

# DUAL LTO TAPE SUBSYSTEM

SafeDR™





## THE BIG PICTURE

- Dual LTO-1, LTO-2, or LTO-3 tape drives in external enclosure.
- Capacity: LTO-3 is 400GB native (800GB compressed).
- Speed: LTO-3 is 288GB/hour native (576GB/hr compressed).
- Mirrored backup provides disaster recovery support.
- Added functions: off-line copy plus cascading.
- LCD operator panel improves backup efficiency.
- 3-level media protection with LTO-1, LTO-2, and LTO-3.
- Roadmap to LTO-4.
- LTO range: single drive to enterprise-wide libraries.
- Supports LVD, HVD, and FC connections.

Our Dual LTO Tape Subsystem is part of GST's SafeDR™ family. Dual drives generate identical sets of backup cartridges so that one set can be safeguarded remotely for disaster recovery while the other set is retained onsite for faster restores; other tape functions add off-line copy and cascading capabilities. An LCD panel provides an advanced operator interface for visibility over backup operations.

The Dual LTO Tape Subsystem can backup a wide variety of servers. They connect natively with LVD (low voltage differential), HVD (high voltage differential), and FC (Fibre Channel) interfaces.

## MODEL OVERVIEW

GST's Dual LTO Tape Subsystem is available in a variety of models. Each LTO technology (LTO-1, LTO-2, LTO-3) is available in two server-to-SCSI Adapter interfaces and one fibre interface:

**Low Voltage Differential (LVD).** Maximum SCSI negotiation of 160MB/s; the total server-to-storage peripheral connectivity is 12 meters.

**High Voltage Differential (HVD).** Maximum SCSI negotiation of 40MB/s; the total server-to-storage peripheral connectivity is 25 meters.

**Fibre Channel (FC).** 2Gbit fibre interface.



## LTO TECHNOLOGY

LTO tape technologies supported are LTO-1, LTO-2, and the newer LTO-3. Native capacities for LTO-1, LTO-2, and LTO-3 are 100GB, 200GB, and 400GB (200GB, 400GB, 800GB compressed) with speeds of 54GB/hr, 86-126GB/hr, and 288GB/hr (108GB/hr, 172-252GB/hr, 576GB/hr compressed). It has a 4-generation roadmap that provides for a native capacity of 800GB per cartridge (1.6TB compressed) and a transfer rate of up to 576GB/hour (1.1TB/hour compressed).

Cartridges use linear (serpentine) tape format providing fewer moving parts, durability and reduced maintenance costs. The version of LTO technology that GST uses is best suited for high-capacity backup, restore and archiving. Enhancements in the areas of timing-based servos, hardware data compression, optimized track layouts and ECC error correction help improve capacities, performance and reliability.

## KEY BENEFITS

**Improved DR** – Mirrored backup capability produces simultaneous sets of identical backup cartridges with off-site for better disaster recovery and storage of the other set on-site for rapid restore.

**Fault-Tolerant Backup and Restore** – Dual-drive configurations ensure against drive failure since the second drive continues to operate, ensuring the backup is completed successfully.

**Added Tape Functions** – For dual-drive subsystems, key added tape functions include: dual-drive mirroring for mirrored backups, off-line copying/verifying with no processor penalty, and cascading to extend unattended backup capacity by switching from one drive to the other (doubling capacity).

**Space Saver** – The small dimensions and light weight of the configuration facilitate the optimum use of datacenter space.

**Media Investment Protection** – For IT sites with an investment in LTO-1 and LTO-2 media, the newer LTO-3 technology is backward-read compatible, and forward-read compatible with future generations.

## KEY FEATURES

**Dual Drive Controller** – Manages mirroring, off-line copying, cascading, and the LCD Display Panel.

**LCD Display Panel** – Multi-function LCD Display Panel continuously displays key drive and backup job conditions.

**Convenient Drive Interface** – RS232 interface for updating firmware and optimizing drive performance.

**Service and Support** – A variety of support programs provide installation and onsite service; includes GST's Accelerated Ship Program (GASP) to get replacement units on the scene rapidly.

**Warranty** – Purchase price includes a built-in manufacturer's warranty of three years.



# DUAL LTO TAPE SUBSYSTEM



SPECIFICATIONS	LTO-1	LTO-2 Jr.	LTO-2	LTO-3
Capacity - Mirrored Mode				
Native	100 GB	200 GB	200 GB	400 GB
Compressed <sup>1</sup>	200 GB	400 GB	400 GB	800 GB
Capacity - Cascade Mode				
Native	200 GB	400 GB	400 GB	800 GB
Compressed <sup>1</sup>	400 GB	800 GB	800 GB	1.6 TB
Sustained Transfer Rate - MB/s				
Native	15 MB/s	24 MB/s	35 MB/s	80 MB/s
Compressed <sup>1</sup>	30 MB/s	48 MB/s	70 MB/s	160 MB/s
Sustained Transfer Rate - GB/hr				
Native	54 GB/hr	86 GB/hr	126 GB/hr	288 GB/hr
Compressed <sup>1</sup>	108 GB/hr	172 GB/hr	252 GB/hr	576 GB/hr
Data Compression	LZ1	LZ1	LZ1	LZ1
Operating Temperature	50o C to 100o F	50o C to 100o F	50o C to 100o F	50o C to 100o F
Operating Humidity	20% to 80%	20% to 80%	20% to 80%	20% to 80%
Dimensions (H x W x D), Desk	10.5" x 7" x 16"	10.25" x 9" x 11.25"	10.5" x 7" x 16"	7" x 7" x 16"
Weight, Desk	18 lbs	9 lbs	18 lbs	10 lbs
Dimensions (H x W x D x U), Rack	4" x 18" x 20" x 2U	4" x 18" x 20" x 2U	4" x 18" x 20" x 2U	4" x 18" x 20" x 2U
Weight (unpopulated), Rack	30 lbs	30 lbs	30 lbs	30 lbs
Media	Ultrium 1	Ultrium 2	Ultrium 2	Ultrium 3
Warranty	3 Years	3 Years	3 Years	3 Years

1. Compressed Capacity & Transfer Rate Assumes 2:1 Ratio.



3419 Via Lido, Suite 164  
 Newport Beach, CA 92663  
 949.673.1248 ~ 949.673.3163 - Fax  
[www.gstinc.com](http://www.gstinc.com) ~ [sales@gstinc.com](mailto:sales@gstinc.com)

GST, Inc. engineers, manufactures, markets and sells a full line of innovative storage backup and restore products to meet today's need for high-performance, fail-safe reliability and cost-effective data storage. Products include single and dual tape subsystems, autoloaders, midrange tape libraries and modular enterprise-wide libraries. Complete information about the company, its products and support can be found at: [www.gstinc.com](http://www.gstinc.com)