



LSI SAS9212-4i4e

Product Brief

LSI SAS9212-4i4e

8-port, 6Gb/s SAS+SATA to PCI Express Host Bus Adapter

8-port SAS HBA Provides High Performance for Internal and External Storage Connections

TYPICAL USES



File Storage



Database



Video-on-Demand



Storage Appliance



Email



Video Surveillance

KEY FEATURES

- 4 Internal and 4 external 6Gb/s SAS+SATA ports
- 8 lanes, PCI Express 2.0
- Low profile form factor design
- Four x1 internal SATA connectors
- One x4 mini-SAS external connector (SFF8088)
- LSISAS2008 6Gb/s SAS+SATA Controller
- Supports up to 256 SAS or SATA end devices
- Supports SSDs, HDDs and tape drives
- Offers Integrated RAID (0, 1, 1E and 10)

KEY ADVANTAGES

- Provides state of the art connectivity for servers and appliances with internal storage and the ability to add external storage
- 8 lanes of PCI Express 2.0 provides fast signaling for high-bandwidth applications
- High performance with 6Gb/s data transfer rates

Overview

The LSI SAS9212-4i4e host bus adapter provides high performance for internal and external storage connections. The LSI SAS9212-4i4e provides 8 lanes of 6Gb/s SAS and is matched with 8 lanes of PCI Express 2.0 5Gb/s performance to eliminate bottlenecks. Performance is based on the LSISAS2008 IO controller that highly integrates the latest enhancements in PCI Express and SAS technology.

The LSI SAS9212-4i4e has four x1 internal SATA connectors and one x4 mini-SAS external connector (SFF8088) enabling a low profile solution which provide SAS and SATA data transfer rates of 1.5, 3 and 6Gb/s per lane through automatic speed negotiation that can achieve over 320,000 IOPs. Enhanced features include T-10 Protection Information Model for early detection of and recovery from data corruption, and Spread Spectrum Clocking (SSC) for minimal EMI.

SAS Leadership

LSI offers the broadest SAS product portfolio in the industry with true end-to-end solutions including controllers, expanders, active-active multiplexers, ROCs, host bus adapters, RAID solutions, and external storage. LSI's proven SAS core has completed extensive stress and interoperability testing resulting in the industry's most robust, interoperable solution.

LSI has supplied leading edge serial technology to systems throughout the world for over seven generations, making LSI the most experienced enabler of serial interconnect for storage in the world. Integrators can be assured that their LSI adapter is providing the most advanced and robust serial technology available.

Fusion MPT Architecture

The LSI SAS host bus adapters are based on the Fusion MPT™ architected SAS controllers, which implements LSI's Fusion-MPT (Message Passing Technology) architecture. Each controller features embedded PowerPC™ processors that deliver maximum host CPU offload. The built-in intelligence enables LSI to publish a single binary OS driver to operate any Fusion MPT controller or adapter. The architecture enables high performance, reduced software development, and faster time to market.



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LSI SAS9212-4i4e HOST BUS ADAPTER

IO Controller	LSI SAS2008/ Fusion MPT 2.0											
Storage Connectivity Data Transfer Rates	8 ports, 6Gb/s SAS 2.0 Compliant											
SAS Bandwidth	Half Duplex 600 MB/s per lane											
Port Configurations	4 ea, x1 internal ports (individual drives) 4 ea, x1 external ports 1 ea, x4 external wide port											
Host Bus	x8 lane, PCI Express 2.0 compliant											
PCI Data Burst Transfer Rates	Half Duplex x8, PCIe, 4000 MB/s											
Physical Dimensions	Low Profile (2.6" x 6.6")											
Connectors	Four x1 internal SATA , One x4 external mini-SAS (SFF8088)											
Brackets	Full height and low profile											
Cable Support	Passive Copper											
Host Bus Type	x8 lane, PCI Express 2.0											
PCI Card Type	3.3V Add-in Card											
Operating Voltage	+12V +/-8%; 3.3V +/-8%											
PCI Power (Nominal)	9W typical (Airflow min 200 LFM)											
Device Support	256 Non-RAID SAS/SATA devices											
Integrated RAID (IR)	<table style="width: 100%; border: none;"> <tr> <td style="width: 150px;"></td> <td>14 spread across 2 volumes</td> </tr> <tr> <td>RAID 0</td> <td>10 per volume</td> </tr> <tr> <td>RAID 1</td> <td>2 per volume plus hot spare</td> </tr> <tr> <td>RAID 1E</td> <td>10 per volume</td> </tr> <tr> <td>RAID 10</td> <td>10 per volume</td> </tr> </table>			14 spread across 2 volumes	RAID 0	10 per volume	RAID 1	2 per volume plus hot spare	RAID 1E	10 per volume	RAID 10	10 per volume
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5 to 90% Non-condensing	5 to 90% Non-condensing											
MTBF	>2,000,000 hours											
Regulatory Certifications	EMC: Class B-US (CFR 47, P15B); Canada (ICES-003); Japan (V-3/02.04); Europe (EN55022/EN55024); Australia/New Zealand (AS/NZS 3548); Safety: EN60950; RoHS 6 of 6; WEEE											
OS Support	Microsoft Windows, Linux (SuSE , Red Hat), Solaris, VMware See http://www.lsi.com/channel/ChannelDownloads for details on versions											
Warranty	3 years; with advanced replacement option Free technical support at http://www.lsi.com/channel/support											

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