HP StorageWorks ESL9000 Series Tape Libraries

HP StorageWorks ESL9595 Tape Library

HP StorageWorks ESL9322 Tape Library

HP StorageWorks ESL9000 Series Tape Libraries provide a highly reliable backup and restore solution for mission critical data storage for high-end enterprise customers. For direct SCSI and storage attached network (SAN) environments, ESL9000 Series Tape Libraries provide component level redundancy, high availability, enterprise level capacity all in a compact footprint. The ESL9000 Series Tape Libraries provide years of fully automated operation for backup, save and restore of critical data when coupled with a variety of qualified industry standard backup application solutions. With the HP StorageWorks Ultrium 460 Tape Drives, ESL Tape Libraries offer up to 119 TB of native capacity.

The HP StorageWorks Interface Manager and Command View for ESL Tape Libraries are the next step in HP's Extended Tape Library Architecture, a key component of 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 high-end tape libraries provide the reliability, interoperability, and advanced functionality required for your enterprise SAN environment.

HP StorageWorks ESL9000 Series Tape Libraries coupled with the HP StorageWorks Extended Tape Library Architecture—saves time and decreases costs through best-in-class library management, ease-of-use, reliability, and advanced features.

What's new

- HP StorageWorks Interface Manager and Command View ESL—the next step in HP StorageWorks Extended Tape Library Architecture—saves time and decreases costs through best-in-class library management, ease-of-use, reliability, and advanced features.

- HP StorageWorks ESL9000 Series Tape Libraries now include HP OpenView Storage Media Operations software. Storage Media Operations provides tracking and management of offline storage media, such as magnetic tapes, resulting in more reliable backups, faster data recovery, improved staff efficiency, and reduced costs.

- HP StorageWorks ESL9000 Series Tape Libraries now include a 60 day license of HP OpenView Storage Area Manager.

Features and benefits

- *Manageable:* ESL9000 with the Extended Tape Library Architecture decreases both costs and administrative work through enhanced manageability from any location

- *Upgradeable:* Offers investment protection with an upgrade path scalable in both drive and cartridge count

- *Serviceable:* Makes repairs a breeze with hot-swappable drives, power supplies, and fans

- *Reliable:* Provides high availability, enterprise features with N+2 power supplies and cooling fans

- *Open:* Supports multiple operating systems, including HP-UX, Microsoft® Windows®, Solaris, AIX

- *Flexible:* Broad choice of drive and media technology, and scalable cartridge counts

- *Scalable:* Easily scale cartridge and drive count as backup needs increase

Technical specifications

ESL9595 Tape Library

ESL9322 Tape Library

Robotic SCSI interface	Ultra3 SCSI LVD, 68HD Interconnect; External cable length between library and host bus adapter (HBA) limited to 10m when using more than one device per HBA; extends up to 23m when using exactly one device per HBA (point-to-point SCSI termination)			

Form factor	Free-standing		Free-standing	

Dimensions (HxWxD)
    Packaged
    Unpackaged
	ESL9595: 80 x 71 x 48 in (203.2 x 180.3 x 121.9 cm)
	75 x 60 x 29 in (190.5 x 152.4 x 73.7 cm)
			ESL9322: 80 x 52 x 48 in (203.2 x 132.1 x 121.9 cm)
			75 x 40 x 29 in (190.5 x 101.6 x 73.7 cm)	

Weight	ESL9595: 1444 lb (655 kg) – Without data cartridges		ESL9322: 1072 lb (487 kg) – Without data cartridges	

Performance per drive (native)		**Ultrium 460**	**Ultrium 230**	**SDLT 320**	**SDLT 220**
	Capacity: Native transfer rates:	200 GB native 30 MB/s	100 GB native 15 MB/s	160 GB native 16 MB/s	110 GB native 11 MB/s

Storage capacity	222 slots	44.4 TB native, 88.4 TB compressed*	22 TB 44 TB compressed*	35.5 TB 71 TB compressed*	24.4 TB 48.8 TB compressed*
	322 slots	64.4 TB 128.8 TB compressed*	32.2 TB 64.4 TB compressed*	51.5 TB 103 TB compressed*	35.4 TB 70.8 TB compressed*
	400 slots	80 TB native, 160 TB compressed*	40 TB 80 TB compressed*	64 TB 128 TB compressed*	44 TB 88 TB compressed*
	500 slots	100 TB 200 TB compressed*	50 TB 100 TB compressed*	80 TB 160 TB compressed*	55 TB 110 TB compressed*
	595 slots	119 TB native 238 TB compressed*	59.5 TB 119 TB compressed*	95.2 TB 190.4 TB compressed*	65.4 TB 130.9 TB compressed*
	* Assuming 2:1 compression				

Input/output port	Two, 4-slot fixed magazines

Initialization time	8 seconds average from drive to slot

Cartridge swap time	33 seconds from drive to slot

Cartridge pass through time - end-to-end	78 seconds from first frame to fourth frame

Swaps	180 swap/hour

Specifications

ESL9595 Tape Library

ESL9322 Tape Library

Electrical specifications	AC voltage: Auto-range to domestic and international AC voltages; AC voltage range: 90 to 132 VAC or 180 to 264 VAC, single phase; Nominal: 100 to 120 VAC or 220 to 240 VAC; Line frequency range: 47 to 63 Hz; AC receptacle: IEC-320 C19 Type 100-120V/200-240V, 50/60 Hz, 20A/16A (5-20P plug for U.S. and Canada) Power consumption: 1200 VA maximum
Reliability (library only)	Mean time between failure (MTBF): 250,000 hours; Mean swaps between failure (MSBF): 3,000,000 load/unload cycles
Acoustic noise	**Noise Power Emission Level:** Idle: 7.8 bels; Operating: 8.1 bels
Regulatory compliance **Regulatory ID number ED1002**	**Worldwide Product Safety & EMC Approvals:** Safety: CSA 950 (Canada); UL 1950 (USA); IEC60950 A4 (Japan); NEMKO (EUC); AS/NZS 3548 (Australia/New Zealand); IEC 60950 (international); EN60950/IEC950, UL, CSA/cUL, CE, CB Scheme, Nemko GS, DHHS/FDA (Class 1 Laser), IEC60825-1 (Laser Class 1); EMC: EN6100-3-2, EN50082-1: 1992, EN50022: 1994; For country specific compliance contact your local sales representative. **EMI:** EN 60825:1994/A11, FCC Part 15 Class A, CISPR Publication 22 Class A, ICES-003 Class A, VCCI Class 1, SMA AZ/NZS 3548 Class A **Regulatory Model Number:** ED1005
Supplies	**Ultrium:** C7972A – HP Ultrium 400 GB Data Cartridge (capacity of 200 GB native); C7971A – HP Ultrium 200 GB Data Cartridge (capacity of 100 GB native) **Universal:** C7978A – HP Ultrium Universal Cleaning Cartridge **SDLT:** C7980A – HP Super DLTtape 160-320 GB Data Cartridge; C7982A – HP Super DLTtape Cleaning Cartridge **Power cords**: ESL9000 Power Cords 2X US/Canada/Mex – 146210-001; ESL9000 Power Cords 2X SE Asia/India – 146210-AR1; ESL9000 Power Cords 2X Central Europe – 146210-021; ESL9000 Power Cords 2X Aus/China/NZL – 146210-011; ESL9000 Power Cords 2X Switzerland – 146210-011; ESL9000 Power Cords 2X UK/Hong Kong – 146210-031; ESL9000 Power Cords 2X Italy – 146210-061; ESL9000 Power Cords 2X Denmark – 146210-081; ESL9000 Power Cords 2X Japan – 146210-291
Compatibility	For more information on compatibility visit: www.hp.com/go/ebs

ESL9595 Tape Library

ESL9322 Tape Library

Product number	Product name
343377-B21	ESL9322 Extended Tape Library – Zero drive library, 222 slots, card cage, Interface Manager, Command View for ESL permanent license
343378-B21	ESL9595 Extended Tape Library – Zero drive library, 400 slots, card cage, Interface Manager, Command View for ESL permanent license
330832-B21	ESL9322, 222 slots, 0 drive Library
330840-B21	ESL9000 222 to 322 Slot Upgrade Kit
330833-B21	ESL9595, 400 slots, 0 drive, Enterprise Library
330842-B21	ESL9000 400 to 500 Slot Upgrade
330842-B22	ESL9000 500 to 595 Slot Upgrade
330842-B23	ESL9000 400 to 595 Slot Upgrade
330834-B21	ESL9000 Ultrium 460 Drive Upgrade Kit
330193-B21	ESL9000 Ultrium 230 Drive Upgrade Kit
293414-B21	ESL9000 SDLT 320 Drive Upgrade Kit
234617-B21	ESL9000 SDLT 220 Drive Upgrade Kit
302254-B21	ESL9000 Universal load port – Universal cartridge magazine (not removable)
Options	
161268-B23	ESL9000 Pass through mechanism
330839-B21	E2400-160 FC Interface controller
343372-B21	ESL Interface Manager, card cage, software – purchase with new ESL libraries
343374-B21	License for Command View for ESL – permanent license to use for base software platform, order 1 per library
343373-B21	ESL Interface Manager Upgrade Kit – for current ESLs with a card cage installed
343375-B21	License for Direct Backup for ESL – license for Direct Backup option, order 1 per drive
343376-B21	License for Secure Manager for ESL – license for "advanced" Secure Manager option, order 1 per library

HP StorageWorks ESL9000 tape libraries

What's included	Library Unit, documentation CD including user guide, safety warnings with translations, warranty card with translations, safety booklet with translations, (2) two keys, SCSI terminators (1 per drive, installed), diagnostic cable (for PC attach), bar code label samples, diagnostic cable (for PC attach). Note: Supplied with each library: 2 line cords (IEC 320 C19), US/Canada, 2 line cords (IEC 320 C19), specific to country of destination are provided by region where required

Warranty and support

HP provides a one year, limited warranty, together with phone support for the duration of the warranty.
In order to provide ease of installation and maximize uptime and ROI, HP provides a range of upgradable service options.

Part number		Band for ESL9322 0 drive library	Band for ESL9595 0 drive library	Band for drive upgrade kits	Installation band
HA113A1	Tape Library HW installation only	N/A	N/A	N/A	5DQ
HA113A1	Subsequent Add-on Tape Drive Installation	N/A	N/A	8G5	5DU
HA113A1	Command View ESL Installation*	N/A	N/A	N/A	5J5
HA114A1	Tape Library Installation and Startup	N/A	N/A	N/A	5DQ
HA101A3	HW, 3-year, next-day, on-site	8GN	8GP	8G5	N/A
HA103A3	HW, 3-year, 4-hour, 13 x 5, on-site	8GN	8GP	8G5	N/A
HA104A3	HW, 3-year, 4-hour, 24 x 7, on-site	8GN	8GP	8G5	N/A
HA106A1	SW, 1-year, Phone-in, 9 x 5 **	8FC	8FC	N/A	N/A
HA106A3	SW, 3-year, Phone-in, 9 x 5 **	8FC	8FC	N/A	N/A
HA107A1	SW, 1-year, Phone-in, 24 x 7 **	8FC	8FC	N/A	N/A
HA107A3	SW, 3-year, Phone-in, 24 x 7 **	8FC	8FC	N/A	N/A
HA109A3	Support plus, 3-year ***	8GN	8GP	8G5	N/A
HA110A3	Support plus 24, 3-year ***	8GN	8GP	8G5	N/A

HP also offers 1-year options for the HW services quoted above.

* Command View ESL Installation is included into HA114A1
** Command View ESL is the only SW package covered by this service
*** Support Plus covers HW, 4-hour, 13 x 5 and SW Phone-in, 13x5

Due to the complexities involved with the initial installation of an enterprise library into a SAN environment, HP recommends that customers take advantage of the SAN Implementation Service (HA114A1). This service covers pre-installation preparation activities, installation and configuration of the library and interface controllers, configuration of hosts and switches, verification testing and customer orientation.

In order to maximize ROI and product uptime, and minimize the cost of ownership, HP recommends the 3-year, 24x7 service options. These offerings will ensure any product issue can be tackled when they occur—most backup issues occur outside standard business hours and the service coverage period covers the minimum expected life of the host system.

For more information on HP storage services please visit: www.hp.com/hps/storage

For more information

For more information on HP StorageWorks ESL9000 tape libraries, contact any of our worldwide sales offices or visit: www.hp.com/go/automated

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