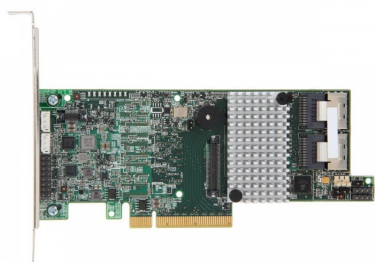


Broadcom 9271-8i Datasheet



Broadcom LSI 9271-8i LSI00330 PCIe 3.0 x8 LSISAS2208 8 Internal Ports 6Gb/s SATA+SAS RAID Controller

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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 Broadcom 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. The MegaRAID SAS 9271-8i, with eight internal ports, delivers two 800MHz PowerPC® processor cores and a 72-bit DDRIII interface that drives 1GB cache memory. Powered by the LSI SAS 2208 dual-core ROC, the 9271-8i controller includes the latest PCI Express 3.0 and 6Gb/s SAS technology and helps users to maximize the performance benefits of solid state storage.

Protect Cached Data with MegaRAID CacheVault™ Technology or BBU

RAID caching is a cost-effective way to improve I/O performance by writing data to a controllers' cache before it is written to disk. In write-back mode, data written to cache is vulnerable until it is made permanent on disk. To avoid the possibility of data loss or corruption during a power or server failure, Broadcom offers the CacheVault flash cache protection module or the LSIiBBU09 battery backup unit for the MegaRAID SAS 9271-8i controller. CacheVault flash cache protection uses NAND flash memory powered by a super-capacitor to help protect data stored in the MegaRAID controller cache. The RAID controller automatically writes the data in cache memory to flash storage when a power failure occurs, while the super-capacitor keeps the current going during the process. When the power comes back, the DRAM is recovered from flash storage and the system goes on without loss of data. Customers have the flexibility to

choose a traditional LiON battery solution or a greener, lower total cost of ownership (TCO) cache protection solution with MegaRAID CacheVault technology.

Support for Advanced Software Options

The family of 6Gb/s MegaRAID controllers are designed to support advanced software options that provide white box channel partners with enhanced performance and data protection capabilities. These new software options help enable end users to address key business challenges while helping to deliver a higher return on their IT investments.

MegaRAID CacheCade™ Pro 2.0 software and MegaRAID Fast Path software boost transactional I/O performance of solid state disk configurations, while MegaRAID Recovery software and MegaRAID SafeStore™ software enable enhanced data protection and security.

Intuitive RAID Management Utility

The MegaRAID Management Suite™ software provides essential tools to manage MegaRAID products, whether deployed in an enterprise or small business. Broadcom offers a collection of applications and tools including a pre-boot setup utility and a full spectrum of online RAID management utilities. 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.

Features

- Eight internal 6Gb/s SATA+SAS ports
- Two Mini-SAS internal connectors (SFF8087)
- SAS 2208 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
- Support for NAND flash or BBU cache protection solution

Key Advantages

- Unmatched RAID performance
- Connect up to 128 3Gb/s and 6Gb/s SATA and SAS hard drives or SSDs
- Helps users realize potential of solidstate storage deployments
- CacheVault technology option for greener, lower total cost cache protection (LSICVM01)
- Heat-tolerant battery backup option (LSiBBU09)

Specifications

- Product: MegaRAID SAS 9271-8i
- MPN: L5-25413-18
- OPN: LSI00330
- Solution Provided: Eight-port internal SAS solution for performance-hungry applications using up to 128 SAS, SATA and solid state drives (SSDs)
- Physical Dimensions: MD2 Low profile (6.6" X 2.536")
- Connectors: Two Mini-SAS SFF8087 internal connectors (side mount)
- Device Support: Up to 128 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: LSI SAS 2208 Dual-Core RAID on Chip (ROC)
- Cache Memory: 1 GB 1333MHz DDRIII SDRAM
- Cache Protection:
 - MegaRAID CacheVault flash cache protection (optional – LSICVM01 / LSI00297)
 - MegaRAID LSiBBU09 (optional – LSiBBU09 / LSI00279)
- 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 array rebuild or reconstruction (RLM)
 - Single controller Multipathing (failover)
 - Load Balancing
 - Configurable stripe size up to 1MB
 - Fast initialization for quick array setup
 - Check Consistency for background data integrity

- SSD Support with SSD Guard™ technology
- Patrol read for media scanning and repairing
- 64 logical drive support
- DDF compliant Configuration on Disk (COD)
- S.M.A.R.T support
- Global and dedicated Hot Spare with Revertible Hot Spare support
 - Automatic rebuild
 - Enclosure affinity
 - Emergency SATA hot spare for SAS arrays
- Enclosure management
 - SES (inband)
 - SGPIO (sideband)
- Operating Temperature: Maximum ambient: Controller Card: 60°C, with optional CVM01: 55°C, with optional LSIiBBU09: 55°C
- Operating Voltage: +3.3V, +12V
- MTBF (Calculated): 1,031,514hours
- 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
 - MegaRAID Fast Path Software provides high-performance I/O acceleration for SSD arrays connected to 6Gb/s MegaRAID SATA+SAS controllers
- OS Support: Extensive support includes Microsoft® Windows® Vista/2008/Server 2003, Linux® , Solaris™ (x86), FreeBSD® , VMware® and more.

For more information of this Broadcom MegaRAID SAS 9271-8i SATA+SAS RAID Controller, please visit Broadcom website: <https://docs.broadcom.com/doc/12351923>

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