



HP 6G SATA Midline Hard Disk Drive

As the demand for data escalates, server and storage environments expect increasingly more from hard drives; more capacity, more reliability, and more performance. The HP 6G SATA Hard Drive is designed to deliver more.



Fueled by the growth of social media and the spread of cloud-based computing services, the appetite for all things digital is driving the expansion of worldwide data by 50 percent each month. Under this relentless force, storage has become intrinsic to the reliability and performance of enterprise data centers.

Coinciding with the introduction of HP ProLiant Gen8 servers, HP has designed a new generation of hard drive that's built to respond to the data explosion. The HP 6G SATA Midline Hard Drive is a smarter, faster, and more efficient device for your non-mission-critical applications. These drives deliver twice the data transfer speed of the 3G hard drive generation, provide storage capacity of up to 4 TB, and offer drive carrier encryption authentication to enable compatibility and quality. The new midline drive comes in both small form factor (2.5-inch disc) and large form factor (3.5-inch disc) options, and features the management and reliability benefits of a SmartDrive Carrier Hot Plug option.

More storage capacity also necessitates the means to protect that data; smart data protection technologies in HP drives are able to predict drive failure, and proactively rebuild from a spare if failure should occur. Additionally, smart data services can optimize system performance by analyzing different types of workloads and adapting storage performance in real time.

What's new

Striving to help the enterprise keep pace with application demands, the HP 6G SATA Midline Hard Drive now offers an accelerated data transfer rate. At 6 GB per second, the HP Midline Drive doubles the pace of reading and writing your data. These 7.2K drives also expand storage capacity, with sizes that range from 500 GB to 4 TB. Additionally, they are available in Smart Carrier Hot Plug, Non-Hot Plug, or Quick Release options.

Hallmarks of the SmartDrive Carrier Hot Plug option include a space-efficient form factor, carrier encryption authentication to secure your investment, as well as drive-based activity instead of host-based activity, and enhanced LEDs to simplify local management with a "Do Not Remove" light and information that alerts users to potential failures before they happen. Smart Carrier features also include drive error log NVRAM and Smart Array technology to allow for System Insight settings.

Key features and benefits

HP 6G SATA Midline Hard Drives provide a host of storage and performance advantages that make it a faster, smarter, and more efficient option to previous generations.

Higher performance

The HP 6G SATA Midline Drive defines a new standard for performance that's characterized by the doubling of data transfer speed, expanded storage capacity of up to 4 TB, and advanced stability with enhanced rotational vibration tolerance. Additionally, performance is boosted with native command queuing (NCQ), which allows the disc to optimize the order in which read/write commands are executed, and smart data services, which conduct real-time, workload-aware analysis to optimize storage performance.

Enhanced reliability

As an HP qualified option, the HP 6G SATA Midline Drive is designed for compatibility with HP ProLiant environments, which reduces the possibility of drive failures that can occur with third-party drives. And with proper usage at workloads of 40 percent or less, the SATA Midline Drive provides twice the reliability of the SATA Entry Drive.

Simplified manageability

The Smart Carrier option features an enhanced LED and animation panel that simplifies management on site, making it easier to monitor the condition of the drives. And when used with SMART Array Controller and Systems Insight Manager software, HP drives can alert you to potential problems before the drive fails. HP drives feature embedded smart data protection technologies that predict drive failures, and ProLiant systems automatically activate spare drives to prevent long-term outages and data loss.

Low acquisition cost

The 6G SATA Midline Drive features the lowest cost per GB. And with a form factor that's reduced by 10 to 15 percent, data centers can accommodate more drive bays in the existing space. It's possible to fit 114 TB per square foot in the data center footprint.

Ideal environment

HP 6G SATA Midline Hard Drives are tailored to deliver economical reliability and performance for non-mission-critical applications, including external storage, backup servers, and archival applications.

Best price advantage

These enterprise-class, high-capacity drives provide the lowest cost per GB in low workload environments of 40 percent or less. With the new Midline Drives, expect 2x data transfer rate, offered at the same price as previous generation SATA drives.

An HP qualified option

HP 6G SATA Drives are proven to perform in HP ProLiant Gen8 servers, passing a rigorous qualification procedure for compatibility and functionality. These drives also support Self Monitoring Analysis and Reporting Technology (SMART) and HP Systems Insight Manager software.

Technical specifications | HP 6G SATA Midline Hard Disk Drives



2.5-inch disc	6G SATA Hot Plug SFF	6G SATA Quick Release SFF
Capacities	500 GB, 1 TB	500 GB, 1 TB
Height	0.62 inch (15.6 mm)	0.74 inch (18.8 mm)
Width	2.98 inch (75.7 mm)	2.91 inch (73.9 mm)
Depth	4.67 inch (118.7 mm)	3.95 inch (100.2 mm)
Interface	Serial ATA	Serial ATA
Transfer rate (maximum)	6 GB/s	6 GB/s
Native command queuing	Supported	Supported
Seek time (typical reads, including settling)	Single track: .7 ms Average: <8.5 ms Full-stroke: 16.96 ms Rotational speed: 7,200 RPM	Single track: .7 ms Average: <8.5 ms Full-stroke: 16.96 ms Rotational speed: 7,200 RPM
Physical configuration	Bytes/Sector 512 Logical blocks: • 500 GB 976,773,168 • 1 TB 1,953,525,168	Bytes/Sector 512 Logical blocks: • 500 GB 976,773,168 • 1 TB 1,953,525,168
Operating temperature (System inlet air temperature)	50° to 95°F (10° to 35° C)	50° to 95°F (10° to 35° C)
Warranty	1-year warranty	1-year warranty
QuickSpecs URL	http://h18004.www1.hp.com/products/servers/proliantstorage/drives-enclosures/index.html	

Technical specifications



3.5 inch	HP 6G SATA Hot Plug LFF*	HP 6G SATA Non-Hot Plug LFF*	HP 6G SATA Quick Release LFF
Capacities	500 GB, 1 TB, 2 TB, 4 TB	500 GB, 1 TB, 2 TB	500 GB, 1 TB, 4 TB
Height	1.06 inch (26.8 mm)	1.028 inch (26.1 mm)	1.16 inch (29.6 mm)
Width	4.16 inch (105.8 mm)	4.00 inch (101.6 mm)	4.16 inch (105.6 mm)
Depth	6.69 inch (170.0 mm)	5.75 inch (146.0 mm)	5.79 inch (147.0 mm)
Interface	Serial ATA	Serial ATA	Serial ATA
Transfer rate (maximum)	6 GB/s	6 GB/s	6 GB/s
Native command queuing	Supported	Supported	Supported
Seek time (typical reads, including settling)	Single track: .5 ms Average: <8.5 ms Full-stroke: • 500 GB 16.3 ms • 1 TB 16.5 ms • 2 TB 16.0 ms • 4 TB 16.0 ms Rotational speed: 7,200 RPM	Single track: .5 ms Average: <8.5 ms Full-stroke: • 500 GB 16.3 ms • 1 TB 17.55 ms • 2 TB 16.0 ms • 4 TB 16.0 ms Rotational speed: 7,200 RPM	Single track .5 ms Average: • 500 GB <8.5 ms • 1 TB <8.5 ms • 4 TB 8.2 ms Full-stroke: • 500 GB 6.3 ms • 1 TB 16.5 ms • 4 TB 16.0 ms Rotational speed 7,200 RPM
Physical configuration	Bytes/Sector 512 Logical blocks: • 500 GB 976,773,168 • 1 TB 1,953,525,168 • 2 TB 3,907,029,168 • 4 TB 5,860,553,168	Bytes/Sector 512 Logical blocks: • 500 GB 976,773,168 • 1 TB 1,953,525,168 • 2 TB 3,907,029,168 • 4 TB 5,860,553,168	Bytes/Sector 512 Logical blocks: • 500 GB 976,773,168 • 1 TB 1,953,525,168 • 4 TB 5,860,553,168
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Warranty	1-year warranty	1-year warranty	1-year warranty
QuickSpecs URL	http://h18004.www1.hp.com/products/quickspecs/13021_div/13021_div.html		

*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 Services

When you purchase HP ProLiant servers and qualified options, you should consider the level of service necessary to meet your IT and business needs. With HP Care Pack services, you can experience the benefits of both proactive and reactive care.

Experience optimal satisfaction with your HP solution.

HP recommends the following set of service offerings to reinforce your investment:

Three-year, 24x7 four-hour response, HP Hardware Support Onsite Service

HP offers rapid remote support and, if needed, an HP authorized representative can arrive on site to begin maintenance service within four hours after the service request is logged.

HP ProLiant Server Hardware Installation

HP experts can assist you with the installation of HP branded servers, storage devices and networking options in a timely and professional manner.

Three-year, six-hour, HP Call to Repair

An IT manager and a team of support specialists provide onsite troubleshooting of hardware issues within six hours of the initial service request.

HP Proactive Select Service

You can use HP Proactive Select Service Credits, as needed over 12 months. This is a flexible way to utilize best-in-class consultancy and technical services.

For more information, please contact your HP sales representative or HP authorized channel partner, or visit hp.com/services/proliant or hp.com/services/bladesystem.

Why HP 6G SATA Drives?

With HP 6G SATA Drives with Smart Carrier option, you can benefit from proactive and end-to-end management support, Smart Array feature support, and the reliability that comes from hardware and firmware that are optimized for ProLiant environments.

Management support

- HP Integrated Lights-Out (iLO) service provides active health system monitoring that's always available.
- System Management Homepage simplifies management of ProLiant servers through a Web-based interface.
- HP Systems Insight Manager (SIM) sustains system uptime and health.
- Storage agents collect event data and make it available for SNMP agents, and deliver SNMP alerts.
- HP provides proactive online firmware upgrades.

Smart Array feature support

- RAID integration that enhances system uptime and optimizes performance
- Rebuild technology for automatic and rapid data recovery in case of drive failure
- Drive erase command that can erase data without the need for added software

Reliability

- Interoperability with servers, backplanes, external enclosure, and controllers
- Simplified management with hardware and firmware that's optimized for ProLiant environments

For more information

For more information about HP 6G SATA Midline Hard Drives, contact your HP representative or visit hp.com/go/SATA.

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