areca ®
At the Heart of Storage

ARC-9200 series 12Gb/s SAS RAID Head

With innovative new ROC 12Gb/s SAS feature and support for SATA, SAS and SSDs, the 1U RAID head provides small- to mid-sized enterprises with superior levels of RAID performance and scalability for external storage. The RAID head supports flexibility interface configuration; 8 x 12Gb/s SAS ports, 2 x 16Gb/s fibre channels, 4 x 32Gb/s fibre channels or 2 x 10Gb/s iSCSI channel host and 8 x 12Gb/s SAS ports expander for performance and easy expansion. When used with 12Gb/s SAS expanders, the controller can provide up to (512) devices through one or more SAS JBODs, making it an ideal solution for enterprise class storage applications that called for maximum configuration flexibility.

Key Features

- 12Gb/s SAS-based 1U RAID head

- Support three host interface options: 12Gb/s SAS, 10Gb/s iSCSI or 16Gb/s FC

- Support up to 8GB cache per controller, optional FBM/BBM cache

- Hot-swap and redundant components for increasing availability

- Single or dual RAID controller modular design

- Advanced configuration for video optimized performance settings

- Support HDD firmware download

Node 1   Node 2
SAS HBA   SAS HBA
SAS 3.0
ARC-9200
JBOD

Overview

Powered by Areca's existing external RAID controller design, the ARC-9200 is a brand new module RAID head delivering the combination of high performance, high reliability, and data availability required in today's data-intensive storage environments. The modular design of the RAID head minimizes maintenance effort, makes installation simpler and easy leverages different JBOD to provide an affordable, highly capable and scalable storage. With either 8 x 12Gb/s SAS ports, 2 x 16Gb/s fibre channels, 4 x 32Gb/s fibre channels or 2 x 10Gb/s iSCSI channel host options, the 1U RAID head is an ideal solution to adapt a wide range of applications. Available in single or redundant modular architectures, the RAID head can meet the needs of the professional who needs high-performance versatile RAID storage.

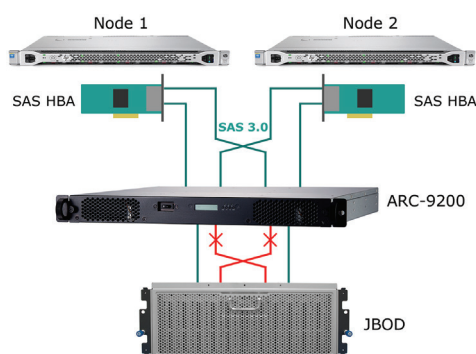## Unparalleled Performance for 12Gb/s SAS

The RAID head raises the standard to higher performance levels with several enhancements including new high performance 1.2 GHz dual core ROC processor, a DDR3-1866 memory architecture and high performance PCIe 3.0 interface bus interconnection. Each controller includes one 204-pin SO-DIMM socket with default 2GB upgrade to 8GB DDR3-1600, 1RX8/2RX8, ECC SDRAM. The 12Gb/s SAS is designed for backward compatibility with 6Gb/s and 3Gb/s SAS and SATA hard drives. Regardless of the drive speed, 12Gb/s SAS RAID controllers will provide maximum read/write performance improvements for the most performance-hungry database and IT applications.
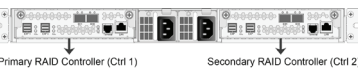
Unsurpassed Data Availability

Designed and leveraged with Areca's existing high performance RAID solution, The RAID head offers full-featured superior levels performance and enterprise level data protection for the most demanding next generation server and storage environments. It supports the hardware RAID 6 engine to allow two HDDs failures without impact the existing data and performance. It allows users to hot swap drive in the event of a drive failure with zero downtime. To achieve high availability, critical components such as controllers, power supply units and cooling modules are configured as redundant and cableless hot-swappable capability. The RAID head also supports Self-Encrypting Disks (SED) for protection of data against loss or theft of SEDs. The optional flash-based backup module (FBM) provides power to transfer the cache data from the SDRAM memory to the 8GB NAND flash if it contains data not yet written to the drives when power is lost. The RAID head also supports traditional Lithium-ion (Li-ion) battery backup module (BBM) to protect cached data on RAID Controllers.

Easy RAID Management

Configuration and monitoring can be managed either through the LCD control panel, RS232 port or LAN port. The firmware also contains an embedded terminal emulation via the RS-232 port. The firmware-embedded several available RAID managers include internet browser, CLI, Telnet, API, SMTP and SNMP via a LAN port. The ArcSAP Quick Manager can scan multiple RAID units in the local and remote side and provide an effective management interface for configuration, and monitoring Areca RAID controllers.

Model Name	ARC-9200-SAS	ARC-9200-2FC/4FC	ARC-9200-iSCSI
	Primary RAID Controller (Ctrl 1) Secondary RAID Controller (Ctrl 2)	Primary RAID Controller (Ctrl 1) Secondary RAID Controller (Ctrl 2)	Primary RAID Controller (Ctrl 1) Secondary RAID Controller (Ctrl 2)
Form Factor	1U, 19-inch rackmount chassis		
Single Ctrl Model No.	ARC-9200SS-DR1	ARC-9200FS-DR1/ARC-9200FS5QR1	ARC-9200IS-DR1
Dual Ctrl Model No.	ARC-9200SD-DR1	ARC-9200FD-DR1/ARC-9200FD5QR1	ARC-9200ID-DR1

I/O Interface

Host Interface	• SAS-to-SAS 2 x 12Gb/s SAS Ports	• Fibre-to-SAS 2 x 16Gb/s Fibre channels 4 x 32Gb/s Fibre channels	• iSCSI-to-SAS: 2 x 10Gb/s iSCSI channels
JBOD Expansion Port	Dual downstream SFF-8644 (4 x 12Gb/s) expansion connectors per controller		
Max. Drives per RAID Ctrl	Up to 512 12Gb/s SAS or 6Gb/s and 3Gb/s SAS/SATA HDDs/SSD, using 12Gb/s SAS JBOD		

RAID Controller

RAID_on_Chip	Dual Core RAID-on-Chip (ROC) 1.2 GHz processor
Cache Memory	One 204-pin SO-DIMM socket for 2GB (default) DDR3-1600, 1RX8/2RX8, ECC module - up to 4GB or 8GB DDR3-1600, 1RX8/2RX8, Unbuffered/Registered ECC module
RAID Features	• 0, 1, 10(1E), 3, 5, 6, 30, 50, 60, Single Disk or JBOD • Automatic drive failover and detection and rebuild using multiple Global, Dedicated or Enclosure hot-spare drives • Multiple RAID 0 and RAID 10(1E) support (RAID 00 and RAID100) • Multiple pairs SSD/HDD disk clone function • SSD automatic monitor clone support • SED (Self-encrypting drives) function support • Support for native 4K and 512 byte sector devices • Support HDD firmware update
Availability and Reliability	• Redundant controller operation with active/active and fail-over/fail-back function • Dual-active RAID controller with cache mirroring through dedicated high speed bus • Automatic synchronization of firmware version in the dual-active mode • Multi-path & load-balancing support
FBM/BBM	Yes (optional): ARC-1883-CAP (For 2GB only) / ARC-1883-BAT / ARC-6120BA-T121-12G

Subsystem Management

RAID Management	• Field-upgradeable firmware in flash ROM • Firmware-embedded manager via RS-232 port • API library for customer to write its own monitor utility • Embedded browser-based RAID manager via built-in 10/100 Lan port • SAP monitor utility easily manage multiple RAID units in the network • Access terminal menu by telnet via a LAN port
Monitors / Notification	• LCD control panel for setup, alarm mute and configuration • System status indication through LCD, LED and alarm buzzer • SMTP support for email notification • SNMP support for remote manager • Enclosure management ready (SES over in-band SAS)

Mechanical Specification

Power Supply/In/out	• Dual 200W hot swap and redundant with PFC, N+1 design • AC voltage: 110V@40A, 230V@80A for input inrush current with PFC (auto-switching) • Supports 90-264 VAC input at 47-63 Hz frequency
Cooling	Four cooling fans housed within head unit
Environment	• Temperature: 0 to 40°C operating/ -40 to 60°C non-operation • Relative humidity: Operating 10% to 80% (non-condensing)/ Storage 5% to 95% (non-condensing)
Dimensions (H x W x D)	• Without handles: 43.5 x 445 x 400 mm (1.7 x 17.5 x 15.7 in) • With handles: 43.5 x 482 x 436 mm (1.7 x 22.9 x 17.1 in)
Weight (W/O Drives)	• Single: 27 kg (59.5 lb) • Dual: 28 kg (61.7 lb)

12Gb/s   Serial Attached SCSI   SERIAL ATA 6Gb/s   CE   FC