



Targetfour

www.targetfour.com

Product Datasheet

HP StorageWorks MSL5052SL Tape Library

For UK Pricing, Sales and Support please contact:

Targetfour Limited. Imperial House, 8 Oaklands Park, Wokingham, Berks. RG41 2FD

Tel. 0118 936 4300 Fax. 0118 936 4329

Email. sales@targetfour.com Website: www.targetfour.com

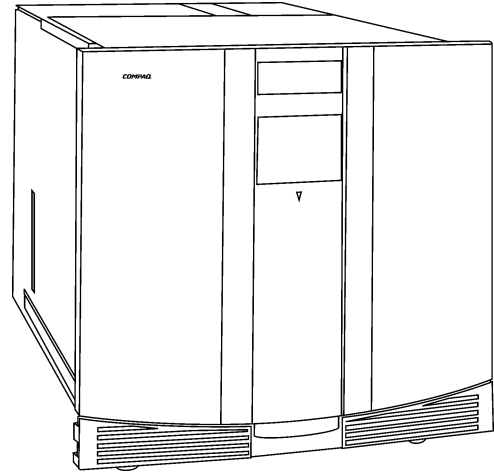
MODELS

The HP StorageWorks MSL5052SL Tape Library comes with 52 media slots (including two mail slots) and up to four HP StorageWorks SDLT 110/220 GB tape drives (number of drives determined by SKU chosen).

- 255102-B21 MSL5052, 0 DR, LVD, RM*
- 249490-B21 MSL5052SL, 2 SDLT 110/220 GB Drive, LVD, Tabletop Library*
- 249491-B21 MSL5052SL, 2 SDLT 110/220 GB Drive, LVD, Rackmount Library*
- 231823-B22 MSL5000 Field Upgrade SDLT 110/220 GB Drive, LVD*

Each library installation will require, (1) library system, (1) geographically specific power cord, (1) SCSI cable for each SDLT drive pair, and SDLT media with bar code labels for each MSL5052SL. 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 onsite library installation.



OVERVIEW

- The MSL5052SL Tape Library is the latest addition to HP tape automation products for the departmental automation segment. It offers high availability features with hot plug drives and dual redundant power supply
- It offers 11.44 TB (2:1 compression) of storage, providing the highest capacity in its class in a compact 10U form factor, in tabletop or rackmount configurations
- It is scalable up to four modules in a rackmount configuration to provide a maximum of 45.76 TB (2:1 compression) of data backup capacity

MSL5052SL Library Customer Benefits Include:

- 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 back up large amounts of data in a small backup window.
- Easy to operate which equates to lower cost of ownership
- Compact form factor only taking 10U of rack space with a single module
- Removable magazines for offsite 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
- Dual redundant power supplies to provide higher level of availability and reliability
- Up to four SDLT 110/220 GB drives, with a throughput of 11 MB/s (native) per drive, for a backup performance of up to 158.4 GB/hr for a single unit
- Ultra2 LVD SCSI Interface
- 52 data slots (including two mail slots) for a native capacity of 5.72 TB, giving the highest density in a 10U form factor in the departmental segment (including one mail slot for quick load/unload and removable magazine)
- Five cPCI slots for added functionality through add-on cards in future
- GUI-based touch screen panel for easy library operation
- Available as either a rackmount or tabletop configuration
- Multi-unit modular scalability, up to four units, for future growth and investment protection. In addition can also scale with the MSL5026 library using the passthrough mechanism.

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 MSL5052SL uses hot pluggable SDLT drive carriers, allowing drive replacement 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 SDLT drive technologies.

NOTE: The MSL5052SL accepts only library ready drives specifically modified for use in the MSL5052SL library.

Proven Reliability

Using SDLT tape drives, and proven library robotics with a rating of 1,000,000 robot load/unload cycles, the MSL5052SL provides the necessary high reliability for today's demanding environment.

SDLT Technology

Digital Linear Tape uses a proven linear recording technology, a highly accurate tape guide system, and a read after write 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 new generation SDLT tape drive, provides enhanced capacity and backup performance and includes several new features such as Laser Guided Magnetic Recording (LGMR™) technology, Pivoting Optical Servo (POS), Magneto-Resistive Cluster Heads (MRC), Partial Response Maximum Likelihood (PRML) channel technology and Backward Read Compatibility with earlier generation of DLT drives (to be able to read media written in DLT type IV format).

Manageability

StorageWorks Tape Storage Management (TSMC) software provides diagnostics and easy firmware upgrade capabilities.

Multi-unit modular Scalability

The MSL5052SL has the capability for multi-unit scalability--up to four modules 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 and a 10U Pass-Through Extender. Addition of subsequent modules requires additional 10U Pass-Through Extender (one for each additional module).

Server Support

Enterprise ProLiant Servers

ProLiant DL760
ProLiant ML750

Departmental ProLiant Servers

ProLiant DL580 G2
ProLiant ML570 G2
ProLiant ML530 G2

Workgroup ProLiant Servers

ProLiant DL380 G2
ProLiant ML370
ProLiant ML350
ProLiant DL360
ProLiant DL320

AlphaServer Systems

AlphaServer GS320, GS160, GS 80
AlphaServer ES40
AlphaServer 4X00
AlphaServer DS20E
AlphaServer 1200
AlphaServer DS10/DS10L

HP-UX servers

Superdome
rp8400
rp7400 (N class)
rp5400 series (L Class)
rp2450/2470 (A class)
K class
D Class
B-class workstations
C-class workstations
J-class workstations

HP Netserver

HP lxr8500
HP lh6000
HP lh6000r
HP lt6000r
HP tc4100
HP tc3100
HP lh3000
HP lc2000r
HP lp2000r
HP lp1000r
HP e200
HP e800

Non-HP systems

Dell PowerEdge
IBM Netfinity
IBM RS6000
Sun Sparc

PRODUCT HIGHLIGHTS *(continued)*

Application Support

Automation and Network Utilities

- HP insight manager v7.0
- HP tape storage management console v2.3 (NT/2000) and 2.0 (NetWare)
- MRU (media robot utility) v1.4
- HP StorageWorks Library and Tape Tools v3.1

ISV-O/S Support

Device/ISV/OS MSL SDLT160/320 Models Under SCSI, Direct-attach Fibre and SAN	Windows® NT® 4.0 SP6a	Windows 2000 SP2	Tru64 UNIX 4.0g 5.1a	HP-UX* 11i, 11.0, 10.2	NetWare® 5.1 SP3	NetWare 6.0	Linux® Red Hat® 7.1, 7.2 Linux SuSe® 7.3	Sun™ Solaris™ 2.6, 2.7, 2.8	AIX 4.3.3
HP Omniback 4.x	✓	✓		✓	✓			✓	✓
HP Data Protector	✓	✓		✓	✓			✓	✓
VERITAS NetBackup 4.5	✓	✓	✓	✓				✓	✓
VERITAS NetBackup 3.4.3	✓	✓	✓	✓				✓	✓
Legato NetWorker 6.1.2	✓	✓	✓	✓			✓	✓	✓
VERITAS Backup Exec 8.6	✓	✓			✓	✓			
VERITAS Backup Exec 9.0					✓				
CA BrightStor ARCserve 2000	✓	✓							
CA BrightStor ARCserve 7					SCSI only	SCSI only			

* HP-UX commands fbackup\frecover and backups launched using HP-UX Site Area Manager are not supported

Media Partitioning Support:

Media partitioning is the capability to create logical pools or partitions in a tape library. The MSL5052S2 tape library supports media partitioning capability to support multiple drive types within a single library. Currently this capability supports SDLT 110/220 and SDLT 160/320 tape drives. Media partitioning capability is available via the ISV backup application software being used to perform backup and restores. The following applications support media partitioning capability:

- Computer Associates Arcserve 2000 Build 15 for Windows NT/2000
- VERITAS Backup Exec 8.6 for Windows NT/2000 Build 8.6.3808 and later
- VERITAS NetBackup 3.4 or 3.4.1 with patch NB_3.4.1_1 for Windows NT/2000 and patch NB_3.4_1 for UNIX
- Legato NetWorker 6.1.2 with Legato SmartMedia

Software Components

SmartStart: Server configuration and software integration tool from HP.

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	Rackmount 10U		
	Tabletop		
Dimensions (HxWxD)	Height	Rackmount	17.5 in/44.45 cm
		Tabletop	18.5 in/46.99 cm
	Width	Rackmount	Chassis/TT Cover 16.7 in/42.42 cm Front Panel 19 in/48.26 cm
		Tabletop	Chassis/TT Cover 19 in/48.26 cm Front Panel 19 in/48.26 cm
	Depth	Overall	31.5 in/80.01 cm
		Behind panel	30.3 in/76.96 cm
Unit Weight	MSL5052SL	Dual Drive	101.6 lb/46.2 kg
		Quad Drive	117.2 lb/53.2 kg
Shipping Dimensions (HxWxD)	HxWxD, Weight	Rackmount	17.5 x 17.0 x 31.5 in/44.45 x 43.18 x 80.01 cm, 161 lb /73.03 kg
	HxWxD, Weight	Tabletop	18.5 x 19.00 x 31.5 in/46.99 x 48.26 x 80.01 cm, 174 lb /79.0 kg
Capacity (native)	MSL5052SL Base Unit	5.72TB	
Performance (native)	11MB/s per drive		
	MSL5052SL Base Unit	Supports up to four SDLT 110/220GB drives for native transfer rates up to 158.4 GB/hour	
	Maximum configuration (four modules with multi-unit scalability)	Supports up to 16 SDLT 110/220GB drives for native transfer rates up to 633.6 GB/hour	
Storage Capacity (compressed @ 2:1)	220GB per cartridge		
	MSL5052SL Base Unit	52 slots (including two mail slots), for capacity of 11.44TB (2:1 compressed)	
	Maximum Configuration (four modules with multi-unit scalability)	208 slots, for capacity up to 45.76TB (2:1 compressed)	
Power Consumption	MSL5052SL Base Unit	90 to 132V AC @ 47 to 63Hz	
		180 to 264V AC @ 47 to 63Hz	
	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	
	Avg. Sound Pressure Level	52 dBA	
Robotics Performance	Initialization time	240 sec	
	Inventory time	110 sec	
	Cartridge swap (drive to slot)	22 sec average	

SPECIFICATIONS *(continued)*

Reliability	MTBF	250,000 hours (100% duty cycle) (excludes drives)
	MSBF	2,000,000 robot load/unload cycles
Product Safety Requirements and Approvals	Safety EN60950/IEC950, UL, CSA/cUL, CE, VDE/TUV, Nordic (EMKO), GOST EMI, Class A FCC, C.I.S.P.R., ICES-003, CE, VCCI	

Warranty

1 year, on-site next-day response

Additional Warranty service protection can be purchased for all MSL5052SL DLT Library products.

NOTE: Certain restrictions and exclusions apply. Consult the HP Customer Support Center for details.

HP INSTALLATION AND CAREPAQ INFORMATION

HP Services provides warranty support for the MSL5052SL via HP Global Services and a worldwide network of authorized service providers. Toll-free 7 x 24 hardware technical phone support is provided for the duration of the product warranty. In addition, available service offerings include a full range of CarePacs packaged hardware and software services:

- Installation and start up
- Extended coverage hours and enhanced response times
- System management and performance services

HP Service and Warranty Support

Additional warranty service protection and/or HP installation packages can be purchased for the MSL5000 series of tape libraries:

Software Product Services

- Standalone telephone support
- Rights to a new license
- Media and documentation updates

Hardware Product Services

- Installation services
- On-site Maintenance (includes warranty support)
- Service response time upgrades during the warranty period
- Post-warranty coverage

For additional hardware installation and maintenance information please refer to the URL's listed below:

http://www.compaq.com/services/carepaq/us/install/cp_storage.html

http://www.compaq.com/services/carepaq/us/hardware/cp_storage.html

Warranty Upgrade Options

- Response - Upgrade on-site hardware response from next business day to same day 4-hours
- Coverage - Extend hours of hardware coverage from 9 hours x 5 days to 24 hours x 7 days
- Duration - Select duration of coverage for a period of 1, 3, or 5 years

NA CarePac Information

Sample part numbers:

146840-002	(FM-T8XHW-36)	3-year, uplift to 5x9, Next Day Response
146832-002	(FM-T84HR-36)	3-year, uplift to 5x9, 4 hour Response
146835-002	(FM-T8724-36)	3-year, uplift to 7x24, 4 hour Response
146839-002	(FM-T8INS-IN)	MSL5052 Hardware Installation

HP INSTALLATION AND CAREPAQ INFORMATION *(continued)*

CarePaq Information

- CarePaq is defined as an upgrade to the product warranty attribute, available for a specific duration and hours of coverage.
- CarePaq is not available for less than the products warranty duration.
- CarePaq is available for sale anytime during the warranty period for most products, but the commencement date will be the same as the Warranty Start Date (delivery date to end user customer). Proof of purchase may be required.
- CarePaq services are prepaid.

For additional CarePaq (hardware & software) information, as well as, orderable part numbers please refer to the URL listed below:
<http://www.compaq.com/services/carepaq/index.html>

EMEA CarePaq Information

Sample part numbers:

160877-022/021 for 4 hour hardware response 9 x 5

160885-022/021 for 4 hour hardware response 24 x 7

Further information is available at <http://emea-inline.eur.compaq.com/csd/smb/>.

RELATED OPTIONS

Part Number	Part Description	UPC Code
MSL5052SL Library System		
255102-B21	MSL5052, 0 Drive, LVD, RM	720591169749
249490-B21	MSL5052SL, 2 SDLT 110/220 GB Drive, LVD, TT	720591204204
249491-B21	MSL5052SL, 2 SDLT 110/220 GB Drive, LVD, RM	720591204174

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 110/220 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

RELATED OPTIONS *(continued)*

Power Cord (Pair Required*)

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

*NOTE: US/Canada/Mexico power cords are shipped with all units. Order geographically specific power cords as needed. (Unit requires 2 power cords – one for each power supply)

Drive, capacity, and memory upgrade kits

231823-B22	MSL5KField Upgrade SDLT 110/220 GB Drive, LVD	720591730017
293475-B21	MSL5000 SDLT160/320 Upgrade drive in hot plug canister	613326517949

Media and Bar Code Labels

232136-B21	MSL5000 dual magazine DLT/SDLT pack (2 x 13 slot magazines, left and right)	720591739829
188527-B21	SDLT Media 5-pack	720591390273
188527-B22	SDLT Media 10-pack	720591390587
188527-B26	SDLT Media 20-pack	720591433208
158398-001	DLT Bar Code Labels 100 pieces	720591244507

SCSI Cables

341174-B21	SCSI Cable, VHDCI/VHDCI, 6 feet	743172660817
341175-B21	SCSI Cable, VHDCI/VHDCI, 12 feet	743172660824
341176-B21	SCSI Cable, VHDCI/Wide, 6 feet	743172660831
341177-B21	SCSI Cable, VHDCI/Wide, 12 feet	743172660848
201160-B21	SCSI Cable, VHDCI/Wide, 10 meter	720591469108

Check the cable-adaptor matrix for tape libraries on:

<ftp://ftp.compaq.com/pub/products/storageworks/tape-and-optical-storage/adaptor-cable-matrix.pdf>

RELATED OPTIONS *(continued)*

FC Host Bus Adapters	
A6684A	HSC-eff Tachlite Fibre Channel Adapter
A6685A	HSC Tachlite Fibre Channel Adapter
A6795A	PCI 4X 2Gbps single port Fibre Channel Adapter
176479-B21	1 Gb PCI Fibre Channel Adapter
245299-B21	2 Gb PCI Fibre Channel Adapter

For more information on FC HBAs please consult the EBS connectivity matrix at <http://www.hp.com/go/ebs.com>

SCSI Host Bus Adapters		
ProLiant /Netserver		
129803-B21	64-bit 66 MHz PCI Dual Channel Wide Ultra3 SCSI adapter	743172876379
154457-B21	Ultra3 LVD, single channel controller	743172991447
HP-UX		
A5149A	Ultra 2 LVD single port	
A5150A	Ultra 2 LVD dual port	
A6828	Ultra3 LVD single port	
A6829	Ultra3 LVD dual port	
A4999A	LVD single port	

For more information on SCSI HBAs please consult the EBS connectivity matrix at <http://www.hp.com/go/ebs.com>

Hewlett-Packard Fibre Channel to SCSI Router (optional)

Network Storage Router (required for SAN configuration)		
262653-B21	Network Storage Router m2402 (2FC X 4 LVD SCSI)	613326254516
262672-B21	MSL5000 embedded Fibre option e1200 - graphite (configured in the compact PCI slot within the MSL5000 library - graphite colored)	613326254417
280823-B21	Network Storage Router N1200 (1FC x 2 LVD SCSI)	613326408087

Passthrough mechanism

304825-B21	MSL5000, Universal Pass through mechanism (includes elevator mechanism and router, required to connect first two units in a stack)	613326628447
231824-B23	MSL5000, 10U Pass through Extender	720591743581
231824-B21	MSL5000, passthrough mechanism (includes elevator mechanism and router)	720591730055

Rack mounting Kits

304826-B21	MSL5000 system/e RM kit (HP racks)	613326628423
231894-B22	MSL5000 TT-RM KIT, ProLiant Rack	720591734336
231894-B21	MSL5000 TT-RM KIT, Alpha Rack	720591734312

© 2003 Hewlett-Packard Company

HP, the HP logo, AlphaServer, CarePak, Insight Manager, OpenVMS, ProLiant, SmartStart, StorageWorks and Tru64 are trademarks of HP Information Technologies Group, L.P. in the U.S. and/or other countries. Microsoft and Windows NT are registered trademarks or trademarks of Microsoft Corporation in the U.S. and/or other countries. NetWare is a registered trademark or trademark of Novell Inc., in the U.S. and/or other countries. Unix is a registered trademark or trademark of The Open Group in the U.S. and/or other countries. All other product names mentioned herein may be trademarks of their respective companies.

HP shall not be liable for technical or editorial errors or omissions contained herein. The information is provided "as is" without warranty of any kind and is subject to change without notice. The warranties for HP products are set forth in the express limited warranty statements accompanying such products. Nothing herein should be construed as constituting an additional warranty.