

Data Sheet | Series 7 RAID



Adaptec 6Gb/s PCIe Gen3 Product Family Highest Port Count, Low Profile SAS/SATA RAID Adapters

(71605Q, 7805Q, 78165, 72405, 71685, 71605, 7805, 71605E)

The industry's first 6Gb/s RAID adapter family to offer

up to 24 native SAS/SATA ports in a low profile/MD2 form factor.

With 24-port native connectivity, the Adaptec Series 7 triples storage connectivity by replacing up to three eight-port RAID adapters, and more than doubles the performance of competing solutions, significantly reducing cost and power. The Series 7 family includes entry-level and high performance adapters available in 8, 16 and 24 native port configurations, with High Density Mini SAS connectors and cables. With the Series 7 RAID adapters, Adaptec by PMC brings to market a number of breakthroughs for the most performance-intensive applications and dense server environments.

Series 7 family features:

- PMC's 6Gb/s 24 port RAID-on-Chip (ROC), x8 PCIe Gen3 interface with 6Gb/s SAS ports to enable a new generation of performance
- 2 Up to 24 native SAS/SATA ports in a LP/MD2 design
- 3 6Gb/s throughput with mini SAS HD connectors



>530K IOPS; 6.6GB/s sequential reads, 5.7 GB/s sequential writes

Series 7Q with Adaptec maxCache 3.0

Advancing the performance capabilities of SSD caching to a broader set of application workloads, the Series 7Q with maxCache 3.0 supports write caching. By caching writes to a redundant SSD cache pool (RAID1, RAID1E or RAID5, maxCache 3.0 leverages the performance and latency capabilities of SSD technology for both read and write workloads. The read caching function is also improved with maxCache 3.0, with additional optimizations to the learned-path algorithm.

Full PCIe Gen 3 Bandwidth Utilization

While the PCle Gen3 interface doubles bandwidth to the host compared to PCle Gen2, it requires at least 16 6Gb/s SAS/SATA ports to double the bandwidth to the storage devices. Competing 6Gb/s solutions have only 8 ports, and cannot leverage that advantage.

Flash-based Cache Protection

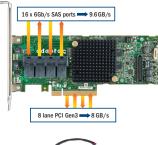
The Series 7 family continues Adaptec by PMC's battery-free portfolio. Series 7 adapters can be combined with the AFM-700 flash-based cache protection module to enable instant cache protection. Series 7Q adapters with maxCache 3.0 include the AFM-700 module.

Advanced Data Protection and Ease of Use

Adaptec RAID Code (ARC) delivers maximum reliability with an industry-leading feature set, including all of the RAID levels the industry has come to expect, plus unique features like Flexible Configuration modes for the adapter, Hybrid RAID, and Optimized Disk Utilization (ODU) where no available space is wasted. Adaptec's maxView provides an HTML5 web interface, which can be used in standard desktops and mobile browsers, for all storage configuration and management needs.











www.adaptec.com

Adaptec 6Gb/s PCIe Gen3 Product Family

SPECIFICATIONS



		Ideal for space-limited entry-level server to high-end server platforms and high-performance workstations without compromising robust 6Gb/s performance and with proven Adaptec reliability.							
Key Differentiators - maxCach		24 native SAS ports ache 3.0 software (Series 7Q only) olete portfolio of SAS HD cables available			 LP/MD2 form factor for up to 24 native SAS/SATA ports Third generation ZMCP (AFM-700) optional (78165, 72405, 71685, 71605, 7805) 				
Customer Needs		 High I/O transaction and high bandwidth processing; solutions that reduce energy consumption and maintenance costs; low profile form factor. 							
Key Software Features	 Flexible for auto Optimize Support Support to 512 l Hybrid F Quick in Online C Copybac Dynamic Native C Backgro Hot-plug 	 maxCache 3.0 software (Series 7Q) Flexible Configuration: HBA Mode & Auto Volume Mode for automatic deployment Optimized Disk Utilization (multiple arrays per disk) Supports up to 256 SATA or SAS devices using SAS expanders Support for native 4K sector SAS and SATA devices in addition to 512 byte sector devices Hybrid RAID 1 & 10 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 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 Support for Tape Devices, Autoloaders MSI-X support for all device drivers for all supported Operating Systems Secure boot support for the uEFI host BIOS USB image available on start.adaptec.com to boot maxView GUI from any USB device for enhanced GUI-based setup and offline maintenance 				
Management Utilities Adap – We – OS – Re – Re – SM		Adaptec maxView Storage Manager - Web based GUI Management Utility - OS Support: Windows, Linux, Solaris VMware - Remote configuration, monitoring & notification - Remote firmware updates - SMI-S Support - SMTP			ARCCONF — Command Line Interface; SMI-S support for VMware Adaptec BIOS Configuration Utility (ACU) — Legacy configuration utility; Flashable BIOS support Adaptec uEFI BIOS Configuration Utility — HII based configuration utility; Flashable BIOS support				
Operating Systems		Microsoft Windows, Red Hat Linux, SUSE Linux, Fedora, Debian Linux, Ubuntu Linux, Sun Solaris, FreeBSD, VMware ESX. The latest drivers are available at start.adaptec.com							
Physical Dimensions	71605Q, 7	71605Q, 7805Q, 78165, 71605, 7805, 71605E : 2.535"H x 6.6"L; 72405, 71685 : 4.198"H x 6.6"L							
	e 0°C to 55'	PC* (with 200 LEM air	flow, without flash); O	°C to 50°C* (with 20	00 LFM airflow, with fl	ash) Note: This Ada		nowerful RAID	
Operating Temperature			te airflow to operate re	liably. Please install th	is card only into serve	r or PC chassis with	recommended airflow		
Operating Temperature Operating Current	processor v 7805/780	which requires adequat	te airflow to operate re ind 1.5A @ 12 VDC; 7 3 VDC and 1.8A @ 12.0	1605/71605Q: 0.1A	@ 3.3 VDC and 1.6A	@ 12 VDC; 71605E	0.1A @ 3.3 VDC and	(200 LFM). 1.5A @ 12.0	
	processor v 7805/780 VDC; 7168	which requires adequat	nd 1.5A @ 12 VDC; 7 VDC and 1.8A @ 12.0	1605/71605Q: 0.1A	@ 3.3 VDC and 1.6A	@ 12 VDC; 71605E	0.1A @ 3.3 VDC and	(200 LFM). 1.5A @ 12.0	
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Cache Protection

SAS HD Cables

Not included

PMC-Sierra, Inc. 1380 Bordeaux Dr. Sunnyvale, CA 94089 USA Tel: +1 (408) 239-8000

World Wide Web: www.adaptec.com

AFM-700 (included) AFM-700 (included) AFM-700 (optional)

Not included

Pre-Sales Support: US and Canada: 1 (800) 442-7274 or (408) 957-7274 or adaptecsales@pmcs.com

UK: +44 1276 854 528 or uk_sales@pmcs.com

Not included

SASHD_

Australia: +61-2-90116787 Germany: +49-89-45640621 or adaptecsales.germany@pmcs.com

Singapore: +65-92351044

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Not included

PCI

AFM-700 (optional) AFM-700 (optional) AFM-700 (optional)

Not included

GREEN

Not included

AFM-700 (optional)

ACI-I-HDmSAS-4SATA-SB-.8M Not Supported

Not included

iso + Hoo