

Sony LTO Range

The smart choice for your business





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At Sony, we know that data tapes are not consumer products, they save the lifeblood of company organisation. To ensure the safety of your data, we **manufacture** LTO you can trust in. We also provide the fastest and best possible **service** and support to make sure you will have a great experience in using our products.



Data storage and back up is crucial for all companies and with the ever-increasing amount of legal requirements and the retention of business records, the flood of data continues to grow exponentially.

LTO Ultrium media is the perfect solution to store this large volume of data. Better cost per GB, vast capacity, low energy consumption, robustness, portability, and scalability, show these unrivalled attributes building its strong reputation over the past few years into the IT rooms.

Banks, insurance companies and research centres will choose this format because most of their data doesn't need to be accessed very often. Data streams such as Broadcasters, multimedia, databases companies like it for its ability to store huge volumes of data.



60
YEARS
in developing
cutting edge storage
media and drives

N°1
Media Manufacturer

Sony strong recording media expertise

2009 >> DAT 320 format introduction, co-developed with Hewlett-Packard.

2005 >> Blu-Ray, the next generation large capacity optical disc video recording format.

1998 >> Memory Stick, an IC recording media designed to record various kinds of digital content on a single stick.

1997 >> AIT format launch, Sony manufactures drive and media.

1988 >> 5.25 inch Mo Rewritable, highly reliable, large-capacity magnetic optical disk.

1987 >> Sony creates a recording medium corresponding to the CD. One year after CD-R goes on sale.

1950 >> Sony's first magnetic recording tape.



Expertise

Being the **unique brand who manufactures storage drives and media**, Sony has an unrivalled know-how to meet the challenge of developing a high performance LTO Ultrium product.



Reliability

Thanks to over-60 years of media and drive manufacturing experience and technological innovations, Sony develops LTO tape which is **exceptionally reliable, stable and durable in a variety of environments**.



Compatibility

Sony LTO tapes pass all the tests required by the LTO specification to ensure **100% read/write compatibility** with any Ultrium drive and library on the market.



Services

Our commitment is to offer top quality LTO media together with **first class services**, from lifetime guarantee, to customer technical center, and more!



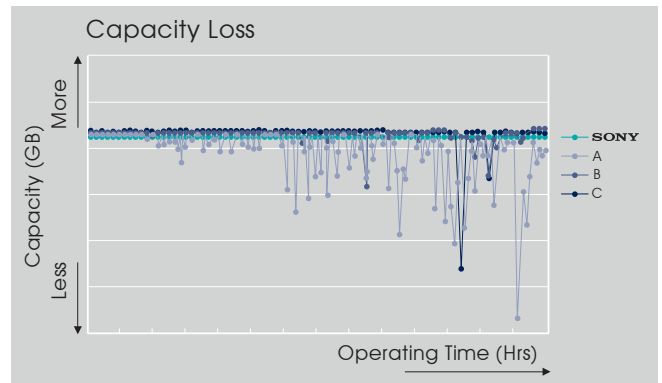
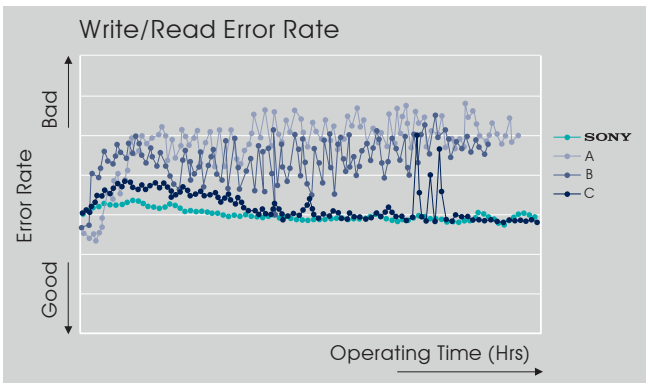


Reliability

When it comes to recording on data tapes, you need reliable materials that can accurately reproduce data, especially if it is to store for a long period of time.

What professionals seek and need in modern storage media is not only large capacity, high recording density, but also the lowest possible error rate and no capacity loss.

Independent test data & in-house testing demonstrates that Sony LTO media has the best in class stability in capacity and very limited error rates compare to other vendors on LTO3 and LTO4 within the Top 2 drives vendors. With the time and money that you save from the no capacity loss and the ability to protect your precious data, Sony's LTO media is clearly the advantageous choice.



Full Length write and Read Test - LTO4
Results product comparison to drive Manufacturer X



Full Compatibility

To make sure your Sony LTO cartridge can be used with the widest variety of drives possible, our storage media experts in Japan have tested all Sony LTO media with a comprehensive selection of drives available in the market.

Ask your Sony representative to get the list of drives that proved 100% compatibility; if your drive appears in the list, you can use the corresponding Sony media with complete confidence.



- On top of very high manufacturing expertise,
- Sony is checking in the factory 100% of LTO media during the 1st 18 months of production for ultimate quality testing.



Technology Expertise

Using cutting-edge technology for high recording density and large capacity recording media, Sony engineers work tirelessly to bring customers **all of the essential features** that they desire, from durability for long-term storage, to environmental resistance that provides stable performance in high-temperature and high-humidity environments (or conversely, dry environments). Each LTO generation requires engineering enhancements in order to reach the highest storage and performance levels. With LTO5, Sony has made further advancements on coating, surface smoothing and particle innovations.

A3MP Technology

A3MP uniformly coats the metal particles with ceramic alloy layer to provide high-output characteristics, maintain a high resistance to environmental conditions, and reduce variations in particle size when compared to conventional materials.

Sony Servo Tracks

Our high-output and high S/N tapes, combined with Sony's original servo writer, provide highly accurate signals. Our highly accurate servo signals improve data reliability by preventing off-tracks during reads and writes.

Improved Base Materials

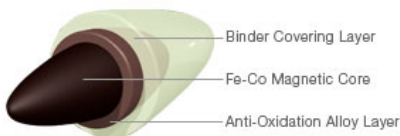
Sony's newly developed base film improves dimensional change rates and lateral strength.

Why is this important?

It gives protection against changes in temperature and humidity. Temperature changes in servers can affect magnetic properties if not coated properly.

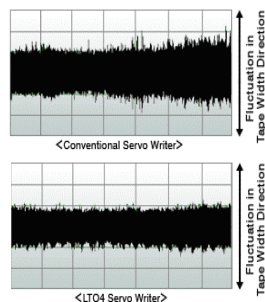
Advanced Alloy Armored Metal Particle (A3MP)

Multi-Layer Structure for Magnetic Particles



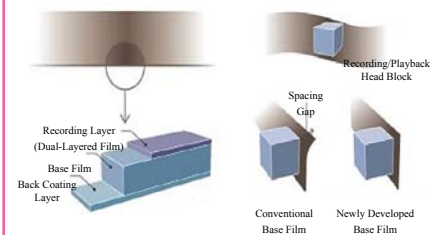
Why is this important?

It increases stability when reading/writing data means fewer tape failures and improved backup/archiving efficiency.

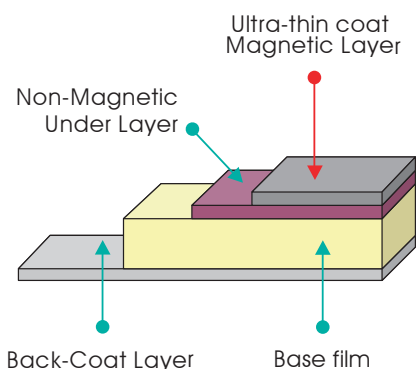


Why is this important?

Conventional magnetic tapes do not ride flat against the tape head. The gaps lead to read/write errors. Sony media stays in contact with the head 100% of the time.

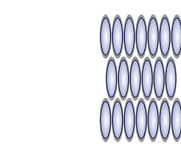


Tape Structure

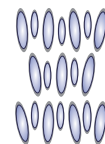


Sony unique coating technology

High-output magnetic materials...

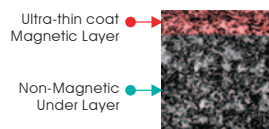


<Sony LTO> Highly oriented, low noise

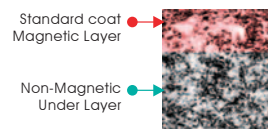


<Conventional Material> Poorly oriented, high noise

...and ultra-thin magnetic film technologies



<Sony LTO Lower Layer>



<Conventional Material>



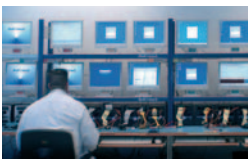
Services

Another key part of the Sony proposition is **ADDED-VALUE SERVICES**. These include:



Labelling

Free Customised Labelling service for Automated Tape Systems. With media lifetime label guarantee, improve efficiency, maximise time and secure your data!
With LTO5, RFID labels can be attached thanks to a deeper area on the cartridge.



Technical Center in Belgium

High Level, Responsive Technical Support by Sony Customer Service that provides full media off-site « health checks » & advice/recommendations on media use. When required, our engineers made on-site visit in shortest delays.



Data Recovery/Conversion/Duplication
Data Recovery/Data Conversion/Data Duplication* through our partnership with world-leading data management company Ontrack.

* Terms and conditions apply



Tape Media Health Analysis

Sony LTO CM scanner tracks the quality and reliability of LTO tapes to assess the performance of your system. Easy to use and extremely handy, Sony LTO CM scanner is ideal for a complete on-site check-up.

Save time, space, money with Sony LTO library packs

Designed for higher volume users each pack contains 20 pieces of LTO Ultrium - perfect for saving time, money and storing more data!

And with less packaging, Sony contributes to waste reduction and limits energy consumption: save by 65%** plastic by preferring Library Pack instead of Single Cartridge.

Sony's library packs are available for LTO 2, 3, 4 and 5.

Library Packs	20LTX 200GLP	20LTX 400GLP	20LTX 800GLP	20LTX 1500GLP
General Characteristics				
Format	LTO 2	LTO 3	LTO 4	LTO 5
Number of tapes per pack	20	20	20	20



Lifetime Guarantee

It is our commitment to make sure all our customers are fully satisfied with the quality and performance of Sony Storage Media products. This is why we offer a lifetime guarantee*.

Sony offers a lifetime guarantee against manufacturing defects on any LTO tapes. This means we warrant to our customers no defect in workmanship or material, during the entire life of the product. So if the media fails due to the way it was made we will replace it, free, for life.



* The lifetime guarantee is valid on products purchased from 2005. Terms and conditions apply.



Sony Cleaning tapes keep your drives and storage media in top condition. There's no better way to maintain peak performance and protect your precious data.

** Comparing the LTO single pack to the LTO library pack (20 pieces) (According to Sony testing)

eco



Our overall eco ambition is very simple: to reduce the impact of our products and our products' business operations' impact on the environment. The Sony approach to achieving that is even simpler: its known as the « 3Ps » and is broadly divided into 3 areas - « Product », « Process » & « Planet ».

product

When we produce new LTO magnetic tapes we do not always have to use new materials at the source: we use recycled materials to produce LTO packaging and LTO cartridge shell. We also commit to propose less plastic demanding packaging such as the library pack.

process

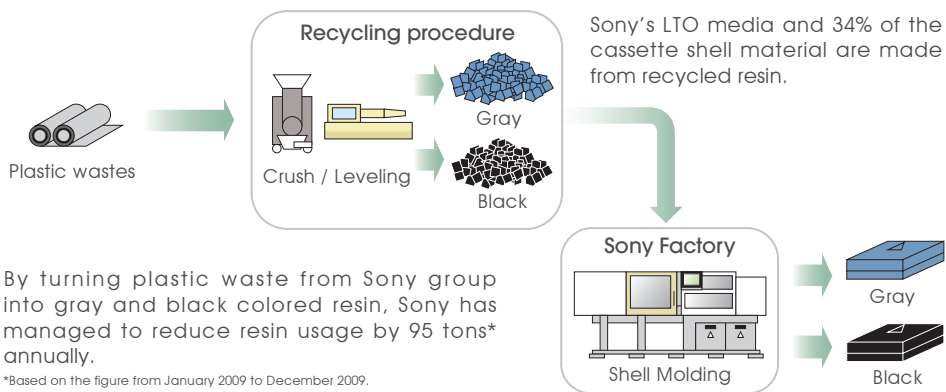
Sony closely monitors and manages chemical substances used in its products at all stages of the manufacturing cycle. Our LTO manufacturing plant in Japan does this from the raw material and component stages right through to final shipment.

planet

By recovering and reusing materials, cutting waste and reducing greenhouse gas emissions, Sony is committed to minimising the impact of our business on the planet.



Recycled resin adapted for the LTO cartridge shell



Reduced use of plastic with the library pack



The library pack can save you time and space. Thanks to LTO Library Pack (20 pieces) you can reduce the use of plastic by 65%* in comparison to LTO single pack.

*According to Sony testing.

To find out more about our environmental initiatives, please visit www.sony.eu/eco

Key features and benefits

Drive / Media Compatibility

Media Model	Drive Model				
	LTO Ultrium Drive 1	LTO Ultrium Drive 2	LTO Ultrium Drive 3	LTO Ultrium Drive 4	LTO Ultrium Drive 5
LTO1 Cartridge	Read/Write	Read/Write	Read Only	Rejected	-
LTO2 Cartridge	-	Read/Write	Read/Write	Read Only	-
LTO3 Cartridge	-	-	Read/Write	Read/Write	Read Only
LTO3 WORM Cartridge	-	-	Read/Write*	Read/Write*	Read/Write*
LTO4 Cartridge	-	-	-	Read/Write	Read/Write
LTO4 WORM Cartridge	-	-	-	Read/Write**	Read/Write**
LTO5 Cartridge	-	-	-	-	Read/Write

*This cartridge is designed for use specifically with WORM compatible drives that use the LTO Ultrium 3 format.

** This cartridge is designed for use specifically with WORM compatible drives that use the LTO Ultrium 4 format.

Eight-Generation Roadmap

Gen 1	Gen 2	Gen 3	Gen 4	Gen 5	Gen 6	Gen 7	Gen 8
Partitioning	Encryption	Encryption	Encryption	Encryption	Encryption	Encryption	Encryption
WORM	WORM	WORM	WORM	WORM	WORM	WORM	WORM
Compressed Capacity	200 GB	400 GB	800 GB	1.6 TB	3 TB	8 TB	16 TB
Compressed Transfer Rate	up to 40 MB/s	up to 80 MB/s	up to 160 MB/s	up to 240 MB/s	up to 280 MB/s	up to 525 MB/s	up to 788 MB/s
							up to 1180 MB/s

Note: Compressed capacities for generations 1-5 assume 2:1 compression. Compressed capacities for generations 6-8 assume 2.1:1 compression (achieved with larger compression history buffer).

Source: The LTO Program. The LTO Ultrium roadmap is subject to change without notice and represents goals and objectives only.

Specifications

General Characteristics	LTX-100G	LTX-200G	LTX-400G	LTX-800G	LTX-1500G
Format	LTO-1	LTO-2	LTO-3	LTO-4	LTO-5
			Worm	Worm	Worm
Storage Capacity	200GB	400GB	800GB	1.6TB	3.0TB
Compressed* (Native)	(100GB)	(200GB)	(400GB)	(800GB)	(1.5TB)
Transfer Rates	40MB/s	80MB/s	160MB/s	240MB/s	280MB/s
Compressed* (Native)	(20MB/s)	(40MB/s)	(80MB/s)	(120MB/s)	(140MB/s)
Magnetic Material	Metal Particle (MP)				
Built-in RF-ID Memory Chip (byte)	4096	4096	4096	8192	8192
Magnetic Characteristics					
Coercive Force (kA/m)	157	200	220	220	230
Physical Characteristics					
Tape Thickness (µm)	8.8	8.8	8.0	6.6	6.4
Tape Width (mm)	12.65	12.65	12.65	12.65	12.65
Tape Length (m)	609	609	680	820	846
Environmental Requirements					
Operating Conditions (°f(°c); %rh)	50~113 (10~45); 10~80 (°f (°c); %rh**)				
Storage Conditions					
Short Term conditions	60~90 (16~32); 20~80 (°f (°c); %rh**)		60~95 (16~35); 20~80 (°f (°c); %rh**)		
Archive conditions			60~77 (16~25); 20~50 (°f (°c); %rh**)		
Tape Dimensions (nominal)					
Cartridge Dimensions (mm)	102.0x105.4x21.5				
Weight (g)	275 (with case)				

* Compression ratio: 2:1 ** Maximum wet bulb temperature: No condensation at 26°C (79°F).

Massive storage capacity

LTO uses single reel, half-inch Metal Particle (MP) tape technology with optimised track layouts to deliver a range of capacities up to an impressive 3TB with LTO5.

Rapid back up

Featuring latest data compression technology, LTO cartridges can back up data quickly for superb cost effectiveness. LTO offers ultra fast data transfer (280MB/s compressed with LTO5).

High speed access to your data

Performance data, cartridge history and media error information are stored on the LTO Cartridge Memory (LTO-CM) for faster file access and quicker cartridge access in a library environment.

Reliability and durability

Latest ultra-thin coating technology applied to the magnetic layer enables high-density recording and high-output reading of data from LTO media. This powerful format can perform over **one million passes** and store precious data for over **30 years***. **Lifetime Guaranteed****.

WORM available for secure archiving

Write-Once Read-Many (WORM) media is ideal for protecting valuable data against accidental erasure and prevents alteration of archives.

Compatible with Ultrium drives & libraries

Library Packs available

Customised labelling service

LTO5 cartridges, ideal for RFID labels

* Depending on storage conditions. Estimation based on the acceleration test.

** Terms and conditions apply.



Visit our website :
www.pro.sony.eu/storage-media