

ARC-1110ML/1120ML

4/8 ports PCI-X to SATA RAID Controllers

ARC-1210ML/1220ML/1211x/1221x

4/8 ports PCI-Express to SATA RAID Controllers

Areca external SATA RAID host adapters support 4 and 8 SATA II peripheral devices on a single host adapter. These SATA RAID controllers have the same RAID kernel of its field-proven external RAID controller. External enclosure benefits all functions from these controllers.



HIGHLIGHTS

- ★ Supports up to 4 and 8 Serial ATA drives to external enclosure
- ★ SATA II 300MB/s speed at each SATA II drive ports
- ★ New external Multi-lane 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 memory architecture and high performance PCI-X/Express bus interconnection. The ARC-1x10ML/1x20ML default supports 256MB on-board ECC DDR333 SDRAM memory. ARC-12x1x default supports 256MB on board ECC DDR2-533 SDRAM memory.

Unsurpassed Data Availability

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.

With 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. 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 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 external connectors to expand the storage capability of system. The controllers include a highly reliable, locking cable/connector system that combines 4 SATA ports into one on the controller side.

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.



Intel Server & Storage Innovation Award

ARC-1110ML/1120ML/1210ML/1220ML/1211x/1221x

Adapter Architecture

- ★ Intel IOP331/IOP332/IOP333/IOP341 I/O processor
- ★ PCI-X 64bit/133MHz or PCI-Express X8 bus
- ★ 256MB on-board SDRAM with ECC protection
- ★ Write-through or write-back cache support
- ★ Support up to 4/8 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)
- ★ RoHS Compliant

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/strip 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	ARC-1110ML/1120ML/1210ML/1220ML/1211x/1221x 68(H)X 168(L)mm
SATA Interface	ARC-1110ML/1120ML (external infinband connector) ARC-1210ML/1220ML/1211x/1221x (external SFF-8088 connector)

★ 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

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

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 ArcHttp Proxy Server
- ★ Single Admin Portal (SAP) monitor utility







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

★ Electrical

Power Requirements	PCI-X	PCI-Express
+5V	5.5W max.	4.95W max.
+3.3V	4.75W max.	6.22W max.
+12V	0.72W max.	

	Areca PCI-X RAID Card Comparison			Areca PCI-ExpressRAID Card Comparison		
	ARC-1110ML	ARC-1120ML	ARC-1210ML	ARC-1220ML	ARC-1211x	ARC-1221x
Model name	ARC-1110ML	ARC-1120ML	ARC-1210ML	ARC-1220ML	ARC-1211x	ARC-1221x
Host Bus Type	PCI-X 64bit/133MHz			PCI-Express X8		
RAID Processor	Intel IOP331	Intel IOP331	Intel IOP332	Intel IOP333	Intel IOP341	Intel IOP341
RAID 6 Support	YES	YES	N/A	YES	YES	YES
Cache Memory	256MB	256MB	256MB	256MB	256MB	256MB
Connector Support	4*SATA II	8*SATA II	4*SATA II	8*SATA II	4*SATA II	8*SATA II
Products View						

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