

## Avago SAS 9211-4i

### 4-Port, 6Gb/s SAS+SATA to PCI Express Host Bus Adapter



#### Key Features

- 4 internal 6Gb/s SAS+SATA ports
- 4 lanes, PCIe 2.0
- Low profile form factor design
- One x4 internal mini-SAS connector (SFF8087)
- SAS 2004 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 entry level servers with internal storage
- 4 lanes of PCIe 2.0 provides fast signaling for high-bandwidth applications
- High performance with 6Gb/s data transfer rates

## 4-Port SAS HBA Provides State of the Art Connectivity for Internal Storage Connections

### Overview

The Avago SAS 9211-4i, host bus adapter provides high performance for internal drive connectivity in 1U and 2U servers and workstations. The SAS 9211-4i provides 4 lanes of 6Gb/s SAS and is matched with 4 lanes of PCI Express (PCIe) 2.0 5Gb/s performance to eliminate bottlenecks. Performance is based on the SAS 2004 IO controller that highly integrates the latest enhancements in PCIe and SAS technology. The HBA supports up to 256 SAS or SATA devices.

The SAS 9211-4i has one (x4) internal mini-SAS connector (SFF8087) enabling a low profile solution which provides SAS and SATA data transfer rates of 1.5, 3 and 6Gb/s per lane through automatic speed negotiation that can achieve over 160,000 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.

### Storage by LSI™

Avago Technologies products serve four primary target markets: wireless communications, wired infrastructure, enterprise storage, and industrial. Avago Storage by LSI offers the industry's broadest portfolio of storage solutions, backed by decades of experience and trusted by the world's leading server and storage suppliers. Avago provides the building blocks for storage solutions that help customers understand, prioritize, store and protect critical data.

The Avago SAS portfolio includes MegaRAID® controller cards, host bus adapters (HBAs), advanced software options, Syncro® shared DAS solutions and SAS storage ICs, including RAID-on-Chip (ROCs), I/O controllers and expanders.

### Fusion-MPT™ Architecture

Fusion-MPT architecture marks the next generation of I/O architecture designed to deliver the highest performance available today while reducing time to market, integration, and certification time. Fusion-MPT devices are high performance, cost-effective protocol controllers that represent the newest system-level integration technology in intelligent I/O processors from Avago.

SAS 9211-4i Host Bus Adapter											
I/O Controller	SAS2004/ Fusion MPT 2.0										
Storage Connectivity ; Data Transfer Rates	4 ports; 6Gb/s SAS 2.0 compliant										
SAS Bandwidth	Half Duplex 600 MB/s per lane										
Port Configurations	4 ea, x1 ports (individual drives) 1 ea, x4 wide port										
Host Bus	x4 lane, PCI Express 2.0 compliant										
PCI Data Burst Transfer Rates	Half Duplex X4, PCIe 2000 MB/s										
Physical Dimensions	Low Profile (2.7" x 6.6")										
Connectors	One x4 Mini-SAS SFF8087 internal connector										
Brackets	Full height and low profile										
Cable Support	Passive Copper										
Host Bus Type	x4 lane, PCI Express 2.0										
PCI Card Type	3.3 V Add-in Card										
Operating Voltage	+12V +/-8%; 3.3V +/-8%										
PCI Power (Nominal)	7W typical (Airflow min 200 LFM)										
Device Support	256 Non-RAID SAS/SATA devices										
Integrated RAID (IR)	<table border="0"> <tr> <td></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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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; WEEE										
OS Support	Microsoft Windows, Linux (SuSE , Red Hat), Solaris, VMware See <a href="http://www.lsi.com/support/pages/download-search.aspx">http://www.lsi.com/support/pages/download-search.aspx</a> for details on versions										
Warranty	3 years; with advanced replacement option Free technical support at <a href="http://www.lsi.com/support">http://www.lsi.com/support</a>										

### Ordering Information

SAS 9211-4i SGL

MPN: H5-25211-01

OPN: LSI00190



Visit the Avago Server Storage website at: [avagotech.com/server-storage](http://avagotech.com/server-storage)

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