



Adaptec SATA & SAS RAID Family with Power Management

5405, 5445, 5805, 5085, 51245, 51645, 52445



Next-generation Unified Serial™ controllers deliver performance for high-capacity SATA drives and high-end SAS drives

With an industry-leading dual core RAID on Chip (ROC), DDR2 533MHz write cache, support for up to 256 SATA/SAS devices (using SAS expanders) and an x8 PCI Express host interface bus connection, this family of Adaptec Unified Serial controllers delivers impressive performance numbers – over 250,000 I/Os and 1.2GB/s. These controllers are ideal for enterprise-class storage applications that call for maximum performance, scalability and flexibility.

Advanced data protection

Designed to provide maximum performance and reliability, Adaptec RAID Code (ARC), available with Adaptec hardware RAID controllers, offers RAID levels 0, 1, 1E, 5, 5EE, 6, 10, 50 and 60. ARC also offers features such as **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, allowing the hot spare to remain in the same spot).



Reduce power use by up to 70% with Intelligent Power Management

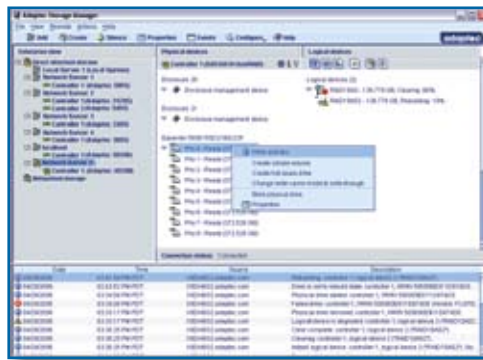
The power required by disks is a primary ongoing storage cost. Full power is maintained to every disk whether it is actively being used

or not, which also increases cooling costs. Adaptec Intelligent Power Management slashes power and cooling costs by spinning down idle disks and providing a lower power mode for active disks.

One-view storage management

This Adaptec Unified Serial RAID family operates under Adaptec Storage Manager™, a one-view tool that centralises management of all Adaptec RAID products. The software

enables remote configuration and monitoring of RAID arrays through secure, encrypted communications. The intuitive management tool simplifies RAID array creation and management with pop-up tips and online help.



Broad operating system support

Extensive operating system support includes all major software releases, such as Windows, Linux, FreeBSD and UNIX. The latest operating system drivers are available on the Adaptec support website, www.adaptec.com/support. The Adaptec unified driver model for Linux operating systems allows the new Unified Serial controllers to install with all Adaptec Open Source Linux drivers included in the standard Linux kernel since version 2.4.2.

Compatibility, reliability and support

Adaptec has been delivering storage and I/O solutions for more than 25 years. In fact, Adaptec is the undisputed RAID leader; no other vendor's technology is more proven. This Adaptec RAID Unified Serial family has been extensively tested with third-party components to deliver the utmost in compatibility. The cards are backed by a three-year warranty and legendary Adaptec technical support.

Product Highlights

Intelligent Power Management

1.2GHz Dual Core RAID on Chip (ROC)

- High-performance RAID 5/6
- Up to 512MB DDR2 cache

Internal and External SATA/SAS connectors

4- and 8-port low-profile MD2 form factor

16-, 20- and 28-port half-length form factors

Supports up to 256 SATA or SAS devices using SAS expanders

3Gb/s throughput at each drive port

x8 PCI Express host interface

Supports multiple RAID LUNs

Enclosure management support via LED header and SES2/SGPIO



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Adaptec Unified Serial Controller Family	
Why buy?	Performance Unified Serial RAID controllers support both SATA and SAS devices. Ideal for bandwidth-intensive storage applications; NAS, online transaction processing servers (OLTP), web servers, digital surveillance and stream applications.
Customer Needs	High I/O transaction and high-bandwidth processing
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: Low power mode – drive rotates at reduced RPM when not in use (requires that the drive support Advanced Power Management specification). See Adaptec compatibility report for a list of supported disk drives. Idle power 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 and 60 – Quick initialisation – Online Capacity Expansion – Copyback Hot Spare – Dynamic caching algorithm – Native Command Queuing (NCQ) – Background initialisation – Hot-plug drive support – RAID Level Migration – Hot spares – global, dedicated and pooled – Automatic/manual rebuild of hot spares – 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 – 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, Red Hat Enterprise Linux (RHEL), SUSE Linux Enterprise Server (SLES), SCO OpenServer, UnixWare, Sun Solaris 10 x86, FreeBSD
Physical Dimensions	5085/5405/5445/5805 – 167mm H x 64mm L (2.5" x 6.6") 51245/51645/52445 – 164mm H x 116mm L (4.6" x 6.43")
Operating Temperature (incl. battery)	0°C to 35°C (without airflow) 0°C to 55°C (with 200 LFM airflow)
Operating Voltage	0.45A @ 3.3V; 1A @ 12V 0.47A @ 3.3V; 1.8A @ 12V
Regulatory Certification	CE, FCC, UL, C-tick, VCCI
MTBF	873,402 hours at 40°C
Warranty	3 years
Accessories	Adaptec Battery Module 800 (2248000-R), Adaptec Battery Module 800T (2263800-R)

Adaptec RAID	5405	5445	5805	5085	51245	51645	52445
Order Part Number	2258100-R (kit)	2228800-R (kit)	2244100-R (kit)	2249100-R (kit)	2258300-R (kit)	2258500-R (kit)	2258700-R (kit)
Form Factor	MD2 – Low-profile	MD2 – Low-profile	MD2 – Low-profile	MD2 – Low-profile	Half-length / Full-height	Half-length / Full-height	Half-length / Full-height
Ports	4 internal	8 (4 int./4 ext.)	8 internal	8 external	16 (12 int./4 ext.)	20 (16 int./4 ext.)	28 (24 int./4 ext.)
Connectors	1 SFF-8087 (int.)	1 SFF-8087 (int.) 1 SFF-8088 (ext.)	2 SFF-8087 (int.)	2 SFF-8088 (ext.)	3 SFF-8087 (int.) 1 SFF-8088 (ext.)	4 SFF-8087 (int.) 1 SFF-8088 (ext.)	6 SFF-8087 (int.) 1 SFF-8088 (ext.)
Bus Interface	8-lane PCIe	8-lane PCIe	8-lane PCIe	8-lane PCIe	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	1.2 GHz Dual Core	1.2 GHz Dual Core	1.2 GHz Dual Core	1.2 GHz Dual Core
Cache	256MB	512MB	512MB	512MB	512MB	512MB	512MB



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