

### Overview

The HP StorageWorks MSL5000 Ultrium Tape Library Family provides a high performance mission critical automated mid-range backup and restore solution.

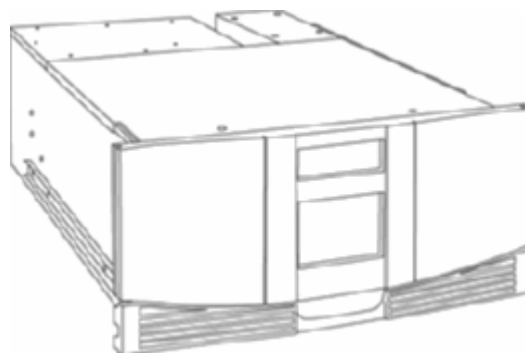
The MSL5030 defines a new segment in the mid-range automation segment, with high availability features normally found on enterprise libraries. Multi-unit scalability allows the library to grow with your performance and capacity requirements. The MSL5030 leads the industry in storage density: 30 slots in a 5U space with a 3.0 TB native capacity with Ultrium 230 tape drives. MSL5000 Ultrium tape libraries can up be upgraded to Ultrium 460 or Ultrium 960 tape technology via drive upgrade kits.

In keeping with HP's vision of innovative solutions, the MSL5060 offers, redundant power supplies and 60 slots in a compact 10U form factor, a first in the industry for the departmental segment. The MSL5060 defines a new segment in the mid-range automation segment, with high availability features normally found on enterprise libraries.

In addition, the MSL5000 libraries are easily managed through an intuitive GUI control panel and integrated remote Web management.



HP StorageWorks MSL5060 Tape Library



HP StorageWorks MSL5030 Tape Library

### Models

#### HP StorageWorks MSL5060 Tape Library Models

**NOTE:** The HP StorageWorks MSL5060 Tape Library comes with 60 media slots (including two mail slots) and can be configured with up to four HP StorageWorks LTO Ultrium 230 Tape Drives (number of drives determined by SKU chosen).

MSL5060, 0 DRV, Ultrium 230, RM Library 301899-B21

MSL5060, 2 DRV, Ultrium 230, RM Library 301899-B22

MSL5060, 2 DRV, Ultrium 230, embedded Fibre, RM Library 301899-B23

**NOTE:** Each library installation will require, (1) library system, (1) geographically specific power cord, (1) SCSI cable for each LTO Ultrium 230 drive pair, and LTO Ultrium media with bar code labels for each MSL5060. Multiple configurations will require additional Pass-through kits.

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

**NOTE:** For a 4-drive configuration, the 2-drive base model and 2 additional upgrade drives must be ordered.

**NOTE:** Installation services may also be ordered for customers who want to have a certified Hewlett-Packard engineer perform an onsite library installation.

#### HP StorageWorks MSL5030 Tape Library Models

**NOTE:** The HP StorageWorks MSL5030 Tape Library comes with 30 media slots (including one mail slot) and one or two HP StorageWorks LTO Ultrium 230 Tape Drives (number of drives determined by SKU chosen).

MSL5030, 0 DRV, RM Library 301897-B21

MSL5030, 1 DRV, LTO Ultrium 230, RM Library 301897-B22

MSL5030, 2 DRV, LTO Ultrium 230, RM Library 301897-B23

MSL5030, 1 DRV, LTO Ultrium 230, embedded Fibre, RM Library 301897-B24

MSL5030, 2 DRV, LTO Ultrium 230, embedded Fibre, RM Library 301897-B25

**NOTE:** Each library installation will require, (1) library system, (1) geographically specific power cord, (1) SCSI cable for each drive pair, and up to 30 pieces of LTO Ultrium media with bar code labels for each MSL5030. Multiple configurations will require additional pass-through kits.

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

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

### Standard Features

#### MSL5000 Ultrium Tape Library Customer Benefits

- 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 in the 5060 help to minimize downtime
- Reliable, cost effective backup, restoration and archival solution that fits a growing company's storage needs
- Efficient form-factor provides the maximum storage in minimum space
- Compatible with a wide variety of operating systems, software applications, and server platforms, the MSL5000 Ultrium Tape Family will fit in your environment

### Key Features

- Multi-unit modular scalability - any combination of MSL5030 and MSL5060s up to 40U high
- Web-based remote management system
- Touch screen GUI panel for easy library operation
- Two 15-slot magazines
- Up to sixty data slots (MSL5060) for a native capacity of up to 6.0 TB, giving the highest density in a 10U form factor in the mainstream segment (including two mail slots for quick load/unload and removable magazines)
- The MSL5060 ships with up to four LTO Ultrium 230 drives, with a throughput of 15 MB/s (native) per drive for a backup performance of up to 216 GB/hr for a single unit
- The MSL5030 ships with one or two LTO Ultrium 230 drives, with a throughput of 15 MB/s (native) per drive for a backup performance of up to 108 GB/hr for a single unit
- Ultra 2 LVD SCSI Interface or Embedded Fibre (2Gb)
- 2 (MSL5030) or 6 (MSL5060) cPCI slots for added functionality through add-on cards in future
- " Available as a rack-mount configuration
- Qualified on a broad range of operating systems, ISV packages and hardware platforms (see Product Highlights for details)

### Product Highlights

#### Multi-unit Modular Scalability

The MSL5060 has the capability for multi-unit scalability; up to four libraries can be scaled together in a virtual library. The first module houses the pass-through mechanism, which has the elevator mechanism for tape movement. Each additional module requires the 10U pass-through extender.

The HP StorageWorks MSL5030 Tape Library has the capability for multi-unit scalability; up to eight libraries can be scaled together into a single library. The first two modules are linked using the pass-through mechanism, which has the elevator mechanism for tape movement. Additions of subsequent modules require the 5U pass-through extender (one for each additional module).

#### Remote Management Interface

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.

#### HP StorageWorks Library and Tape Tools (L&TT)

The MSL5000 Ultrium Tape Library Family configurations are supported on HP's industry-leading diagnostic tool - HP StorageWorks Library and Tape Tools (L&TT). L&TT is a single, convenient program that's a snap to install and simple to operate. L&TT's intuitive user interface eliminates the need for training and deploys in less than five minutes. This robust diagnostic tool is designed for both the experienced professional and the untrained administrator. It ensures product integrity through self-diagnostics and fast resolution to device concerns. Additional information on L&TT plus download information can be found at: <http://www.hp.com/support/tapetools>.

#### Manageability

The HP StorageWorks MSL5000 Ultrium Tape Library Family configurations are fully supported through Insight Manager 7.0, providing information to administrators for robotic status, tape status changes and fault status. HP TSMC (tape storage management console) provides diagnostics and easy firmware upgrade capabilities.

**NOTE:** Additional information on Insight Manager can be found at: <http://h18000.www1.hp.com/products/servers/management/cim7-description.html>

#### Proven Reliability

Using LTO Ultrium tape drives, and proven library robotics with a rating of 2,000,000 robot load/unload cycles, the MSL5000 Ultrium Tape Library Family provides the necessary high reliability for today's demanding environment.

#### Investment Protection

The MSL5000 Ultrium Tape Library Family can be upgraded to Ultrium 460 or Ultrium 960 tape drives in 3 easy steps:

1. Remove the existing tape drives and replace them with the new tape drives
2. Upgrade the library firmware
3. Load Ultrium media into the library

**NOTE:** When doing this, the library **MUST** be configured with one (1) drive per SCSI bus and for Fibre Channel configurations must be configured with the e1200-160..

**NOTE:** Ultrium 460 drives can read and write Ultrium 1 media providing backward compatibility.

**NOTE:** Ultrium 960 drives can read and write Ultrium 2 media providing backward compatibility.

### Product Highlights

**LTO Ultrium Technology** The HP StorageWorks Ultrium 960 Tape Drive represents HP's third-generation of LTO tape drive technology. Positioned as the highest capacity drive in the StorageWorks family, the Ultrium 960 features an 800 GB compressed (2:1) storage capacity using new LTO 3 media. By doubling the capacity of current Ultrium drives, HP customers now require fewer data cartridges to meet their storage needs, significantly reducing their IT costs and increasing their ROI. The Ultrium 960 also features a compressed (2:1) data transfer rate of 160 MB/s. Using a new 16-channel recording head, an Ultra320 SCSI interface, and increases in media tracks and bit density, the HP Ultrium 960 sets a new performance benchmark as the world's fastest tape drive.

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.

**NOTE:** For additional information regarding the HP StorageWorks Ultrium Tape Drives, please see the following QuickSpecs at:

[http://h18000.www1.hp.com/products/quickspecs/11739\\_na/11739\\_na.html](http://h18000.www1.hp.com/products/quickspecs/11739_na/11739_na.html) (North America)

[http://h18000.www1.hp.com/products/quickspecs/11739\\_div/11739\\_div.html](http://h18000.www1.hp.com/products/quickspecs/11739_div/11739_div.html) (Worldwide)

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### Data Rate Matching

An exclusive feature of HP Ultrium tape drives, data rate matching allows the tape drive to adjust its transfer rate to the speed of the host dynamically and continuously. This feature, coupled with the Ultrium buffer management technology within the data path, ensures that the tape drive continues to stream data, reducing the need to rewind the tape back and forth to wait for the host. This feature brings two big advantages:

- It optimizes performance, getting the best performance possible for the environment, regardless of the speed of the host or the network.

It reduces wear and tear on drive and media, thus increasing reliability

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### HP Ultrium Storage Media

HP recommends that you use HP-branded cartridges in your MSL Tape Libraries to assure the highest level of protection for your valuable data.

The HP specification for storage media is the most thorough and comprehensive in the industry. All 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.

HP cartridges are optimised for use in HP tape devices. This means your best choice for ease of support and maximum dependability is to use HP-storage media at all times

**NOTE:** For additional information regarding the HP Ultrium Storage Media, please see the following QuickSpecs at:

[http://h18000.www1.hp.com/products/quickspecs/11529\\_na/11529\\_na.html](http://h18000.www1.hp.com/products/quickspecs/11529_na/11529_na.html) (North America)

[http://h18000.www1.hp.com/products/quickspecs/11529\\_div/11529\\_div.html](http://h18000.www1.hp.com/products/quickspecs/11529_div/11529_div.html) (Worldwide)

### Product Highlights

#### Server Support

The HP StorageWorks MSL5000 Ultrium Tape Library Family are supported on the following classes of HP systems:

- HP ProLiant servers
- HP UX Servers
- HP AlphaServers

**NOTE:** For details of which models work with which systems, including third-party systems, visit <http://www.hp.com/go/ebs> for the latest hardware compatibility information.

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#### Application Support

Automation and Network Utilities

- HP StorageWorks Library and Tape Tools v2.9
  - HP Tape Storage Management Console v2.3 (NT/2000) and 2.0 (NetWare)
  - MRU (media robot utility) v1.4
  - HP Insight Manager v7.0
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#### ISV/OS Support

For the most up-to-date ISV & OS support please consult the Enterprise Backup Solutions Compatibility Matrix at <http://www.hp.com/go/ebs>.

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#### 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

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**Warranty** One-year warranty, one-year onsite next day service.

Additional warranty protection can be purchased for all MSL5000 Ultrium Tape Library Family products.

**NOTE:** Certain restrictions and exclusions apply. Consult the Hewlett-Packard Customer Support Center for details.

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**Warranty Upgrade Options**

- Response - Upgrade on-site response from next business day to same day 4-hours
  - Coverage - Extend hours of coverage from 5 days x 9 hours to 7 days x 24 hours
  - Duration - Select duration of coverage for a minimum period of 1 year or multiple years
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**HP Care Pack Information** HP Care Pack is defined as an upgrade to the product warranty attribute, available for a specific duration and hours of coverage.

- HP Care Pack is not available for less than the products warranty duration.
- HP Care Pack 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.
- HP Care Pack services are prepaid.

For additional HP Care Pack (hardware & software) information, as well as orderable part numbers, please refer to the URL listed below:

<http://h18005.www1.hp.com/services/carepaq/index.html>

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**Software Product Services**

- Stand-alone telephone support
  - Rights to a new license
  - Media and documentation updates
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**Hardware Product Services**

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

For additional hardware installation and maintenance information please refer to the URLs listed below:

[http://h18005.www1.hp.com/services/carepaq/us/install/cp\\_storage.html](http://h18005.www1.hp.com/services/carepaq/us/install/cp_storage.html)

[http://h18005.www1.hp.com/services/carepaq/us/hardware/cp\\_storage.html](http://h18005.www1.hp.com/services/carepaq/us/hardware/cp_storage.html)

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### Service and Support, HP Care Pack and Warranty Information

#### HP Care Pack PS Information for EMEA

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

#### Standard Offerings:

- HP Care Pack Priority Services provide an integrated hardware and software support that ensure consistent coverage across storage configurations.
- HP Care Pack Priority Service offers a rapid four-hour response with guaranteed work-through to completion for three years.
- HP Care Pack 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.
- HP Care Pack 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 HP Care Pack Priority Services in EMEA please contact your 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.

#### Support Services

HP Services provides up to a three-year, limited warranty, fully supported by a worldwide network of resellers and service providers and 9x5 hardware technical phone support during the warranty period. In addition, available service offerings include a full range of optional packaged hardware and software services:

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

#### Components

The following brick level options/components do not have individual HP Care Pack Services. These items will be included in product HP Care Pack Services into which they are installed.

Tape Drives      Power Supplies      Cabling      Adapters      Fans

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.



### Kit Contents

Model	Description	Part Number
MSL5060 Library System	MSL5060, 0 DRV, RM Library	301899-B21
	MSL5060, 2 DRV, LTO Ultrium 230, RM Library	301899-B22
	MSL5060, 2 DRV, Ultrium 230, embedded Fibre, RM Library	301899-B23
MSL5030 Library System	MSL5030, 0 DRV, RM Library	301897-B21
	MSL5030, 1 DRV, LTO Ultrium 230, RM Library	301897-B22
	MSL5030, 2 DRV, LTO Ultrium 230, RM Library	301897-B23
	MSL5030, 1 DRV, LTO Ultrium 230, Embedded Fibre, RM Library	301897-B24
	MSL5030, 2 DRV, LTO Ultrium 230, Embedded Fibre, RM Library	301897-B25
	<b>Supplied with each Library Unit</b>	
Library Unit (pre-configured with drives, fibre card as applicable)		
Documentation Kit		
EFIJS Translation CD		
Users Guide		
Diagnostic diskette/Software Guide		
SCSI Terminator(s) (1 per drive)		
SCSI Jumper Cable(s) VHDCI .5m (1 per drive)		
Diagnostic Cable (RJ11-DB9 for PC attach)		
MSL5000 & 6000 Series Documentation CD		
Driver CD - Media Robot utility CD		
MSL Utility CD		
Warranty Card		
Safety Warnings Document		
ISS Safety Guide-HP		
5U/10U Rack Template Poster (RM only)		
Mounting Slides for HP 9000/10000/11000 Rack (RM only)		

### Related Options

Upgrade Accessories	MSL5000 LTO Ultrium 230 upgrade drive	301901-B21
	MSL Ultrium 460 upgrade drive	AD605A
	<p><b>NOTE:</b> The MSL Ultrium 460 upgrade drives (330729-B21) are intended to be used to field upgrade MSL5060 libraries to Ultrium 460. If this is a new installation, and Ultrium 460 is desired, please purchase an MSL6060.</p> <p><b>NOTE:</b> One drive per SCSI bus.</p>	
	HP MSL6000 Ultrium 960 Drive	AD612A
	<p><b>NOTE:</b> For use in upgrading installed MSL5000 and MSL6000 Ultrium libraries. If this is an upgrade and going into a FC configuration, please ensure an e1200-160 is used with the Ultrium 960 tape drives. Please reference the Business Class Library Upgrade Matrix for complete upgrade requirements at:  <a href="http://h18006.www1.hp.com/products/storageworks/tapecompatibility.htm">http://h18006.www1.hp.com/products/storageworks/tapecompatibility.htm</a></p>	
Interface Cards	Network Storage Router e1200-160 for MSL - Graphite	330728-B21
	<p><b>NOTE:</b> Includes one router card (1FC x 2 LVD SCSI), 2 VHDCI-VHDCI SCSI cables, User Guide CD. This product is for all MSL Graphite colored libraries. It is highly recommended that an installation HP Care Pack be ordered with this product.</p>	
Pass-through Mechanism Hardware	MSL Universal pass-through mechanism base unit	304825-B21
	<p><b>NOTE:</b> Includes elevator mechanism and router, required to connect first two units in a stack (capable of handling both SDLT and LTO media).</p>	
	MSL 10U pass-through extender	231824-B23
	<p><b>NOTE:</b> Supported by the MSL 10U Tape Libraries only.</p>	
	MSL 5U pass-through extender	231824-B22
	<p><b>NOTE:</b> Supported by the MSL 5U Tape Libraries only.</p> <p><b>NOTE:</b> Required one for each unit connected to the stack, for third and additional units.</p>	
Rack-mounting Kits	MSL5000 system/e bracket Kit (HP racks)	304826-B21
	MSL5026 TT-RM KIT, ProLiant Rack	231894-B22
	MSL5026 TT-RM KIT, Alpha/HP Rack	231894-B21
	Alpha Rail Kit	254795-001

### Related Options

Power Cord	Power Cord, US/Canada/Mexico	227099-001
	<b>NOTE:</b> (Shipped with all units.) Order Local power cords separately.	
	Power Cord, (Australia/China/New Zealand)	227098-011
	Power Cord, (South East Asia/India)	157220-AR1
	Power Cord, (Central Europe)	157215-021
	Power Cord, (United Kingdom/Hong Kong/Singapore)	157216-031
	Power Cord, (Switzerland)	157219-111
	Power Cord, (Italy)	157217-061
	Power Cord, (Denmark)	157218-081
Power Cord, (Japan)	139867-006	

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

**NOTE:** Order Local power cords separately. One power cord required for each MSL5030, two power cords required for each MSL5060. This product can only be used with an HP approved Power Cord for the customer's specific geographic region.

**WARNING:** Use of a non-HP approved Power Cord may result in (1) use of a power cord that does not meet individual country specific safety requirements; (2) a power cord with insufficient conductor ampacity that could result in overheating with potential personal injury and/or property damage; and/or (3) an unapproved power cord could fracture resulting in the internal contacts being exposed which potentially could subject the user to a shock hazard. Use ONLY an HP approved power cord for your particular country. HP disclaims all liability in the event a non-HP approved power cord is used.

Auto Power-On	Auto Power-On for MSL5030 (Installation Band 5AU)	HA124A1
	Auto Power-On for MSL5060 (Installation Band 5AW)	HA124A1

**NOTE:** The Auto Power-On feature allows the library to reboot in the event of a power failure without operator intervention; feature must be installed by an authorized service technician.

SCSI Host Cables	SCSI Cable, VHDCI, 6 feet	341174-B21
	SCSI Cable, VHDCI/VHDCI, 12 feet	341175-B21
	SCSI Cable, VHDCI/Wide, 6 feet	341176-B21
	SCSI Cable, VHDCI/Wide, 12 feet	341177-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>

FC Host Bus Adapters	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>
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SCSI Host Bus Adapters	For more information on FC HBAs please consult the EBS connectivity matrix <a href="http://www.hp.com/go/ebs">at http://www.hp.com/go/ebs</a>
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### Related Options

<b>Media</b>	MSL5000 Dual Magazine LTO (2 x 15 slot magazines, left and right)	301902-B21
	HP LTO Ultrium Data Cartridge	C7971A
	MSL Ultrium Universal Magazine (2 x 15 slot magazines, left and right set)	AD621A
	<b>NOTE:</b> for use in the MSL5000 or MSL6000 tape libraries	
	HP Ultrium 230 (200GB) Data Cartridge	C7971A
	HP Ultrium 460 (400GB) Data Cartridge	C7972A
	HP Ultrium 960 (800GB) Data Cartridge	C7973A
	HP Ultrium 960 (800GB) WORM Data Cartridge	C7973W
	HP Ultrium Universal Cleaning Cartridge	C7978A
	HP Ultrium 460 bar code label pack	Q2002A
	<b>NOTE:</b> each bar code label pack comes with 100 data and 10 cleaning bar code labels	
	HP Ultrium 960 RW Barcode Label Pack	Q2007A
	<b>NOTE:</b> each bar code label pack comes with 100 data and 10 cleaning bar code labels	
	HP Ultrium 960 WORM Barcode Label Pack	Q2008A
	<b>NOTE:</b> each bar code label pack comes with 100 data and 10 cleaning bar code labels	
	<b>US &amp; EMEA Pre-labeled Media</b>	
	HP Ultrium 230 (200GB) Prelabeled Data Cartridge (20 pack)	C7971AL
	HP Ultrium 460 (400GB) Prelabeled Data Cartridge (20 pack)	C7972AL
	HP Ultrium 960 (800GB) RW Prelabeled Data Cartridge (20 pack)	C7973AL
	HP Ultrium 960 (800GB) WORM Prelabeled Data Cartridge (20 pack)	C7973WL
	HP SDLT 220/320 Pre-Labeled Data Cartridge (20 pack)	C7980AL

**HP Care Pack Services** **NOTE:** 'A' signifies a physical HP Care Pack; 'E' signifies an electronic HP Care Pack.

**MSL5030 Fixed Care Packs**

Installation	U4823A
Installation (electronic)	U4823E
HW, 3-year, next-day, onsite	U2859A
HW, 3-year, next-day, onsite (electronic)	U2859E
HW, 3-year, next-day, 13x5, 4 hour response, onsite	U2860A
HW, 3-year, next-day, 13x5, 4 hour response, onsite (electronic)	U2860E
HW, 3-year, next-day, 24x7, 4 hour response, onsite	U2861A
HW, 3-year, next-day, 24x7, 4 hour response, onsite (electronic)	U2861E
HW, 3-year, next-day, 6 hour call to repair, onsite	U9287A
HW, 3-year, next-day, 6 hour call to repair, onsite (electronic)	U9287E

**MSL5030 Flexible Care Packs**

	Band For Library	Installation Band	
Initial Tape Library Installation	463	5DR	HA113A1
Initial Tape Library Implementation Into SAN	463	5DR	HA114A1
Subsequent Tape Drive Installation	N/A	5DU	HA113A1
HW, 3-year, next-day, on-site	463	N/A	HA101A3
HW, 3-year, 4-hour, 13 x 5, on-site	463	N/A	HA103A3

### Related Options

HW, 3-year, 4-hour, 24 x 7, on-site	463	N/A	HA104A3
Support plus, 3-year*	463	N/A	HA109A3
Support plus 24, 3-year*	463	N/A	HA110A3

#### MSL5060 Fixed Care Packs

Installation			U4824A
Installation (electronic)			U4824E
HW, 3-year, next-day, onsite			U2862A
HW, 3-year, next-day, onsite (electronic)			U2862E
HW, 3-year, next-day, 13x5, 4 hour response, onsite			U2863A
HW, 3-year, next-day, 13x5, 4 hour response, onsite (electronic)			U2863E
HW, 3-year, next-day, 24x7, 4 hour response, onsite			U2864A
HW, 3-year, next-day, 24x7, 4 hour response, onsite (electronic)			U2864E
HW, 3-year, next-day, 6 hour call to repair, onsite			U9288A
HW, 3-year, next-day, 6 hour call to repair, onsite (electronic)			U9288E

MSL5060 Flexible Care Packs	Band For Library	Installation Band	
Initial Tape Library Installation	464	5DS	HA113A1
Initial Tape Library Implementation Into SAN	464	5DS	HA114A1
Subsequent Tape Drive Installation	N/A	5DU	HA113A1
HW, 3-year, next-day, on-site	464	N/A	HA101A3
HW, 3-year, 4-hour, 13 x 5, on-site	464	N/A	HA103A3
HW, 3-year, 4-hour, 24 x 7, on-site	464	N/A	HA104A3
Support plus, 3-year*	464	N/A	HA109A3
Support plus 24, 3-year*	464	N/A	HA110A3

\* Support Plus covers Hardware support only.

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

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.

### Configuration Information

(for rack-mount units only)

#### Step 1 - Select a Configuration

**NOTE:** 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 MSL5030 and MSL5060 libraries in the scaled stack. Please refer to the MSL5000 library QuickSpecs for more details. The Ultrium MSL5000 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 System\E 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 MSL5000 Libraries

##### Direct Attach SCSI

Slots	Drives	Interface	Quantity	Description	Product Number
60	2	SCSI	1	MSL5060L1 2-drive RM	301899-B22
			2	Rack kits	See step 2 for details
60	3	SCSI	1	MSL5060L1 2-drive RM	301899-B22
			1	MSL5000 Ultrium 230 add-on drives	301901-B21
			1	Rack kits	See step 2 for details
60	4	SCSI	1	MSL5060L1 2-drive RM	301899-B22
			2	MSL5000 Ultrium 230 add-on drives	301901-B21
			1	Rack kits	See step 2 for details
90	2	SCSI	1	MSL5030L1 2-drive RM	301897-B23
			1	MSL5060L1 0-drive RM	301899-B21
			1	Universal pass-thru mechanism	304825-B21
			1	5U pass-thru extender kit	231824-B22
			2	Rack kits	See step 2 for details
90	3	SCSI	1	MSL5030L1 1-drive RM	301897-B22
			1	MSL5060L1 2-drive RM	301899-B22
			1	Universal pass-thru mechanism	304825-B21
			1	5U pass-thru extender kit	231824-B22
			2	Rack kits	See step 2 for details

### Configuration Information

90	4	SCSI	1	MSL5030L1 1-drive RM	301897-B23
			1	MSL5060L1 2-drive RM	301899-B22
			1	Universal pass-thru mechanism	304825-B21
			1	5U pass-thru extender kit	231824-B22
			2	Rack kits	See step 2 for details
90	6	SCSI	1	MSL5030L1 2-drive RM	301897-B23
			1	MSL5060L1 2-drive RM	301899-B22
			2	MSL5000 Ultrium 230 add-on drives	301901-B21
			1	Universal pass-thru mechanism	304825-B21
			1	5U pass-thru extender kit	231824-B22
			2	Rack kits	See step 2 for details
120	4	SCSI	2	MSL5060L1 2-drive RM	301899-B22
			1	Universal pass-thru mechanism	304825-B21
			1	10U pass-thru extender kit	231824-B22
			2	Rack kits	See step 2 for details
120	3	SCSI	2	MSL5060L1 2-drive RM	301899-B22
			2	MSL5000 Ultrium 230 add-on drives	301901-B21
			1	Universal pass-thru mechanism	304825-B21
			1	10U pass-thru extender kit	231824-B22
			2	Rack kits	See step 2 for details
120	8	SCSI	2	MSL5060L1 2-drive RM	301899-B22
			4	MSL5000 Ultrium 230 add-on drives	301901-B21
			1	Universal pass-thru mechanism	304825-B21
			1	10U pass-thru extender kit	231824-B22
			2	Rack kits	See step 2 for details

### Common Scaled Configurations for MSL5000 Libraries SAN or Direct Attach Fibre

Slots	Drives	Interface	Quantity	Description	Product Number
60	2	Fibre Channel	1	MSL5060L1FC 2-drive RM	301899-B23
			1	Rack kits	See step 2 for details

### Configuration Information

60	3	Fibre Channel	1	MSL5060L1FC 2-drive RM	301899-B23
			1	MSL5000 Ultrium 230 add-on drives	301901-B21
			1	e1200-160 Fibre card kit	330728-B21
			1	Rack kits	See step 2 for details
60	4	Fibre Channel	1	MSL5060L1FC 2-drive RM	301899-B23
			2	MSL5000 Ultrium 230 add-on drives	301901-B21
			1	e1200-160 Fibre card kit	330728-B21
			1	Rack kits	See step 2 for details
90	2	Fibre Channel	1	MSL5030L1FC 2-drive RM	301897-B25
			1	MSL5060L1 0-drive RM	301899-B21
			1	Universal pass-thru mechanism	304825-B21
			1	5U pass-thru extender kit	231824-B22
			2	Rack kits	See step 2 for details
90	3	Fibre Channel	1	MSL5060L1FC 2-drive RM	301899-B23
			1	MSL5030L1FC 1-drive RM	301897-B24
			1	Universal pass-thru mechanism	304825-B21
			1	5U pass-thru extender kit	231824-B22
			2	Rack kits	See step 2 for details
90	4	Fibre Channel	1	MSL5030L1FC 1-drive RM	301897-B25
			1	MSL5060L1FC 2-drive RM	301899-B23
			1	Universal pass-thru mechanism	304825-B21
			1	5U pass-thru extender kit	231824-B22
			2	Rack kits	See step 2 for details
90	6	Fibre Channel	1	MSL5030L1FC 2-drive RM	301897-B25
			1	MSL5060L1FC 2-drive RM	301899-B23
			2	MSL5000 Ultrium 230 add-on drive	301901-B21
			1	Universal pass-thru mechanism	304825-B21
			1	5U pass-thru extender kit	231824-B22
			2	Rack kits	See step 2 for details



### Configuration Information

120	4	Fibre Channel	2	MSL5060L1FC 2-drive RM	301899-B23
			1	Universal pass-thru mechanism	304825-B21
			1	10U pass-thru extender kit	231824-B23
			2	Rack kits	See step 2 for details
120	6	Fibre Channel	2	MSL5060L1FC 2-drive RM	301899-B23
			2	MSL5000 Ultrium 230 add-on drives	301901-B21
			1	e1200-160 Fibre card kit	330728-B21
			1	Universal pass-thru mechanism	304825-B21
			1	10U pass-thru extender kit	231824-B23
			2	Rack kits	See step 2 for details
120	8	Fibre Channel	2	MSL5060L1FC 2-drive RM	301899-B23
			4	MSL5000 Ultrium 230 add-on drives	301901-B21
			2	e1200-160 Fibre card kit	330728-B21
			1	Universal pass-thru mechanism	304825-B21
			1	10U pass-thru extender kit	231824-B23
			2	Rack kits	See step 2 for details

### Step 2 - Select the Appropriate Rack

Depending on the environment, different rack kits are required. Each rack-mounted version of MSL5000 libraries includes a rack kit designed for Compaq 9000, HP 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)

Rack-mounting Kits		Part Number
	MSL5000 system/e RM kit (HP racks)	304826-B21
	Alpha Rail Kit	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
Magazine removal/replacement	

<b>SCSI Interface</b>	Ultra2 LVD SCSI, VHDCI interconnect
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<b>Worldwide Product Safety and EMC Approvals</b>	Safety: IEC 60950
	EMC: CISPR 22/class A, CISPR 24
	For country specific compliance contact your local sales representative.
	Regulatory Model Number: ED1005 (One stack unit); ED1005A (Two stack unit)

Capacity(native)		MSL5030 Tape Library	MSL5060 Tape Library
	<b>Ultrium 230</b>	3.0 TB	6.0 TB
	<b>Ultrium 460</b>	6.0 TB	12.0 TB
	<b>Ultrium 960</b>	12.0 TB	24 TB
<b>Dimensions</b>	Out of box, 0 Drive, RM	8.75 x 17.00 x 30.00 in (22.20 x 43.20 x 76.20 cm)	17.50 x 17.00 x 30.00 in (44.50 x 43.20 x 76.20 cm)
	Out of box, 1 Drive, RM	8.75 x 17.00 x 31.50 (22.20 x 43.20 x 80.00 cm)	N/A
	Out of box, 2 Drive, RM	8.75 x 17.00 x 31.50 in (22.20 x 43.20 x 80.00 cm)	17.50 x 17.00 x 31.50 in (44.50 x 43.20 x 80.00 cm)
	Shipping, 0 Drive, RM	15.25 x 23.00 x 32.25 in (38.70 x 58.40 x 97.20 cm)	33.00 x 47.00 x 31.00 in (83.80 x 119.40 x 78.7 cm)
	Shipping, 1 Drive, RM	15.25 x 23.00 x 38.25 in (38.70 x 58.40 x 97.20 cm)	N/A
	Shipping, 2 Drive, RM	15.25 x 23.00 x 38.25 in (38.70 x 58.40 x 97.20 cm)	33.00 x 47.00 x 31.00 in (83.80 x 119.40 x 78.7 cm)
<b>Weight</b>	Out of box, 0 Drive, RM	43.0 lb (19.5 kg)	95.0 lb (43.1 kg)
	Out of box, 1 Drive, RM	52.0 lb (23.6 kg)	N/A
	Out of box, 2 Drive, RM	61.0 lb (27.7 kg)	109.0 lb (49.4 kg)
	Shipping, 0 Drive, RM	75.0 lb (34.0 kg)	147.0 lb (66.7 kg)
	Shipping, 1 Drive, RM	84.0 lb (38.1 kg)	N/A
	Shipping, 2 Drive, RM	93.0 lb (42.2 kg)	161.0 lb (73.0 kg)

### Technical Specifications

<b>Storage Capacity</b> (compressed @ 2:1)	Ultrium 230	Ultrium 460	Ultrium 960
	200 GB per cartridge	400 GB per cartridge	800 GB per cartridge
<b>Power Consumption</b>	Base unit	90 to 140V AC @47 to 63 Hz	90 to 132V AC @ 47 to 63Hz
	Voltage	176 to 259V AC @47 to 63 Hz	180 to 264V AC @ 47 to 63Hz
	Power Requirement (typical)	180 Watts	300 Watts
	Power requirement (maximum)	200 Watts	360 Watts
	Heat dissipation (typical)	612 BTU's/hour	1020 BTU's/hour
	Heat dissipation (maximum)	671 BTU's/hour	1224 BTU's/hour
<b>Acoustic Noise</b>	Noise Power Emission Level	8 bels, maximum	8 bels, maximum
	Average sound pressure level	52 dBA	52 dBA
<b>Robotics Performance</b>	Initialization time	100 sec	240 sec
	Inventory time	60 sec	110 sec
	Cartridge swap (drive to slot)	15 sec average	22 sec average
<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	Operating	50° to 95° F (10° to 35° C)
		Storage	-40° to 140° F (-40° to 60° C)
	Humidity (wet bulb)	Operating	10 to 80% @ 82° F (28° C)
		Storage	10 to 90% @ 82° F (28° C)

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