

# HP StorageWorks ESL E-Series Tape Libraries

Data sheet



Open the door to a new level of data storage with the ultimate in high capacity, unattended backup and restore.

# HP StorageWorks ESL family of enterprise tape libraries



## Reducing complexity, enhancing performance

Engineered to deliver the ultimate in redundancy, availability, and capacity, HP StorageWorks ESL E-Series Tape Libraries provide the highest level of data storage performance.

In tandem with a wide variety of qualified, industry-standard application solutions, the HP StorageWorks ESL E-Series Tape Libraries provide years of critical data backup without adding needless complexity or cost. Enterprises deserve nothing less than the resilient, secure, and adaptable performance that ESL E-Series Tape Libraries deliver.

### The HP ETLA advantage

The HP StorageWorks ESL portfolio of enterprise tape automation products is fully integrated with the HP Extended Tape Library Architecture (ETLA). The ETLA reduces the costs and complexity of configuring, installing, and managing the entire tape library system within a storage area network (SAN). This provides enterprises with the ability to manage more storage with fewer IT resources. The ETLA also offers remote management of the entire library system from a single console interface via HP StorageWorks Command View software for ESL-class tape libraries. This flexible solution saves time and reduces costs by allowing comprehensive library management access via a browser-based interface. Such critical elements as drives, robotics, and interface controllers are now available 24 x 7.

### Protecting performance

HP StorageWorks Secure Manager software for ESL-class tape libraries provides the security foundation of the ETLA. This powerful tool provides an additional layer of security between drives and the SAN environment by allowing only authorized hosts to access the tape library and drives. Secure Manager ESL software also shields libraries and drives from disruptive SAN traffic that can abort operations and slow backups and restores. Using Secure Manager ESL software in conjunction with HP StorageWorks Command View ESL software, enterprises also have the option of partitioning their library to create separate, virtual tape libraries from a single physical tape library. Enterprises are assured outstanding performance with the peace of mind that comes from knowing data is secure.

HP also conducts extensive testing of backup/restore components. Qualified combinations of components are documented in the Enterprise Backup Solution (EBS) compatibility matrix, greatly simplifying your deployment.

### The power to grow and adapt

HP StorageWorks ESL E-Series Tape Libraries are engineered to expand easily as needs grow. The tape library can grow up to 284.8 TB of native capacity and 6.91 TB/hr native throughput. ESL E-Series Tape Libraries enable enterprises to easily upgrade to future drive and interface technologies. And they offer enhanced capacity and performance for investment protection today and tomorrow.

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

All of the members of the HP StorageWorks family are fully supported on HP's industry-leading diagnostic tool kit—HP StorageWorks Library and Tape Tools (L&TT). L&TT is a single, convenient program that's easy to install and simple to operate. Its intuitive user interface virtually 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 helps ensure product integrity through self-diagnostics and fast problem resolution.

## Storage media

HP storage media undergoes an exhaustive battery of tests that simulate real-world usage. The HP test program is designed to ensure HP-branded media offers maximum reliability even under the most extreme conditions. Our experts continually monitor and evaluate quality, and our testing programs continually exceed industry standards. In fact, we measure durability by applying 1,000 percent more stress to the media than Ultrium logo compliance requires.



HP StorageWorks ESL E-Series Tape Libraries offer best-in-class features and enhancements that create an exceptional level of performance and flexibility, providing all the features that have made ESL E-Series Tape Libraries a leader in high capacity storage. These include best-in-class drive and cartridge density with scaling up to 712/322 LTO or 630/286 SDLT cartridges and up to 24 tape drives in a single library frame.

Offered with Ultrium 460 SCSI, Ultrium 460 native Fibre Channel (FC) and Ultrium 960 native FC drives, SDLT 600, and SDLT 320 tape technology, the ESL E-Series Tape Libraries offer best-in-class storage density with up to 28.4 TB of native storage capacity per square foot.

For loading or unloading media without interrupting operation, ESL E-Series Tape Libraries offer configurable mail slots and bin panel subsections that pull out for easy load port access. Enterprises can configure 16, 32, or 48 LTO slots or 14, 28, or 42 SDLT slots as load port, and the load port magazines are removable for off-site storage.

### Key features and benefits:

- *Compatible:* Supports a mixture of Ultrium 460/960 and SDLT 320/600 tape drives in a single cabinet
- *Upgradeable:* Provides the ability to upgrade capacity on demand with licensed capacity panel upgrades
- *High performance:* Supports up to 24 Ultrium 460, Ultrium 460 FC, or Ultrium 960 FC drives in a single ESL 712e or ESL 322e enclosure and up to 24 SDLT 320/600 tape drives in an ESL 630e or ESL 286e enclosure
- *High density:* Supports up to 712 LTO slots or 630 SDLT slots within a single enclosure
- *Space-efficient:* Minimizes floor space while maximizing storage capacity by providing 28.4 TB per square foot
- *Manageable:* Improves administrator productivity and effectiveness by managing the full system from a single view
- *Flexible:* Increases flexibility and manageability by being able to configure up to six virtual partitions
- *Cost-effective:* Reduces total costs and administrative work through enhanced manageability from any location
- *Versatile:* Offers removable load port magazines that are user configurable

## HP StorageWorks ESL E-Series Tape Libraries



	HP StorageWorks ESL 712e	HP StorageWorks ESL 630e	HP StorageWorks ESL 322e	HP StorageWorks ESL 286e
<b>Drive type</b>	Ultrium 460 SCSI Ultrium 460/960 FC	SDLT 320 SDLT 600	Ultrium 460 SCSI Ultrium 460/960 FC	SDLT 320 SDLT 600
<b>Unit dimensions (HxWxD)</b>	75 x 30 x 50 in (191 x 76 x 127 cm)	75 x 30 x 50 in (191 x 76 x 127 cm)	75 x 30 x 50 in (191 x 76 x 127 cm)	75 x 30 x 50 in (191 x 76 x 127 cm)
<b>Shipping dimensions (HxWxD)</b>	80 x 48 x 56 in (203.2 x 121.9 x 142.2 cm)	80 x 48 x 56 in (203.2 x 121.9 x 142.2 cm)	80 x 48 x 56 in (203.2 x 121.9 x 142.2 cm)	80 x 48 x 56 in (203.2 x 121.9 x 142.2 cm)
<b>Unit weight</b>	1,294 lbs (483 kg)	1,294 lbs (483 kg)	1,294 lbs (483 kg)	1,294 lbs (483 kg)
<b>Shipping weight</b>	1,459 lbs (544.6 kg)	1,459 lbs (544.6 kg)	1,459 lbs (544.6 kg)	1,459 lbs (544.6 kg)
<b>Native drive throughput (MB/s)</b>	30 (Ultrium 460 SCSI) 32 (Ultrium 460 FC) 80 (Ultrium 960 FC)	16 (SDLT 320) 26 (SDLT 600)	30 (Ultrium 460 SCSI) 32 (Ultrium 460 FC) 80 (Ultrium 960 FC)	16 (SDLT 320) 26 (SDLT 600)
<b>Recording method</b>	Digital linear	Digital linear	Digital linear	Digital linear
<b>Maximum number of drives supported in a single unit</b>	24	24	24	24
<b>Single unit maximum native backup performance (GB/hr)</b>	288	129	288	129
<b>Number of slots in a single load port</b>	48	42	48	42
<b>Native backup capacity (GB) in a single load port</b>	400	300	400	300
<b>Robotics reliability (mean swap between failure (MSBF))</b>	3,000,000 load/unload cycles	3,000,000 load/unload cycles	3,000,000 load/unload cycles	3,000,000 load/unload cycles
<b>Maximum native scaled capacity (TB)</b>	284.8	189	128.8	85.8
<b>Maximum native scaled performance (TB/hr)</b>	6.91	3.11	6.91	3.11
<b>Interface</b>	e2400-160 FC Interface Controller (for use with SCSI drives), e2400-FC 2G Interface Controller (for use with Ultrium 460/960 FC tape drives)	e2400-160 FC Interface Controller	e2400-160 FC Interface Controller (for use with SCSI drives), e2400-FC 2G Interface Controller (for use with Ultrium 460/960 FC tape drives)	e2400-160 FC Interface Controller
<b>Control panel</b>	Library status, load port controls, library diagnostics, basic library operations	Library status, load port controls, library diagnostics, basic library operations	Library status, load port controls, library diagnostics, basic library operations	Library status, load port controls, library diagnostics, basic library operations
<b>Power requirements</b>	200-240 VAC @ 50-60 Hz	200-240 VAC @ 50-60 Hz	200-240 VAC @ 50-60 Hz	200-240 VAC @ 50-60 Hz
<b>Power consumption (Maximum)</b>	1,600W	1,600W	1,600W	1,600W
<b>Software support</b>	HP OpenView Storage Data Protector, Computer Associates ARCserve, Legato Networker, IBM Tivoli Storage Manager, VERITAS Backup Exec, VERITAS NetBackup	HP OpenView Storage Data Protector, Computer Associates ARCserve, Legato Networker, IBM Tivoli Storage Manager, VERITAS Backup Exec, VERITAS NetBackup	HP OpenView Storage Data Protector, Computer Associates ARCserve, Legato Networker, IBM Tivoli Storage Manager, VERITAS Backup Exec, VERITAS NetBackup	HP OpenView Storage Data Protector, Computer Associates ARCserve, Legato Networker, IBM Tivoli Storage Manager, VERITAS Backup Exec, VERITAS NetBackup
<b>OS support</b>	HP-UX, AIX, Linux®, NetWare, OVMS, Tru64, Solaris, Microsoft Windows	HP-UX, AIX, Linux, NetWare, OVMS, Tru64, Solaris, Microsoft Windows	HP-UX, AIX, Linux, NetWare, OVMS, Tru64, Solaris, Microsoft Windows	HP-UX, AIX, Linux, NetWare, OVMS, Tru64, Solaris, Microsoft Windows
<b>HP server support*</b>	HP ProLiant servers, HP UX servers, HP AlphaServers	HP ProLiant servers, HP UX servers, HP AlphaServers	HP ProLiant servers, HP UX servers, HP AlphaServers	HP ProLiant servers, HP UX servers, HP AlphaServers

\* For specific servers supported by individual libraries, refer to product Quick Specs at [www.hp.com/go/tape](http://www.hp.com/go/tape). For complete software, servers, HBA, and OS compatibility information, go to EBS at [www.hp.com/go/ebs](http://www.hp.com/go/ebs).

## Ordering information

Part number	Model name	Model description
AA934B	HP StorageWorks ESL 712e	One drive cluster capable of handling up to four tape drives, one card cage for the e2400-160 FC or e2400-FC 2G Interface Controllers, six 8-slot removable magazines, Interface Manager management card, FC robotics and dedicated controller e1200-160
AA939B	HP StorageWorks ESL 322e	One drive cluster capable of handling up to four tape drives, one card cage for the e2400-160 FC or e2400-FC 2G Interface Controllers, six 8-slot removable magazines, Interface Manager management card, FC robotics and dedicated controller e1200-160
AA935B	HP StorageWorks ESL 630e	One drive cluster capable of handling up to four tape drives, one card cage for the e2400-160 FC Interface Controllers, six 7-slot removable magazines, Interface Manager management card, FC robotics and dedicated controller e1200-160
AA940B	HP StorageWorks ESL 286e	One drive cluster capable of handling up to four tape drives, one card cage for the e2400-160 FC Interface Controllers, six 7-slot removable magazines, Interface Manager management card, FC robotics and dedicated controller e1200-160

## Options

Part number	Model name	Model description
AA938A	ESL E-Series Drive Cluster	Single drive cluster capable of holding one to four drives. Parts shipped include one Ethernet cable and power cable. One cluster is required for every four drives.
AA937A	ESL E-Series Ultrium 460 Drive Upgrade Kit	Single tape drive, installed into drive cluster. Parts shipped include installation poster and terminator. One kit is required for every 24 drives.
AA941A	ESL E-Series Ultrium 460 FC Drive Upgrade Kit	Single tape drive, installed into drive cluster. Parts shipped include installation poster and terminator. One kit is required for every 24 drives.
AD595A	ESL E-Series Ultrium 960 FC Drive Upgrade Kit	Single tape drive, installed into drive cluster. Parts shipped include installation poster and terminator. One kit is required for every 24 drives.
AA946A	ESL E-Series SDLT 600 Drive Upgrade Kit	Single tape drive, installed into drive cluster. Parts shipped include installation poster and terminator. One kit is required for every 24 drives.
AA936A	ESL E-Series SDLT 320 Drive Upgrade Kit	Single tape drive, installed into drive cluster. Parts shipped include installation poster and terminator. One kit is required for every 24 drives.
AA960A	ESL E-Series e2400-160 FC Interface Controller	Single controller card for use with SCSI Ultrium 460, SDLT 600 and SDLT 320 tape drives, two FC X4 LVD SCSI ports. Parts shipped include four SCSI cables and one Ethernet cable. One controller is required for every four SCSI ESL E-Series Ultrium 460, SDLT 320 and SDLT 600 drives.
AA928A	ESL E-Series e2400-FC 2G Interface Controller	Single controller card for use with native Fibre Channel Ultrium tape drives, two FC X4 FC ports. Parts shipped include four SCSI cables and one Ethernet cable. One controller is required for every four ESL E-Series Ultrium 460 FC drives.
343374-B21	License for Command View ESL software	Permanent license for Command View ESL; one license is required per library.
343376-B21	License for Secure Manager ESL software	Permanent license for Secure Manager ESL. Parts shipped include an installation guide. One license is required per library as needed.
343375-B21	License for Direct Backup Engine ESL software	Permanent license for Direct Backup Engine ESL. Parts shipped include an installation guide. One license is required per library as needed.
AA942A	Licensed Capacity Panel Upgrade for ESL E-Series (322e and 286e)	License key to upgrade capacity in the ESL 322e or 286e libraries. This license enables one additional panel/drawer of slots. Parts shipped include license key and installation guide. One license per panel/drawer is needed. Up to three licenses per library as needed.

## Options (continued)

Part number	Model name	Model description
AA944A	ESL E-Series Ultrium Removable Magazine Kit	Six 8-slot magazines for ESL 712e or ESL 322e to be used in removable load ports
AA945A	ESL E-Series SDLT Removable Magazine Kit	Six 7-slot magazines for ESL 630e or ESL 286e to be used in removable load ports
AD548A	ESL E-Series Removable Magazine Conversion Kit	Magazine drawers to convert ESL E-Series Libraries from fixed load port to accommodate removable magazines; one kit per library as needed
AD546A	ESL E-Series Ultrium Mixed Media Kit	Three Ultrium LTO slot panels to convert left side of an SDLT base library frame (ESL 630e) to a mixed media environment; one kit per library as needed
AD547A	ESL E-Series SDLT Mixed Media Kit	Three SDLT slot panels to convert left side of an LTO base library frame (ESL 712e) to a mixed media environment; one kit per library as needed
C7972A	HP Ultrium 400 GB Data Cartridge	For use with HP StorageWorks Ultrium 460 tape drives
C7973A	HP Ultrium 800 GB Data Cartridge	For use with HP StorageWorks Ultrium 960 FC tape drives
C7973W	HP Ultrium 800 GB WORM Data Cartridge	For use with HP StorageWorks Ultrium 960 FC tape drives
C7971A	HP Ultrium 200 GB Data Cartridge	For use with HP StorageWorks Ultrium 215, Ultrium 230, and Ultrium 460 tape drives
C7978A	HP LTO Ultrium Universal Cleaning Cartridge	For use with HP StorageWorks Ultrium 215, Ultrium 230, and Ultrium 460 tape drives
Q2002A	HP Ultrium 2 Bar Code Labels	For use with HP Ultrium 400 GB cartridges. Option kit ships with 100 data labels and 10 cleaning labels.
Q2001A	HP Ultrium 1 Bar Code Labels	For use with HP Ultrium 200 GB cartridges. Option kit ships with 100 data labels and 10 cleaning labels.
Q2007A	HP Ultrium 3 Bar Code Labels	For use with HP Ultrium 800 GB cartridges. Option kit ships with 100 data labels and 10 cleaning labels.
Q2008A	HP Ultrium 3 WORM Bar Code Labels	For use with HP Ultrium 800 GB WORM cartridges. Option kit ships with 100 data labels and 10 cleaning labels.
Q2020A	HP SDLT 600 GB Data Cartridge	For use with HP StorageWorks SDLT 600 tape drives
C7980A	HP SDLT 220/320 GB Data Cartridge	For use with HP StorageWorks SDLT 220 and SDLT 320 tape drives
C7982A	HP SDLT Cleaning Cartridge	For use with HP StorageWorks SDLT 220 and SDLT 320 tape drives
Q2006A	HP SDLT 600 Bar Code Labels	For use with HP SDLT 600 GB cartridges. Option kit ships with 100 data labels and 10 cleaning labels.
Q2003A	HP SDLT Bar Code Labels	For use with HP SDLT 220/320 GB cartridges. Option kit ships with 100 data labels and 10 cleaning labels.
C7971AL	HP Ultrium 200 GB pre-labeled data cartridges (20-pack)	Only available in the U.S. and through HP Direct Channels
C7972AL	HP Ultrium 400 GB pre-labeled data cartridges (20-pack)	Only available in the U.S. and through HP Direct Channels
C7973AL	HP Ultrium 800 GB pre-labeled data cartridges (20-pack)	Only available in the U.S. and through HP Direct Channels
C7973WL	HP Ultrium 800 GB WORM pre-labeled data cartridges (20-pack)	Only available in the U.S. and through HP Direct Channels
C7980AL	HP SDLT 220/320 GB pre-labeled data cartridges (20-pack)	Only available in the U.S. and through HP Direct Channels
C7971L	HP Ultrium 200 GB pre-labeled data cartridges (single pack)	Only available in EMEA
C7972L	HP Ultrium 400 GB pre-labeled data cartridges (single pack)	Only available in EMEA
C7980L	HP SDLT 220/320 GB pre-labeled data cartridges (single pack)	Only available in EMEA
221691-B21	LC/SC FC Cable Kit	2m, shortwave
221691-B22	LC/SC FC Cable Kit	5m, shortwave
221691-B23	LC/SC FC Cable Kit	15m, shortwave

## Options (continued)

Part number	Model name	Model description
221692-B21	LC/LC FC Cable Kit	2m, shortwave
221692-B22	LC/LC FC Cable Kit	5m, shortwave
221692-B23	LC/LC FC Cable Kit	15m, shortwave
328215-001	Wide/Wide SCSI cable	5m
328215-002	Wide/Wide SCSI cable	10m
328215-003	Wide/Wide SCSI cable	15m
328215-004	Wide/Wide SCSI cable	20m
341176-B21	SCSI Cable, VHDCI/Wide	6 ft.
341177-B21	SCSI Cable, VHDCI/Wide	12 ft.
E7803A	HP Power Cord	North America and Japan, NEMA L6-20P Plug
E7804A	HP Power Cord	Universal PDU, C20 Plug
E7806A	HP Power Cord	Custom Applications, No Plug
E7808A	HP Power Cord	Europe, IEC309 Plug
E7809A	HP Power Cord	Europe, CEE 7/7 Plug
E7810A	HP Power Cord	China, GB16C Plug
E7811A	HP Power Cord	Israel, SI-32 Plug
E7812A	HP Power Cord	Brazil, AR20S Plug

# HP StorageWorks ESL E-Series Tape Libraries

<b>What's included</b>	Serial cable to attach to a diagnostic port, two U.S. power cords, two Ethernet cables for internal connections, one SCSI cable for internal connection, HP StorageWorks ESL E-Series Documentation CD, HP StorageWorks ESL E-Series Tape Library Unpacking and Installation Guide, Media and Bar Code Ordering Sheet, warranty and safety information
<b>Warranty and support</b>	HP provides a 1-year, next-business-day, on-site, limited warranty, 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.
<b>Warranty and support options</b>	<p>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.</p> <p>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.</p>
<b>Financial services</b>	HP Financial Services provides innovative financing and financial asset management programs to help customers cost-effectively acquire, manage, and ultimately retire your HP solutions. For more information on these services, please contact your HP sales representative or visit: <a href="http://www.hp.com/go/hpfinancialservices">www.hp.com/go/hpfinancialservices</a> .
<b>Customer support</b>	<p>HP eSupport is a portfolio of technology-based services that assist you with managing your business environment—from the desktop to the data center.</p> <p>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.</p> <p>Features include:</p> <ul style="list-style-type: none"><li>• Access to self-solve tools (including search technical knowledge base)</li><li>• Efficient logging and tracking of support cases</li><li>• Collaboration with other business and IT professionals</li><li>• Download of patches and drivers</li><li>• Access to diagnostic tools</li><li>• Proactive notification of relevant information</li></ul> <p>Access to certain features of the support portal requires an HP service agreement. To access the support portal, visit: <a href="http://www.hp.com/support">www.hp.com/support</a>.</p>
<b>For more information</b>	For more information on HP StorageWorks ESL E-Series Tape Libraries, visit: <a href="http://www.hp.com/go/tape">www.hp.com/go/tape</a> .

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For more information, please visit: [www.hp.com/go/tape](http://www.hp.com/go/tape).

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