

ARC-8050E RAID Storage (External PCIe 3.0 to 6Gb/s SAS RAID Storage)

ARC-8050E is an external PCIe RAID solution which expands the storage capacity of the Apple Mac Pro and PC system. This RAID storage allows for cabled-system extensions to external PCIe subsystems, meeting the needs for server expansion I/O to locate external to the main system. It includes a high performance External PCIe Cable Host Adapter, a 8-bay desktop RAID enclosure, and an External PCIe cable. Eight lanes of high speed PCIe 3.0 traffic travel through just one External PCIe x8 cable from the Cable Host Adapter, which resides inside the Mac Pro or PC system, to the eight drives in the ARC-8050E RAID enclosure.



Unparalleled Performance

The ARC-8050E raises the standard to higher performance levels with several enhancements including new high performance dual core ROC Processor, a DDR3-1333 memory architecture and high performance PCIe 3.0 x8 lane host interface bus interconnection. The controller by default supports on-board 1GB of ECC DDR3-1333 SDRAM memory. The optional battery backup module provides power to the cache if it contains data not yet written to the drives when power is lost. The test result is against overall performance compared to other 6Gb/s SAS RAID controllers. The powerful new ROC processors integrated 8 6Gb/s SAS ports on chip delivers high performance for servers and workstations.

Easy RAID Management

The controller contains an embedded McBIOS RAID manager that can access via hot key at M/B BIOS boot-up screen. This pre-boot McBIOS RAID manager can use to simplify the setup and management of RAID controller. The controller firmware also contains a browser-based McRAID storage manager which can be accessed through the Ethernet port or ArchHttp proxy server in Windows, Linux, FreeBSD and more environments. The McRAID storage 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.

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 ARC-8050E external PCIe RAID storage with extreme performance RAID 6 engine installed provide the highest RAID 6 feature to meet this requirement. The controller can concurrently compute two parity blocks and get very similar RAID 5 performance.

Maximum Interoperability

The ARC-8050E supports broad operating system including Windows 8/Server 2012/7/2008/Vista/XP/2003, Linux (Open Source), FreeBSD (Open Source), Solaris (Open Source), Mac, VMware and more, along with key system monitoring features such as enclosure management and SNMP function. Our products and technology are based on extensive testing and validation process; leverage Areca SAS or SATA RAID controller field-proven compatibility with operating systems, motherboards, applications and device drivers.

Controller Architecture

- Dual Core RAID-on-Chip (ROC) 800 MHz processor
- 1GB on-board DDR3-1333 SDRAM with ECC
- Write-through or write-back cache support
- Support up to 8 internal 6Gb/s SAS ports
- 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
- Support EFI BIOS for Mac Pro
- NVRAM for RAID event & transaction log
- Redundant flash image for controller availability
- Battery Backup Module (BBM) ready (Option)
- RoHS compliant

RAID Features

- RAID level 0, 1, 10(1E), 3, 5, 6, 30, 50, 60, Single Disk or JBOD
- Multiple RAID selection
- Online array roaming
- Offline RAID set
- Online RAID level/stripe size migration
- Online capacity expansion and RAID level migration simultaneously
- Online volume set growth
- Instant availability and background initialization
- Support global and dedicated hot spare
- Automatic drive insertion/removal detection and rebuilding
- Greater than 2TB capacity per disk drive support
- Greater than 2TB per volume set (64-bit LBA support)
- Support intelligent power management to save energy and extend service life
- Support NTP protocol synchronize RAID controller clock over the on board Ethernet port
- Multiple pairs SSD/HDD disk clone function
- SSD automatic monitor clone (AMC) support
- Controller level hardware encryption function support

Drive Support

- Up to 8 x 6Gb/s SAS/SATA/SSD

Host Connection

- External PCIe 3.0 x8 lane host interface

Monitors/Notification

- System status indication through individual activity/fault LED, LCD and alarm buzzer
- SMTP support for email notification
- SNMP support for remote manager
- Enclosure management ready

RAID Management

- Field-upgradeable firmware in flash ROM

In-Band Manager

- Hot key "boot-up" McBIOS RAID manager via M/B BIOS
- Web browser-based McRAID storage manager via ArchHttp proxy server for all operating systems
- Support Command Line Interface (CLI)
- API library for customer to write monitor utility
- Single Admin Portal (SAP) monitor utility

Out-of-Band Manager

- Firmware-embedded web browser-based McRAID storage manager, SMTP manager, SNMP agent and Telnet function via Ethernet port
- API library for customer to write monitor utility
- Support push button and LCD display panel

Operating System

- Windows 8/Server 2012/7/2008/Vista/XP/2003
- Linux
- FreeBSD
- VMware
- Solaris 10/11 x86/x86_64
- Mac OS 10.8.x/10.7.x/16.0.x/10.5.x

(For latest supported OS listing visit <http://www.areca.com.tw>)

ARC-8050E RAID Storage

Form Factor	Compact – 8 Disk Compact Tower
Operation temperature	0° ~ 40°C
Operation humidity	5% ~ 95 %, Non-condensing
Cooling Fan	2 x 2700rpm/0.135A Brushless Fan
Power Supply/In/out	270W / 90-256V AC / +12V/26A, +5V/18A, +3.3V/16A
Dimension (W x H x D)	146 x 302 x 290 mm (5.7 x11.8 x 11.4 in)
Weight	14.9 lbs / 6.8Kg
Cable Host Adapter	External PCIe 3.0 x8 (with Gen 3 Redriver)
External Cable	1m Length External PCIe x8 Cable (68pin to 68pin)

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