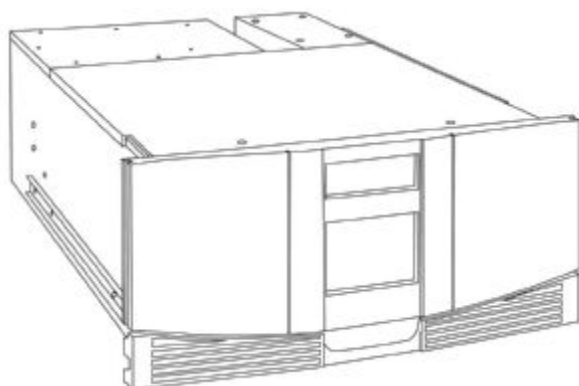


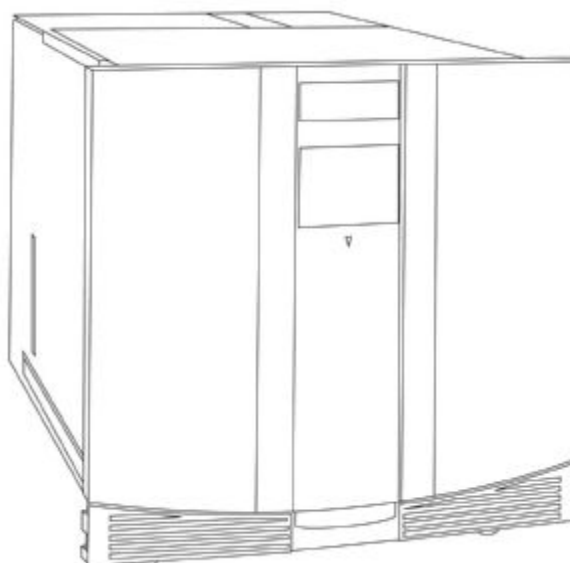
Overview

HP StorageWorks MSL6000 Tape Libraries provide a secure, centralized backup in a single automated device, freeing valuable IT resources for more strategic work. These libraries are ideal for medium to large IT networks, with or without a storage area network (SAN), experiencing uncertain data growth. The MSL6000 Tape Libraries offer a choice of tape technology including HP LTO-4 Ultrium 1840 with embedded hardware encryption support, or Ultrium 960, tape drives. Backups are secure with AES 256-bit hardware encryption embedded on the HP LTO-4 Ultrium 1840 Tape Drives. Encryption key management support is available with HP StorageWorks Data Protector and other ISV backup applications. This portfolio of tape libraries offers a secure, scalable, and manageable centralized tape backup solution that can grow with ever-changing backup and recovery needs, while reducing IT staff involvement.

The MSL6000 Tape Libraries will scale to larger configurations by enabling a single library to grow and change with capacity and technology as needs require. Not only will the MSL6000 Tape Library scale within the family, but it can also be scaled with MSL5000 Tape Libraries using a pass-through mechanism, for up to 16 drives and 240 slots. LTO-4 Ultrium 1840 or Ultrium 960, tape drives are available as upgrades to currently installed MSL5000 and MSL6000 Tape Libraries. The MSL6000 Tape Libraries are easily managed through an intuitive GUI-control panel and integrated remote web management, allowing simple management capabilities from any remote or on-site location.



HP StorageWorks MSL6030 Tape Library



HP StorageWorks MSL6060 Tape Library

What's New

- HP StorageWorks MSL6000 Tape Libraries are now available with LTO-4 Ultrium 1840 hardware encrypting tape drives for secure high performance backups meeting consortium specifications for LTO-4

Key Features

- Scalable up to 16 drives and 240 slots
- Flexible in terms of choice for tape drive technology and library interface
- Investment protection for performance and capacity needs
- Manageable
- Secure with AES 256-bit embedded encryption support on the LTO-4 Ultrium 1840 tape drives.
- Reliable
- Extensive compatibility testing
- Agility in storage and movement of data

Overview

Customer Benefits

- Multi-unit stacking allows the library to grow with changing storage requirements for up to 16 drives and 240 slots using either MSL6000 or MSL5000 Tape Libraries.
- Available with a broad choice of tape technologies including Ultrium 1840 or Ultrium 960 ; and with either a SCSI LVD/SE or Fibre Channel interface.
- Backups are secure with embedded hardware encryption on the HP LTO-4 Ultrium 1840 Tape Drives. Receive the highest level of encryption capability ensuring data privacy and regulation compliance. Encryption key management support is available with HP StorageWorks Data Protector and other ISV backup applications
- Upgrade to a new drive technology by simply installing a drive upgrade kit into an existing library chassis.
- A controller-based architecture allows direct-attach configurations to easily move to a SAN environment via an interface card upgrade.
- User-friendly GUI control panel and web interface make library management easy from any remote or local location.
- Tape libraries provide consistent backup and automatically change tapes with a robotics rating of two million Mean Swaps Between Failures (MSBF).
- Works with industry-leading servers, operating systems and backup software. (<http://www.hp.com/go/ebs>)
- For dedicated import/export of data cartridges, each library includes one to two configurable mail slots, along with two to four removable magazines, dependent upon library configuration.

| Family Comparison | MSL6030 Tape Library | MSL6060 Tape Library |
|--|---|---|
| Form Factor | 5U | 10U |
| Tape Drives Supported | LTO-4 Ultrium 1840 LTO-3 Ultrium 960 | LTO-4 Ultrium 1840 LTO-3 Ultrium 960 |
| Max Drives per Unit | 2 | 4 |
| Max Capacity per Unit (compressed 2:1) | 48 TB (LTO-4) 24 TB (LTO-3) | 96 TB (LTO-4) 48 TB (LTO-3) |
| Max Number of Units Stacked | 8 | 4 |
| Max Data Transfer Rate per Unit (compressed, max drives) | 1.7 TB/hr (LTO-4) 1.15 TB/hr (LTO-3) | 3.45 TB/hr (LTO-4) 2.3 TB/hr (LTO-3) |
| Interface | Ultra320 LVD SCSI 4Gb Fibre Channel | Ultra320 LVD SCSI 4Gb Fibre Channel |

Product Highlights

Multi-unit Scalability The MSL6000 Tape Library has the capability for multi-unit scalability; up to four 10U libraries or eight 5U libraries can be scaled together into a single library. For the MSL6030, the first two modules are linked using the MSL Universal Pass-Through Mechanism base unit kit, which has a shuttle mechanism for tape movement between units. For the MSL6060, the first two modules are linked using the MSL Universal Pass-Through Mechanism base unit kit and a 10U extender kit. Additions of subsequent modules require one MSL 5U or one MSL 10U pass-through extender kit per library module. A MSL6000 Tape Library can also be scaled with a MSL5000 Tape Library for added flexibility and investment protection. The ISV application will determine mixed media and tape drive support per tape library configuration.

Manageability The MSL6000 Tape Library includes web-based management to allow monitoring and managing of 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.

Proven Reliability With a rating of 2,000,000 robot load/unload cycles, the MSL6000 Tape Library provides necessary high reliability for today's demanding environment. To improve reliability and longevity, all HP Ultrium products feature Data Rate Matching (DRM). This allows the tape drive to dynamically and continuously adjust the speed of the drive, to match the speed of the host or network. This increases performance, reduces mechanical wear on the tape drive and extends tape life.

Data Privacy To greatly enhance data privacy, HP StorageWorks MSL6000 Tape Libraries are now available with LTO-4 Ultrium 1840 hardware encrypting tape drives for secure high performance backups meeting consortium specifications for LTO-4. HP Data Protector Software can enable the drive encryption and provide basic key management capabilities. Additional ISV supporting hardware encryption is available on the Hp StorageWorks Enterprise Backup Solution website at <http://www.hp.com/go/ebs>. The encryption on LTO-4 media occurs with or without compression, and without speed or capacity penalties. You can read LTO-2 and LTO-3 tapes, and write LTO-3 tapes, but hardware encryption is not supported in these formats.

LTO4 uses the Advanced Encryption Standard (AES) with the longest and most secure keys -- 256 bits. AES-256 is implemented within Galois Counter Mode (GCM). This is a method of increasing AES security by efficiently adding Message Authentication Codes to ensure the integrity of the backup data stored on tape. The HP LTO-4 Ultrium1840 Tape Drive is designed to be compliant with the emerging standard for tape drive security (IEEE 1619.1).

Product Highlights

Factory Express Portfolio for Servers and Storage

HP Factory Express offers configuration, customization, integration and deployment services for HP servers and storage products. Customers can choose how their factory solutions are built, tested, integrated, shipped and deployed. Customization must comply with all relevant product specifications and factory supported configurations.

Factory Express offers service packages for simple configuration, racking, installation, complex configuration and design services as well as individual factory services, such as image loading, asset tagging, and custom packaging. HP products supported through Factory Express include a wide array of servers and storage: HP Integrity, HP ProLiant, HP ProLiant Server Blades, HP BladeSystem, and HP 9000 servers as well as MSA, VA7xxx, EVA, and XP disk arrays, rackable tape libraries and configurable network switches.

Type of service support varies by platform and product family. For more information on Factory Express services for your specific server model or storage device please contact your sales representative or go to: <http://www.hp.com/go/factory-express>.

HP StorageWorks Library and Tape Tools (L&TT)

The MSL6000 Tape Library 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>.

LTO Ultrium Technology

HP StorageWorks LTO (Linear Tape Open) Ultrium Tape Drives use best of breed technology. By taking the best features from other tape technologies and combining them into a single new technology, Ultrium tape drives are in a league of their own. Inclusion of innovative features such as Adaptive Tape Speed (ATS) ensure that Ultrium drives can meet the performance and reliability demands of a library environment. LTO technology is an open industry standard format; thus data written on HP StorageWorks Ultrium Tape Drives can be interchanged directly with Ultrium Tape Drives from other vendors.

Data Rate Matching

Data Rate Matching combines sophisticated buffer management with HP's exclusive variable Adaptive Tape Speed technology, to allow the tape drive to match its transfer rate to the host speed dynamically and continuously across the wide range of transfer rates. This feature ensures that the tape drive continues to stream data regardless of the environment, and brings two big advantages:

- It optimizes backup performance and maximizes overall efficiency allowing the drive to respond immediately to any speed changes from the host
- It minimizes rewinding and repositioning of the tape, significantly reducing physical wear and increasing reliability
- It minimizes the power requirements for the drive by reducing the number of repositions needed

LTO Ultrium Tape Drive

HP LTO-4 Ultrium 1840

HP LTO-3 Ultrium 960

ATS data transfer rate range (native)

40 to 120 MB/s

35 to 80 MB/s

Product Highlights

HP Ultrium WORM

Critical to the success of data retention policies in highly regulated environments is the ability to store and manage data in an unalterable state. Following stringent guidelines set forth by regulatory agencies such as the SEC and HIPPA, IT organizations must now integrate new solutions and policies that can verify the integrity of stored data for periods that can extend well beyond seven years.

The LTO-4 Ultrium 1840 and LTO-3 Ultrium 960 tape drives features the ability to archive and store data in a non-rewriteable format that meets the most stringent regulatory guidelines. Using a combination of integrated fail-safe features in the drive firmware, cartridge memory, and tape formatting, the tape drives can archive large amounts of data for periods of up to 30 years in a secure, untampered state. Since all LTO-4 Ultrium 1840 and LTO-3 Ultrium 960 tape drives include support for both rewritable and WORM media, IT organizations can now easily integrate a secure, long-term archiving solution into their current data protection strategy. As compared to other technologies that feature support for WORM storage, the tape drives offer the advantages of:

- A single drive to support all backup and archiving needs
- Two distinctive tape cartridges to easily distinguish and manage both rewriteable and WORM data cartridges
- A specially designed WORM data cartridge with multiple integrated fail-safe features to prevent accidental or intentional overwriting of data
- High-capacity, low-cost HP WORM media that can store 1.6TB (2:1 compression) of data on a single data cartridge
- Support from many backup and archiving software vendors, providing the most comprehensive and mainstream support in the industry
- The LTO open standard that offers greater choice and compatibility across all third-generation Ultrium products

NOTE: While all HP LTO-4 Ultrium 1840 and LTO-3 Ultrium 960 tape drives support LTO Ultrium WORM media, some third- and fourth-generation LTO Ultrium tape drives from other manufacturers may not include read and write support for LTO Ultrium WORM media. For non-HP third- and fourth-generation LTO Ultrium tape drives, please check the manufacturers' specifications to ensure this support is provided if you are using your WORM media. If WORM support is not provided, the drive will eject the WORM tape cartridge immediately upon insertion into the tape drive.

HP Storage Media

HP recommends that you use HP-branded cartridges in the MSL6000 Tape Library to assure the highest level of protection for your valuable data. The test program for HP 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. The benefit of the HP brand specification for media is consistent quality. Through the testing of thousands of HP drives and HP cartridges, the ideal formulation for backup performance is defined and then continuously monitored. This hugely resource-intensive process is unique to HP and affords deep insight into the HP+HP backup solution for a wide range of environments and duty cycles. Your best choice for ease of support and maximum dependability is to use HP-branded Ultrium cartridges at all times.

HP strongly encourages the use of bar code labels on tapes to track media and ensure optimum library performance and usability. Correctly labeling your media will allow the library to quickly determine media and drive compatibility.

Compatibility

HP's extensive compatibility testing program assures that your HP StorageWorks MSL6000 Tape Library works with leading servers, operating systems, and backup applications - and not just those sold by HP. The MSL6000 works seamlessly in many environments, making them especially suitable if you have a mixed system environment. For the latest list of servers, workstations, operating systems, and backup software that support the MSL6000, check the HP StorageWorks Enterprise Backup Solution compatibility matrix at: <http://www.hp.com/go/ebs>.

Server Compatibility The MSL6000 is supported on a wide range of HP systems. For details of which MSL6000 works with which systems, including third-party systems, reference the EBS compatibility matrix at: <http://www.hp.com/go/ebs> for the latest hardware compatibility information.

OS Support Reference the EBS compatibility matrix for the most up-to-date OS compatibility information at: <http://www.hp.com/go/ebs>.

Software Support Reference the EBS compatibility matrix for the most up-to-date software compatibility information at: <http://www.hp.com/go/ebs>.

Service and Support, HP Care Pack, and Warranty Information

Warranty

The warranty for this product consists of one-year, next business day, onsite.

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 to multiple years
-

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 <http://www.hp.com/hps/carepack/>.

Hardware Product Services

- Installation services
- On-site Maintenance (includes warranty support)
- Response time upgrades during the warranty period
- Post-warranty coverage
- RAID setup and performance consulting via statement of work

For additional hardware installation and maintenance information please refer to the URL <http://www.hp.com/hps/hardware/>.

eSupport

HP eSupport is a portfolio of technology-based services that assist you with managing your business environment - from the desktop to the data center.

Support Portal

The HP support portal provides one-stop access to the information, tools and services you need to manage the daily operations of your IT environment.

Features include:

- Access to self-solve tools (including search technical knowledge base)
- Efficient logging and tracking of support cases
- Collaboration with other business and IT professionals
- Download of patches and drivers
- Access to diagnostic tools
- Proactive notification of relevant information

Access to certain features of the support portal requires an HP service agreement. To access the support portal, visit: <http://www.hp.com/support>.

Service and Support, HP Care Pack, and Warranty Information

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.

| | | | | |
|----------------|-------------------------------|----------------|----------------------|----------|
| Disk Drives | Tape Drives | CD/DVD ROM | SCSI Hubs in SBBs | Adapters |
| Bus Converters | Backplane RAID Controllers | Power Supplies | Cabling | Fans |

Configuration Information

NOTE: The HP StorageWorks MSL6000 Tape Library comes standard as a rack-ready unit and includes a rack kit specifically designed for HP 10000/9000/5000 series racks. If the library will be installed into a HP System/E or Alpha rack, then a separate rack kit must also be purchased.

NOTE: Each library includes a 110/220 VAC power cord for US/Canada/Mexico (1 per 5U unit; 2 per 10U unit). For additional or specific regional power cord requirements, separate power cords must be ordered.

Step 1 – Select a Configuration

Select one:

| Model Name | Model Description | Part Number |
|--------------------------------------|--|-------------|
| HP StorageWorks MSL6030 Tape Library | HP MSL6030 1 LTO-4 Ultrium 1840 Drive Library | AJ029A |
| | HP MSL6030 1 LTO-4 Ultrium 1840 Drive 4Gb FC Library | AJ030A |
| | HP MSL6030 1 LTO-3 Ultrium 960 Drive Library | AD606B |
| | HP MSL6030 2 LTO-3 Ultrium 960 Drive Library | AD607B |
| | HP MSL6030 1 LTO-3 Ultrium 960 Drive 4Gb FC Library | AD608B |
| | HP MSL6030 2 LTO-3 Ultrium 960 Drive 4Gb FC Library | AD609B |

NOTE: The HP StorageWorks MSL6030 Tape Library supports 30 media slots (including one configurable mail slot) and up to two Ultrium tape drives (number of drives determined by SKU chosen). Additional drives can be added for a maximum of 2 drives per library module. The tape library ships as a rack-ready unit.

Kit Contents (for each library):

- 12' 110/220 VAC US/Mexico/Canada Power Cord (1 per 5U unit)
- .5M VHDCI SCSI cable (1 per tape drive and 1 per FC card)
- (1) RJ-11 Serial cable
- VHDCI SCSI terminator (1 per tape drive)
- Rack mount hardware including template poster (for use with HP 10000/9000/5000 series racks)
- Documentation kit including Getting Started Poster and User's Guide (CD)

NOTE: Each MSL6030 library installation will require, one (1) library system, one (1) geographically specific power cord (if other than US 110/220 VAC), and up to 30 HP data cartridges with bar code labels. SCSI applications will require (1) SCSI host cable for each drive. Fibre Channel applications will require one (1) Fibre Channel cable for each drive pair. Multi-unit configurations will require additional pass-through kits. Installation services may also be ordered for customers who prefer to have a certified HP engineer perform on-site library installation.

| | | |
|--------------------------------------|--|--------|
| HP StorageWorks MSL6060 Tape Library | HP MSL6060 2 LTO-4 Ultrium 1840 Drive Library | AJ031A |
| | HP MSL6060 2 LTO-4 Ultrium 1840 Drive 4Gb FC Library | AJ032A |
| | HP MSL6060 2 LTO-3 Ultrium 960 Drive Library | AD610B |
| | HP MSL6060 2 LTO-3 Ultrium 960 Drive 4Gb FC Library | AD611B |

NOTE: The HP StorageWorks MSL6060 Tape Library ships with 60 media slots (including two configurable mail slots), redundant power supplies, and two Ultrium tape drives (number of drives determined by SKU chosen). Additional drives can be added for a maximum of 4 drives per library module. The tape library ships as a rack-ready unit.

Kit Contents (for each library):

- 12' 110/220 VAC US/Mexico/Canada Power Cord (1 per 5U unit; 2 per 10U unit)
- .5M VHDCI SCSI cable (1 per tape drive and 1 per FC card)
- (1) RJ-11 Serial cable
- VHDCI SCSI terminator (1 per tape drive)
- Rack mount hardware including template poster (for use with HP

Configuration Information

10000/9000/5000 series racks)

- Documentation kit including Getting Started Poster and User's Guide (CD)

NOTE: Each MSL6060 library installation will require (1) library system, (2) geographically specific power cords (if other than US 110/220 VAC) and up to 60 data cartridges with bar code labels. SCSI applications will require one (1) SCSI host cable for each drive. Fibre Channel applications will require one (1) Fibre Channel cable for each drive pair. Multi-unit configurations will require additional pass-through kits. Installation services may also be ordered for customers who prefer to have a certified HP engineer perform an on-site library installation.

Step 2 - Select The Appropriate Rack Kit

Select one per library unit:

| Rack Kits | Description | Part Number |
|-----------|--|-------------|
| | HP MSL System/E Rack Mount Kit NOTE: Required to install a rack-ready MSL5000 or MSL6000 Tape Library into a HP System/E rack; one kit required per library being racked. | AG164A |
| | HP MSL 5U Tabletop to 10K Rack Conversion Kit NOTE: Required to install a tabletop MSL5000 or MSL6000 Tape Library into a HP 10000/9000/5000 series rack; one kit required per library being racked. | AG162A |
| | HP MSL 5U Tabletop to Alpha/HP Rack Conversion Kit NOTE: Required to install a MSL5000 or MSL6000 Tape Library into an Alpha rack; one kit required per library being racked. NOTE: Depending on the environment, different rack kits are required. Each rack-ready MSL6000 Tape Library includes a rack kit designed for HP 10000/9000/5000 series racks. If installing into these racks, no additional kits are needed. If the environment is different, one of the above kits is necessary for racking (one per library). | AG161A |

Step 3 - Select The Appropriate Power Cord

Select one per 5U library unit or two per 10U library unit:

| Power Cords | Description | Part Number |
|-------------|--|-------------|
| | Power Cord, US, C13, 10A, 1.83m NOTE: This cord ships standard with each MSL6000 Tape Library (1 per 5U unit; 2 per 10 unit) NOTE: Can be used to connect the rack-mounted device to PDUs with NEMA 5-15R receptacles. | AF556A |
| | PDU Power Cord, C13/C14, 10A, 2.5m NOTE: Can be used to connect the rack-mounted device to PDUs with IEC-320 receptacles. | 142257-002 |
| | Power Cord, Euro, C13, 10A, 1.83m | AF568A |
| | Power Cord, UK, C13, 10A, 1.83m | AF570A |
| | Power Cord, Danish, C13, 10A, 1.83m | AF566A |
| | Power Cord, Swiss, C13, 10A, 1.83m | AF565A |
| | Power Cord, Italian, C13, 10A, 1.83m | AF571A |
| | Power Cord, South Africa, C13, 10A, 2.5m | AF567A |
| | Power Cord, Taiwan, C13, 12A, 1.83m | AF561A |
| | Power Cord, China, C13, 10A, 1.83m | AF557A |
| | Power Cord, Japan, C13, 12A, 2m | AF572A |
| | Power Cord, Australia, C13, 10A, 2.5m | AF569A |
| | Power Cord, Argentina, C13, 10A, 2.5m | AF558A |
| | Power Cord, Brazil, C13, 10A, 1.83m | AF559A |
| | Power Cord, Korea, C13, 10A, 1.83m | AF560A |
| | Power Cord, Israel, C13, 10A, 1.83m | AF564A |

Configuration Information

Power Cord, India, C13, 10A, 2.0m

AF562A

NOTE: One power cord required for each MSL6030; two power cords required for each MSL6060. Select the correct power cord for your geographical location.

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 amperage 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.

Related Options

| | | |
|--|---|--------|
| Factory Racking | <p>Factory integrate the MSL6000 Tape Library with other HP products such as HP ProLiant Servers.</p> <p>NOTE: #0D1 will appear after the MSL part number on the sales order if HP factory integration is selected.</p> | #0D1 |
| Tape Drives | <p>HP MSL6000 LTO-4 Ultrium 1840 Tape Drive</p> <p>NOTE: For use in the MSL5000 Ultrium libraries; data transfer rates up to 80 MB/s.</p> <p>NOTE: For use in the MSL6000 Ultrium libraries; data transfer rates up to 160 MB/s.</p> | AJ028A |
| | <p>HP MSL6000 LTO-3 Ultrium 960 Drive</p> <p>NOTE: For use in the MSL5000 Ultrium libraries; data transfer rates up to 80 MB/s.</p> <p>NOTE: For use in the MSL6000 Ultrium libraries; data transfer rates up to 160 MB/s.</p> <p>NOTE: For details on MSL drive upgrade compatibility, reference the Business Class Libraries Drive Upgrade matrix at: ftp://ftp.compaq.com/pub/products/storageworks/techdoc/tapestorage/MSL_drivematrix.pdf</p> | AD612B |
| FC Interface Card | <p>HP e1200-320 4Gb Fibre Channel Interface Card</p> <p>NOTE: One FC interface card kit required for every two tape drives; for use in the MSL5000 or MSL6000 Tape Libraries.</p> | AD577A |
| Slot Expansion Modules | <p>HP MSL6030 0 Drive Ultrium Library</p> <p>NOTE: A zero drive library which includes 30 slots; to be used with either MSL5000 or MSL6000 Ultrium libraries.</p> | AD597B |
| | <p>HP MSL6060 0 Drive Ultrium Library</p> <p>NOTE: A zero drive library which includes 60 slots; to be used with either MSL5000 or MSL6000 Ultrium libraries.</p> | AD602B |
| Pass-Through Mechanism Hardware | <p>HP MSL Universal Pass-Through Mechanism Base Unit</p> <p>NOTE: Includes elevator mechanism and router; required to connect first two 5U units in a stack or to connect a single 10U unit to additional units (extenders required for the additional units); capable of handling both SDLT and LTO media.</p> | AG163A |
| | <p>HP MSL 10U Pass-Through Extender</p> <p>NOTE: Supported by the MSL 10U Tape Libraries only; one required for each unit connected to the stack, for second unit and additional units.</p> | AG160A |
| | <p>HP MSL 5U Pass-Through Extender</p> <p>NOTE: Supported by the MSL 5U Tape Libraries only; one required for each unit connected to the stack, beyond the first 10U of units.</p> | AG159A |
| Magazines | <p>HP MSL Ultrium Universal Magazine</p> <p>NOTE: For use in the MSL5000 or MSL6000 Tape Libraries; includes two 15-slot magazines (left and right set).</p> | AD621A |

Related Options

| | | |
|------------------------------------|--|--------|
| Rack to Tabletop Conversion | HP MSL6000 5U Rack to Table Top Conversion Kit | AD622B |
| | NOTE: Can also be used with the MSL5000 Tape Libraries. | |
| | HP MSL6000 10U Rack to Table Top Conversion Kit | AD627B |
| | NOTE: Can also be used with the MSL5000 Tape Libraries. | |

| | | |
|----------------------|---|------------|
| Rack Cabinets | 10622 (22U) Universal Rack Cabinet - Shock Pallet | AF022A |
| | 10636 (36U) Universal Rack Cabinet - Shock Pallet | AF012A |
| | 10636 (36U) Universal Rack Cabinet with extension - Shock Pallet | AF014A |
| | 10642 (42U) Universal Rack Cabinet - Shock Pallet | AF002A |
| | 10642 (42U) Universal Rack Cabinet with extension - Shock Pallet | AF004A |
| | NOTE: The MSL Tape Libraries are certified to ship in HP 10000 series racks which include a shock pallet. It is mandatory to use a shock pallet in order to ship racks with equipment installed. | |
| | 5642 (42U) Rack Cabinet | 358254-B21 |
| | NOTE: This rack ships unassembled and boxed on a standard size pallet. It is an industry standard 19" wide rack with side panels and rear doors; does not ship with the front door or casters. | |
| | NOTE: for additional HP ProLiant rack information, visit http://h18004.www1.hp.com/products/servers/proliantstorage/racks/index.html | |

| | | |
|-------------------|-----------------------------------|------------|
| Cable Kits | 6 ft VHDCI/VHDCI SCSI Cable Kit | 341174-B21 |
| | 12 ft VHDCI/VHDCI SCSI Cable Kit | 341175-B21 |
| | 6 ft VHDCI/HDTS68 SCSI Cable Kit | 341176-B21 |
| | 12 ft VHDCI/HDTS68 SCSI Cable Kit | 341177-B21 |
| | 2m SW LC/SC FC Cable Kit | 221691-B21 |
| | 5m SW LC/SC FC Cable Kit | 221691-B22 |
| | 15m SW LC/SC FC Cable Kit | 221691-B23 |
| | 2m SW LC/LC FC Cable Kit | 221692-B21 |
| | 5m SW LC/LC FC Cable Kit | 221692-B22 |
| | 15m SW LC/LC FC Cable Kit | 221692-B23 |

| | | |
|--------------------------|--|--------|
| Host Bus Adapters | HP U320e SCSI Host Bus Adapter | AH627A |
| | NOTE: Recommended Dual Channel Ultra320 SCSI Controller for connecting multi-drive MSL Tape Libraries to HP ProLiant Servers. | |
| | For more information on HBAs please consult the EBS connectivity matrix at http://www.hp.com/go/ebs . | |

Related Options

| | |
|--------------|---|
| Media | <p>LTO Ultrium Media</p> <p>HP LTO4 Ultrium 1.6TB RW Data Cartridge (1 pack) C7974A</p> <p>HP LTO4 Ultrium 1.6TB WORM Data Cartridge (1 pack) C7974W</p> <p>HP Ultrium 800GB RW Data Cartridge (1 pack) C7973A</p> <p>HP Ultrium 800GB WORM Data Cartridge (1 pack) C7973W</p> <p>HP Ultrium 400GB data cartridge (1 pack) C7972A</p> <p>HP Ultrium Universal Cleaning Cartridge (1 pack) C7978A</p> <p>HP LTO4 Ultrium RW Bar Code Labels (100 pack) Q2009A</p> <p>HP LTO4 Ultrium WORM Bar Code Labels (100 pack) Q2010A</p> <p>HP Ultrium 3 RW Bar Code Labels (100 pack) Q2007A</p> <p>HP Ultrium 3 WORM Bar Code Labels (100 pack) Q2008A</p> <p>HP Ultrium 2 Bar Code Labels (100 pack) Q2002A</p> <p>Non-Custom Labeled Data Cartridges</p> <p>NOTE: Non-Custom labels will come pre-labeled with a pre-determined number sequence.</p> <p>HP LTO4 Ultrium 1.6TB RW Non-Custom Labeled Data Cartridge (20 pack) C7974AN</p> <p>HP Ultrium 800GB RW Non-Custom Labeled Data Cartridge (20 pack) C7973AN</p> <p>HP Ultrium 400GB Non-Custom Labeled Data Cartridge (20 pack) C7972AN</p> <p>HP Ultrium 200GB Non-Custom Labeled Data Cartridge (20 pack) C7971AN</p> <p>Custom Labeled Data Cartridges</p> <p>NOTE: Custom labeled products allow customers to customize a specific sequence printed on each label.</p> <p>HP LTO4 Ultrium 1.6TB RW Custom Labeled Data Cartridge (20 pack) C7974AL</p> <p>HP LTO4 Ultrium 1.6TB WORM Custom Labeled Data Cartridge (20 pack) C7974WL</p> <p>HP Ultrium 800GB RW Custom Labeled Data Cartridge (20 pack) C7973AL</p> <p>HP Ultrium 800GB WORM Custom Labeled Data Cartridge (20 pack) C7973WL</p> <p>HP Ultrium 400GB Custom Labeled Data Cartridge (20 pack) C7972AL</p> <p>HP Ultrium 200GB Custom Labeled Data Cartridge (20 pack) C7971AL</p> <p>Storage Media Kits</p> <p>NOTE: Kit includes 20 data cartridges, one cleaning cartridge, 20 colored labels, a protective carrying case that can be used to securely store or transport data cartridges, one copy of "The Essentials of Successful Tape Backup," and one copy of HP StorageWorks Data Protector Express Evaluation Software (60 day free trial).</p> <p>HP Ultrium 800GB Storage Media Kit C8017A</p> <p>HP Ultrium 400GB Storage Media Kit C8014A</p> <p>HP Ultrium 200GB Storage Media Kit C8013A</p> <p>SDLT600 Media</p> <p>HP SDLT II 600GB Data Cartridge Q2020A</p> <p>HP SDLT Cleaning Cartridge C7982A</p> <p>HP SDLT II Bar Code Label Pack Q2006A</p> |
|--------------|---|

Related Options

HP Care Pack Services

MSL6030 Non-configurable Care Packs

| | |
|--|--------|
| Installation (electronic) | U4823E |
| HW, 3-year, next-day, onsite (electronic) | U2859E |
| HW, 3-year, same-day, 13x5, 4 hour response, onsite (electronic) | U2860E |
| HW, 3-year, same-day, 24x7, 4 hour response, onsite (electronic) | U2861E |
| HW, 3-year, same-day, 6 hour call to repair, onsite (electronic) | U9287E |
| Installation & startup for SAN environments (electronic) | UA871E |

MSL6060 Non-configurable Care Packs

| | |
|--|--------|
| Installation (electronic) | U4824E |
| HW, 3-year, next day, onsite (electronic) | U2862E |
| HW, 3-year, same day, 13x5, 4 hour response, onsite (electronic) | U2863E |
| HW, 3-year, same day, 24x7, 4 hour response, onsite (electronic) | U2864E |
| HW, 3-year, same day, 6 hour call to repair, onsite (electronic) | U9288E |
| Installation & startup for SAN environments (electronic) | UA872E |

NOTE: 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 (UA871E or UA872E). 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.

Technical Specifications

| Form Factor | | MSL6030 Tape Library | MSL6060 Tape Library |
|---------------------------|--|--|--|
| | | 5U Rack-mount | 10U Rack-mount |
| Dimensions | | MSL6030 Tape Library | MSL6060 Tape Library |
| | Out-of-Box (HxWxD) | 8.75 x 17.00 x 30.00 in (22.22 x 43.18 x 76.20 cm) | 17.50 x 17.00 x 30.00 in (44.45 x 43.18 x 76.20 cm) |
| | Shipping (HxWxD) | 15.25 x 23.00 x 38.25 in (38.73 x 58.42 x 97.15 cm) | 33.00 x 47.00 x 31.00 in (83.62 x 119.38 x 78.74 cm) |
| Weight | | MSL6030 Tape Library | MSL6060 Tape Library |
| | Out-of-Box (0-drive) | 43.0 lb (19.50 kg) | 95.0 lb (43.99 kg) |
| | Shipping (0-drive) | 75.0 lb (34.01 kg) | 147.0 lb (66.67 kg) |
| | Out-of-Box (1-drive) | 47.6 lb (21.59 kg) | N/A |
| | Shipping (1-drive) | 79.6 lb (36.10 kg) | N/A |
| | Out-of-Box (2-drive) | 52.2 lb (23.67kg) | 104.2 lb (47.26 kg) |
| | Shipping (2-drive) | 84.2 lb (38.19 kg) | 156.2 lb (70.85 kg) |
| Capacity | | MSL6030 Tape Library | MSL6060 Tape Library |
| LTO-4 Ultrium 1840 | Base unit | 24 TB (native) 48 TB (compressed) | 48 TB (native) 96 TB (compressed) |
| | Maximum configuration | 192 TB (native) 384 TB (compressed) NOTE: 8 modules with multi-unit scalability | 192 TB (native) 384 TB (compressed) NOTE: 4 modules with multi-unit scalability |
| LTO-3 Ultrium 960 | Base unit | 12 TB (native) 24 TB (compressed) | 24 TB (native) 48 TB (compressed) |
| | Maximum configuration | 96 TB (native) 192 TB (compressed) NOTE: 8 modules with multi-unit scalability | 96 TB (native) 192 TB (compressed) NOTE: 4 modules with multi-unit scalability |
| Maximum Transfer Rate | | MSL6030 Tape Library | MSL6060 Tape Library |
| LTO-4 Ultrium 1840 | Base unit | 864 GB/hr (native) 1.7 TB/hr (compressed) NOTE: 2 drives per library | 1.7 TB/hr (native) 3.45 TB/hr (compressed) NOTE: 4 drives per library |
| | Maximum configuration | 6.9 TB/hr (native) 13.8 TB/hr (compressed) NOTE: 8 modules, 16 drives with multi-unit configuration | 6.9 TB/hr (native) 10.9 TB/hr (compressed) NOTE: 4 modules, 16 drives with multi-unit configuration |
| LTO-3 Ultrium 960 | Base unit | 576 GB/hr (native) 1.15 TB/hr (compressed) NOTE: 2 drive configuration | 1.15 TB/hr (native) 2.3 TB/hr (compressed) NOTE: 4 drive configuration |
| | Maximum configuration | 4.6 TB/hr (native) 9.2 TB/hr (compressed) NOTE: 8 modules, 16 drives with multi-unit scalability | 4.6 TB/hr (native) 9.2 TB/hr (compressed) NOTE: 4 modules, 16 drives with multi-unit scalability |
| Interface | Ultra320 LVD SCSI, VHDCI interconnect (Ultrium 1840/ 960) 4Gb Fibre Channel (Ultrium 1840/ 960) | | |
| Reliability | MTBF | 250,000 hours (100% duty cycle; excludes drives) | |
| | MSBF | 2,000,000 robot load/unload cycles | |

Technical Specifications

| | | | |
|---|---------------------------------------|--|---|
| Acoustic Noise | | MSL6030 Tape Library | MSL6060 Tape Library |
| | Noise Power Emission Level | 8 bels, maximum | 8 bels, maximum |
| | Avg Sound Pressure Level | 52 dBA | 52 dBA |
| Heat Dissipation | | MSL6030 Tape Library | MSL6060 Tape Library |
| | Typical | 612 BTU's/hour | 1020 BTU's/hour |
| | Maximum | 671 BTU's/hour | 1224 BTU's/hour |
| Power Consumption | | MSL6030 Tape Library | MSL6060 Tape Library |
| | Base unit | Auto-ranging | Auto-ranging |
| | Voltage | 100 to 240 VAC, $\pm 10\%$ @ 50 to 60Hz, $\pm 5\%$ | 100 to 240 VAC, $\pm 10\%$ @ 50 to 60Hz, $\pm 5\%$ |
| Power Requirement | | MSL6030 Tape Library | MSL6060 Tape Library |
| | Typical | 180 Watts | 300 Watts |
| | Maximum | 240 Watts | 440 Watts |
| Robotics Performance | | MSL6030 Tape Library | MSL6060 Tape Library |
| | Initialization time | 100 sec | 240 sec |
| | Inventory time | 60 sec | 110 sec |
| | Cartridge swap (drive to slot) | 8 sec average | 15 sec average NOTE: 35 sec average cartridge swap time for 4 scaled modules. |
| Relative Humidity (non-condensing) | Operating | 10 to 80% @ 82° F (28° C) | |
| | Shipping | 10 to 90% @ 82° F (28° C) | |
| Temperature Range | Operating | 50° to 95° F (10° to 35° C) | |
| | Shipping | -40° to 140° F (-40° to 60° C) | |

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For tape drives and media, 1 GB = 1 billion bytes. Actual formatted capacity is less.