ARC – 5030
IDE/SATA to SATA II Subsystem

ARC – 6020
SCSI to SATA II Subsystem

The Internal RAID Subsystem features a choice of Parallel ATA / Serial ATA (IDE / SATA) or Ultra320 SCSI host attachment and SATA II device attachment. Each system model allows two HDD failure without impact on the existing data and failed drive rebuild is transparent to the host. Environmental information is accessible either via the control panel/serial port or Etherent port. The RAID controller is most cost-effective SATA II disk drive RAID subsystems with completely integrated high performance and data protection capabilities, which are easily integrated into entry level servers. It can also meet the rapidly growing demand from the small to medium enterprise and SOHO markets.

HIGHLIGHTS

★ IDE/SATA or One Ultra 320 SCSI host and SATA channel device compatibility

★ Support up to 5 ports SATA or SATA II drive

★ Support RAID level 0, 1, 10, 3, 5, 6 and JBOD

★ Areca ASIC Engine to support highest speed RAID 6

★ Online Capacity expansion, RAID level/stripe size migration

★ Online Dynamic Volume Set Capacity expansion

★ Firmware-embedded Web Browser-based RAID manager, SMTP manager, and SNMP agent Via Ethernet Port with no software required

★ Redundant flash image for adapter availability

★ Support Greater than 2TB per Volume set

Unparalleled Performance

The controller new high-performance architecture comes from Intel 80219 I/O processor, a 133MHz/64-bit PCI-X, a new polynomial RAID 6 engine and DDR200 memory architecture. The data flow at 133MHz/64 bit PCI-X bus and 64-bit 200Mhz ECC DDR SDRAM makes its high data throughput more than existing RAID controller with IDE drive. Data can be transferred between the controller and the drives through a high-speed 133MHz/64-bit path at a burst rate up to 1000MB/S. The controller default supports DDR200 128 MB SDRAM on-board cache.

The ARC-5030 (IDE/SATA to SATA II RAID-IDE) provides a cost-effective storage subsystem by using the main board IDE port; it can free a PCI slot. With Intel Accelerated Hub Architecture and VIA Link Architecture, the IDE bus bandwidth is independent of the PCI bus in the newer chip set design, freeing the best PCI performance for Ethernet Card. The ARC-5030 provides IDE and SATA host attachment. Both IDE and SATA channel can concurrently access different volume sets

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 that 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 RAID controller provides RAID levels 0, 1, 10, 3, 5, 6 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, and Auto Reassign Sector.

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 2TB support allows for very large volume set application in 64-bit environment such as data-mining and managing large databases.

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 controller also supports API library for customer to write its own monitor utility.
The hardware monitor can monitor system voltage, temperature and FAN.

IDE/SATA to SATA II SubSystem, SCSI to SATA II SubSystem

Adapter Architecture

★ Intel FW80219 400MHz I/O processor
★ 128MB on-board DDR200 SDRAM with ECC protection
★ Marvell 8 channels SATA-II controller
★ Areca ASIC to support extreme performance RAID6 function
★ NVRAM for RAID configuration & transaction log
★ Write-through or write-back cache support
★ Firmware in Flash ROM for easy upgrades

RAID Features

★ RAID level 0, 1 , 10 , 3, 5, 6 (If RAID Engine installed) and JBOD
★ Multiple RAID selection
★ Online Array roaming
★ Online RAID level / stripe size migration
★ Online capacity expansion and RAID level migration simultaneously
★ Online Dynamic Volume set capacity expansion
★ Instant availability and background initialization
★ Automatic insertion / removal detection and rebuild
★ Greater than 2TB per volume set
★ Support SMART, NCQ, and OOB staggered spin-up capable drives

Monitors/Notification

★ Push Buttons and LCD Display Panel for setup and configuration (option)
★ 5 drive LED indicators and 3 environment LED indicators
★ Environment and drive failure indication through LCD, LED and alarm buzzer

Disk Bus Interface

★ SATA II compatible - 3.0Gbps(300MB/Sec)

ARC-5030 Host Connectivity

★ Dual ATA interface-Ultra ATA/133 & Serial ATA 1.0
★ Ultra ATA/133 compatible; Transfer rate up to 133MB/sec
★ Serial ATA 1.0 - 1.5Gbps(150 MB/sec)

ARC-6020 Host Connectivity

★ One Ultra 320-Wide LVD SCSI; Transfer rate up to 320MB/sec
★ Tagged Command Queuing
★ Concurrent I/O commands

RAID Management

★ Bootable CD VT-100 utility for X86-based system initialization
★ Field-upgradeable firmware in flash ROM via RS-232 port
★ Web browser-based RAID management via Archttp proxy through RS-232 port for windows, Linux & FreeBSD enviroment
★ Firmware-embedded manager via RS-232 port (platform independent)
★ Firmware-embedded Browser-based RAID manager, SMTP manager, SNMP agent, and Telnet function via Ethernet port
★ Support controller's API library for customer to write its own AP

Mechanical

★ Form Factor
  ★ 3 consecutive 5.25" driver bays
★ Dimension(W x H x D)
  ★ 148 x 128 x 220 mm
★ Weight
  ★ 5.95/5.5 lbs/2.5 kg (w/o disk drive)

Operating System

★ OS Independent

ARECA Internal SATA RAID SubSystem

Model name	ARC-5030	ARC-6020
IDE Host Channel Adapter Port	1	
SATA Host Channel Adapter Port	1	
SCSI Connector Input		1
SCSI Connector Output		1
Ethernet LAN Connector	1	1
RS232 Connector	1	1
Power Input Connector	2	2
LCD Module Connector	1	1
Rear Side Connector/Fan Holder		

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