

# Tandberg M-Series Libraries

## Modular Midrange

### Data Protection

## Tandberg M1500 and Tandberg M2500



#### Key Features

- Scalable from one to 20 drives for a performance up to 2.2 TByte/hr
- Expands from 20 to 300 cartridges for native capacity up to 40 TByte
- Supports Tandberg SDLT320 or LTO™ Ultrium tape drives
- Fast, easy expansion with multiple intermixable M1500 and M2500 modules
- Move, replace and add modules as needed while systems stay online
- Hot-swappable tape drives and hot-swappable redundant power supplies
- 3-year warranty

**TANDBERG DATA** 

# Tandberg M-Series Libraries Backup That Stacks Up



## Modular, Stackable Data Protection

The M-Series, M1500 and M2500, is an automated tape library family that allows cross-product intermixability and true modular scalability. The M-Series automated tape libraries are designed for companies that are seeking the ability to scale their tape backup solution as their needs change while maximizing their total backup investment. Whatever the size of the organization, the M-Series' modular design allows for easy upgrades, reliable data backup and highly available data protection where and when it's needed. With the greatest density per cubic foot in its class, the M-Series libraries require very little valuable data center space to accommodate their compact designs.

## Flexible Configurations to Meet the Changing Needs of the Midrange

With the ability to mix and match the M1500 with M2500 modules, the M-Series product family can be right-sized for all storage needs. The M2500 adds increased value and scalability to existing M1500 libraries, without moving over to a new library platform. It eliminates the problem of buying more backup capacity and performance than required and, with its incremental modularity, the M-Series can help manage the backup budget on a "buy-as-needed" basis. Modules can be ordered in driveless configurations when only capacity requirements increase. To accommodate future or unexpected growth, modules can be added as needed through a simple field upgrade without returning current products to the factory and without taking the installed units "offline" or out of the rack.

## Modularity for the Greatest Flexibility

Up to ten M1500 or up to three M2500 modules can be configured in a standard 72-inch high rack to look and act like a single large library by utilizing the StackLink™ pass-through mechanism. Management of the modules is simple - any module can act as the control module and the stack is "seen" as a single library to the software. Each M1500 module includes two removable magazines while the M2500 module includes eight removable magazines<sup>1</sup> that allows for easy bulk loading and unloading.

## High Density Saves Valuable Data Center Space

The M2500 utilizes space to its fullest by integrating up to six tape drives, 100 LTO Ultrium cartridges<sup>2</sup> (10 TByte native) or 84 SDLTtape cartridges<sup>2</sup> (13.4 TByte native) in 13.5Us (24 inches) of rack space.

The M1500 utilizes rack space to its fullest by integrating up to two tape drives, 25 LTO Ultrium cartridges (2.5 TByte native) or 21 SDLTtape cartridges (3.36 TByte native) in 4Us (seven inches) of rack space. The M-Series are by far the most space-efficient tape libraries in its class.

## Midrange-class Fault Tolerance

The M-Series libraries have been designed to maximize data availability for today's 7x24 applications with several enterprise-class features:

- Data cartridges are in removable media magazines that can be swapped between modules providing complete data availability and ease of cartridge logistics.
- Hot-swappable and hot-pluggable components, including tape drives and fans, provide fast and easy, non-disruptive repairs and upgrades.
- If a single module should fail, all other libraries in the stack continue to operate without operator intervention.

## Less Complexity Equals Greater Reliability

A simple, but robust, tri-axial, "industrial-strength" robotic technology utilizes fewer moving parts for improved reliability and high-performance. The M-Series self-calibrates both the internal robotics and the Stack-Link mechanism for trouble-free operation. The M-Series is easily serviced or upgraded without removing it from a rack.

## User-friendly Features Standard

The M-Series incorporates a number of customer-required features and controls. The M-Series has a new, intuitive and simple GUI control panel that allows users to locally operate, view library status and access various management operations. A programmable "load port" allows access to one, ten or twelve cartridges<sup>2</sup> while the library remains online and operational. A robot-mounted barcode reader comes standard.

## Tandberg M-Series Native Fibre Libraries

A special interface architecture makes the M-Series "future proof". Harnessing the power of an industry-standard PCI expansion bus, a Tandberg M-Series library can easily be upgraded to a native fibre library by merely adding the internal fibre channel router.

## Management for Sophisticated Users

To manage your library, the Remote Management Card provides all the tools necessary to centrally monitor and manage the M-Series. Bundled with the intelligent server card is the ALERT (Active Library Event Reporting Tool) family of management software. ALERT notification provides real-time monitoring of critical library components with E-Mail Home and Simple Network Management Protocol (SNMP) integration. Remote Library Management allows library operation, status reporting and initiation of component-level diagnostics via the Remote Management Console, a secure, easy-to-use, yet powerful, Web-based interface accessible from anywhere on the Internet.

## Interoperability Tested for Trouble-free Compatibility

The M-Series has been tested in Certified Solutions Lab with industry leading, third-party hardware and software products so that the library will work trouble-free in many different server and application configurations.

## Technical Specifications M1500 / M2500 Libraries

Product	M1500	M2500		
Number of Drives per Module:	1-2	2-6		
Type of Drives:	SDLT320 or LTO Ultrium	SDLT320 or LTO Ultrium		
Number of Magazines per Module:	2	8		
Number of Cartridges per Module:	21 SDLTtape or 25 LTO Tapes <sup>3</sup>	84 SDLTtape or 100 LTO Tapes <sup>3</sup>		
Number of Scalable Modules:	up to 10	up to 3		
Drives and Performance:	SDLT320	LTO Ultrium	SDLT320	LTO Ultrium
Capacity per Module	native: 3.36 TB	2.5 TB	13.4 TB	10 TB
	compressed: 6.72 TB	5 TB	26.8 TB	20 TB
Max. Capacity with max. Modules	native: 33.6 TB	25 TB	40.3 TB	30 TB
	compressed: 67.2 TB	50 TB	80.6 TB	60 TB
Performance	native: 58-115 GB/hr	54-108 GB/hr	115-346 GB/hr	108-324 GB/hr
	compressed: 115-230 GB/hr	108-216 GB/hr	230-692 GB/hr	216-648 GB/hr
SCSI Interface:	SCSI Wide LVD, Optional Native Library Fibre Channel			
Inventory Time:	Less than 35 seconds			
StackLink transport time:	Less than 3 seconds			
<b>Management</b>				
Optional Remote Management:	Includes ALERT Notification and Remote Library Management, Library Diagnostics			
Port:	9-pin RS-232C, EIA/TIA female connector			
Barcode Reader:	Standard			
<b>Reliability</b>				
MTBF:	250,000 hours with redundant PSU			
MSBF:	1 million load/unload cycles (swaps)			
MTTR:	Less than 20 minutes			
<b>Physical Specifications</b>				
Dimensions (HxWxD):	176 mm x 482 mm x 726 mm (4U)		599 mm x 482 mm x 726 mm (13.5U)	
Weight:	34 kg with 2 tape drives		124 kg with 6 tape drives	
<b>Power Requirements</b>				
Input Voltage:	88-264 VAC			
Frequency:	47-63 Hz			
Consumption / Heat Dissipation:	200W average		320W average	
<b>Environmental Conditions</b>				
Humidity	Operating:	20% to 80%, non-condensing		
	Non-operating (storage + shipping):	10% to 95%, non-condensing		
Temperature	Operating:	10°C to 40°C		
	Non-operating (storage + shipping):	-40°C to 60°C		
Altitude	Operating:	0 to 2,438 meters		
	Non-operating (storage + shipping):	0 to 11,000 meters		
<b>Agency Approvals</b>				
Safety:	UL1950 Listed, CSA950, EN60950			
EMI/RFI:	FCC CFR 47-15J (level A), EN55022 (CISPR 22) Level A, EN55024 (CISPR24), VSSI			
Agency Markings:	CE, VCCI, UL, FCC, CSA			

## Tandberg M1500 Configurations

Modules	Max Drives	Slots	Native Capacity (TB)		Native Performance (GB/hr)	
			SDLT320 / LTO Ultrium	SDLT320 / LTO Ultrium	SDLT320 / LTO Ultrium	SDLT320 / LTO Ultrium
1	2	21 / 25	3.36 / 2.5	115 / 108		
2	4	42 / 50	6.72 / 5.0	230 / 216		
3	6	63 / 75	10.1 / 7.5	346 / 324		
4	8	84 / 100	13.4 / 10.0	461 / 432		
5	10	105 / 125	16.8 / 12.5	576 / 540		
6	12	126 / 150	20.2 / 15.0	691 / 648		
7	14	147 / 175	23.5 / 17.5	806 / 756		
8	16	168 / 200	26.9 / 20.0	922 / 864		
9	18	189 / 225	30.2 / 22.5	1037 / 972		
10	20	210 / 250	33.6 / 25.0	1152 / 1080		

## Tandberg M2500 Configurations

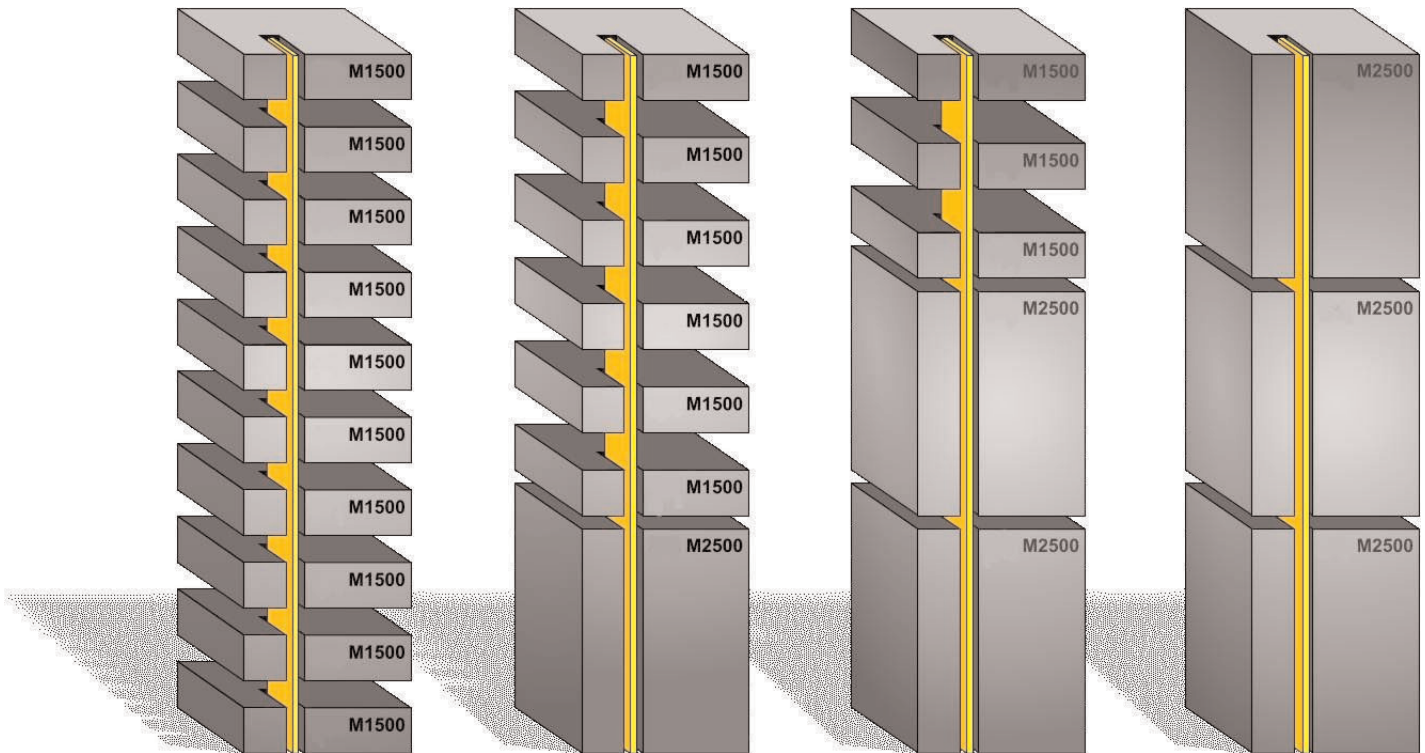
Modules	Max Drives	Slots	Native Capacity (TB)		Native Performance (GB/hr)	
			SDLT320 / LTO Ultrium	SDLT320 / LTO Ultrium	SDLT320 / LTO Ultrium	SDLT320 / LTO Ultrium
1	6	84 / 100	13.4 / 10.0	346 / 324		
2	12	168 / 200	26.9 / 20.0	691 / 648		
3	18	252 / 300	40.3 / 30.0	1037 / 972		

<sup>1</sup> Each magazine stores up to 10 SDLTtape or 12 LTO Ultrium cartridges and is interchangeable in any M1500 or M2500

<sup>2</sup> When using six tape drives, 73 SDLTtape slots or 87 LTO Ultrium slots are achieved per module. When using five tape drives, 84 SDLTtape slots or 100 LTO Ultrium Slots are achievable per module

<sup>3</sup> A magazine contains 10 SDLT cartridges or 12 LTO cartridges; additional cartridge(s) can be placed in the module - normally used for cleaning tapes

# Mix and Match Tandberg M1500 and Tandberg M2500 Modules



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- **Stack up to ten Tandberg M1500 or three Tandberg M2500 libraries or a combination of both**
- **Control entire library from any single module**
- **Remove / Replace modules while library remains online**
- **Separate linking mechanism called StackLink, moves cartridges directly from one module to any other within three seconds**
- **Intelligent control bus**

## Product Warranty and Service

A three-year warranty is included with the Tandberg M1500 and M2500 products. The Tandberg libraries include an additional one-year Next Business Day (5x9xND) on-site warranty in most countries. Under the 5x9xNext Day warranty, an engineer responds on-site during the next business day, five days a week, nine hours a day (Monday-Friday, 8AM - 5 PM), local time, excluding national bank holidays. In addition, Tandberg Data offers product installations and on-site service options to complement your Tandberg libraries. Tandberg Data's exclusive service upgrade provides proactive maintenance on tape library storage and subsystems to substantially reduce downtime.

Please contact your Tandberg Data representative for further details.

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