

Microsemi Adaptec® Series 6E RAID: 6405E, 6805E

True Hardware RAID Adapters with On-Board DRAM for Entry-Level Applications

Affordable True Hardware RAID that Outperforms Software-Based HBAs and SATA Controllers

The Series 6E adapters deliver the robustness of hardware RAID in an entry-level solution. They offer the same 6 Gbps performance of our Series 6 adapters, but are optimized for platforms where a Series 6 adapter would not fit due to price, form factor, or host connectivity. The 6405E offers maximum connectivity through a 1-lane PCI Express 2.0 interface that fits into any industrial PC, workstation class or entry server class motherboard, while the 6805E has a 4-lane PCI Express 2.0 interface for application that require more bandwidth. The 6405E and the 6805E support a maximum of four and eight devices, respectively, as neither supports expanders.



I/O Connectivity and Data Protection

With its entry-level price point, Series 6E can be used as a connectivity product, with support for up to four (6405E) or eight (6805E) SATA and SAS devices, and 128 MB of DDR2-800 MHz DRAM cache for device acceleration. At the same time, Microsemi's Adaptec RAID Code (ARC) delivers maximum reliability with RAID levels 0, 1, 1E, 10, and JBOD. ARC also offers RAID level migration (the ability to easily migrate RAID levels), online capacity expansion (the ability to expand capacity without powering down the server), and copyback hot spare (the ability to automatically copy data from the hot spare back to the restored drive when a failed drive has been replaced).

Hybrid RAID

With Hybrid RAID 1 and 10, Series 6E adapters offer maximum performance and reliability by combining solid state drives (SSDs) and hard disk drives (HDDs) in a single array.

The Case for Cache

The fastest way for a RAID adapter to fulfill a read or write request is to serve data out of its cache. With 128 MB on-board DRAM, Series 6E adapters deliver significant performance benefits.

Intelligent Power Management

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

Microsemi Adaptec maxView Storage Manager

maxView provides the powerful features of the Microsemi Adaptec Storage Manager™ in an HTML5 web interface that can be viewed in standard desktop or mobile browsers without the need for separate software installation.

Benefits

- Support both SAS and SATA devices and provide affordable, true hardware RAID with on-board DRAM cache that outperforms software-based HBAs and SATA controllers.
- High I/O transaction and high bandwidth processing provide solutions that reduce energy consumption and maintenance costs.

Product Highlights

- 6 Gbps throughput at each port
- 4- and 8-port low-profile MD2 with support for a maximum of 4 and 8 devices respectively
- Microsemi PM8013 Dual Core RAID-on-Chip
- SAS 2.0 interfaces and PCIe Gen2 Host Connection
- 128 MB on-board DRAM for maximum performance
- Enclosure management support via LED header and SES2/SGPIO
- Intelligent power management
- Hybrid RAID 1 and 10: SSD and HDD for maximum performance and reliability
- Extensively tested with major operating systems and third-party components
- 3-year warranty

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RAID features	<ul style="list-style-type: none"> – Supports up to 4 (6405E) or 8 (6805E) SAS or SATA devices – RAID levels 0, 1, 10, 1E, and JBOD – Hybrid RAID 1 and 10 – Quick initialization – Online capacity expansion – Copyback hot spare – Dynamic caching algorithm – Native command queuing – 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 – 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	maxView Storage Manager <ul style="list-style-type: none"> – Web-based GUI management utility – OS support: Windows, Linux, Solaris VMware – Remote configuration, monitoring, and notification – Remote firmware updates – SMI-S support – SMTP 	ARCCONF <ul style="list-style-type: none"> – Command line interface – SMI-S support for VMware BIOS Configuration Utility (CTRL+A) <ul style="list-style-type: none"> – Legacy configuration utility – Flashable BIOS support uEFI BIOS Configuration Utility <ul style="list-style-type: none"> – HII-based configuration utility – Flashable BIOS support
Operating system	Microsoft Windows, Red Hat Linux, SUSE Linux, Fedora, Debian Linux, Ubuntu Linux, Sun Solaris, FreeBSD, VMware ESX. The latest drivers are available at storage.microsemi.com/en-us/support/start .	
Physical dimensions	6405E: 2.535" H x 5.115" L 6805E: 2.535" H x 6.095" L	
Operating temperature	0 °C to 55 °C (with 200 LFM airflow)	
Operating voltage	6405E: 0.11 A at 3.3 VDC; 0.75 A at 12.0 VDC 6805E: 0.125 A at 3.3 VDC; 0.80 A at 12.0 VDC	
Regulatory certification	CE, FCC, UL, C-tick, VCCI, KCC	
Environmental compliance	RoHS, REACH, WEEE	
MTBF (at 40 °C)	6405E: 889,115 hours 6805E: 860,953 hours	
Warranty	3 years	

RAID adapter	6405E	6805E
Order part number	2271700-R (kit) 2270800-R (single)	2271800-R (kit) 2270900-R (single)
Form factor	MD2 – Low Profile (2.535" H x 5.115" L)	MD2 – Low Profile (2.535" H x 6.095" L)
Ports	4 internal	8 internal
Connectors	1 SFF-8087	2 SFF-8087
Bus interface	1-Lane PCIe Gen2	4-Lane PCIe Gen2
Processor	PM8013	PM8013
Cache	128 MB	128 MB
Fanout cable (kit only)	mSASx4 to 4xSATA w/sideband (0.7 M) x1	mSASx4 to 4xSATA w/sideband (0.7 M) x2



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