Overview

Models

HP 1TB 7200rpm SATA (NCQ/Smart IV) 6Gbp/s Hard Drive	QK555AA
HP 750GB 7200rpm SATA (NCQ/Smart IV) 6Gbp/s Hard Drive	QR469AA
HP 500GB 7200rpm SATA (NCQ/Smart IV) 6Gbp/s Hard Drive	QK554AA
HP 1-TB SATA (NCQ/Smart IV) 3.0-Gb/s Hard Drive	VU353AA
HP 750GB 7200rpm SATA (NCQ/Smart IV) 3Gbp/s Hard Drive	QP026AA
HP 500-GB SATA (NCQ/Smart IV) 3.0-Gb/s Hard Drive	KW347AA
HP 320-GB SATA (NCQ/Smart IV) 3.0-Gb/s Hard Drive	FH963AA
HP 250-GB SATA (NCQ/Smart IV) 3.0-Gb/s Hard Drive	PY278AA
HP 160-GB SATA (NCQ/Smart IV) 3.0-Gb/s Hard Drive	PY277AA
HP 80-GB SATA (NCQ/Smart IV) 3.0-Gb/s Hard Drive	PY276AA

Introduction

HP Serial ATA Hard Drives maximize the performance of HP Business PCs by providing the technologies to meet your increasing storage demands with high-capacity drives offering superior reliability and performance.

Serial ATA provides faster data transfer speeds, better system cooling airflow, more bandwidth, more headroom for speed increases in future generations and better data integrity. A next-generation technology, Serial Advanced Technology Attachment (SATA) interface connects hard drives to the PC platform enabling easy aggregation of multiple hard drives into a single PC. This offers you the additional benefits of dedicated bandwidth, the ability to more easily identify device failures and scalability.

HP Serial ATA 3.0-Gb/s Hard Drives offer data transfer rates of up to 3 Gb per second doubling your interface speed over SATA 1.5-Gb/s Hard Drives.

HP Serial ATA 6.0-Gb/s Hard Drives offer data transfer rates of up to 6 Gb per second doubling your interface speed over SATA 1.5-Gb/s Hard Drives.

HP Drive Lock

HP Serial ATA Hard Drives offer enhanced security via a new Drive Lock. When enabled, this ATA security feature set prevents software access to user data on the drive until one or two user-defined passwords are provided.

SMART IV technology

Self Monitoring Analysis and Reporting Technology (SMART) hard drive technology is allows hard drives to monitor their own health and to raise flags if imminent failures are predicted. If the drive determines that a failure is imminent, the SMART hard drive technology enables the intelligent manageability or management software to generate a fault alert. While the current versions of SMART hard drives do a good job monitoring the data on the hard drive media, the ever increasing emphasis on reliability and quality has promoted HP to implement SMART IV technology which constantly checks that the data flow from host interface to media and media to host interface is not compromised. This is accomplished by inserting a 2 byte parity code into every 512 byte block in the data path of the hard drive's Cache RAM. This unique parity checking performed by HP's SMART IV technology hard drives, allows for more complete error detection coverage encompassing the entire data path between the host and the hard drive.
Smart IV is also known as IOEDC: I/O Error Detection Code.

Native Command Queuing

NCQ or Native Command Queuing, is a SATA protocol extension that allows the hard drive to have several write or read commands outstanding at the same time. In contrast, normal non-queued operation requires each command to be completed before the next command is issued by the host system. Queuing allows the drive to complete the commands in the order that allows for best overall throughput. It also involves an advanced method of transferring data to or from the host, called First Party Direct Memory Access (FPDMA), that allows the hard drive and the host controller to manage the data transfers for multiple outstanding commands, without involving the host processor. NCQ can contribute to better performance but the results are dependent on many factors, including the access patterns of

Overview

the various applications and operating system functions that are initiating drive accesses. Enabling NCQ features in the hard drive requires AHCI support from the host system BIOS, controller, and driver. AHCI support is typically implemented in RAID configurations.

NOTE: GB = 1 billion bytes. Actual available capacity is less.

Performance

HP Serial ATA 3.0-Gb/s Hard Drives offer data transfer rates of up to 3 Gb per second.
HP Serial ATA 6.0-Gb/s Hard Drives offer data transfer rates of up to 6 Gb per second on platforms with 6Gb/s capable host chipsets.

Benefits

HP Serial ATA 3.0-Gb/s and 6.0-Gb/s Hard Drives brings these powerful benefits for storage solution

- Improved protocol for enhanced data integrity
- Enhanced security prevents access to user data until one or two user-defined passwords are provided
- Performance increase to up to 3 Gb/s and 6Gb/s maximum external (burst) data transfer rate
- Thinner and smaller serial cables and connectors for easy routing and improved system cooling
- SMART IV technology constantly checks that the data flow from host interface to media and media to host interface is not compromised.
- Native Command Queuing allows the hard drive to have several write or read commands outstanding at the same time
- Maximum cable length increased from 1.5 feet to 1 meter (3.28 feet) for increased design and layout flexibility in a system

Compatibility

HP Serial ATA 3.0-Gb/s and 6.0-Gb/s Hard Drives are compatible with all HP Business Desktops (except the HP Compaq 8200 Elite USDT and HP Compaq 8300 Elite USDT).

NOTE: Please check this product's web page on HP.com for current compatibility information.

NOTE: Not all hard drive models are available in all regions.

NOTE: Not all models are available in all regions.

Operating Systems supported: Windows 8 Pro, Windows 8, Windows 7 Home Basic*, Windows 7 Home Premium*, Windows 7 Professional Edition 32*, Windows 7 Professional Edition 64*, Windows 7 Ultimate Edition 32*, Windows 7 Ultimate Edition 64*, Windows Vista Business 64†, Windows Vista Business 32†, Windows Vista Home Basic 32†, Windows 2000, Windows XP Professional or Windows XP Home 32. No driver is required for this device. Native support is provided by the operating system.

*This system may require upgraded and/or separately purchased hardware and/or a DVD drive to install the Windows 7 software and take full advantage of Windows 7 functionality. See http://www.microsoft.com/windows/windows-7/ for details.

† Certain Windows Vista product features require advanced or additional hardware. Windows Vista Upgrade Advisor can help you determine which features of Windows Vista will run on your computer. To download the tool, visit: http://www.windowsvista.com/upgradeadvisor. For Windows Vista system requirements, visit: http://www.windowsvista.com/systemrequirements.

Service and Support

Your Option Limited Warranty is a one (1) year (HP Option Limited Warranty Period) parts replacement warranty on any HP-branded or Compaq-branded options (HP Options). If your HP Option is installed in an HP Hardware Product, HP may provide warranty service either for the HP Option Limited Warranty Period or the remaining Limited Warranty Period of the HP Hardware Product in which the HP Option is being installed, whichever period is the longer but not to exceed three (3) years from the date you purchased the HP Option.

Technical Specifications

Serial ATA (6.0 Gb/s) Hard Drives	**1 TB**	**Capacity**	1,000,204,886,016 bytes	
		Height	1 in (2.54 cm) or less	
		Width	Media diameter: 3.5 in (8.89 cm) Physical size: 4 in (10.2 cm)	
		Interface	Serial ATA (6.0 Gb/s)	
		Synchronous Transfer Rate (Maximum)	Up to 6 Gb/s	
		Cache	32 MB	
		Seek Time (typical reads, includes controller overhead, including settling)	**Single Track**	2.0 ms
			Average	11 ms
			Full-Stroke	21 ms
		Rotational Speed	7,200 rpm	
		Logical Blocks	1,953,525,168	
		Operating Temperature	41° to 131° F (5° to 55° C)	
		Option Kit Contents	HP SATA Hard Drive, the appropriate SATA cable for the drive, installation guide	
	750 GB	**Capacity**	750,107,862,016 bytes	
		Height	1 in (2.54 cm) or less	
		Width	Media diameter: 3.5 in (8.89 cm) Physical size: 4 in (10.2 cm)	
		Interface	Serial ATA (6.0 Gb/s)	
		Synchronous Transfer Rate (Maximum)	Up to 6 Gb/s	
		Cache	16 MB	
		Seek Time (typical reads, includes controller overhead, including settling)	**Single Track**	2 ms
			Average	11 ms
			Full-Stroke	21 ms
		Rotational Speed	7,200 rpm	
		Logical Blocks	976,773,168	
		Operating Temperature	41° to 131° F (5° to 55° C)	
		Option Kit Contents	HP SATA Hard Drive, the appropriate SATA cable for the drive, installation guide	
	500 GB	**Capacity**	500,107,862,016 bytes	
		Height	1 in (2.54 cm) or less	
		Width	Media diameter: 3.5 in (8.89 cm) Physical size: 4 in (10.2 cm)	
		Interface	Serial ATA (6.0 Gb/s)	
		Synchronous Transfer Rate (Maximum)	Up to 6 Gb/s	
		Cache	16 MB	
		Seek Time (typical reads, includes controller overhead, including settling)	**Single Track**	2 ms
			Average	11 ms
			Full-Stroke	21 ms
		Rotational Speed	7200 rpm	

		Logical Blocks	625,142,448	
		Operating Temperature	41° to 131° F (5° to 55° C)	
		Option Kit Contents	HP SATA Hard Drive, the appropriate SATA cable for the drive, installation guide	
Serial ATA (3.0 Gb/s) Hard Drives	**1 TB**	**Capacity**	1,000,204,886,016 bytes	
		Height	1 in (2.54 cm) or less	
		Width	Media diameter: 3.5 in (8.89 cm)	
			Physical size: 4 in (10.2 cm)	
		Interface	Serial ATA (3.0 Gb/s)	
		Synchronous Transfer Rate (Maximum)	Up to 3 Gb/s	
		Cache	32 MB	
		Seek Time (typical reads, includes controller overhead, including settling)	**Single Track**	2.0 ms
			Average	11 ms
			Full-Stroke	21 ms
		Rotational Speed	7,200 rpm	
		Logical Blocks	1,953,525,168	
		Operating Temperature	41° to 131° F (5° to 55° C)	
		Option Kit Contents	HP SATA Hard Drive, the appropriate SATA cable for the drive, installation guide	
	750 GB	**Capacity**	750,107,862,016 bytes	
		Height	1 in (2.54 cm) or less	
		Width	Media diameter: 3.5 in (8.89 cm)	
			Physical size: 4 in (10.2 cm)	
		Interface	Serial ATA (3.0 Gb/s)	
		Synchronous Transfer Rate (Maximum)	Up to 3 Gb/s	
		Cache	16 MB	
		Seek Time (typical reads, includes controller overhead, including settling)	**Single Track**	2.0 ms
			Average	11 ms
			Full-Stroke	21 ms
		Rotational Speed	7,200 rpm	
		Logical Blocks	976,773,168	
		Operating Temperature	41° to 131° F (5° to 55° C)	
		Option Kit Contents	HP SATA Hard Drive, the appropriate SATA cable for the drive, installation guide	
	500 GB	**Capacity**	500,107,862,016 bytes	
		Height	1 in (2.54 cm) or less	
		Width	Media diameter: 3.5 in (8.89 cm)	
			Physical size: 4 in (10.2 cm)	
		Interface	Serial ATA (3.0 Gb/s)	
		Synchronous Transfer Rate (Maximum)	Up to 3 Gb/s	
		Cache	16 MB	

	Seek Time (typical reads, includes controller overhead, including settling)	**Single Track**	2.0 ms
		Average	11 ms
		Full-Stroke	21 ms
	Rotational Speed	7,200 rpm	
	Logical Blocks	976,773,168	
	Operating Temperature	41° to 131° F (5° to 55° C)	
	Option Kit Contents	HP SATA Hard Drive, the appropriate SATA cable for the drive, installation guide	
320 GB	**Capacity**	320,072,933,376 bytes	
	Height	1 in (2.54 cm) or less	
	Width	Media diameter: 3.5 in (8.89 cm)	
		Physical size: 4 in (10.2 cm)	
	Interface	Serial ATA (3.0 Gb/s)	
	Synchronous Transfer Rate (Maximum)	Up to 3 Gb/s	
	Cache	8 MB	
	Seek Time (typical reads, includes controller overhead, including settling)	**Single Track**	2 ms
		Average	11 ms
		Full-Stroke	21 ms
	Rotational Speed	7200 rpm	
	Logical Blocks	625,142,448	
	Operating Temperature	41° to 131° F (5° to 55° C)	
	Option Kit Contents	HP SATA Hard Drive, the appropriate SATA cable for the drive, installation guide	
250 GB	**Capacity**	250,059,350,016 bytes	
	Height	1 in (2.54 cm)	
	Width	Media diameter: 3.5 in (8.89 cm)	
		Physical size: 4 in (10.2 cm)	
	Interface	Serial ATA (3.0 Gb/s)	
	Synchronous Transfer Rate (Maximum)	Up to 3 Gb/s	
	Cache	8 MB	
	Seek Time (typical reads, includes controller overhead, including settling)	**Single Track**	2.0 ms
		Average	11 ms
		Full-Stroke	21 ms
	Rotational Speed	7,200 rpm	
	Logical Blocks	488,397,168	
	Operating Temperature	41° to 131° F (5° to 55° C)	
	Option Kit Contents	HP SATA Hard Drive, the appropriate SATA cable for the drive, installation guide	
160 GB	**Capacity**	160,041,885,696 bytes	
	Height	1 in (2.54 cm) or less	

Technical Specifications

Width	Media diameter: 3.5 in (8.89 cm) Physical size: 4 in (10.2 cm)	
Interface	Serial ATA (3.0 Gb/s)	
Synchronous Transfer Rate (Maximum)	Up to 3 Gb/s	
Cache	8 MB	
Seek Time (typical reads, includes controller overhead, including settling)	**Single Track**	2.0 ms
	Average	11 ms
	Full-Stroke	21 ms
Rotational Speed	7,200 rpm	
Logical Blocks	312,581,808	
Operating Temperature	41° to 131° F (5° to 55° C)	
Option Kit Contents	HP SATA Hard Drive, the appropriate SATA cable for the drive, installation guide	

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