

# HP StorageWorks Enterprise Modular Library (EML) E-Series Tape Libraries

Data sheet



Simplify data protection in your storage area network (SAN) through improved reliability of the backup process while feeling secure that your library can grow as your needs change.



Add improved 24x7 reliability and scalable flexibility to your data storage solution with the HP StorageWorks EML E-Series Tape Libraries. With the performance you crave and simplicity you desire, EML Tape Libraries can meet the needs of today—and demands of tomorrow.

## Scalable storage for today and tomorrow

Your enterprise depends on the data that drives it. Protecting that data requires a system with the performance, reliability, and scalability that protects both your data and infrastructure investment.

Introducing the HP StorageWorks EML E-Series Tape Libraries. Based on the HP StorageWorks Extended Tape Library Architecture (ETLA), interface controllers improve the reliability of your backup and recovery processes by minimizing disruption by I/O and SAM events. Performance is achieved through the use of up to 16 HP StorageWorks Ultrium tape drives, providing a native throughput of over 4.6 TB/hr.

Highly reliable robotics and tape drives, coupled with optional redundant power supplies and redundant cooling, provide the resiliency required for 24 x 7 environments. The EML E-Series Tape Libraries are fully integrated into the HP StorageWorks portfolio through compatibility and capacity points. The EML E-Series Tape Libraries are also extensively tested in the Enterprise Backup Solution (EBS) to ensure they work in the most rigorous environment.

With the addition of expansion modules, the EML E-Series Tape Libraries scale to over 440 slots. Future expansion modules will allow the EML E-Series to scale beyond 500 slots within the library footprint. New HP StorageWorks Ultrium tape drives will further improve capacity and performance as your needs expand.

Built in a standard 42U HP 10000 rack, EML E-Series Tape Libraries fit nicely in the modern data center. Like other rack-mounted equipment, service access is only required from the front and rear of the library. Rack space may be used to scale-out your storage solutions or for other HP products and IT needs. So you can protect your critical data and easily adapt your infrastructure to the unpredictable challenges of tomorrow.

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### Key features and benefits

- *Scalable:* EML E-Series Tape Libraries are built on a modular structure. The number of drives and slots may be increased by the purchase of expansion modules, bringing the total capacity of EML E-Series libraries to 16 drives and 442 slots.
- *Resilient:* Utilizing interface controllers, part of the ETLA, EML E-Series Tape Libraries minimize the effect of rogue programs on backup and recovery processes.
- *High performance:* EML E-Series Tape Libraries have the power to meet critical backup windows using state-of-the-art HP StorageWorks Ultrium tape drives.
- *Cost-effective:* EML E-Series Tape Libraries expand in capacity and performance as customer needs change—scaling to over 440 slots and up to 16 Ultrium tape drives. Future expansion modules will enable scaling to over 500 slots.
- *Manageable:* EML E-Series Tape Libraries have been designed to ease the management burdens of data protection in your SAN. Utilizing HP StorageWorks Command View Tape Library software for EML, management, diagnostic, and configuration features can be accessed from anywhere.
- *Compact:* Built in a standard rack footprint, EML E-Series Tape Libraries integrate easily into the rack-grid of your data center.
- *Compatible:* Certified through the HP StorageWorks EBS, EML E-Series Tape Libraries are compatible with leading backup software packages, operating systems, servers, and disk arrays.
- *Reliable:* Highly reliable robotics and tape drives, coupled with optional redundant power supplies and redundant cooling, provide resiliency should a component fail.
- *Easy-to-use:* User-configurable load ports and removable magazines allow easy transfer of large numbers of cartridges in and out of the library.

Technical specifications

HP StorageWorks EML 103e  
Tape Library

HP StorageWorks EML 245e  
Tape Library

HP StorageWorks EML 103e  
4-Drive Tape Library Bundle



<b>Unit dimensions (H x W x D)</b>	89.96 x 39.691 x 24 in (228.5 x 100.82 x 60.96 cm)	89.96 x 39.691 x 24 in (228.5 x 100.82 x 60.96 cm)	89.96 x 39.691 x 24 in (228.5 x 100.82 x 60.96 cm)
<b>Shipping dimensions (H x W x D)</b>	95.47 x 48 x 32 in (242.49 x 121.92 x 81.28 cm)	95.47 x 48 x 32 in (242.49 x 121.92 x 81.28 cm)	95.47 x 48 x 32 in (242.49 x 121.92 x 81.28 cm)
<b>Unit weight (Max. configuration 16 drives)</b>	690.6 lbs (313.9 kg)	690.6 lbs (313.9 kg)	690.6 lbs (313.9 kg)
<b>Number of drive bays</b>	4	8	4
<b>Number of drives included</b>	0	0	4
<b>Maximum scaled configuration</b>	16 drives 442 slots	16 drives 442 slots	16 drives 442 slots
<b>Single unit maximum native backup performance (GB/hr)</b>	432 (Ultrium 460 FC) 1,152 (Ultrium 960 FC)	864 (Ultrium 460 FC) 2,304 (Ultrium 960 FC)	432 (Ultrium 460 FC) 1,152 (Ultrium 960 FC)
<b>Number of slots</b>	103 slots 98 data slots 5-slot load port (one 5-slot magazine)	245 slots 230 data slots 15-slot load port (three 5-slot magazines)	103 slots 98 data slots 5-slot load port (one 5-slot magazine)
<b>Single unit native backup capacity (TB)</b>	20.6 (Ultrium 460) 41.2 (Ultrium 960)	49 (Ultrium 460) 98 (Ultrium 960)	20.6 (Ultrium 460) 41.2 (Ultrium 960)
<b>Robotics reliability (mean swap between failure (MSBF))</b>	2 million	2 million	2 million
<b>Host interface</b>	2 Gb/1 Gb Multi-mode optical Fibre Channel LC connector	2 Gb/1 Gb Multi-mode optical Fibre Channel LC connector	2 Gb/1 Gb Multi-mode optical Fibre Channel LC connector
<b>Management interface</b>	10/100 Ethernet	10/100 Ethernet	10/100 Ethernet
<b>Control panel</b>	Touch screen GUI	Touch screen GUI	Touch screen GUI
<b>Power requirements</b>	250 Watts	250 Watts	250 Watts
<b>Power consumption</b>	200–240 Volts AC @ 50–60 Hz	200–240 Volts AC @ 50–60 Hz	200–240 Volts AC @ 50–60 Hz
<b>Temperature</b>	Operating: 50°F to 95°F (10°C to 35°C) Shipping: -40°F to 140°F (-40°C to 60°C)	Operating: 50°F to 95°F (10°C to 35°C) Shipping: -40°F to 140°F (-40°C to 60°C)	Operating: 50°F to 95°F (10°C to 35°C) Shipping: -40°F to 140°F (-40°C to 60°C)

## Ordering information

Part number	Model name	Model description
AD560A	HP StorageWorks EML 103e Tape Library	103 slots, 0-drive library
AD561A	HP StorageWorks EML 245e Tape Library	245 slots, 0-drive library
AD578A	HP StorageWorks EML 103e 4-Drive Tape Library Bundle	EML Library Bundle: EML103e, e2400 FC 2G interface controller with cables, four Ultrium 460 tape drives, 40 pieces of Ultrium 2 media, one cleaning cartridge, one barcode label pack

## Options

Part number	Model name	Model description
T3663A	License for Command View EML	Permanent license for Command View ESL. One license is required per library.
T3664A	License for Secure Manager EML	Permanent license for Secure Manager ESL. One license is required per library.
AD567A	HP e2400 FC 2G Interface Controller for EML	e2400 FC 2G interface controller with four FC-FC cables for EML Tape Libraries
AD562A	HP EML Ultrium 460 FC Drive	Ultrium 460 (LTO2) drive kit for all EML Tape Libraries
AD568A	HP EML Ultrium 960 FC Drive	Ultrium 960 (LTO2) drive kit for all EML Tape Libraries
AD563A	HP EML Drive Expansion Module	8U expansion module to add to either the EML 103e or EML 245e tape library to increase the number of available drives by four drives and 90 slots
AD565A	HP EML Card Cage Module	4U expansion module for the EML 103e to add interface controllers; includes redundant power supplies
AD566A	HP EML Redundant Power Supply	Redundant power supply for base libraries and drive expansion modules
AD579A	HP EML Two 5-Slot Magazines	Two 5-slot magazines for EML Tape Libraries
C7971A	HP Ultrium 200 GB Data Cartridge	For use with HP StorageWorks Ultrium 215, Ultrium 230, and Ultrium 460 tape drives
C7972A	HP Ultrium 400 GB Data Cartridge	200 GB native capacity
C7973A	HP Ultrium 800 GB RW Data Cartridge	400 GB native capacity
C7973W	HP Ultrium 800 GB WORM Data Cartridge	400 GB native capacity
C7973AL	HP Ultrium 800 GB RW Pre-labeled Data Cartridge	
C7973WL	HP Ultrium 800 GB WORM Pre-labeled Data Cartridge	
C7978A	HP 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.
Q2007A	HP Ultrium 3 RW Bar Code Labels	
Q2008A	HP Ultrium 3 WORM Bar Code Labels	
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
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
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 Enterprise Modular Library (EML) E-Series Tape Libraries

<b>What's included</b>	<p><b>HP StorageWorks EML 103e Tape Library</b> EML 103e Tape Library integrated in 42U HP 10000 rack with side and filler panels, 4.5 m 20A power cable (North American L6-20P/C19), serial cable, sample media barcode labels (Ultrium 2, Ultrium 3, Ultrium 3 WORM), installation poster, documentation CD including user guide and parts replacement information, safety guide, and warranty booklet</p> <p><b>HP StorageWorks EML 245e Tape Library</b> EML 245e Tape Library integrated in a 42U HP 10000 rack with side and filler panels (consists of one EML 103e (AD560A), one EML drive expansion module (AD565A), and one EML Card Cage module (AD566A), 4.5 m 20A power cable (North American L6-20P/C19), serial cable, sample media barcode labels (Ultrium 2, Ultrium 3, Ultrium 3 WORM), installation poster, documentation CD including user guide and parts replacement information, safety guide, and warranty booklet</p> <p><b>HP StorageWorks EML 103e 4-Drive Tape Library Bundle</b> EML 103e Tape Library with four Ultrium 460 (LTO2) tape drives integrated in a 42U HP 10000 rack with side and filler panels (consists of four Ultrium 460 (LTO2) Fibre Channel (FC) Tape Drives (AD562A) integrated in library, and one E2400 FC 2G interface controller for EML (AD567A) integrated in library), 40 pieces Ultrium 2 tape media (C7972A), barcode label pack for Ultrium 2 media (Q2002A), one HP LTO Cleaning Cartridge (C7978A), 4.5 m 20A power cable (North American L6-20P/C19), serial cable, sample media barcode labels (Ultrium 2, Ultrium 3, Ultrium 3 WORM), installation poster, documentation CD including user guide and parts replacement information, safety guide, warranty booklet</p>
<b>Warranty and support</b>	<p>HP provides a 1-year, next-business-day, on-site, limited warranty for EML E-Series Tape Libraries (Warranty Code A001, 4G, 1N), includes 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 (Warranty Code A058, 5X, 1R), plus 9x5 phone support for the duration of the warranty.</p> <p>Library upgrades (AD565A, AD566A, AD563A, AD579A) have a 1-year, parts exchange, limited warranty, with next-business-day response, plus 9x5 phone support for the duration of the warranty.</p> <p>The EML Drive Expansion Module (AD565A) and Card Cage Module (AD566A) include HP installation.</p> <p>For more information about HP Global Limited Warranty and Technical Support, visit: <a href="http://h18006.www1.hp.com/products/storageworks/warranty.html">http://h18006.www1.hp.com/products/storageworks/warranty.html</a></p>
<b>Warranty and support options</b>	<p>In order to maximize return on investment and product uptime, and minimize the cost of ownership, HP recommends:</p> <p>3 years of 24 x 7 hardware support:</p> <ul style="list-style-type: none"><li>• Guards against downtime, which reduces productivity and profitability</li><li>• Eases budget planning with fixed-cost support that includes parts and labor</li><li>• Direct access to proven technical and problem-solving expertise</li></ul> <p>3 years of 24 x 7 software support:</p> <ul style="list-style-type: none"><li>• Improves the productivity of system managers and operators</li><li>• Improves system performance and reduces downtime due to software defects</li><li>• Expedites problem resolution through expert-level technical resources</li><li>• Enjoy consistent service coverage across geographically dispersed sites</li><li>• Updates HP and selected third-party software at a predictable cost</li><li>• Takes advantage of subscription savings on software updates</li></ul>
<b>Financial services</b>	<p>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>.</p>
<b>Customer support</b>	<p>HP Customer Support provides a broad spectrum of services to commercial and enterprise customers, including performance and availability services such as proactive mission-critical services and support management services for deployment of the entire IT infrastructure, including HP and multi-vendor environments. For more information on these services, contact your HP sales representative or visit: <a href="http://www.hp.com/hps/support">www.hp.com/hps/support</a>.</p>
<b>For more information</b>	<p>For more information on HP StorageWorks EML E-Series, visit: <a href="http://www.hp.com/go/tape">www.hp.com/go/tape</a>.</p>

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