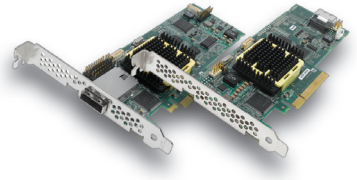# adaptec

Adaptec SATA & SAS RAID Family
with Power Management
2045, 2405

Next-Generation Entry-level Unified Serial™ Controllers Deliver Hardware RAID 0, 1, 10 and JBOD for SATA and SAS Disk Drives

These entry-level Adaptec Unified Serial RAID controllers are designed to support hardware hardware RAID 0, 1, 10 and JBOD while offering direct I/O connectivity for SATA/SAS tape devices and hard disk drives. Equipped with an industry-leading dual core RAID on Chip (ROC), this family offers 128MB of DDR2 533MHz write cache and supports up to 128 devices using SAS expanders. They offer an x8 PCI Express host interface bus connection in a low-profile MD2 form factor. This family of Adaptec Unified Serial controllers offers high bandwidth for I/O applications and at the same time basic hardware RAID functionality that is fully independent of the host and operating system and compatible with other Adaptec RAID controller families.

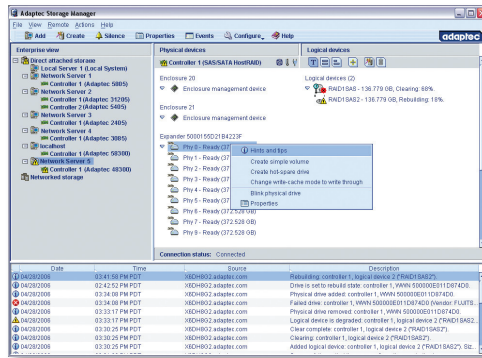### Reduce power use by up to 70% with Intelligent Power Management

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 centralizes 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 power 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 3-year warranty and legendary Adaptec technical support.

Product Highlights

- Intelligent Power Management

- 800MHz Dual Core RAID on Chip (ROC)
  - High-performance RAID 0, 1, 10 and JBOD
  - 128MB DDR2 cache

- Low-profile MD2 form factor

- Supports up to 128 SATA/SAS devices using SAS expanders

- Supports SATA and SAS tape drives

- 3Gb/s throughput at each drive port

- x8 PCI Express host interface

- Enclosure management support via LED header and SES2/SGPIO

UNIFIED SERIAL™
ARCHITECTURE

Adaptec SATA & SAS RAID with Power Management 2045, 2405

Adaptec Unified Serial Controller Family	
Why to buy?	Delivers a new price/performance level and enhanced reliability for entry-level applications
Customer Needs	The better reliability offered by hardware RAID, and a feature set designed for the latest applications, including Linux open source drivers and external connectivity, without needing to step up to the cost of a more sophisticated controller for their entry-level applications.
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; 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. **Power-off mode** – Spin down drives when not in use.
RAID Features	— Supports up to 128 SATA or SAS devices using SAS expanders — RAID levels 0, 1, 10 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 — 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)** — 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** — Command Line Interface **Adaptec BIOS Configuration Utility (ACU)** — 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	2045/2405 — 2.5"H x 6.6"L (167mm x 64mm)
Operating Temperature	0°C to 35°C (without airflow) 0°C to 55°C (with 200 LFM airflow)
Operating Voltage	1 amp @ 3.3V
Regulatory Certification	CE, FCC, UL, C-tick, VCCI
MTBF	873,402 hours at 40°C
Warranty	3 years
Accessories	No battery option

Adaptec RAID	2405	2405	2045
Order Part Number	2260100-R (kit)	2260200-R (single)	2260300-R (single)
Form Factor	MD2 - Low Profile	MD2 - Low Profile	MD2 - Low Profile
Ports	4 internal	4 internal	4 external
Connectors	1 SFF-8087 (int.)	1 SFF-8087 (int.)	1 SFF-8088 (ext.)
Bus Interface	8-Lane PCIe	8-Lane PCIe	8-Lane PCIe
Processor	800MHz	800MHz	800MHz
Cache	128MB	128MB	128MB
Fanout Cable	Yes	No	No

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