Overview

HPE LTO Ultrium Storage Supplies

HPE believes that LTO Ultrium tape technology will continue to play an essential role in meeting the challenge of digital storage in the future, when the amount of unstructured and archive data is projected to run into trillions of gigabytes.

Although utilising the cloud for some of this cool or cold data should certainly be an option, with global data creation and replication expected to experience a compound annual growth rate of 23% out to 2025 (source: IDC, 2021), the cost of retrieving even a fraction of that data on a regular basis from a cloud provider could cost around 80% more than comparable tape infrastructure (source: ESG, 2020).

Meanwhile, the limitations of disk areal density - HDD capacities are expected to increase by only 15% during this period (source: INSIC, 2019) - combined with the costs of energy and data centre floor space, as well as higher CAPEX expansion costs, make it unlikely that disk-based storage will become the exclusive platform for unstructured data.

The most compelling reason for the continued strategic value of HPE StoreEver tape is the rising threat of ransomware. For companies concerned about building stronger cybersecurity defences, HPE LTO tape technology allows them to follow the best practice advice of government agencies, such as the US FBI, UK National Cyber Security Centre, German Bundesamt für Sicherheit in der Informationstechnik, to keep backup and archive data offline. Tape is the only storage technology that is offline by design, enabling businesses to keep copies of their data behind a physical air gap that ransomware cannot breach.

Backed by this uncompromising media qualification process, HPE LTO Ultrium data cartridges support all HPE StoreEver and non HPE LTO Ultrium tape devices. The latest ninth generation products minimize interruption to network and SAN backup by being capable of protecting 1.44 TB/hour (full height drives only) of data at native speeds and storing up to 18 TB native (45 TB assuming 2.5:1 compression) on one piece of media (620% greater capacity than HPE LTO-6 Ultrium tapes).

HPE LTO Ultrium Storage Supplies

Standard Features

Key Features & Benefits

- Up to 45 TB compressed capacity on LTO tape drives and libraries.
- Supports transfer speeds of up to 300 MB/s (native, half height), 400 MB/s (native, full height), 700 MB/s (assuming 2.5:1 compression, half height), 1,000 MB/s (assuming 2.5:1 compression, full height) with LTO-9
- Tested to extremes to a level performance unique to Hewlett Packard Enterprise. Many of the test procedures required for successful HPE Brand qualification (e.g. Green Tape Test, load/unload, shoeshine, drop testing and environmental stress testing) are not required for the Ultrium logo.
- Both Re-Writable and WORM formats available.
- Unique HPE colored cartridges to assist with identification in mixed media environments.
- Very low cost per GB compared to alternative storage technologies that could be used for long term archival and retention. Over 80% cheaper than comparable all-cloud or all-disk storage solutions (based on a 1 PB archive, growing at 10% per annum, over 10 years[1])
  Notes: [1]The Economic Benefits of HPE StoreEver as Active Archival Storage, ESG, August 2020
- LTO cartridge memory in media to improve access time and provide enhanced media monitoring.
- Durable cartridge designed to minimize wear and debris (important in automation).
- HPE LTO-5 through LTO-9 supports native tape device data encryption for enhanced data security - granted FIPS140-2 Level 1 certification
- Hewlett Packard Enterprise offers Custom Labeled and Non-Custom Labeled Tri Optic data cartridges. All labeled solutions are shipped in 20 packs.
  - Custom Labeled offerings allow automation customers to customize cartridges with a unique bar code sequence. Custom labels are pre-attached to the tapes before shipment. Available worldwide with a leadtime of up to 15 working days. Please note Europe requires a Minimum Order Quantity of 5 units or 100 total data cartridges (1 SKU unit 20 cartridges).
  - HPE Non-Custom Labeled tapes allow automation customers to receive labeled media without the lead times associated with a custom labeled solution. Barcode sequences are pre-determined by Hewlett Packard Enterprise and are guaranteed to be unique.

Read/Write Compatibility

	LTO-5 Drive	LTO-6 Drive	LTO-7 Drive	LTO-8 Drive	LTO-9 Drive
LTO-5 Media	Read/Write	Read/Write	Read Only	Not Compatible	Not Compatible
LTO-6 Media	Not Compatible	Read/Write	Read/Write	Not Compatible	Not Compatible
LTO-7 Media	Not Compatible	Not Compatible	Read/Write	Read/Write	Not Compatible
LTO-7 Type M	Not Compatible	Not Compatible	Not Compatible	Read/Write	Not Compatible
LTO-8 Media	Not Compatible	Not Compatible	Not Compatible	Read/Write	Read/Write
LTO-9 Media	Not Compatible	Not Compatible	Not Compatible	Not Compatible	Read/Write

Standard Features

Why Buy LTO?

The decision about which tape technology you should buy next should be based on your future, not your past, investment. Choose the LTO Ultrium format when you need the following advantages:

- Maximum offline security to guard against the threat of ransomware
- Almost limitless scalable storage capacity
- Ultra low cost of ownership for long term data protection, backup and archiving
- High reliability and performance
- Compatibility with a broad range of operating systems and servers (e.g., a mixed system environment)
- A solid roadmap for future generations of the technology
- An open format available from multiple vendors

Proven Reliability

- Hewlett Packard Enterprise ensures the highest level of quality with a specification for HPE Brand LTO Ultrium tapes that far exceed industry standards and are monitored throughout every batch of production.
- Ultimately, the best possible microscope to test tape cartridges is a tape drive, or rather thousands of tape drives, performing the same backup and restore tasks as end users. As a leader in LTO Ultrium hardware and storage supplies, HPE has comprehensive R&D and manufacturing programs to scrutinise the performance of tape backup solutions under every conceivable kind of stress. Since the beginning of 2016, over 9,500 cartridges have been tested in HPE's demanding GTT protocol. Over 1.2 billion meters of media has been pulled and over 72 million gigabytes of data has been written.
- Hewlett Packard Enterprise Brand qualification also includes procedures like drop testing, creep append, load/unload, environmental stress tests and archival simulation that are not required to gain the LTO Ultrium logo
- Designed for the demanding environment of large-scale libraries, HPE LTO Ultrium media has a 30-year archival storage life when stored in recommended conditions (see below).

HPE LTO-9 Ultrium Format

The latest HPE LTO- Ultrium tape drive technology uses a linear format of 8,960 tracks, writing thirty two (32) tracks simultaneously. The data is written in a serpentine pattern; the tape reverses direction after each set of thirty two tracks is written.

LTO Ultrium formats are open standards. This means that data written on any certified LTO Ultrium tape drive can be interchanged directly with Ultrium tape drives from different vendors.

Compatibility Testing

HPE LTO Ultrium data cartridges are fully supported and compatible with all certified LTO Ultrium tape products. Because HPE LTO Ultrium media is LTO Ultrium logo compliant, it may be used with any other non- Hewlett Packard Enterprise device that bears the LTO Ultrium logo.

Related Hardware Options

HPE StoreEver LTO Ultrium Tape Drives

The family of HPE LTO Ultrium tape drives is the Hewlett Packard Enterprise premier line of backup and archive devices. Based on the LTO Ultrium format, an open standard with a well-defined twelve-generation roadmap, HPE LTO Ultrium tape drives offer customers the best choice for investment protection. With ultimate reliability and ease of use in mind, even at 100% duty cycles, the Hewlett Packard Enterprise rugged design builds on superior LTO technology and adds advanced features like hardware data encryption to create a new level of data protection. The tape drives employ dynamic data rate matching to adjust to the speed of the host, reducing wear and tear on both drive and media and increasing performance, even on slower hosts. The family of tape drives also features support for HPE Library and Tape Tools which provides HPE TapeAssure health monitoring, diagnostics, and performance optimization.

Standard Features

HPE StoreEver MSL 1/8 Tape Autoloader

The HPE StoreEver MSL 1/8 Tape Autoloader provides a cost-effective and easy-to-manage tape solution. The HPE MSL 1/8 Autoloader combines incredible storage density and features into a compact 1U form factor. Capable of up to 240 TB of compressed capacity in only a 1U form factor, the autoloader is well equipped to offer room for data growth. Web-based remote management offers the capability to quickly and easily access, configure, monitor, and troubleshoot the autoloader that will reduce dependencies on local IT staff while allowing multiple sites to be supported centrally. Protect confidential information with native encryption, ensuring that if a tape is lost or stolen your data is protected from unauthorized access. Proactively monitor utilization, operational performance, as well as health information for both the drive and media with TapeAssure.

HPE StoreEver MSL2024 Tape Library

The HPE StoreEver MSL2024 Tape Library meets demanding storage requirement of businesses needing unattended backup, disaster recovery, or archive capability. It offers a broad choice of storage capacity and technology including LTO-8, LTO-7 or LTO-6 Ultrium tape drives. Web-based remote management makes the HPE StoreEver MSL2024 easily managed from across the room or across the globe, eliminating the need for remote office IT staff. Quickly and simply manage the tape media both in and out of the library with the standard bar code reader, configurable mail slots, and multiple 12-slot removable magazines. If a tape were lost or stolen, protect important business data from unauthorized access with data encryption options. MSL library investment protection and uncertain data growth are easily managed within the MSL library portfolio. Quickly increase capacity and/or performance with tool-free drive upgrades in the HPE StoreEver MSL2024, or move tape drive kits to the HPE StoreEver MSL3040 or HPE StoreEver MSL6480 for library scalability and additional enterprise class features. Proactively receive detailed information about your MSL libraries with HPE Command View for Tape Libraries. Information about the library, drives, and media are all monitored for utilization, operational performance, and life and health information. Prevent problems before they occur by proactively receiving notification if any library, drive or tape media parameters fall below HPE's recommended standards.

HPE StoreEver MSL3040

The highly scalable HPE StoreEver MSL3040 Tape Library provides small to mid-sized organizations with flexibility for long-term data protection and retention of data storage assets. With its modular design and ability to reuse existing HPE MSL LTO upgrade drive kits, you can cost-effectively store up to 8.16 PB of data (with LTO-8). Scale vertically from 32 to 272 cartridge slots to store up to 8.16 PB in a single 19-inch rack simply adding additional modules to boost performance and capacity without the need to invest in a whole new library. The HPE StoreEver MSL3040 Tape Library offers exceptional enterprise features and functionality as standard providing advanced security features and reliability. It delivers a tape storage solution that addresses backup and long-term data management challenges such as storing medical records, video surveillance files or for business compliance.

HPE StoreEver MSL6480

The HPE StoreEver MSL6480 Tape Library is the gold standard for mid-range tape automation, delivering best-in-class scalability, density, and performance to meet your short-term backup and disaster recovery data protection needs, as well as long-term archive requirements. Keep pace with data growth by seamlessly scaling up to 7 modules, with 560 slots and 16.8 PB capacity (with LTO-8), without disrupting daily data protection. The HPE StoreEver MSL6480 also saves floor space by providing the highest tape drive density per module of any mid-range tape library. It reduces the time and resources needed to achieve enterprise-class manageability, equipping you with proactive monitoring on single pane of glass control.

Standard Features

HPE T950 and TFinity Tape Libraries

HPE T950 Tape Libraries deliver enormous scalability to keep pace with unpredictable data growth. Choose from a range of base configurations and scale up to 10,020 LTO-8 tape cartridges in increments of 10 slots or 7,615 TS11xx Technology tape cartridges in increments of 9 slots for capacity on demand. Incorporating between 1 and 120 tape drives you can consolidate and store up to 285 PB (compressed 2.5:1) using TS1155 Technology or 300 PB (compressed 2.5:1) using LTO-8 tape cartridges, of enterprise data.

Meeting enterprise data growth challenges head-on, HPE TFinity® ExaScale Tape Libraries deliver enormous scalability to keep pace with unpredictable data growth. Choose from a range of base configurations and scale up to 53,460 LTO-8 tape cartridges or 40,680 TS11xx Technology cartridges in increments of 10 LTO of 9 TS11xx Technology slots for capacity on demand. Incorporating between 1 and 144 tape drives you can consolidate and store up to 1.52 EB (compressed 2.5:1) using TS11xx Technology or 1.6 EB (compressed 2.5:1) using LTO-8 tape cartridges of enterprise data.

Warranty and Support

Includes a limited lifetime warranty, fully supported by a worldwide network of resellers and service providers as well as toll-free 24 X 7 technical phone support during the warranty period. For full details on warranty and support for pre-labeled media, please go to: **https://www.hpe.com/us/en/contact-hpe.html**

Service and Support

HPE Services

No matter where you are in your digital transformation journey, you can count on HPE Services to deliver the expertise you need when, where and how you need it. From planning to deployment, ongoing operations and beyond, our experts can help you realize your digital ambitions.

https://www.hpe.com/services

Consulting Services

No matter where you are in your journey to hybrid cloud, experts can help you map out your next steps. From determining what workloads should live where, to handling governance and compliance, to managing costs, our experts can help you optimize your operations.

https://www.hpe.com/services/consulting

HPE Managed Services

HPE runs your IT operations, providing services that monitor, operate, and optimize your infrastructure and applications, delivered consistently and globally to give you unified control and let you focus on innovation.

HPE Managed Services | HPE

Operational services

Optimize your entire IT environment and drive innovation. Manage day-to-day IT operational tasks while freeing up valuable time and resources. Meet service-level targets and business objectives with features designed to drive better business outcomes.

https://www.hpe.com/services/operational

HPE Complete Care Service

HPE Complete Care Service is a modular, edge-to-cloud IT environment service designed to help optimize your entire IT environment and achieve agreed upon IT outcomes and business goals through a personalized experience. All delivered by an assigned team of HPE Services experts. HPE Complete Care Service provides:

- A complete coverage approach -- edge to cloud
- An assigned HPE team
- Modular and fully personalized engagement
- Enhanced Incident Management experience with priority access
- Digitally enabled and AI driven customer experience

https://www.hpe.com/services/completecare

HPE Tech Care Service

HPE Tech Care Service is the operational support service experience for HPE products. The service goes beyond traditional support by providing access to product specific experts, an AI driven digital experience, and general technical guidance to not only reduce risk but constantly search for ways to do things better. HPE Tech Care Service delivers a customer-centric, AI driven, and digitally enabled customer experience to move your business forward. HPE Tech Care Service is available in three response levels. Basic, which provides 9x5 business hour availability and a 2-hour response time. Essential which provides a 15-minute response time 24x7 for most enterprise level customers, and Critical which includes a 6-hour repair commitment where available and outage management response for severity 1 incidents.

https://www.hpe.com/services/techcare

Standard Features

HPE Lifecycle Services

HPE Lifecycle Services provide a variety of options to help maintain your HPE systems and solutions at all stages of the product lifecycle. A few popular examples include:

- Lifecycle Install and Startup Services: Various levels for physical installation and power on, remote access setup, installation and startup, and enhanced installation services with the operating system.
- HPE Firmware Update Analysis Service: Recommendations for firmware revision levels for selected HPE products, taking into account the relevant revision dependencies within your IT environment.
- HPE Firmware Update Implementation Service: Implementation of firmware updates for selected HPE server, storage, and solution products, taking into account the relevant revision dependencies within your IT environment.
- Implementation assistance services: Highly trained technical service specialists to assist you with a variety of activities, ranging from design, implementation, and platform deployment to consolidation, migration, project management, and onsite technical forums.
- HPE Service Credits: Access to prepaid services for flexibility to choose from a variety of specialized service activities, including assessments, performance maintenance reviews, firmware management, professional services, and operational best practices.

Notes: To review the list of Lifecycle Services available for your product go to:
https://www.hpe.com/services/lifecycle

For a list of the most frequently purchased services using service credits, see the **HPE Service Credits Menu**

Other Related Services from HPE Services:

HPE Education Services

Training and certification designed for IT and business professionals across all industries. Broad catalogue of course offerings to expand skills and proficiencies in topics ranging from cloud and cybersecurity to AI and DevOps. Create learning paths to expand proficiency in a specific subject. Schedule training in a way that works best for your business with flexible continuous learning options.
https://www.hpe.com/services/training

Defective Media Retention

An option available with HPE Complete Care Service and HPE Tech Care Service and applies only to Disk or eligible SSD/Flash Drives replaced by HPE due to malfunction.

Consult your HPE Sales Representative or Authorized Channel Partner of choice for any additional questions and services options.

Parts and Materials

HPE will provide HPE-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.

Parts and components that have reached their maximum supported lifetime and/or the maximum usage limitations as set forth in the manufacturer's operating manual, product quick-specs, or the technical product data sheet will not be provided, repaired, or replaced as part of these services.

How to Purchase Services

Services are sold by Hewlett Packard Enterprise and Hewlett Packard Enterprise Authorized Service Partners:
- Services for customers purchasing from HPE or an enterprise reseller are quoted using HPE order configuration tools.
- Customers purchasing from a commercial reseller can find services at **https://ssc.hpe.com/portal/site/ssc/**

Standard Features

AI Powered and Digitally Enabled Support Experience
Achieve faster time to resolution with access to product-specific resources and expertise through a digital and data driven customer experience

Sign into the HPE Support Center experience, featuring streamlined self-serve case creation and management capabilities with inline knowledge recommendations. You will also find personalized task alerts and powerful troubleshooting support through an intelligent virtual agent with seamless transition when needed to a live support agent.
https://support.hpe.com/hpesc/public/home/signin

Consume IT On Your Terms
HPE GreenLake edge-to-cloud platform brings the cloud experience directly to your apps and data wherever they are—the edge, colocations, or your data center. It delivers cloud services for on-premises IT infrastructure specifically tailored to your most demanding workloads. With a pay-per-use, scalable, point-and-click self-service experience that is managed for you, HPE GreenLake edge-to-cloud platform accelerates digital transformation in a distributed, edge-to-cloud world.
- Get faster time to market
- Save on TCO, align costs to business
- Scale quickly, meet unpredictable demand
- Simplify IT operations across your data centers and clouds

To learn more about HPE Services, please contact your Hewlett Packard Enterprise sales representative or Hewlett Packard Enterprise Authorized Channel Partner. Contact information for a representative in your area can be found at "Contact HPE"
https://www.hpe.com/us/en/contact-hpe.html

For more information
www.hpe.com/services

Configuration Information

SKU 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 Custom Labeled Library Pack 20 Data Cartridges without Cases	Q2079AC
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 RW Custom Labeled 20 Data Cartridges with Cases	Q2079AL
HPE LTO-9 Ultrium 45TB RW Non Custom Labeled 20 Data Cartridges with Cases	Q2079AN
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 RW 960 Data Cartridge Pallet without Cases	Q2078AB
HPE LTO-8 Ultrium 30TB RW Custom Labeled Library Pack 20 Data Cartridges without Cases	Q2078AC
HPE LTO-8 Ultrium 30TB RW 960 Data Cartridge Pallet with Cases	Q2078AD
HPE LTO-8 Ultrium 30TB RW 20 Data Cartridges Library Pack without Cases	Q2078AH
HPE LTO-8 Ultrium 30TB RW Custom Labeled Library Pack 20 Data Cartridges with Cases	Q2078AL
HPE LTO-8 Ultrium 30TB RW Non Custom Labeled Library Pack 20 Data Cartridges with Cases	Q2078AN
HPE LTO-8 Ultrium 30TB WORM Data Cartridge	Q2078W
HPE LTO-8 Ultrium 30TB WORM Custom Labeled 20 Data Cartridges with Cases	Q2078WL
HPE LTO-7 Ultrium 15TB RW Data Cartridge	C7977A
HPE LTO-7 Ultrium No Case 960 Tape Pallet	C7977AB
HPE LTO-7 Ultrium RW No Case Custom Labeled Data Cartridge 20 Pack	C7977AC
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 RW Custom Labeled Data Cartridge 20 Pack	C7977AL
HPE LTO-7 Ultrium Non Custom Labeled Data Cartridge 20 Pack	C7977AN
HPE LTO-7 Ultrium WORM Data Cartridge	C7977W
HPE LTO-7 Ultrium WORM Custom Labeled Data Cartridge 20 Pack	C7977WL
HPE LTO-7 Ultrium RW Bar Code Label Pack	Q2014A
HPE LTO-6 Ultrium 6.25TB RW Data Cartridge	C7976A
HPE LTO-6 Ultrium 6.25TB RW Custom Labeled 20 Data Cartridges with Cases	C7976AL
HPE LTO-6 Ultrium 6.25TB RW Non Custom Labeled 20 Data Cartridges with Cases	C7976AN
HPE LTO-6 Ultrium 6.25TB RW 960 Data Cartridge Pallet with Cases	C7976AD
HPE LTO-6 Ultrium 6.25TB BaFe RW Data Cartridge	C7976B
HPE LTO-6 Ultrium 6.25TB BaFe RW Non Custom Labeled Data Cartridges 20 Pack	C7976BN
HPE LTO-6 Ultrium 6.25TB RW Custom Labeled 20 Data Cartridges Library Pack without Cases	C7976AC
HPE LTO-6 Ultrium 6.25TB RW 20 Data Cartridges Library Pack without Cases	C7976AH
HPE LTO-6 Ultrium 6.25TB WORM Data Cartridge	C7976W
HPE LTO-6 Ultrium 6.25TB WORM Custom Labeled 20 Data Cartridges with Cases	C7976WL
HPE LTO-6 Ultrium 6.25TB BaFe RW Custom Labeled Data Cartridge 20 Pack	C7976BL
HPE LTO-6 Ultrium 6.25TB BaFe RW Eco Case Data Cartridge 20 Pack	C7976BH
HPE LTO-6 Ultrium 6.25TB BaFe WORM Data Cartridge	C7976BW
HPE LTO-6 Ultrium RW Bar Code Label Pack	Q2013A
HPE LTO-5 Ultrium 3TB RW Data Cartridge	C7975A

Configuration Information

HPE LTO-5 RW Custom Labeled Data Cartridge 20 Pack	C7975AL
HPE LTO-5 Ultrium 3TB WORM Data Cartridge	C7975W
HPE LTO-5 Ultrium Non-custom Labeled Data Cartridge 20 Pack	C7975AN
HPE LTO-5 RW Custom Labeled No Case Data Cartridge 20 Pack	C7975AC
HPE Ultrium Universal Cleaning Cartridge	C7978A
HPE LTO-5 Ultrium RW Bar Code Label Pack	Q2011A
HPE LTO-5 Ultrium WORM Bar Code Label Pack	Q2012A
HPE LTO-6 Ultrium RW Bar Code Label Pack	Q2013A
HPE LTO-7 Ultrium RW Bar Code Label Pack	Q2014A

Notes: LTO-7 Type M cartridges can only be initialized in a Tape library with LTO-8 drives that supports LTO-7 Type M.

HPE LTO-8 Ultrium RW Bar Code Label Pack	Q2015A
HPE LTO-9 Ultrium RW Bar Code Label Pack	Q2017A

Notes: BaFe = Barium Ferrite

Technical Specifications

	LTO-5 Ultrium	LTO-6 Ultrium	LTO-7 & LTO-7 Type M	LTO-8 Ultrium	LTO-9 Ultrium
Magnetic Material	Metal Particle	Metal Particle or Barium Ferrite	Barium Ferrite	Barium Ferrite	Barium Ferrite
Recording Density	385 kbits/inch	385 kbits/inch	485 kbits/inch	525 kbits/inch	545 kbits/inch
Number of Data Tracks	1,280	2,176	3,584 & 5376	6,656	8,960
Recording Capacity	1.5 TB/3.0 TB	2.5/6.25 TB	6/15 TB & 9/22.5 TB	12/30 TB	18/45 TB
Tape Width (mm)	12.65	12.65	12.65	12.65	12.65
Tape Thickness (um)	6.4	6.4	5.6	5.6	5.2
Tape Length (m)	846	846	960	960	1035
External Dimensions	1.8 x 4.45 x 4.37 in (2.1 x 11.3 x 11.1 cm)	1.8 x 4.45 x 4.37 in (2.1 x 11.3 x 11.1 cm)	1.8 x 4.45 x 4.37 in (2.1 x 11.3 x 11.1 cm)	1.8 x 4.45 x 4.37 in (2.1 x 11.3 x 11.1 cm)	1.8 x 4.45 x 4.37 in (2.1 x 11.3 x 11.1 cm)
Cartridge Weight	0.63 lb (285.2 g)	0.63 lb (285.2 g)	0.63 lb (285.2 g)	0.63 lb (285.2 g)	0.63 lb (285.2 g)
Archival Life	30 years	30 years	30 years	30 years	30 years
Recommended Storage Environment	60°F to 90°F (16°C to 32°C) 20% to 80% Relative Humidity (RH)	59°F to 77°F (15°C to 25°C) 20% to 80% RH			
Recommend Operating Environment	50°F to 113°F (10°C to 45°C) 20% to 80% RH				
Allowable Environment	Same as the Recommended Operating and Storage Environments	59°F to 95°F (15°C to 35°C) 20% to 80% RH			
Archival Life Recommended Storage Conditions	41°F to 73°F (5°C to 23°C) 20% to 50% RH	59°F to 77°F (15°C to 25°C) 20% to 80% RH			

Summary of Changes

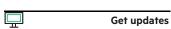| Date	Version History	Action	Description of Change
04-Dec-2023	Version 28	Changed	HPE Services Rebranding Obsolete SKUs were removed
04-Oct-2021	Version 27	Changed	Standard Features section was updated.
07-Sep-2021	Version 26	Changed	Major update for NPI of LTO-9 media. Addition of information about new LTO-9 products. Removal of LTO-3 and LTO-4 following EOL. Added information about HPE Services and HPE Financial Services. Edited LTO-6 MP SKU product descriptions. Updated temperature and environmental details in Technical Specifications.
17-May-2021	Version 25	Changed	Standard Features and Configuration Information sections were updated.
17-Aug-2020	Version 24	Changed	QuickSpecs layout was updated and Branding Refresh was applied.
16-Dec-2019	Version 23	Changed	Overview, Standard Features and Configuration Information sections were updated.
05-Mar-2018	Version 22	Changed	Information about Type M products was added. Tables and specifications relating to Type M were revised. Type M product descriptions were updated. Certain passages relating to HPE brand testing information that are no longer accurate were removed.
04-Dec-2017	Version 21	Changed	Updated throughout with information about new LTO-8 products
01-Dec-2015	Version 20	Changed	Updated throughout with information about new LTO-7 products
13-May-2013	Version 19	Changed	Overview: Completely updated Models and updated Key features Benefits section.
04-Dec-2012	Version 18	Changed	Changes made to the Introduction of Overview only.
09-Oct-2012	Version 17	Changed	Changes were made in the Product Highlights and Technical Specifications sections.
09-Jun-2011	Version 16	Removed	Mentions of StorageWorks were removed.
18-Mar-2011	Version 15	Changed	Models were revised Mentions of Bar Code and RFID was added Related Hardware Options was added to Product Highlights
27-Sep-2010	Version 14	Changed	Options was completely revised and all mentions of HPE RFID Labeled Data Cartridges were added.
29-Mar-2010	Version 13	Changed	Changes were made throughout the QuickSpecs.
01-Sep-2007	Version 12	Changed	Changes made to the Introduction of Overview only.
11-Jun-2007	Version 11	Added	Added EMEA version.
01-Jun-2007	Version 10	Changed	Changes made throughout the entire QuickSpecs, except for the Related Options section.
01-May-2006	Version 9	Changed	Changes made throughout the entire QuickSpecs, except for the Technical Specifications section.
20-Mar-2006	Version 8	Changed	Updated the OVERVIEW section.
25-Apr-2005	Version 7	Changed	Corrected the North America QS to be a duplicate of the Worldwide.
01-Apr-2005	Version 6	Changed	Moved the "Introduction" paragraph to precede the image. Made minor column changes to "Technical Specifications."
		Added	Added four models to "Models" Section.
13-Dec-2004	Version 5	Changed	Changes made throughout the entire QuickSpecs, including removing "StorageWorks" from the title.
17-Mar-2004	Version 4	Changed	This QuickSpecs has been completely rebuilt, including a new title.

Summary of Changes

Date	Version History	Action	Description of Change
12-Sep-2003	Version 3	Changed	High ReliabilityLTO Ultrium 100/200 GB tape technology uses a "best of breed" technology approach, taking the best features from other tape technologies and combining them into a single new technology without the need for design compromises to accommodate legacy compatibility requirements. Designed for the demanding environment of large-scale libraries, Ultrium 400 GB media is certified for 1 million passes or 260 full back ups and has a 30 year archival storage life Media Durability1,000,000 passes on any area of tape, equates to over 20,000 end-to-end passes/260 full tape backups
29-Aug-2003	Version 2	Changed	This QuickSpecs has been converted into the new system.
19-Nov-2002	Version 1	New	New QuickSpecs

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