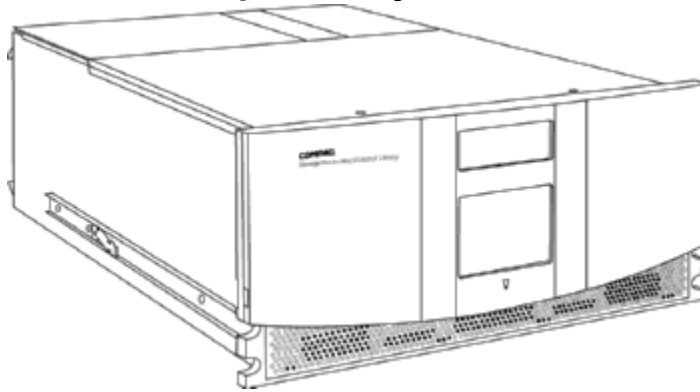


Overview

HP StorageWorks MSL5026DLX Tape Library



HP StorageWorks MSL5026DLX Tape Library

At A Glance

- The StorageWorks MSL5026DLX Tape Library is the latest addition to HP's tape automation products for the mainstream automation segment. It is the first to offer high availability features in this segment with hot plug drives.
- It offers 2.08 TB (2:1 compression) of storage, providing the highest capacity in its class in a compact 5U form factor, in Table Top or Rack configuration.
- It is scalable to up to 8 units in a Rackmount configuration to provide a maximum of 14.56 TB (2:1 compression) of data backup capacity.
- It is qualified with Windows® NT® & Windows 2000, NetWare, Tru64 UNIX® and OpenVMS, on HP's ProLiant and AlphaServer product lines.

Product Highlights

HP StorageWorks MSL5026DLX Tape Library Models

The StorageWorks MSL5026DLX Tape Library comes with 26 media slots and one or two 40/80GB DLT tape drives (number of drives determined by SKU chosen).

MSL5026, 0 DR, LVD, RM	231979-B21
MSL5026DLX, 1 40/80-GB DLT DR, LVD, TT	231821-B21
MSL5026DLX, 2 40/80-GB DLT, LVD, TT	231821-B22
MSL5026DLX, 1 40/80-GB DLT DR, LVD, RM	231891-B21
MSL5026DLX, 2 40/80-GB DLT, LVD, RM	231891-B22
MSL5KField Upg40/80-GB DLT DR, LVD	231823-B21

Each library installation will require, (1) library system, (1) geographically specific power cord, (1) SCSI cable for each DLT drive pair, and up to 26 pieces of media with bar code labels for each MSL5026DLX. Multiple configurations will require additional pass-through kits.

The minimum orderable configuration consists of a single library system (for instances where customer already has the necessary SCSI cables, power cord, and media).

Installation services may also be ordered for customers who want to have a certified HP Engineer perform an on-site library installation.

MSL5026DLX Library Customer benefits

- High Availability feature for minimum downtime
- Reliable, cost effective backup, restoration and archival solution that fits a growing company's storage needs
- High storage capacity to backup large amounts of data in a small backup window
- Easy to operate which equates to lower cost of ownership
- Compressed form factor only taking 5U of rack space with a single module
- Removable magazines for off-site backup storage
- Multi-unit scalability for future growth and investment protection
- Compatible with a wide variety of operating systems, software applications, and server platforms

Key Features

- Hot Plug drives for online repair and capacity expansion, without interrupting library operations for minimum downtime.
- 1 or 2 40/80-GB DLT drives, with a throughput of 6 MB/sec (native) per drive for a backup performance of up to 43.2 GB/hour for a single unit.
- Ultra II LVD SCSI Interface.
- 26 data slots (including one mail slot) for a native capacity of 1.04 TB, giving the highest density in a 5U form factor in the mainstream segment (including one mail slot for quick load/unload and removable magazine).
- 2 cPCI slots for added functionality through add-on cards in future.
- GUI based touch screen panel for easy library operation.
- Available as either a rack mount or tabletop configuration.
- Qualified behind Windows NT, NetWare, Tru64 UNIX, and OVMS Operating Systems using industry standard application software, and as a direct attached SCSI Configurations or under SAN with HP StorageWorks Enterprise Backup Solution.
- Multi-unit modular scalability, up to 8 units, for future growth and investment protection.

Product Highlights

High Availability and Hot Pluggable Drives

As data becomes more mission critical, and downtime becomes more costly, customers are requiring high availability features on tape automation devices. The MSL5026DLX uses hot pluggable DLT drive carriers, allowing drives replacement and additional DLT drive to be added for capacity expansion without interrupting backup and restore functions. These hot pluggable drive trays allow for easy scalability of performance, as well as provide an easy upgrade path towards future DLT drive technologies.

NOTE: The MSL5026DLX accepts only library ready drives specifically modified for use in the MSL5026DLX library.

Proven Reliability

Using DLT tape drives, and proven library robotics with a rating of 1,000,000 load/unload cycles, the MSL5026DLX provides the necessary high reliability for today's demanding environment.

DLT Technology

Digital Linear Tape uses a proven linear recording technology, a highly accurate tape guide system, and a read after write LZ correction system to provide high-capacity, high reliability data backup and restoration. DLT has fast become the industry-standard secondary storage tape format for departmental and enterprise backup. The 40/80 DLT drives used in the MSL5026DLX can read previous versions of DLT cartridges (DLT tape IV, DLT tape IIIxt and DLT tape III).

Manageability

The MSL5026DLX library configurations are fully supported through Insight Manager 5.0, providing information to administrators for robotic status, tape status changes and fault status. TSMC (tape storage management console) software provides diagnostics and easy firmware upgrade capabilities.

Multi-unit Modular Scalability

The MSL 5026DLX has the capability for multi-unit scalability; up to 8 libraries can be scaled together in a "virtual library". The first two modules are linked using Pass-through Mechanism, which has the elevator mechanism for tape movement. Additional of subsequent modules requires the Pas through extender (one for each additional module).

Upgradeability to SDLT 110/220-GB drives

The MSL 5026DLX is upgradeable to SDLT 110/220-GB drives for investment protection. For greater flexibility the MSL5026DLX can support both 40/80-GB DLT and SDLT110/220-GB drives in the same units using media partitioning capability with selected ISV application software (see page 4).

O/S Support

For the most up-to-date OS and ISV information, please visit the Enterprise Backup Solutions compatibility matrix at <http://www.hp.com/go/ebs>.

Server Support

NOTE: Some servers may no longer be available for purchase.

ProLiant DL760	AlphaServer GS320, GS160, GS 80
ProLiant ML750	AlphaServer ES40
ProLiant DL580 G2	AlphaServer 4X00
ProLiant ML570 G2	AlphaServer DS20E
ProLiant DL380 G2	AlphaServer 1200
ProLiant ML370	AlphaServer DS10/DS10L
ProLiant ML350	ProLiant DL360
ProLiant ML530 G2	ProLiant 320

Product Highlights

SCSI Controllers Supported	HP ProLiant Servers AlphaServers	66MHz Ultra3 LVD, dual channel controller StorageWorks Ultra LVD single channel	129803-B21 3X-KZPCA-AA
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Application Support	Backup/Restore Software Applications	For the most up-to-date OS and ISV information, please visit the Enterprise Backup Solutions compatibility matrix at http://www.hp.com/go/ebs .	
	Automation and Network Utilities	Media Robot Utility (MRU) v1.4 Insight Manager v5.0	
	Media Partitioning Support	Media partitioning is the capability to create logical pools or partitions in a tape library. The MSL tape libraries media partitioning capability supports multiple drives types within a single library or in a multi-unit stack. For current software supported, please consult the Enterprise Backup Solutions Compatibility Matrix at http://www.hp.com/go/ebs .	

Service and Support, HP Care Pack and Warranty Information

HP Installation and HP Care Pack Information Hewlett-Packard provides a one year, limited warranty, together with phone support for the duration of the warranty. In order to provide ease of installation, maximize uptime and ROI, Hewlett Packard provides a range of upgradeable service options.

Description	Band For MSL5026 1 or 2 drive library	Band For Drive upgrade kits	Installation Band	Part Number
Initial Tape Library Installation	463	N/A	5DR	HA113A1
Initial Tape Library Implementation Into SAN	463	N/A	5DR	HA114A1
Subsequent Tape Installation	N/A	8G5	5DU	HA113A1
HW, "3-year", "next-day", "on-site"	463	8G5	N/A	HA101A3
HW, "3-year", "4-hour", "13 x 5", "on-site"	463	8G5	N/A	HA103A3
HW, "3-year", "4-hour", "24 x 7", "on-site"	463	8G5	N/A	HA104A3
Support plus, "3-year"*	463	8G5	N/A	HA109A3
Support plus 24, "3-year"*	463	8G5	N/A	HA110A3

Hewlett Packard also offers 1-year options for the services quoted above.

* [Support Plus covers Hardware support only.](#)

Due to the complexities involved with the initial installation of an enterprise Library into a SAN environment, Hewlett Packard recommends that customers take advantage of the SAN Implementation Service (HA114A1). This service covers pre-installation preparation activities, installation and configuration of the library and router, configuration of hosts and switches, verification testing and customer orientation.

In order to maximize ROI and product uptime, and minimize the cost of ownership, Hewlett-Packard recommends the 3-year, 24 x 7 service options. These offerings will ensure that any product issue can be tackled when they occur (most back up issues will occur outside standard business hours) and that the service coverage regarding period, covers the minimum expected life of the host system.

Auto Power On Auto-power-on is a feature that allows the library to reboot in the event of a power failure without operator intervention. This feature must be installed by an authorized service technician.

Description	Band	Product Number
Auto-Power-On for MSL5026/5030	5AU	HA124A1

Related Options

		UPC Code	Part Number
MSL5026DLX Library System	MSL5026, 0 DR, LVD, RM	720591736002	231979-B21
	MSL5026DLX, 1 40/80GB DLT, LVD, TT	720591730796	231821-B21
	MSL5026DLX, 2 40/80GB DLT, LVD, TT	720591730819	231821-B22
	MSL5026DLX, 1 40/80GB DLT, LVD, RM	720591734190	231891-B21
	MSL5026DLX, 2 40/80GB DLT, LVD, RM	720591734213	231891-B22

Supplied with each Library Unit

Library Unit (pre-configured with drives)
 Documentation Kit
 EFIJS Translation CD
 Users Guide
 Diagnostic diskette/Software Guide
 Warranty Card
 Safety Card
 Driver CD
 (1) SDLT 40/80 data Cartridge
 Bar Code Labels
 SCSI Terminators (1 per drive)
 SCSI Jumper Cable VHDCI
 Diagnostic Cable (for PC attach)
 Software: Tape Storage Management Console Media Robot Utility

Power Cord (Pair Required)	Power Cord, US/Canada/Mexico (shipped with all units)	720591673581	227099-001
	Power Cord, (Australia/China/New Zealand)	720591673567	227098-011
	Power Cord, (South East Asia/India)		157220-AR1
	Power Cord, (Central Europe)		157215-021
	Power Cord, (United Kingdom/Hong Kong)	720591547288	157216-031
	Power Cord, (Switzerland)	743172633156	157219-111
	Power Cord, (Italy)		157217-061
	Power Cord, (Denmark)		157218-081
	Power Cord, (Japan)		139867-006

NOTE: (Shipped with all units.) Order Local power cords separately.

Drive, capacity, and memory upgrade kits	MSL5KField Upgrade SDLT 110/220GB DR, LVD	720591730017	231823-B22
	MSL5KField Upgrade 40/80GB DLT DR, LVD	720591730895	231823-B21
	MSL5000 SDLT160/320 Upgrade Drive in Hot Plug Canister	613326517949	293475-B21

Related Options

Media and Bar Code Labels	MSL5000 dual magazine pack DLT/SDLT (2x 13 slot magazines, left and right)		232136-B21
	HP DLT IV Data Cartridge		C5141F
	HP DLT Cleaning Cartridge		C5142A
	HP DLT IV Bar Code Label Pack		Q2004A
	NOTE: Option kit includes 100 data and 10 cleaning labels.		
	HP DLT IV Pre-labeled Data Cartridge, 20 pack (NA)		C5141FL
	HP DLT IV Pre-labeled Data Cartridge, single pack (EURO)		C5141L

SCSI Cables	SCSI Cable, VHDCI/VHDCI, 6 feet	743172660817	341174-B21
	SCSI Cable, VHDCI/VHDCI, 12 feet	743172660824	341175-B21
	SCSI Cable, VHDCI/Wide, 6 feet	743172660831	341176-B21
	SCSI Cable, VHDCI/Wide, 12 feet	743172660848	341177-B21
	SCSI Cable, VHDCI/Wide, 10 meter	720591469108	201160-B21
NOTE: Check the cable-adapter matrix for tape libraries on:			
ftp://ftp.compaq.com/pub/products/storageworks/tape-and-optical-storage/adapter-cable-matrix.pdf			

SCSI Host Bus Adapter/Hewlett-Packard Fibre Channel to SCSI Router (optional)	Host Bus adapter for SCSI connectivity from server to tape library in direct SCSI environment		
	Modular Data Router, Network Storage Router, Embedded FC Router to connect SCSI Library to Fibre Channel Hub/Switch		
	ProLiant Controllers		
	64-bit/66 MHz PCI dual channel Wide Ultra3 SCSI adapter	743172876379	129803-B21
	Alpha Controllers		
	Single Channel Ultra LVD Controller		3X-KZPCA-AA
	Modular Data Router (required for SAN configuration)		
	Modular Data Router	720591260897	163083-B21
	Modular Data Router	720591570651	218241-B21
	Network Storage Router (required for SAN configuration)		
Network Storage Router M2402 (2FC X 4 LVD SCSI)	613326254516	262653-B21	
Network Storage Router N1200 (1FC x 2 LVD SCSI)	613326408087	280823-B21	

Pass-through Mechanism	MSL5000, Universal Pass-through mechanism (includes elevator mechanism and router, required to connect first two units in a stack)	613326628447	304825-B21
	MSL5026, 5U Pass-through extender (required one for each unit connected to the stack, for third and additional units)	720591730079	231824-B22

Rack mounting Kits	MSL5000 system/e RM kit (HP racks)	613326628423	304826-B21
	MSL5000 TT-RM KIT, ProLiant Rack	720591734336	231894-B22
	MSL5000 TT-RM KIT, Alpha Rack	720591734312	231894-B21
	Alpha Rail Kit	720591166243	254795-001

Technical Specifications

Control Panel	Library and Drive Status Move tape cartridges Load/Unload tape drives Maintenance (diagnostics) Library Configuration Statistics Inventory Check Security level set: operator, user, service Mail slot access Offline/Online Status Magazine removal/replacement																		
SCSI Interface	Ultra2 LVD SCSI, VHDCI interconnect																		
Form Factor	5U Rackmount Tabletop																		
Dimensions (H x W x D)	<table border="0"> <tr> <td style="vertical-align: top;">Height</td> <td>Rack Mount</td> <td>8.75 in (22.3 cm)</td> </tr> <tr> <td></td> <td>Table Top</td> <td>10.00 in (25.4 cm)</td> </tr> <tr> <td style="vertical-align: top;">Width</td> <td>Rack Mount</td> <td>17.00 in (43.2 cm)</td> </tr> <tr> <td></td> <td>Table Top</td> <td>19.00 in (48.3 cm)</td> </tr> <tr> <td style="vertical-align: top;">Depth</td> <td>Overall</td> <td>31.25 in (79.4 cm)</td> </tr> <tr> <td></td> <td>Behind panel</td> <td>30.25 in (76.8 cm)</td> </tr> </table>	Height	Rack Mount	8.75 in (22.3 cm)		Table Top	10.00 in (25.4 cm)	Width	Rack Mount	17.00 in (43.2 cm)		Table Top	19.00 in (48.3 cm)	Depth	Overall	31.25 in (79.4 cm)		Behind panel	30.25 in (76.8 cm)
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Unit Weight	MSL5026DLX	<table border="0"> <tr> <td>Single Drive</td> <td>70 lb (32 kg)</td> </tr> <tr> <td>Dual Drive</td> <td>75 lb (34 kg)</td> </tr> </table>	Single Drive	70 lb (32 kg)	Dual Drive	75 lb (34 kg)													
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Dual Drive	75 lb (34 kg)																		
Capacity (native)	MSL5026DLX base unit	1.04 TB																	
Performance (native)	MSL5026DLX base unit	6 MB/s per drive																	
	MSL5026DLX base unit	Supports 1 or 2 40/80-GB DLT drives for native transfer rates up to 43.2 GB/hr																	
	Maximum configuration (8 modules with multi-unit scalability)	Supports up to 16 40/80-GB DLT drives for native transfer rates up to 345.6 GB/hr																	
Storage Capacity (compressed @ 2:1)	MSL5026DLX base unit	40 GB per cartridge																	
	MSL5026DLX base unit	26 slots, for native capacity up to 1.04 TB																	
	Maximum configuration (8 modules with multi-unit scalability)	8 * 26 slots, for native capacity up to 8.32 TB																	
Power Consumption	MSL5026DLX base unit	90 to 140V AC @47 to 63 Hz 176 to 259V AC @47 to 63 Hz																	
	Power requirement	1360 BTU's/hour (Typical) (400 Watts) 1530 BTU's/hour (Maximum) (450 Watts)																	
Acoustic Noise	Noise Power Emission Level	8 bels, maximum																	
	Average sound pressure level	52 dBA																	

Technical Specifications

Robotics Performance	Initialization time	100 sec
	Inventory time	60 sec
	Cartridge swap (drive to slot)	15 sec average
Reliability	MTBF	250,000 hours (100% duty cycle)
	MSBF	2,000,000 robot load/unload cycles
Product Safety Requirements and Approvals	EN60950 (IEC 950), UL1950, CSA C22.2 950, VDE 0805/11.92 (TUV), EMKO-TSE 207/94 (NEMKO, FIMKO, DEMKO, SEMKO), SCFI-1993, KONKAR, MEEI, EVPU, SIQ, VCCI Class 1, C-Tick (Class A) SMA AZ/NZS 3548 Class A, BCIQ, CE Marking Directive (93/68/EEC) (Class A), EMC Directive [89/336/EEC], Low Voltage Directive [73/23/EEC]	
Warranty	One-year warranty, one-year onsite next day service.	
	Additional warranty protection can be purchased for all MSL5026DLX SDLT library products. NOTE: Certain restrictions and exclusions apply. Consult the Hewlett-Packard Customer Support Center for details.	

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