Quantum

LTO ULTRIUM



DATASHEET

FEATURES & BENEFITS

High Storage Capacity
Up to 40 TB native and up to 100 TB* compressed

Up to 30-Year Archival Life

Compliant with All Media Integrity Analysis Utilities
Adds another level of data protection

Write Once, Read Many (WORM)
Addresses today's tough regulatory and compliance needs

High Performance
A high-durability non-contact IC memory chip up to 32 KB is built in, contributing to significant improvements in tape library access and health reporting

Bar Code Labeling and Library Packaging
Available to quickly load automation slots/trays

Over 30 Years of Storage Experience
Demonstrated top performance and innovation in hardware and media products

*Based on 2.5:1 compression (LTO-10, LTO-9, LTO-8, and LTO-7)

Quantum Certified



LEARN MORE:

www.quantum.com/lto-media

Mitigate Cyber Risks & Deep Archive Requirements with LTO

Why Choose Quantum LTO Ultrium Media

- Quantum's LTO Ultrium media is manufactured to the highest industry standards for quality and reliability—ensuring high performance and durability, whether used for primary backup or long-term archive.
- A pioneer of the LTO Consortium, Quantum is committed to the continued development of the LTO platform. Quantum's comprehensive media quality monitoring and extensive interoperability testing ensures cross-platform compatibility, optimal performance, and reliability whether you're using a Quantum tape drive, library, or other LTO-compatible hardware.
- Quantum's LTO Ultrium media is compliant with all media integrity analysis utilities. You can add another level of protection throughout the lifecycle of your data with the Advanced Media Usage Report and Extended Data Life Management (EDLM) features available in Quantum LTO Ultrium media. Media analysis and usage reports provide a view of the media condition for an entire media pool used within a specific tape library, even those in off-site storage. EDLM is a unique Scalar® automation feature designed to ensure the media integrity of cartridges placed in long-term archival or vaulted storage that are no longer used during normal operations. When your critical data is involved, it's important to have a complete health record of your media.
- LTO Ultrium Write Once, Read Many (WORM) media cartridges are available to meet today's stringent regulatory and compliance requirements. Combined with native AES 256-bit encryption on LTO-10, LTO-9, LTO-8, and LTO-7 drives, WORM cartridges physically prevent data from being overwritten or tampered with once it is written to the device—providing a reliable, accurate, and scalable data integrity solution.
- Quantum's LTO media offering supports your comprehensive, "edge-to-core" backup, recovery, and archive strategy. When you use Quantum media and hardware, you get the added assurance of over 40 years of storage experience and service behind the entire solution.
- LTO combined with Quantum's most secure tape libraries can mitigate the risks of a cyber attack such as ransomware, and meet long-term archive requirements by providing a physical air gap, greater density, and better performance.

Save Time and Money With Quantum's Complimentary Value-Added Services

Quantum continuously performs additional process and quality tests on its LTO Ultrium data media, demonstrating our continuing commitment to provide the highest quality LTO media. Quantum Certification focuses on five key user metrics: capacity, transfer rate, servo, and green media characteristics, with specific emphasis on reliability of written data.

Have you ever spent hours unpacking, labeling, and loading media into your library? Why waste IT resources unpacking boxes and labeling cartridges? Your time and your data are valuable. We understand that.

- Allow Quantum to pre-label your data cartridges with your requested bar code label sequences and color scheme. They will arrive ready to load into the library.

No need for individual cartridge cases? No problem! We offer "library packaging" to save you time.

- This eco-friendly bulk packaging option protects cartridges during shipment and storage without individual cartridge cases. This allows quicker access to the cartridges to expedite loading into automation slots/trays—and it results in less waste.

Combine bar code labeling with library packaging and save even more time!

Technical Specifications

BASIC GENERATION SPECIFICATIONS

	Ultrium 10 Ultrium 10 WORM[3]	Ultrium 9 Ultrium 9 WORM	Ultrium 8 Ultrium 8 WORM	Ultrium 7[2] Ultrium 7 WORM	Ultrium Universal Cleaning
Drive Compatibility	LTO-10 LTO-10 WORM	LTO-9 LTO-9 WORM	LTO-8 LTO-8 WORM	LTO-7 LTO-7 WORM	All
Cartridge Color	Black	Green Green/Gray	Brick Red Brick Red/Gray	Purple Purple/Gray	Black
Capacity (Native/Compressed)	30/75 TB[1] 40/100 TB[1]	18/45 TB[1]	12/30 TB[1]	6/15 TB[1] (9/22.5 TB[2])	Maximum 50 cleanings– drive dependent
Tape Length	1,035 m (3,395 ft)	1,035 m (3,395 ft)	960 m (3,150 ft)	960 m (3,150 ft)	319 m (1,046.59 ft)

[1] Based on 2.5:1 compression
[2] LTO-8 Type M Formatted LTO-7 Media: LTO-8 drives include a format feature enabling customers to increase the capacity of new or unused LTO Ultrium 7 cartridges by up to 50 percent to store 9 TB (uncompressed) or 22.5 TB[1] (compressed) of data. To unlock this additional capacity, customers need an LTO-8 drive with a utility or application to up-format new or unused LTO Ultrium 7 cartridges with properly attached "M8" media ID bar code labels.
[3] WORM is only available for LTO-10 30 TB media.

DIMENSIONS

Tape Width	12.65 mm (0.50 in)
Cartridge Dimensions (W x H x L)	21.5 mm x 105.4 mm x 102.0 mm (0.85 in x 4.15 in x 4.02 in)

READ/WRITE COMPATIBILITY

An Ultrium drive can read and write data to prior LTO generations:

Drive Type	LTO-10		LTO-9		LTO-8		LTO-7	
Read/Write Compatible Media	LTO-10 (LA) LTO-10 (PA)	R/W	LTO-9 (L9)	R/W	LTO-8 (L8)	R/W	LTO-7 (L7)	R/W
	N/A	N/A	LTO-8 (L8)	R/W	LTO-7 (M8)	R/W	LTO-6 (L6)	R/W
	N/A	N/A	N/A	N/A	LTO-7 (L7)	R/W	LTO-5 (L5)	R Only

LTO ULTRIUM MEDIA PRODUCT SERVICE AND SUPPORT

Quantum LTO Ultrium cartridge tapes are free from defects in material and manufacturing at the time of purchase. This limited lifetime warranty extends to the original end-user purchaser of the product and is not assignable or transferable to any subsequent purchaser or end user. Visit www.quantum.com for more information.

OPERATIONAL/STORAGE ENVIRONMENTAL REQUIREMENTS

Environmental Factor	Recommended[1]	Allowable[2]	Shipping[3]
Dry-Bulb Temperature	**LTO-7, 8:** 16 to 25 °C (61 to 77 °F) **LTO-9, 10:** 15 to 25 °C (59 to 77 °F)	**LTO-7, 8:** 16 to 35 °C (61 to 95 °F) **LTO-9, 10:** 15 to 35 °C (59 to 95 °F)	-23 to 49 °C (-9 to 120 °F)
Relative Humidity	20 to 50% (non-condensing)	20 to 80% (non-condensing)	5 to 80% (non-condensing)
Maximum Temperature Change	5 °C / hour	5 °C / hour	n/a
Maximum Humidity Change	5% / hour	5% / hour	n/a
Temperature Limitation for Humidity Conditions	**LTO-7, 8:** Wet Bulb Temperature <= 26 °C (79 °F) **LTO-9, 10:** Max Dew Point 22 °C (72 °F)	**LTO-7, 8:** Wet Bulb Temperature <= 26 °C (79 °F) **LTO-9, 10:** Max Dew Point 22 °C (72 °F)	Wet Bulb Temperature <= 26 °C (79 °F)
Maximum Altitude	3,048 m (10,000 ft)	3,048 m (10,000 ft)	12,192 m (40,000 ft)

[1] Recommended: The recommended operational/storage environmental envelope provides guidance on the environmental range for optimal performance and high reliability. This environmental range protects for 30-year archival storage. (Derate the maximum recommended dry-bulb temperature by 1°C/300 m above 1,800 m (1.8°F/1,000 feet above 6,000 feet)).
[2] Allowable: The allowable operational/storage environmental envelope defines the test limits to verify that the equipment will function within the environmental envelope. This environmental range is defined for operational storage of less than 6 months. (Derate the maximum dry-bulb temperature by 1°C/300 m above 900 m (1.8°F/1,000 feet above 3,000 feet)).
[3] Shipping: When shipping media over extended environmental ranges, shipping times should be limited to minimize the duration of media being exposed to varying environmental conditions at lower and upper ranges. LTO tape media specifications provided by the LTO program at www.lto.org or specifications provided by the media manufacturer.

Note: The prolonged exposure to conditions outside the recommended range, especially approaching the extremes of the allowable operating environment, can result in decreased equipment reliability and longevity. An occasional short-term excursion into the allowable envelope is generally acceptable but may result in performance and reliability implications and higher power consumption. For additional information regarding tape cartridge storage, shipping and operational requirements, including acclimation requirements, please visit www.quantum.com/lto-media, or refer to specific LTO tape media specifications provided by the LTO consortium at www.lto.org or specifications provided by the media manufacturer.

Quantum

Quantum supports organizations in managing growing volumes of data through an intelligent approach to data lifecycle management. Drawing on more than 45 years of innovation in data storage, protection, and management, Quantum helps organizations ensure the right data is in the right place, at the right cost, balancing performance, protection, accessibility, scalability, and long-term economics. Through intelligent data placement and movement across flash, disk, and tape, Quantum enables organizations to reduce risk, control costs, improve operational efficiency, and scale with confidence. Leading organizations across media and entertainment, government, research, life sciences, industrial technology, and enterprise IT trust Quantum to manage, protect, and retain data throughout its lifecycle. Quantum is listed on Nasdaq (QMCO). For more information visit www.quantum.com.

© Quantum Corporation. All rights reserved. Quantum, the Quantum logo, and Scalar are registered trademarks of Quantum Corporation and its affiliates in the United States and/or other countries. Linear Tape-Open, LTO, the LTO Logo, Ultrium and the Ultrium Logo are registered trademarks of Hewlett Packard Enterprise, IBM and Quantum in the USA and other countries. All other trademarks are the property of their respective owners.