

ARC-1214-4I/ARC-1224-8I

(4/8-Port PCIe 2.0 Internal 6Gb/s SATA RAID Controllers)

ARC-1264iI-12/16

(12/16-Port PCIe 2.0 Internal 6Gb/s SATA RAID Controllers)

ARC-1284MI-24

(24-Port PCIe 2.0 Internal 6Gb/s SATA RAID Controllers)

ARC-12x4 internal PCIe 2.0 host RAID controllers are the cost-effective solutions for connecting 4/8/12/16/24 6Gb/s SATA peripheral devices. The 12/16/24 ports combine low-cost SATA III and port multiplier chips with low latency for internal storage systems. The 12/16/24 ports are aimed at high-availability and capacity-oriented applications more than 8 HDDs, such as security systems, surveillance, multimedia content generation, large-volume data capturing, mail servers and entry-level database systems. The 12/16/24 ports RAID controllers' performance is limited by the port multiplier and HDD numbers. Applications will get the best performance when you attach the max number HDDs on the RAID controller or rearrange the HDD position to use max port multiplier chip. They can support directly attached 4/8/12/16/24 internal 6Gb/s SATA ports via 1/2/3/4/6 SFF-8087 connectors.

Highlights

- PCIe 2.0 x8 lane host interface
- Greater than 2TB capacity per disk drive support
- Support greater than 2TB per volume set and battery backup module (BBM)
- Enclosure management (Serial bus & SGPIO) ready
- Support intelligent power management to save energy and extend service life
- Support NTP protocol synchronize RAID controller clock over the on board Ethernet port
- Broad operating support including Windows, Linux (open source), FreeBSD (open source), Solaris (open source), Mac and VMware

Unparalleled Capacity

Embedded with ARM-based storage I/O processor makes those products a pure hardware RAID controller and raise the standard to higher performance levels with several enhancements including 6Gb/s SATA ports, on-board 1GB SDRAM memory and high performance PCIe 2.0 x8 lane host interface bus interconnection. The optional battery backup module provides power to the cache if it contains data not yet written to the drives when power is lost. With several port configuration options including 4 internal, 8 internal, 12 internal, 16 internal and 24 internal, Areca 6Gb/s SATA RAID adapters deliver the ideal price/performance and connectivity solution for entry-level server platforms and workstation.

Unsurpassed Data Availability

As storage capacities continue to rapidly increase, users need greater level of disk drive fault tolerance, which can be implemented without doubling the investment in disk drives. The RAID 6 can offer fault tolerance greater than RAID 1 or RAID 5 but only consumes the capacity of 2 disk drives for distributed parity data. ARC-12x4 series SATA RAID controllers with extreme performance RAID 6 engine installed provide the highest RAID 6 feature to meet this requirement. The controller can concurrently compute two parity blocks and get very similar RAID 5 performance.

ARC-12x4 series 6Gb/s SATA RAID controllers can also provide RAID levels 0, 1, 1E, 3, 5, 6, 10, 30, 50, 60, Single Disk or JBOD for maximum configuration flexibility. Its high data availability and protection derives from the following capabilities: Online RAID Capacity Expansion, Array Roaming, Online RAID Level / Stripe Size Migration, Global Online Spare, Automatic Drive Failure Detection, Automatic Failed Drive



Rebuilding, Disk Hot-Swap, Online Background Rebuilding, Instant Availability/Background Initialization, Auto Reassign Sector, Redundant Flash Image and Battery Backup Module. Greater than Two TB Support allows for very large volume set application in 64-bit environment such as data-mining and managing large database.

Maximum Interoperability

ARC-12x4 series 6Gb/s SATA RAID adapters support broad operating system including Windows 8/server 2012/2008/Vista/2003/XP, Linux (Open Source), FreeBSD (Open Source), VMware, Solaris (Open Source), Mac 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; same as Areca 3Gb/s and 6Gb/s SAS/SATA RAID adapter field-proven compatibility with operating systems, motherboards, applications and device drives.

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 to create and modify RAID set, volume set, and monitor RAID status from standard web browser. The Single Admin Portal (SAP) monitor utility can support one application to scan multiple RAID units in the network.

Controller Architecture

- ARM storage I/O processor
- 1GB on-board SDRAM with ECC
- PCIe 2.0 x8 lanes host interface
- ARC-12x4-4I/8I support up to 4/8x6Gb/s SATA HDDs
- ARC-1264iI-12/16 supports up to 12/16 x 6Gb/s SATA HDDs
- ARC-1284MI-24 supports up to 24 x 6Gb/s SATA HDDs
- Multi-adapter support for large storage requirements
- BIOS boot support for greater fault tolerance
- BIOS PnP (plug and play) and BBS (BIOS boot specification support)
- Support EFI BIOS for Mac Pro
- NVRAM for RAID event & transaction log
- Redundant flash image for controller availability
- Battery Backup Module (BBM) ready (Optional)
- RoHS compliant

RAID Features

- RAID level 0, 1, 10(1E), 3, 5, 6, 30, 50, 60, Single Disk or JBOD
- Multi-level RAID 0 and RAID 10 (R00 and R100)
- Support up to 1MB stripe size
- Multiple RAID selection
- 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
- Greater than 2TB capacity per disk drive support
- Greater than 2TB per volume set (64-bit LBA support)
- Support intelligent power management to save energy and extend service life
- Multiple pairs SSD/HDD disk clone function
- SSD automatic monitor clone (AMC) support

Electrical

Power Dissipation:	12V + 3.3V
	ARC-1214-4I/ARC-1224-8I: 10.8W/11.08W ARC-1264iI-12/16/1284MI-24: 13.9W/16.0W/20.2W

Monitors/Notification

- System status indication through global HDD activity/fault connector, individual fault connector, LCD/serial bus connector and alarm buzzer
- SMTP support for email notification
- SNMP support for remote manager
- Enclosure management (Serial bus & 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 monitor utility
- Single Admin Portal (SAP) monitor utility

Out-of-Band Manager

- Firmware-embedded web browser-based McRAID storage manager, SMTP manager, SNMP agent and Telnet function via Ethernet port
- API library for customer to write monitor utility
- Support push button and LCD display panel (Optional)



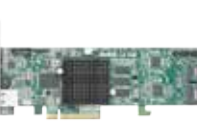


Operating System

- Windows 8/server 2012/7/2008/Vista/XP/2003
- Linux
- FreeBSD
- VMware
- Solaris 10/11 x86/x86_64
- Mac OS 10.5.x/10.6.x/10.7.x/10.8.x

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-1214-4I	ARC-1224-8I	ARC-1264iI-12	ARC-1264iI-16	ARC-1284MI-24
I/O Processor	ARM Storage I/O Processor				
Host Bus Type	PCIe 2.0 x8 Lanes				
Drive Connector	1xSFF-8087	2xSFF-8087	3xSFF-8087	4xSFF-8087	6xSFF-8087
Drive Support	Up to 4x6Gb/s SATA HDDs/SSD	Up to 8x6Gb/s SATA HDDs/SSD	Up to 12x6Gb/s SATA HDDs/SSD	Up to 16x6Gb/s SATA HDDs/SSD	Up to 24x6Gb/s SATA HDDs/SSD
RAID Level	0, 1, 1E, 3, 5, 6, 10, Single Disk and JBOD				
On-Board Cache	1GB on-board SDRAM with ECC				
Management Port	In-Band: PCIe / Out-of-Band: LCD and LAN Port				
Enclosure Ready	Individual Faulty Header, SGPIO, and Serial Bus				
Form Factor (H x L)	62 x 168 mm		Low Profile: 64.4 x 202 mm		Full Height: 98.4 x 207 mm
Products View					



Serial Attached SCSI

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