**Hewlett Packard Enterprise**

# HPE LTO Ultrium Cartridges

## Storage Media



## What's new

- Massive increase in capacity: 700% improvement versus LTO-5 and 380% capacity versus LTO-6 (assume native data capacity)
- Significant increase in performance - possible to store 2.7 TB/hr using LTO-8.
- Built-in AES 256-bit encryption (IEEE1619.1) (LTO-4, LTO-5, LTO-6, LTO-7, LTO-8) - granted FIPS140-2 Level 1 certification.

## Overview

Exhaustively tested, HPE LTO Ultrium cartridges meet all your demands for maximum reliability when restoring data, offering high storage density, ease of management and scalable storage and backup performance. Covering eight generations of capacity - LTO-1 (200 GB), LTO-2 (400 GB), LTO-3 (800 GB), LTO-4 (1.6 TB), LTO-5 (3 TB), LTO-6 (6.25 TB), LTO-7 (15 TB) and LTO-8 (30 TB) – and with transfer speeds of up to 2.7 TB/hr for LTO-8, there is a platform for every need and budget. From LTO-3 onwards, LTO Ultrium WORM cartridges enable the creation of compliant, permanent and tamper-proof archives. From LTO-4 onwards, secure AES-256 encryption provides even higher levels of data security and compliance with the most stringent industry regulations to prevent unauthorized data access. From LTO-5 onwards, HPE LTO

Ultrium Linear Tape File System makes using tape as easy, flexible, portable and intuitive as using other removable and shareable media, such as a USB drive.

## Features

### Highest Capacity and Performance of any Comparable Tape Technology

HPE LTO-8 Ultrium can write or read data at a blistering 2.7 TB/hour, storing, encrypting and protecting up to 30 TB on a single cartridge, making it ideal for large-scale, 24 x 7, mission-critical IT environments (assumes 2.5:1 compression).

An 85% increase in the number of tracks and a 8% increase in bit density has permitted an increase in capacity from 15 TB for LTO-7 to 30 TB to LTO-8: from 3,584 tracks for LTO-6 to 6,656 tracks for 8th generation HPE LTO-8 Ultrium 30 TB cartridges (assuming 2.5:1 compression).

HPE LTO Ultrium cartridge memory chip delivers faster access time and enhanced media monitoring.

First time restore ensured with fewer media failures and disrupted backups, regardless of duty cycle or environmental conditions.

### Ultra-reliable

Tape is more reliable than Enterprise SATA disk. With a BER of 1x10 to the power of 19 for LTO-8 versus 1x10 to the power of 15 for Enterprise SATA HDD's. That's a difference in reliability of four orders of magnitude – e.g. tape is 10,000 times more reliable than Enterprise SATA HDD.

Estimated data loss over 10 years for 1 Exabyte archive is 1.1 Petabytes for HDD compared to only 7.4 Terabytes for tape.

Superior 'smart grabber' mechanism and mechanical interlock to prevent the leader pin from being pulled inside the tape housing. Sensors detect proper connection and prevent leader loss that would ruin the tape. Simplified tape path to reduce wear, tear & build-up of debris (important in automation)

HPE brand qualification test procedures (load/unload, shoeshine, drop testing and environmental stress testing) go far beyond what is required for the LTO Ultrium logo.This ensures maximum reliability for restoring your data.

HPE warrants LTO Ultrium cartridges for up to 30 years archival life. This ensures businesses can meet the ever-increasing demands of regulation for data retention and archiving.

### Secure

Write-Once-Read-Many (WORM) version provides tamper-proof, compliant data storage.

Data encryption for enhanced data security on HPE LTO-4, LTO-5, LTO-6, LTO-7 and LTO-8 Ultrium. Compliance with FIPS 140-2 level 1 security standards.

### Value for money

Standardizing on HPE LTO Ultrium delivers the capacity to meet shrinking backup windows, industry-standard, AES 256-bit encryption (IEEE1619.1), and interchangeable RW or WORM media; without extra space or IT resource overhead.

Open standard technology ensures compatibility across product generations and

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gives you more choice. Cartridges are available as Custom Labeled, Non-Custom Labeled (both Custom and Non Custom include RFID options for some formats) and non-labeled versions.

## Technical specifications — HPE LTO Ultrium Cartridges

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|---|---|
| **Recording technology** | LTO-1 Ultrium, LTO-2 Ultrium, LTO-3 Ultrium, LTO-4 Ultrium, LTO-5 Ultrium, LTO-6 Ultrium, LTO-7 Ultrium, LTO-8 Ultrium |
| **Capacity** | 30 TB Compressed 2.5:1 Maximum, depending on model |
| **Media format** | Re-writable and Write-once media |
| **Media labeling** | Write-on Labels in box |
| **Quantity per Package** | 1 |
| **Read speed, media** | 760 MB/sec Maximum, depending on media type |
| **Bit density** | 525 kbits/inch Maximum, depending on model |
| **Archival life** | 30 years |
| **Product color** | LTO-1 medium blue<br>LTO-2 red<br>LTO-3 yellow<br>LTO-4 green<br>LTO-5 light blue<br>LTO-6 purple, LTO-7 slate blue<br>LTO-8 green |
| **Tape length** | 960 m Maximum, depending on model |
| **Tape width** | 12.65 mm |
| **Tape thickness** | 5.6 um Minimum, depending on model |
| **Base material** | Metal Particle<br>Barium Ferrite<br>Depending on media type |
| **Data tracks** | 6656 Maximum, depending on model |
| **Magnetic coercivity** | 2850 Oe Maximum, depending on model |
| **Minimum dimensions ( H x W x D)** | 11.3 x 11.1 x 2.1 cm |
| **Weight** | 0.28 kg |
| **Warranty** | Limited Lifetime Warranty. |

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**For additional technical information, available models and options, please reference the QuickSpecs**

## HPE Pointnext

**HPE Pointnext** leverages our breadth and depth of technical expertise and innovation to help to accelerate digital transformation. A comprehensive portfolio that includes – Advisory, Professional, and Operational Services is designed to help you evolve and grow today and into the future.

**Operational Services**

- **HPE Flexible Capacity** is a new consumption model to manage on-demand capacity, combining the agility and economics of public cloud with the security and performance of on-premises IT.

- **HPE Datacenter Care** offers a tailored operational support solution built on core deliverables. It includes hardware and software support, a team of experts to help personalise deliverables and share best practices, as well as optional building blocks to address specific IT and business needs.

- **HPE Proactive Care** is an integrated set of hardware and software support including an enhanced call experience with start to finish case management helping resolve incidents quickly and keeping IT reliable and stable.

- **HPE Foundation Care** helps when there is a hardware or software problem offering several response levels dependent on IT and business requirements.

**Advisory Services** includes design, strategy, road map, and other services to help enable the digital transformation journey, tuned to IT and business needs. Advisory Services helps customers on their journey to Hybrid IT, Big Data, and the Intelligent Edge.

**Professional Services** helps integrate the new solution with project management, installation and startup, relocation services, and more. We help mitigate risk to the business so there is no interruption when new technology is being integrated in the existing IT environment.

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