



## LTO-5

Quantum's Latest LTO  
Tape Drive – Best-in-Class  
Performance and Reliability

Quantum's LTO-5 standalone tape drives deliver tremendous capacity and performance at an affordable price. LTO-5 tape drives are available in both full-height and half-height form factors, providing native capacity of up to 1.5TB and native transfer rates of up to 140MB/sec. In addition, they use less power on average than LTO-4 drives, making them a "greener" and more energy-efficient solution.

LTO-5 tape drives use the latest industry-standard interface—6Gb/sec Serial Attached SCSI (SAS)—to allow for easy installation and integration into your data center. Half-height versions are also available with SAS interface card (HBA) bundle options. Quantum's LTO-5 tape drives also protect your investment by providing backward read and write compatibility with LTO-4 media and backward read compatibility with LTO-3 media.

Quantum's FastSense™ variable-speed feature monitors the speed of incoming data and matches the speed at which the drive streams data. The result is that Quantum's LTO-5 tape drives complete backups faster and more efficiently. In addition, Quantum also provides special features like SmartVerify™ to concurrently verify all data written to the tape, virtually eliminating the time-consuming verify pass during backup operations.

And with Quantum's LTO-5 tape drives, you can be assured of security with AES 256-bit data encryption. Encryption on LTO-5 drives is hardware-based, allowing for the highest level of security without any loss of performance during the encryption process. In addition, LTO-5 is WORM-capable when used with LTO WORM data cartridges. And the new partitioning functionality allows tape-aware file searches to address the growing needs of marketplace segments such as Rich Media.

Quantum's LTO-5 FH and HH tape drives are available in server-installable internal, convenient tabletop, or rackmount configurations. Quantum "Backup Ready" certified solutions allow you to go from box-to-backup in minutes with the highly reliable Quantum LTO-5 tape drives and durable Quantum media.

### TAPE DRIVE

UP TO 1.5TB NATIVE CAPACITY

UP TO 140MB/SEC NATIVE TRANSFER RATE

AES 256-BIT DATA ENCRYPTION SECURITY AND PARTITIONING

"BACKUP READY" SOLUTION WITH 3-YEAR RAPID EXCHANGE WARRANTY

### FEATURES AND BENEFITS

- **Performance** – Up to 140MB/sec native transfer rate
- **Capacity** – Up to 1.5TB native capacity
- **Security/Ease-of-Use** – AES 256-bit data encryption security, WORM functionality, and partitioning capability
- **Compatibility** – Investment protection with backward read/write compatibility to LTO-4 media and backward read compatibility to LTO-3 media
- Quantum offers both full-height and half-height LTO-5 tape drives to fit all customer requirements.

## DRIVE CAPACITY AND PERFORMANCE

Drive Type	Interface	Cartridge Capacity Native/Compressed (GB)	Drive Throughput Native/Compressed (MB/sec)	Average File Access Time (sec)
LTO-5	6GB/s SAS	1500 / 3000	140 / 280	51 (FH), 56 (HH)

**Configurations:** Internal Bare, Internal Kit, Tabletop Kit, 3U rackmount (full-height) and 1U rackmount (half-height)

**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** 256MB

## TAPE/FORMAT COMPATIBILITY

LTO-5 (read/write): 1500GB native capacity  
LTO-5 WORM (read/write): 1500GB native capacity  
LTO-4 (read/write): 800GB native capacity  
LTO-4 WORM (read/write): 800GB native capacity  
LTO-3 (read only): 400GB native capacity  
LTO-3 WORM (read only): 400GB native capacity

## RELIABILITY

**MTBF hours:** 250,000 @ 100% duty cycle  
**MSBF:** 100,000 cycles  
**Load/Unload Life:** 120,000 cycles  
**Non-recoverable Error Rate:** 1 in 1 × 10<sup>17</sup> bits (non-media error, clean drive)

## PHYSICAL SPECIFICATIONS

## Full-Height

Form Factor	Internal w/o bezel	Internal w/ bezel	Tabletop	3U Rackmount
Width (in/mm)	5.75 / 146.1	5.87 / 149.1	8.58 / 218	19 / 483
Height (in/mm)	3.24 / 82.5	3.37 / 85.5	4.72 / 120	5.2 / 132
Length (in/mm)	8.0 / 203	8.19 / 208	11.69 / 297	23 / 584
Weight (lbs/kg)	4.97 / 2.26	5.06 / 2.3	11.66 / 5.3	27 / 12.3

## Half-Height

Form Factor	Internal w/o bezel	Internal w/ bezel	Tabletop	1U Rackmount
Width (in/mm)	5.75 / 146.1	5.87 / 149.1	8.82 / 224	19 / 483
Height (in/mm)	1.64 / 41.65	1.75 / 44.65	3.11 / 79	1.7 / 43
Length (in/mm)	8.11 / 206	8.3 / 211	11.85 / 301	25.3 / 643
Weight (lbs/kg)	3.11 / 1.41	3.2 / 1.45	8.15 / 3.7	20 / 9

## ENVIRONMENTAL

## OPERATING

**Temperature °F (°C):** 50° to 104° (10° to 40°) @ 8 CFM (@ 5 CFM for half-height)  
**Humidity:** 20% to 80% (non-condensing)  
**Altitude (maximum):** 13,000 ft (4,000 m)

## NON-OPERATING

**Temperature °F (°C):** -40° to 149° (-40° to 66°) excluding media  
**Humidity:** 10% to 95% (non-condensing)

## VOLTAGE (V):

+5, +12

## POWER CONSUMPTION (FULL-HEIGHT)

**Idle:** 6.7 Watts  
**Typical:** 23.1 Watts  
**Peak:** 37.2 Watts

## POWER CONSUMPTION (HALF-HEIGHT)

**Idle:** 6.5 Watts  
**Typical:** 21.4 Watts  
**Peak:** 30.2 Watts

## TAPE FORMAT SPECIFICATIONS

**Format:** LTO Ultrium 5  
**Recording Density:** 15.143KB/mm  
**Encoding Method:** 16 Channel 32/33 RLL NPML  
**Data Compression:** ALDC

## COMPATIBILITY

**Operating Systems:** Microsoft Windows, Sun Solaris, Red Hat Linux, SuSE Linux  
**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-L51AN-BR LTO-5 FH, Internal Bare, 6GB/s SAS, black bezel  
TC-L51BN-AR LTO-5 FH, Tabletop Kit, 6GB/s SAS, black  
TC-L53FN-AR LTO-5 FH, 3U Rackmount, 6GB/s SAS, black  
TC-L52AN-BR LTO-5 HH, Internal, 6GB/s SAS, 5.25", black, bare  
TC-L52AN-EY LTO-5 HH, Internal, 6GB/s SAS, 5.25", black

TC-L52AN-EZ LTO-5 HH, Internal, SAS HBA Bundle, 6GB/s SAS, 5.25", black  
TC-L52BN-AR LTO-5 HH, Tabletop, 6GB/s SAS, black  
TC-L52BN-EZ LTO-5 HH, Tabletop, SAS HBA Bundle, 6GB/s SAS, black  
TC-L53CN-AR LTO-5 HH, Single, 1U Rackmount, 6GB/s SAS, black

For contact and product information, visit [quantum.com](http://quantum.com) or call 866-809-5230

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## About Quantum

Quantum Corp. (NYSE:QTM) is a proven global expert in data protection and Big Data management that provides a unique combination of intelligent storage solutions and unmatched value for traditional, virtual and cloud environments. From small businesses to multinational enterprises, more than 50,000 customers trust Quantum to help cost-effectively manage data growth and extract the full value from their digital assets. Quantum's offerings include: DXi®-Series disk-based deduplication and replication systems for fast backup and restore, vmPRO solutions for protecting virtual machine data, Scalar® tape automation products for disaster recovery and long-term data retention, and StorNext® Big Data management software and appliances for high-performance file sharing and archiving.