

QUALSTAR LTO TAPE LIBRARY SYSTEM

AUTOMATED TAPE LIBRARIES FEATURING
ULTRIUM GEN1 AND GEN2 TECHNOLOGY



The TLS-8000 Series is the first family of automated tape libraries to bring the power of LTO Ultrium™ technology to enterprise class backup and near-online data storage. Developed jointly by Hewlett-Packard, IBM Corporation and Seagate Technology, LTO Ultrium technology sets new standards in midrange tape storage solutions. Combined with our advanced robotic design, it yields capacity, performance and storage densities that lead the industry.

SEAMLESS, TRANSPARENT INTEGRATION

Concurrent data transfer between up to 8 drives provides the high throughput necessary to backup large networks. And simultaneous reading and writing means procedures can be scheduled anytime of the day or night completely independent of any operator whatsoever and with no interference with production. SANSmart™ technology and multiple SCSI busses increase throughput to meet narrowing backup windows. Backup and storage management programs by all leading application developers support the TLS-8000 family for easy integration and very low cost per gigabyte.

THE RIGHT SYSTEM FOR YOU NOW...

Offering unbeatable reliability, performance and value, our TLS-8000 LTO Tape Library family includes 7 models spanning capacities from 1.1 to over 105 terabytes. Individual models house one, two, four, or eight tape drives, delivering data transfer rates exceeding 1.7 terabytes per hour and storage densities approaching 14 terabytes per square foot.

...AND THE EXPANDABLE SYSTEM FOR YOUR FUTURE

Libraries equipped with Gen1 drives are readily upgradable to Gen2. Field upgrade kits are available for several models that double the number of tapes, and additional drives are easily installed to increase throughput. Tape drives are housed in

plug-in canisters containing dedicated cooling fans to enhance reliability. Drives are hot-plugable and can be user-installed in less than one minute, without opening the library. Capacity expansion kits take less than an hour to install.

RELIABLE, INTELLIGENT ROBOTICS

Our unique robotic mechanism is simply better, by design. Leadscrew-based robotics using brushless motors and closed-loop servo control systems provide precise positioning and flawless media handling for years of dependable operation. All electrical and mechanical adjustments have been completely eliminated by sophisticated, adaptive “smart” logic design. Filtered positive air pressure within each unit eliminates airborne contamination for extended tape and head life.

POWERFUL USER INTERFACE

An intuitive menu-driven control system provides easy-to-use installation, configuration, and operational information via the large LCD panel. Critical operating messages are displayed, and an audible alarm signals conditions requiring immediate action. Q-Link,™ our web browser-based remote library manager, is optional on all models. Q-Link allows any TLS-8000 Series Tape Library to be configured, monitored and managed from anywhere in the world. Using

Q-Link, companies can deploy enterprise class data protection without increasing staff or degrading data security. Even firmware updates can be installed remotely.

ADVANCED CARTRIDGE MANAGEMENT AND SECURITY

Bar code scanning enhances throughput and controls the media inventory. VIOP, a unique variable I/O port design, allows users to determine how many slots to commit to importing and exporting tapes. Our exclusive “Inventory Sentry” senses whether the tapes or magazines have actually been moved when the door is opened. If they haven't, operation is resumed without causing a time consuming reinventory.

SANSMART AND LOGICAL LIBRARYSM

The SANSmart Fibre Channel Options support the latest SAN and serverless backup applications. Logical Library is built into most TLS-8000 models and allows up to four servers to share a library, even if each server is running a separate application. Systems that you couldn't afford to upgrade can now be protected automatically.

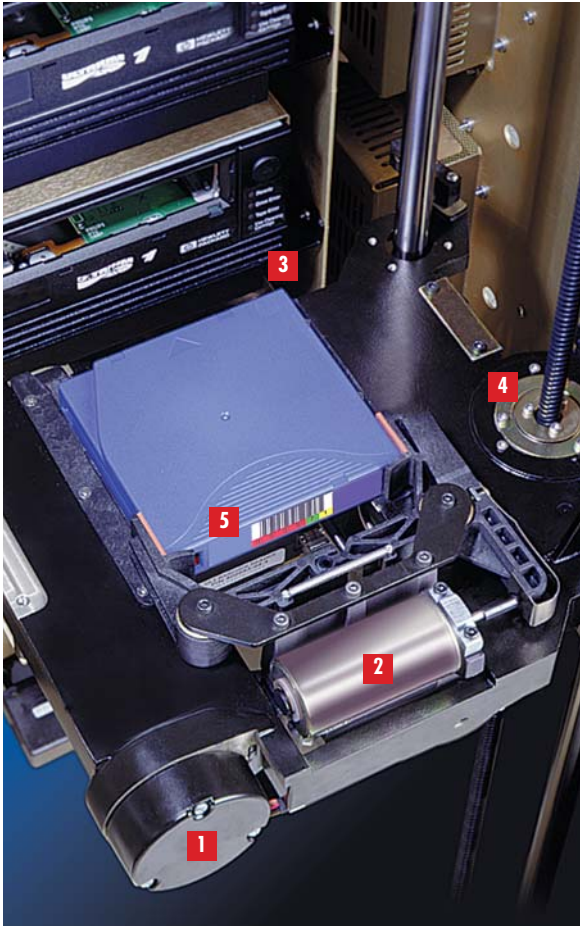
QUALSTAR: SIMPLY RELIABLE

Installation and support are provided by leading VARs and Integrators. Qualstar's *Simply Reliable* Tape Libraries are the preferred choice of IT professionals worldwide.



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ENGINEERED FOR RELIABILITY

- All brushless motors, no belts or pulleys **1**
- Self-calibrating, all-digital servo control system **2**
- Pre-wired tape drive mounting slots **3**
- Auto-aligning, no mechanical or electrical adjustments **4**
- Pressurized, filtered, forced air cooling with redundant fans
- Over 1,000,000 MEBF
- Automated tape drive cleaning

EFFICIENT MEDIA CONTROL

- Bar code scanning of data cartridges **5**
- Key locked door with a large window
- VIOP, variable I/O port for inserting and removing cartridges or magazines
- Inventory Sentry minimizes offline time

COMPREHENSIVE USER INTERFACE

- Q-Link remote library manager option
- Back-lighted 80 character display
- Control panel menu system for easy installation, configuration, operation and maintenance

VERSATILITY

- LVD/SE interface
- Multiple SCSI bus connections supported
- 1Gb and 2Gb SANSmart Fibre Channel Options
- Q-Link browser-based remote library manager option
- Logical Library dynamic partitioning
- Simultaneous random and multi-sequential operating modes
- Selectable recycling and dual-bin sequential modes

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Qualstar Corporation does not warrant the MEBF to be representative of any particular unit installed for customer use. Failure rates are derived from a large database of test samples. The individual failure rate will vary from unit to unit.

All information and specifications are based on our knowledge of the products at the time of printing. Qualstar reserves the right to change specifications without notice.

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Qualstar products are covered by one or more of the following patents: Des 392,147 and 6,271,982. Other patents pending.

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Printed in USA • DS 262 12/02

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7 MODELS TO CHOOSE FROM	8111	8211	8222	8433	8466	88132	88264
Number of Drives	1	1-2	1-2	1-4	1-4	1-8	1-8
Number of Tapes	11	11	22	33	66	132	264
Native Capacity (TB) Gen2	2.2	2.2	4.4	6.6	13.2	26.4	52.8
Native Capacity (TB) Gen1	1.1	1.1	2.2	3.3	6.6	13.2	26.4
Compressed Capacity (TB)* Gen2	4.4	4.4	8.8	13.2	26.4	52.8	105.6
Compressed Capacity (TB)* Gen1	2.2	2.2	4.4	6.6	13.2	26.4	52.8
Max. Native Data Rate (GB/hr.) Gen2	108	216	216	432	432	864	864
Max. Native Data Rate (GB/hr.) Gen1	54	108	108	216	216	432	432
Max. Comp. Data Rate (GB/hr.) Gen2	216	432	432	864	864	1.7 TB/hr.	1.7 TB/hr
Max. Comp. Data Rate (GB/hr.) Gen1	108	216	216	432	432	864	864
Avg. Exchange Time (sec.)	14	14	15	16	16	18	18
Time to Scan Barcodes (sec.)	12	12	26	41	91	92	108
Barcode Reader		Opt.	Opt.	Std.	Std.	Std.	Std.
I/O Port		Opt.	Opt.	Std.	Std.	Std.	Std.
Field Expansion Kit		Yes		Yes		Yes	
Height (in./cm)	23/58	36/91		45/114		62/157	
Width (in./cm)	13/33	13/33		19/48		37/94	
Depth (in./cm)	25/63	25/63		30/77		30/76	
Net Weight (lb./kg)	70/32	82/37		105/48		359/163	
Power Consumption (watts, avg.)	100	150		250		470	

* Using 2:1 compression ratio



SIMPLY RELIABLE