

QUALSTAR RLS SERIES LTO RACKMOUNT TAPE LIBRARY SYSTEMS

FEATURING CAPACITY
ON DEMAND



The RLS Series delivers Qualstar's *Simply Reliable* Automated Tape Library technology to LTO users requiring Compact, 5U-high rackmountable solutions. Offering superior performance and value, the RLS Series LTO Tape Library family includes three models yielding capacities up to 35.2 terabytes (native). Using typical data compression ratios, capacity can exceed 70 terabytes. Individual models house up to two tape drives. Data transfer rates can exceed 1.7 terabytes per hour.

CAPACITY ON DEMAND (COD)

The RLS-8204 model delivers a persuasive combination of low entry cost and easy capacity upgrades. This model supports one or two LTO full-height tape drives, giving users technology choices in compact 5U-high modules. Starting with twelve data tape slots, up to four, 8-slot expansion kits can be installed in just a few minutes. A simple software key and a pair of magazines is all it takes for users to easily add more capacity.

HIGH AVAILABILITY PLUS Q-LINK™

RLS high availability options include hot-swappable redundant power supplies, true hot-swappable tape drives, and Q-Link, the web browser-based remote library manager. Q-Link allows any RLS Series Tape Library to be configured, monitored, diagnosed and managed from anywhere in the world. Using Q-Link, companies can deploy enterprise-class data protection without increasing staffs or degrading data security. Even firmware updates can be implemented remotely.



DFA DRIVES SUPPORTED

RLS "D" models house LTO 3 or LTO 4 Direct Fibre Attach tape drives. These drives use 4Gb Fibre Channel interfaces to connect directly to ports on switches or to servers where SCSI cable length restrictions inhibit the desired installation. The RLS library control interface can be connected with SCSI, or with Fibre Channel using the FCO option.

INTERFACE CHOICES

The IPSmart™ iSCSI option offers dual Gigabit Ethernet ports for greater data throughput. Adding a library to an IP SAN is quick and easy.

RELIABLE, INTELLIGENT ROBOTICS

The RLS Series unique robotic mechanism is *Simply Reliable* by design. Leadscrew based robotics using brushless DC motors and closed-loop servo control systems provide precise positioning and flawless media handling for years of dependable operation. All FRUs, options and tape drives are autodiscovering, and all electrical and mechanical adjustments have been completely eliminated by sophisticated, adaptive "smart" logic design. Built-in reliability is only part of the RLS Series story. Each tape drive is on a self-connecting mount that eliminates handling cables. Simply slide the drives in or out.

EASY OPERATION

An intuitive menu-driven control system provides easy-to-use installation,

configuration and operational information via the onboard LCD panel. Critical operating functions are displayed and an audible alarm signals conditions requiring immediate action. All of the information, functions and controls built into the front panel display are replicated in Q-Link. Tapes are housed in convenient magazines that simply snap in and out of the library. Removing and organizing tapes for offsite storage is easy.

ADVANCED CARTRIDGE MANAGEMENT AND SECURITY

Barcode 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 removed when the door is opened. If they haven't, operation is resumed without causing a time consuming re-inventory.

LOGICAL LIBRARY

Logical Library is built into every RLS Series SCSI library. It allows up to four SCSI-connected servers to share a single library, even if each server is running a separate application. Systems that you couldn't afford to upgrade can now be protected automatically.



SIMPLY RELIABLE

QUALSTAR RLS SERIES LTO RACKMOUNT TAPE LIBRARY SYSTEMS

FEATURING CAPACITY ON DEMAND



ENGINEERED FOR RELIABILITY

- Auto-connecting user-installable tape drives
- All brushless motors
- Self-calibrating all-digital servo control system
- Auto-aligning, no mechanical or electrical adjustments
- Over 2,000,000 MEBF
- Automated tape drive cleaning

EFFICIENT MEDIA CONTROL

- Barcode scanning of data cartridges
- All tapes are housed in convenient removable magazines
- VIOP, variable I/O port for inserting and removing cartridges or magazines
- Inventory Sentry minimizes offline time

COMPREHENSIVE USER INTERFACE

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

VERSATILITY

- Capacity on demand: add up to four 8-slot user-installed or factory option expansion kits
- Hot-swappable tape drive option
- Redundant hot-swappable power supply option
- Fibre Channel interface option
- IPSmart iSCSI option
- Ultra2 LVD SCSI interface
- 4Gb DFA drives supported
- Multiple SCSI bus connections supported
- Logical Library Partitioning (SCSI only)
- Simultaneous random and multi-sequential operating modes
- Selectable recycling and dual-bin sequential modes

RLS SERIES LTO SPECIFICATIONS

THREE MODELS TO CHOOSE FROM	RLS-8236 / 8236D		RLS-8244 / 8244D		RLS-8204 / 8204D	
	LTO 3	LTO 4	LTO 3	LTO 4	LTO 3	LTO 4
Drive Type						
Number of Drives	1 – 2		1 – 2		1 – 2	
Number of Tapes	36		44		12 – 44	
Native Capacity (TB)	14.4	28.8	17.6	35.2	4.8 – 17.6	9.6 – 35.2
Compressed Capacity (TB)*	28.8	57.6	35.2	70.4	9.6 – 35.2	19.2 – 70.4
Max Native Data Rate (GB/hr)	576	864	576	864	576	864
Max Compressed Data Rate (TB/hr)*	1.1	1.7	1.1	1.7	1.1	1.7
Field Expansion					Four, 8-slot increments	
Average Exchange Time (seconds)	16		18		18	
Time to Scan Barcodes (seconds)	62		78		78	
Barcode Reader	Standard		Standard		Standard	
Variable I/O Port	Standard		Standard		Standard	
Height (in/cm)	5U		5U		5U	
Width (in/cm)	16.6 / 42.2		16.6 / 42.2		16.6 / 42.2	
Depth (in/cm)	32.0 / 81.3		36.8 / 93.5		36.8 / 93.5	
Net Weight (lb/kg)	104 / 47		147 / 67		147 / 67	
Power Consumption SCSI (watts, avg)	130		130		130	
Power Consumption FCI (watts, avg)	145		145		145	

* Using typical compression ratios

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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: 6,271,982, 6,560,061 and 7,181,313. Other patents pending.

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SIMPLY RELIABLE

QUALSTAR RLS SERIES AIT RACKMOUNT TAPE LIBRARY SYSTEM

RACKMOUNT
AUTOMATED AIT
TAPE LIBRARIES



The RLS Series delivers Qualstar's *Simply Reliable* Automated Tape Library technology for AIT™ format rackmountable solutions. The RLS Series gives users technology choices without compromising quality or reliability, in compact 5U-high modules. Offering superior performance and value, three models yield capacities up to 28 terabytes (native). Using typical data compression ratios, capacity can exceed 72 terabytes. Depending on the tape drive technology chosen, individual models house up to four tape drives. Data transfer rates can exceed 898 gigabytes per hour. Built-in reliability is only part of the RLS Series story. Each drive is on a self-connecting mount that eliminates handling cables. Simply slide the drives in or out.

HIGH AVAILABILITY PLUS Q-LINK™
RLS high availability options include hot-swappable redundant power supplies, true hot-swappable tape drives, and Q-Link, the web browser-based remote library manager. Q-Link allows any RLS Series Tape Library to be configured, monitored, diagnosed and managed from anywhere in the world. Using Q-Link, companies can deploy enterprise-class data protection without increasing staffs or degrading data security. Even firmware updates can be implemented remotely.

INTERFACE CHOICES
The SANsmart Fibre Channel interface option supports the latest

SAN technology. The IPsmart™ iSCSI option offers dual Gigabit Ethernet ports for greater data throughput. Adding a library to a SAN just got easier.

INVESTMENT PROTECTION
Featuring IPM (Interface Personality Module) architecture, RLS Series libraries can be reconfigured in seconds for SCSI, Fibre Channel or iSCSI by simply plugging in the appropriate IPM.

A field capacity expansion kit is also available to economically upgrade the RLS-4445 to an RLS-4470.

RELIABLE, INTELLIGENT ROBOTICS
The RLS Series unique robotic mechanism is *Simply Reliable* by design. Leadscrew-based robotics using brushless DC motors and closed-loop servo control systems provide precise positioning and flawless media handling for years of dependable operation. All FRUs, options and tape drives are autodiscovering, and all electrical and mechanical adjustments have been completely eliminated by sophisticated, adaptive “smart” logic design.

EASY OPERATION
An intuitive menu-driven control system provides easy-to-use installation, configuration and operational information via the onboard LCD

panel. Critical operating functions are displayed and an audible alarm signals conditions requiring immediate action. All of the information, functions and controls built into the front panel display are replicated in Q-Link. Tapes are housed in convenient magazines that simply snap in and out of the library. Removing and organizing tapes for offsite storage has never been easier.

ADVANCED CARTRIDGE MANAGEMENT AND SECURITY
Barcode 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 removed when the door is opened. If they haven't, operation is resumed without causing a time consuming reinventory.

LOGICAL LIBRARY
Logical Library is built into every RLS Series SCSI library. It allows up to four SCSI-connected servers to share a single library, even if each server is running a separate application. Systems that you couldn't afford to upgrade can now be protected automatically.



SIMPLY RELIABLE

QUALSTAR RLS SERIES AIT RACKMOUNT TAPE LIBRARY SYSTEM

RACKMOUNT AUTOMATED AIT TAPE LIBRARIES



ENGINEERED FOR RELIABILITY

- Auto-connecting hot-pluggable tape drives
- All brushless motors
- Self-calibrating all-digital servo control system
- Auto-aligning, no mechanical or electrical adjustments
- Over 2,000,000 MEBF
- Automated tape drive cleaning

EFFICIENT MEDIA CONTROL

- Barcode scanning of data cartridges
- All tapes are housed in convenient removable magazines
- VIOP, variable I/O port for inserting and removing cartridges or magazines
- Inventory Sentry minimizes offline time

COMPREHENSIVE USER INTERFACE

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

VERSATILITY

- Hot-swappable tape drive option
- Redundant hot-swappable power supply option
- SANSmart Fibre Channel option
- IPSmart iSCSI option
- Ultra2 IVD SCSI interface
- Multiple SCSI bus connections supported
- Logical Library Partitioning (SCSI only)
- Simultaneous random and multi-sequential operating modes
- Selectable recycling and dual-bin sequential modes

RLS SERIES AIT SPECIFICATIONS

THREE MODELS TO CHOOSE FROM	RLS-4221		RLS-4445		RLS-4470	
Drive Type	AIT-3	AIT-5	AIT-3	AIT-5	AIT-3	AIT-5
Number of Drives	1 – 2		1 – 4		1 – 4	
Number of Tapes	22		45		70	
Native Capacity (TB)	2.2	8.8	4.5	18	7	28
Compressed Capacity (TB)*	5.7	22.8	11.7	46.8	18.2	72.8
Max Native Data Rate (GB/hr)	86	172	172	345	172	345
Max Comp Data Rate (GB/hr)*	224	449	449	898	449	898
Field Expansion			To 4470			
Avg Exchange Time (seconds)	15		15		22	
Time to Scan Barcodes (seconds)	30		62		85	
Barcode Reader	Standard		Standard		Standard	
Variable I/O Port	Standard		Standard		Standard	
Height (in/cm)	5U		5U		5U	
Width (in/cm)	16.6 / 42.2		16.6 / 42.2		16.6 / 42.2	
Depth (in/cm)	32 / 81.3		32 / 81.3		32 / 81.3	
Net Weight (lb/kg)	65 / 30		87 / 39		92 / 42	
Power Consumption SCSI (watts, avg)	100		100		100	
Power Consumption FCI (watts, avg)	115		115		115	

* Using typical compression ratios

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