, cloud and high-performance computing environments not only require increased storage capacity to handle massive volumes of data, but are also challenged to protect and deliver data as quickly as possible to meet the needs of applications and end users. To address these performance demands as capacity scales, the newest 6Gb/s SAS RAID controllers from LSI offer a powerful combination of intelligent performance, enterprise RAID data protection and proven interoperability with the latest server platforms based on the PCI Express 3.0 specification. Available in four and eight port options, these controllers deliver two 800MHz PowerPC® processor cores and a 72-bit DDRIII interface that drives 1GB cache memory. Powered by the LSISAS2208 dual-core ROC, these controllers include the latest PCI Express 3.0 and 6Gb/s SAS technology and are great for configuring external storage enclosures with high-performance SAS hard drives, high-capacity SATA hard drives or application-accelerating SSDs or for building more sophisticated configurations using LSI 6Gb/s SAS Switch products.

### Key Advantages

- Unmatched RAID performance
- Controllers with internal connectors connect up to 128 3Gb/s and 6Gb/s SATA and SAS hard drives or solid state drives (SSDs)
- Controllers with external connectors support JBOD expansion for up to 240 3Gb/s and 6Gb/s SATA and SAS hard drives or SSDs
- Support for LSI Advanced Software Options

### Key Features

- LSISAS2208 Dual- core 6Gb/s ROC - x2 800MHz PowerPC Processors
- PCI Express 3.0 Host Interface
- 1GB DDRIII cache memory
- RAID Levels 0, 1, 5, 6, 10, 50 and 60

### Intuitive RAID Management Utility

The MegaRAID Management Suite™ software provides essential tools to manage MegaRAID® products. This suite of applications allows administrators to adjust SAS or SATA 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 more easily configure, monitor and manage RAID and JBOD volumes locally or over the LAN network.

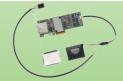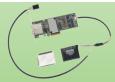| LSI MegaRAID SAS 9270-8i | LSI MegaRAID SAS 9271-4i | LSI MegaRAID SAS 9271-8i | LSI MegaRAID SAS 9271-8iCC | LSI MegaRAID SAS 9286-8e | LSI MegaRAID 9286-CV-8e | LSI MegaRAID SAS 9286CV-8eCC |
|---|---|---|---|---|---|---|
| • Two Mini-SAS internal connectors (SFF8087)<br>• Eight internal 6Gb/s SATA+SAS ports<br>• Optional heat tolerant battery backup | • One Mini-SAS internal connectors (SFF8087)<br>• Four internal 6Gb/s SATA+SAS ports<br>• Support for NAND flash or BBU cache protection solution | • Two Mini-SAS internal connectors (SFF8087)<br>• Eight internal 6Gb/s SATA+SAS ports<br>• Support for optional heat tolerant battery backup | • Two Mini-SAS internal connectors (SFF8087)<br>• Eight internal 6Gb/s SATA+SAS ports<br>• Support for NAND flash or BBU cache protection solution | • Two Mini-SAS external connectors (SFF8088)<br>• Eight external 6Gb/s SATA+SAS ports<br>• Support for optional heat tolerant battery backup | • Two Mini-SAS external connectors (SFF8088)<br>• Eight external 6Gb/s SATA+SAS ports<br>• Includes MegaRAID CacheVault™ Flash Cache Protection | • Two Mini-SAS external connectors (SFF8088)<br>• Eight external 6Gb/s SATA+SAS ports<br>• Includes MegaRAID CacheVault Flash Cache Protection |
| Single: LSI00326<br>Kit:   LSI00327 | Single: LSI00328<br>Kit:   LSI00329 | Single: LSI00330<br>Kit:   LSI00331 | Single: LSI00334 | Single: LSI00332 | Single: LSI00333 | Single: LSI00335 |
| LSIiBBU09  Kit: LSI00279 | | | LSICVM01: LSI00297 | | BBU-BRACKET-05: LSI00291 | |

| | MegaRAID SAS 9270-8i | MegaRAID SAS 9271-4i | MegaRAID SAS 9271-8i | MegaRAID SAS 9271-8iCC | MegaRAID SAS 9286-8e | MegaRAID SAS 9286CV-8e | MegaRAID SAS 9286CV-8eCC |
|---|---|---|---|---|---|---|---|
| **Physical Dimensions** | MD2 Low profile  (6.6" x 2.536") | | | | | | |
| **Internal connectors** | Two Mini-SAS SFF8087 internal connectors | One Mini-SAS SFF8087 internal connector | Two Mini-SAS SFF8087 internal connectors | Two Mini-SAS SFF8087 internal connectors | Two Mini-SAS SFF8088 external connectors | Two Mini-SAS SFF8088 external connectors | Two Mini-SAS SFF8088 external connectors |
| **Device Support** | Up to 128 SAS and/or SATA hard drives and SSDs | Up to 128 SAS and/or SATA hard drives and SSDs | Up to 128 SAS and/or SATA hard drives and SSDs | Up to 128 SAS and/or SATA hard drives and SSDs | Up to 240 SAS and/or SATA hard drives and SSDs | Up to 240 SAS and/or SATA hard drives and SSDs | Up to 240 SAS and/or SATA hard drives and SSDs |
| **Host Bus Type** | X8 lane PCI Express 3.0 compliant | | | | | | |
| **Data Transfer Rates** | Up to 6Gb/s per port | | | | | | |
| **I/O Processor/SAS Controller** | LSISAS2208 Dual-Core RAID on Chip (ROC) | | | | | | |
| **Cache Memory** | 1GB 13333MHz DDRIII SDRAM | | | | | | |
| **Cache Protection** | MegaRAID LSIiBBU09 (Optional LSIiBBU09/ LSI00279) | MegaRAID CacheVault flash cache (optional –LSICVM01/ LSI00297) MegaRAID LSIiBBU09 (Optional –LSIiBBU09/LSI00279) | MegaRAID CacheVault flash cache (optional –LSICVM01/ LSI00297) MegaRAID LSIiBBU09 (Optional –LSIiBBU09/LSI00279) | MegaRAID CacheVault flash cache (optional –LSICVM01/ LSI00297) MegaRAID LSIiBBU09 (Optional –LSIiBBU09/LSI00279) | MegaRAID LSIiBBU09 (Optional LSIiBBU09/ LSI00279) | MegaRAID CacheVault flash cache protection (included) | MegaRAID CacheVault flash cache protection (included) |
| **Key RAID Data Protection Features** | • RAID levels 0, 1, 5, and 6<br>• RAID spans 10, 50 and 60<br>• Online Capacity Expansion (OCE)<br>• Online RAID Level Migration (RLM)<br>• Auto resume after loss of system power during arrays array rebuild or reconstruction (RLM)<br>• Single controller Multipathing (failover)<br>• Load Balancing<br>• Configurable stripe size up to 1MB<br>• Fast initialization for quick array setup | | | • Check Consistency for background data integrity<br>• SSD Support with SSD Guard™ technology<br>• Patrol read for media scanning and repairing<br>• 64 logical drive support<br>• Up to 64TB LUN support<br>• DDF compliant Configuration on Disk (COD)<br>• S.M.A.R.T support<br>• Global and dedicated Hot Spare with Revertible Hot Spare support – Automatic rebuild – Enclosure affinity – Emergency SATA hot spare for SAS arrays<br>• Enclosure management – SES (inband) – SGPIO (sideband) | | | |
| **Operating Voltage** | +3.3V, +12V | | | | | | |
| **MTBF (Calculated)** | 1,251,284 hours | 1,031,514 hours | 1,031,514 hours | 1,031,514 hours | 808,712 hours | 1,251,284 hours | 1,251,284 hours |
| **Hardware Warranty** | 3 years, free advanced technical support, advanced replacement option | | | | | | |
| **Regulatory Certifications** | EN55022, EN55024, EN60950, EN 61000-3-2, EN 61000-3-3; FCC Class A, Class B; UL1950; UL; CSA C22.2; VCCI; RRL for MIC; BSMI; C-tick | | | | | | |
| **RAID Management** | MegaRAID Management Suite MegaRAID Storage Manager | | | MegaCLI (command-line interface) WebBIOS | | | |
| **Optional SSD Optimization** | MegaRAID CacheCade® Pro 2.0 Software leverages SSDs in front of HDD volumes to create high-capacity, high-performance controller cache pools (Enabled for MegaRAID SAS 9271-8iCC and 9286CV-8eCC)) MegaRAID Fast Path Software provides high-performance I/O acceleration for SSD arrays connected to 6gb/s MegaRAID SATA+SAS controllers (Enabled for MegaRAID SAS 9271-8iCC and 9286CV-8eCC)) | | | | | | |
| **OS Support** | Extensive support includes Microsoft® Windows® Vista/2008/Server 2003/2000/XP, Linux®, Solaris™ (x86), Netware®, FreeBSD®, VMware® and more. * Visit the LSI download Center for the most complete list of supported operating systems: lsi.com/channel/support | | | | | | |

**LSI** ®

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