areca ®

At the Heart of Storage

ARC-5040 RAID Subsystem

Hi-Speed eSATA/FireWire 800/iSCSI/AoE/USB2.0

Compact 8-Disk RAID

- RAID 6 Engine
- Greater than 2TB
- Multiple Volumes (up to 16)

Overview

The ARC-5040 is the most complete 8-bay 3.0 Gbps SATA drive subsystem with RAID control capabilities. The ARC-5040 unleashes a truly innovative multiple hosts (with 3.0Gbps eSATA, FireWire 800, iSCSI/AoE and USB2.0) solution for both PC and Mac. The eSATA port delivers in excess of 220 MB per second (MB/sec) sustained RAID 0 reads and over 210 MB/sec RAID 0 sequential writes. High transfer rates make ARC-5040 well suited for audio/video application especially the rapidly growing demand from the Mac Video Editing markets. The Intelligent cooling continuously adapts to environmental conditions by automatically controlling the speed of the cooling fans. This super silent design, optimizing balance between noise reduction and necessary cooling, help the resellers to offer the cost effective storage solution to the end customers.

Unsurpassed Data Availability

The ARC-5040 incorporates onboard high performance 400MHz storage processors and on-board 128MB DDR2-400 SDRAM memory to deliver true hardware RAID. Designed and leveraged with Areca's existing high performance solution, this controller delivers high-capacity at the best of cost/ performance value. It supports the hardware RAID 6 engine to allow two HDDs failures without impact the existing data and performance. Its high data availability and protection derives from the many advanced RAID features. The ARC-5040 RAID subsystem allows easy scalability from JBOD to RAID. It can be configured to RAID levels 0, 1, 10, 1E, 3, 5, 6, Single Disk or JBOD. The subsystem unit is the most cost-effective SATA disk drive RAID subsystem with completely integrated high-performance and data-protection capabilities, which meet the performance and features of a midrange storage product at an entry-level price.

Maximum Host Interoperability

The ARC-5040 supports multiple host interfaces; eSATA, iSCSI/AoE, FireWire 800 or UBS2.0 that can work currently at the same time without any limitation. The host interface on the system may be located either on the system board, or on a plug-in host bus adapter (HBA) card. With port multiplier SATA host, eSATA (3.0Gbps) host channel can support multiple volumes (up to 8). FireWire 800 can support up to 2 volumes. iSCSI/AoE and USB2.0 host channels can also support up to 16 volumes. Up to 16 volumes can be created on each ARC-5040 RAID subsystem. Multiple host interfaces make ARC-5040 RAID subsystem well suited for professionals who need large capacity and exceptional performance with connectivity.

Easy RAID Management

Configuration and monitoring can be managed either through the LCD control panel, RS232 port or Ethernet port. 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 port. The RAID subsystem also supports API library for customer to write its own monitor utility. The Single Admin Portal (SAP) monitor utility can support one application to manage 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. The hardware monitor can monitor subsystem environment and show the warning message.

Adapter Architecture

• 400MHz storage I/O processor
• NVRAM for events log & transaction log
• 128MB on-board cache memory
• Write-through or write-back cache support
• Redundant flash image for subsystem availability
• RAID level 0, 1, 10, 1E, 3, 5, 6, Single Disk or JBOD
• Multiple RAID selection
• Up to 16 volumes per RAID subsystem (port multiplier SATA host: 8 volumes, FireWire 800 Host: 2 volumes, iSCSI/AoE Host: 16 volumes and USB2.0 Host: 16 volumes)
• Online array roaming
• Offline RAID set
• 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

Host Interface

• 3Gbps eSATA, FireWire 800 and USB 2.0
• iSCSI/AoE (will be available on February 2010)

Disk Interface

• 8 x SATA ll 3.0Gbps, hot swappable drive trays

Monitors/Notification

• Push Buttons and LCD Display Panel for setup and status
• Environment and drive failure indication through LCD, LED and alarm buzzer
• Keep silent and adequate air flow and cooling by intelligent cooling fan speed subsystem

RAID Management

• Field-upgradeable firmware in flash ROM via RS-232 and LAN port
• Firmware-embedded RAID manager via RS-232 port and LCD
• Firmware-embedded Browser-based RAID manager, SMTP manager, SNMP agent and Telnet function via LAN port
• Support Out-of-Band API library for customer to write its own AP

LCD Panel with Keypad

▶ ARC-5040 Front Side

RS232
LAN Port (For iSCSI/AoE and RAID Manager)
USB Port (Host)
eSATA Port
FireWire 800 (IEEE 1394b)

◀ ARC-5040 Rear Side

ARC-5040 RAID Subsystem

Form Factor	Compact – 8 Disk Compact Tower
Operation temperature	0˚~ 40℃
Operation humidity	5% ~ 95 %, Non-condensing
Cooling:	2 x 2700rpm/0.135A Brushless Fan
Power Supply/In/out	220W / 90-256V AC / +12V/9A, +5V/16A, +3.3V/14A
Dimension (W x H x D)	146 x 302 x 290 mm
Weight	14.9 lbs / 6.8Kg (Without Disk)

areca® *At the Heart of Storage*

8F., No.22, Lane 35, Ji-Hu Rd., 114 Taipei, Taiwan, R.O.C.

TEL: 886-2-87974060   FAX: 886-2-87975970

http://www.areca.com.tw

Technical Support: support@areca.com.tw

Sales Information: sales@areca.com.tw

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