

# LTO ULTRIUM 4

## Storage capacity jumps to 1.6TB in LTO Ultrium 4th generation data cartridge

**Performance breakthrough: \*1.6TB compressed capacity with \*240MB/s transfer speed**

By further developing new tape materials, coating technology and a surface-smoothing technology, Sony LTO4 offers a breakthrough in performance with a massive 800GB native and \*1.6TB compressed maximum recording capacity.

**Reduced backup time and improved operating efficiency with \*240MB/s maximum transfer speed**

For quicker backup and improved operating efficiency, LTO4 offers high-speed 120MB/s native and \*240MB/s compressed data transfer.

### High-performance data cartridge

To accommodate the LTO4 tape's thinness and long length, the reel accuracy has been improved. Optimized hub roundness contributes to stable operation and a new flange shape protects the tape edges. As in LTO1, LTO2 and LTO3, the LTO4 cartridge incorporates a robust non-contact 8KB IC memory with twice the capacity of previous generations.

\*Compression ratio 2:1.



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## High-density recording with low error rate

To correspond with further high-density recording by shortening the recording wavelength, LTO4 adopts newly developed fine magnetic particles. Further optimizing the dispersing technology for LTO4, Sony realized high dispersion and high packing density on newly developed fine magnetic particles that are approx. 70% the volume of LTO3. By introducing newly-developed tape surface-smoothing technology, Sony improved the tape surface while also realizing noise reduction and boosting output in the high frequency range.



LTX800G Rewritable Cartridge

## High stability of base film against elongation and shrinkage

LTO4 realized high recording capacity by utilizing thinner tape (LTO3: 8.0µm-LTO4: 6.6µm) to allow a longer tape length (LTO3: 680m-LTO4: 820M). Due to the increased number of data tracks (LTO3: 704 - LTO4: 896) and narrowed track width, higher stability of the base film against elongation and shrinkage is required. By optimizing the strength balance of the base film and adopting newly-developed high accuracy cutting technology, Sony LTO4 realizes high stability under various operating conditions.



LTX800G Rewritable Cartridge

## Reduced tracking errors

Since LTO4 has very thin magnetic layer, a decrease of servo signal output recorded on tape was a concern. Despite thin magnetic layer (approx. 0.1 µm) Sony realized high stable servo signal output by employing bias recording theory to optimize servo recording signal control. With the increase of the number of data tracks, more accurate tracking technology is required. Sony realized stable operation on the thin (6.6µm) and smooth tape with a servo writer corresponding to high-density tracking that Sony developed for LTO4 format, achieving high-quality magnetic servo signal writing. The result is significantly improved data writing and reading accuracy.

Generation	1st	2nd	3rd	4th	5th
Recording Capacity (*Compressed)	100GB (*200GB)	200GB (*400GB)	400GB (*800GB)	800GB (*1.6TB)	1.6TB (*3.2TB)
Maximum Data transfer Rate (*Compressed)	20MB/s	40MB/s	80MB/s	120MB/s	180MB/s

\*Compression ratio 2:1.

Please note that LTO-5 values on the above chart are based on projections by the three companies, HP, IBM and Quantum. These represent desired targets.

Mechanical Characteristics		LTX800G/LTX800W	
Recording Capacity (*Compressed)	800GB (*1.6TB)	Coercivity (kA/m)	220
Maximum Data Transfer Rate (*Compressed)	120MB/s (*240MB/s)	Electric Resistivity (Magnetic Coating:Ω/sq)	1 x 10 <sup>6</sup>
Tape Width (mm)	12.65	Electric Resistivity (Backcoating:Ω/sq)	1 x 10 <sup>4</sup>
Tape Thickness (µm)	6.6	Built-in IC Memory (Byte)	8192
Tape Length (m)	820	Number of Data Tracks	896
Magnetic Material	Metal Particle (MP)		*Compression ratio 2:1.

### Dimensions & Weight

Cartridge Dimensions (mm): 102.0 x 105.4 x 21.5
Weight (g) : 207.8 (Cartridge)

### Environmental Requirements

Operation Conditions: (°F(°C);%RH) : 50~113 (10~45);10~80*
Storage Conditions: (°F(°C);%RH) : 60~90 (16~32);20~80*
Transportation Conditions: (°F(°C);%RH) : -9~120 (-23~49);5~80*

\*Maximum wet bulb temperature: 79°F(26°C) at no condensation.

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