



at the heart of storage

Serial ATA Disk Arrays Controller

ARC-6320/6330/6360

8/12/16 Ports Ultra320 SCSI-to-SATA Controller

ARC-6220/6230/6260

8/12/16 Ports Ultra160 SCSI-to-SATA Controller



The ARC-6XXX external RAID controller features a two Ultra320 SCSI host or a two Ultra160 SCSI and SATA device attachment. The controller has a base module with 16 SATA 1.0 channels for disk drives. Installing a two Ultra 320 SCSI host daughter board onto the base module allows you to support 16 channels Ultra320 SCSI-to-SATA function. Installing a two Ultra160 host daughter board onto the base module allows you to support 16 channels Ultra160 SCSI-to-SATA function.

The array controller provides reliable data protection for servers and offers a new level polynomial technology to implement the extreme performance RAID 6 function. Its performance is very similar to RAID 5. The controller raises the standard to higher performance levels with several enhancements including Intel 80321 I/O Processor, a new memory architecture (DDR200) and Areca extreme performance RAID 6 engine.

Highlights

- ★ Two Ultra320 SCSI or Two Ultra160 SCSI host and SATA channel device compatibility
- ★ STAT 1.0 150Gbps speed at all SATA drive ports
- ★ Support RAID level 0, 1, (0+1), 3, 5, 6, NRAID and JBOD
- ★ Areca proprietary polynomial ASIC to support highest speed RAID 6
- ★ Online Capacity expansion, RAID level/stripe size migration
- ★ provide plug-and-play O/S-independent and transparent RAID solutions
- ★ Firmware-embedded Web Browser-based RAID manager, STMP manager, and SNMP agent Via Lan Port with no software required
- ★ Redundant flash image for adapter availability
- ★ support Greater than 2TB per Volume set and battery backup module (BBM)

Unparalleled Performance

The controller new high-performance architecture comes from Intel 80321 I/O processor, a 100MHz/64-bit PCI-X, a new polynomial RAID 6 engine and DDR200 memory architecture. The data flow at 100MHz/64 bit PCI-X bus and 64-bit 200Mhz ECC DDR SDRAM makes its high data throughput more than existing RAID controller with PATA drive. Data can be transferred between the controller and the drives through a high-speed 100MHz/64-bit path at a burst rate up to 800MB/S. The system's overall performance can support up to two Ultra320 SCSI host channels or two Ultra160 SCSI channels. The controller can be configured with up to 1 GB DDR200 SDRAM cache, depending on the type of memory modules being used. A minimum of 64MB DDR SDRAM is required. The controller uses the Marvell 8 channels SATA PCI-X controller chip, which can simultaneously communicate with the host system, and read or write data on several drives.

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. RAID 1 can provide greater fault tolerance, but needs double disk drives and is too costly for most users to implement on large volume sets. Users want the protection of RAID 1 or better with an implementation cost similar to RAID 5. 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 RAID controller provides RAID levels 0, 1 (0+1), 3, 5, 6,

NRAID and JBOD RAID configurations. It can be managed either through the LCD control panel, RS232 port or Ethernet port. 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.

Easy RAID Management

Manual configuration and monitoring can be done through the LCD Control Panel. The firmware also contains an embedded terminal emulation via the RS-232 port. The firmware-embedded Web Browser-based RAID manager allows local or remote to access it from any standard internet browser via a LAN or WAN with no software or patches required. The firmware contains SMTP manager monitors all system events and user can select either single or multiple user notifications to be sent via 'Plain English' e-mails. The firmware-embedded SNMP agent allows remote to monitor events via LAN with no SNMP agent required.

The hardware monitor can monitor system voltage, temperature and FAN. The warning message will show in the

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SPECIFICATIONS

8/12/16 Ports Ultra320 / Ultra160 SCSI-to-SATA Controller

RAID Architecture

- ★ Intel 80321 400MHz 64-bit I/O processor
- ★ Up to 1GB DDR200 SDRAM on one DIMM socket with ECC protection
- ★ Marvell 8 channels SATA controller
- ★ Areca proprietary polynomial ASIC to support extreme performance RAID 6 function
- ★ NVRAM for RAID configuration & transaction log
- ★ Write-through or write-back cache support
- ★ Redundant flash image for adapter availability
- ★ Battery Backup Module(BBM) ready (Option)

RAID Features

- ★ RAID level 0, 1 (0+1), 3, 5, 6, RAID and JBOD
- ★ Multiple RAID selection
- ★ Online Array roaming
- ★ Online RAID level/stripe size migration
- ★ Online capacity expansion and RAID level migration simultaneously
- ★ Instant availability and background initialization
- ★ Automatic drive insertion / removal detection and rebuilding
- ★ Greater than 2TB per volume set (64-bit LBA support)
- ★ S.M.A.R.T environmental monitoring support

Host Interface

Ultra320 SCSI-to-SATA

- ★ Two Ultra320 SCSI Channels - 320MB/sec per channel

Ultra160 SCSI-to-SATA

- ★ Two Ultra160 SCSI Channels - 160MB/sec per channel

Drive Interface

- ★ 8/12/16 SATA 1.0 channel-1.5Gbps

Monitors/Indicators

- ★ LCD Control Panel for setup, alarm mute and configuration
- ★ System status indication through LCD, LED and alarm buzzer

RAID Management

- ★ Field-upgradeable firmware in flash ROM
- ★ Web browser-based RAID manager via HTTP PROXY through RS-232 for Windows & Linux system
- ★ Firmware-embedded manager via RS-232 port
- ★ Firmware-embedded Web Browser-based RAID manager - Access your RAID subsystem from any standard internet browser via 10/100 Lan port
- ★ Firmware-embedded SMTP manager – Monitor all system events and user can select either single or multiple user notifications to be sent via ' Plain English' e-mails
- ★ Firmware-embedded SNMP agent allows remote to monitor events via LAN with no SNMP agent required.

Operating System

- ★ OS independent

Environmental /Physical

Mechanical		Environment	
Form Factor	One 5.25" half-height driver bays	Operating	Temperature : +5°C to +40°C Humidity : 15-80%, non-condensing
Dimension	W148x H43 x D220 mm	Storage Temperature	Temperature : -40°C to 70°C Humidity : 5-90%, non-condensing
I/O Interface	1 * (2 X 10) battery backup connector	Electrical	
	1 * (2 X 4) header I2C Port for LCD and button connector	Input Voltage	+5VDC, +12VDC
	2 * (2 X 5) box header serial port connector		
	1 * RJ45 LAN port		
	2 * 68 pin LVD SCSI connector		
	1 * 160-pin golden-edge and 1 * 64-pin golden-edge to backplane		



Areca Technology Corporation

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