Have feedback on QuickSpecs? We're listening

HPE Storage MSL2024 Tape Library QuickSpecs

HPE Storage MSL2024 G4 Tape Library delivers reliable data protection for organizations requiring secure, unattended backup, disaster recovery, and long-term data retention.

The MSL2024 G4 Tape Library delivers flexible capacity and technology options, supporting LTO-9 and LTO-8 Ultrium tape drives to meet evolving data protection needs. fHPE's web-based remote management solution, Command View for Tape Libraries (CVTL), makes the MSL2024 Tape Library easy to manage from any remote location, eliminating the need for remote office IT staff.

Overview

The HPE Storage MSL2024 G4 Tape Library delivers dependable, unattended backup and recovery designed for always-on data protection. The Remote Management Interface (RMI) enables IT teams to remotely control library operations, reduce operational risk, and maintain consistent backup execution without on-site staff. HPE Command View for Tape Libraries (CVTL) works with the RMI and extends remote access with centralized visibility across multiple libraries, proactive health monitoring, and streamlined administration. Built-in automation, including a standard barcode reader, configurable mail slots, and removable magazines, refines media handling and helps ensure backups and restores run accurately and predictably. Tool-free drive upgrades allow organizations to increase capacity and/or performance with minimal disruption.



HPE Storage MSL2024 G4 Tape Library

What's New

- HPE Smart Choice MSL2024 library models with LTO- technology available that can be quoted in minutes and shipped quickly through HPE Authorized Partners.
- The HPE Storage MSL2024 G4 Tape Library adds multi-factor authentication (MFA) support, creating a second layer of protection for secure library management.

Key Features

- Multi-factor authentication (MFA) – increases security with an additional authentication step.
- Exceptional storage density: 1.08 PB (2.5:1 compression using LTO-9 tape cartridges).
- Easy-to-use web-based remote management and support for managing multiple libraries with HPE CVTL.
- Integrated bar code reader.
- Tool-free tape drive upgrades.
- Leverage tape drives in an MSL2024 into an MSL3040 or 6480 for investment protection.
- Removable magazines with user-configurable mail slots.
- Extensive OS and software compatibility testing.
- Achieve the highest level of encryption security to secure confidential business information while meeting compliance guidelines with the HPE MSL Encryption Kit or KMIP 1.2 Encryption Key Manager License.
- Proactively monitor utilization, operational performance, and overall life and health of the drives and media with TapeAssure Advanced, a licensed feature of CVTL.

Standard Features

Features	MSL2024 G4
Drive Technology Supported	LTO-9 Ultrium 45000 LTO-8 Ultrium 30750
Maximum Number of Drives	2
Maximum Capacity (2.5:1 compression)	1.08 PB (LTO-9, 24 slots)
Maximum Data Transfer (Native)	2.16 TB/hr (2 LTO-9 drives)
Drive Interface	8 Gb Native Fibre Channel 12 Gb/sec SAS (LTO-9) 6 Gb/sec SAS (LTO-8 and earlier)

HPE Storage Tape Library Management Software

HPE Storage Tape Library Management Software provides an intuitive, user-friendly interface for remotely managing, monitoring, and configuring an entire tape library environment. It includes HPE CVTL and its licensed feature, HPE Storage TapeAssure Advanced.

HPE Storage TapeAssure Advanced offers predictive analytics on the health, performance, and utilization of all tape drives and cartridges, enabling proactive management and optimized performance.

You can try HPE StoreEver TapeAssure Advanced free for 60 days upon installing CVTL. Simply download CVTL from HPE Command View for Tape Libraries | HPE Store US and experience its powerful features firsthand.

Easy Installation

The MSL2024 Tape Library is shipped as a rack-ready unit. The rack mount hardware included with the library allows installation in a variety of HPE racks. For more information on the HPE rack offerings, please see the following URL: Compute Products and Services | HPE

Partitioning

The MSL2024 Tape Libraries can be configured as a partitioned library with up to one partition per drive; two partitions if two drives are installed. Partitioning enables the MSL library to be divided into up to two independent libraries, each of which can be managed separately by its host.

Proven Reliability

With a rating of 2,000,000 robot load/unload cycles, the MSL Tape Libraries provides high reliability for today's demanding environment. To further improve reliability and longevity, HPE Ultrium products feature Data Rate Matching (DRM). This allows the tape drive to dynamically and continuously adjust the speed of the drive, to match the speed of the host or network. This increases performance, reduces mechanical wear on the tape drive and extends tape life.

Disaster Recovery and Security

Removable media keeps data offline, providing an additional layer of protection against viruses, hackers and cyber-attacks. LTO-9 and LTO-8Ultrium tape drives include hardware-based data encryption to secure data. Media cartridges are available with write-once-read-many (WORM) capabilities to prevent accidental overwriting of data archived on the tape. ogether, these features help organizations meet strict data security and compliance requirements.

HPE MSL Encryption Kit

The HPE MSL Encryption Kit provides a library-enabled encryption solution that greatly enhances data privacy, confidentiality, and integrity of your critical business data while supporting compliance requirements. While there are a wide range of encryption solutions available, the HPE MSL Encryption Kit is intended to be an easy and affordable library-enabled solution for small businesses.

The encryption kit includes two USB key server tokens, product documentation, and firmware support. One encryption kit is needed per library, the first token must be physically inserted into the library, the second token will be used as a backup token in case the first one is lost or damaged. The USB key server token plugs into the USB port in the library and will generate and maintain encryption keys for the LTO-4 and later generation drives. The USB key server token uses a hardware random number generator, password authentication, and digital envelopes for strong encryption keys and security operations. The encryption kit provides a self-contained solution for autoloaders and MSL libraries with no additional software, PCs, or servers required or involved.

KMIP Encryption

To meet requirements for larger scale encryption key managers, the HPE MSL Tape Libraries supports KMIP 1.2 compliant key managers. With the purchase of the KMIP Encryption License, the MSL2024 will be able to request encryption keys from KMIP 1.2 compliant key managers, for data encryption and key management.

For more information on all supported key management servers, please visit:
HPE Storage Single Point of Connectivity Knowledge - SPOCK

Serviceability

Modular in design, the MSL2024 has easily replaceable components minimizing the Mean-Time-to-Repair on the unit. Replaceable components include the tape drive, the magazines, the power supply, the chassis/robotic mechanism, and the controller board. HPE Library and Tape Tools (L&TT) provides easy access to the MSL error log, generates support tickets, and enables firmware downloads. L&TT can be downloaded for free at: HPE Library and Tape Tools | HPE Store US

LTO Ultrium Technology

HPE LTO (Linear Tape Open) Ultrium Tape Drives use best of breed technology. By taking the best features from other tape technologies and combining them into a single new technology, Ultrium tape drives are in a league of their own. LTO technology is an open industry standard format; thus, data written on HPE Ultrium Tape Drives can be interchanged directly with Ultrium Tape Drives from other vendors.

Standard Features

HPE LTO tape drives and automation products are founded on the LTO open standard and adhere to the published fourteen-generation LTO format roadmap.

The LTO standard for backward compatibility up to generation seven is to write back one generation and read back two generations. Eighth-generation LTO Ultrium drives read and write LTO -7 and LTO-8 media. Ninth-generation LTO Ultrium drives read and write LTO-8 and LTO-9 media.

As part of the LTO open standard, all HPE tape drives and media offer the same standards of compatibility with tape drives and media manufactured by other LTO vendors.

LTO-9 Media Initialization

Media initialization has been implemented in LTO-9 technology to optimize data placement on each LTO-9 cartridge. The initialization enables the tape drive to intelligently align data to a specific tape cartridge. Each new LTO-9 cartridge requires a one-time initialization prior to starting read/write operations. This initialization is only required for the first use of a new LTO-9 cartridge. Subsequent loads do not require additional initialization. The initialization process varies in time depending on the environmental conditions of tape and drive. Most initializations will complete within an hour; however, in some cases it can take up to 2 hours.

To help customers complete this one-time initialization of new LTO-9 media in tape libraries, the MSL2024 provides an "LTO-9 New Media Initialization Wizard" feature which will guide the user through an automated process to load uninitialized media into LTO-9 tape drives to facilitate the completion of the LTO-9 media initialization process. For more information, please reference the MSL2024 User Guides.

Data Rate Matching

Data Rate Matching combines sophisticated buffer management with variable tape drive motor speeds to match the tape drive transfer rate to the host output. This feature ensures that the tape drive continues to stream data regardless of the environment, and brings three big advantages:

- It optimizes performance and maximizes overall efficiency, allowing the drive to respond immediately to any data speed changes from the host.
- It minimizes rewinding and repositioning of the tape, significantly reducing physical wear and increasing reliability.
- It minimizes the power requirements for the drive by reducing the number of repositions needed.

LTO Ultrium Tape Drive	ATS data transfer rate range (native)
HPE LTO-9 Ultrium 45000	101 to 300 MB/s
HPE LTO-8 Ultrium 30750	101 to 300 MB/s

Standard Features

HPE Ultrium WORM

Critical to the success of data retention policies in highly regulated environments is the ability to store and manage data in an unalterable state. Following stringent guidelines set forth by regulatory agencies such as the SEC and HIPPA, IT organizations must now integrate new solutions and policies that can verify the integrity of stored data for periods that can extend well beyond seven years. Every generation of LTO Ultrium tape drives feature the ability to archive and store data in a read-only, non-rewriteable format that meets the most stringent regulatory guidelines. Using a combination of integrated fail-safe features in the drive firmware, cartridge memory, and tape formatting, LTO Ultrium provides the ability to archive large amounts of data for periods of up to 30 years in a secure, untampered state. All generation Ultrium tape drives include support for rewritable media and WORM media,for a secure, long-term archiving solution into any data protection strategy. LTO Ultrium WORM provides the following advantages:

- A single drive to support all backup and archiving needs
- Two distinctive tape cartridges to easily distinguish and manage both rewriteable and WORM data cartridges
- A specially designed WORM data cartridge with multiple integrated fail-safe features to prevent accidental or intentional overwriting of data
- High-capacity, low-cost HPE WORM media that can store up to 45 TB (2.5:1 compression) of data on a single data cartridge
- Support from many backup and archiving software vendors, providing the most comprehensive and mainstream support in the industry
- The LTO open standard that offers greater choice and compatibility across all LTO Ultrium products

Notes: While all HPE LTO Ultrium tape drives support LTO Ultrium WORM media, some LTO Ultrium tape drives from other manufacturers may not include read and write support for LTO Ultrium WORM media. For non-HPE LTO Ultrium tape drives, please check the manufacturers' specifications to ensure this support is provided if you are using your WORM media. If WORM support is not provided, the drive will eject the WORM tape cartridge immediately upon insertion into the tape drive.

Linear Tape File System (LTFS)

HPE LTO drives support the open standard LTFS format for writing data to tape. LTFS makes tape self-describing, file-based, and easy-to-use, it also provides users with the ability to use standard file operations on tape media for accessing, managing and sharing files with an interface that behaves just like a hard disk. In addition, LTFS provides the ability to share data across platforms, as you would with a USB drive or memory stick. Simply load a tape into the drive, mount it into the file system, and it becomes visible as a disk.

For more information about LTFS please see: https://www.snia.org/tech_activities/standards/curr_standards/ltfs
For applications supporting LTFS please see the compatibility guide: HPE Storage Single Point of Connectivity Knowledge - SPOCK

Longevity

Organizations need to be confident that their data in archive is still there when they need it. LTO tape media is specified with a 30 year shelf life, if stored at the “Archival Life Recommended Storage” conditions. HPE TapeAssure Advanced also analyses the results of every tape use to ensure the availability of data placed in long-term storage, archive or DR.

Standard Features

HPE Library and Tape Tools

The MSL2024 tape library is supported with HPE Library and Tape Tools (L&TT). L&TT is a free diagnostic tool for all the HPE tape storage products. This robust diagnostic tool is designed for both the experienced professional and the untrained administrator, and it allows customers to verify the installation, ensure product reliability, perform diagnostics and achieve faster resolution of tape device issues. L&TT performs firmware upgrades, verification of device operation, failure analysis and a range of utility functions. Performance tools assist in troubleshooting issues and system configuration checks warn of common host issues. It also provides seamless integration with HPE support by generating and e-mailing test results and support tickets. HPE Support will require the use of L&TT to troubleshoot most device issues, so it is recommended that a support ticket is pulled and the device assessment test is run before calling.

For more information on L&TT, please visit: HPE Library and Tape Tools | HPE Store US .

HPE Storage Media

Hewlett Packard Enterprise (HPE) branded Linear Tape Open (LTO) Ultrium cartridges are designed, manufactured and tested to provide outstanding reliability for backing up, archiving and restoring your data. We continuously monitor the quality of our branded tapes using what we believe is the industry's most comprehensive and forensic specification for quality and reliability. Using real life conditions and both Hewlett Packard Enterprise and non-HPE drives, we supplement extensive in-process QA parametric testing with ongoing drive-based scrutiny, to make sure performance is excellent for any combination of device, duty cycle and environment.

Because HPE is a leading supplier of both LTO tape devices and media, we have the ability to re-create many different scenarios mirroring how customers use their cartridges. And many of the HPE protocols are either unique in nature or scale, such as the HPE 'Green Tape', and HPE 'Environmental Interchange' tests, or far surpass industry standards, for example, The HPE 'Locate/Rewind/Append' test. Since the beginning of 2016, almost 700 million meters of media have been pulled and over 40 million gigabytes of data have been written in the HPE demanding Green Tape Testing (GTT) protocol. All of these ongoing tests are intended to ensure HPE LTO Ultrium media is the most reliable you can find. Your best choice for ease of support and maximum dependability is to use HPE-branded Ultrium cartridges at all times.

Factory Express Portfolio for Servers and Storage

HPE Factory Express offers configuration, customization, integration and deployment services for HPE servers and storage products. Customers can choose how their factory solutions are built, tested, integrated, shipped and deployed. Customization must comply with all relevant product specifications and factory supported configurations. Factory Express offers service packages for simple configuration, racking, installation, complex configuration and design services as well as individual factory services, such as image loading, asset tagging, and custom packaging. Hewlett Packard Enterprise products supported through Factory Express include a wide array of servers and storage: HPE Integrity, HPE ProLiant, HPE ProLiant Server Blades, HPE BladeSystem, and HPE 9000 servers as well as MSA, VA7xxx, EVA, and XP disk arrays, rackable tape libraries and configurable network switches.

The type of service support varies by platform and product family. For more information on Factory Express services for your specific server model or storage device please contact your sales representative or go to:
HPE Factory Express Integration Services: Custom IT, Data Center & Server Solutions | HPE .

Standard Features

Compatibility

The HPE extensive compatibility testing program assures that your HPE MSL Tape Libraries and Autoloaders work with leading servers, operating systems, and backup applications - and not just those sold by HPE. The MSL libraries work seamlessly in many environments, making them especially suitable if you have a mixed system environment. For the latest list of servers, workstations, operating systems, and backup software that support the MSL tape automation, check the HPE Storage Compatibility Matrix at: HPE Storage Single Point of Connectivity Knowledge - SPOCK

Service and Support

For the most up-to-date information on HPE Services, please refer to the HPE Services – Supplemental QuickSpecs, which provides a comprehensive and regularly updated overview of available services.

Configuration Information

Step 1 - Select Base

Description	SKU
HPE Storage MSL2024 Gen4 0-drive 24-slot Tape Library	AK379B

Notes:
- Includes 24 slots, zero drives.
- This product is TAA (Trade Agreements Act) compliant.
- MSL2024 rack-rail extends approximately 27.5 to 33 inches (69.8 to 83.8 cm).

Kit Contents (for each autoloader/library):
- One 2.5M PDU Power Cord, C13/C14, 10A (part number 142263-002)
- Rack-mount hardware

Factory Racking

Factory integrate the MSL2024 Tape Library with other HPE products such as HPE ProLiant Servers	#0D1

Notes: #0D1 will appear after the Tape Library part number on the sales order if HPE factory integration is indicated.

Step 2 - Select Generation & Quantity of Ultrium Tape Drives

Notes: Drive Upgrade Kits are hot-replaceable. The drives should be powered down before removal, but the library doesn't need to be powered down to replace them.

Select each option as required with quantities specified

Tape Drives

Description	SKU
HPE StoreEver MSL LTO-9 Ultrium 45000 Fibre Channel Drive Upgrade Kit	R6Q74A

Notes:
- Half height LTO-9 FC tape drive. For use with the MSL 1/8 Autoloader, MSL2024, MSL3040 or MSL6480 libraries. Drive kit includes a tape drive and documentation.
- #0D1 will appear after R6Q74A on the sales order if HPE factory integration is indicated.
- Tape Drive Upgrade Kits can only be factory integrated (#0D1) into the Autoloader when the Autoloader is factory integrated (#0D1) into a rack. If the autoloader has not been ordered for integration into a rack, then the Upgrade Kits and Autoloader will ship as standalone and the drive installed at the customer site.
- For tape drives to be integrated into the MSL2024 library, the library must be factory integrated (#0D1) into a rack.
- (2) LC Optical Fiber Channel Connector.
- (1)RJ-45 Ethernet data verification port.
- This product is TAA (Trade Agreements Act) compliant.

Configuration Information

Description	SKU
HPE StoreEver MSL LTO-9 Ultrium 45000 SAS Drive Upgrade Kit	R6Q75A

Notes:

- Half height LTO-9 SAS tape drive. For use with the MSL 1/8 Autoloader, MSL2024, MSL3040 or MSL6480 libraries. Drive kit includes a tape drive and documentation.
- #0D1 will appear after R6Q75A on the sales order if HPE factory integration is indicated.
- Tape Drive Upgrade Kits can only be factory integrated (#0D1) into the Autoloader when the Autoloader is factory integrated (#0D1) into a rack. If the autoloader has not been ordered for integration into a rack, then the Upgrade Kits and Autoloader will ship as standalone and the drive installed at the customer site.
- For tape drives to be integrated into the MSL2024 library, the library must be factory integrated (#0D1) into a rack.
- (2) Mini-SAS HD (SFF8644) Connectors.
- (1)RJ-45 Ethernet data verification port.
- This product is TAA (Trade Agreements Act) compliant.

HPE StoreEver MSL LTO-8 Ultrium 30750 FC Drive Upgrade Kit	Q6Q67A

Notes:

- Half height LTO-8 FC tape drive. For use with the MSL 1/8 Autoloader, MSL2024, MSL3040 or MSL6480 libraries. Drive kit includes a tape drive and documentation.
- #0D1 will appear after Q6Q67A on the sales order if HPE factory integration is indicated.
- Tape Drive Upgrade Kits can only be factory integrated (#0D1) into the Autoloader when the Autoloader is factory integrated (#0D1) into a rack. If the autoloader has not been ordered for integration into a rack, then the Upgrade Kits and Autoloader will ship as standalone and the drive installed at the customer site.
- For tape drives to be integrated into the MSL2024 library, the library must be factory integrated (#0D1) into a rack.
- (2) LC Optical Fiber Channel Connectors.
- (1)RJ-45 Ethernet data verification port.
- This product is TAA (Trade Agreements Act) compliant.

HPE StoreEver MSL LTO-8 Ultrium 30750 SAS Drive Upgrade Kit	Q6Q68A

Notes:

- Half height LTO-8 SAS tape drive. For use with the MSL 1/8 Autoloader, MSL2024, MSL3040 or MSL6480 libraries. Drive kit includes a tape drive and documentation.
- #0D1 will appear after Q6Q68A on the sales order if HPE factory integration is indicated.
- Tape Drive Upgrade Kits can only be factory integrated (#0D1) into the Autoloader when the Autoloader is factory integrated (#0D1) into a rack. If the autoloader has not been ordered for integration into a rack, then the Upgrade Kits and Autoloader will ship as standalone and the drive installed at the customer site.
- For tape drives to be integrated into the MSL2024 library, the library must be factory integrated (#0D1) into a rack.
- (2) Mini-SAS (SFF8644) Connectors.
- (1)RJ-45 Ethernet data verification port.
- This product is TAA (Trade Agreements Act) compliant.

Step 3 - Select Software Licenses

TapeAssure Advanced

Description	SKU
HPE StoreEver MSL Command View for Tape Libraries - TapeAssure Advanced LTU	TC406A

Notes:

- Advanced analytics feature makes use of predictive analytics to predict the likelihood of failures, bottlenecks and load balancing issues in the tape infrastructure. It has unique capabilities of analytics around drive health and life as well as cartridge health and life.
- One license needed per library and Command View TL must be installed.
- This is a paper license that will be mailed.

HPE StoreEver MSL Command View for Tape Libraries - TapeAssure Advanced E-LTU	TC406AAE

Notes:

- HPE StoreEver TapeAssure Advanced Software provides advanced analytics for predictive analysis the likelihood of failures, bottlenecks and load balancing issues in the tape infrastructure. It has unique capabilities of analytics around drive health and life as well as cartridge health and life.
- One license needed per library and Command View TL must be installed.
- This is an electronically delivered License.

Encryption Options/Licenses

Description	SKU
HPE StoreEver 1/8 G2 Tape Autoloader and MSL Tape Library Encryption Kit	AM495A

Notes: For use with new or installed LTO-9 or LTO-8drives for 1/8 Tape Autoloader, MSL2024, MSL3040 or MSL6480 Tape Libraries. The Encryption Kit key server token generates and retains encryption keys for above LTO Tape drives in the library. Does not require support from ISV.

HPE StoreEver MSL2024 KMIP Encryption LTU	TC468A

Notes:

- For use with MSL 1/8 Tape Autoloader and MSL2024 Tape libraries using LTO-9 orLTO-8tape drives. The license will enable secure connectivity with supported KMIP 1.2 compliant key management servers. See the HPE Storage Compatibility Matrix (Formerly EBS) for the list of supported servers:
  HPE Storage Single Point of Connectivity Knowledge - SPOCK
- This license will be delivered via hard copy in the mail.

HPE StoreEver MSL2024 KMIP Encryption E-LTU	TC468AAE

Notes:

- For use with MSL 1/8 Tape Autoloader and MSL2024Tape libraries using LTO-9 or LTO-8tape drives. The license will enable secure connectivity with supported KMIP 1.2 compliant key management servers. See the HPE Storage Compatibility Matrix (Formerly EBS) for the list of supported servers:
  HPE Storage Single Point of Connectivity Knowledge - SPOCK
- This license will be delivered electronically.

Step 4 - Select Additional Accessories

Regional Power Cords (Quantity 1 each)

Notes: One PDU power cord is shipped per library. IF not using the included PDU cord mentioned above (part number 142263-002) please select the correct power cord for your geographical location below.

Description	SKU
HPE C13 - Nema 5-15P US/CA 110V 10Amp 1.83m Power Cord	AF556A
HPE C13 - CEE-VII EU 250V 10Amp 1.83m Power Cord	AF568A
HPE C13 - BS-1363A UK/HK/SG 250V 10Amp 1.83m Power Cord	AF570A
HPE C13 - DK-2.5A DK 250V 10Amp 1.83m Power Cord	AF566A
HPE C13 - SEV 1011 CH 250V 10Amp 1.83m Power Cord	AF565A
HPE C13 - SABS-164 ZA 250V 10Amp 2.5m Power Cord	AF567A
HPE C13 - CNS-690 TW 110V 13Amp 1.83m Power Cord	AF561A
HPE C13 - GB-1002 CN 250V 10Amp 1.83m Power Cord	AF557A
HPE C13 - JIS C8303 JP 100V 12Amp 2.0m Power Cord	AF572A
HPE C13 - AS3112-3 AU 250V 10Amp 2.5m Power Cord	AF569A
HPE C13 - IRAM -2073 AR 250V 10A 2.5m Power Cord	AF558A
HPE C13 - Nema 5-15P TH/PH 250V 10Amp 1.83m Power Cord	AF559A
HPE C13 - KSC- 8305 KR 250V 10Amp 1.83m Power Cord	AF560A
HPE C13 - SI-32 IL 250V 10Amp 1.83m Power Cord	AF564A
HPE C13 - IS-1293 IN 240V 6Amp LV 2.0m Power Cord	AF562A

Notes: Warning This product can ONLY be used with an HPE approved power cord for your specific geographic region. Use of a non-HPE approved power cord may result in: 1) not meeting individual country specific safety requirements; 2) insufficient conductor ampacity that could result in overheating with potential personal injury and/or property damage; and 3) an unapproved power cord could fracture resulting in the internal contacts being exposed, which potentially could subject the user to a shock hazard. Hewlett Packard Enterprise disclaims all liability in the event a non-HPE approved power cord is used.

Related Options

Magazine Kits

Description	SKU
HPE Storage MSL2024 G4 Left Magazine Kit	AG119B

Notes: The MSL2024 comes standard with a right and left magazine. For use in the MSL 2024 Tape Libraries in the left position. User-enabled mail slots can be configured at either 0 or 3 slots.

HPE Storage MSL2024 G4 Right Magazine Kit	AG120B

Notes: The MSL 2024 comes standard with a right and left magazine. For use on the right side of the MSL 2024 Tape Libraries; additional 12-slot magazine for the right position.

Factory Racking

Factory integrate the MSL2024 Tape Library with other Hewlett Packard Enterprise products such as Hewlett Packard Enterprise ProLiant Servers.	#0D1

Notes: #0D1 will appear after the part number on the sales order if Hewlett Packard Enterprise factory integration is indicated.

Rack Cabinets

The MSL libraries are supported in a variety of HPE Rack offerings, including the HPE Intelligent Series Racks and the HPE 10000 G2 Series Racks. For more information on the HPE rack offerings, please see the following URL:
Rack and Power Products for Servers & Data Center Infrastructure | HPE

Notes: The MSL Tape Libraries are certified to ship in HPE racks which include a shock pallet. It is mandatory to use a shock pallet in order to ship racks with equipment installed.

FC and SAS Host Bus Adapters

The MSL Tape Automation products are certified with a number of Fibre Channel and SAS Host Bus Adapters. For the most current list of supported FC and SAS HBAs, please reference the HPE Storage Compatibility Matrix (Formerly EBS) and Design Guide located at:
HPE Storage Single Point of Connectivity Knowledge - SPOCK

For more information on FC HBAs, see HPE StoreFabric Adapters at:
HPE Storage Area Networking Solutions | HPE

For more information on HPE Smart Array RAID controllers, see Fibre HPE P-class RAID controllers at:
Smart Array Controllers and Smart Host Bus Adapters | HPE Store US

For more information on HPE ProLiant (SAS) host bus adapters, see H-class HBA controllers at:
Smart Array Controllers and Smart Host Bus Adapters | HPE Store US

HBAs and SAS Controllers

Description	SKU
HPE Smart Array P408e-p SR Gen10 (8 External Lanes/4GB Cache) 12G SAS PCIe Plug-in Controller	804405-B21

Notes: Recommended for ProLiant Gen10 SAS tape automation connect.

Related Options

Description	SKU
HPE Smart Array E208e-p SR Gen10 (8 External Lanes/No Cache) 12G SAS PCIe Plug-in Controller	804398-B21
Notes: Recommended for ProLiant Gen10 SAS tape automation connect.	
Microsemi Adaptec HBA 1100-8e	A1100-8E
Notes: Recommended SAS HBA for DL & ML Gen9 servers only. HPE does not provide official support for this adapter, however the configuration is supported.	

Media

Description	SKU
HPE LTO-9 Ultrium 45TB RW Data Cartridge	Q2079A
HPE LTO-9 Ultrium 45TB RW 960 Data Cartridge Pallet without Cases	Q2079AB
HPE LTO-9 Ultrium 45TB RW 960 Data Cartridge Pallet with Cases	Q2079AD
HPE LTO-9 Ultrium 45TB RW 20 Data Cartridges Library Pack without Cases	Q2079AH
HPE LTO-9 Ultrium 45TB WORM Data Cartridge	Q2079W
HPE LTO-9 Ultrium 45TB WORM Custom Labeled 20 Data Cartridges with Cases	Q2079WL
HPE LTO-8 Ultrium 30TB RW Data Cartridge	Q2078A
HPE LTO-8 Ultrium 30TB WORM Data Cartridge	Q2078W
HPE LTO-7 Ultrium No Case 960 Tape Pallet	C7977AB
HPE LTO-7 Ultrium RW 960 Tape Pallet	C7977AD
HPE LTO-7 Ultrium 15TB Eco Case Data Cartridge 20 Pack	C7977AH
HPE LTO-7 Ultrium WORM Data Cartridge	C7977W
HPE LTO-6 Ultrium 6.25TB RW Data Cartridge	C7976A
HPE LTO-6 Ultrium 6.25TB RW 960 Data Cartridge Pallet with Cases	C7976AD
HPE LTO-6 Ultrium 6.25TB WORM Data Cartridge	C7976W
HPE LTO-5 Ultrium 3TB RW Data Cartridge	C7975A
HPE Ultrium Universal Cleaning Cartridge	C7978A

Bar Code Labels

Notes: Label packs include 100 data and 10 cleaning tape labels.

HPE LTO-9 Ultrium RW Bar Code Label Pack	Q2017A
HPE LTO-8 Ultrium RW Bar Code Label Pack	Q2015A
HPE LTO-7 Ultrium RW Bar Code Label Pack	Q2014A
HPE LTO-6 Ultrium RW Bar Code Label Pack	Q2013A

Non-Custom Labeled Data Cartridges

Notes: Non-Custom labels will come pre-labeled with a pre-determined number sequence.

HPE LTO-9 Ultrium 45TB RW Non Custom Labeled 20 Data Cartridges with Cases	Q2079AN

Related Options

Description	SKU
HPE LTO-8 Ultrium 30TB RW Non Custom Labeled Library Pack 20 Data Cartridges with Cases	Q2078AN
HPE LTO-7 Ultrium RW No Case Custom Labeled Data Cartridge 20 Pack	C7977AC
HPE LTO-7 Ultrium Non Custom Labeled Data Cartridge 20 Pack	C7977AN
HPE LTO-6 Ultrium 6.25TB RW Non Custom Labeled 20 Data Cartridges with Cases	C7976AN

Custom labeled Data Cartridges

Notes: Custom labeled products allow customers to customize a specific sequence printed on each label.

HPE LTO-9 Ultrium 45TB RW Custom Labeled Library Pack 20 Data Cartridges without Cases	Q2079AC
HPE LTO-9 Ultrium 45TB RW Custom Labeled 20 Data Cartridges with Cases	Q2079AL
HPE LTO-8 Ultrium 30TB RW Custom Labeled Library Pack 20 Data Cartridges with Cases	Q2078AL
HPE LTO-8 Ultrium 30TB WORM Custom Labeled 20 Data Cartridges with Cases	Q2078WL
HPE LTO-8 Ultrium 30TB RW Custom Labeled Library Pack 20 Data Cartridges without Cases	Q2078AC
HPE LTO-7 Ultrium 15 TB RW RFID Custom Labeled Data Cartridge (20 pack)	7977AF
HPE LTO-7 Ultrium RW Custom Labeled Data Cartridge 20 Pack	C7977AL
HPE LTO-7 Ultrium WORM Custom Labeled Data Cartridge 20 Pack	C7977WL
HPE LTO-6 Ultrium 6.25TB RW Custom Labeled 20 Data Cartridges with Cases	C7976AL

Optical cables

OM4 LC-LC type cables

Description	SKU
HPE Premier Flex LC/LC Multi-mode OM4 2 Fiber 1m Cable	QK732A
HPE Premier Flex LC/LC Multi-mode OM4 2 Fiber 2m Cable	QK733A
HPE Premier Flex LC/LC Multi-mode OM4 2 Fiber 5m Cable	QK734A
HPE Premier Flex LC/LC Multi-mode OM4 2 Fiber 15m Cable	QK735A
HPE Premier Flex LC/LC Multi-mode OM4 2 Fiber 30m Cable	QK736A
HPE Premier Flex LC/LC Multi-mode OM4 2 Fiber 50m Cable	QK737A

Allowed cable lengths				
External Cable type	**Drive type**	**2Gb**	**4Gb**	**8Gb**
OM2	All drive types	0.5m - 300m	0.5m - 150m	NA
OM3/OM4	All drive types	0.5m - 500m	0.5m - 380m	0.5m - 150m

Related Options

Cable Kits (SAS)

Description	SKU
HPE External 2.0m (6ft) Mini-SAS HD 4x to Mini-SAS HD 4x Cable	716197-B21
Notes: One cable is required for every LTO-9 tape drive. Use this cable to connect HPE MSL SAS Tape Libraries to Storage HBAs with Mini SAS High Density (HD) SAS (SFF8644) ports.	
HPE External 4.0m (13ft) Mini-SAS HD 4x to Mini-SAS HD 4x Cable	716199-B21
Notes: One cable is required for every LTO-9 tape drive. Use this cable to connect HPE MSL SAS Tape Libraries to Storage HBAs with Mini SAS High Density (HD) SAS SAS (SFF8644) ports.	
HPE External 12Gb Mini SAS High Density to Mini SAS High Density 4-lane 2m Fanout Cable	P35176-B21
Notes: One cable can connect up to four LTO-9 tape drives. Use this cable to connect HPE MSL SAS Tape Libraries to Storage HBAs with Mini SAS High Density (HD) SAS (SFF8644) ports.	
HPE External 12Gb Mini SAS High Density to Mini SAS High Density 4-lane 4m Fanout Cable	P35175-B21
Notes: One cable can connect up to four LTO-9 tape drives. Use this cable to connect HPE MSL SAS Tape Libraries to Storage HBAs with Mini SAS High Density (HD) SAS (SFF8644) ports.	
HPE 2.0m External Mini SAS High Density to Mini SAS Cable	716191-B21
Notes: One cable is required for every (non LTO-9) tape drive. Use this cable to connect HPE MSL SAS Tape Libraries to Storage HBAs with Mini SAS High Density (HD) SAS (SFF8644) ports.	
HPE 4.0m External Mini SAS High Density to Mini SAS Cable	716193-B21
Notes: One cable is required for every (non LTO-9) tape drive. Use this cable to connect HPE MSL SAS Tape Libraries to Storage HBAs with Mini SAS High Density (HD) SAS (SFF8644) ports.	
HPE StoreEver Mini-SAS High Density to 4-lane Mini-SAS External Fanout 2m Cable	K2R09A
Notes: One cable can connect up to four (non LTO-9) tape drives. Use this cable to connect HPE MSL SAS Tape Libraries to Storage HBAs with Mini SAS High Density (HD) SAS (SFF8644) ports.	
HPE StoreEver Mini-SAS High Density to 4-lane Mini-SAS External Fanout 4m Cable	K2R10A
Notes: One cable can connect up to four (non LTO-9) tape drives. Use this cable to connect HPE MSL SAS Tape Libraries to Storage HBAs with Mini SAS High Density (HD) SAS (SFF8644) ports.	

HPE Smart Choice purchase program

The HPE Smart Choice purchase program features popular fully configured products that can be quoted in minutes and shipped quickly through HPE Authorized Partners. Products are configured and tested in an HPE factory and stocked at HPE Authorized Distributors and Partners. The products arrive in a single box, making onsite integration easier and more efficient for partners and customers. Additionally, there are aggressively priced HPE Tech Care Services available only through the HPE Smart Choice program when you purchase an HPE Smart Choice product.

For HPE Smart Choice configuration and product details, please visit the Smart Choice Supplemental QuickSpecs: HPE Smart Choice Purchase Program – Supplemental QuickSpecs

Pre-Configured models ship with the configurations below.

- Pre-Configured models ship with the configurations below. Options can be selected from the Core or Additional options.
  section of this QuickSpecs.
- Hewlett Packard Enterprise does not allow factory integration of options into pre-configured models. Any additional.
  options purchased will not be shipped inside the server.

Sku Number	Model Name	Part Description
P84144-B25	HPE Storage MSL2024 Tape Library 1x MSL LTO-8 Fibre Channel 15x LTO-8 30TB Data Cartridges	(1) HPE Storage MSL2024 0-drive Tape Library (1) HPE StoreEver MSL LTO-8 Ultrium 30750 FC Drive Upgrade Kit (15) HPE LTO-8 Ultrium 30TB RW Data Cartridge (1) HPE LTO-8 Ultrium RW Bar Code Label Pack
P84146-B25	HPE Storage MSL2024 Tape Library 1x MSL LTO-9 Fibre Channel 15x LTO-9 45TB Data Cartridges	(1) HPE Storage MSL2024 0-drive Tape Library (1) HPE StoreEver MSL LTO-9 Ultrium 45000 FC Drive Upgrade Kit (15) HPE LTO-9 Ultrium 45TB RW Data Cartridge (1) HPE LTO-9 Ultrium RW Bar Code Label Pack
P84149-B25	HPE Storage MSL2024 Tape Library 1x MSL LTO-9 SAS Drive 15x LTO-9 45TB Data Cartridges	(1) HPE Storage MSL2024 0-drive Tape Library (1) HPE StoreEver MSL LTO-9 Ultrium 45000 SAS Drive Upgrade Kit (15) HPE LTO-9 Ultrium 45TB RW Data Cartridge (1) HPE LTO-9 Ultrium RW Bar Code Label Pack
P77036-B25	HPE Storage MSL2024 Tape Library 1x MSL LTO-8 SAS Drive 15x LTO-8 30TB Data Cartridges	(1) HPE Storage MSL2024 0-drive Tape Library (1) HPE StoreEver MSL LTO-8 Ultrium 30750 SAS Drive Upgrade Kit (15) HPE LTO-8 Ultrium 30TB RW Data Cartridge (1) HPE LTO-8 Ultrium RW Bar Code Label Pack

Technical Specifications

Specifications		MSL2024 G4
Drive Technology		LTO-9 Ultrium LTO-8 Ultrium 30750
Maximum Number of Drives		Up to2
Number of Slots		24
Drive Interface		8 Gb Native Fibre Channel 12 Gb/sec SAS (LTO-9) 6 Gb/sec SAS (LTO-8 and earlier)
Maximum Capacity	**Native**	432 TB (LTO-9) 288 TB (LTO-8)
	Compressed (2.5:1)	1.08 PB (LTO-9) 720 TB (LTO-8)
Maximum Transfer Rate	**Native**	2.16 TB/hr (2x LTO-9) 2.16 TB/hr (2x LTO-8)
Dimensions	**Out-of-Box (HxWxD)**	3.4 x 18.9 x 31.7 in (8.7 x 48 x 80.6 cm)
	Shipping (HxWxD)	10.7 x 23.2 x 38.9 in (27.1 x 58.9 x 98.7 cm)
Weight	**Out of box**	26.4 lb (12 kg)
	Shipping	47.4 lb (21.5 kg)
	Notes: The weight of each library varies somewhat based on the type of LTO tape drive contained in the configuration.	
Reliability	MSBF (mean swaps between failures)	2 million robot load/unload cycles
	MTBF (mean time between failures)	100,000 hours (based on 1M MSBF)
Average Cartridge Swap Time (drive to slot, slot to drive)	45 seconds	
Initialization Time	80 to 120 seconds	
Inventory Time	1:20 minutes (using bar code labeled cartridges)	
Connectors	Mini-SAS (MSL SAS LTO-8 and earlier models only) Mini-SAS HD (MSL SAS LTO-9 model only) LC Optical Fibre (MSL FC models only) (1) RJ-45 Ethernet (1) USB port	
LED Indicators (on front panel)	Ready LED (Green): shows ready status information Clean LED (Amber): shows fault status information Attention LED (Amber): shows fault status information Error LED (Amber): shows fault status information	

Technical Specifications

Specifications	MSL2024 G4	
Management Interface	10/100/1000 Mbits/second, auto-configuring interface. RJ-45 port. HTTPS connection	
Power	168 Watts (max)	
Input Requirements	100 to 240 VAC, 50 to 60 Hz, 3.7 Amperes	
Relative Humidity (non-condensing)	**Operating**	20% to 80%
	Shipping	20% to 90%
Temperature Range (wet bulb)	**Operating (LTO-8)**	50° to 95° F (10° to 35° C)
	Operating (LTO-9)	59° to 89° F (15° to 32° C)
	Shipping	-22° to 140° F (-30° to 60° C)
	Notes: Library operating temperature limits are based on the industry standard tape limit.	
Altitude	**Operating**	13,000 ft (4000 m)
	Shipping	35,000 ft (10,675 m)

Summary of Changes

Date	Version History	Action	Description of Change
03-Aug-2026	Version 7	Changed	The Version 7 update subtly but meaningfully repositions the HPE Storage MSL2024 G4 Tape Library as a modern, current-generation tape platform focused exclusively on LTO-8 and LTO-9 environments, rather than a mixed-generation library supporting legacy technologies. By removing references to LTO-7, LTO-6, and older media options, the document now presents the library as a solution optimized for: – High-capacity LTO-9 deployments – Current data protection strategies – Modern archive and ransomware-resilience initiatives – Long-term retention environments requiring the latest tape technologies This shifts the emphasis away from backward compatibility and toward performance, capacity, and security leadership
		Removed	Obsolete or not supported SKUs removed - N7P36A, N7P37A
06-Apr-2026	Version 6	Changed	Configuration Information section was updated. Main changes: – Kit Contents pat number was updated – Weight specifications for MSL2024 G4 technical were updated.
02-Mar-2026	Version 5	Changed	Overview, Standard Features, Related Options and Technical Specifications sections were updated. Main changes: – MHPE Storage MSL2024 G4 Tape Library – Support for LTO-9, LTO-8, and LTO-7 – Up to 1.08 PB compressed capacity – Multi-Factor Authentication (MFA) for management access – Remote management via RMI and HPE Command View for Tape Libraries (CVTL) – Smart Choice pre-configured models clearly defined – Encryption options (USB key server & KMIP 1.2) clearly licensed
		Added	New SKUs were added - AK379B, AG119B, AG120B
		Removed	Obsolete SKUs removed – C7976BW, C7976BN, C7975AN
06-Oct-2025	Version 4	Changed	HPE Rebranding applied.
		Removed	Obsolete SKUs were removed - C7976B, AN975A, AN976A
02-Sep-2025	Version 3	Changed	Pre-Configured Models section was updated - HPE Smart Choice purchase program information was added.
28-Jul-2025	Version 2	Changed	Survey link updated.
23-Jun-2025	Version 1	New	New QuickSpecs.

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For tape drives and media, 1 GB = 1 billion bytes. Actual formatted capacity is less.

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