

Overview

Introduction

HP SAS (Serial Attached SCSI) HDDs (Hard Drives) are high-performance alternatives to SATA hard drives. SAS hard drives combine high-bandwidth and faster data transfer rates with better error detection and recovery, as well as having higher reliability specifications.

SAS based hard drives are ideal for projects requiring transactional applications and performance oriented requirements where throughput and reliability are an absolute must.

Performance

HP SAS Hard Drives offer sustained data transfer rates of up to 112 to 200 MB/s (Inner Diameter to Outer Diameter) for sequential read operations. Sustained data transfer rates vary with drive speed, capacity and model.

Models

600GB SAS 15K rpm 6Gb/s 3.5" HDD	VM647AA
450GB SAS 15K rpm 6Gb/s 3.5" HDD	LU968AA
300GB SAS 15K rpm 6Gb/s 3.5" HDD	LU967AA
HP 300GB SAS 10K SFF HDD	A2Z20AA
HP 450GB SAS 10K SFF HDD	B0A48AA
HP 600GB SAS 10K SFF HDD	A2Z21AA
HP 900GB SAS 10K SFF HDD	E2P03AA
HP 1.2TB SAS 10K SFF HDD	E2P04AA

Benefits

- Higher hard drive performance compared to typical SATA drives
- Higher hard drive reliability compared to typical SATA drives
- "Star" topology (point-to-point, no hubs). Each device gets full bus bandwidth.
- Minimum device arbitration overhead
- True full duplex communications, transfers both read and write data simultaneously on 1 port.
- Features SMART and Drive Self Test hard drive technologies.

Compatibility

Most HP Serial Attached SCSI Hard Drives are compatible with the HP Z420, Z620, Z820, and Z400, Z600, Z800 workstations (check individual workstation QuickSpecs documents to confirm drive support).

NOTE: 15K RPM drives spin at very high RPM, therefore they tend to vibrate more than 7200 RPM drives. The result is higher system acoustics. The 600GB drive exhibits this characteristic more than the other SAS drives.

The transition to 6Gb/s technology occurred in August 2010. Systems shipped during the transition period may have either 3Gb/s or 6Gb/s drive technology. All systems ship today with SAS drives that are 6Gb/s technology.

Service and Support

SAS hard drives have a one-year Limited Warranty or the remainder of the warranty of the HP product in which it is installed (which ever is longer). Technical support is available seven days a week, 24 hours a day by phone, as well as in online support forums. Certain restrictions and exclusions apply.

Technical Specifications

Hard Drives	600GB SAS 15K rpm 6Gb/s 3.5" HDD	Capacity	600GB			
		Height	1 in; 2.54 cm			
		Width		Media Diameter	3.5 in; 8.9 cm	
				Physical Size	4 in; 10.17 cm	
		Interface	SAS			
		Synchronous Transfer Rate (Maximum)	6.0 Gb/s			
		Buffer	16 MB			
		Seek Time (typical reads, includes controller overhead, including settling)		Single Track	0.2 ms	
				Average	3.4 ms	
				Full Stroke	6.6 ms	
		Rotational Speed	15,000 rpm			
		Logical Blocks	1,172,123,568 - 512 byte blocks			
		Operating Temperature	50° to 95° F (10° to 35° C)			
			450GB SAS 15K rpm 6Gb/s 3.5" HDD	Capacity	450GB	
				Height	1 in; 2.54 cm	
Width				Media Diameter	3.5 in; 8.9 cm	
				Physical Size	4 in; 10.17 cm	
Interface	SAS					
Synchronous Transfer Rate (Maximum)	6Gb/s					
Buffer	16MB					
Seek Time (typical reads, includes controller overhead, including settling)				Single Track	0.2 ms	
				Average	3.4 ms	
				Full Stroke	6.6 ms	
Rotational Speed	15,000 rpm					
Operating Temperature	50° to 95° F (10° to 35° C)					
	300GB SAS 15K rpm 6Gb/s 3.5" HDD			Capacity	300GB	
				Height	1 in; 2.54 cm	
				Width		Media Diameter
				Physical Size	4 in; 10.17 cm	
		Interface	SAS			
		Synchronous Transfer Rate (Maximum)	6Gb/s			
		Buffer	16MB			
		Seek Time (typical reads, includes controller overhead, including settling)		Single Track	0.2 ms	
				Average	3.4 ms	
				Full Stroke	6.6 ms	
		Rotational Speed	15,000 rpm			
		Operating Temperature	50° to 95° F (10° to 35° C)			
			HP 300GB SAS 10K SFF HDD	Capacity	300GB	
				Height	0.6 in; 1.53 cm	

Technical Specifications

	Width	Media Diameter	2.5 in; 6.36 cm
		Physical Size	2.75 in; 6.99 cm
	Interface	SAS 6Gb/s	
	Synchronous Transfer Rate (Maximum)	Up to 600MB/s	
	Buffer	64MB	
	Cache	multi-segmentable cache buffer	
	Seek Time (typical reads, includes controller overhead, including settling)	Single Track	0.4 ms (max)
		Average	3.6 ms
		Full Stroke	7.3 ms
	Rotational Speed	10,000 rpm	
	Logical Blocks	585,937,500	
	Operating Temperature	41° to 131° F (5° to 55° C)	
HP 450GB SAS 10K SFF HDD	Capacity	450GB	
	Height	0.6 in; 1.53 cm	
	Width	Media Diameter	2.5 in; 6.36 cm
		Physical Size	2.75 in; 6.99 cm
	Interface	SAS 6Gb/s	
	Synchronous Transfer Rate (Maximum)	Up to 600MB/s	
	Buffer	64MB	
	Cache	multi-segmentable cache buffer	
	Seek Time (typical reads, includes controller overhead, including settling)	Single Track	0.4 ms(max)
		Average	3.6 ms
		Full Stroke	7.3 ms
	Rotational Speed	10,000 rpm	
	Operating Temperature	41° to 131° F (5° to 55° C)	
HP 600GB SAS 10K SFF HDD	Capacity	600GB	
	Height	0.6 in; 1.53 cm	
	Width	Media Diameter	2.5 in; 6.36 cm
		Physical Size	2.75 in; 6.99 cm
	Interface	SAS 6Gb/s	
	Synchronous Transfer Rate (Maximum)	Up to 600MB/s	
	Buffer	64MB	
	Cache	multi-segmentable cache buffer	
	Seek Time (typical reads, includes controller overhead, including settling)	Single Track	0.4 ms(max)
		Average	3.6 ms
		Full Stroke	7.3 ms
	Rotational Speed	10,000 rpm	
	Logical Blocks	1,172,123,568	
	Operating Temperature	41° to 131° F (5° to 55° C)	

Technical Specifications

HP 900GB SAS 10K SFF HDD	Capacity	900GB
	Height	0.6 in; 1.53 cm
	Width	Media Diameter 2.5 in; 6.36 cm
		Physical Size 2.75 in; 6.99 cm
	Interface	SAS 6Gb/s
	Synchronous Transfer Rate (Maximum)	Up to 600MB/s
	Buffer	64MB
	Cache	multi-segmentable cache buffer
	Seek Time (typical reads, includes controller overhead, including settling)	Single Track 0.2ms (max)
		Average 3.5ms
		Full Stroke 7.0ms
	Rotational Speed	10,000 rpm
	Logical Blocks	1,758,174,767
	Operating Temperature	41° to 131° F (5° to 55° C)

HP 1.2TB SAS 10K SFF HDD	Capacity	1.2TB
	Height	0.6 in; 1.53 cm
	Width	Media Diameter 2.5 in; 6.36 cm
		Physical Size 2.75 in; 6.99 cm
	Interface	SAS 6Gb/s
	Synchronous Transfer Rate (Maximum)	Up to 600MB/s
	Buffer	64MB
	Cache	multi-segmentable cache buffer
	Seek Time (typical reads, includes controller overhead, including settling)	Single Track 0.18ms (max)
		Average 3.5 ms
		Full Stroke 7.17 ms
	Rotational Speed	10,000 rpm
	Logical Blocks	2,344,225,968
	Operating Temperature	41° to 131° F (5° to 55° C)

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