

### Overview

## HP StorageWorks E2400-160 FC Interface Controller

### Models

#### E2400-160 Fibre Channel Interface Controller Models & Components

**NOTE:** Product numbers associated with the E2400-160 Fibre Channel Interface Controller.

ESL9000 E2400-160 FC Interface Controller

330839-B21

**NOTE:** Includes: a single 2FC x 4LVD SCSI interface controller card, four VHDCI-WIDE SCSI cables and a User Guide CD. One controller is necessary for every four tape drives up to a maximum of four controllers for 16 drives.

**NOTE:** This SKU does not include a card cage. A card cage will need to be installed first prior to installation of the FC interface Controller. An installation HP Care Pack will be quoted with this SKU.

HP Storage Works Interface Manager

343372-B21

**NOTE:** This SKU includes one card cage, one library manageability card, two slot adapter panels, an installation guide, and User Guide CD. The Interface Manager is a six slot cPCI card cage that accommodates interface and library management cards. Only one card cage and management card is required per library frame. Fibre Channel Interface Controller Cards must be ordered separately.

ESL9000 Card Cage Slot Adapter

330838-B22

**NOTE:** Required only for customers upgrading an existing card cage to include E2400-160 controllers. If a card cage is already installed and E2400-160's are being added, the two slot adapter panel will enable both an E2400 and E2400-160 FC Interface Controllers to exist in the same card cage.

**NOTE:** Includes two slot adapter panels and four slot covers. HP Service Installation is required and only one slot adapter kit is necessary per card cage.

#### Interface Controller Cables

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

### Overview

#### Introduction

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 ESL) and Access Control (Secure Manager ESL) – that further increases backup performance and reliability. HP offers a balanced solution – neither piecemeal 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 is the next step in HP's Extended Tape Library Architecture, itself a key component of ENSAextended and HP's 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.

As a key component of the HP StorageWorks Extended Tape Library Architecture, the HP StorageWorks E2400-160 FC Interface Controller is a key component in a complete data protection solution. It is an embedded Fibre Channel-to-SCSI controller with two, user configurable, 1Gb or 2 Gb Fibre Channel ports and four SCSI (LVD) ports and allows multiple host servers to communicate with a SCSI tape device over a Fibre Channel link. It is targeted towards customers whose backup window is impacting mission critical business operations and who need to reduce or remove the impact of the backup window.

To install the HP StorageWorks E2400-160 FC Interface Controller a card cage is required which is installed into the back of the library. The Interface Manager contains one card cage and two slot adapter panels to accommodate both E2400's and the Manageability Card (4u in size) in addition to E2400-160 (6u in size) controllers in the same card cage.

The embedded interface controllers are for customers who want to fully leverage the HP Extended Tape Library Architecture and save on rack space by implementing their Fibre Channel to SCSI interface controller inside the library. By connecting tape libraries to the SAN backup window, performance can increase up to five times faster therefore reducing the downtime of business operations.

The HP StorageWorks E2400-160 FC Interface Controller ships with an accessory kit, which includes documentation, SCSI cables, cable clips, and serial cable. Additional Fibre Channel cable kits will need to be purchased. A SC-LC for 1 Gb Fibre Channel connections or LC-LC for 2 Gb Fibre Channel connections.

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#### What's New

- Supporting HP StorageWorks Extended Tape Library Architecture
- Direct Backup ESL
- Secure Manager ESL

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#### Benefits At a Glance

- Key component the HP Extended Tape Library Architecture (<http://www.hp.com/go/automated>)  
**NOTE:** This Web site is available in English only.
- Embedded Fibre Channel interface controller
- 1 Gb or 2 Gb Fibre Channel support
- Web-based management
- LVD SCSI Ultra3 support
- Supports 2 Gb/1 Gb FC on same interface controller
- Provides connectivity for one Ultrium or SDLT drive per SCSI bus

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#### Tape Library Connection Chart

- HP StorageWorks ESL9198 Tape Libraries
- HP StorageWorks ESL9322 Tape Libraries
- HP StorageWorks ESL9326 Tape Libraries
- HP StorageWorks ESL9595 Tape Libraries

### Overview

### Key Features

- 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
- Best-in-class interoperability and security with Secure Manager
- Embedded Fibre Channel interface - saving rack space
- 1 Gb and 2 Gb Fibre Channel support with the ability to support either on the same interface controller LVD Ultra3 SCSI capability (VHDCI connectors)
- Additional Fibre Channel Cables are required: a 1 Gb Fibre Channel cable OR a 2 Gb Fibre Channel cable
- Minimum Configuration:
  - One interface controller card, supports two FC connects and four SCSI Ports/four tape drives
- Maximum Configurations:
  - Four interface controller cards, supports eight FC connects and sixteen SCSI Ports/sixteen tape drives

### Product Highlights

#### Connectivity

It is recommended that one LTO or SDLT tape drive be configured per SCSI bus for maximum performance. The robot arm counts as a SCSI device but does not need its own SCSI bus connection because of the low bandwidth requirement of the robot arm.

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#### Manageability

Configure and access device status, statistics and mapping with HTTP, SNMP, serial port visibility, Telnet, or FTP.

Web-based management tool – a web application management tool for configuring and managing the interface controller. The graphical user interface allows end users to configure the interface controller by "pointing and clicking" on graphical representations interface controllers. The manager can be accessed from any computer with a web browser (as long as this computer has security access privileges to access the interface controller).

LUN Mapping/Masking – allows multiple servers to selectively share storage resources while protecting data integrity via unique device map to host assignments.

SCSI Controller Command (SCC) – provides a means for the host server operating system to determine the number of FC LUNs supported by the interface controller

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**Configurations Supported** For complete supported configurations please visit the HP StorageWorks Enterprise Backup Solutions Web site at: <http://www.hp.com/go/ebs>.

**NOTE:** This Web site is available in English only.

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

**Warranty** One year parts exchange with next business day response.  
Additional warranty protection can be purchased for all library products.

**Software Product Services** Standalone telephone support  
Rights to new license version  
Media and documentation updates

**Hardware Product Services**

- Installation services
- On-site Maintenance (includes warranty support)
- Response time upgrades during the warranty period
- Post-warranty coverage

For additional hardware installation and maintenance information please refer to the URLs listed below:

[http://h18005.www1.hp.com/services/carepaq/us/install/cp\\_storage.html](http://h18005.www1.hp.com/services/carepaq/us/install/cp_storage.html)

[http://h18005.www1.hp.com/services/carepaq/us/hardware/cp\\_storage.html](http://h18005.www1.hp.com/services/carepaq/us/hardware/cp_storage.html)

**Warranty Upgrade Options**

- Response – Upgrade on-site response from next business day to same day 4-hours
- Coverage – Extend hours of coverage from 5 days x 9 hours to 7 days x 24 hours
- Duration – Select duration of coverage for a period of 1, 3 or 5 years

For additional HP Care Pack (hardware and software) information, as well as orderable part numbers, please refer to: <http://h18005.www1.hp.com/services/carepaq/us/>.

**HP Care Pack Options** Additional warranty protection and/or Hewlett-Packard Installation packages can be purchased for the ESL library products:

Description	Option	Product Number
<b>Installation Services</b>		
Tape Library Implementation into SAN (HW install included)	5DQ	HA114A1
Tape Library Installation (SCSI direct attached)	5DQ	HA113A1
<b>Warranty Upgrade Services</b>		
HW-1yr next day onsite		HA101A1
HW-1yr 8x5 onsite		HA103A1
HW-1yr 24x7 onsite		HA104A1
HW-3yr next day onsite		HA101A3
HW-3yr 8x5 onsite		HA103A3
HW-3yr 24x7 onsite		HA104A3

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

**HP Care Pack Information** For the most up-to-date list of HP Care Pack hardware installation and maintenance information please refer to the URL listed below: <http://h18005.www1.hp.com/services/carepaq/index.html>.

**NOTE:** Certain restrictions and exclusions apply. Consult the Hewlett-Packard Customer Support Center for details.

- HP Care Pack are defined as an upgrade to the product warranty attribute, available for a specific duration and hours of coverage.
- HP Care Pack is not available for less than the products warranty duration.
- HP Care Pack Services are available for sale anytime during the warranty period for most products, but the commencement date will be the same as the Warranty Start Date (delivery date to end user customer). Proof of purchase may be required.
- HP Care Pack Services are prepaid.

### Technical Specifications

#### HP StorageWorks Interface Controller Specifications

<b>Dimensions (HxWxD)</b>	E2400-160 FC Interface Controller	3.74 x 6.193 in (16.19 x 15.7302 cm)
	ESL9000 Interface Manager	23.0 x 16.5 x 13.25 in (58.42 x 41.91 x 33.655 cm)
	ESL9000 Card Cage Adapter	12.5x 9.5x 2.25 in (31.8cm x 25.1 cm x 5.7cm)
<b>Weight (lb/kg)</b>	E2400-160 FC Interface Controller	3.6 lb (1.6 kg)
	ESL9000 Interface Manager	17.0 lb (7.711 kg)
	ESL9000 Card Cage Adapter	9.6 lb (4.4 kg)
<b>Control Indicators</b>	Chassis LED	Power (Green=good)
	Fibre Channel LEDs	Link, Activity
	Ethernet Port	Link, Activity
	SCSI Buses	SCSI Activity LEDs, 1 per channel
<b>Connectivity</b>	Ports	Chassis: 3-pin Serial Receptacle port Fibre Channel: 2 Fibre Channel ports per card LVD SCSI: 4 LVD SCSI ports per card (VHDCI connects) One (1) 10/100 TX Ethernet port
	Topology	Switched Fabric
	Protocols	FCP (Ultra2), PLDA
<b>Temperature Range</b>	Operational	50° to 104° F (5° to 40° C)
<b>Relative Humidity</b>	Operational	5% to 85%
	Storage	5% to 85%

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