

ARC – 1130ML/1160ML

3/4 Internal Multi-lane connector PCI-X to SATA RAID Controllers

ARC – 1110ML/1120ML

1/2 External Infiniband connector PCI-X to SATA RAID Controllers

ARC – 1110/1120/1130/1160/1170

4/8/12/16/24 ports PCI-X to SATA RAID Controllers

ARC – 1210/1220/1230/1260/1280

4/8/12/16/24 ports PCI Express to SATA RAID Controller



ARECA high-performance PCI-X/Express bus to SATA RAID host adapter supported 4, 8, 12, 16, 24 SATA II peripheral devices on a single host adapter. SATA RAID controller has the same RAID kernel of its field-proven external RAID controller. Applications that benefit most features from these controllers include NAS, server RAID solutions, web servers, supercomputing, near-line backup, security systems and streaming applications server.

HIGHLIGHTS

- ★ Supports up to 4, 8, 12, 16 and 24 Serial ATA drives on a single host adapter
- ★ SATA II 300MB/s speed at each SATA II drive ports
- ★ New Internal Multi-lane /External Infiniband Connector for maximum reliability
- ★ Intel RAID Engine to support highest speed RAID 6
- ★ Online Capacity expansion, RAID level/stripe size migration
- ★ Online Volume Set growth
- ★ Redundant flash image for adapter availability
- ★ Support Greater than 2TB per Volume set and battery backup module (BBM)
- ★ Broad operating system support including Windows, Linux (open source) and FreeBSD (open source)

Unparalleled Performance

The SATA RAID controllers raise the standard to higher performance levels with several enhancements including Intel high-performance I/O Processor, a new DDR memory architecture (DDR333) and high performance PCI-X/Express bus interconnection. The ARC-1x10/1x20 default supports 128MB on-board ECC DDR333 SDRAM memory. The ARC-1x30/1x60/12x1ML/1170 series support one SODIMM socket with default 256MB of ECC DDR333 SDRAM, upgrade to 1GB.

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. The SATA RAID controllers with extreme performance RAID 6 engine supported provide the highest RAID 6 feature to meet this requirement. The controller can concurrently compute two parity blocks and get comparable with RAID 5 performance.

The SATA RAID controllers can also provide RAID levels 0, 1, 1E, 3, 5, 6 and JBOD RAID 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, and Battery Backup.

During the controller firmware upgrade flash process, it is possible for a problem to occur resulting in corruption of the controller firmware.

With our Redundant Flash image feature the controller will revert back to the last known version of firmware and continue operating. This reduces the risk of system failure due to firmware crash. Areca greater than 2 TB support allows for very large volume set application in 64-bit environment such as data-mining and managing large databases.

Maximum Interoperability

The ARECA SATA RAID controller support broad operating system including Windows® Server 2003, Windows XP, Windows 2000, Red Hat Linux (Open Source), SuSE Linux (Open Source), and FreeBSD (Open Source) and other operating systems, along with key system monitoring features such as I2C enclosure management, and SNMP function.

Integrated Solutions

Areca ML connector controllers come with Multi-lane Internal connectors for high capacity industrial environments. The controllers include a highly reliable, locking cable/connector system that combines 4 SATA ports into one on the controller side, available in 16 or 12-port configurations.

Easy RAID Management

The BIOS contains 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 controller firmware also contains and browser-based McRAID storage manager that can access through the Http Proxy server in Windows, FreeBSD and Linux environment. The McRAID 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.

Adapter Architecture

- ★ Intel IOP331/IOP332/IOP333 I/O processor
- ★ PCI-X 64bit/133MHz or PCI-Express X8 bus
- ★ 128MB on-board DDR333 SDRAM with ECC protection (4/8 ports)
- ★ One SODIMM socket with default 256MB of DDR333 SDRAM with ECC protection, Upgrade to 1GB. An ECC or non-ECC SDRAM module using X8 or X16 devices (ARC-1130/1160/1170/1230/1260)
- ★ One 240-Pin DDR2-533 DIMM socket for ARC-1280
- ★ Write-through or write-back cache support
- ★ Support up to 4/8/12/16/24 SATA II drives
- ★ 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
- ★ Intel RAID 6 inside to support extreme performance RAID 6
- ★ NVRAM for RAID configuration & transaction log
- ★ Redundant flash image for adapter availability
- ★ Battery Backup Module (BBM) ready (Option)

RAID Features

- ★ RAID level 0, 1, 1E, 3, 5, 6 (if RAID 6 engine supported) and JBOD
- ★ 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
- ★ Automatic insertion/removal detection and rebuild
- ★ Greater than 2TB per volume set
- ★ Support spin down drives when not in use to extend service life (MAID)
- ★ Support S.M.A.R.T., NCQ and OOB Staggered Spin-up capable drives

Environmental/Physical

Mechanical		
Dimension (H x L)	ARC-1x10/1x20: 64 mm x 168 mm ARC-12x1ML: 98.4mm x 225mm	
	ARC-1x30/1x60: 98.4 mm x214 mm ARC-1170: 98.4 mm x 217mm	
SATA Interface	ARC-1x10/1x20/1x30/1x60/1170/1280 (multi-layer SATA connector)	
	ARC-1110ML/1120ML(1/2 external Infiniband connector)	
	ARC-1130ML/1160ML(3/4 internal Multi-lane connector)	
Environment		
Operating	Temperature: +5°C to +50°C Humidity: 15-80%, non-condensing	
Storage Temperature	Temperature: -40°C to 70°C Humidity: 5-90%, non-condensing	
Electrical	PCI-X	PCI-Express
Power Requirements	5.5W max. On +5V	
	4.75W max. On 3.3V	4.95W
	0.72W max. On +12V	6.22W

Monitors/Notification

- ★ System status indication through HDD activity/fault connector, LCD Connector and alarm buzzer
- ★ SMTP support email notification
- ★ SNMP support for remote notification
- ★ I2C Enclosure management ready
- ★ I2C & SGPIO Enclosure management ready (ARC-12x1ML)

RAID Management

- ★ Field-upgradeable firmware in flash ROM

In-Band Manager

- ★ Hot key boot-up McBIOS RAID manager via BIOS
- ★ Support controller's API library for customer to write its own AP
- ★ Support Command Line Interface (CLI)
- ★ Browser-based management utility via ArchHttp Proxy Server
- ★ Single Admin Portal (SAP) monitor utility

Out-of-Band Manager


- ★ Firmware-embedded Browser-based RAID manager, SMTP manager, SNMP agent and Telnet function via Ethernet port (for 12/16/24-port)
- ★ Support controller's API library for customer to write its own AP
- ★ Push Button and LCD display panel

Operating System






- ★ Windows 2000/XP/Server 2003
- ★ Linux (RedHat, SuSE, Debian, Mandrake, TurboLinux, CentOS, etc.)
- ★ FreeBSD
- ★ Novell Netware 6.5
- ★ Solaris 10 x86/x86_64
- ★ SCO UnixWare 7.x.x
- ★ Mac OS X (no_bootable)

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

ARECA PCI-Express RAID Card Comparison

ARECA PCI-Express RAID Card Comparison					
Model name	ARC-1210	ARC-1220	ARC-1230	ARC-1260	ARC-1280
RAID Processor	IOP332	IOP333			
Host Bus Type	PCI-Express X8				
RAID 6 Support	N/A	YES	YES	YES	YES
Cache Memory	256MB	256MB	One SODIMM	One SODIMM	One DDR2 DIMM
Driver Support	4*SATA II	8*SATA II	12*SATA II	16*SATA II	24*SATA II
Products View					

ARECA PCI-X RAID Card Comparison

Model name	ARC-1110	ARC-1120	ARC-1110ML	ARC-1120ML	ARC-1130	ARC-1160	ARC-1130ML	ARC-1160ML	ARC-1170
Host Bus Type	PCI-X 64bit/133MHz								
RAID 6 Support	N/A	YES	N/A	YES	YES	YES	YES	YES	YES
Cache Memory	256MB	256MB	256MB	256MB	One SODIMM	One SODIMM	One SODIMM	One SODIMM	One SODIMM
Drivers Support	4*SATA II	8*SATA II	4*SATA II	8*SATA II	12*SATA II	16*SATA II	12*SATA II	16*SATA II	24*SATA II
Products View	    								

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