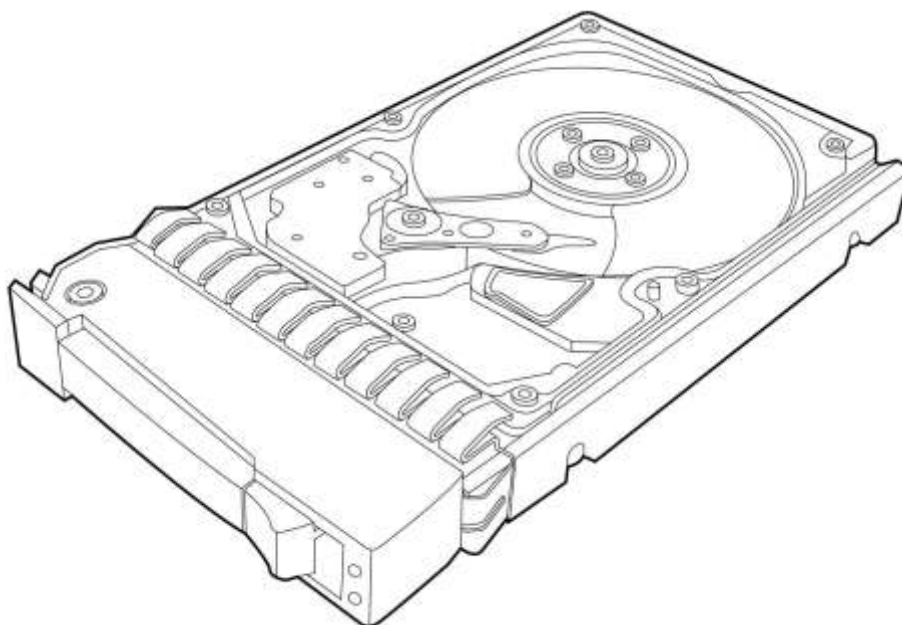


Overview

HP SAS Hard Drives

Serial Attached SCSI (SAS) provides a superior storage solution. With some storage requirements escalating and others becoming more complex, factors such as flexibility, performance, increased reliability, greater density, security, scalability and accessibility are more critical than ever. Today's organizations consist of different kinds of environments. Enterprise data centers must be online 24X7, fulfill requests from numerous users simultaneously, and allow for constant growth and expansion while in operation. Other customer environments require high capacity storage and high data availability for low I/O environments. HP's portfolio of SAS drives meets all these demands.



What's New

- HP 300GB 12G SAS 15K rpm LFF (3.5-inch) SC Converter Enterprise 3yr Warranty Hard Drive
- HP 450GB 12G SAS 15K rpm LFF (3.5-inch) SC Converter Enterprise 3yr Warranty Hard Drive
- HP 600GB 12G SAS 15K rpm LFF (3.5-inch) SC Converter Enterprise 3yr Warranty Hard Drive
- HP 300GB 12G SAS 15K rpm LFF (3.5-inch) CC Enterprise 3yr Warranty Hard Drive
- HP 450GB 12G SAS 15K rpm LFF (3.5-inch) CC Enterprise 3yr Warranty Hard Drive
- HP 600GB 12G SAS 15K rpm LFF (3.5-inch) CC Enterprise 3yr Warranty Hard Drive
- HP 300GB 12G SAS 15K rpm SFF (2.5-inch) SC Enterprise 3yr Warranty Hard Drive
- HP 450GB 12G SAS 15K rpm SFF (2.5-inch) SC Enterprise 3yr Warranty Hard Drive
- HP 600GB 12G SAS 15K rpm SFF (2.5-inch) SC Enterprise 3yr Warranty Hard Drive
- HP 300GB 12G SAS 15K rpm SFF (2.5-inch) Enterprise 3yr Warranty Hard Drive
- HP 450GB 12G SAS 15K rpm SFF (2.5-inch) Enterprise 3yr Warranty Hard Drive
- HP 600GB 12G SAS 15K rpm SFF (2.5-inch) Enterprise 3yr Warranty Hard Drive
- HP 6TB 6G SAS 7.2K rpm LFF (3.5-inch) SC Midline 1yr Warranty Hard Drive
- HP 6TB 6G SATA 7.2K rpm LFF (3.5-inch) SC Midline 1yr Warranty Hard Drive
- HP 6TB 6G SAS 7.2K rpm LFF (3.5-inch) Midline 1yr Warranty Hard Drive

Models

HP SAS Hot Plug "SmartDrive" Carriers

SAS Hot Plug with SmartDrive SFF (2.5-inch) Enterprise Drives

HP 1.2TB 6G SAS 10K rpm SFF (2.5-inch) SC Dual Port Enterprise 3yr Warranty Hard Drive

718162-B21

Overview

HP 900GB 6G SAS 10K rpm SFF (2.5-inch) SC Enterprise 3yr Warranty Hard Drive	652589-B21
HP 600GB 6G SAS 10K rpm SFF (2.5-inch) SC Enterprise 3yr Warranty Hard Drive	652583-B21
HP 450GB 6G SAS 10K rpm SFF (2.5-inch) SC Enterprise 3yr Warranty Hard Drive	652572-B21
HP 300GB 6G SAS 10K rpm SFF (2.5-inch) SC Enterprise 3yr Warranty Hard Drive	652564-B21
HP 300GB 6G SAS 15K rpm SFF (2.5-inch) SC Enterprise 3yr Warranty Hard Drive	652611-B21
HP 146GB 6G SAS 15K rpm SFF (2.5-inch) SC Enterprise 3yr Warranty Hard Drive	652605-B21
HP 600GB 12G SAS 15K rpm SFF (2.5-inch) SC Enterprise 3yr Warranty Hard Drive	759212-B21
HP 450GB 12G SAS 15K rpm SFF (2.5-inch) SC Enterprise 3yr Warranty Hard Drive	759210-B21
HP 300GB 12G SAS 15K rpm SFF (2.5-inch) SC Enterprise 3yr Warranty Hard Drive	759208-B21

SAS Hot Plug SmartDrive SFF (2.5-inch) Midline Drives

HP 1TB 6G SAS 7.2K rpm SFF (2.5-inch) SC Midline 1yr Warranty Hard Drive	652749-B21
HP 500GB 6G SAS 7.2K rpm SFF (2.5-inch) SC Midline 1yr Warranty Hard Drive	652745-B21

SAS Hot Plug SmartDrive LFF (3.5-inch) Enterprise Drives

HP 600GB 6G SAS 15K rpm LFF (3.5-inch) SC Enterprise 3yr Warranty Hard Drive	652620-B21
HP 450GB 6G SAS 15K rpm LFF (3.5-inch) SC Enterprise 3yr Warranty Hard Drive	652615-B21
HP 600GB 12G SAS 15K rpm LFF (3.5-inch) SC Converter Enterprise 3yr Warranty Hard Drive	765424-B21
HP 450GB 12G SAS 15K rpm LFF (3.5-inch) SC Converter Enterprise 3yr Warranty Hard Drive	737394-B21
HP 300GB 12G SAS 15K rpm LFF (3.5-inch) SC Converter Enterprise 3yr Warranty Hard Drive	737261-B21

SAS Hot Plug SmartDrive LFF (3.5-inch) Midline Drives

HP 6TB 6G SAS 7.2K rpm LFF (3.5-inch) SC Midline 1yr Warranty Hard Drive	761477-B21
HP 4TB 6G SAS 7.2K rpm LFF (3.5-inch) SC Midline 1yr Warranty Hard Drive	695510-B21
HP 3TB 6G SAS 7.2K rpm LFF (3.5-inch) SC Midline 1yr Warranty Hard Drive	652766-B21
HP 2TB 6G SAS 7.2K rpm LFF (3.5-inch) SC Midline 1yr Warranty Hard Drive	652757-B21
HP 1TB 6G SAS 7.2K rpm LFF (3.5-inch) SC Midline 1yr Warranty Hard Drive	652753-B21

HP SAS Hot Plug Drives

NOTE: These drives are not supported by Gen8/Gen9 servers

SAS Hot Plug SFF (2.5-inch) Enterprise (ENT) Drives

HP 1.2TB 6G SAS 10K rpm SFF (2.5-inch) Dual Port Enterprise 3yr Warranty Hard Drive	718160-B21
HP 900GB 6G SAS 10K rpm SFF (2.5-inch) Dual Port Enterprise 3yr Warranty Hard Drive	619291-B21
HP 600GB 6G SAS 10K rpm SFF (2.5-inch) Dual Port Enterprise 3yr Warranty Hard Drive	581286-B21
HP 450GB 6G SAS 10K rpm SFF (2.5-inch) Dual Port Enterprise 3yr Warranty Hard Drive	581284-B21
HP 300GB 6G SAS 10K rpm SFF (2.5-inch) Dual Port Enterprise 3yr Warranty Hard Drive	507127-B21
HP 300GB 6G SAS 15K rpm SFF (2.5-inch) Hot Plug Enterprise 3yr Warranty Hard Drive	627117-B21
HP 146GB 6G SAS 15K rpm SFF (2.5-inch) Dual Port Enterprise 3yr Warranty Hard Drive	512547-B21
HP 600GB 12G SAS 15K rpm SFF (2.5-inch) Enterprise 3yr Warranty Hard Drive	785103-B21
HP 450GB 12G SAS 15K rpm SFF (2.5-inch) Enterprise 3yr Warranty Hard Drive	785101-B21
HP 300GB 12G SAS 15K rpm SFF (2.5-inch) Enterprise 3yr Warranty Hard Drive	785099-B21

SAS Hot Plug LFF (3.5-inch) Enterprise (ENT) Drives

HP 600GB 6G SAS 15K rpm LFF (3.5-inch) Dual Port Enterprise 3yr Warranty Hard Drive	516828-B21
HP 450GB 6G SAS 15K rpm LFF (3.5-inch) Dual Port Enterprise 3yr Warranty Hard Drive	516816-B21
HP 300GB 6G SAS 15K rpm LFF (3.5-inch) Dual Port Enterprise 3yr Warranty Hard Drive	516814-B21
HP 600GB 12G SAS 15K rpm LFF (3.5-inch) CC Enterprise 3yr Warranty Hard Drive	737396-B21
HP 450GB 12G SAS 15K rpm LFF (3.5-inch) CC Enterprise 3yr Warranty Hard Drive	737392-B21
HP 300GB 12G SAS 15K rpm LFF (3.5-inch) CC Enterprise 3yr Warranty Hard Drive	737390-B21

SAS Hot Plug SFF (2.5-inch) Midline (MDL) Drives

HP 1TB 6G SAS 7.2K rpm SFF (2.5-inch) Dual Port Midline 1yr Warranty Hard Drive	605835-B21
HP 500GB 6G SAS 7.2K rpm SFF (2.5-inch) Dual Port Midline 1yr Warranty Hard Drive	507610-B21

SAS Hot Plug LFF (3.5-inch) Midline (MDL) Drives

HP 6TB 6G SAS 7.2K rpm LFF (3.5-inch) Midline 1yr Warranty Hard Drive	782669-B21
HP 4TB 6G SAS 7.2K rpm LFF (3.5-inch) Midline 1yr Warranty Hard Drive	693689-B21

Overview

HP 3TB 6G SAS 7.2K rpm LFF (3.5-inch) Midline 1yr Warranty Hard Drive	625031-B21
HP 2TB 6G SAS 7.2K rpm LFF (3.5-inch) Dual Port Midline 1yr Warranty Hard Drive	507616-B21
HP 1TB 6G SAS 7.2K rpm LFF (3.5-inch) Dual Port Midline 1yr Warranty Hard Drive	507614-B21
HP SAS Non-Hot Plug Drives	
SAS Non-Hot Plug SFF (2.5-inch) Enterprise (ENT) Drives	
HP 300GB 6G SAS 10K rpm SFF (2.5-inch) Non-hot Plug Dual Port Enterprise 3yr Warranty Hard Drive	537809-B21
SAS Non-Hot Plug LFF (3.5-inch) Enterprise (ENT) Drives	
HP 600GB 6G SAS 15K rpm LFF (3.5-inch) Non-hot Plug Dual Port Enterprise 3yr Warranty Hard Drive	516830-B21
HP 450GB 6G SAS 15K rpm LFF (3.5-inch) Non-hot Plug Dual Port Enterprise 3yr Warranty Hard Drive	516826-B21
HP 300GB 6G SAS 15K rpm LFF (3.5-inch) Non-hot Plug Dual Port Enterprise 3yr Warranty Hard Drive	516824-B21
HP SAS Quick Release Drives	
SAS Quick Release SFF (2.5-inch) Enterprise (ENT) Drives	
HP 1.2TB 6G SAS 10K rpm SFF (2.5-inch) Quick Release Dual Port ENT 3yr Warranty Hard Drive	718164-B21
HP 300GB 6G SAS 10K rpm SFF (2.5-inch) Quick-release Dual Port Enterprise 3yr Warranty Hard Drive	574879-B21
SAS Quick Release LFF (3.5-inch) Enterprise (ENT) Drives	
HP 600GB 6G SAS 15K rpm LFF (3.5-inch) Quick-release Dual Port Enterprise 3yr Warranty Hard Drive	574758-B21
SAS Quick Release LFF (3.5-inch) Midline (MDL) Drives	
HP 4TB 6G SAS 7.2k rpm LFF (3.5-inch) Quick-release Midline 1yr Warranty Hard Drive	697956-B21
HP 2TB 6G SAS 7.2K rpm LFF (3.5-inch) Quick-release Dual Port Midline 1yr Warranty Hard Drive	574761-B21
NOTE: Refer to the appropriate server QuickSpecs for full compatibility details	

Standard Features

What is SAS?

Serial Attached SCSI (SAS) is the evolution of the SCSI interface. SAS Enterprise drives satisfy the enterprise data center requirement of scalability, performance, reliability and manageability, while providing an enterprise storage infrastructure for both enterprise SAS drives and SATA disk drives. SAS Midline drives provide the lowest dollars per gigabyte and economical reliability and performance. The SAS interface is compatible with SATA devices. This compatibility provides users with unprecedented choices for server and storage subsystem deployment

Drive Quality and Performance

Today's distributed enterprise is seeing larger, more complex applications, an increase of mission-critical data moving to the server, increasing demand for transaction processing and critical server consolidation. In this environment, storage has become a critical component of the information system, significantly defining both the systems reliability and performance. This is why HP drives undergo an intense qualification process that eliminates firmware and O/S incompatibilities. All drive firmware is specific to our drives and is designed to maximize both functionality and compatibility. All drives are proven to perform in the HP systems for which they were designed.

While selecting the drives in our Enterprise portfolio, only those drives whose performance is suitable for an enterprise environment are selected through the HP qualification process and are labeled "best-in-class." All our Enterprise drives are proven to be reliable and tuned for optimum performance in the HP equipment for which they were designed. The drives in our Midline portfolio undergo a similar qualification process to ensure that you get the economical reliability and performance you need for your low workload (less than 40% I/O) environments.

Performance

Only those drives whose performance is suitable for an enterprise environment are selected through the HP qualification process and are labeled "best-in-class." All our drives are proven to be reliable and tuned for optimum performance in the HP equipment for which they were designed.

Pre-Failure Alert

When used in conjunction with a SMART Array Controller and Systems Insight Manager, the SMART capable firmware in HP hard drives enables extensive fault prediction capabilities. If potential problems develop in one of the drives, the Smart Array Controller, Systems Insight Manager and/or SMART hard disk drive lets you know in advance so you can have the drive replaced, before it fails, under warranty.

NOTE: All drives are protected by a Pre-Failure Alert when used with a HP Smart Array controller and Systems Insight Manager, allowing hard drives to be replaced before failure under warranty. In addition, all drives are covered by a one or three-year limited on-site warranty period for the system in which they are installed. The drive warranty is automatically uplifted when used in a server or MSA for which a Care Pack is purchased. Please see the Support Services section below for additional services.

Integration

Many issues customers have with third party drives are "simple" integration issues. When buying from another supplier, there is no guarantee that a drive has been correctly set for proper operation with ProLiant servers and storage systems. These incompatibilities can create problems in configuration, can rob your system of performance, or at their worst, can cause you to lose data. HP hard drives are specifically designed and tested for flawless operation in your HP equipment. The integration of hard drives in HP systems means that cables, SCSI ID settings, termination, hot plug drive trays and firmware are right for your ProLiant server or storage system.

Support Matrix

Please see the following URL for the latest list of supported servers and enclosures:
<http://www.hpproliantoptions.com/>

Warranty

SAS Enterprise hard drives have a 3 year limited warranty regardless of the warranty period for the system in which they are installed.
SAS Midline hard drives have a 1 year limited warranty regardless of the warranty period for the system in which they are installed.

Service and Support

Service and Support

HP Technology Services

HP Technology Services offers you consultants and support experts to solve your most complex infrastructure problems. We help keep your business running, boost availability and avoid downtime.

Protect your business beyond warranty with HP Care Pack Services

When you buy HP Options, it's also a good time to think about what level of service you may need. HP Care Pack services provide total care and support expertise with committed response choices designed to meet your IT and business need.

Recommended HP Care Pack Services for optimal satisfaction with your HP product

Recommended Services **3-Year HP 24x7 4 hour Response, Hardware Support Onsite Service**

Provides you with rapid remote support and if required an HP authorized representative who will arrive on site any time and day of the year to begin hardware maintenance service within 4 hours of the service request being logged.

<http://h20195.www2.hp.com/V2/GetPDF.aspx/5982-6547EEE.pdf>

HP ProLiant Server Hardware Installation

Provides for the basic hardware installation of HP branded servers, storage devices and networking options to assist you in bringing your new hardware into operation in a timely and professional manner

<http://h20195.www2.hp.com/V2/GetPDF.aspx/5981-9356EN.pdf>

Related HP Care Pack Services to enhance your HP product experience

Related Services

3-Year HP 6 hour Hardware Support Onsite Call-to-Repair Service

Provides an IT manager with a team of support specialists who will quickly begin troubleshooting the system to help return the hardware to operating condition within 6 hours of the initial service request to the HP Global Solution Center

<http://h20195.www2.hp.com/V2/GetPDF.aspx/5982-6547EN.pdf>

HP Proactive Select Service

Provides a flexible way to purchase HP best-in-class consultancy and technical services. You can buy Proactive Select Service Credits when you purchase your hardware and then use the credits over the next 12 months.

<http://h20195.www2.hp.com/V2/GetPDF.aspx/4AA2-3842ENN.pdf>

Insight Remote Support

Delivers secure remote monitoring and support for HP servers and storage, 24x7 at no additional cost. Available as part of HP Warranty, Care Pack and Service Contract offers.

Parts and materials

HP will provide HP-supported replacement parts and materials necessary to maintain the covered hardware product in operating condition, including parts and materials for available and recommended engineering improvements. Supplies and consumable parts will not be provided as part of this service; standard warranty terms and conditions apply. Parts and components that have exceeded their maximum supported lifetime and/or the maximum usage limitations as set forth in the manufacturer's operating manual or the technical product data sheet will not be provided, repaired or replaced as part of this service.

Coverage

For ProLiant servers and storage systems, this service covers HP-branded hardware options qualified for the server, purchased at the same time or afterward, internal to the enclosure, as well as external monitors up to 22" and tower UPS products; these items will be covered at the same service level and for the same coverage period as the server unless the maximum supported lifetime and/or the maximum usage limitation has been exceeded. Coverage of the UPS battery is not included; standard warranty terms and conditions apply.

The defective media retention service feature option applies only to Disk or eligible SSD/Flash Drives replaced by HP due to malfunction. It does not apply to any exchange of Disk or SSD/Flash Drives that have not failed. SSD/Flash Drives that are specified by HP as consumable parts and/or that have

Service and Support

exceeded maximum supported lifetime and/or the maximum usage limit as set forth in the manufacturer's operating manual or the technical data sheet are not eligible for the defective media retention service feature option.

For more information

To learn more on services for HP ESSN Options, please contact your HP sales representative or HP Authorized Channel Partner. Or visit: <http://www.hp.com/services/proliant> or www.hp.com/services/bladesystem

Technical Specifications

SAS Hot Plug SmartDrive SFF (2.5-inch) Enterprise Drives

Application SAS Enterprise drives are intended for servers and storage solutions with mission critical and high work load intensive applications where 24/7 duty cycles are a requirement, such as database applications and high transaction level applications.

Transfer rate The components of a storage subsystem (e.g. the drive, the HBA/controller, firmware, and the server backplane) should operate at the same data transfer rate or the system bandwidth will be negotiated down to an acceptable level for all components.

HP 1.2TB 6G SAS 10K rpm SFF (2.5-inch) SC Dual Port Enterprise 3yr Warranty Hard Drive	718162-B21	Capacity	1,200,243MB	
		Height	0.62 in (15.6 mm)	
		Width	2.98 in (75.7 mm)	
		Depth	4.67 in (118.7 mm)	
		Interface	SAS	
		Transfer Rate Synchronous (Maximum)	6 Gb/sec	
		Seek Time (typical reads, including settling)	Single Track	0.3 ms
			Average	4.6 ms
			Full-Stroke	8.9 ms
		Physical Configuration	Rotational Speed	10,000 rpm
			Bytes/Sector	512
		Logical Blocks	2,344,225,968	
	Operating Temperature (System Inlet Air Temperature)	50° to 95° F (10° to 35° C)		

HP 900GB 6G SAS 10K rpm SFF (2.5-inch) SC Enterprise 3yr Warranty Hard Drive	652589-B21	Capacity	900,185MB	
		Height	0.62 in (15.6 mm)	
		Width	2.98 in (75.7 mm)	
		Depth	4.67 in (118.7 mm)	
		Interface	SAS	
		Transfer Rate Synchronous (Maximum)	6 Gb/sec	
		Seek Time (typical reads, including settling)	Single Track	0.21 ms
			Average	3.8 ms
			Full-Stroke	7.4 ms
		Physical Configuration	Rotational Speed	10,000 rpm
			Bytes/Sector	512
		Logical Blocks	1,758,174,768	
	Operating Temperature (System Inlet Air Temperature)	50° to 95° F (10° to 35° C)		

HP 600GB 6G SAS 10K rpm SFF (2.5-inch) SC Enterprise 3yr Warranty	652583-B21	Capacity	600,127MB
		Height	0.62 in (15.6 mm)
		Width	2.98 in (75.7 mm)

Technical Specifications

Hard Drive	Depth	4.67 in (118.7 mm)	
	Interface	SAS	
	Transfer Rate	6 Gb/sec	
	Synchronous (Maximum)		
	Seek Time	Single Track	0.3 ms
	(typical reads, including settling)	Average	4.0 ms
		Full-Stroke	8.0 ms
		Rotational Speed	10,000 rpm
	Physical Configuration	Bytes/Sector	512
		Logical Blocks	1,172,123,568
Operating Temperature	50° to 95° F (10° to 35° C)		
(System Inlet Air Temperature)			

HP 1.2TB 6G SAS 10K rpm SFF (2.5-inch) Quick Release Dual Port ENT 3yr Warranty Hard Drive	718164-B21	Capacity	1,200,243MB	
		Height	0.740 in (18.8 mm)	
		Width	2.909 in (73.9 mm)	
		Depth	3.945 in (100.2 mm)	
		Interface	SAS	
		Transfer Rate	6 Gb/sec	
		Synchronous (Maximum)		
		Seek Time	Single Track	0.3ms
		(typical reads, including settling)	Average	4.6ms
			Full-Stroke	8.9ms
			Rotational Speed	10,000rpm
		Physical Configuration	Bytes/Sector	512
			Logical Blocks	2,344,225,968
		Operating Temperature	50° to 95° F (10° to 35° C)	
	(System Inlet Air Temperature)			

HP 450GB 6G SAS 10K rpm SFF (2.5-inch) SC Enterprise 3yr Warranty Hard Drive	652572-B21	Capacity	450,098MB	
		Height	0.62 in (15.6 mm)	
		Width	2.98 in (75.7 mm)	
		Depth	4.67 in (118.7 mm)	
		Interface	SAS	
		Transfer Rate	6 Gb/sec	
		Synchronous (Maximum)		
		Seek Time	Single Track	0.3 ms
		(typical reads, including settling)	Average	4.0 ms
			Full-Stroke	8.0 ms
			Rotational Speed	10,000 rpm
		Physical Configuration	Bytes/Sector	512
			Logical Blocks	879,097,968
		Operating Temperature	50° to 95° F (10° to 35° C)	
	(System Inlet Air Temperature)			

Technical Specifications

HP 300GB 6G SAS 10K rpm SFF (2.5-inch) SC Enterprise 3yr Warranty Hard Drive	652564-B21	Capacity	300,000MB		
		Height	0.62 in (15.6 mm)		
		Width	2.98 in (75.7 mm)		
		Depth	4.67 in (118.7 mm)		
		Interface	SAS		
		Transfer Rate Synchronous (Maximum)	6 Gb/sec		
		Seek Time (typical reads, including settling)	Single Track	0.3 ms	
			Average	4.0 ms	
			Full-Stroke	8.0 ms	
		Physical Configuration	Rotational Speed	10,000 rpm	
			Bytes/Sector	512	
			Logical Blocks	585,937,500	
Operating Temperature (System Inlet Air Temperature)	50° to 95° F (10° to 35° C)				

HP 300GB 6G SAS 15K rpm SFF (2.5-inch) SC Enterprise 3yr Warranty Hard Drive	652611-B21	Capacity	300,000MB		
		Height	0.62 in (15.6 mm)		
		Width	2.98 in (75.7 mm)		
		Depth	4.67 in (118.7 mm)		
		Interface	SAS		
		Transfer Rate Synchronous (Maximum)	6 Gb/sec		
		Seek Time (typical reads, including settling)	Single Track	0.4 ms	
			Average	2.9 ms	
			Full-Stroke	5.3 ms	
		Physical Configuration	Rotational Speed	15,000 rpm	
			Bytes/Sector	512	
			Logical Blocks	585,937,500	
Operating Temperature (System Inlet Air Temperature)	50° to 95° F (10° to 35° C)				

HP 146GB 6G SAS 15K rpm SFF (2.5-inch) SC Enterprise 3yr Warranty Hard Drive	652605-B21	Capacity	146,815MB		
		Height	0.62 in (15.6 mm)		
		Width	2.98 in (75.7 mm)		
		Depth	4.67 in (118.7 mm)		
		Interface	SAS		
		Transfer Rate Synchronous (Maximum)	6 Gb/sec		
		Seek Time (typical reads, including settling)	Single Track	0.4 ms	
			Average	3.0 ms	
			Full-Stroke	7.0 ms	
		Physical Configuration	Rotational Speed	15,000 rpm	
			Bytes/Sector	512	
			Logical Blocks	585,937,500	
Operating Temperature (System Inlet Air Temperature)	50° to 95° F (10° to 35° C)				

Technical Specifications

		Operating Temperature (System Inlet Air Temperature)	50° to 95° F (10° to 35° C)	Logical Blocks	286,749,488
HP 600GB 12G SAS 15K rpm SFF (2.5-inch) SC Enterprise 3yr Warranty Hard Drive	759212-B21	Capacity	600,127MB		
		Height	0.62 in (15.6 mm)		
		Width	2.98 in (75.7 mm)		
		Depth	4.67 in (118.7 mm)		
		Interface	SAS		
		Transfer Rate Synchronous (Maximum)	12 Gb/sec		
		Seek Time (typical reads, including settling)	Single Track		0.15 ms
			Average		2.9 ms
			Full-Stroke		5.9 ms
			Rotational Speed		15,000 rpm
		Physical Configuration	Bytes/Sector		512
			Logical Blocks		1,172,123,568
		Operating Temperature (System Inlet Air Temperature)	50° to 95° F (10° to 35° C)		
HP 450GB 12G SAS 15K rpm SFF (2.5-inch) SC Enterprise 3yr Warranty Hard Drive	759210-B21	Capacity	450,098MB		
		Height	0.62 in (15.6 mm)		
		Width	2.98 in (75.7 mm)		
		Depth	4.67 in (118.7 mm)		
		Interface	SAS		
		Transfer Rate Synchronous (Maximum)	12 Gb/sec		
		Seek Time (typical reads, including settling)	Single Track		0.15 ms
			Average		2.9 ms
			Full-Stroke		5.9 ms
			Rotational Speed		15,000 rpm
		Physical Configuration	Bytes/Sector		512
			Logical Blocks		879,097,968
		Operating Temperature (System Inlet Air Temperature)	50° to 95° F (10° to 35° C)		
HP 300GB 12G SAS 15K rpm SFF (2.5-inch) SC Enterprise 3yr Warranty Hard Drive	759208-B21	Capacity	300,000MB		
		Height	0.62 in (15.6 mm)		
		Width	2.98 in (75.7 mm)		
		Depth	4.67 in (118.7 mm)		
		Interface	SAS		
		Transfer Rate Synchronous (Maximum)	12 Gb/sec		
		Seek Time	Single Track		0.15 ms

Technical Specifications

(typical reads, including settling)	Average	2.9 ms
	Full-Stroke	5.9 ms
	Rotational Speed	15,000 rpm
Physical Configuration	Bytes/Sector	512
	Logical Blocks	585,937,500
Operating Temperature (System Inlet Air Temperature)	50° to 95° F (10° to 35° C)	

SAS Hot Plug SmartDrive SFF (2.5-inch) Midline Drives

Application SAS Midline drives are intended for servers and storage solutions where high capacities are required. These drives have moderately-priced reliability and performance for non-mission critical, low workload applications, such as disk backup, archival, and reference applications.

Transfer rate The components of a storage subsystem (e.g. the drive, the HBA/controller, firmware, and the server backplane) should operate at the same data transfer rate or the system bandwidth will be negotiated down to an acceptable level for all components.

HP 1TB 6G SAS 7.2K rpm SFF (2.5-inch) SC Midline 1yr Warranty Hard Drive	652749-B21	Capacity	1,000,204MB	
		Height	0.62 in (15.6 mm)	
		Width	2.98 in (75.7 mm)	
		Depth	4.67 in (118.7 mm)	
		Interface	SAS	
		Transfer Rate Synchronous (Maximum)	6 Gb/sec	
		Seek Time (typical reads, including settling)	Single Track	0.7 ms
			Average	8.7 ms
			Full-Stroke	17.16 ms
			Rotational Speed	7200 rpm
		Physical Configuration	Bytes/Sector	512
			Logical Blocks	1,953,525,168
		Operating Temperature (System Inlet Air Temperature)	50° to 95° F (10° to 35° C)	

HP 500GB 6G SAS 7.2K rpm SFF (2.5-inch) SC Midline 1yr Warranty Hard Drive	652745-B21	Capacity	500,107MB	
		Height	0.62 in (15.6 mm)	
		Width	2.98 in (75.7 mm)	
		Depth	4.67 in (118.7 mm)	
		Interface	SAS	
		Transfer Rate Synchronous (Maximum)	6 Gb/sec	
		Seek Time (typical reads, including settling)	Single Track	0.7 ms
			Average	8.7 ms
			Full-Stroke	17.16 ms
			Rotational Speed	7200 rpm
		Physical Configuration	Bytes/Sector	512

Technical Specifications

Logical Blocks 976,773,168

Operating Temperature 50° to 95° F (10° to 35° C)
(System Inlet Air Temperature)

SAS Hot Plug SmartDrive LFF (3.5-inch) Enterprise Drives

Application SAS Enterprise drives are intended for servers and storage solutions with mission critical and high work load intensive applications where 24/7 duty cycles are a requirement, such as database applications and high transaction level applications.

Transfer rate The components of a storage subsystem (e.g. the drive, the HBA/controller, firmware, and the server backplane) should operate at the same data transfer rate or the system bandwidth will be negotiated down to an acceptable level for all components.

HP 600GB 6G SAS 15K rpm LFF (3.5-inch) SC Enterprise 3yr Warranty Hard Drive	652620-B21	Capacity	600,127MB	
		Height	1.06 in (26.8 mm)	
		Width	4.16 in (105.8 mm)	
		Depth	6.69 in (170.0 mm)	
		Interface	SAS	
		Transfer Rate Synchronous (Maximum)	6 Gb/sec	
		Seek Time (typical reads, including settling)	Single Track	0.2 ms
			Average	3.5 ms
			Full-Stroke	6.8 ms
			Rotational Speed	15000 rpm
		Physical Configuration	Bytes/Sector	512
			Logical Blocks	1,172,123,568
			Operating Temperature (System Inlet Air Temperature)	50° to 95° F (10° to 35° C)

HP 450GB 6G SAS 15K rpm LFF (3.5-inch) SC Enterprise 3yr Warranty Hard Drive	652615-B21	Capacity	450,098MB	
		Height	1.06 in (26.8 mm)	
		Width	4.16 in (105.8 mm)	
		Depth	6.69 in (170.0 mm)	
		Interface	SAS	
		Transfer Rate Synchronous (Maximum)	6 Gb/sec	
		Seek Time (typical reads, including settling)	Single Track	0.2 ms
			Average	3.5 ms
			Full-Stroke	6.8 ms
			Rotational Speed	15000 rpm
		Physical Configuration	Bytes/Sector	512
			Logical Blocks	879,097,968
			Operating Temperature (System Inlet Air Temperature)	50° to 95° F (10° to 35° C)

Technical Specifications

HP 600GB 12G SAS 15K rpm LFF (3.5-inch) SC Converter Enterprise 3yr Warranty Hard Drive	765424-B21	Capacity	600,127MB	
		Height	1.06 in (26.8 mm)	
		Width	4.16 in (105.8 mm)	
		Depth	6.69 in (170.0 mm)	
		Interface	SAS	
		Transfer Rate Synchronous (Maximum)	12Gb/sec	
		Seek Time (typical reads, including settling)	Single Track	0.15 ms
			Average	2.9 ms
			Full-Stroke	5.9 ms
		Physical Configuration	Rotational Speed	15000 rpm
			Bytes/Sector	512
			Logical Blocks	1,172,123,588
		Operating Temperature (System Inlet Air Temperature)	50° to 95° F (10° to 35° C)	

HP 450GB 12G SAS 15K rpm LFF (3.5-inch) SC Converter Enterprise 3yr Warranty Hard Drive	737394-B21	Capacity	450,098MB	
		Height	1.06 in (26.8 mm)	
		Width	4.16 in (105.8 mm)	
		Depth	6.69 in (170.0 mm)	
		Interface	SAS	
		Transfer Rate Synchronous (Maximum)	12 Gb/sec	
		Seek Time (typical reads, including settling)	Single Track	0.15 ms
			Average	2.9 ms
			Full-Stroke	5.9 ms
		Physical Configuration	Rotational Speed	15000 rpm
			Bytes/Sector	512
			Logical Blocks	879,097,968
		Operating Temperature (System Inlet Air Temperature)	50° to 95° F (10° to 35° C)	

HP 300GB 12G SAS 15K rpm LFF (3.5-inch) SC Converter Enterprise 3yr Warranty Hard Drive	737261-B21	Capacity	300,000MB	
		Height	1.06 in (26.8 mm)	
		Width	4.16 in (105.8 mm)	
		Depth	6.69 in (170.0 mm)	
		Interface	SAS	
		Transfer Rate Synchronous (Maximum)	12 Gb/sec	
		Seek Time (typical reads, including settling)	Single Track	15 ms
			Average	2.9 ms
			Full-Stroke	5.9 ms
		Physical Configuration	Rotational Speed	15000 rpm
			Bytes/Sector	512

Technical Specifications

Logical Blocks 585,937,500

Operating Temperature 50° to 95° F (10° to 35° C)
(System Inlet Air Temperature)

SAS Hot Plug SmartDrive LFF (3.5-inch) Midline Drives

Application SAS Midline drives are intended for servers and storage solutions where high capacities are required. These drives have moderately-priced reliability and performance for non-mission critical, low workload applications, such as disk backup, archival, and reference applications.

Transfer rate The components of a storage subsystem (e.g. the drive, the HBA/controller, firmware, and the server backplane) should operate at the same data transfer rate or the system bandwidth will be negotiated down to an acceptable level for all components.

HP 6TB 6G SAS 7.2K rpm LFF (3.5-inch) SC Midline 1yr Warranty Hard Drive	761477-B21	Capacity	6,001,175MB		
		Height	1.06 in (26.8 mm)		
		Width	4.16 in (105.8 mm)		
		Depth	6.69 in (170.0 mm)		
		Interface	SAS		
		Transfer Rate Synchronous (Maximum)	6 Gb/sec		
		Seek Time (typical reads, including settling)	Single Track	0.25 ms	
			Average	8.5 ms	
			Full-Stroke	22.0 ms	
		Physical Configuration	Rotational Speed	7200 rpm	
			Bytes/Sector	512	
			Logical Blocks	11,721,045,168	
		Operating Temperature (System Inlet Air Temperature)		50° to 95° F (10° to 35° C)	

NOTE: To support HP hard drives exceeding 2.2 TB, HP Smart Array Firmware version 5.0 or later is required for the following controllers:

- HP Smart Array P212 Controller
- HP Smart Array P410 Controller
- HP Smart Array P411 Controller
- HP Smart Array P711m Controller
- HP Smart Array P812 Controller

To use hard drives exceeding 2.2 TB, you must create a boot volume using offline ACU version 8.75 or later. HP Smart Array controllers do not support boot volumes exceeding 2.2 TB. Other controllers are not supported

HP 4TB 6G SAS 7.2K rpm LFF (3.5-inch) SC Midline 1yr Warranty Hard Drive	695510-B21	Capacity	4,000,787MB	
		Height	1.06 in (26.8 mm)	
		Width	4.16 in (105.8 mm)	
		Depth	6.69 in (170.0 mm)	
		Interface	SAS	
		Transfer Rate	6 Gb/sec	

Technical Specifications

Synchronous (Maximum)

Seek Time (typical reads, including settling)	Single Track	0.7 ms
	Average	8.5 ms
	Full-Stroke	15.7 ms
Physical Configuration	Rotational Speed	7200 rpm
	Bytes/Sector	512
	Logical Blocks	7,814,037,168

Operating Temperature 50° to 95° F (10° to 35° C)
(System Inlet Air Temperature)

NOTE: To support HP hard drives exceeding 2.2 TB, HP Smart Array Firmware version 5.0 or later is required for the following controllers:

- HP Smart Array P212 Controller
- HP Smart Array P410 Controller
- HP Smart Array P411 Controller
- HP Smart Array P711m Controller
- HP Smart Array P812 Controller

To use hard drives exceeding 2.2 TB, you must create a boot volume using offline ACU version 8.75 or later. HP Smart Array controllers do not support boot volumes exceeding 2.2 TB. Other controllers are not supported

HP 3TB 6G SAS 7.2K rpm LFF (3.5-inch) SC Midline 1yr Warranty Hard Drive

652766-B21

Capacity	3,000,592MB	
Height	1.06 in (26.8 mm)	
Width	4.16 in (105.8 mm)	
Depth	6.69 in (170.0 mm)	
Interface	SAS	
Transfer Rate	6 Gb/sec	
Synchronous (Maximum)		
Seek Time (typical reads, including settling)	Single Track	0.7 ms
	Average	8.3 ms
	Full-Stroke	15.7 ms
Physical Configuration	Rotational Speed	7200 rpm
	Bytes/Sector	512
	Logical Blocks	5,860,533,168
Operating Temperature 50° to 95° F (10° to 35° C) (System Inlet Air Temperature)		

NOTE: To support HP hard drives exceeding 2.2 TB, HP Smart Array Firmware version 5.0 or later is required for the following controllers:

- HP Smart Array P212 Controller
- HP Smart Array P410 Controller
- HP Smart Array P411 Controller
- HP Smart Array P711m Controller
- HP Smart Array P812 Controller

To use hard drives exceeding 2.2 TB, you must create a boot volume using

Technical Specifications

offline ACU version 8.75 or later. HP Smart Array controllers do not support boot volumes exceeding 2.2 TB. Other controllers are not supported

HP 2TB 6G SAS 7.2K rpm LFF (3.5-inch) SC Midline 1yr Warranty Hard Drive	652757-B21	Capacity	2,000,398MB	
		Height	1.06 in (26.8 mm)	
		Width	4.16 in (105.8 mm)	
		Depth	6.69 in (170.0 mm)	
		Interface	SAS	
		Transfer Rate Synchronous (Maximum)	6 Gb/sec	
		Seek Time (typical reads, including settling)	Single Track	0.7 ms
			Average	8.5 ms
			Full-Stroke	18.2 ms
		Physical Configuration	Rotational Speed	7200 rpm
			Bytes/Sector	512
			Logical Blocks	3,907,029,168
Operating Temperature (System Inlet Air Temperature)	50° to 95° F (10° to 35° C)			

HP 1TB 6G SAS 7.2K rpm LFF (3.5-inch) SC Midline 1yr Warranty Hard Drive	652753-B21	Capacity	1,000,204MB	
		Height	1.06 in (26.8 mm)	
		Width	4.16 in (105.8 mm)	
		Depth	6.69 in (170.0 mm)	
		Interface	SAS	
		Transfer Rate Synchronous (Maximum)	6 Gb/sec	
		Seek Time (typical reads, including settling)	Single Track	0.7 ms
			Average	8.5 ms
			Full-Stroke	18.2 ms
		Physical Configuration	Rotational Speed	7200 rpm
			Bytes/Sector	512
			Logical Blocks	1,953,525,168
Operating Temperature (System Inlet Air Temperature)	50° to 95° F (10° to 35° C)			

SAS Hot Plug SFF (2.5-inch) Enterprise (ENT) Drives

Application SAS Enterprise drives are intended for servers and storage solutions with mission critical and high work load intensive applications where 24/7 duty cycles are a requirement, such as database applications and high transaction level applications.

Transfer rate The components of a storage subsystem (e.g. the drive, the HBA/controller, firmware, and the server backplane) should operate at the same data transfer rate or the system bandwidth will be negotiated down to an acceptable level for all components.

HP 1.2TB 6G SAS 10K rpm SFF (2.5-inch) Dual Port	718160-B21	Capacity	1,200,243MB
		Height	0.63 in (16.0 mm)

Technical Specifications

Enterprise 3yr Warranty Hard Drive

Width	3.1 in (78.7 mm)	
Depth	5.45 in (138.4 mm)	
Interface	SAS	
Transfer Rate Synchronous (Maximum)	6 Gb/sec	
Seek Time (typical reads, including settling)	Single Track	0.3 ms
	Average	4.6 ms
	Full-Stroke	8.9 ms
Physical Configuration	Rotational Speed	10,000 rpm
	Bytes/Sector	512
	Logical Blocks	2,344,225,968
Operating Temperature (System Inlet Air Temperature)	50° to 95° F (10° to 35° C)	

HP 900GB 6G SAS 10K rpm SFF (2.5-inch) Dual Port Enterprise 3yr Warranty Hard Drive

619291-B21

Capacity	900,185,481,216	
Height	0.63 in (16.0 mm)	
Width	3.1 in (78.7 mm)	
Depth	5.45 in (138.4 mm)	
Interface	SAS	
Transfer Rate Synchronous (Maximum)	6 Gb/sec	
Seek Time (typical reads, including settling)	Single Track	0.21 ms
	Average	3.57 ms
	Full-Stroke	7.30 ms
Physical Configuration	Rotational Speed	10,000 rpm
	Bytes/Sector	512
	Logical Blocks	1,758,174,768
Operating Temperature (System Inlet Air Temperature)	50° to 95° F (10° to 35° C)	

HP 600GB 6G SAS 10K rpm SFF (2.5-inch) Dual Port Enterprise 3yr Warranty Hard Drive

581286-B21

Capacity	600,127,266,816	
Height	0.63 in (16.0 mm)	
Width	3.1 in (78.7 mm)	
Depth	5.45 in (138.4 mm)	
Interface	SAS	
Transfer Rate Synchronous (Maximum)	6 Gb/sec	
Seek Time (typical reads, including settling)	Single Track	0.4 ms
	Average	4.0 ms
	Full-Stroke	8.0 ms
Physical Configuration	Rotational Speed	10,000 rpm
	Bytes/Sector	512
	Logical Blocks	1,172,123,568
Operating Temperature	50° to 95° F (10° to 35° C)	

Technical Specifications

(System Inlet Air Temperature)

HP 450GB 6G SAS 10K rpm SFF (2.5-inch) Dual Port Enterprise 3yr Warranty Hard Drive	581284-B21	Capacity	450,098,159,616	
		Height	0.63 in (16.0 mm)	
		Width	3.1 in (78.7 mm)	
		Depth	5.45 in (138.4 mm)	
		Interface	SAS	
		Transfer Rate Synchronous (Maximum)	6 Gb/sec	
		Seek Time (typical reads, including settling)	Single Track	0.4 ms
			Average	4.0 ms
			Full-Stroke	8.0 ms
		Physical Configuration	Rotational Speed	10,000 rpm
			Bytes/Sector	512
			Logical Blocks	879,097,968
		Operating Temperature (System Inlet Air Temperature)	50° to 95° F (10° to 35° C)	

HP 300GB 6G SAS 15K rpm SFF (2.5-inch) Hot Plug Enterprise 3 yr Warranty Hard Drive	627117-B21	Capacity	300,000,000,000	
		Height	0.63 in (16.0 mm)	
		Width	3.1 in (78.7 mm)	
		Depth	5.45 in (138.4 mm)	
		Interface	SAS	
		Transfer Rate Synchronous (Maximum)	6 Gb/sec	
		Seek Time (typical reads, including settling)	Single Track	0.40 ms
			Average	2.9 ms
			Full-Stroke	5.30 ms
		Physical Configuration	Rotational Speed	15,000 rpm
			Bytes/Sector	512
			Logical Blocks	585,937,500
		Operating Temperature (System Inlet Air Temperature)	50° to 95° F (10° to 35° C)	

HP 300GB 6G SAS 10K rpm SFF (2.5-inch) Dual Port Enterprise 3yr Warranty Hard Drive	507127-B21	Capacity	300,000,000,000	
		Height	0.63 in (16.0 mm)	
		Width	3.1 in (78.7 mm)	
		Depth	5.45 in (138.4 mm)	
		Interface	SAS	
		Transfer Rate Synchronous (Maximum)	6 Gb/sec	
		Seek Time (typical reads, including settling)	Single Track	0.20 ms
			Average	4.0 ms
			Full-Stroke	7.45 ms

Technical Specifications

		Physical Configuration	Rotational Speed	10,000 rpm
			Bytes/Sector	512
			Logical Blocks	585,937,500
		Operating Temperature (System Inlet Air Temperature)	50° to 95° F (10° to 35° C)	

HP 300GB 6G SAS 15K rpm SFF (2.5-inch) Hot Plug Enterprise 3 yr Warranty Hard Drive	627117-B21	Capacity	300,000,000,000	
		Height	0.63 in (16.0 mm)	
		Width	3.1 in (78.7 mm)	
		Depth	5.45 in (138.4 mm)	
		Interface	SAS	
		Transfer Rate Synchronous (Maximum)	6 Gb/sec	
		Seek Time (typical reads, including settling)	Single Track	0.40 ms
			Average	2.9 ms
			Full-Stroke	5.30 ms
			Rotational Speed	15,000 rpm
		Physical Configuration	Bytes/Sector	512
			Logical Blocks	585,937,500
		Operating Temperature (System Inlet Air Temperature)	50° to 95° F (10° to 35° C)	

HP 146GB 6G SAS 15K rpm SFF (2.5-inch) Dual Port Enterprise 3yr Warranty Hard Drive	512547-B21	Capacity	146,815,737,856	
		Height	0.63 in (16.0 mm)	
		Width	3.1 in (78.7 mm)	
		Depth	5.45 in (138.4 mm)	
		Interface	SAS	
		Transfer Rate Synchronous (Maximum)	6 Gb/sec	
		Seek Time (typical reads, including settling)	Single Track	0.4 ms
			Average	3.0 ms
			Full-Stroke	7.0 ms
			Rotational Speed	15,000 rpm
		Physical Configuration	Bytes/Sector	512
			Logical Blocks	286,749,488
		Operating Temperature (System Inlet Air Temperature)	50° to 95° F (10° to 35° C)	

HP 600GB 12G SAS 15K rpm SFF (2.5-inch) Enterprise 3yr Warranty Hard Drive	785103-B21	Capacity	600,127MB	
		Height	0.63 in (16.0 mm)	
		Width	3.1 in (78.7 mm)	
		Depth	5.45 in (138.4 mm)	
		Interface	SAS	
		Transfer Rate	12 Gb/sec	

Technical Specifications

		Synchronous (Maximum)	
		Seek Time	
		(typical reads, including settling)	
		Single Track	0.15 ms
		Average	2.9 ms
		Full-Stroke	5.9 ms
		Rotational Speed	15,000 rpm
		Physical Configuration	
		Bytes/Sector	512
		Logical Blocks	1,172,123,568
		Operating Temperature	
		(System Inlet Air Temperature)	50° to 95° F (10° to 35° C)

HP 450GB 12G SAS 15K rpm SFF (2.5-inch) Enterprise 3yr Warranty Hard Drive

785101-B21

Capacity	450,098MB
Height	0.63 in (16.0 mm)
Width	3.1 in (78.7 mm)
Depth	5.45 in (138.4 mm)
Interface	SAS
Transfer Rate	12 Gb/sec
Synchronous (Maximum)	
Seek Time	
(typical reads, including settling)	
Single Track	0.15 ms
Average	2.9 ms
Full-Stroke	5.9 ms
Rotational Speed	15,000 rpm
Physical Configuration	
Bytes/Sector	512
Logical Blocks	879,097,968
Operating Temperature	
(System Inlet Air Temperature)	50° to 95° F (10° to 35° C)

HP 300GB 12G SAS 15K rpm SFF (2.5-inch) Enterprise 3yr Warranty Hard Drive

785099-B21

Capacity	300,000MB
Height	0.63 in (16.0 mm)
Width	3.1 in (78.7 mm)
Depth	5.45 in (138.4 mm)
Interface	SAS
Transfer Rate	12 Gb/sec
Synchronous (Maximum)	
Seek Time	
(typical reads, including settling)	
Single Track	0.15 ms
Average	2.9 ms
Full-Stroke	5.9 ms
Rotational Speed	15,000 rpm
Physical Configuration	
Bytes/Sector	512
Logical Blocks	585,937,500
Operating Temperature	
(System Inlet Air Temperature)	50° to 95° F (10° to 35° C)

SAS Hot Plug LFF (3.5-inch) Enterprise (ENT) Drives

Application SAS Enterprise drives are intended for servers and storage solutions with mission critical and high

Technical Specifications

work load intensive applications where 24/7 duty cycles are a requirement, such as database applications and high transaction level applications.

Transfer rate The components of a storage subsystem (e.g. the drive, the HBA/controller, firmware, and the server backplane) should operate at the same data transfer rate or the system bandwidth will be negotiated down to an acceptable level for all components.

HP 600GB 6G SAS 15K rpm LFF (3.5-inch) Dual Port Enterprise 3yr Warranty Hard Drive	516828-B21	Capacity	600,127,266,816	
		Height	1.04 in (26.4 mm)	
		Width	4.36 in (110.7 mm)	
		Depth	7.43 in (188.7 mm)	
		Interface	SAS	
		Transfer Rate Synchronous (Maximum)	6 Gb/sec	
		Seek Time (typical reads, including settling)	Single Track	0.2ms
			Average	3.5ms
			Full-Stroke	6.8ms
		Physical Configuration	Rotational Speed	15,000rpm
	Bytes/Sector		512	
		Logical Blocks	1,172,123,568	
	Operating Temperature (System Inlet Air Temperature)	50° to 95° F (10° to 35° C)		

HP 450GB 6G SAS 15K rpm LFF (3.5-inch) Dual Port Enterprise 3yr Warranty Hard Drive	516816-B21	Capacity	450,098,159,616	
		Height	1.04 in (26.4 mm)	
		Width	4.36 in (110.7 mm)	
		Depth	7.43 in (188.7 mm)	
		Interface	SAS	
		Transfer Rate Synchronous (Maximum)	6 Gb/sec	
		Seek Time (typical reads, including settling)	Single Track	0.2ms
			Average	3.5ms
			Full-Stroke	6.8ms
		Physical Configuration	Rotational Speed	15,000rpm
	Bytes/Sector		512	
		Logical Blocks	879,097,968	
	Operating Temperature (System Inlet Air Temperature)	50° to 95° F (10° to 35° C)		

HP 300GB 6G SAS 15K rpm LFF (3.5-inch) Dual Port Enterprise 3yr Warranty Hard Drive	516814-B21	Capacity	300,000,000,000
		Height	1.04 in (26.4 mm)
		Width	4.36 in (110.7 mm)
		Depth	7.43 in (188.7 mm)
		Interface	SAS
		Transfer Rate	6 Gb/sec

Technical Specifications

		Synchronous (Maximum)	
		Seek Time	Single Track 0.2ms
		(typical reads, including settling)	Average 3.5ms
			Full-Stroke 6.8ms
			Rotational Speed 15,000rpm
		Physical Configuration	Bytes/Sector 512
			Logical Blocks 585,937,500
		Operating Temperature (System Inlet Air Temperature)	50° to 95° F (10° to 35° C)
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HP 600GB 12G SAS 15K rpm LFF (3.5-inch) CC Enterprise 3yr Warranty Hard Drive	737396-B21	Capacity	600,127MB
		Height	1.04 in (26.4 mm)
		Width	4.36 in (110.7 mm)
		Depth	7.43 in (188.7 mm)
		Interface	SAS
		Transfer Rate	12 Gb/sec
		Synchronous (Maximum)	
		Seek Time	Single Track 0.15ms
		(typical reads, including settling)	Average 2.9ms
			Full-Stroke 5.9ms
			Rotational Speed 15,000rpm
		Physical Configuration	Bytes/Sector 512
			Logical Blocks 1,172,123,568
		Operating Temperature (System Inlet Air Temperature)	50° to 95° F (10° to 35° C)
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HP 450GB 12G SAS 15K rpm LFF (3.5-inch) CC Enterprise 3yr Warranty Hard Drive	737392-B21	Capacity	450,098MB
		Height	1.04 in (26.4 mm)
		Width	4.36 in (110.7 mm)
		Depth	7.43 in (188.7 mm)
		Interface	SAS
		Transfer Rate	12 Gb/sec
		Synchronous (Maximum)	
		Seek Time	Single Track 0.15 ms
		(typical reads, including settling)	Average 2.9 ms
			Full-Stroke 5.9 ms
			Rotational Speed 15,000rpm
		Physical Configuration	Bytes/Sector 512
			Logical Blocks 879,097,968
		Operating Temperature (System Inlet Air Temperature)	50° to 95° F (10° to 35° C)
<hr/>			
HP 300GB 12G SAS 15K rpm LFF (3.5-inch) CC	737390-B21	Capacity	300,000MB
		Height	1.04 in (26.4 mm)

Technical Specifications

Enterprise 3yr Warranty Hard Drive

Width	4.36 in (110.7 mm)	
Depth	7.43 in (188.7 mm)	
Interface	SAS	
Transfer Rate Synchronous (Maximum)	12 Gb/sec	
Seek Time (typical reads, including settling)	Single Track	0.15 ms
	Average	2.9 ms
	Full-Stroke	5.9 ms
	Rotational Speed	15,000rpm
Physical Configuration	Bytes/Sector	512
	Logical Blocks	585,937,500
Operating Temperature (System Inlet Air Temperature)	50° to 95° F (10° to 35° C)	

SAS Hot Plug SFF (2.5-inch) Midline (MDL) Drives

Application SAS Midline drives are intended for servers and storage solutions where high capacities are required. These drives have moderately-priced reliability and performance for non-mission critical, low workload applications, such as disk backup, archival, and reference applications.

Transfer rate The components of a storage subsystem (e.g. the drive, the HBA/controller, firmware, and the server backplane) should operate at the same data transfer rate or the system bandwidth will be negotiated down to an acceptable level for all components.

HP 1TB 6G SAS 7.2K rpm SFF (2.5-inch) Dual Port Midline 1yr Warranty Hard Drive

605835-B21

Capacity	1,000,204,886,016	
Height	0.63 in (16.0 mm)	
Width	3.1 in (78.7 mm)	
Depth	5.45 in (138.4 mm)	
Interface	SAS	
Transfer Rate Synchronous (Maximum)	6 Gb/sec	
Seek Time (typical reads, including settling)	Single Track	0.5 ms
	Average	8.2ms
	Full-Stroke	17.55 ms
	Rotational Speed	7,200 rpm
Physical Configuration	Bytes/Sector	512
	Logical Blocks	976,773,168
Operating Temperature (System Inlet Air Temperature)	50° to 95° F (10° to 35° C)	

HP 500GB 6G SAS 7.2K rpm SFF (2.5-inch) Dual Port Midline 1yr Warranty Hard Drive

507610-B21

Capacity	500,107,862,016	
Height	0.63 in (16.0 mm)	
Width	3.1 in (78.7 mm)	
Depth	5.45 in (138.4 mm)	
Interface	SAS	
Transfer Rate	6 Gb/sec	

Technical Specifications

Synchronous (Maximum)

Seek Time (typical reads, including settling)	Single Track	0.5 ms
	Average	8.2ms
	Full-Stroke	17.55 ms
Physical Configuration	Rotational Speed	7,200 rpm
	Bytes/Sector	512
	Logical Blocks	976,773,168

Operating Temperature (System Inlet Air Temperature)	50° to 95° F (10° to 35° C)
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SAS Hot Plug LFF (3.5-inch) Midline (MDL) Drives

Application SAS Midline drives are intended for servers and storage solutions where high capacities are required. These drives have moderately-priced reliability and performance for non-mission critical, low workload applications, such as disk backup, archival, and reference applications.

Transfer rate The components of a storage subsystem (e.g. the drive, the HBA/controller, firmware, and the server backplane) should operate at the same data transfer rate or the system bandwidth will be negotiated down to an acceptable level for all components.

HP 6TB 6G SAS 7.2K rpm LFF (3.5-inch) Midline 1yr Warranty Hard Drive	782669-B21	Capacity	6001175 MB	
		Height	1.04 in (26.4 mm)	
		Width	4.36 in (110.7 mm)	
		Depth	7.43 in (188.7 mm)	
		Interface	SAS	
		Transfer Rate	6 Gb/sec	
		Synchronous (Maximum)		
		Seek Time (typical reads, including settling)	Single Track	0.25 ms
			Average	8.5 ms
			Full-Stroke	22.0 ms
		Physical Configuration	Rotational Speed	7,200 rpm
			Bytes/Sector	512
			Logical Blocks	11,721,045,168
	Operating Temperature (System Inlet Air Temperature)	50° to 95° F (10° to 35° C)		

NOTE: To support HP hard drives exceeding 2.2 TB, HP Smart Array Firmware version 5.0 or later is required for the following controllers:

- HP Smart Array P212 Controller
- HP Smart Array P410 Controller
- HP Smart Array P411 Controller
- HP Smart Array P711m Controller
- HP Smart Array P812 Controller

To use hard drives exceeding 2.2 TB, you must create a boot volume using offline ACU version 8.75 or later. HP Smart Array controllers do not support

Technical Specifications

boot volumes exceeding 2.2 TB. Other controllers are not supported

HP 4TB 6G SAS 7.2K rpm LFF (3.5-inch) Midline 1yr Warranty Hard Drive	693689-B21	Capacity	4,000,787MB	
		Height	1.04 in (26.4 mm)	
		Width	4.36 in (110.7 mm)	
		Depth	7.43 in (188.7 mm)	
		Interface	SAS	
		Transfer Rate	6 Gb/sec	
		Synchronous (Maximum)		
		Seek Time	Single Track	0.7 ms
		(typical reads, including settling)	Average	8.5 ms
			Full-Stroke	15.7 ms
			Rotational Speed	7,200 rpm
		Physical Configuration	Bytes/Sector	512
			Logical Blocks	7,814,037,168
Operating Temperature	50° to 95° F (10° to 35° C)			
(System Inlet Air Temperature)				

NOTE: To support HP hard drives exceeding 2.2 TB, HP Smart Array Firmware version 5.0 or later is required for the following controllers:

- HP Smart Array P212 Controller
- HP Smart Array P410 Controller
- HP Smart Array P411 Controller
- HP Smart Array P711m Controller
- HP Smart Array P812 Controller

To use hard drives exceeding 2.2 TB, you must create a boot volume using offline ACU version 8.75 or later. HP Smart Array controllers do not support boot volumes exceeding 2.2 TB. Other controllers are not supported

HP 3TB 6G SAS 7.2K rpm LFF (3.5-inch) Midline 1yr Warranty Hard Drive	625031-B21	Capacity	3,000,592,982,016	
		Height	1.04 in (26.4 mm)	
		Width	4.36 in (110.7 mm)	
		Depth	7.43 in (188.7 mm)	
		Interface	SAS	
		Transfer Rate	6 Gb/sec	
		Synchronous (Maximum)		
		Seek Time	Single Track	0.5 ms
		(typical reads, including settling)	Average	<8.1 ms
			Full-Stroke	15.5 ms
			Rotational Speed	7,200 rpm
		Physical Configuration	Bytes/Sector	512
			Logical Blocks	5,860,533,168
Operating Temperature	50° to 95° F (10° to 35° C)			
(System Inlet Air Temperature)				

NOTE: To support HP hard drives exceeding 2.2 TB, HP Smart Array

Technical Specifications

Firmware version 5.0 or later is required for the following controllers:

- HP Smart Array P212 Controller
- HP Smart Array P410 Controller
- HP Smart Array P411 Controller
- HP Smart Array P711m Controller
- HP Smart Array P812 Controller

To use hard drives exceeding 2.2 TB, you must create a boot volume using offline ACU version 8.75 or later. HP Smart Array controllers do not support boot volumes exceeding 2.2 TB. Other controllers are not supported

HP 2TB 6G SAS 7.2K rpm LFF (3.5-inch) Dual Port Midline 1yr Warranty Hard Drive	507616-B21	Capacity	2,000,398,934,016		
		Height	1.04 in (26.4 mm)		
		Width	4.36 in (110.7 mm)		
		Depth	7.43 in (188.7 mm)		
		Interface	SAS		
		Transfer Rate Synchronous (Maximum)	6 Gb/sec		
		Seek Time (typical reads, including settling)	Single Track	0.5 ms	
			Average	8.5 ms	
			Full-Stroke	16.2 ms	
		Physical Configuration	Rotational Speed	7,200 rpm	
			Bytes/Sector	512	
Logical Blocks	3,907,029,168				
Operating Temperature (System Inlet Air Temperature)	50° to 95° F (10° to 35° C)				

HP 1TB 6G SAS 7.2K rpm LFF (3.5-inch) Dual Port Midline 1yr Warranty Hard Drive	507614-B21	Capacity	1,000,204,886,016		
		Height	1.04 in (26.4 mm)		
		Width	4.36 in (110.7 mm)		
		Depth	7.43 in (188.7 mm)		
		Interface	SAS		
		Transfer Rate Synchronous (Maximum)	6 Gb/sec		
		Seek Time (typical reads, including settling)	Single Track	0.5 ms	
			Average	8.5 ms	
			Full-Stroke	16.2 ms	
		Physical Configuration	Rotational Speed	7,200 rpm	
			Bytes/Sector	512	
Logical Blocks	1,953,525,168				
Operating Temperature (System Inlet Air Temperature)	50° to 95° F (10° to 35° C)				

SAS Non-Hot Plug SFF (2.5-inch) Enterprise (ENT) Drives

Application SAS Enterprise drives are intended for servers and storage solutions with mission critical and high

Technical Specifications

work load intensive applications where 24/7 duty cycles are a requirement, such as database applications and high transaction level applications.

Transfer rate The components of a storage subsystem (e.g. the drive, the HBA/controller, firmware, and the server backplane) should operate at the same data transfer rate or the system bandwidth will be negotiated down to an acceptable level for all components.

HP 300GB 6G SAS 10K rpm SFF (2.5-inch) Non-hot Plug Dual Port Enterprise 3yr Warranty Hard Drive	537809-B21	Capacity	300,000,000,000	
		Height	0.591 in (15.00 mm)	
		Width	2.750 in (69.85 mm)	
		Depth	3.937 in (100.0 mm)	
		Interface	SAS	
		Transfer Rate Synchronous (Maximum)	6 Gb/sec	
		Seek Time (typical reads, including settling)	Single Track	0.20 ms
			Average	4.0 ms
			Full-Stroke	7.45 ms
		Physical Configuration	Rotational Speed	10,000 rpm
	Bytes/Sector		512	
		Logical Blocks	585,937,500	
	Operating Temperature (System Inlet Air Temperature)	50° to 95° F (10° to 35° C)		

SAS Non-Hot Plug LFF (3.5-inch) Enterprise (ENT) Drives

Application SAS Enterprise drives are intended for servers and storage solutions with mission critical and high work load intensive applications where 24/7 duty cycles are a requirement, such as database applications and high transaction level applications.

Transfer rate The components of a storage subsystem (e.g. the drive, the HBA/controller, firmware, and the server backplane) should operate at the same data transfer rate or the system bandwidth will be negotiated down to an acceptable level for all components.

HP 600GB 6G SAS 15K rpm LFF (3.5-inch) Non-hot Plug Dual Port Enterprise 3yr Warranty Hard Drive	516830-B21	Capacity	600,127,266,816	
		Height	1.028 in (26.1 mm)	
		Width	4.0 in (101.6 mm)	
		Depth	5.787 in (147.0 mm)	
		Interface	SAS	
		Transfer Rate Synchronous (Maximum)	6Gb/sec	
		Seek Time (typical reads, including settling)	Single Track	0.2ms
			Average	3.5ms
			Full-Stroke	6.8ms
		Physical Configuration	Rotational Speed	15,000 rpm
	Bytes/Sector		512	
		Logical Blocks	1,172,123,568	
	Operating Temperature (System Inlet Air Temperature)	50° to 95° F (10° to 35° C)		

Technical Specifications

Temperature)

HP 450GB 6G SAS 15K rpm LFF (3.5-inch) Non-hot Plug Dual Port Enterprise 3yr Warranty Hard Drive

516826-B21

Capacity	450,098,159,616
Height	1.028 in (26.1 mm)
Width	4.0 in (101.6 mm)
Depth	5.787 in (147.0 mm)
Interface	SAS
Transfer Rate Synchronous (Maximum)	6Gb/sec
Seek Time (typical reads, including settling)	Single Track 0.2ms Average 3.5ms Full-Stroke 6.8ms
Rotational Speed	15,000 rpm
Physical Configuration	Bytes/Sector 512 Logical Blocks 879,097,968
Operating Temperature (System Inlet Air Temperature)	50° to 95° F (10° to 35° C)

HP 300GB 6G SAS 15K rpm LFF (3.5-inch) Non-hot Plug Dual Port Enterprise 3yr Warranty Hard Drive

516824-B21

Capacity	300,000,000,000
Height	1.028 in (26.1 mm)
Width	4.0 in (101.6 mm)
Depth	5.787 in (147.0 mm)
Interface	SAS
Transfer Rate Synchronous (Maximum)	3Gb/sec
Seek Time (typical reads, including settling)	Single Track 0.2ms Average 3.5ms Full-Stroke 6.8ms
Rotational Speed	10,000rpm
Physical Configuration	Bytes/Sector 512 Logical Blocks 585,937,500
Operating Temperature (System Inlet Air Temperature)	50° to 95° F (10° to 35° C)

SAS Quick Release SFF (2.5-inch) Enterprise (ENT) Drives

Application

SAS Enterprise drives are intended for servers and storage solutions with mission critical and high work load intensive applications where 24/7 duty cycles are a requirement, such as database applications and high transaction level applications.

Transfer rate

The components of a storage subsystem (e.g. the drive, the HBA/controller, firmware, and the server backplane) should operate at the same data transfer rate or the system bandwidth will be negotiated down to an acceptable level for all components.

HP 1.2TB 6G SAS 10K rpm SFF (2.5-inch) Quick-

697572-B21

Capacity	1,200,243MB
Height	0.740 in (18.8 mm)

Technical Specifications

**release Dual Port ENT 3y
Warranty Hard Drive**

Width	2.909 in (73.9 mm)	
Depth	3.945 in (100.2 mm)	
Interface	SAS	
Transfer Rate Synchronous (Maximum)	6Gb/sec	
Seek Time (typical reads, including settling)	Single Track	4.6ms
	Average	8.9ms
	Full-Stroke	8.0ms
	Rotational Speed	10,000rpm
Physical Configuration	Bytes/Sector	512
	Logical Blocks	2,344,225,968
Operating Temperature (System Inlet Air Temperature)	50° to 95° F (10° to 35° C)	

**HP 300 GB 6G SAS 10K
SFF (2.5-inch) Quick-
release Dual Port ENT 3y
Warranty Hard Drive**

574879-B21

Capacity	300,000,000,000	
Height	0.740 in (18.8 mm)	
Width	2.909 in (73.9 mm)	
Depth	3.945 in (100.2 mm)	
Interface	SAS	
Transfer Rate Synchronous (Maximum)	6Gb/sec	
Seek Time (typical reads, including settling)	Single Track	0.3ms
	Average	4.0ms
	Full-Stroke	8.0ms
	Rotational Speed	10,000rpm
Physical Configuration	Bytes/Sector	512
	Logical Blocks	585,937,500
Operating Temperature (System Inlet Air Temperature)	50° to 95° F (10° to 35° C)	

SAS Quick Release LFF (3.5-inch) Enterprise (ENT) Drives

Application

SAS Enterprise drives are intended for servers and storage solutions with mission critical and high work load intensive applications where 24/7 duty cycles are a requirement, such as database applications and high transaction level applications.

Transfer rate

The components of a storage subsystem (e.g. the drive, the HBA/controller, firmware, and the server backplane) should operate at the same data transfer rate or the system bandwidth will be negotiated down to an acceptable level for all components.

**HP 600 GB 6G SAS 15K
LFF (3.5-inch) Quick-
release Dual Port ENT 3y
Warranty Hard Drive**

574758-B21

Capacity	600,127,266,816	
Height	1.165 in (29.6 mm)	
Width	4.157 in (105.6 mm)	
Depth	5.787 in (147.0 mm)	
Interface	SAS	
Transfer Rate	6Gb/sec	

Technical Specifications

Synchronous (Maximum)		
Seek Time (typical reads, including settling)	Single Track	0.2ms
	Average	3.5ms
	Full-Stroke	6.8ms
Physical Configuration	Rotational Speed	15,000 rpm
	Bytes/Sector	512
	Logical Blocks	1,172,123,568
Operating Temperature (System Inlet Air Temperature)	50° to 95° F (10° to 35° C)	

SAS Quick Release LFF (3.5-inch) Midline (MDL) Drives

Application SAS Midline drives are intended for servers and storage solutions where high capacities are required. These drives have moderately-priced reliability and performance for non-mission critical, low workload applications, such as disk backup, archival, and reference applications.

Transfer rate The components of a storage subsystem (e.g. the drive, the HBA/controller, firmware, and the server backplane) should operate at the same data transfer rate or the system bandwidth will be negotiated down to an acceptable level for all components.

HP 4TB 6G SAS 7.2k rpm LFF (3.5-inch) Quick-release Dual Port MDL 1y Warranty Hard Drive	697956-B21	Capacity	4,000,787MB		
		Height	1.165 in (29.6 mm)		
		Width	4.157 in (105.6 mm)		
		Depth	5.787 in (147.0 mm)		
		Interface	SAS		
		Transfer Rate	6Gb/sec		
		Synchronous (Maximum)			
		Seek Time (typical reads, including settling)	Single Track	0.7 ms	
			Average	8.5 ms	
			Full-Stroke	15.7 ms	
		Physical Configuration	Rotational Speed	7,200 rpm	
			Bytes/Sector	512	
			Logical Blocks	7,814,037,168	
Operating Temperature (System Inlet Air Temperature)	50° to 95° F (10° to 35° C)				

NOTE: To support HP hard drives exceeding 2.2 TB, HP Smart Array Firmware version 5.0 or later is required for the following controllers:

- HP Smart Array P212 Controller
- HP Smart Array P410 Controller
- HP Smart Array P411 Controller
- HP Smart Array P711m Controller
- HP Smart Array P812 Controller

To use hard drives exceeding 2.2 TB, you must create a boot volume using offline ACU version 8.75 or later. HP Smart Array controllers do not support boot volumes exceeding 2.2 TB. Other controllers are not supported

Technical Specifications

HP 2TB 6G SAS 7.2K rpm LFF (3.5-inch) Quick-release Dual Port MDL 1yr Warranty Hard Drive	574761-B21	Capacity 2,000,398,934,016 Height 1.165 in (29.6 mm) Width 4.157 in (105.6 mm) Depth 5.787 in (147.0 mm) Interface SAS Transfer Rate Synchronous (Maximum) 6Gb/sec Seek Time (typical reads, including settling) Single Track 0.7 ms Average 8.5 ms Full-Stroke 18.2 ms Rotational Speed 7,200 rpm Physical Configuration Bytes/Sector 512 Logical Blocks 3,907,029,168 Operating Temperature 50° to 95° F (10° to 35° C) (System Inlet Air Temperature)
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Environment-friendly Products and Approach

End-of-life Management and Recycling

Hewlett-Packard offers end-of-life HP product return, trade-in, and recycling programs in many geographic areas. For trade-in information, please go to <http://www.hp.com/go/green>. To recycle your product, please go to: <http://www.hp.com/go/green> or contact your nearest HP sales office. Products returned to HP will be recycled, recovered or disposed of in a responsible manner.

The EU WEEE directive (2002/95/EC) requires manufacturers to provide treatment information for each product type for use by treatment facilities. This information (product disassembly instructions) is posted on the Hewlett Packard web site at: <http://www.hp.com/go/green>. These instructions may be used by recyclers and other WEEE treatment facilities as well as HP OEM customers who integrate and re-sell HP equipment.

Summary of Changes

Date	Version History	Action	Description of Change:
28-Aug-2014	From Version 46 to 47	Changed	<p>Updated What's New with the following information:</p> <p>HP 300GB 12G SAS 15K rpm LFF (3.5-inch) SC Converter Enterprise 3yr Warranty Hard Drive</p> <p>HP 450GB 12G SAS 15K rpm LFF (3.5-inch) SC Converter Enterprise 3yr Warranty Hard Drive</p> <p>HP 600GB 12G SAS 15K rpm LFF (3.5-inch) SC Converter Enterprise 3yr Warranty Hard Drive</p> <p>HP 300GB 12G SAS 15K rpm LFF (3.5-inch) CC Enterprise 3yr Warranty Hard Drive</p> <p>HP 450GB 12G SAS 15K rpm LFF (3.5-inch) CC Enterprise 3yr Warranty Hard Drive</p> <p>HP 600GB 12G SAS 15K rpm LFF (3.5-inch) CC Enterprise 3yr Warranty Hard Drive</p> <p>HP 300GB 12G SAS 15K rpm SFF (2.5-inch) SC Enterprise 3yr Warranty Hard Drive</p> <p>HP 450GB 12G SAS 15K rpm SFF (2.5-inch) SC Enterprise 3yr Warranty Hard Drive</p> <p>HP 600GB 12G SAS 15K rpm SFF (2.5-inch) SC Enterprise 3yr Warranty Hard Drive</p> <p>HP 300GB 12G SAS 15K rpm SFF (2.5-inch) Enterprise 3yr Warranty Hard Drive</p> <p>HP 450GB 12G SAS 15K rpm SFF (2.5-inch) Enterprise 3yr Warranty Hard Drive</p> <p>HP 600GB 12G SAS 15K rpm SFF (2.5-inch) Enterprise 3yr Warranty Hard Drive</p> <p>HP 6TB 6G SAS 7.2K rpm LFF (3.5-inch) SC Midline 1yr Warranty Hard Drive</p> <p>HP 6TB 6G SATA 7.2K rpm LFF (3.5-inch) SC Midline 1yr Warranty Hard Drive</p> <p>HP 6TB 6G SAS 7.2K rpm LFF (3.5-inch) Midline 1yr Warranty Hard Drive</p> <p>Updated Models throughout the QuickSpec.</p> <p>Changes made in the Technical Specifications section.</p>
18-Aug-2014	From Version 45 to 46	Changed	Models section was revised.

Summary of Changes

		Removed	Removed HP 600GB 6G SAS 10K rpm SFF (2.5-inch) Non-hot Plug Dual Port Enterprise 3yr Warranty Hard Drive and HP 300GB 6G SAS 15K rpm LFF (3.5-inch) Quick-release Dual Port Enterprise 3yr Warranty Hard Drive from Models and Technical Specifications sections.
07-Mar-2014	From Version 44 to 45	Changed	Changes were made throughout.
09-Dec-2013	From Version 43 to 44	Added	Updated What's New with the following information: HP 1.2TB 6G SAS 10K rpm SFF (2.5-inch) SC Enterprise 3yr Warranty Hard Drive Added part numbers 718162-B21, 718160-B21, 718164-B21 to the Models and Technical Specifications sections.
13-May-2013	From Version 42 to 43	Added	Updated What's New with the following information: HP 4TB 6G SAS 7.2K rpm LFF (3.5-inch) SC Midline 1yr Warranty Hard Drive HP 4TB 6G SAS 7.2K rpm LFF (3.5-inch) Midline 1yr Warranty Hard Drive HP 4TB 6G SAS 7.2k LFF (3.5-inch) Quick-release Dual Port MDL 1y Warranty Hard Drive Added part numbers 695510-B21, 693689-B21, 697956-B21 to the Models and Technical Specifications sections.
19-Apr-2013	From Version 41 to 42	Changed	Changes made to the NOTES in the Models section.
12-Apr-2013	From Version 40 to 41	Added	Added new NOTES to the Models section.
19-Feb-2013	From Version 39 to 40	Added	Added part numbers 697574-B21, 693648-B21, 697572-B21 to the Models and Technical Specifications sections.
26-Nov-2012	From Version 38 to 39	Added	Added missing sub-header in Overview section.
07-Nov-2012	From Version 37 to 38	Added	Added missing sub-header in Overview section.
06-Aug-2012	From Version 36 to 37	Removed	Removed HP 72GB GG SAS 15K rpm Drive from Model node. Removed HP 72GB GG SAS 15K rpm Drive node from Technical Specifications section.
27-Jul-2012	From Version 35 to 36	Changed	Change made in Technical Specifications section.
11-May-2012	From Version 34 to 35	Changed	Changed "Smart Drive" to "SmartDrive" in the Models section.
06-Mar-2012	From Version 33 to 34	Changed	Models was updated. Note that the title has changed.
14-Nov-2011	From Version 32 to 33	Added	HP 300GB 6G SAS 15K rpm SFF Hot Plug Enterprise Drive was added.
04-Aug-2011	From Version 31 to 32	Changed	Description changes made in the Hard Drives section.
20-Jun-2011	From Version 29 to 31	Changed	Service and Support was completely revised and HP 3TB 6G SAS 7.2K rpm LFF Dual Port Midline Hard Drive was added.
09-May-2011	From Version 28 to 29	Added	Added new sku to the Models and Technical Specifications sections. Updated the Service and Support section.
05-Apr-2011	From Version 27 to 28	Added	HP 1TB 6G SAS 7.2K rpm SFF Hot plug Midline 1yr Warranty Hard Drive was added throughout.
14-Jan-2011	From Version 25 to 26	Changed	Change made in the North America and Canada versions only.
18-Nov-2010	From Version 24 to 25	Changed	Models were updated.

Summary of Changes

05-Oct-2010	From Version 23 to 24	Changed	Service and Support was completely revised.
29-Mar-2010	From Version 22 to 23	Added	HP 450GB and 600GB 6G SAS 10K SFF (2.5-inch) Dual Port Enterprise Hard Drives were added to SAS Hot Plug SFF (2.5-inch) Enterprise (ENT) Drives, HP 600GB 6G SAS 10K SFF (2.5-inch) Non-Hot Plug Dual Port ENT Hard Drive was added to SAS non-Hot Plug SF (2.5-inch) Enterprise (ENT) Drives and 1TB and 2TB 6G SAS 7.2K rpm LFF (3.5-inch) Dual Port Midline Hard Drives were added to SAS Hot Plug LFF (3.5-inch) Midline (MDL) Drives.
16-Feb-2010	From Version 21 to 22	Changed	Hard drive descriptions were revised to reflect warranty information.
14-Sep-2009	From Version 20 to 21	Changed	Updated Models throughout the QuickSpec.
14-Jul-2009	From Version 19 to 20	Changed	Changes made in the Models and Technical Specifications sections.
13-Jul-2009	From Version 18 to 19	Added	SAS Hot Plug SFF Midline (MDL) Drives to the QuickSpec and Application, Warranty, Transfer Rate, 3G and 6G and System Inlet Air Temperature throughout the Technical Specifications section.
02-Jun-2009	From Version 17 to 18	Added	Added the HP 146GB and 72GB 6G SAS 15K SFF DP ENT HDD to SAS Hot Plug SEE Enterprise (ENT) Drives and SAS Non-Hot Plug SEE Enterprise (ENT) Drives to Hard Drives throughout the QuickSpec.
27-Apr-2009	From Version 16 to 17	Changed	Changes made in the What's New, Models and Technical Specifications sections.
30-Mar-2009	From Version 15 to 16	Added	Added the HP 300GB 6G SAS 10K SFF DP ENT HDD, HP 146GB 6G SAS 10K SFF DP ENT HDD and HP 146GB 3G SAS 15K SFF DP ENT HDD Hard Drives throughout the QuickSpec.
10-Dec-2008	From Version 14 to 15	Changed	Change made in the North America and Canada versions only.
08-Dec-2008	From Version 13 to 14	Changed	Completely revised the Introduction in the Overview section and Models throughout the QuickSpec.
17-Nov-2008	From Version 12 to 13	Changed	There were changes made to the Standard Features and Technical Specifications sections.
14-Jul-2008	From Version 11 to 12	Changed	The QuickSpec was rewritten. NOTE that the title has changed.
11-Feb-2008	From Version 10 to 11	Changed	Changes were made throughout the QuickSpec.
23-Sep-2007	From Version 9 to 10	Changed	Corrected the name of one of the 3.5-inch drives in the Technical Specifications section (was incorrectly listed as a 300-GB drive instead of 146-GB).
05-Sep-2007	From Version 8 to 9	Changed	Changes made throughout the QuickSpec except for the Service and Support section.
17-Jul-2007	From Version 7 to 8	Changed	Changes made to the Drive Quality section of Standard Features only.
16-Jan-2007	From Version 6 to 7	Changed	Changes made within the OVERVIEW and TECHNICAL SPECIFICATIONS sections.
14-Nov-2006	From Version 5 to 6	Changed	Changes made within the OVERVIEW and TECHNICAL SPECIFICATIONS sections.
25-Sep-2006	From Version 4 to 5	Added	Added the HP 146GB 3G SAS 10K SFF SP HDD Hard Drives throughout the QuickSpec.
23-Mar-2006	From Version 3 to 4	Added	"For hard drives, 1 GB = 1 billion bytes. Actual formatted capacity is less." to the Copyright Notice.
03-Mar-2006	From Version 2 to 3	Changed	Changes made in the TECHNICAL SPECIFICATIONS section only.
06-Feb-2006	From Version 1 to 2	Changed	In OVERVIEW and TECHNICAL SPECIFICATIONS, updated

Summary of Changes

			part number descriptions. Updated Copyright Notice.
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Summary of Changes

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The only warranties for HP products and services are set forth in the express warranty statements accompanying such products and services. Nothing herein should be construed as constituting an additional warranty. HP shall not be liable for technical or editorial errors or omissions contained herein.

For hard drives, 1GB = 1 billion bytes. Actual formatted capacity is less.