

LTO Ultrium 9

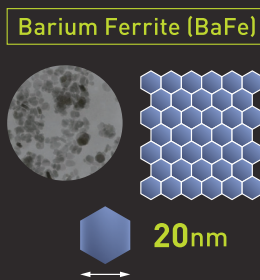
Max Capacity : 45TB (18TB uncompressed)
Max Transfer Rate : 1,000MB/sec
(400MB/sec uncompressed)

Magnetic tapes are attracting an increasing attention as storage media that provides long-term storage of large-capacity data safely at low cost. In addition, it has a significantly lower environmental impact as there is no need to have it constantly powered on during data storage, thereby mitigating the amount of CO₂ emissions generated during data storage by 95%^{*1} compared to hard disk drives. The high capacity, achieved in “FUJIFILM LTO Ultrium9” , caters to the surging data storage demand amidst the rapid development of IoT technology and acceleration of Digital Transformation, and contributes to mitigating CO₂ emissions, an urgent task that must be addressed globally.



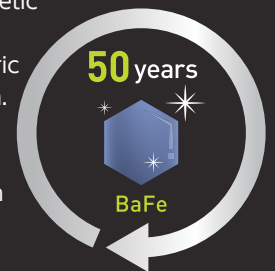
Large capacity

BaFe magnetic particles measuring only about 20nm, allowing a large number of particles to be laid on the same surface. This significantly increases an areal recording density, thereby dramatically boosting the tape's storage capacity.



Long-term storage

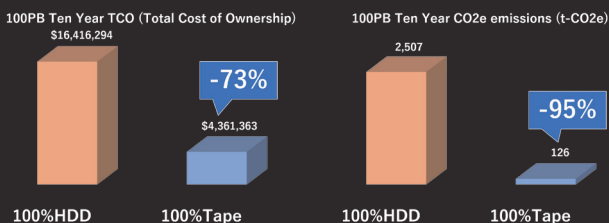
While the primary cause of magnetic degradation is oxidation, as BaFe magnetic particle is already a ferric oxide, it does not suffer oxidation. This is why BaFe tape offers superior archivability. The accelerated test^{*2} has shown that the tape offers stable data storage for more than 50 years.



^{*2} According to the Tape Storage Technical Committee of JEITA (Japan Electronics and Information Technology Industries Association)

Low Cost • CO₂ emissions

Compared to hard disk storage (HDD), LTO tape storage has superior cost performance and achieves CO₂ emissions reduction as it provides lower cost per TB and requires almost no electricity in storing data.



^{*1} Source : Brad Johns Consulting, LLC "Improving Information Technology Sustainability with Modern Tape Storage"

Safety

Tape can physically isolate data from the network to create an air gap, minimizing the risk of data loss due to cyberattacks, securing your important data.



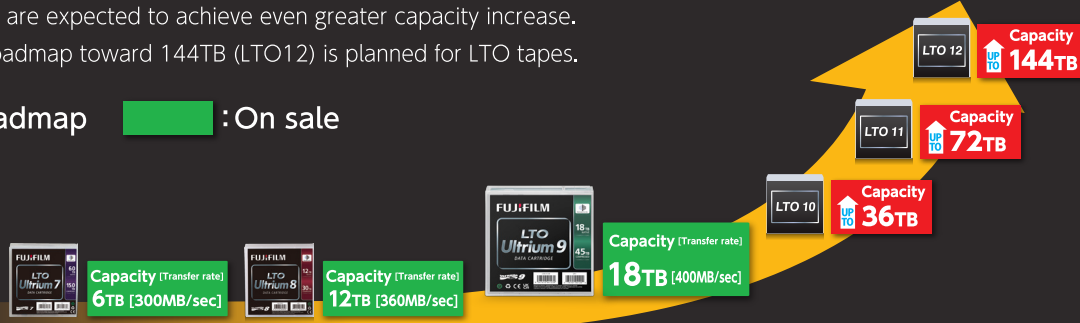
System or data damage by computer viruses

Sudden system shutdown or crash

Evolution and future of LTO tape technology

Magnetic tapes are expected to achieve even greater capacity increase.
At present, a roadmap toward 144TB (LTO12) is planned for LTO tapes.

 : Roadmap : On sale



Media / drive compatibility

○: Read / write △: Read only (no writing) ×: No read / write

Media		G4 drive	G5 drive	G6 drive	G7 drive	G8 drive	G9 drive
		G4	○	○	△	×	×
	G5	×	○	○	△	×	×
	G6	×	×	○	○	×	×
	G7	×	×	×	○	○	×
	G8	×	×	×	×	○	○
	G9	×	×	×	×	×	○

Main specifications of LTO cartridges

		LTO CL [®]	LTO G4 / G4 WORM	LTO G5 / G5 WORM	LTO G6 / G6 WORM	LTO G7 / G7 WORM	LTO G8 / G8 WORM	LTO G9 / G9 WORM
Basic specifications	Capacity (Max compression)	—	800GB (1.6TB)	1.5TB (3.0TB)	2.5TB (6.25TB)	6TB (15TB)	12TB (30TB)	18TB (45TB)
	Data transfer rate (Max compressed) <small>*Depends on the drive interface.</small>	—	120MB/s (240MB/s)	140MB/s (280MB/s)	160MB/s (400MB/s)	300MB/s (750MB/s)	360MB/s (750MB/s)	400MB/s (1,000MB/s)
	Number of tracks	—	896 (16 track head serpentine)	1,280 (16 track head serpentine)	2,176 (16 track head serpentine)	3,584 (32 track head serpentine)	6,656 (32 track head serpentine)	8,960 (32 track head serpentine)
	Servo method	—	Timing-based					
Physical specifications	Cartridge memory	32,786 bits (4,096 bytes); internal EEPROM with electromagnetic induction antenna	65,280 bits (8,160 bytes); internal EEPROM with electromagnetic induction antenna		130,816 bits (16,352 bytes); internal EEPROM with electromagnetic induction antenna		261,888 bits (32,736 bytes); internal EEPROM with electromagnetic induction antenna	
	Tape width	12.65mm						
	Tape thickness	8.9 μm	6.6 μm	6.4 μm	6.1 μm	5.6 μm		5.2 μm
	Tape length	319m	820m	846m		960m		1,035m
Recommended operation environment	Cartridge dimensions	H102.0 x W105.4 x D21.5mm						
	Temperature	10~45°C						15~25°C
	Humidity	10~80%RH						20~50%RH
	Max wet-bulb/dew-point temperature	26°C (Max wet-bulb)						22°C (Max dew-point)
Recommended storage environment	Temperature	16~35°C (short-term) / 16~25°C (long-term)						15~25°C
	Humidity (short/long-term)	20~80%RH (short-term) / 20~50%RH (long-term)						20~50%RH
	Max wet-bulb/dew-point temperature	26°C (Max wet-bulb)						22°C (Max dew-point)
Allowable operation environment	Temperature	10~45°C						15~35°C
	Humidity	10~80%RH						20~80%RH
	Max wet-bulb/dew-point temperature	26°C (Max wet-bulb)						22°C (Max dew-point)
Allowable storage environment	Temperature	16~35°C (short-term) / 16~25°C (long-term)						15~35°C
	Humidity (short/long-term)	20~80%RH (short-term) / 20~50%RH (long-term)						20~80%RH
	Max wet-bulb/dew-point temperature	26°C (Max wet-bulb)						22°C (Max dew-point)
Physical specifications	Encryption support	×	○	○	○	○	○	○
	LTPS support	×	×	○	○	○	○	○

* The cleaning cartridge is universally usable for all G2/3/4/5/6/7/8/9 drives. (Some exceptions may apply.)

Lineup of LTO data cartridges

	LTO G4	LTO G5	LTO G6	LTO G7	LTO G8	LTO G9
Model number	LTO FB UL-4 800G U	LTO FB UL-5 1.5T J	LTO FB UL-6 2.5T J	LTO FB UL-7 6.0T J	LTO FB UL-8 12.0T J	LTO FB UL-9 18.0T
JAN code	4547410 019100	4547410 119169	4547410 237061	4547410 316971	4547410 364828	4547410 441239

Lineup of WORM-type and cleaning cartridges

	LTO CL	LTO G4 WORM	LTO G5 WORM	LTO G6 WORM	LTO G7 WORM	LTO G8 WORM	LTO G9 WORM
Model number	LTO FB UL-1 CL UCC J	LTO FB UL-4WORM 800G U	LTO FB UL-5WORM 1.5T J	LTO FB UL-6WORM 2.5T J	LTO FB UL-7WORM 6.0T J	LTO FB UL-8WORM 12.0T J	LTO FB UL-9WORM 18.0T
JAN code	4902520 241603	4547410 019193	4547410 119183	4547410 237078	4547410 316995	4547410 364835	4547410 441246

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● Specifications are subjected to change without notice. This product catalogue is correct and accurate as of September 2021.

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