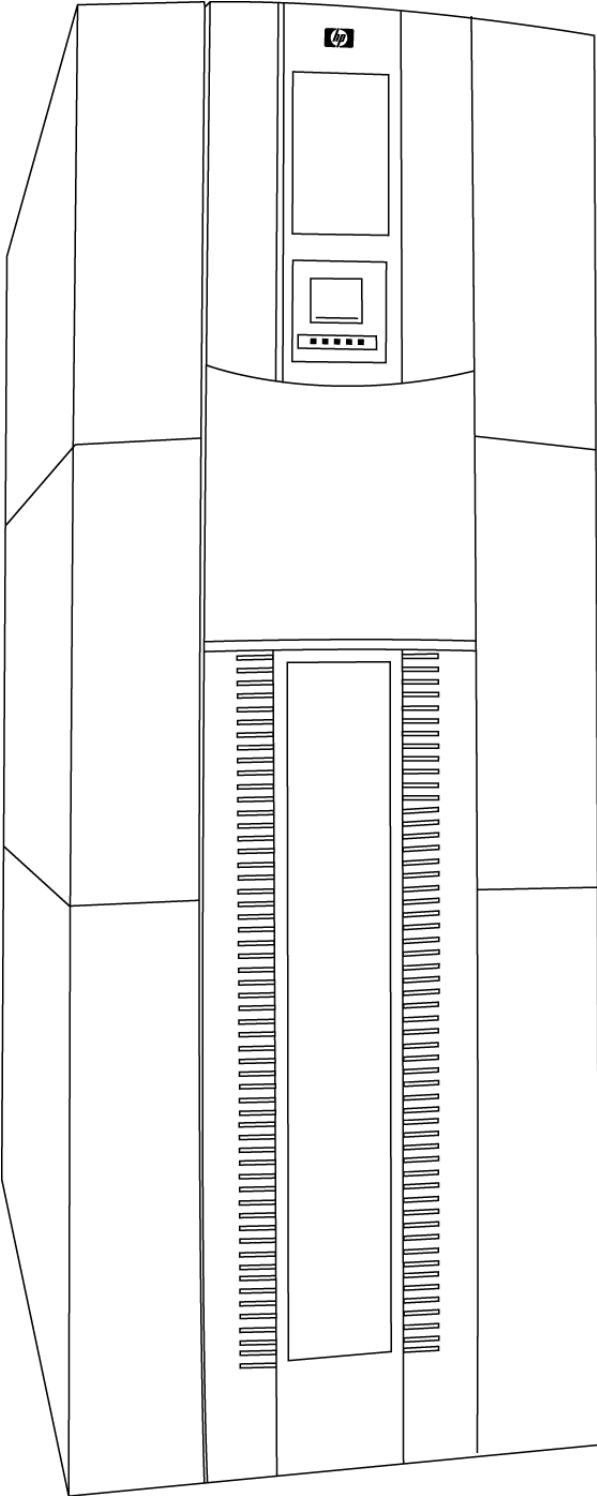


### Overview

The HP StorageWorks Enterprise Storage Libraries (ESL) E-Series enterprise tape libraries offer best-in-class drive and cartridge density and are available in a variety of configurations. The E-Series libraries are available in the following cartridge capacities: 322 up to 712 LTO cartridges as well as 286 up to 630 SDLT cartridges. Each configuration is capable of housing up to twenty-four Ultrium 460, Ultrium 460 FC, SDLT 320, or SDLT 600 tape drives in a single library frame. The ESL E-Series offers best-in-class storage density with 28.4 TB of native Ultrium 960 storage capacity per square foot.

Fully integrated into HP StorageWorks Extended Tape Library Architecture (ETLA), HP provides self-aware tape storage designed specifically for the SAN. ESL E-Series libraries and ETLA offer customers with enterprise SAN's superior reliability, interoperability, and advanced functionality. ETLA also offers remote management of the entire library system from a single pane of glass including complete, unobtrusive management and control of the entire library system including robotics, drives, Interface Controllers, and the Interface Manager management card. ETLA eases complexities and eliminates errors in configuring, installing, and managing the entire tape library system within a SAN.

Overview



### Overview

### What's New

New ESL E-Series Enhancements:

- ESL E-Series Tape Libraries now support Ultrium 960 FC (LTO 3) tape drives
- Support for WORM media (using an Ultrium 960 FC tape drive) providing a simple and secure method for archiving compliant data to meet regulatory agency requirements
- Factory integration - also referred to as configure to order (CTO) - is now supported with all new E-Series tape library orders

### Models

ESL 712e AA934B

**NOTE:** 712 Ultrium cartridge enterprise library.

ESL 630e AA935B

**NOTE:** 630 SDLT cartridge enterprise library.

ESL 322e AA939B

**NOTE:** 322 Ultrium cartridge enterprise library.

ESL 286e AA940B

**NOTE:** 286 SDLT cartridge enterprise library.

**NOTE:** Customers are required to also purchase the necessary number of add-on drives, host bus adapters, SCSI cables, media, country specific power cords (pair) and applications software licenses in order to complete the library solution.

**NOTE:** Installation services will be quoted as part of each library order.

### Standard Features

- Best-in-Class Drive Density: up to 24 tape drives in a single frame.
- Best-in-Class Cartridge Capacity: up to 712 Ultrium cartridges or 630 SDLT cartridges.
- Available in half populated configurations: 322 Ultrium or 286 SDLT cartridges.
- Removable Load Port Magazines
- Smaller Form Factor: 14.2 TB per square foot with Ultrium 460 technology and 712 cartridges.
- Complete, unobtrusive management and control of the entire library system including robotics, drives, Interface Controllers, and Interface Manager card.
- Web-based, centralized user interface, in addition to telnet interface on Interface Manager card.
- Automation of complex and repetitive library system management tasks.
- High SAN availability since management traffic stays out of the data path.
- SNMP support including asynchronous alerting.
- Integration with major enterprise management applications.
- Fast backups and high uptime with serverless Direct Backup Engine ESL.
- Best-in-class interoperability and security with Advanced Secure Manager ESL.

### Customer Benefits

- More storage capacity in less floor space.
- Automatic, consistent configuration through Extended Tape Library Architecture (ETLA).
- Reduced cost of ownership with management of all library system components from a single pane of glass.
- Decreases both costs and administrative work through enhanced manageability from any location.
- Delivers best-in-class interoperability with Enterprise Business Solutions (EBS) without "special" work-arounds. It will work in your environment.
- Simplifies the complex task of setting up library robotics, drives, and Interface Controllers in a SAN.
- Minimizes uncertainty in complex SAN environments by allowing only authorized servers to access tape drives and critical data.
- Eliminates backup server and LAN bottlenecks by allowing data to move directly from disk to tape under the control of your backup application - but without application server overload.
- Provides investment protection by enabling an easy upgrade path as interface technologies change.
- Supports WORM media (using the Ultrium 960 FC) providing a fail-safe method for permanently storing data records.
- The E-Series tape libraries are now factory integrated to reduce installation time and improve the customer experience.

### Family Comparison

### Overview

	ESL 712e	ESL 322e	ESL 630e	ESL286e
<b>Announce Date</b>	February 2004	July 2004	February 2004	July 2004
<b>Drive Technology</b>	Ultrium 960 FC, Ultrium 460 SCSI, Ultrium 460 FC	Ultrium 960 FC, Ultrium 460 SCSI, Ultrium 460 FC	SDLT 320, SDLT 600	SDLT 320, SDLT 600
<b>Maximum Cartridge Count</b>	712	322	630	286
<b>Maximum Drive Count</b>	24	24	24	24
<b>Maximum Capacity</b> (native)	284.8 TB	128.8 TB	189 TB	85.8 TB
<b>Interface Manager</b>	Included	Included	Included	Included
<b>ETLA Components:</b> (not included)				
<b>Interface Controller</b>	e2400-160 FC Interface Controller (for use with SCSI drives) e2400-FC 2G Interface Controller (for use with Ultrium 460 FC and Ultrium 960 FC Tape Drives)		e2400-160 FC Interface Controller	
<b>Command View ESL</b>	Requires Purchase of Permanent License (per library)		Requires Purchase of Permanent License (per library)	
<b>Secure Manager ESL</b>	Requires Purchase of Permanent License (per library)		Requires Purchase of Permanent License (per library)	
<b>Direct Backup Engine ESL</b>	Optional Permanent License (per drive)		Optional Permanent License (per drive)	

### Product Highlights

#### Manageability

HP StorageWorks Extended Tape Library Architecture will save library and SAN administrators time and money by simplifying library setup, configuration, and troubleshooting, increasing reliability and robustness of libraries in the SAN, integrating with leading enterprise management applications, and offering advanced features -- such as XCopy (Direct Backup Engine ESL) and Access Control (Secure Manager ESL) -- that further increases backup performance and reliability. HP offers a balanced solution - neither piece-meal nor monolithic - that includes a generous initial feature set and allows users to buy only the advanced options they need.

#### Reliability

As data becomes more and more mission critical, and downtime becomes more costly to the enterprise, customers are requiring high availability consolidated storage solutions which offer hot-plug components and redundancies of key operating subsystems (tape drives and power supplies). With redundant power distribution and power supplies the HP StorageWorks ESL Tape Libraries offer the best in high availability for continuous operation.

#### Density

HP StorageWorks ESL Libraries provide optimum density offering more capacity in less physical storage space. The ESL 712e with Ultrium 960 technology reaches to 28.4 TB of native capacity per square foot.

#### Scalability

HP StorageWorks ESL Libraries (322e and the 286e) are scalable to larger cartridge configurations via a licensing key. To increase library capacity, a license key can be purchased that will enable an additional panel/drawer of cartridges to become available for use.

In the HP StorageWorks ESL Libraries, slots are grouped into panels. When you purchase a 322e or 286e, left side panels one, two and three are enabled by default. Up to three license keys would be needed for a 322e or 286e to become a full slot count library. The first license enables panel four, the second license would enable panel five, and the third license would enable panels six and seven. The following table explains the panel layout:

Panel 1	Upper Left	Panel 4	Upper Right
Panel 2	Middle Left	Panel 5	Middle Right
Panel 3	Lower Left	Panel 6	Lower Right
		Panel 7	Back Wall

Number of slots enabled is dependant upon the library technology. Ultrium based libraries will house 108 slots per panel and an SDLT based library will house 96 slots per upper and lower panels (panels containing magazines have slightly fewer slots due to the magazines).

For more information, please visit <http://www.hp.com/go/automation>.

#### HP LTO Ultrium Technology

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 3 builds on the strengths and success of Ultrium 2 to deliver even better resilience than before. The HP StorageWorks Ultrium 960 FC 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 960 FC tape drives are fully backwards compatible (read and write compatible) with all Ultrium Generation 2 products and read-compatible with all Generation 1 products from all licensed manufacturers. For IT organizations with stringent, long-term data retention requirements, the Ultrium 960's WORM (Write-Once, Read-Many) data protection feature offers a simple and secure method for archiving records as part of a compliance solution to meet the toughest of industry regulations.

### Product Highlights

#### WORM (Write-Once, Read-Many) Drive and Media Support

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 new Ultrium 960 FC tape drive 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 Ultrium 960 can archive large amounts of data for periods of up to 30 years in a secure, untampered state. Since all Ultrium 960 FC 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 Ultrium 960 offers 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 800GB 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
- In-the-box software support for Ultrium 960 FC WORM provided by both HP OpenView Data Storage Protector
- The LTO open standard that offers greater choice and compatibility across all third-generation Ultrium products

**NOTE:** While all HP Ultrium 960 FC tape drives support LTO Ultrium WORM media, some third-generation LTO Ultrium tape drives from other manufacturers may not include read and write support for LTO Ultrium WORM media. For non-HP third-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.

#### SDLT Technology

Digital Linear Tape uses a proven linear recording technology, a highly accurate tape guide system, and a read after write correction system to provide high capacity, high reliability data backup and restoration. SDLT, in addition to enhanced capacity and backup performance, provides several features such as Laser Guided Magnetic Recording (LGMR) technology, Pivoting Optical Servo (POS), Magneto-Resistive Cluster Heads (MRC), and Partial Response Maximum Likelihood (PRML) channel technology. SDLT drives are Backward Read Compatible with earlier generations of DLT drives, able to read DLTIV media written in DLT4000, DLT7000, DLT8000, and VS80 drives.

#### Mixed Media

Extending the E-Series flexibility and investment protection, the HP StorageWorks ESL E-Series tape libraries support mixing drive technology within a single frame. Technologies included are Ultrium 960 FC, 460, SDLT 600, and SDLT 320 and can be done in libraries that have all slots fully enabled. The 322e and 286e would require the license of all the additional slots prior to mixing technology.

The mixed media kit will consist of three panels to be installed on the left side of the library. One left upper panel, one left middle panel (including magazines) and one left lower panel of the new, foreign technology will be provided. One to three panels can be converted to the new technology at any time and will be installed on the left side of the library. In addition, Secure Manager ESL with the partitioning will manage the configuration.

**HP Ultrium Storage Media** 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 Data 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.

### Product Highlights

#### HP SDLT Storage Media

HP specifies performance goals to the supplier and monitors the quality of product being shipped. HP defines a brand standard for SDLT media just as it is for Ultrium. This means that the end-user can be confident in having the highest levels of quality and reliability from HP SDLT media. Like all HP storage media, SDLT media is tested thoroughly with HP drives, libraries and autoloaders to ensure maximum performance, retrievability and reliability.

#### Removable Magazines

To ease the management of cartridges to and from the library, the HP StorageWorks ESL E-Series libraries now include user configurable removable magazines. The 712e and 322e can select magazine configurations in 0, 16, 32 or 48 slot count capacity. The 630e and 286e can select magazine configurations in 0, 14, 28 or 42 slot count capacity.

Libraries purchased prior to removable magazine availability can convert their current library from a fixed load port to a removable load port.

The HP StorageWorks Removable Magazine Conversion Kit (AD548A) will convert the drawers on the middle two panels from fixed to removable.

Next, one removable magazine kit of the appropriate technology will need to be ordered:

- HP StorageWorks Ultrium Removable Magazines (PN: AA944A)
- HP StorageWorks SDLT Removable Magazines (PN: AA945A)

#### Interface Controllers

As a key component of the Extended Tape Library Architecture, the Interface Controllers are integrated into the entire tape library solution. Similar to disk array controllers, the Interface Controllers provide the highest level of security, reliability, and broad interoperability for tape drives being connected into a storage area network. The ESL E-Series tape libraries utilize two Interface Controllers to accommodate both SCSI and fibre channel tape drives. The e2400-160 FC Interface controller will be used with the Ultrium 460 or SDLT 320 tape drives. The e2400-FC 2G Interface Controller will be used with the Ultrium 960 FC and Ultrium 460 FC tape drives. Each controller manages up to four tape drives and provides 2Gbit FC connections to the SAN. (In effect, two drives per switch port)

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

The ESL 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>.

### Software Components

#### Extended Tape Library Architecture (ETLA)

The HP StorageWorks Extended Tape Library Architecture (ETLA) will save library and SAN administrators time and money by simplifying library setup, configuration, and troubleshooting. HP's controller-based architecture increases reliability and robustness of libraries in the SAN, and integrates with leading enterprise management applications. Advanced features such as XCopy (HP StorageWorks Direct Backup Engine) and Access Control (HP StorageWorks Secure Manager) further increase backup performance and reliability. HP offers a balanced solution - neither piece-meal nor monolithic - that includes a generous initial feature set and allows users to buy only the advanced options they need.

The HP StorageWorks Interface Manager and Command View for ESL Tape Libraries are the next step in HP's Extended Tape Library Architecture, itself a key component of the HP ENSAextended and HP Adaptive Infrastructure strategy. This architecture delivers tape libraries that are self-aware - self-managed, automatically maintained, continuously available - and network-aware - resilient, secure, and adaptable. HP's high-end tape libraries provide the reliability, interoperability, and advanced functionality required for your enterprise SAN environment.

**NOTE:** For more information please visit: <http://www.hp.com/go/automated>.

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#### Intelligent SAN-Aware Functionality

- Caching and intelligent network behavior to control SAN traffic
- Robust and automated configuration and verification of Interface Controller settings
- SAN-aware event tracking and detection of conflicts
- Persistent history and intelligent analysis of events and logs
- Persistent drive numbering and mapping across component swaps and reboot

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#### Command View for Tape Libraries Web Interface Features

- Select from a list of multiple supported libraries to manage
- View asset information for the library system
- View health summaries for all components of the library system: drives, robotics, Interface Controllers, and Interface Manager
- View library inventory: slots, media, and drives
- Search for media by barcode label
- View details on drives, robotics, Interface Controllers, and Interface Manager, including WWNs, speeds, and connection types
- Configure drives to be used with Direct Backup Engine for Tape Libraries
- Configure hosts/HBA-to-drive mapping and masking settings with Secure Manager ESL
- Automatically discover hosts and HBAs on the SAN or add your own for access control and security purposes
- Upgrade firmware on the Interface Controllers and Interface Manager cards
- Configure IP network parameters for the management station and Interface Manager cards in each library
- Configure SNMP trap/event destinations to receive alerts asynchronously
- View persistent event logs for the library system

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#### Secure Manager for Tape Libraries

- Easily configure device-level security settings
- Allow only authorized servers to access tape drives and critical data
- Manage access control from a single pane of glass, through the library itself
- Library partitioning - Up to six "virtual" partitions available
- Paths to robotics can be separated between two independent SANs for isolation purposes

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#### Direct Backup for Tape Libraries

- Increase application uptime while decreasing server load
- Eliminate backup server and LAN bottlenecks by allowing data to move directly from disk to tape under the control of your backup application
- Configure all XCopy parameters in a single step



### Compatibility

HP's Enterprise Business Solutions (EBS) assures that your HP StorageWorks Enterprise Systems Library (ESL) E-Series works with leading servers, operating systems, and backup applications - and not just those sold by HP. Based on a foundation of extensive interoperability testing, EBS 1-2-3 provides a step-by-step methodology for designing, configuring, and implementing your SAN ensuring HP ESL tape libraries work seamlessly in many environments. HP ESL libraries are especially suitable if you have a mixed system environment. For the latest list of servers, workstations, operating systems, and backup software that support HP ESL E-Series, check the tape backup compatibility pages on our web site at: <http://www.hp.com/go/ebs>.

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**HP Server Compatibility** The HP StorageWorks ESL E-Series Tape Libraries 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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### OS Support

The HP StorageWorks ESL E-Series Tape Libraries are supported on the following operating systems:

- HP-UX
- AIX
- Linux
- NetWare
- OVMS
- Tru64
- Solaris
- Windows

**NOTE:** Please visit <http://www.hp.com/go/ebs> for the latest compatibility information.

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### Software Support

The HP StorageWorks ESL E-Series Tape Libraries are supported on the following ISV's:

- HP OpenView Storage Data Protector
- Computer Associates ARCserve
- Legato Networker
- IBM Tivoli Storage Manager
- VERITAS Backup Exec
- VERITAS NetBackup

**NOTE:** Please visit <http://www.hp.com/go/ebs> for the latest compatibility information.

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

#### Warranty

HP Care Pack Services offer upgraded service levels to extend and expand your standard product warranty with easy to buy, easy to use support packages that help you make the most of your hardware and software investments. They let you choose the support levels that meet your business requirements, from basic to mission-critical. They help you contain total cost of ownership.

HP Care Pack warranty extensions can be purchased along with HP products to cost-effectively upgrade or extend your warranty. For many products, post-warranty HP Care Pack Services are available when your original warranty has expired.

Why purchase an HP Care Pack service?

Your standard warranty protects against product defects. HP Care Pack Services help you guard against unplanned downtime, which can reduce your productivity and profitability. These convenient service packages:

- Protect your investment in HP products
- Provide consistent, predictable levels of support across your entire department or business
- Ease budget planning with fixed-cost support that includes parts and labor
- Give you direct access to proven technical and problem-solving expertise
- Offer a choice of response-time and repair-time commitments
- Deliver prompt, measurable results
- Are available whenever and wherever you do business

HP Care Pack availability may vary by country and product.

Supporting your Adaptive Enterprise journey

HP Services helps you make the Adaptive Enterprise real for your organization. The breadth, depth, and quality of HP hardware and software support services can help you **improve the performance** of your IT support processes and resolve the complex software and hardware problems that tax user productivity. HP Care Pack services help you **increase IT environment stability**, efficiency, and agility from the desktop to the data center, and improve the productivity of your employees.

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#### Warranty and Services Included with the Product

Hewlett-Packard provides a 1-year, next-day, on-site, limited warranty for the E-Series enterprise tape library, hardware, plus 9x5 phone support for the duration of the warranty. All drive modules and interface controllers have a 1-year, parts exchange, limited warranty, with next business day response, plus 9x5 phone support for the duration of the warranty.

For more information about HP's Global Limited Warranty and Technical Support, visit:  
[ftp://ftp.compaq.com/pub/products/storageworks/warranty/EN\\_321708-008.pdf](ftp://ftp.compaq.com/pub/products/storageworks/warranty/EN_321708-008.pdf)

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#### Deployment and Per Event HP Installation & Startup for HP StorageWorks Service Descriptions

- Provides for the implementation of HP StorageWorks ESL (Enterprise Storage Library) products in SAN environments, including the installation of a Fibre Channel Interface Controller
- Minimizes implementation-related disruptions to your environment and helps ensure increased system reliability and more effective data management

Due to the complexities involved with the initial installation of an enterprise Library into a SAN environment, Hewlett Packard requires that the Installation & Start-up service (HA114A1) is purchased.

The Tape Library Installation & Start Up covers pre-installation preparation activities, installation and configuration of the library into the customers SAN. Installation of: Command View ESL license installation (if applicable); Secure Manager ESL license installation (if applicable); Direct Backup ESL license installation (if applicable); configuration of hosts (up to 5, additional hosts handled via HA114A1 5B2 per additional 10) and switches; Verification testing and customer orientation.

For more information please visit: [http://www.hp.com/hps/storage/ns\\_info.html#related](http://www.hp.com/hps/storage/ns_info.html#related)

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

#### **Recommended Services**

In order to maximize ROI and product uptime, and minimize the cost of ownership, Hewlett Packard recommends:

#### 3 years 24 x 7 Hardware Support

- Guards against downtime, which reduces productivity and profitability
- Eases budget planning with fixed-cost support that includes parts and labor
- Direct access to proven technical and problem-solving expertise

#### 3 years 24 x 7 Software Support

- Improve the productivity of system managers and operators
  - Improve system performance and reduce downtime due to software defects
  - Expedite problem resolution through expert-level technical resources
  - Enjoy consistent service coverage across geographically dispersed sites
  - Update HP and selected third-party software at a predictable cost
  - Take advantage of subscription savings on software updates
  - Keep your license compliancy up-to-date
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### Service and Support, HP Care Pack, and Warranty Information

#### Available HP Care Pack Services

Extend your product warranty with a wide choice of cost-saving support packages.

HP Care Pack Services are sold by HP and HP authorized enterprise and commercial resellers. Services for customers purchasing via direct and enterprise resellers are quoted using HP order configuration tools. Additional information about HP Care Pack Service features and benefits is available at <http://www.hp.com/hps/carepack/services/>.

Key for HP Care Pack Service availability in the table below:

- E = Service available for customers purchasing direct and via enterprise resellers
- C = Service available for customers purchasing via commercial resellers
- N/A = Service not applicable

	HP Care Pack Services Deployment and Per Event Services	Service Available
HP Installation		E/C
HP Installation & Startup		E/C
HP Implementation		N/A

For more information about Deployment and Per Event Services for HP Storage, visit <http://www.hp.com/hps/storage/>.

HP Care Pack Services Availability Services	1 yr	3 yr	4 yr	5 yr
HP Next Day Hardware Support	E/C	E/C	C	C
HP 4 Hr, 9x5 HW Support	E/C	E/C	C	C
HP 4 Hr, 13x5 Hardware Support	E/C	E/C	C	C
HP 4 Hr, 24x7 Hardware Support	E/C	E/C	C	C
HP 6 HR Call-to-Repair HW Support	E/C	E/C	C	C
HP Software Support	E/C	E/C	C	C
HP Software Support 24x7	E/C	E/C	C	C
HP Support Plus	E/C	E/C	C	C
HP Support Plus 24	E/C	E/C	C	C
HP Proactive Essentials 9x5, 10 SW Incidents	N/A	N/A	N/A	N/A
HP Proactive Essentials 9x5, 25 SW Incidents	N/A	N/A	N/A	N/A
HP Proactive Essentials 9x5 Unlimited	N/A	N/A	N/A	N/A
HP Proactive Essentials 24x7, 25 SW Incidents	N/A	N/A	N/A	N/A
HP Proactive Essentials 24x7, 50 SW Incidents	N/A	N/A	N/A	N/A
HP Proactive Essentials 24x7 Unlimited	N/A	N/A	N/A	N/A
HP Proactive 24 Service*	E/C	E/C	N/A	N/A
HP Critical Service*	E/C	E/C	N/A	N/A

\*NOTE: Both Proactive 24 & Critical Service only relate to 'reactive elements'. 'Proactive elements' are available on time & materials basis. (SW is supported separately per package).

NOTE: Due to the scalability of the product, Service offerings match that of the purchase motion. I.e. support for the robotics, drives, software is purchased separately.

To find HP Care Pack Services available via HP authorized commercial resellers, visit [http://h30125.www3.hp.com/csn/salesmktg/elfpack/elf\\_nonlkup\\_ctrylang.asp?code=ELNL](http://h30125.www3.hp.com/csn/salesmktg/elfpack/elf_nonlkup_ctrylang.asp?code=ELNL)

Care Pack Service Product Numbers	Product Number	Product Description	ESL 286e 630e Band	ESL 322e 712e Band	Drive Band	Install Band
	HA113A1	Tape Installation HW Installation	N/A	N/A	N/A	5DQ

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

	Only				
HA113A1	Subsequent Add-on Tape Drive Installation	N/A	N/A	N/A	5DU
HA113A1	Command View ESL Installation Into SAN	N/A	N/A	N/A	5J5
HA113A1	Secure Manager ESL Installation Into SAN	N/A	N/A	N/A	5J5
HA113A1	Direct Backup ESL Installation Into SAN (Per Drive)	N/A	N/A	N/A	5J5
HA113A1	ESL Miscellaneous HW Installation	N/A	N/A	N/A	5DR
HA114A1	Tape Library Installation And Start Up	N/A	N/A	N/A	5DQ
HA101A3	HW, "3-year", "next-day", "13x5", "on-site"	4B7	4B6	8G5	N/A
HA103A3	HW, "3-year", "4-hour", "13x5", "on-site"	4B7	4B6	8G5	N/A
HA104A3	HW, "3-year", "4-hour", "24x7", "on-site"	4B7	4B6	8G5	N/A
HA105A3	HW, "3-year", "6hr CTR", "24x7", "on-site"****	4B7	4B6	8G5	N/A
HA106A3	SW, "3-year", "Phone-in", "9x5"*	8FC	8FC	N/A	N/A
HA107A3	SW, "3-year", "Phone-in", "24x7"*	8FC	8FC	N/A	N/A
HA106A3	SW, "3-year", "Phone-in", "9x5"***	8NJ	8NJ	N/A	N/A
HA107A3	SW, "3-year", "Phone-in", "24x7"***	8NJ	8NJ	N/A	N/A
HA109A3	HW Only, Support Plus, "3-year", "13x5"*****	4B7	4B6	8G5	N/A
HA110A3	HW Only, Support Plus 24, "3-year", "24x7"*****	4B7	4B6	8G5	N/A
HA111A3	HW Only, Proactive 24, "3-year", "24x7"*****	4B7	4B6	8G5	N/A

#### NOTES:

\* Software supported under this service is Command View ESL or Secure Manager ESL (SW support for each package purchased separately).

\*\* Software supported under this service is Direct Backup ESL (SW purchasable per drive).

\*\*\* 6hr CTR 'standalone' service is not offered in Latin or North America.

\*\*\*\* Support Plus covers 4hr H/W response (SW is supported separately per package).

\*\*\*\*\* Both Proactive 24 & Critical Service only relate to 'reactive elements', 'proactive elements' are available on time & materials basis. (SW is supported separately per package).

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

The Care Pack information quoted above relates to 3 year offerings only, 1yr packs are available for each offering (replace A3 with A1).

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#### 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>

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#### HP Education Services

For more information about HP Education Services for Storage and SAN, visit <http://education.hp.com/curr-storsan.htm>

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#### Additional Services Information

For more information about Deployment, Per Event, Consulting and Education services for HP Storage, visit: <http://www.hp.com/hps/storage/>

For more information about HP Care Pack Services for Storage, visit: [http://www.hp.com/hps/carepack/storage/cp\\_networked.html](http://www.hp.com/hps/carepack/storage/cp_networked.html)

For more information about HP Storage Software, services and updates, visit: <http://h18006.www1.hp.com/storage/software.html>

If you have specific questions, contact your local HP representative. Contact information for a representative in your area can be found at "Contact HP" <http://www.hp.com>

### Configuration Information

#### Step 1 - "Product" - Base Configuration

Select one:

Model Name	Part Number	Model Description:
ESL 712e	AA934B	<p>Zero drive, 712 LTO cartridge base library includes:</p> <ul style="list-style-type: none"><li>● One drive cluster: capable of handling up to four tape drives</li><li>● One card cage for the e2400-160 FC or e2400-FC 2G Interface Controllers</li><li>● Six 8-slot Removable Magazines</li><li>● Interface Manager: management card</li><li>● FC robotics and dedicated controller e1200-160 is included</li></ul> <p>What's included in the box:</p> <ul style="list-style-type: none"><li>● Serial cable to attach to a diagnostic port</li><li>● 2 US power cords</li><li>● 2 Ethernet cables for internal connections</li><li>● 1 SCSI cable for internal connection</li><li>● HP StorageWorks ESL E-Series Documentation CD</li><li>● HP StorageWorks ESL E-Series Tape Library Unpacking and Installation Guide</li><li>● Q2007-67000 HP Ultrium 3 RW barcode label sample kit</li><li>● Q2008-67000 HP Ultrium 3 WORM barcode label sample kit</li><li>● Media and Bar Code Ordering Sheet</li><li>● Warranty and Safety information</li></ul>
ESL 322e	AA939B	<p>Zero drive, 322 LTO cartridge base library includes:</p> <ul style="list-style-type: none"><li>● One drive cluster: capable of handling up to four tape drives</li><li>● One card cage for the e2400-160 FC or e2400-FC 2G Interface Controllers</li><li>● Six 8-slot Removable Magazines</li><li>● Interface Manager: management card</li><li>● FC robotics and dedicated controller e1200-160 is included</li></ul> <p>What's included in the box:</p> <ul style="list-style-type: none"><li>● Serial cable to attach to a diagnostic port</li><li>● 2 US power cords</li><li>● 2 Ethernet cables for internal connections</li><li>● 1 SCSI cable for internal connection</li><li>● HP StorageWorks ESL E-Series Documentation CD</li><li>● HP StorageWorks ESL E-Series Tape Library Unpacking and Installation Guide</li><li>● Q2007-67000 HP Ultrium 3 RW barcode label sample kit</li><li>● Q2008-67000 HP Ultrium 3 WORM barcode label sample kit</li><li>● Media and Bar Code Ordering Sheet</li><li>● Warranty and Safety information</li></ul>
ESL 630e	AA935B	<p>Zero drive, 630 SDLT cartridge base library includes:</p> <ul style="list-style-type: none"><li>● One drive cluster: capable of handling up to four tape drives</li><li>● One card cage for the e2400-160 FC Interface Controllers</li><li>● Six 7-slot Removable Magazines</li><li>● Interface Manager: management card</li><li>● FC robotics and dedicated controller e1200-160 is included</li></ul> <p>What's included in the box:</p> <ul style="list-style-type: none"><li>● Serial cable to attach to a diagnostic port</li><li>● 2 US power cords</li><li>● 2 Ethernet cables for internal connections</li><li>● 1 SCSI cable for internal connection</li><li>● HP StorageWorks ESL E-Series Documentation CD</li><li>● HP StorageWorks ESL E-Series Tape Library Unpacking and Installation Guide</li><li>● Q2006-67000 HP SDLT II barcode label sample kit</li><li>● Media and Bar Code Ordering Sheet</li><li>● Warranty and Safety information</li></ul>
ESL 286e	AA940B	<p>Zero drive, 286 SDLT cartridge base library includes:</p> <ul style="list-style-type: none"><li>● One drive cluster: capable of handling up to four tape drives</li><li>● One card cage for the e2400-160 FC Interface Controllers</li><li>● Six 7-slot Removable Magazines</li></ul>

### Configuration Information

- Interface Manager: management card
- FC robotics and dedicated controller e1200-160 is included

What's included in the box:

- Serial cable to attach to a diagnostic port
  - 2 US power cords
  - 2 Ethernet cables for internal connections
  - 1 SCSI cable for internal connection
  - HP StorageWorks ESL E-Series Documentation CD
  - HP StorageWorks ESL E-Series Tape Library Unpacking and Installation Guide
  - Q2006-67000 HP SDLT II barcode label sample kit
  - Media and Bar Code Ordering Sheet
  - Warranty and Safety information
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### Configuration Information

#### Step 2 - Required Options

Select each required option with quantities specified.

Model Name	Part Number	Quantity	Model Description with Parts Shipped:
ESL E-Series Drive Cluster	AA938A	One for every four drives	Single Drive Cluster capable of holding one to four drives. Parts shipped include: <ul style="list-style-type: none"> <li>● One Ethernet cable</li> <li>● Power Cable</li> </ul>
ESL E-Series Ultrium 960 FC Drive Upgrade Kit	AD595A	1 to 24 drives	Single tape drive, installed into drive cluster. Parts shipped include: <ul style="list-style-type: none"> <li>● Installation poster</li> <li>● Terminator</li> </ul>
ESL E-Series Ultrium 460 Drive Upgrade Kit	AA937A	1 to 24 drives	Single tape drive, installed into drive cluster. Parts shipped include: <ul style="list-style-type: none"> <li>● Installation poster</li> <li>● Terminator</li> </ul>
ESL E-Series Ultrium 460 FC Drive Upgrade Kit	AA941A	1 to 24 drives	Single tape drive, installed into drive cluster. Parts shipped include: <ul style="list-style-type: none"> <li>● Installation poster</li> </ul>
ESL E-Series SDLT 600 Drive Upgrade Kit	AA946A	1 to 24 drives	Single tape drive, installed into drive cluster. Parts shipped include: <ul style="list-style-type: none"> <li>● Installation poster</li> <li>● Terminator</li> </ul>
ESL E-Series SDLT 320 Drive Upgrade Kit	AA936A	1 to 24 drives	Single tape drive, installed into drive cluster. Parts shipped include: <ul style="list-style-type: none"> <li>● Installation poster</li> <li>● Terminator</li> </ul>
ESL E-Series e2400-160 FC Interface Controller	AA960A	One for every four SCSI ESL E Ultrium 460 and ESL E-Series SDLT 320 and SDLT 600 SCSI Tape Drives	Single controller card for use with SCSI Ultrium 460, SDLT 600 and SDLT 320 Tape Drives, 2 FC X 4 LVD SCSI ports. Parts shipped include: <ul style="list-style-type: none"> <li>● Four SCSI cables</li> <li>● 1 ethernet cable</li> </ul>
ESL E-Series e2400-FC 2G Interface Controller	AA928A	One for every four ESL E Ultrium 460 FC and Ultrium 960 FC Tape Drives	Single controller card for use with Native Fibre Ultrium Tape Drives, 2 FC X 4 FC ports. Parts shipped include: <ul style="list-style-type: none"> <li>● Four Fibre Channel cables</li> <li>● 1 ethernet cable</li> </ul>
Command View for Tape Libraries	343374-B21	One per library	Permanent License for Command View for ESL
License for Secure Manager Tape Libraries	343376-B21	One per library as needed	Permanent License for Secure Manager for ESL. Parts shipped include: Installation Guide

**NOTE:** #0D1 will appear after this part number on your sales order when factory integration is indicated.

### Configuration Information

#### Step 3 - Additional Options

Select each option with quantities specified.

Model Name	Part Number	Quantity	Model Description with Parts Shipped:
License for Direct Backup Engine for Tape Libraries	343375-B21	One per drive as needed	Permanent License for Direct Backup Engine for ESL. Parts shipped include: <ul style="list-style-type: none"> <li>● Installation Guide</li> </ul>
Licensed Capacity Panel Upgrade for ESL E-Series (322e and 286e)	AA942A	One license per panel/drawer is needed. Up to three per library as needed	License key to upgrade capacity in the ESL 322e or 286e libraries. This license enables one additional panel/drawer of slots <ul style="list-style-type: none"> <li>● License Key</li> <li>● Installation Guide</li> </ul>
ESL E-Series Ultrium Removable Magazine Kit	AA944A	As many as needed	Six 8 slot magazines for ESL 712e or ESL 322e to be used in removable load ports <b>NOTE:</b> For customers converting a library from fixed load port to a removable load port need to ALSO order the Removable Magazine conversion kit (AD548A)
ESL E-Series SDLT Removable Magazine	AA945A	As many as needed	Six 7 slot magazines for ESL 630e or ESL 286e to be used in removable load ports <b>NOTE:</b> For customers converting a library from fixed load port to a removable load port need to ALSO order the Removable Magazine conversion kit (AD548A).
ESL E-Series Removable Magazine Conversion Kit	AD548A	One per library as needed	Magazine drawers to convert ESL E-Series Libraries from fixed load port to accommodate removable magazines. <b>NOTE:</b> Needed for ONLY those libraries that have fixed load ports. All new E-Series libraries with "B" suffix will ship with these already installed. <b>NOTE:</b> Conversion kit will accommodate both Ultrium LTO and SDLT libraries.
ESL E-Series Ultrium Mixed Media Kit	AD546A	One per library as needed	Three Ultrium LTO slot panels to convert left side of an SDLT base library frame (ESL 630e) to a mixed media environment. <b>NOTE:</b> Will require CE installation.
ESL E-Series SDLT Mixed Media Kit	AD547A	One per library as needed	Three SDLT slot panels to convert left side of an LTO base library frame (ESL 712e) to a mixed media environment. <b>NOTE:</b> Will require CE installation.

### Related Options

	Description	Part Number
ESL E-Series Tape Library Upgrade Kits	ESL E-Series FC Drive Upgrade Kit	AD595A
	ESL E-Series Ultrium 460 Drive Upgrade Kit	AA937A
	ESL E-Series Ultrium 460 FC Drive Upgrade Kit	AA941A
	ESL E-Series SDLT 600 Drive Upgrade Kit	AA946A
	<p><b>NOTE:</b> The HP StorageWorks SDLT 600 Tape Drive includes support for WORM (Write-Once, Read-Many) functionality. WORM implementation is dependent on the backup application and more information on which applications support WORM can be found at: <a href="http://www.hp.com/go/connect">www.hp.com/go/connect</a>.</p> <p>WORM technology provides an enhanced level of security against accidental or malicious alteration of data on tape cartridges. WORM can be important when implementing data retention policies to be compliant with regulations regarding the storage of data on non-rewritable, non-erasable media. The SDLT 600 tape drive ships with support for WORM and can be set to WORM mode using the backup application. Once the cartridge has been set up for WORM, you will be unable to erase or overwrite the data on it, although you will be able to append data until the cartridge is full. WORM media can be read as often as required. When implementing WORM an unformatted or blank Super DLTape II 600GB data cartridge is required.</p>	
	ESL E-Series SDLT 320 Drive Upgrade Kit	AA936A
	ESL E-Series Drive Cluster	AA938A
	ESL E-Series e2400-160 FC Interface Controller	AA960A
	ESL E-Series e2400-FC 2G Interface Controller	AA928A
	ESL E-Series Ultrium Removable Magazine Kit	AA944A
	ESL E-Series SDLT Removable Magazine Kit	AA945A
	ESL E-Series Removable Magazine Conversion Kit	AD548A
	ESL E-Series Ultrium Mixed Media Kit	AD546A
ESL E-Series SDLT Mixed Media Kit	AD547A	
<hr/>		
HP StorageWorks Command View for Tape Libraries	Permanent License (per library) for Command View for ESL <p><b>NOTE:</b> Please reference the Extended Tape Library Architecture QuickSpecs for more information at <a href="http://www.hp.com/go/automated">http://www.hp.com/go/automated</a></p>	343374-B21
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HP StorageWorks Secure Manager for Tape Libraries	Permanent (per library) License for Secure Manager for ESL <p><b>NOTE:</b> Please reference the Secure Manager ESL QuickSpecs for more information at <a href="http://www.hp.com/go/automated">http://www.hp.com/go/automated</a></p>	343376-B21
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HP StorageWorks Direct Backup Engine for Tape Libraries	Permanent (per drive) License for Direct Backup Engine for ESL <p><b>NOTE:</b> Please reference the Direct Backup Engine for ESL QuickSpecs for more information at <a href="http://www.hp.com/go/automated">http://www.hp.com/go/automated</a></p>	343375-B21
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Media	HP Ultrium 800 GB Data Cartridge	C7973A
	<p><b>NOTE:</b> For use with HP StorageWorks Ultrium 960 FC Tape Drives</p>	
	HP Ultrium 800 GB WORM Data Cartridge	C7973W
	<p><b>NOTE:</b> For use with HP StorageWorks Ultrium 960 FC Tape Drives</p>	
	HP Ultrium 400 GB Data Cartridge	C7972A
	<p><b>NOTE:</b> For use with HP StorageWorks Ultrium 460 Tape Drives.</p>	
	HP Ultrium 200 GB Data Cartridge	C7971A
<p><b>NOTE:</b> For use with HP StorageWorks Ultrium 215, 230 and Ultrium 460 Tape Drives.</p>		
HP LTO Ultrium Universal Cleaning Cartridge	C7978A	
<p><b>NOTE:</b> For use with HP StorageWorks Ultrium 215, Ultrium 230, Ultrium 460 Tape Drives and Ultrium 960 FC. .</p>		
HP Ultrium 3 Bar Code Labels	Q2007A	

### Related Options

<b>NOTE:</b> For use with HP Ultrium 800 GB cartridges. Option Kit ships with 100 data labels and 10 cleaning labels.	
HP Ultrium 3 WORM Bar Code Labels	Q2008A
<b>NOTE:</b> For use with HP Ultrium 800 GB WORM cartridges. Option Kit ships with 100 data labels and 10 cleaning labels.	
HP Ultrium 2 Bar Code Labels	Q2002A
<b>NOTE:</b> For use with HP Ultrium 400 GB cartridges. Option Kit ships with 100 data labels and 10 cleaning labels.	
HP Ultrium 1 Bar Code Labels	Q2001A
<b>NOTE:</b> For use with HP Ultrium 200 GB cartridges. Option Kit ships with 100 data labels and 10 cleaning labels.	
HP SDLT 600 GB Data Cartridge	Q2020A
<b>NOTE:</b> For use with HP StorageWorks SDLT 600 Tape Drives	
HP SDLT 220/320 GB Data Cartridge	C7980A
<b>NOTE:</b> For use with HP StorageWorks SDLT 220 and SDLT 320 Tape Drives	
HP SDLT Cleaning Cartridge	C7982A
<b>NOTE:</b> For use with HP StorageWorks SDLT 220 and SDLT 320 Tape Drives	
HP SDLT 600 Bar Code Labels	Q2006A
<b>NOTE:</b> For use with HP SDLT 600 GB cartridges. Option Kit ships with 100 data labels and 10 cleaning labels.	
HP SDLT Bar Code Labels	Q2003A
<b>NOTE:</b> For use with HP SDLT 220/320 GB cartridges. Option Kit ships with 100 data labels and 10 cleaning labels.	
<b>US Pre-labeled Media</b>	
HP Ultrium 200 GB pre-labeled data cartridge, 20 pack	C7971AL
<b>NOTE:</b> This sku is only currently available in the US and through HP Direct Channels	
HP Ultrium 400 GB pre-labeled data cartridge, 20 pack	C7972AL
<b>NOTE:</b> This sku is only currently available in the US and through HP Direct Channels	
HP SDLT 220/320 pre-labeled data cartridge, 20 pack	C7980AL
<b>NOTE:</b> This sku is only currently available in the US and through HP Direct Channels	
<b>EMEA Pre-labeled Media</b>	
HP Ultrium 200 GB pre-labeled data cartridge, single pack	C7971L
<b>NOTE:</b> This sku is only currently available in EMEA	
HP Ultrium 400 GB pre-labeled data cartridge, single pack	C7972L
<b>NOTE:</b> This sku is only currently available in EMEA	
HP Ultrium 800 GB pre-labeled data cartridge, 20 pack	C7973AL
<b>NOTE:</b> This sku is only currently available in the US and through HP Direct Channels	
HP Ultrium 800 GB WORM pre-labeled data cartridge, 20 pack	C7973WL
<b>NOTE:</b> This sku is only currently available in the US and through HP Direct Channels	
HP SDLT 220/320 pre-labeled data cartridge, single pack	C7980L
<b>NOTE:</b> This sku is only currently available in EMEA	
<b>EMEA Pre-labeled Media</b>	
HP Ultrium 200 GB pre-labeled data cartridge, single pack	C7971L
<b>NOTE:</b> This sku is only currently available in EMEA	
HP Ultrium 400 GB pre-labeled data cartridge, single pack	C7972L
<b>NOTE:</b> This sku is only currently available in EMEA	
HP Ultrium 800 GB pre-labeled data cartridge, 20 pack	C7973AL
<b>NOTE:</b> This sku is only currently available in the US and through HP Direct Channels	
HP Ultrium 800 GB WORM pre-labeled data cartridge, 20 pack	C7973WL
<b>NOTE:</b> This sku is only currently available in the US and through HP Direct Channels	
HP SDLT 220/320 pre-labeled data cartridge, single pack	C7980L
<b>NOTE:</b> This sku is only currently available in EMEA	

### Related Options

#### Host Bus Adapters and Controllers for ProLiant Servers

**NOTE:** For a complete list of supported HBA's, please visit: <http://www.hp.com/go/ebs>.

#### Host Bus Adapters and Controllers for Alpha Servers

**NOTE:** For a complete list of supported HBA's, please visit: <http://www.hp.com/go/ebs>.

#### Fibre Channel Cables

**NOTE:** Additional Fibre Channel Cables are required. Order one cable per Interface Controller, selecting cable length and converter type to match the appropriate environment.

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

#### Power Cord

**NOTE:** THIS PRODUCT CAN ONLY BE USED WITH AN HP APPROVED POWER CORD FOR THE CUSTOMER'S SPECIFIC GEOGRAPHIC REGION. ORDER TWO POWER CORDS FOR EACH LIBRARY. ALL CORDS ARE RATED AT 250 VAC AND 16 AMPS.

**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.

HP Power Cord, North America and Japan, NEMA L6-20P Plug	E7803A
HP Power Cord, Universal PDU, C20 Plug	E7804A
HP Power Cord, Custom Applications, No Plug	E7806A
<b>NOTE:</b> This power cord should only be installed by a qualified electrician	
HP Power Cord, Europe, IEC309 Plug	E7808A
HP Power Cord, Europe, CEE 7/7 Plug	E7809A
HP Power Cord, China, GB16C Plug	E7810A
HP Power Cord, Israel, SI-32 Plug	E7811A
HP Power Cord, Brazil, AR20S Plug	E7812A

**NOTE:** Order Local power cords separately, pairs are required.

### Technical Specifications

<b>Dimensions</b>	<b>Form Factor</b>	<b>Free standing</b>	
	<b>Physical</b> (HxWxD)	75 in x 30 in x 50 in (191 cm x 76cm x 127cm)	
<b>Weight</b>	<b>Shipping</b> (HxWxD)	80 in x 48 in x 56 in (203.2 cm x 121.9 cm x 142.2 cm)	
	<b>Out of box</b> (24 drives)	1,294 lbs (483 kg)	
<b>SCSI Identification</b>	<b>Shipping</b> (24 drives)	1,459 lbs (544.6kg)	
	Product ID	ESL E-Series	
<b>Control Panel</b>	Vendor ID	HP	
	Library Status		
	Load Port controls		
	Library Diagnostics		
<b>Host Interface</b>	Basic Library Operations		
	Library, Drive, Interface Controller remote manageability will be handled via Command View ESL		
<b>Configurations</b>	Fibre Channel, 2Gb/1Gb Multi-mode optical, LC connector		
	<b>Drives installed in library</b>	<b>ESL 712e Cartridges</b>	<b>ESL 630e Cartridges</b>
	1-4	712	630
	5-8	698	618
	9-12	684	606
	13-16	670	594
	17-20	656	582
21-24	642	570	

### Technical Specifications

Drive Performance (native)	Ultrium 460 FC	Ultrium 960 FC	Ultrium 460	SDLT 320	SDLT 600
<b>Native Capacity</b>	200 GB	400 GB	200 GB	160 GB	300GB
<b>Native Transfer Rates</b>	32 MB/s	80 MB/s	30 MB/s	16 MB/s	36 MB/S
<b>Storage Capacity</b>	<b>ESL 712e</b>		<b>ESL 630e</b>		
<b>Native Capacity</b>	284.8 TB		189 TB		
<b>Compressed Capacity</b>	569.6 TB		378 TB		
<b>NOTE: Compressed data listed above is assuming 2:1 compression.</b>					
<b>Input/Output Port</b>	ESL 712e	6 removable magazines (each with 8 cartridges)			
	ESL 630e	6 removable magazines (each with 7 cartridges)			
	ESL 322e	6 removable magazines (each with 8 cartridges)			
	ESL 286e	6 removable magazines (each with 7 cartridges)			
<b>Initialization (cartridge inventory) time</b>	Less than 3 minutes, fully loaded with labeled cartridges				
<b>Cartridge Swap Time</b>	18 to 20 seconds, consisting of two Move Medium commands				
<b>Input Requirements</b>	Auto-range to domestic and international AC voltages				
	Nominal / Range Line Frequency	50 Hz / 60Hz			
	Range Line Voltage	200 VAC to 240 VAC			
	Typical Input Current	8A max			
<b>Power Requirement</b>	Two IEC 320 C19 Male connector inside back door				
	<b>NOTE: 2 US power cords are included with C19 to NEMA L6-20P rated at 250 VAC and 16 amps.</b>				
<b>Power Consumption</b>	VA max 1600W (Standard 2N power)				
<b>External Cables</b>	See "Related Options" Section				
<b>Connectors</b>	FC	LC Connector			
<b>Drives Supported</b>	SCSI Drives: Ultrium 460, SDLT 600, SDLT 320				
	Native Fibre Drives: Ultrium 960 FC, Ultrium 460 FC				
<b>Maximum Number of Drives</b>	24 drives in a single frame				
<b>Acoustic Noise</b>	Sound Power Level	Operating 7.3 Bel Idle 7.3 Bel			
<b>Reliability (Library Only)</b>	<b>MTBF</b>	250,000 power-on hours 100% duty cycle			
	<b>MSBF</b>	3 million load/unload cycles (rated)			
	<b>MTTR</b>	Less than 30 minutes			
<b>Relative Humidity (non-condensing)</b>	<b>Operating</b>	Operating: 20% to 80% non-condensing			
	<b>Shipping</b>	Shipping & Storage: 5% to 95% non-condensing			
<b>Temperature Range</b>	<b>Operating</b>	Dry Bulb: 15° to 32°C/59° to 90°F Wet Bulb: 25°C (77°F) maximum			
	<b>Shipping</b>	Dry Bulb: -40° to 66°C/-40° to 151°F Wet Bulb: 46°C (115°F) maximum			
<b>Regulatory Compliance</b>	<b>Safety</b>	UL60950-1:2003,1st ED. (USA); IEC 60950:1999 3rd ED; 60950:2000 (international)			
	<b>EMC</b>	CISPR 22/class A, CISPR 24, FCC/Class A			
	<b>Country Regulatory Compliance</b>	For country specific compliance contact your local sales representative.			
	<b>Regulatory Model Number</b>	LVLDC-0301			

### *Technical Specifications*

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