ARC-1880i/1880x/1880ixl-8/1880ixl-12

(8-16 Ports 6Gb/s SAS/SATA RAID Adapters)

ARC-1880ix-12/16/24

(16-28 Ports 6Gb/s SAS/SATA RAID Adapters)

Areca high-performance ARC-1880 series PCIe 2.0 to 6Gb/s SAS RAID adapter can provide up to (128) 6Gb/s and 3Gb/s SAS/SATA/SSD peripheral devices using 6Gb/s SAS expanders. The adapters are based on the same RAID kernel of field-proven external RAID adapter and same device drivers with widely used SAS/SATA RAID adapters. Applications that benefit most features from these adapters include NAS, server RAID solutions, supercomputing, near-line backup, security systems, streaming and cloud computing applications.

Highlights

- Supports up to (128) 6Gb/s SAS, SATA or SSD drives using 6Gb/s SAS expanders

- 6Gb/s throughput at each drive ports

- Support up to 4GB DDR2-800 cache (ARC-1880ix-12/16/24)

- Family includes 8/12/16/24 internal and/or 4/8 external 6Gb/s SAS ports for easy expansion

- Online capacity expansion, RAID level/stripe size migration

- Online volume set growth

- Redundant flash image for adapter availability

- Greater than 2TB capacity per disk drive support

- Support greater than 2TB per volume set and battery backup module (BBM)

- SES2, SMP and SGPIO enclosure management

- Support intelligent power management to save energy and extend service life.

- Broad operating support including Windows, Linux (open source), FreeBSD (open source), Soaris (open source), Mac and VMware

SAS for Maximum Scalability

SAS 2.0 is designed for backward compatibility with SAS 1.0, twice speed data transfer 6Gb/s than previous available. The SAS 2.0 interface supports both 6Gb/s SAS 2.0 disk drives for data-intensive applications, and 6Gb/s SATA drives for low-cost bulk storage of reference data.The ARC-1880 series adapters include 8/12/16/24 internal and 4/8 external 6Gb/s SAS ports for easy expansion. When Areca SAS 6Gb/s RAID adapter used with SAS 2.0 expanders, the adapter can provide up to (128) devices through one or more 6Gb/s SAS JBODs, making it an ideal solution for enterprise-class storage applications that call for maximum configuration flexibility.

Unparalleled Performance

The 6Gb/s SAS RAID adapters raise the standard to higher performhance levels with several enhancements including new high-performance 800MHz RoC Processor, a DDR2-800 memory architecture and high performance x8 lane PCIe 2.0 host interface bus interconnection. The ARC-1880ix-12/16/24 controllers each include one 240-pin DIMM socket with default 1GB of ECC DDR2-800 registered SDRAM with optional battery backup module, upgrade to 4GB. The ARC-1880i/1880x/1880ixl-8/1880ixl-12 low profile boards default support 512MB on-board memory. Those low profile boards are ideal for 1U/2U servers.

Unsurpassed Data Availability

The RAID 6 can offer fault tolerance greater that RAID 1 or RAID 5 but only consumes the capacity of 2 disk drives for distributed parity data. The 6Gb/s SAS RAID controllers with extreme performance RAID 6 engine installed provide the highest RAID 6 feature to meet this requirement. The 6Gb/s SAS 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 2TB support allows for very large volume set application in 64-bit environment such as data-mining and managing large databases.

Maximum Interoperability

The 6Gb/s SAS RAID adapters support broad operating system including Windows 7/2008/Vista/ XP/2003, Linux (Open Source), FreeBSD (Open Source), Solaris (Open Source), Mac and VMware, along with key system monitoring features such as enclosure management (SES-2, SMP & SGPIO) and SNMP function. Our products and technology are based on extensive testing and validation process; same as Areca SAS/SATA ll RAID adapter field-proven compatibility with operating systems, motherboards, applications and device drives.

Easy RAID Management

The adapters contain an embedded McBIOS RAID manager that can access via hot key at BIOS boot-up screen. This pre-boot RAID manager can use to simplify the setup and management of RAID controller. The adapter firmware also contains a browser-based McRAID storage manager which can be accessed through the LAN port or ArcHttp proxy server. 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. The Disk Stress Test (DST) utility kicks out disks meeting marginal spec before the RAID unit is actually put on-line for real business.

Adapter Architecture

- 800 MHz RoC for RAID core and SAS microcode
- 512MB on-board DDR2-800 SDRAM with ECC protection (ARC-1880i/1880x/1880ixl-8/1880ixl-12)
- One 240-pin DIMM socket for DDR2-800 ECC registered SDRAM module using x8 or x16 chip organization, upgrade from 1GB (default) to 4GB (ARC-1880ix-12/16/24)
- Support write-through or write-back cache
- 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 adapter availability
- Battery Backup Module ready (Option)
- RoHS compliant

RAID Features

- RAID level 0, 1, 1E, 3, 5, 6, 10, 30, 50, 60, Single Disk or JBOD
- Multiple RAID selection
- Online array roaming/Offline RAID set
- Online RAID level/stripe size migration
- Online capacity expansion and RAID level migration simultaneously
- Online volume set growth
- Instant availability and background initialization
- 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)
- Disk scrubbing/ array verify scheduling for automatic repair of all configured RAID sets
- Support intelligent power management to save energy and extend service life
- Support NTP protocol synchronize RAID controller clock over the on board LAN port

- 8/12/16/24 internal and/or 4/8 external 6Gb/s SAS ports
- Up to (128) 6Gb/s and 3Gb/s SAS/SATA/SSD drives using 6Gb/s SAS expanders
- Up to 6Gb/s per SAS port

• Electrical

Power Requirements	1.11W max. +3.3V
	16.92W max. +12V

Host Connectivity

- PCIe 2.0 x8 lane compliant

Monitors, Alerts and Notification

- System status indication through global HDD activity/fault connector, individual fault connector, LCD/I2C connector and alarm buzzer
- SMTP support for email notification
- SNMP support for remote manager
- Enclosure management (SES-2, SMP 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 utility
- Support Command Line Interface (CLI)
- API library for customer to write monitor utility
- Single Admin Portal (SAP) monitor utility
- Disk Stress Test (DST) utility for production

Out-of-Band Manager

- Firmware-embedded web browser-based McRAID storage manager, SMTP manager, SNMP agent and Telnet function via LAN port
- API library for customer to write monitor utility
- Support Push Button and LCD display panel

Operating System

- Windows 7/2008/Vista/XP/2003
- Linux
- FreeBSD
- Solaris 10/11 x86/x86_64
- Mac OS X 10.4.x/10.5.x/10.6.x
- VMware 4.0

For more information & latest supported OS listing visit http://areca.starline.de

• 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-1880i	ARC-1880x	ARC-1880ixl-8	ARC-1880ixl-12	ARC-1880ix-12	ARC-1880ix-16	ARC-1880ix-24
I/O Processor	RAID-on-Chip 800MHz						
On-Board Cache	DDR2-800 512MB				One DDR2-800 Socket with Default 1GB, Upgrade to 4GB		
Drive Connector	2 x SFF-8087	2 x SFF-8088	2 x SFF-8087 1 x SFF-8088	3 x SFF-8087 1 x SFF-8088	3 x SFF-8087 1 x SFF-8088	4 x SFF-8087 1 x SFF-8088	6 x SFF-8087 1 x SFF-8088
Drive Support	Up to 128 6Gb/s and 3Gb/s SAS/SATA HDDs/SSD, Using 6Gb/s SAS Expander						
Management Port	In-Band: PCIe /Out-of-Band: BIOS, LCD and LAN Port						
Enclosure Ready	Individual Activity/Fault Header, SGPIO, SMP and SES2						
Power Dissipation	8.65W (7.5W+1.11W)		10.58W		18.03W (16.92W+1.11W)		
Form Factor(LxH)	Low Profile: 169.5 x 64.4 mm		210 x 64.4 mm		Full Height: 250 x 98.4 mm		
Products View							

areca ® At the Heart of Storage

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