

ARC-1216-4i/1226-8i

(4/8-Port PCIe 3.0 Internal 12Gbps SAS RAID Controllers)

ARC-1216-4x/1226-8x

(4/8-Port PCIe 3.0 External 12Gbps SAS RAID Controllers)

The 12Gb/s SAS is designed for backward compatibility with 6Gb/s and 3Gb/s SAS/SATA hard drives. The 12Gb/s SAS interface supports both 12Gb/s SAS disk drives for data-intensive applications and 6Gb/s SATA drives for low-cost bulk storage of reference data. The ARC-1216-4i/4x and ARC-1226-8i/8x RAID controllers only support directly attach to 4/8 SAS/SATA drives without supporting the expand function. The ARC-12x6 series default support 1GB on-board DDR3-1600 SDRAM memory.



Highlights

- Supports up to 4/8 12Gb/s SAS, SATA or SSD drives
- 12Gb/s throughput at each drive ports
- Support flash-based backup module (FBM)
- Controller level hardware encryption for security
- Serial bus and SGPIO enclosure management
- Boot support for the uEFI host BIOS
- Redundant flash image for adapter availability
- Multiple RAID 0 and RAID 10 (1E) support (RAID 00 and RAID100)
- Broad operating support including Windows, Linux (open source), FreeBSD (open source), Soaris (open source), Mac and VMware

Unparalleled Performance

The 12Gb/s SAS RAID controllers raise the standard to higher performance levels with several enhancements including new high performance 1.2 GHz dual core ROC processor, a DDR3-1600 memory architecture and high performance PCIe 3.0 interface bus interconnection. The low profile controllers by default support on-board 1G of ECC DDR3-1600 SDRAM memory. The 12Gb/s SAS is designed for backward compatibility with 6Gb/s and 3Gb/s SAS/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.

Easy RAID Management

The controllers contain an embedded McBIOS RAID manager that can access via hot key at M/B BIOS boot-up screen. This pre-boot McBIOS RAID manager can use to simplify the setup and management of RAID controller. The controller firmware also contains a browser-based McRAID storage manager which can be accessed through the Ethernet port or ArcHTTP proxy server in Windows, Linux, FreeBSD and more environments. The McRAID storage manager allows local and remote for all storage configuration and management needs from standard web browser. The ArcSAP quick manager can scan for multiple RAID units in the local and remote systems and provide an effective mechanism to configure and monitor your RAID units.

Unsurpassed Data Availability

Designed and leveraged with Areca's existing high performance RAID solution, ARC-12x6 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. The optional flashbased 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. ARC-12x6 also supports traditional Lithium-ion (Li-ion) battery backup module (BBM) to protect cached data on RAID adapters. Board-level hardware encryption manages any kinds of drives attached to ARC-12x6 controller cards for higher levels of security. API code supports for third-party Enterprise Key Management systems to easy integrate and manage encryption function.

Maximum Interoperability

The 12Gb/s SAS RAID controller support broad operating system including Windows, Linux (Open Source), FreeBSD (Open Source), Solaris (Open Source), Mac, VMware and more, along with key system monitoring features such as enclosure management (Serial Bus & SGPIO) and SNMP function. Our products and technology are based on extensive testing and validation process; leverage Areca SAS or SATA RAID controller field-proven compatibility with operating systems, motherboards, applications and device drivers.

Adapter Architecture

- Dual core RAID-on-Chip (ROC) 1.2GHz processor
- PCIe 3.0 x8 lane host interface
- 1GB on-board DDR3-1600 SDRAM with ECC
- Write-through or write-back cache support
- Support up to 4/8 internal or 4/8 external 12Gb/s SAS ports
- ARC-1216-4i/4x supports up to 4 x 12Gb/s SAS/SATA HDDs
- ARC-1226-8i/8x supports up to 8 x 12Gb/s SAS/SATA HDDs
- Multi-adapter support for large storage requirements
- BIOS boot array support for greater fault tolerance
- Boot support for the uEFI host BIOS
- Redundant flash image for controller availability
- Support flash-based or battery backup module (FBM/BBM) ready (optional)
- RoHS compliant

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)
- Multiple RAID selection
- Configurable stripe size up to 1024KB
- Support HDD firmware update
- Online array roaming
- Online RAID level/stripe size migration
- Online capacity expansion and RAID level migration simultaneously
- Online volume set growth
- Instant availability and background initialization
- Support global and dedicated hot spare
- Automatic drive insertion/removal detection and rebuilding
- Support for native 4K and 512 byte sector SAS and SATA devices
- Multiple pairs SSD/HDD disk clone function
- SSD automatic monitor clone (AMC) support
- Controller level hardware encryption support
- Support intelligent power management to save energy and extend service life

Electrical

Power Requirements:	On +12V: 14.4W
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Monitors/Notification

- System status indication through global HDD activity/fault connector, individual activity/fault connector, LCD/I2C connector and alarm buzzer
- SMTP support for email notification
- SNMP support for remote manager
- Enclosure management (serial bus and SGPIO) ready

RAID Management

- Field-upgradeable firmware in flash ROM

In-Band Manager

- Hot key "boot-up" McBIOS RAID manager via M/B BIOS
- Web browser-based McRAID storage manager via ArcHTTP proxy server for all operating systems
- Support Command Line Interface (CLI)
- API library for customer to write manager utility
- Single Admin Portal (ArcSAP) quick manager utility

Out-of-Band Manager

- Firmware-embedded web browser-based McRAID storage manager, SMTP manager, SNMP agent and Telnet function via Ethernet port
- Out-of-Band API sample and functional code for customer to quickly customize its AP.
- Support push button and LCD display panel (optional)



Operating System

- Windows 10/8/Server2012/7/2008/Vista/XP/2003
- Linux
- FreeBSD
- VMware (Driver 6.x support CLI in-band management utility)
- Solaris 10/11 x86/x86_64
- Mac OS X 10.4 or higher

For more information & latest supported OS listing visit www.areca.com.tw

Environment

Operating	Temperature: +5°C to +60°C Humidity: 15-80%, non-condensing
Storage Temperature	Temperature: -40°C to 70°C Humidity: 5-90%, non-condensing

Model Name	ARC-1216-4i	ARC-1226-8i	ARC-1216-4x	ARC-1226-8x
I/O Processor	Dual Core RAID-on-Chip (ROC) 1.2 GHz Processor			
Host Bus Type	PCIe 3.0 x 8 Lanes			
Drive Connector	1 x SFF-8643	2 x SFF-8643	1 x SFF-8644	2 x SFF-8644
Drive Support	4 x SAS/SATA	8 x SAS/SATA	4 x SAS/SATA	8 x SAS/SATA
RAID Level	0, 1, 10, 3, 5, 6, Single Disk or JBOD	0, 1, 10, 3, 5, 6, 30, 50, 60, Single Disk or JBOD	0, 1, 10, 3, 5, 6, Single Disk or JBOD	0, 1, 10, 3, 5, 6, 30, 50, 60, Single Disk or JBOD
On-Board Cache	1GB on-board DDR3-1600 SDRAM with ECC			
Management Port	In-Band: PCIe / Out-of-Band: BIOS, LCD (Optional) and LAN Port		In-Band: PCIe / Out-of-Band: BIOS and LCD (Optional) and LAN Port	
Enclosure Ready	Individual Activity/Faulty Header, Serial Bus and SGPIO		External Serial Bus	
Form Factor (H x L)	64.4 (H) x 169.5 (L) mm			
Products View				



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