



**Targetfour**

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## **Product Datasheet**

# **HP StorageWorks MSL6060 Tape Library**

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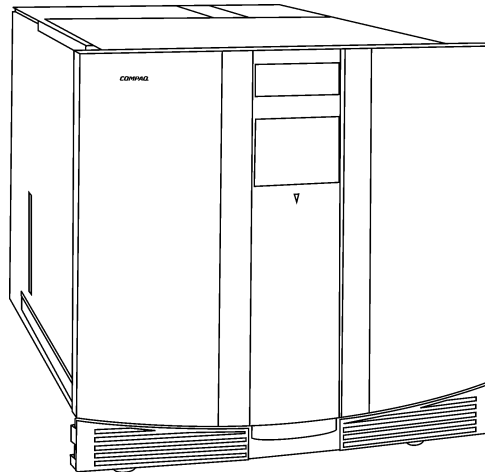
### Overview

#### AT A GLANCE

- The HP StorageWorks MSL6000 Ultrium tape library family provides performance and investment protection. Designed to maximize the performance of the Ultrium 460 drive, the MSL also provides unparalleled flexibility. The MSL can be scaled with other MSL libraries using a passthrough mechanism for up to 16 drives and 240 slots, allowing a single library to grow and change with capacity and technology needs. In addition, the MSL6000 libraries are easily managed through an intuitive GUI control panel and integrated remote Web management.

#### CUSTOMER BENEFITS

- **MSL6060 Library Customer benefits include:**
  - Ultra3 SCSI library interface to provide the maximum performance available from Ultrium 460 drives.
  - Multi-unit scalability permits future growth and provides investment protection.
  - Web-based remote management permits monitoring and managing the unit from across the room or across the world.
  - User-friendly intuitive front panel Graphical User Interface (GUI) makes operation fast and easy as well as minimizes future training costs.
  - Removable magazines for easy off-site backup storage.
  - Redundant power supplies with dual power cords to ensure up-time
  - Hot plug drives help to minimize downtime.
  - Reliable, cost effective backup, restoration and archival solution that fits a growing companies storage needs.
  - Efficient 10U form-factor provides 12 TB (native) of storage without consuming much valuable rack space
  - Compatible with a wide variety of operating systems, software applications, and server platforms, the MSL6060 will fit in your environment.



### Standard Features

<b>HP StorageWorks MSL6060 tape library Models</b>	The HP StorageWorks MSL6060 tape library comes with 60 media slots (including two mail slots) and up to four HP StorageWorks LTO Ultrium 460 tape drives (number of drives determined by SKU chosen).
<b>Libraries</b>	
MSL6060, 0 DRV, Ultrium 460, RM Library	331196-B23
MSL6060, 2 DRV, Ultrium 460, TT Library	331195-B21
MSL6060, 2 DRV, Ultrium 460, RM Library	331196-B21
MSL6060, 2 DRV, Ultrium 460, embedded Fibre, RM Library	331196-B22
<b>Upgrade Accessories</b>	
MSL Ultrium 460 upgrade drive in hot plug canister	330729-B21
MSL Universal passthrough mechanism	304825-B21
MSL 10U passthrough extender	231824-B23
<p>Each library installation will require (1) library system, (1) geographically specific power cord, and up to 60 HP Ultrium 400 GB Data Cartridges (C7972A) with bar code labels for each MSL6060. SCSI applications will require one (1) SCSI cable for each drive. Fibre Channel applications will require one (1) Fibre Channel cable for each drive pair. Multiple configurations will require additional passthrough kits.</p> <p>The minimum orderable configuration consists of a single library system (for instances where customer already has the necessary SCSI cables, power cord, and media).</p> <p>Installation services may also be ordered for customers who want to have a certified HP engineer perform an on-site library installation.</p>	

<b>Key Features</b>	<ul style="list-style-type: none"> <li>• Multi-unit modular scalability – any combination of MSL6030 and MSL6060s up to 40U high</li> <li>• Web-based remote management system</li> <li>• Touch screen GUI panel for easy library operation</li> <li>• Four 15-slot magazines</li> <li>• Sixty data slots for a native capacity of 12.0 TB, giving the highest density in a 10U form factor in the mainstream segment (including two mail slot for quick load/unload and removable magazine)</li> <li>• Hot plug drives for on line repair and capacity expansion, without interrupting library operations for minimum downtime</li> <li>• One to four LTO Ultrium 460 drives, with a throughput of 30 MB/s (native) per drive for a backup performance of up to 216 GB/hr for a single unit</li> <li>• Ultra3 LVD SCSI Interface or Embedded Fibre (2Gb)</li> <li>• Five cPCI slots for added functionality through add-on cards in future</li> <li>• Available as either a rackmount or tabletop configuration</li> <li>• Qualified on a broad range of operating systems, ISV packages and hardware platforms (see Product Highlights for details)</li> </ul>
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<b>Multi-Unit Modular Scalability</b>	The MSL6060 has the capability for multi-unit scalability; up to four libraries can be scaled together into a single library. The first two modules are linked using the MSL passthrough mechanism and a 10U extender, which has the elevator mechanism for tape movement. Additions of subsequent modules require one MSL 10U passthrough extender for each module.
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<b>High Availability and Hot Pluggable Drives</b>	<p>As data becomes more mission critical, and downtime becomes more costly, customers are requiring high availability features on tape automation devices. The MSL6060 uses hot pluggable 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 drive technologies.</p> <p><b>NOTE:</b> The MSL6060 accepts only library ready drives specifically modified for use in MSL libraries.</p>
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<b>Remote Management Interface</b>	Web-based management is included to allow monitoring and managing the library from across the room or across the globe. Many of the functions that are available on the front panel are included in the remote management interface. These include, but are not limited to, library and drive status, moving media, load/unload tape drives, access to diagnostics, library configuration, library statistics, inventory check, and security settings.
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<b>Manageability</b>	The MSL6060 library configurations are fully supported through HP Library and Tape Tools (LTT). LTT provides diagnostics and easy firmware upgrade capabilities.
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### Standard Features

<b>Proven Reliability</b>	Using LTO Ultrium tape drives, and proven library robotics with a rating of 2,000,000 robot load/unload cycles, the MSL6030 provides the necessary high reliability for today's demanding environment. To improve reliability and longevity, all HP Ultrium products feature Adaptive Tape Speed (ATS). Adaptive Tape Speed dynamically matches the transfer rates of slower hosts (from 10 MB/s upwards for the Ultrium 460), which increases performance, reduces mechanical wear on the drive and extends tape life.																						
<b>LTO Ultrium Technology</b>	HP's Ultrium tape technology uses a "best of breed" technology approach, taking the best features from other tape technologies and combining them into a single "superdrive" without the need for design compromises. Ultrium 2 builds on the strengths and success of Ultrium 1 to deliver even better resilience than before. The Ultrium 460 tape drive has a mean time between failures (MTBF) rating of 250,000 hours at a 100 percent duty cycle, making it a truly enterprise class tape drive. Additionally, Ultrium 460 tape drives are fully backwards compatible with all Ultrium Generation 1 products from all licensed manufacturers, and can both read and write Ultrium 1 tapes.																						
<b>HP Ultrium Storage Media</b>	HP's test program for HP branded Ultrium Generation 2 media is probably the most thorough and comprehensive in the industry. HP cartridges must satisfy an exhaustive battery of additional tests that relate directly to real life situations, where real data and real businesses are at stake. For example, each HP Ultrium 2 cartridge is specified for 20,000 load/unloads and must complete a torturous 'shoeshine' test. This measures the ability of the media to withstand repeated passes over the tape head by simulating excessive repositioning or error recovery on a short length of tape. It is particularly relevant to the library environment where media may be frequently loaded or unloaded by the operating system. Both of these procedures are unique to HP.																						
<b>Server Support</b>	<table border="1"> <tr> <td data-bbox="509 903 769 932"><b>Enterprise ProLiant Servers</b></td> <td colspan="2" data-bbox="794 903 1495 963">ProLiant DL760 ProLiant ML750</td> </tr> <tr> <td data-bbox="509 972 721 1022"><b>Departmental ProLiant Servers</b></td> <td colspan="2" data-bbox="794 972 1495 1062">ProLiant DL580 G2 ProLiant ML 570 G2 ML530G2</td> </tr> <tr> <td data-bbox="509 1071 776 1100"><b>Workgroup ProLiant Servers</b></td> <td data-bbox="794 1071 1127 1161">ProLiant ML330 G2 ProLiant DL380 G2 ProLiant ML370</td> <td data-bbox="1151 1071 1495 1161">ProLiant ML350 ProLiant DL360 ProLiant DL320</td> </tr> <tr> <td data-bbox="509 1169 643 1199"><b>HP Netervers</b></td> <td data-bbox="794 1169 1127 1360">HP lxr8500 HP lh6000 HP lh6000r HP lt6000r HP tc4100 HP tc3100</td> <td data-bbox="1151 1169 1495 1360">HP lh3000 HP lc2000r HP lp2000r HP lp1000r HP e200 HP e800</td> </tr> <tr> <td data-bbox="509 1369 646 1398"><b>HP-UX servers</b></td> <td data-bbox="794 1369 1127 1524">Superdome rp84xx rp74xx (N class) rp54xx series (L Class) K class</td> <td data-bbox="1151 1369 1495 1493">D Class A class workstations C class workstations J class workstations</td> </tr> <tr> <td data-bbox="509 1533 711 1562"><b>AlphaServer Systems</b></td> <td data-bbox="794 1533 1127 1593">AlphaServer GS160 and GS80 AlphaServer ES40</td> <td data-bbox="1151 1533 1495 1593">AlphaServer ES45 AlphaServer DS20E</td> </tr> <tr> <td data-bbox="509 1602 667 1631"><b>Non-HP systems</b></td> <td data-bbox="794 1602 1127 1663">Dell PowerEdge IBM Netfinity</td> <td data-bbox="1151 1602 1495 1663">IBM RS6000 SUN™ Sparc</td> </tr> </table>		<b>Enterprise ProLiant Servers</b>	ProLiant DL760 ProLiant ML750		<b>Departmental ProLiant Servers</b>	ProLiant DL580 G2 ProLiant ML 570 G2 ML530G2		<b>Workgroup ProLiant Servers</b>	ProLiant ML330 G2 ProLiant DL380 G2 ProLiant ML370	ProLiant ML350 ProLiant DL360 ProLiant DL320	<b>HP Netervers</b>	HP lxr8500 HP lh6000 HP lh6000r HP lt6000r HP tc4100 HP tc3100	HP lh3000 HP lc2000r HP lp2000r HP lp1000r HP e200 HP e800	<b>HP-UX servers</b>	Superdome rp84xx rp74xx (N class) rp54xx series (L Class) K class	D Class A class workstations C class workstations J class workstations	<b>AlphaServer Systems</b>	AlphaServer GS160 and GS80 AlphaServer ES40	AlphaServer ES45 AlphaServer DS20E	<b>Non-HP systems</b>	Dell PowerEdge IBM Netfinity	IBM RS6000 SUN™ Sparc
<b>Enterprise ProLiant Servers</b>	ProLiant DL760 ProLiant ML750																						
<b>Departmental ProLiant Servers</b>	ProLiant DL580 G2 ProLiant ML 570 G2 ML530G2																						
<b>Workgroup ProLiant Servers</b>	ProLiant ML330 G2 ProLiant DL380 G2 ProLiant ML370	ProLiant ML350 ProLiant DL360 ProLiant DL320																					
<b>HP Netervers</b>	HP lxr8500 HP lh6000 HP lh6000r HP lt6000r HP tc4100 HP tc3100	HP lh3000 HP lc2000r HP lp2000r HP lp1000r HP e200 HP e800																					
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<b>Non-HP systems</b>	Dell PowerEdge IBM Netfinity	IBM RS6000 SUN™ Sparc																					

## Standard Features

<b>Application Support</b>	Automation and Network Utilities HP Tape Storage Management Console (v2.3 for Windows NT/Windows 2000, 2.0 for NetWare) MRU (media robot utility) v1.4 (Windows NT/ Windows 2000 only) HP Library and Tape Tools v2.9
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<b>MSL6060 Supported under Direct Attach SCSI (DAS), Direct Attach Fibre, and Storage Area Networks (SAN)</b>	Windows® NT® 4.0 SP6a	Windows 2000	Windows Server 2003	NetWare™ 5.1	NetWare 6.0	HP-UX 11.0	HP-UX 11.i	HP-UX 10.2
HP Storage Data Protector 5.0	✓	✓				✓	✓	
HP Omniback 4.1	✓	✓				✓	✓	
CA BrightStor ARCserve 2000	✓	✓						
CA BrightStor ARCserve 7				✓				
Legato NetWorker 6.1.2	✓	✓				✓	✓	
VERITAS Backup Exec 9.0 *	✓	✓						
VERITAS NetBackup 4.5	✓	✓				✓	✓	
<b>MSL6060 Supported under Direct Attach SCSI (DAS), Direct Attach Fibre, and Storage Area Networks (SAN)</b>	Tru64 UNIX	Open VMS	Solaris™ v7, v8, v9	AIX 5.1a, 4.3.3	Linux® Red Hat® 7.1	Linux Red Hat 7.2	Linux SuSe® 7.3	
HP Storage Data Protector 5.0			✓	✓				
HP Omniback 4.1			✓	✓				
CA BrightStor ARCserve 2000								
CA BrightStor ARCserve 7								
Legato NetWorker 6.1.2	✓		✓	✓		✓	✓	
VERITAS Backup Exec 9.0 *								
VERITAS NetBackup 4.5	✓		✓	✓				

✓ = supported

\* **NOTE:** The Intelligent Disaster Recover (IDR) function in VERITAS Backup Exec is not supported for the MSL6000 libraries with Ultrium 460 drives.

## *Hewlett-Packard Installation and CarePaq*

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<b>Hewlett-Packard Services</b>	<p>Hewlett-Packard Services provides warranty support for the MSL6060 via HP 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 CarePaqs packaged hardware and software services:</p> <ul style="list-style-type: none"><li>• Installation and start up</li><li>• Extended coverage hours and enhanced response times</li><li>• System management and performance services</li></ul>
<b>Hewlett-Packard Service and Warranty Support</b>	<p>Additional warranty protection and/or Hewlett-Packard Installation packages can be purchased for the MSL6060 Library products:</p>
<b>Software Product Services</b>	<ul style="list-style-type: none"><li>• Stand-alone telephone support</li><li>• Rights to a new license</li><li>• Media and documentation updates</li></ul>
<b>Hardware Product Services</b>	<ul style="list-style-type: none"><li>• Installation services</li><li>• On-site Maintenance (includes warranty support)</li><li>• Response time upgrades during the warranty period</li><li>• Post-warranty coverage</li></ul> <p>For additional hardware installation and maintenance information please refer to the URLs listed below: <a href="http://www.compaq.com/services/CarePaq/us/hardware/cp_storage.html">http://www.compaq.com/services/CarePaq/us/hardware/cp_storage.html</a> <a href="http://www.compaq.com/services/CarePaq/us/install/cp_storage.html">http://www.compaq.com/services/CarePaq/us/install/cp_storage.html</a></p>
<b>Warranty Upgrade Options</b>	<ul style="list-style-type: none"><li>• Response - Upgrade on-site response from next business day to same day 4-hours</li><li>• Coverage - Extend hours of coverage from 5 days x 9 hours to 7 days x 24 hours</li><li>• Duration - Select duration of coverage for a period of 1, 3, or 5 years</li></ul>
<b>NA CarePaq Information</b>	<ul style="list-style-type: none"><li>• CarePaq is defined as an upgrade to the product warranty attribute, available for a specific duration and hours of coverage.</li><li>• CarePaq is not available for less than the products warranty duration.</li><li>• 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.</li><li>• CarePaq services are prepaid.</li></ul> <p>For additional CarePaq (hardware &amp; software) information, as well as, orderable part numbers please refer to the URL listed below: <a href="http://www.compaq.com/services/CarePaq/index.html">http://www.compaq.com/services/CarePaq/index.html</a></p>

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## *Hewlett-Packard Installation and CarePaq*

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### EMEA CarePaq Information

Additional CarePaq services are being developed to cover a broader range of HP StorageWorks hardware and software. Existing CarePaqs are available today for LTO and SDLT technologies. Ask your local CarePaq Business Manager for the latest details

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### CarePaq Priority Services (PS) Information for EMEA

- CarePaq Priority Services brings a totally new approach that removes the complexity from evaluating, planning and purchasing services on Hewlett-Packard Alpha and Storage platforms.
- CarePaq Priority Services are easy to purchase and easy to use and cover all external storage products not covered under server-based CarePaq services.

#### Standard Offerings

- CarePaq Priority Services provide an integrated hardware and software support that ensure consistent coverage across storage configurations.
- CarePaq Priority Service offers a rapid four-hour response with guaranteed work-through to completion for three years.
- CarePaq Priority Services have a standard call window of Monday to Friday 08:00 – 17:00 with uplifts to full 24x7 over three years with four-hour response time and work through to completion.
- CarePaq Priority Services also provide software support, with a two-hour response time for telephone access to highly trained support personnel.
- For more information on how to order CarePaq Priority Services in EMEA please contact you local Certified Integration Partner or Authorized Reseller.
- Customized Installation Services (including installation of vendor backup software) and contract based support services are available by contacting your local Services department.

## Related Options

	Description	UPC Code	Part Number
<b>MSL6060 Library System</b>	MSL6060, 0 DRV, RM Library	808736902229	331196-B23
	MSL6060, 2 DRV, LTO Ultrium 230, RM Library	808736897020	331196-B21
	MSL6060, 2 DRV, Ultrium 230, embedded Fibre, RM Library	808736897006	331196-B22
	MSL6060, 2 DRV, LTO Ultrium 230, TT Library	808736897044	331195-B21
	<b>Supplied with each Library Unit</b>		
	Library Unit (pre-configured with drives)		
	Documentation Kit		
	EFIJS Translation CD		
	Users Guide		
	Diagnostic diskette/Software Guide		
	Warranty Card		
	Safety Card		
	Driver CD		
	(One) HP LTO Ultrium 400GB Data Cartridge		
	Bar Code Labels (35 ea)		
	SCSI Terminators (1 per drive)		
	SCSI Jumper Cable VHDCI		
	Diagnostic Cable (for PC attach)		
<b>Power Cord (Pair Required)</b>	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
		<b>*NOTE:</b> 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)	
<b>Passthrough Mechanism</b>	MSL5000, universal passthrough mechanism (includes elevator mechanism and router) (capable of handling DLT, SDLT and LTO media)	613326628447	304825-B21
	MSL5000, 10U passthrough extender (one required for each additional MSL6060 added to stack)	720591743581	231824-B23
<b>Drives</b>	MSL6000 Ultrium 460 upgrade drive in hot plug canister	808736892636	330729-B21
<b>Interface Cards</b>	e1200-160 Fibre Channel Interface Card MSL embedded fibre option kit - graphite	808736892018	330728-B21

### Related Options

	Description	UPC Code	Part Number	
Media and Bar Code Labels	MSL Dual Magazine LTO (2 x 15 slot magazines, left and right)	613326560617	301902-B21	
	LTO Ultrium Media			
	HP Ultrium 400GB Data Cartridge		C7972A	
	HP Ultrium Universal Cleaning Cartridge		C7978A	
	HP Ultrium Barcode Labels, 100-Pack		C7970B	
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	
	Check the cable-adapter matrix for tape libraries on: <a href="ftp://ftp.compaq.com/pub/products/storageworks/tape-and-optical-storage/adapter-cable-matrix.pdf">ftp://ftp.compaq.com/pub/products/storageworks/tape-and-optical-storage/adapter-cable-matrix.pdf</a>			
FC Host Bus Adapters	HSC-efl Tachlite Fibre Channel Adapter		A6684A	
	HSC Tachlite Fibre Channel Adapter		A6685A	
	PCI 4X 2Gbps single port Fibre Channel Adapter		A6795A	
	1 Gb PCI Fibre Channel Adapter		176479-B21	
	2 Gb PCI Fibre Channel Adapter		245299-B21	
	For more information on FC HBAs, please consult the EBS connectivity matrix at <a href="http://www.hp.com/go/ebs">http://www.hp.com/go/ebs</a>			
SCSI Host Bus Adapters	<b>ProLiant/Netserver</b>			
	64-bit/66 MHz PCI Dual Channel Wide Ultra3 SCSI adapter	743172876379	129803-B21	
	Ultra3 LVD, single channel controller	743172991447	154457-B21	
	<b>HP-UX</b>			
	Ultra2 LVD single port		A5149A	
	Ultra2 LVD dual port		A5150A	
	Ultra3 LVD single port		A6828	
	Ultra3 LVD dual port		A6829	
	LVD single port		A4999A	
	For more information on FC HBAs, please consult the EBS connectivity matrix at <a href="http://www.hp.com/go/ebs">http://www.hp.com/go/ebs</a>			
	Rackmounting Kits	MSL5000 system/e RM kit (HP racks)	613326628423	304826-B21
		MSL5026 TT-RM KIT, ProLiant Rack	720591734336	231894-B22
		MSL5026 TT-RM KIT, Alpha/HP Rack	720591734312	231894-B21
Alpha Rail Kit		720591166243	254795-001	
HP OpenView Storage Data Protector Backup Software	Data Protector 5.0			
	<b>Starter Packs</b>			
	Cell Manager		B6961AA/	
	<i>(Required once as starter pack; includes license-to-use, unlimited number of disk agents and media agents, one drive extension, libraries with up to 60 slots, CD-ROM media, manuals, and more; for Windows NT, 2000, XP/HP-UX/Solaris.)</i>		B6951AA/ B6951DA	
	<b>Drive Extensions</b>			
	Drive License		B6963AA	
	<i>(License-to-use for one concurrently used backup drive; for Windows NT, 2000, XP/Novell NetWare/Linux.)</i>			
For the most up-to-date information, visit: <a href="http://openview.hp.com/products/omniback/specifications/">http://openview.hp.com/products/omniback/specifications/</a>				

## Related Options

### CONFIGURATION INFORMATION (FOR RACKMOUNT UNITS ONLY)

#### STEP 1 – SELECT A CONFIGURATION

The list below is not intended to show all possible configurations, but to show some of the most common. In some cases, it is advantageous to utilize MSL6060 libraries in the scaled stack. Please refer to the MSL6030 library QuickSpecs for more details. The Ultrium MSL6000 series of libraries is scalable to 40U resulting in 16 drives and 240 slots.

**IMPORTANT NOTE:** Each library unit comes with a rack kit specially designed for HP 9000 & 10000 racks. If the unit is going to be installed into a HP Surestore SystemE rack or an Alpha rack, then 1 rack mount kit per library unit must be purchased. Please utilize "Step 2" of the configuration information.

#### COMMON SCALED CONFIGURATIONS FOR MSL6000 LIBRARIES DIRECT ATTACH SCSI

Description	Quantity	Slots	Drives	Interface	Product Number
MSL6030 2-drive RM	1	60	2	SCSI	330731-B22
MSL6030 0-drive RM	1				330731-B21
Universal pass-thru mechanism	1				304825-B21
Rack kits	2				See step 2 for details
MSL6030 2-drive RM	1	60	3	SCSI	330731-B23
MSL6030 1-drive RM	1				330731-B22
Universal pass-thru mechanism	1				304825-B21
Rack kits	2				See step 2 for details
MSL6030 2-drive RM	2	60	4	SCSI	330731-B23
Universal pass-thru mechanism	1				304825-B21
Rack kits	2				See step 2 for details
MSL6030 2-drive RM	1	90	2	SCSI	330731-B23
MSL6060 0-drive RM	1				331196-B23
Universal pass-thru mechanism	1				304825-B21
5U pass-thru extender kit	1				231824-B22
Rack kits	2				See step 2 for details
MSL6030 1-drive RM	1	90	3	SCSI	330731-B22
MSL6060 2-drive RM	1				331196-B22
Universal pass-thru mechanism	1				304825-B21
5U pass-thru extender kit	1				231824-B22
Rack kits	2				See step 2 for details
MSL6030 2-drive RM	1	90	4	SCSI	330731-B23
MSL6060 2-drive RM	1				331196-B22
Universal pass-thru mechanism	1				304825-B21
5U pass-thru extender kit	1				231824-B22
Rack kits	2				See step 2 for details

## Related Options

### CONFIGURATION INFORMATION (FOR RACKMOUNT UNITS ONLY) *(continued)*

#### STEP 1 – SELECT A CONFIGURATION *(continued)*

#### COMMON SCALED CONFIGURATIONS FOR MSL6000 LIBRARIES DIRECT ATTACH SCSI *(continued)*

Description	Quantity	Slots	Drives	Interface	Product Number
MSL6030 2-drive RM	1	90	6	SCSI	330731-B23
MSL6060 2-drive RM	1				331196-B22
MSL5000 Ultrium 460 add-on drives	2				330729-B21
Universal pass-thru mechanism	1				304825-B21
5U pass-thru extender kit	1				231824-B22
Rack kits	2				See step 2 for details
MSL6060 2-drive RM	2	120	4	SCSI	331196-B22
Universal pass-thru mechanism	1				304825-B21
10U pass-thru extender kit	1				231824-B23
Rack kits	2				See step 2 for details
MSL6060 2-drive RM	2	120	6	SCSI	331196-B22
MSL5000 Ultrium 460 add-on drives	2				330729-B21
Universal pass-thru mechanism	1				304825-B21
10U pass-thru extender kit	1				231824-B23
Rack kits	2				See step 2 for details
MSL6060 2-drive RM	2	120	8	SCSI	331196-B22
MSL5000 Ultrium 460 add-on drives	4				330729-B21
Universal pass-thru mechanism	1				304825-B21
10U pass-thru extender kit	1				231824-B23
Rack kits	2				See step 2 for details

## Related Options

### CONFIGURATION INFORMATION (FOR RACKMOUNT UNITS ONLY) *(continued)*

#### STEP 1 – SELECT A CONFIGURATION *(continued)*

#### COMMON SCALED CONFIGURATIONS FOR MSL6000 LIBRARIES SAN OR DIRECT ATTACH FIBRE

Description	Quantity	Slots	Drives	Interface	Product Number
MSL6030FC 2-drive RM	1	60	2	Fibre Channel	330731-B25
MSL6030 0-drive RM	1				330731-B21
Universal pass-thru mechanism	1				304825-B21
Rack kits	2				See step 2 for details
MSL6030FC 2-drive RM	1	60	3	Fibre Channel	330731-B25
MSL6030FC 1-drive RM	1				330731-B24
Universal pass-thru mechanism	1				304825-B21
Rack kits	2				See step 2 for details
MSL6030FC 2-drive RM	2	60	4	Fibre Channel	330731-B25
Universal pass-thru mechanism	1				304825-B21
Rack kits	2				See step 2 for details
MSL6030FC 2-drive RM	1	90	2	Fibre Channel	330731-B25
MSL6060 0-drive RM	1				331196-B23
Universal pass-thru mechanism	1				304825-B21
5U pass-thru extender kit	1				231824-B22
Rack kits	2				See step 2 for details
MSL6060FC 2-drive RM	1	90	3	Fibre Channel	331196-B22
MSL6030FC 1-drive RM	1				330731-B24
Universal pass-thru mechanism	1				304825-B21
5U pass-thru extender kit	1				231824-B22
Rack kits	2				See step 2 for details
MSL6060FC 2-drive RM	1	90	4	Fibre Channel	331196-B22
MSL6030FC 2-drive RM	1				330731-B25
Universal pass-thru mechanism	1				304825-B21
5U pass-thru extender kit	1				231824-B22
Rack kits	2				See step 2 for details
MSL6060FC 2-drive RM	1	90	6	Fibre Channel	331196-B22
MSL6030FC 2-drive RM	1				330731-B25
Universal pass-thru mechanism	1				304825-B21
5U pass-thru extender kit	1				231824-B22
Rack kits	2				See step 2 for details

## Related Options

### CONFIGURATION INFORMATION (FOR RACKMOUNT UNITS ONLY) *(continued)*

#### STEP 1 – SELECT A CONFIGURATION *(continued)*

#### COMMON SCALED CONFIGURATIONS FOR MSL6000 LIBRARIES SAN OR DIRECT ATTACH FIBRE *(continued)*

Description	Quantity	Slots	Drives	Interface	Product Number
MSL6060FC 2-drive RM	2	120	4	Fibre Channel	331196-B22
Universal pass-thru mechanism	1				304825-B21
10U pass-thru extender kit	1				231824-B23
Rack kits	2				See step 2 for details
MSL6060FC 2-drive RM	2	120	6	Fibre Channel	331196-B22
MSL5000 Ultrium 460 add-on drives	2				330729-B21
Universal pass-thru mechanism	1				304825-B21
10U pass-thru extender kit	1				231824-B23
Rack kits	2				See step 2 for details
MSL6060FC 2-drive RM	2	120	8	Fibre Channel	331196-B22
MSL5000 Ultrium 460 add-on drives	4				330729-B21
Universal pass-thru mechanism	1				304825-B21
10U pass-thru extender kit	1				231824-B23
Rack kits	2				See step 2 for details

#### STEP 2 – SELECT THE APPROPRIATE RACK

Depending on the environment, different rack kits are required. Each rackmounted version of MSL6000 libraries includes a rack kit designed for HP/Compaq 9000, 10000 and millennium racks. If installing into these racks no additional kits are needed. If the environment is different, one of the following kits is necessary (one for each library in a stack)

Rackmounting Kits			
	MSL5000 system/e RM kit (HP racks)	613326628423	304826-B21
	Alpha Rail Kit	720591166243	254795-001

## Technical Specifications

<b>Control Panel</b>	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 Auto-power-on selection Magazine removal/replacement							
<b>SCSI Interface</b>	Ultra3 LVD SCSI, VHDCI interconnect							
<b>Form-factor</b>	10U Rackmount Tabletop							
<b>Shipping Dimensions</b>	Height [inches]	Height [cm]	Width [inches]	Width [cm]	Depth [inches]	Depth [cm]	Weight [lb]	Weight [kg]
<b>Packaged</b>								
MSL6060 (0 Drive, RM)	33.00	83.8	47.00	119.4	31.00	78.7	147.0	66.7
MSL6060 (2 Drive, RM)	33.00	83.8	47.00	119.4	31.00	78.7	161.0	73.0
MSL6060 (2 Drive, TT)	33.00	83.8	47.00	119.4	31.00	78.7	174.0	78.9
<b>Product Only</b>								
MSL6060 (0 Drive, RM)	17.50	44.5	17.00	43.2	30.00	76.2	95.0	43.1
MSL6060 (2 Drive, RM)	17.50	44.5	17.00	43.2	31.50	80.0	109.0	49.4
MSL6060 (2 Drive, TT)	18.50	47.5	19.00	48.3	31.50	80.0	122.0	55.3
<b>Capacity (native)</b>	MSL6060 base unit		12.0 TB					
<b>Performance (native)</b>	30 MB/s per drive		Adaptive Tape Speed provides data-rate matching from 10 MB/s to 30 MB/s					
	MSL6060 base unit		Supports 1 to 4 LTO Ultrium 460 drives for native transfer rates up to 432 GB/hr					
	Maximum configuration (4 modules with multi-unit scalability)		Supports up to 16 LTO Ultrium 460 drives for native transfer rates up to 1728 GB/hr					
<b>Storage Capacity (compressed @ 2:1)</b>	400GB per cartridge							
	MSL6060 base unit		60 slots (including one mail slot), for compressed (2:1) capacity up to 24.0 TB					
	Maximum configuration (4 modules with multi-unit scalability)		4 * 60 slots, for compressed (2:1) capacity up to 96 TB					
<b>Power Consumption</b>	<b>MSL6060 base unit</b>		90 to 140V AC @ 47 to 63Hz 176 to 259V AC @ 47 to 63Hz					
	<b>Power requirement</b>		300 Watts (typical) 360 Watts (maximum)					
	<b>Heat dissipation</b>		1020 BTU's/hour (typical) 1224 BTU's/hour (maximum)					
<b>Acoustic Noise</b>	Noise power emission level		8 bels, maximum					
	Avg. sound pressure level		52 dBA					
<b>Robotics Performance</b>	Initialization time		240 sec					
	Inventory time		110 sec					
	Cartridge swap (drive to slot)		22 sec average					

### Technical Specifications

<b>Reliability</b>	MTBF	250,000 hours (100% duty cycle) (excludes drives)
	MSBF	2,000,000 robot load/unload cycles
<b>Environmental</b>	Temperature range	50°F to 95°F (10°C to 35°C) (operating)
		-40°F to 140°F (-40°C to 60°C) (storage)
	Humidity	10 to 80% @ 82°F (28°C) (wet bulb) (operating)
		10 to 90% @ 82°F (28°C) (wet bulb) (storage)
<b>Product Safety Requirements and Approvals</b>	Safety EN60950/IEC950, UL, CSA/cUL, CE, VDE/TUV, GOST, EMI, Class A FCC, C.I.S.P.R., ICES-003, CE, VCCI; BSMI	
	Regulatory Series ED1005A Class A	
<b>Warranty</b>	One-year parts exchange, one-year onsite next day service	
	Additional warranty protection can be purchased for all MSL6060 library products.	
	<b>NOTE:</b> Certain restrictions and exclusions apply. Consult the Hewlett-Packard Customer Support Center for details.	

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