

# Quantum®

## LTO Drives



### > DATASHEET

### Quantum LTO Tape Drive: Now with DATASTOR Shield Deduplication Software

Quantum's LTO-7, LTO-6, and LTO-5 standalone drives deliver a simple, affordable, all-in-one data protection solution that customers can depend on. Many companies can store all their data on a single cartridge, thanks to the tremendous capacity LTO technology provides. In addition, companies can keep this data secure using AES 256-bit encryption as tapes are transported offsite for disaster recovery or long-term archiving. LTO-7, LTO-6, and LTO-5 drives are WORM capable, allowing companies from healthcare, financial, and other related industries to meet tough regulatory requirements. LTO continues to offer two generations of backward read and one generation of backward write capability, providing an archive tape recovery solution with newer generation drives.

New functionality allows customers to simply drag and drop files to LTO-7, LTO-6, and LTO-5 as they would a hard drive using Linear Tape File System (LTFS) software. This eliminates the need for backup software and allows the information written to tape to be exchanged easily between different users, operating systems, and software. This is highly beneficial for many applications including media and entertainment, video and imaging, long-term archiving, and other applications where removing the dependence on a proprietary format is important. LTFS is compatible with Windows, Linux, and Apple Macintosh.

Quantum tape drives now include DATASTOR Shield™ backup software with deduplication to supercharge your backup. Quantum and DATASTOR have teamed up to provide the first backup with deduplication straight to tape. This technology, which reduces backups significantly (up to 20X), allows you to store more data per tape than competitive models.

### FEATURES & BENEFITS

#### Performance\*

LTO-7: Up to 750MB/sec compressed transfer rate  
LTO-6: Up to 400MB/sec compressed transfer rate  
LTO-5: Up to 280MB/sec compressed transfer rate

#### Capacity\*

LTO-7: Up to 15TB with standard compression; up to 120TB with DATASTOR Shield  
LTO-6: Up to 6.25TB with standard compression; up to 50TB with DATASTOR Shield  
LTO-5: Up to 3.0TB with standard compression; up to 30TB with DATASTOR Shield

#### Security/Ease of Use

AES 256-bit data encryption security, WORM functionality, and partitioning capability

#### Compatibility

Investment protection with two generations of backward read and one generation of backward write capability

#### LTFS Software

Free LTFS software can be downloaded at [www.quantum.com](http://www.quantum.com)

#### Backup with Deduplication

Includes DATASTOR Shield backup software with deduplication; reduces data by up to 20X

\*Assumes 2.5:1 compression for LTO-7 and LTO-6, 2:1 for LTO-5, 20:1 deduplication for DATASTOR Shield.



> LEARN MORE:  
[www.quantum.com/lto](http://www.quantum.com/lto)

# TECHNICAL SPECIFICATIONS

## DRIVE CAPACITY AND PERFORMANCE

Drive Type	Interface	Cartridge Capacity Native/Compressed/Deduplicated* (TB)	Drive Throughput Native/Compressed/Deduplicated* (MB/sec)
LTO-7	6Gb/sec SAS	6.0 / 15.0 / 120.0	300 / 750 / 6,000
LTO-6	6Gb/sec SAS	2.5 / 6.25 / 50.0	160 / 400 / 3,200
LTO-5	6Gb/sec SAS	1.5 / 3.0 / 30.0	140 / 280 / 2,800

**Configurations:** Internal Bare, Internal Kit, Tabletop Kit, and 1U rackmount

**Interface Connector Type:** 6Gb/s SAS  
SFF8482 w/integrated power (Internal), SFF8088 (Tabletop and Rack)

**Burst Transfer Rate (MB/sec):** SAS (max) 600

**Data Buffer Size:** LTO-7: 1GB  
LTO-6: 512MB  
LTO-5: 256MB

## BACKUP SOFTWARE

**Included Software:** DATASTOR Shield Single Server Backup  
**Deduplication Rate:** 20:1 (typical)  
**Software Compatibility:** Windows Only  
**Backup Methods:** Disk-to-disk-to-tape, disk-to-tape, archive-to-tape in native format  
**Upgradeable:** Yes to multiple servers, SQL, Exchange, SharePoint, Bare Metal, Cloud and other functionality

## TAPE/FORMAT COMPATIBILITY

	Media Read/Write	Media Read Only
LTO-7 Drive	LTO-7, LTO-7 WORM, LTO-6, LTO-6 WORM	LTO-5, LTO-5 WORM
LTO-6 Drive	LTO-6, LTO-6 WORM, LTO-5, LTO-5 WORM	LTO-4, LTO-4 WORM
LTO-5 Drive	LTO-5, LTO-5 WORM, LTO-4, LTO-4 WORM	LTO-3, LTO-3 WORM

## RELIABILITY

**MTBF hours:** 250,000 @ 100% duty cycle  
**MSBF:** 100,000 cycles  
**Load/Unload Life:** 180,000 cycles  
**Non-Recoverable Error Rate:** 1 in  $1 \times 10^9$  bits (LTO-7 non-media error, clean drive)  
1 in  $1 \times 10^7$  bits (LTO-5, LTO-6 non-media error, clean drive)

## PHYSICAL SPECIFICATIONS

Form Factor	Internal w/o bezel	Internal w/bezel	Tabletop	1U Rackmount
Width (in / mm)	5.75 / 146	5.83 / 148	8.4 / 213	18.7 / 480
Height (in / mm)	1.61 / 41	1.68 / 42.7	2.3 / 58	1.7 / 43
Length (in / mm)	8.07 / 205	8.27 / 210	13.10 / 332	17.6 / 438
Weight (lbs / kg)	3.55 / 1.61	3.57 / 1.62	9.4 / 4.3	14.2 / 6.4

\*Assumes 2.5:1 compression for LTO-7 and LTO-6, 2:1 for LTO-5, 20:1 deduplication for DATASTOR Shield.

## ENVIRONMENTAL

### OPERATING

**Temperature °F (°C):** 50° to 100° (10° to 38°) @ 5 CFM  
**Humidity:** LTO-7: 20% to 80% (non-condensing)  
LTO-6, LTO-5: 10% to 80% (non-condensing)  
LTO-7: 10,000 ft (3,048 m)  
LTO-6, LTO-5: 13,000 ft (4,000 m)

### NON-OPERATING

**Temperature °F (°C):** LTO-7: -40° to 140° (-40° to 60°) excluding media  
LTO-6, LTO-5: -40° to 149° (-40° to 66°) excluding media  
**Humidity:** LTO-7: 10% to 90% (non-condensing)  
LTO-6, LTO-5: 10% to 95% (non-condensing)

**VOLTAGE (V):** +5, +12

### POWER CONSUMPTION (HALF-HEIGHT)

**LTO-7:** Idle: 21.1 Watts, Typical: 32 Watts, Peak: 64.5 Watts  
**LTO-6:** Idle: 13.2 Watts, Typical: 24.7 Watts, Peak: 69 Watts  
**LTO-5:** Idle: 13.3 Watts, Typical: 23.7 Watts, Peak: 69 Watts

## TAPE FORMAT SPECIFICATIONS

**Format:** LTO Ultrium 6, LTO Ultrium 5  
**Recording Density:** 15.143KB/mm  
**Encoding Method:** LTO-7: 32 Channel 32/33 RLL  
LTO-6, LTO-5: 16 Channel 32/33 RLL NPML  
**Data Compression:** LTO-7: 2.5:1  
LTO-6: 2.5:1  
LTO-5: 2:1

## COMPATIBILITY

**Operating Systems:** Microsoft Windows, Red Hat Linux, SuSE Linux, Mac OS  
**Software/Hardware:** Go to [www.quantum.com](http://www.quantum.com) for the most up-to-date tested solutions

## TAPE SPECIFICATIONS

**Cartridge Dimensions (L×W×H):** 4" × 4.15" × .85"  
(102mm × 105.4mm × 21.5mm)  
**Archive Storage:** 30 years  
**Durability:** 20,000 load/unload cycles

## WARRANTY

**Tape:** Limited lifetime  
**Tape Drive:** 3 years limited with Rapid Exchange

## Model Numbers and Descriptions

**TC-L72AN-BR-C** LTO-7 HH, Internal, 6GB/s SAS, 5.25", black, bare  
**TC-L72AN-EY-C** LTO-7 HH, Internal, 6GB/s SAS, 5.25", black  
**TC-L72AN-EZ-C** LTO-7 HH, Internal, SAS HBA Bundle, 6GB/s SAS, 5.25", black  
**TC-L72BN-AR-C** LTO-7 HH, Tabletop, 6GB/s SAS, black  
**TC-L72BN-EZ-C** LTO-7 HH, Tabletop, SAS HBA Bundle, 6GB/s SAS, black  
**TC-L73CN-AR-C** LTO-7 HH, Single, 1URackmount, 6GB/s SAS, black  
**TC-L72GN-BR-C** LTO-7 HH, Internal Drive Option for 1U Rackmount, 6GB/s SAS, black, bare

**TC-L62AN-BR-C** LTO-6 HH, Internal, 6GB/s SAS, 5.25", black, bare  
**TC-L62AN-EY-C** LTO-6 HH, Internal, 6GB/s SAS, 5.25", black  
**TC-L62AN-EZ-C** LTO-6 HH, Internal, SAS HBA Bundle, 6GB/s SAS, 5.25", black  
**TC-L62BN-AR-C** LTO-6 HH, Tabletop, 6GB/s SAS, black  
**TC-L62BN-EZ-C** LTO-6 HH, Tabletop, SAS HBA Bundle, 6GB/s SAS, black  
**TC-L62BN-EM-C** LTO-6 HH, Tabletop, SAS HBA and Media (5pcs) Bundle, 6GB/s SAS, black  
**TC-L63CN-AR-C** LTO-6 HH, Single, 1URackmount, 6GB/s SAS, black  
**TC-L62GN-BR-C** LTO-6 HH, Internal Drive Option for 1U Rackmount, 6GB/s SAS, black, bare

**TC-L52AN-BR-C** LTO-5 HH, Internal, 6GB/s SAS, 5.25", black, bare  
**TC-L52AN-EY-C** LTO-5 HH, Internal, 6GB/s SAS, 5.25", black  
**TC-L52AN-EZ-C** LTO-5 HH, Internal, SAS HBA Bundle, 6GB/s SAS, 5.25", black  
**TC-L52BN-AR-C** LTO-5 HH, Tabletop, 6GB/s SAS, black  
**TC-L52BN-EZ-C** LTO-5 HH, Tabletop, SAS HBA Bundle, 6GB/s SAS, black  
**TC-L52BN-EM-C** LTO-5 HH, Tabletop, SAS HBA and Media (5pcs) Bundle, 6GB/s SAS, black  
**TC-L53CN-AR-C** LTO-5 HH, Single, 1URackmount, 6GB/s SAS, black  
**TC-L52GN-BR-C** LTO-5 HH, Internal Drive Option for 1U Rackmount, 6GB/s SAS, black, bare

To learn more about Quantum LTO, please visit [www.quantum.com/lto](http://www.quantum.com/lto)

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DS00457A-v05 Dec 2015