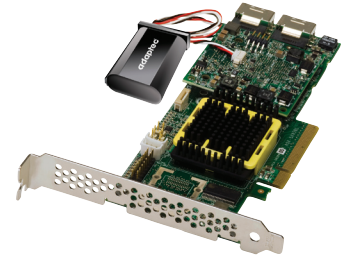


Adaptec SATA & SAS RAID Family

with Intelligent Power Management & Zero-Maintenance Cache Protection (5405Z, 5445Z, 5805Z)



Unified Serial® (SATA/SAS) RAID Controllers Deliver Maximum Performance, Energy Efficiency and Operating Cost Savings

Built upon our industry-leading Series 5 RAID controllers, Series 5Z cards feature a dual core RAID on Chip (ROC), DDR2 533MHz write cache, and an x8 PCI Express host bus connection. They support up to 256 SATA/SAS devices and feature Adaptec Intelligent Power Management for improved energy-efficiency, plus Zero-Maintenance Cache Protection (ZMCP - pronounced “zemcap”) to help data centers save thousands of dollars in operating costs.

Highest performance

Series 5Z controllers deliver speeds up to five times faster than competing products – over 250,000 IOPs and 1.2GB/s – making them ideal for enterprise-class storage systems.

Advanced data protection

Adaptec RAID Code (ARC) delivers maximum reliability with RAID levels 0, 1, 1E, 5, 5EE, 6, 10, 50, 60 and JBOD. ARC also offers RAID Level Migration (the ability to easily migrate RAID levels), Online Capacity Expansion (expand capacity without powering down the server), and Copyback Hot Spare (when a failed drive has been replaced, data is automatically copied from the hot spare back to the restored drive).

The Case for Cache

The fastest way for a RAID controller to fulfill a read or write request is to serve data out of its cache. Savvy network administrators know that enabling the RAID controller cache offers significant performance benefits, such as reduced latency in I/O requests, bandwidth and queue depths that surpass software application limits, and on-the-fly parity calculations on sequential writes.

Zero-Maintenance Cache Protection

RAID controllers typically employ battery backup units (BBUs) to protect cached data during power loss, but BBUs require constant

monitoring and preserve data for a maximum of 72 hours during power loss.

Adaptec Series 5Z controllers introduce Zero-Maintenance Cache Protection, a revolutionary advancement that solves BBU deficiencies by providing full protection to cached data with no installation, monitoring, maintenance, disposal, or replacement costs. Featuring 4GB of NAND flash memory with super capacitor technology, Series 5Z controllers instantly save cache contents in the event of system power loss. The super capacitor charges instantly while the system is booting, cache protection is available within minutes of installation, and stored data is preserved for up to 10 years. And, since it is flash-based, systems don't need to be shut down for battery replacement.

Adaptec Intelligent Power Management

Intelligent Power Management (IPM) slashes power and cooling costs by up to 70% using intelligent I/O caching combined with disk drive power savings via standby and power-off modes.



One-view storage management

The Series 5Z family operates under Adaptec Storage Manager™, a one-view tool that centralizes management of all Adaptec RAID products.

Broad operating system support

The Series 5Z family supports all major operating systems, including Windows, Linux, VMware and FreeBSD.

Compatibility, reliability, and support

The Series 5Z family has been extensively tested with more than 300 third-party components to deliver the utmost in compatibility. The cards are backed by a 3-year warranty and Adaptec's legendary technical support.

Product Highlights

- Intelligent Power Management
- 1.2GHz Dual Core RAID on Chip (ROC)
 - High-performance RAID 5/6
- 4- and 8-port low-profile MD2
- Supports up to 256 SATA or SAS devices
- 3 Gb/s throughput at each port
- Enclosure management support via LED header and SES2/SGPIO
- Low Operating Costs
 - No installation, monitoring, maintenance, disposal or replacement costs due to batteries
- No data loss from power failures
 - Replaces lithium ion batteries
- Maintenance-free cached data protection
 - No need to monitor battery charge level
 - No shutdown required for battery replacement
 - Stores protected data for up to 10 years
- Instant RAID cache protection
 - Charges in minutes instead of hours
 - RAID performance optimized immediately
- Environmentally conscious
 - No toxic battery disposal
 - Simplified IATA compliance



Adaptec SATA & SAS RAID Family (5405Z, 5445Z, 5805Z)

Adaptec Unified Serial Controller Family	
Why to buy?	Performance Unified Serial RAID controllers support both SATA and SAS devices and offer unique features including Zero Maintenance Cache Protection and Intelligent Power Management. Ideal for bandwidth intensive storage applications; NAS, online transaction processing servers (OLTP), web servers, digital surveillance and streaming applications.
Customer Needs	High I/O transaction and high bandwidth processing; solutions that reduce energy consumption and maintenance costs
Zero Maintenance Cache Protection	<ul style="list-style-type: none"> Maximizes performance and extends power savings by protecting data in controller cache without incurring monitoring, replacement or disposal costs. Support for full installation lifecycle – up to ten years – ensuring data availability and reducing total cost of ownership.
Intelligent Power Management	Automated customer-configurable feature that reduces disk drive energy use by up to 70% without compromising application performance. Two configurable modes supported: Standby mode – low-power mode; spins disks at lower RPMs (must be supported by disk drive). Power-off mode – Spin down drives when not in use.
RAID Features	<ul style="list-style-type: none"> Supports up to 256 SATA or SAS devices using SAS expanders RAID levels 0, 1, 1E, 5, 5EE, 6, 10, 50, 60 and JBOD Quick initialization Online Capacity Expansion Copyback Hot Spare Dynamic caching algorithm Native Command Queuing (NCQ) Background initialization Hot-plug drive support RAID Level Migration Hot spares - global, dedicated, and pooled Automatic/manual rebuild of hot spares SES and SAF-TE enclosure management Configurable stripe size S.M.A.R.T. support Multiple arrays per disk drive Dynamic sector repair Staggered drive spin-up Bootable array support Optimized Disk Utilization
Management Utilities	Adaptec Storage Manager™ (ASM) <ul style="list-style-type: none"> Java-based GUI Management Utility Remote configuration, monitoring and notification ASM OS Support: Windows, Linux, SCO, Solaris, FreeBSD Microsoft VDS Support SNMP, SMTP Remote firmware updates ARCCONF <ul style="list-style-type: none"> Command Line Interface Adaptec BIOS Configuration Utility (ACU) <ul style="list-style-type: none"> BIOS level configuration utility Flashable BIOS support
Operating System	Windows XP, Server 2003/2008, Vista, VMware ESX 3.x, ESXi 3.x and vSphere 4, Red Hat Enterprise Linux (RHEL), SUSE Linux Enterprise Server (SLES), SCO OpenServer, UnixWare, Sun Solaris 10 x86, FreeBSD. The latest drivers are available at www.adaptec.com/support .
Physical Dimensions	5405Z/5445Z/5805Z – 2.5"H x 6.6"L (64mm x 167mm)
Operating Temperature	0°C to 35°C (without airflow); 0°C to 55°C (with 200 LFM airflow)
Operating Voltage	0.40A @ 3.3V; 1.2A @ 12V
Regulatory Certification	CE, FCC, UL, C-tick, VCCI
Environmental Compliance	RoHS, REACH, WEEE
MTBF	873,402 hours at 40°C
Warranty	3 years

Adaptec RAID	5405Z	5805Z	5445Z
Order Part Number	2266800-R	2266900-R	2267000-R
Form Factor	MD2 - Low Profile	MD2 - Low Profile	MD2 - Low Profile
Ports	4 internal	8 internal	8 (4 int / 4 ext)
Connectors	1 SFF-8087 (int.)	2 SFF-8087	1 SFF-8087 (int.) / 1 SFF-8088 (ext.)
Bus Interface	8-Lane PCIe	8-Lane PCIe	8-Lane PCIe
Processor	1.2 GHz Dual Core	1.2 GHz Dual Core	1.2 GHz Dual Core
Cache	512MB	512MB	512MB



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