FUJIFILM

LTO Ultrium 5
DATA CARTRIDGE

Fujifilm's Linear Tape-Open (LTO) Ultrium 5 is the latest generation of tape technology based on Fujifilm's advanced NANOCUBIC thin-film coating process and nano-dispersion technology resulting in higher capacity and quality to address the ever increasing data storage needs of midrange to enterprise class server environments. The Fujifilm LTO Ultrium 5 data cartridges feature native/compressed capacities of 1.5/3.0TB, transfer rates up to 140/280MB per second, WORM capability and a new dual partitioning functionality to enhance file management and address the growing storage needs of rich media market segments. LTO Ultrium 5 drives incorporate the AES 256-bit encryption algorithms first debuted in LTO Ultrium 4 to help keep data secure.

nanocubic

ULTRIUM LTO 5

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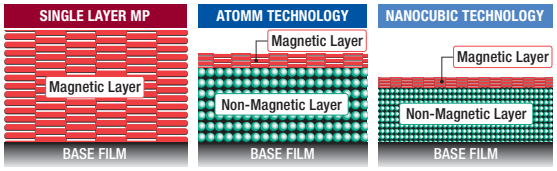
TECHNOLOGY

NANOCUBIC Technology

Although ATOMM technology made submicron metal coating possible, a much thinner layer was required in order to achieve even higher recording density. Fujifilm's NANOCUBIC technology has made possible an ultra-thin magnetic layer that is roughly one-tenth the thickness of the magnetic layers in ATOMM coating. This new technology also incorporates ultra-fine nano-particles to reduce media noise, and a uniform particle dispersion technology featuring a specially developed polymer compound. The result is a high-resolution, low-noise, ultra-thin magnetic layer that is the basis for the next generation of data recording media.

Structural Comparison of Magnetic Media



High Capacity and Transfer Rates

Fujifilm's NANOCUBIC technology has enabled LTO Ultrium 5 to achieve a native/compressed capacity of 1.5/3.0TB by recording 1,280 data tracks within 12.6mm tape width. With the utilization of multi-channel recording technology, LTO 5 features native/compressed transfer rates of up to 140/280MB per second.

Improvement in "NANOCUBIC Technology":

For LTO Ultrium 5 development, Fujifilm has further advanced the NANOCUBIC technology with the following key technologies and has successfully achieved a higher recording density:

(1) Development of finer metal particles (78% of the size of LTO Ultrium 4)

(2) Nano-dispersion technology with a new binder system

(3) Advanced nano-coating technology to achieve a much smoother and more uniform magnetic layer resulting in a significant decrease in tape surface defects.

New Reel Design

As the tape length increases, there is a tendency of increased pressure on the hub with the potential risk of causing hub deformation. This may lead to unexpected deformation, such as tape edge damage or other physical anomalies. In order to avoid such hub deformation, Fujifilm has strengthened the hub structure by applying a new design with new materials. As a result, Fujifilm has successfully achieved both running stability in the drive and a highly reliable archival life expectancy.

Environmental Products

BFR (brominated flame retardants) have been eliminated from all LTO 5 mechanical parts in order to become more environmentally-friendly.

SPECIFICATIONS

LTO Ultrium 5 Specifications		Ultrium 5	Ultrium 5 WORM
BASIC SPECIFICATIONS	Product Code	16008030	16008054
	Capacity (Native / Compressed)	1.5/3.0TB*	
	Transfer Rate (Native / Compressed)	Up to 140MB/sec./Up to 280MB*/sec	
	Number of Tracks	1,280	
	Servo Type	Timing-based servo	
	Cartridge Memory	65,280bits/8,160bytes; Internal EEPROM	
PHYSICAL CHARACTERISTICS	Tape Width	12.65mm	
	Tape Thickness	6.4µm	
	Tape Length	846m	
	Cartridge Dimensions	21.5 x 105.4 x 102.0mm (0.85" x 4.15" x 4.02") [W x H x L]	
OPERATING ENVIRONMENTAL CONDITIONS	Temperature	10-45°C (50-113°F)	
	Humidity	10-80% RH.	
	Max. Wet Bulb Temp.	26°C (78°F)	
ARCHIVAL ENVIRONMENTAL CONDITIONS	Temperature	16-32°C (60-90°F)	
	Humidity	20-80% RH.	
	Max. Wet Bulb Temp.	26°C (78°F)	

*Assumes 2:1 data compression. Transfer rate is drive dependent.
Specifications subject to change.

LTO Ultrium Tape Drive Compatibility Chart

Cartridge	Drive				
	Ultrium 1	Ultrium 2	Ultrium 3	Ultrium 4	Ultrium 5
Ultrium 1	Read/Write	Read/Write	Read Only	Not Compatible	Not Compatible
Ultrium 2	Not Compatible	Read/Write	Read/Write	Read Only	Not Compatible
Ultrium 3	Not Compatible	Not Compatible	Read/Write	Read/Write	Read Only
Ultrium 3 WORM	Not Compatible	Not Compatible	Read/Write Once	Read/Write Once	Read Only
Ultrium 4	Not Compatible	Not Compatible	Not Compatible	Read/Write	Read/Write
Ultrium 4 WORM	Not Compatible	Not Compatible	Not Compatible	Read/Write Once	Read/Write Once
Ultrium 5	Not Compatible	Not Compatible	Not Compatible	Not Compatible	Read/Write
Ultrium 5 WORM	Not Compatible	Not Compatible	Not Compatible	Not Compatible	Read/Write Once
Ultrium Universal Cleaning Cartridge	Compatible	Compatible	Compatible	Compatible	Compatible

Fujifilm's Ultrium Universal Cleaning Cartridge is designed for use with all Ultrium 1, 2, 3, 4 & 5 tape drives.

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ULTRIUM LTO 5

TAPE SAVES ENERGY