

Areca ARC-8042-12

12-bays 12Gb/s SAS to SAS Desktop RAID Subsystem



Overview

The ARC-8042-12 SAS to SAS desktop RAID subsystem provides 12Gb/s SAS host interface link to the host board on the server system. This RAID controller utilizes the same RAID kernel that has been field-proven in existing internal/external SATA/SAS RAID controller products, allowing to bring stable and reliable SAS RAID external subsystem. The ARC-8042-12 provides external storage chassis capable of accommodating up to 12 12.0-Gb/s Serial-Attached SCSI (SAS) drives or 6.0-Gb/s Serial ATA (SATA) drives.

Highlights

- 12Gb/s SAS-based external storage subsystem
- Support up to 2GB cache per controller, optional BBM cache
- Supports up to 12 SATA/SAS drives
- Affordable choice for high capacity
- RAID Advanced Power Management
- Support HDD firmware download
- SED (Self-encrypting drives) function support

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Unparalleled Performance for 12Gb/s SAS

The ARC-8042-12 SAS to SAS desktop RAID subsystem raises the standard to higher performance levels with several enhancements including new high performance 1.2GHz dual core ROC processor, a DDR3-1866 memory architecture and 12Gb/s SAS technology. The ARC-8042-12 includes 2GB DDR3-1866 and 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 performancehungry database and IT applications. The powerful RAID controller delivers high performance for NAS, supercomputing, near-line backup, security systems, streaming and cloud computing applications.

Unsurpassed Data Availability

Designed and leveraged with Areca's existing high performance RAID solution, ARC-8042-12 provides 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. With innovative new RAID-on-Chip 12Gb/s SAS feature and support for SATA, SAS and SSDs, the SAS RAID subsystems provides small- to mid-sized enterprises with superior levels of RAID performance and scalability for external storage. The optional flash-based backup module provides power to transfer the cache data from the SDRAM memory to the NAND flash memory if it contains data not yet written to the drives when power is lost. The subsystem 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.

Adapter Architecture

- Dual Core RAID-on-Chip (ROC) 1.2 GHz processor
- On-board 2GB DDR3-1866 ECC SDRAM
- NVRAM for RAID event log & transaction log
- Write-through or write-back cache support
- Redundant flash image for adapter availability
- Real time clock support
- Battery Backup Module ready (Optional)

RAID Features

- RAID level 0, 1, 10(1E), 3, 5, 6, 30, 50, 60, Single Disk or JBOD
- Multiple RAID 0 and RAID 10(1E) support (RAID 00 and RAID100)
- Online array roaming
- Offline RAID set
- Online RAID level/strip size migration
- Online capacity expansion and RAID level migration simultaneously
- Online volume set growth
- Instant availability and background initialization
- Automatic drive failover/detection and rebuild using multiple Global, Dedicated or Enclosure hot-spare drives
- Configurable stripe size up to 1MB
- Multiple pairs SSD/HDD disk clone function
- SSD automatic monitor clone support
- SED (Self-encrypting drives) function support
- Support native 4K and 512 byte sector devices
- Support HDD firmware update
- Disk scrubbing/ array verify scheduling for automatic repair of all configured RAID sets
- Support intelligent power management to save energy and extend service life
- Max 512 devices
- Max 128 LUNs (volume set)

Host Interface

12Gb SAS-to-SAS

- 2 x SFF-8644 external connectors
- 8 x 12Gb/s SAS Ports (4-ports per SFF-8644 connector)

Drive Interface

- Up to 512 devices using SAS expanders (two external SFF-8644 connectors: EXP.0 & EXP.1)
- Up to 12 x 12Gb/s internal ports

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)

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

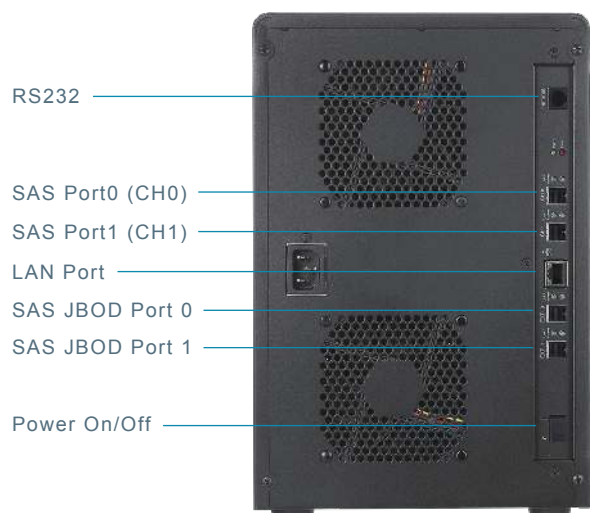
Environmental

Temperature

- Operating 0° to 40°C
- Storage -40° to 60°C

Relative humidity

- Operating 10% to 80% (non-condensing)
- Storage 5% to 95% (non-condensing)



Product Features

Form Factor	Desktop 12-bay
Disk Port	12 x 12Gb/s SAS/SATA
External Port	2 x SFF-8644 Host Port / 2 x SFF-8644 JBOD Port
Cooling Fan	2 x 2700rpm
Power Supply	400W
Dimension(W/H/D)	8.1 x 12.2 x 11.4 in (206x310x290 mm)
Weight	20.8 lbs / 9.5Kg
Management	1 x 6-pin UART RJ-11 connector / 1 x RJ-45 LAN connector / LCD module

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