



“Going Green Makes Sense”

## RocketRAID 4300 Series High-Performance PCI-Express x8 to SAS/SATA

### Highlights

- Intel® IOP348(1.2GHz) RAID Engine with hardware RAID (XOR) and RAID 6 (P+Q)
- 128 max drives via SAS expanders
- 749MB/s sequential reads and 628MB/s write RAID 6 performance.
- PCI-Express x8 bus technology for fast data transfers

### HighPoint Architecture™

- 1) TerabyteStream™ - An intelligent algorithm delivering maximum sustained performance by dynamically detecting I/O streams leveraging a powerful I/O processor with onboard cache.
  - 2) TerabyteGuard™ - A selection of security features designed to maintain RAID integrity via routine inspection of storage hardware for defects induced by wear and tear.
  - 3) TerabyteSaver™ - Maximizes the rate of data recovery and prevents data loss in the event of unexpected failures; ensuring data availability and business continuity.
- Independent RAID Module Onboard - Remote management.
  - Supports advanced SAS/ SATA II features including 3Gb/s and NCQ
  - RAID levels 0, 1, 3, 5, 6, 10, 50, and JBOD

The RocketRAID 4300 series based on HighPoint's TerabyteArchitecture and high-performing Intel®IOP348 I/O Processor delivers enterprise-class SAS RAID 5 and RAID 6 performance (749MB/s read and 628MB/s write) for mission critical applications that require higher levels of sustained performance, availability and native expansion.

### Intel® IOP348 (1.2GHz) - RAID I/O Processor

The Intel® IOP348(1.2GHz) is one of the industry's highest performing RAID I/O processor engines for multi-channel SATA hardware RAID 5/6 controllers.

The RocketRAID 4300 series of PCI-Express hardware RAID controllers leverage the ADMA architecture in the Intel IOP348(1.2GHz) to deliver the industry's leading RAID 6 performance with sustained transfer rates over 749MB/s Read and over 628MB/s Write.

The RocketRAID 4300 series are available in 8 port configurations and have internal and external mini-SAS connectors. All RocketRAID 4300 series controllers support RAID level 0,1,3, 5,6,10, and JBOD.

### RAID 6 Dual Parity Portection

The RocketRAID 4300 series offer robust hardware RAID 6 protection, an additional disk drive failure tolerance provided by a second independent distributed parity scheme. It provides protection for mission-critical data from two concurrent disk drive failures. For instance, eliminating the risk of data loss if a second drive fails while rebuilding is in process.

An optional Battery Back Up with integrated write journaling enhances data availability through rapid data recovery from power outage events.

### Connect and Manage

The RocketRAID 4300 SAS/SATA series utilize the industry's fastest connectivity with PCI-Express x8 bus speed to deliver over 1.2GB/s throughput. Compatibility with industry standard SAS expanders will maximize scalability to 128 devices.

The HighPoint RAID Management (HRM) Suite is a complete spectrum of application tools. INRMB (Independent RAID Module on Board) is the industry's premier RAID management interface that provides a dedicated physical path to manage RAID arrays. The INRMB offers a robust and convenient management tool with cross platform support out of the box.

### SAS Enterprise Applications

The RocketRAID 4300 series is ideal for storage hungry, 24 x7 online access and flexible storage applications. These applications are utilized in financial institutions and online eCommerce.

The RocketRAID 4300 delivers a complete suite of RAID features for SAS connectivity and with HighPoint TerabyteArchitecture make it ideal for SAS enterprise applications.



### APPLICATIONS FOR HIGHPOINT RAID CONTROLLERS



Servers



Security/  
Surveillance



Video  
Editing



Super  
Computing



NAS



Video  
On-Demand



Pro  
Audio



Disk-to-Disk  
Backup

# RocketRAID 4300 Series

## RocketRAID 4300 Series Features

- HighPoint TerabyteArchitecture™ - (TerabyteStream™, TerabyteGuard™ and TerabyteSaver™)
- HighPoint TerabyteStream™ leverages Intel ADMA to deliver Hardware Embedded Acceleration for RAID 5 XOR and RAID 6 (P+Q)
- Intel IOP348 (1.2GHz) processor and RAID offload provides true hardware RAID
  - SCSI device driver model to take advantage of the benefits of SCSI using SAS or inexpensive Serial ATA drives
- Bootable array support for greater fault tolerance of your OS
- Variable stripe size for performance tuning by application
- 64-bit LBA support (greater than 2TB volume)
- ATA pass-through mode support
- Up to 512MB DDR2 memory with ECC protection
- 128 max disk drives via SAS expanders
- Multiple SAS/SATA RAID sets
- RAID Management suite
  - RocketRAID 4300 series BIOS/Firmware configuration tool
  - RocketRAID web GUI - browser-based management tool
  - Command Line Interface (CLI) – scriptable configuration tool
- SNMP (Simple Network Transport Protocol)
- SMTP - for email notification of RAID events
- Independent RAID Module on Board - remote management and troubleshooting of RAID array
- Variable Sector Size (VSS) for auto address over 2TB of storage
- Battery Backup Unit (BBU) support
- Multiple logical unit sizes and RAID levels on one card
- Multiple card support within a system for large storage requirements
- Hot-swap and hot-spare support for data availability
- Dynamic sector repair and remapping to reduce dropped drives
- S.M.A.R.T. disk drive monitoring for reliability
- Auto Rebuild with new drive insertion
- Drive activity LED and Failed LED support
- Online Capacity Expansion and Online RAID Level Migration
- Write journaling for improved performance and data protection
- Automatic drive insertion and removal notification (Spare / New Inserted Hard Drive)
- Chassis Control Unit for enclosure management via I2C and SGPIO
- RoHS compliant

## Operating System Support

- Microsoft® Windows® 2008/2003/XP/2000, Vista 32 and 64 bit WHQL Certified Windows (2003/2008, Vista 32 and 64bit)
- Red Hat Enterprise Linux, Open SuSE, Fedora Core, Debian, Ubuntu FreeBSD and Mac OS X.
- Linux driver embedded into kernel 2.6.25 and higher.

## RocketRAID 4300 Series Specifications

- Low profile form factor (8-port configurations)
- PCI Express x8 configurations, PCI Express 1.1 compliant
- Serial ATA 2.6 Specification support
- Serial Attached SCSI (SAS) 1.1 Specification support
- BIOS PnP (plug and play) and BBS (BIOS boot specification) support
- Operating Temperature Without BBU: 0°C to 50°C  
With BBU: 10°C to 40°C
- Power Requirements 18W maximum
- Dimensions
  - RocketRAID 4322 6.45"L x 2.63"H (163.0mm L x 68.0mm H)
  - RocketRAID 4321 6.57"L x 2.68"W (167.0mm L x 68.9mm H)
  - RocketRAID 4320 6.75"L x 2.63"H (167.0mm L x 68.0mm H)
  - RocketRAID 4311 6.75"L x 2.68"H (167.0mm L x 68.0mm H)
  - RocketRAID 4310 6.75"L x 2.68"H (167.0mm L x 68.0mm H)

## Service and Support

- 3-year warranty
- Support via email at support@highpoint-tech.com
- For latest motherboard and hard drive compatibility lists go to: [www.highpoint-tech.com](http://www.highpoint-tech.com)

## Accessories

- BBU-03 Battery Backup Unit
- Int-MS-1M4S (1m (3ft) SFF-8087 to SATA)
- Ext-MS-1M4ES (1m (3ft) SFF-8088 to eSATA)
- Ext-MS-1MIB (Latch) (1m (3ft) SFF-8088 to SFF-8470)
- Ext-MS-1MSB (Screw) (1m (3ft) SFF-8088 to SFF-8470)

## RocketRAID 4300 Series Selection Guide

	RocketRAID 4310	RocketRAID 4311	RocketRAID 4320	RocketRAID 4321	RocketRAID 4322
Form Factor	Low profile	Low profile	Low profile	Low profile	Low profile
Port Count	4	4	8	4 Int and 4 Ext	8
I/O Processor	Intel® 348 (800Mhz)	Intel® 348 (800Mhz)	Intel® 348 (1.2GHz)	Intel® 348 (1.2GHz)	Intel® 348 (1.2GHz)
Onboard Memory	256MB DDR2	256MB DDR2	256MB DDR2	512MB DDR2	512MB DDR2
PCI Express Lanes	8	8	8	8	8
RAID Levels	0,1,3,5,6,10 and JBOD	0,1,3,5,6,10, and JBOD	0,1,3,5,6,10, 50 and JBOD	0,1,3,5,6,10, 50 and JBOD	0,1,3,5,6,10, 50 and JBOD
Ethernet Port	Yes	Yes	Yes	Yes	Yes
Connector Type	Internal mini-SAS	External mini-SAS	Internal mini-SAS	Internal and External mini-SAS	External mini-SAS
BBU Support	Yes	Yes	Yes	Yes	Yes
UPC Code	643653 431007	643653 431106	643653 432004	643653 432103	643653 432202



[www.highpoint-tech.com](http://www.highpoint-tech.com)  
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