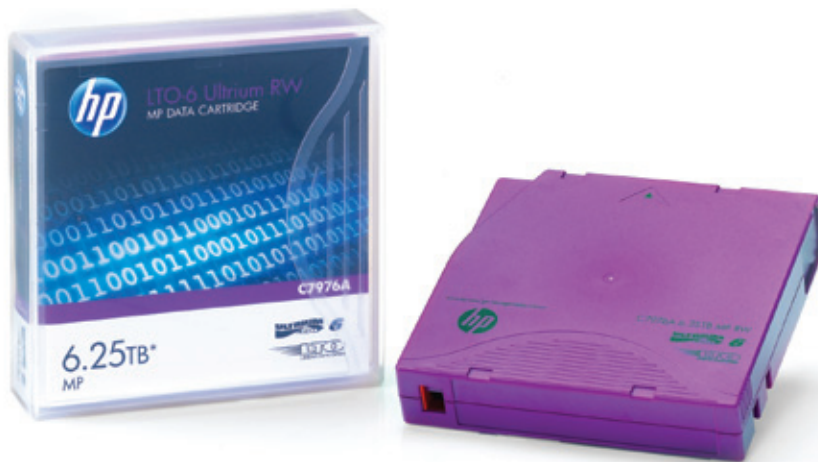# HP LTO Ultrium Media

HP Ultrium tape technology has been designed to deliver exceptional reliability and performance at the lowest cost per GB.
The Ultrium format builds on the best of existing technologies; open standards increase innovation and widen customer choice in terms of performance, capacity, and form factor. Backed by HP's exhaustive media qualification process, HP Ultrium data cartridges support all HP and non-HP Ultrium tape devices.
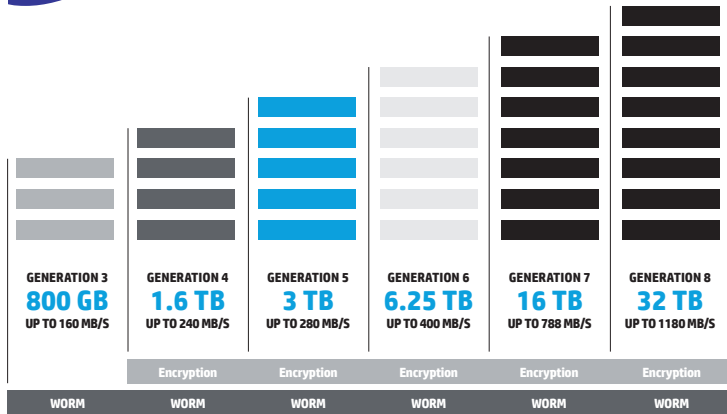
Key features and benefits

- **Up to 6.25 TB compressed capacity.**
- **Supports transfer speeds** up to 400 MB/sec or 1.4 TB/hour (2.5:1) with Generation 6.
- **Both Advanced Metal Particle and Barium Ferrite** options available for LTO-6.
- **For use in all HP** and non-HP LTO Ultrium products.
- **Unique coloured cartridge** to assist with identification in mixed media environments.

- **Very low media cost** per GB – less than 3 cents per gigabyte for LTO-6.
- **LTO cartridge memory in media** to improve access time and provide enhanced media monitoring.
- **Durable cartridge** designed to minimise wear and debris (important in automation).
- **Tested to extremes** in HP's media laboratory, to a level of specification unique to Hewlett-Packard. Many of the test procedures required for HP brand qualification (eg. load/unload, shoeshine, drop testing and environmental stress testing) are not required for the LTO Ultrium logo.
- **Hardware-based encryption** for compliance with FIPS 140-2 level 1 security standards.
- **HP offers both** Custom Labelled and Non-Custom Labelled data cartridges in both standard barcode and Radio Frequency Identification (RFID) versions.
  - **Custom Labelled offerings** allow automation customers the ability to customise their label to their specific needs. This includes the ability to define the barcode label type and to specify an exact label sequence.
  - **Non-Custom Labelled** media allows automation customers the ability to receive labelled media without having to wait for a custom labelled solution. Barcode sequences are pre-determined by HP and are guaranteed to be unique.

www.pmdmagnetics.com

LTO Ultrium roadmap

GENERATION 3	GENERATION 4	GENERATION 5	GENERATION 6	GENERATION 7	GENERATION 8
800 GB	1.6 TB	3 TB	6.25 TB	16 TB	32 TB
UP TO 160 MB/S	UP TO 240 MB/S	UP TO 280 MB/S	UP TO 400 MB/S	UP TO 788 MB/S	UP TO 1180 MB/S
	Encryption	Encryption	Encryption	Encryption	Encryption
WORM	WORM	WORM	WORM	WORM	WORM

Drive/Media compatibility

	LTO-1 Drive	LTO-2 Drive	LTO-3 Drive	LTO-4 Drive	LTO-5 Drive	LTO-6 Drive
LTO-1 Media	Read/Write	Read/Write	Read Only	Not Compatible	Not Compatible	Not Compatible
LTO-2 Media	Not Compatible	Read/Write	Read/Write	Read Only	Not Compatible	Not Compatible
LTO-3 Media	Not Compatible	Not Compatible	Read/Write	Read/Write	Read Only	Not Compatible
LTO-4 Media	Not Compatible	Not Compatible	Not Compatible	Read/Write	Read/Write	Read Only
LTO-5 Media	Not Compatible	Not Compatible	Not Compatible	Not Compatible	Read/Write	Read/Write
LTO-6 Media	Not Compatible	Not Compatible	Not Compatible	Not Compatible	Not Compatible	Read/Write

For full hardware and media compatibility go to
www.hptapecompat.com

Specifications

Product No.	C7971A	C7972A	C7973A	C7974A	C7974W	C7975A	C7975W	C7976A	C7976B
Reseller Product Number									
Model	LTO-1	LTO-2	LTO-3 RW	LTO-4 RW	LTO-4 WORM	LTO-5 RW	LTO-5 WORM	LTO-6 RW	LTO-6 RW

Format (Transfer speeds and capacities assume 2:1 compression. Actual performance is data dependent.)

	C7971A	C7972A	C7973A	C7974A	C7974W	C7975A	C7975W	C7976A	C7976B
Storage Capacity	100 GB/200 GB	200 GB/400 GB	400 GB/800 GB	800 GB/1.6 TB	800 GB/1.6 TB	1.5 TB/3 TB	1.5 TB/3 TB	2.5 TB/6.25 TB	2.5 TB/6.25 TB
Transfer Speed	30 MB/sec	60 MB/sec	160 MB/sec	240 MB/sec	240 MB/sec	280 MB/sec	280 MB/sec	400 MB/sec	400 MB/sec
Magnetic Material	Metal Particle	Metal Particle	Metal Particle	Metal Particle	Metal Particle	Metal Particle	Metal Particle	Metal Particle	Barium Ferrite
Number of Data Tracks	384	512	704	896	896	1,280	1,280	2,176	2,176
Recording Density	124 kbits/inch	188 kbits/inch	245 kbits/inch	343 kbits/inch	343 kbits/inch	384.6 kbits/inch	384.6 kbits/inch	384.6 kbits/inch	384.6 kbits/inch

Physical Characteristics

	C7971A	C7972A	C7973A	C7974A	C7974W	C7975A	C7975W	C7976A	C7976B
Tape Thickness (um)	8.9	8.9	8.0	6.6	6.6	6.4	6.4	6.4	6.4
Tape Width (mm)	12.65	12.65	12.65	12.65	12.65	12.65	12.65	12.65	12.65
Tape Length (m)	609	609	680	820	820	846	846	846	846

Environmental Properties

Operating Temperature	50 °F to 113 °F (10 °C to 45 °C)
Day to Day Storage Temperature	60 °F to 90 °F (16 °C to 32 °C)
Long Term Storage Temperature – Ambient	41 °F to 73 °F (5 °C to 23 °C)
Maximum Wet Bulb Temperature	79 °F (26 °C)
Non Condensing Relative Humidity	10 to 80% (Operating) 20 to 60% (Archival)
Archival Life	30 years

Logistics

Unit (in case)

	C7971A	C7972A	C7973A	C7974A	C7974W	C7975A	C7975W	C7976A	C7976B
External Dimensions (cm)	Length 11.1 x Width 11.3 x Height 2.8								
Weight (g)	285.2	285.2	280	280	280	270	270	270	270
Quantity	1	1	1	1	1	1	1	1	1
UPC	0-25184-16341-6	8 08736-39584 7	8 29160-62177 7	8 82780 8-69820	8 82780-86983 7	8 84962925348	8 84962925409	8 87111203861	8 87111851154

Sub Carton

	C7971A	C7972A	C7973A	C7974A	C7974W	C7975A	C7975W	C7976A	C7976B
External Dimensions (cm)	Length 12.0 x Width 15.1 x Height 12.5								
Weight (g)	1511	1511	1490	1490	1490	1430	1430	1430	1430
Quantity	5x1 units = 5 cartridges								
ITF-14	1 00 25184-16342 3	1 08 08736-39584 4	1 08 29160-62177 4	1 08 82780-86982 7	1 08 82780-86983 4	1 08 84962925345	1 08 84962925406	1 0887111203868	1 0887111851151

Master Carton

	C7971A	C7972A	C7973A	C7974A	C7974W	C7975A	C7975W	C7976A	C7976B
External Dimensions (cm)	Length 33 x Width 27.3 x Height 15.2								
Weight (kg)	6.57	6.57	6.48	6.48	6.48	6.2	6.2	6.2	6.2
Quantity	4 x 5 units = 20 cartridges								
ITF-14	2 00 25184-16342 0	2 08 08736-39584 1	2 08 29160-62177 1	2 08 82780-86982 4	2 08 82780-86983 1	2 08 84962925342	2 08 84962925403	2 0887111203865	2 0887111851158

For information on HP LTO Ultrium media products, visit: **hp.com/go/ltomedia**

For device compatibility, visit: hptapecompat.com For more about HP LTO Ultrium, visit: hp.com/go/ultrium
For more about HP LTFS technology, visit: hp.com/go/ltfs
For more about HP LTO tape drives and tape automation, visit: hp.com/go/tape
For more about HP TapeAssure, visit: hp.com/go/tapeassure

Follow HP Storage Media: g+ HP Storage Media Google+ @hpstoragemedia P Pinterest

PMD MAGNETICS

Make it matter.

hp

www.pmdmagnetics.com