

# Microsemi Adaptec® Series 6 RAID: 6405, 6445, 6805

## 6 Gbps SAS and SATA RAID Adapters

### Superior Bandwidth, Reliability, Energy Efficiency, and Operating Costs Savings

Series 6 RAID adapters feature Microsemi's market-leading, multi-core SRC 8x6G RAID-on-chip, 512 MB DDR2 667 MHz cache, and an 8-lane PCI Express Gen2 host bus connection. They support up to 256 SATA/SAS devices and feature Microsemi Adaptec Intelligent Power Management for improved energy-efficiency, plus Zero-Maintenance Cache Protection to help data centers save thousands of dollars in operating costs.

### Highest Performance

Series 6 adapters deliver up to 60% higher sustained sequential throughput than previous generation Microsemi adapters, and up to 2 GB/s sustained data transfer rate to the host. At peak performance, Series 6 offers 4.8 GB/s through the SAS 2.0 interface and 4.0 GB/s through the PCI Gen2 host interface.

### Advanced Data Protection

Microsemi's Adaptec RAID code (ARC) delivers maximum reliability with RAID levels 0, 1, 1E, 5, 5EE, 6, 10, 50, 60, and JBOD. It 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, the Series 6 adapters offer maximum performance and reliability by combining solid state drives (SSDs) and hard disk drives (HDDs) in a single array.

### Zero-Maintenance Cache Protection

Series 6 adapters feature Zero-Maintenance Cache Protection, with 4 GB of SLC-based NAND flash memory with super capacitor technology (available as a separate kit). This revolutionary advancement solves BBU deficiencies by providing full protection to cached data with no installation, monitoring, maintenance, disposal, or replacement costs.

### 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 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

- Ideal for bandwidth-intensive storage applications, NAS, online transaction processing servers, web servers, digital surveillance, and streaming applications.
- 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
- Microsemi PM8013 Dual Core RAID-on-Chip
- SAS 2.0 interfaces and PCIe Gen2 host connection
- 4- and 8-port low-profile MD2
- Supports up to 256 SATA or SAS devices
- Enclosure management support through LED header and SES2/SGPIO
- Intelligent power management
- Microsemi Adaptec Flash Module 600 (AFM-600) for Zero-Maintenance Cache Protection with 4 GB NAND flash (optional kit)
- 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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## 6 Gbps SATA and SAS RAID Adapters

<b>RAID features</b>	<ul style="list-style-type: none"> <li>– Supports up to 256 SAS or SATA devices using SAS expanders</li> <li>– RAID levels 0, 1, 1E, 5, 5EE, 6, 10, 50, 60, and JBOD</li> <li>– Hybrid RAID 1 and 10</li> <li>– Quick initialization</li> <li>– Online capacity expansion</li> <li>– Copyback hot spare</li> <li>– Dynamic caching algorithm</li> </ul>	<ul style="list-style-type: none"> <li>– Native command queuing</li> <li>– Background initialization</li> <li>– Hot-plug drive support</li> <li>– RAID level migration</li> <li>– Hot spares—global, dedicated, and pooled</li> <li>– Automatic/manual rebuild of hot spares</li> <li>– SES and SAF-TE enclosure management</li> </ul>	<ul style="list-style-type: none"> <li>– Configurable stripe size</li> <li>– S.M.A.R.T. support</li> <li>– Multiple arrays per disk drive</li> <li>– Dynamic sector repair</li> <li>– Staggered drive spinup</li> <li>– Bootable array support</li> <li>– Optimized disk utilization</li> </ul>
<b>Management utilities</b>	<b>maxView Storage Manager</b> <ul style="list-style-type: none"> <li>– Web-based GUI management utility</li> <li>– OS support: Windows, Linux, Solaris, VMware</li> <li>– Remote configuration, monitoring, and notification</li> <li>– Remote firmware updates</li> <li>– SMI-S support</li> <li>– SMTP</li> </ul>	<b>ARCCONF</b> <ul style="list-style-type: none"> <li>– Command line interface</li> <li>– SMI-S support for VMware</li> </ul> <b>BIOS Configuration Utility (CTRL+A)</b> <ul style="list-style-type: none"> <li>– Legacy configuration utility</li> <li>– Flashable BIOS support</li> </ul>	<b>uEFI BIOS Configuration Utility</b> <ul style="list-style-type: none"> <li>– HII-based configuration utility</li> <li>– Flashable BIOS support</li> </ul>
<b>Operating system</b>	Microsoft Windows, Red Hat Linux, SUSE Linux, Fedora, Debian Linux, Ubuntu Linux, Sun Solaris, FreeBSD, VMware ESX. The latest drivers are available at <a href="http://storage.microsemi.com/en-us/support/start">storage.microsemi.com/en-us/support/start</a> .		
<b>Physical dimensions</b>	2.536" H x 6.6" L (64 mm x 168 mm)		
<b>Operating temperature</b>	0 °C to 55 °C (with 200 LFM airflow)		
<b>Operating voltage</b>	0.17 A at 3.3 V; 1.25 A at 12 V (measured on PCIe Gen2 systems with 6G drives)		
<b>Regulatory certification</b>	CE, FCC, UL, C-tick, VCCI, KCC		
<b>MTBF (at 40 °C)</b>	6405: 889,115 hours 6445: 862,728 hours 6805: 860,953 hours		
<b>Warranty</b>	3 years		
<b>Accessories</b>	Flash backup AFM-600 (2269700-R) available as a separate kit		

RAID adapter	6405	6445	6805
<b>Order number</b>	2271100-R (kit) 2270000-R (single)	2270200-R (single)	2271200-R (kit) 2270100-R (single)
<b>Form factor</b>	MD2 – Low Profile	MD2 – Low Profile	MD2 – Low Profile
<b>Ports</b>	4 Internal	4 Internal/4 External	8 Internal
<b>Connectors</b>	1 SFF-8087 (internal)	1 SFF-8087 (internal)/1 SFF-8088 (external)	2 SFF-8087
<b>Bus interface</b>	8-Lane PCIe Gen2	8-Lane PCIe Gen2	8-Lane PCIe Gen2
<b>Processor</b>	PM8013	PM8013	PM8013
<b>Cache</b>	512 MB	512 MB	512 MB



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