

Adaptec 3Gb/s SATA & SAS RAID with Intelligent Power Management 2045, 2405, 2805



Entry-level Unified Serial® (SATA/SAS) RAID Controllers Deliver Performance and Energy Efficiency

Adaptec Series 2 Unified Serial RAID controllers are designed to support 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. Series 2 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.

Hybrid RAID

With Hybrid RAID 1 & 10 the Series 2 controllers offer maximum performance and reliability by combining Solid State Drives (SSDs) and Hard Disk Drives (HDDs) in a single array. By performing read operations from the faster SSD and write operations on both the SSDs and HDDs the result is tremendous performance gains over standard HDD RAID arrays. Hybrid RAID offers the benefits of both technologies and allows a better cost per GB ratio than comparable SSD-only RAID arrays.

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. 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.

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

Adaptec Storage Manager™, a one-view tool centralizes management of all Adaptec RAID products.

Broad Operating System Support

Extensive operating system support includes all major software releases, such as Windows, Linux, FreeBSD, and UNIX variants.

Compatibility, Reliability, and Support

The Series 2 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 the company's legendary technical support.

Product Highlights

- 3Gb/s throughput at each port
- 800MHz Dual Core RAID on Chip (ROC)
 - High-performance RAID 0, 1, 1E, 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
- x8 PCI Express host interface
- Enclosure management support via LED header and SES2/SGPIO
- Intelligent Power Management
 - Reduces power and cooling costs by as much as 70%
- Hybrid RAID 1 & 10: SSD + HDD for Maximum Performance and Reliability



Adaptec SATA & SAS RAID Family (2045, 2405, 2805)

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	<ul style="list-style-type: none"> – Supports up to 128 SATA or SAS devices using SAS expanders – RAID levels 0, 1, 1E, 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 <ul style="list-style-type: none"> – 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 7, Windows XP, Server 2003/2008, Vista, 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	2045/2405/2805 – 2.5”H x 6.6”L (167mm x 64mm)
Operating Temperature*	0°C to 55°C (with 200 LFM airflow)
Operating Voltage	0.42A @3.3VDC, 0.83A @12VDC
Regulatory Certification	CE, FCC, UL, C-tick, VCCI
MTBF	2045: 1,425,898 hours @ 40°C, 2405: 1,415,623 @ 40°C, 2805: 1,134,890 hours @ 40°C
Warranty	3 years
Accessories	No battery option

*Note: This Adaptec card contains a powerful RAID processor which requires adequate airflow to operate reliably. Please install this card only into server or PC chassis with recommended airflow (200 LFM). Ambient temperature measured 1” away from the RAID processor.

Adaptec RAID	2045	2405	2805
Order Part Number	2260300-R (single)	2260100-R (kit) 2260200-R (single)	2269600-R (kit) 2269500-R (single)
Form Factor	MD2 - Low Profile	MD2 - Low Profile	MD2 - Low Profile
Ports	4 external	4 internal	8 internal
Connectors	1 SFF-8088 (ext.)	1 SFF-8087 (int.)	2 SFF-8087 (int.)
Bus Interface	8-Lane PCIe Gen1.1	8-Lane PCIe Gen1.1	8-Lane PCIe Gen1.1
Processor	800MHz	800MHz	800MHz
Cache	128MB	128MB	128MB
Fanout Cable/s (kits only)	None (Single only)	mSASx4 to 4xSATA w/sideband (0.5M) x1	mSASx4 to 4xSATA w/sideband (0.5M) x2



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