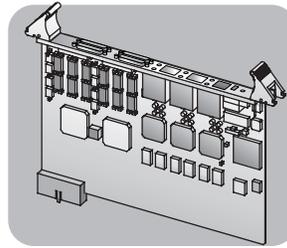**hp** StorageWorks

e2400-160 Fibre Channel Interface Controller

IMPORTANT: These instructions are applicable to HP StorageWorks ESL 9000 Series Tape Libraries ONLY.

⚠ **IMPORTANT:** If you are installing the HP StorageWorks Interface Manager Card, or have already installed the Interface Manager Card, please disregard this poster and use the installation poster for the Interface Manager Card.

⚠ **Caution:** Parts can be damaged by electrostatic discharge; keep parts in their containers until needed. Ensure you are properly grounded when touching static-sensitive components.

Caution: You must power down the library before replacing this part. The Interface Controller is NOT hot-pluggable.

📝 **Note:** Depending on the model, your library may look different from the ones illustrated in this procedure.
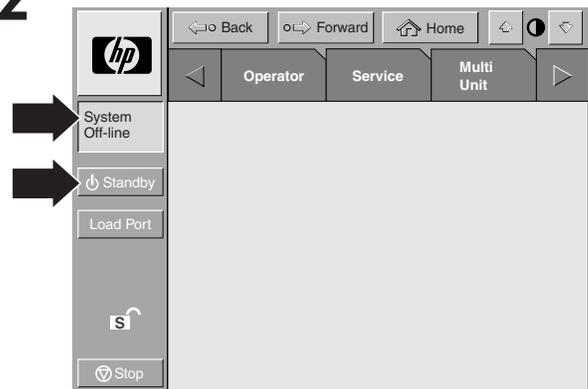
Note: Before installing the controller, ensure you have an expansion cage with a 2U filler panel. If you have a 6U filler panel, you will need to order the 2U filler panel kit.

1
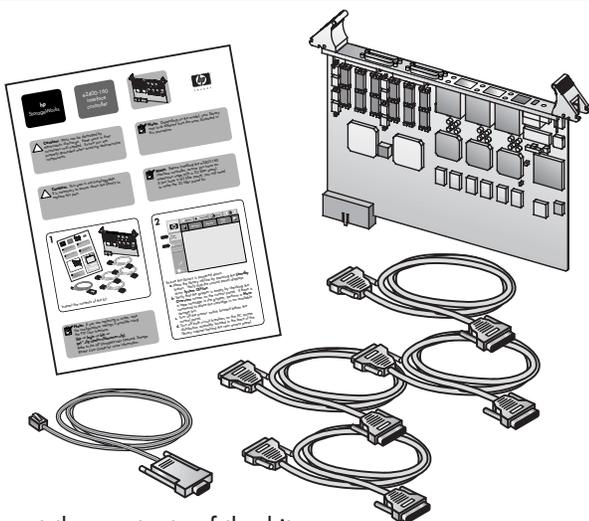
Inspect the contents of the kit.

📝 **Note:** If you are replacing a controller, save the configuration settings if possible using the FTP User Interface. When replacing a controller, save the configuration settings using the FTP User Interface.
[ftp –> login –> bin –> get *.cfg <path><filename>.cfg]
Refer to the *HP StorageWorks e2400-160 Fibre Channel Interface Controller User Guide* for more information.

2



Ensure the library is powered down.
  a. Place the library off-line by pressing the **Standby** button. Verify that the control panel displays show **System Off-line**.
  b. Verify that the gripper is empty by checking the **Overview** screen on the control panel. If there is a tape cartridge in the gripper, use the **Move** command to place the cartridge in an available storage bin.
  c. Turn off the power switch located below the control panel.
  d. Turn off both circuit breakers on the AC power distribution assembly (located in the base of the library cabinet behind the rear access panel).
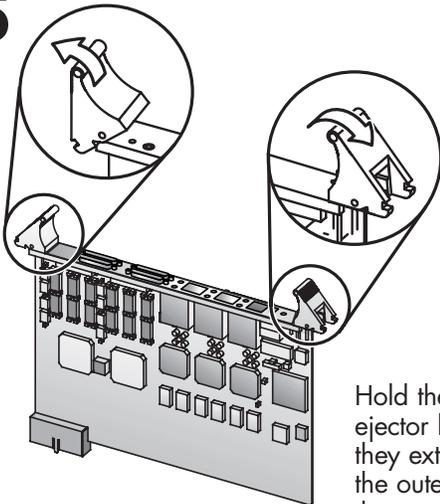
3   Controller Installation
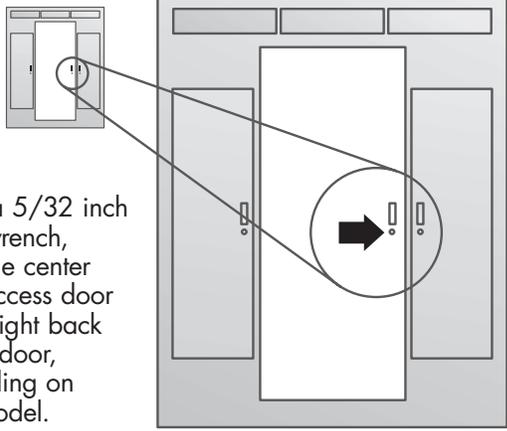
Using a 5/32 inch Allen wrench, open the center back access door or the right back access door, depending on your model.
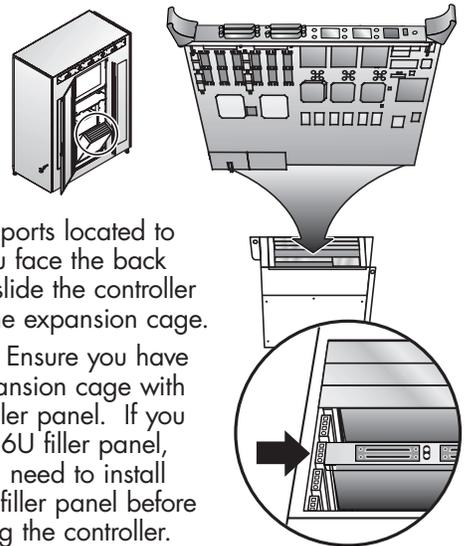
4
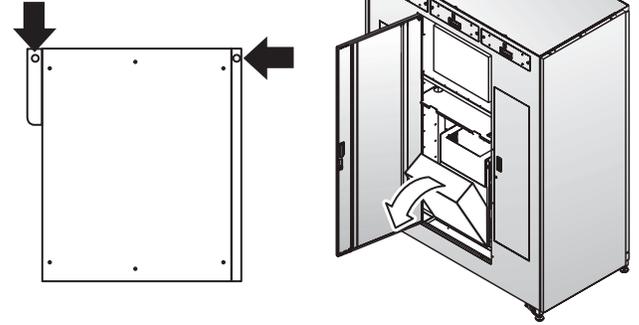
Using a flat blade screwdriver, loosen the two captive screws at the top of the electronics bay frame. Tilt the electronics bay out of the cabinet.

5

Hold the controller's ejector handles so they extend toward the outer edges of the controller.
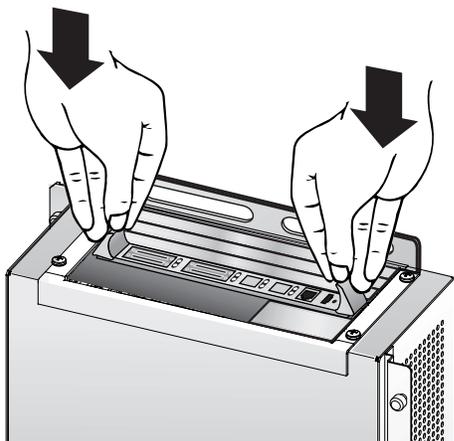
6

With the SCSI ports located to your left as you face the back of the library, slide the controller into a slot in the expansion cage.
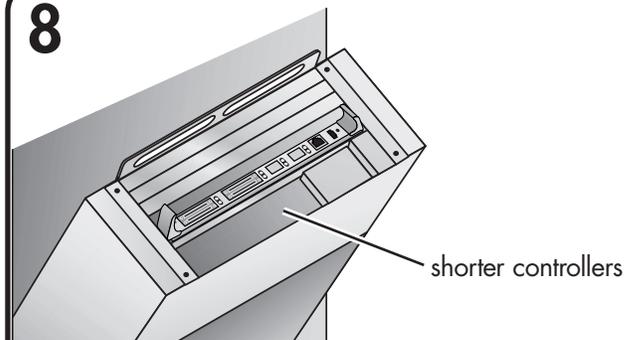
Note: Ensure you have an expansion cage with a 2U filler panel. If you have a 6U filler panel, you will need to install the 2U filler panel before installing the controller.

7

Press down gently on the controller until it is seated in the edge connector and the ejector latches lock in place.

8

shorter controllers

Repeat steps 6 through 8 for additional controllers, if required, using the next available expansion cage slot.

Note: Only the first two slots in the expansion cage should be used for shorter controllers. Do not install shorter controllers in the longer expansion cage slots.

9   SCSI Cabling

SCSI connectors   Fibre Channel connectors   serial connector

Connect the SCSI, Fibre Channel, and serial cables.

Note: Refer to the *HP StorageWorks ESL 9000 Series Tape Library User Guide* for detailed SCSI cabling configurations.
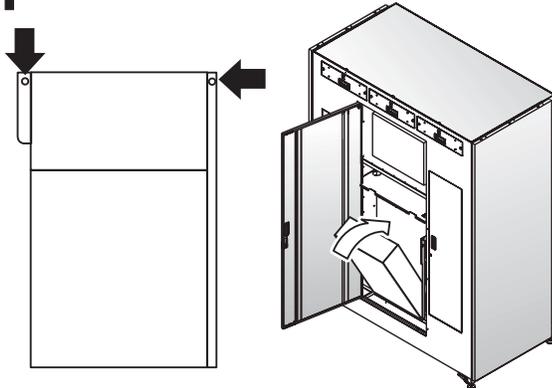
10

Secure the SCSI cables going from the controller to the library bulkhead by snapping them into the clips in the upper and lower cable clamps.

Note: To prevent interference with the door, do not use the fourth and fifth clips on the right edge of the cable clamp.

Do not use
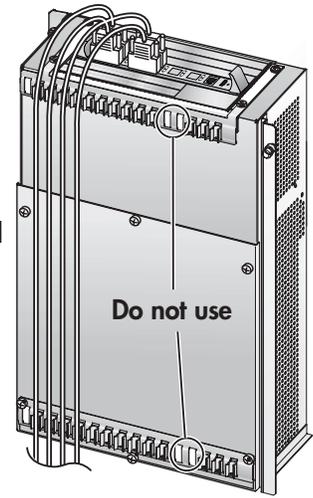
11

Secure the electronics bay by pushing the top of the bay back into the library cabinet and tightening the two captive screws.

12

Green Power LED

Note: Verify that the Power LED on the controller is solid green. This indicates a good connection.

Power on the library.
- **a.** Turn on both circuit breakers on the AC power distribution assembly.
- **b.** Verify that all front doors and access panels are closed and all back panel cable connections are firmly in place.
- **c.** Turn on the power switch located below the control panel.

13
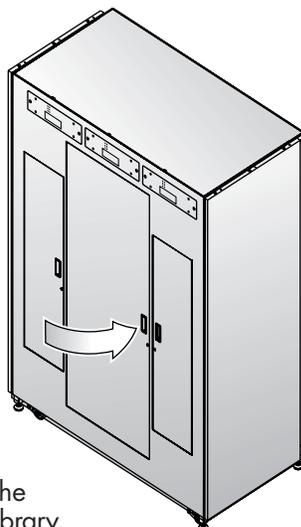
Using a 5/32 inch Allen wrench, close and secure the back access door on the library.

Getting Help

- HP Product Information Site:
  http://www.hp.com/products/tapestorage
- HP Technical Support and Phone Numbers:
  http://www.hp.com/support
- HP StorageWorks Library and Tape Tools (L&TT) diagnostic software:
  http://www.hp.com/support/tapetools
- HP San Configuration Guide:
  http://gsfdev.inet.cpqcorp.net/dev/sdg/ tape_library/delivery.htm

  Note: Use L&TT to verify installations and to ensure your library has the latest firmware.

Configuration

IMPORTANT: If you are installing the HP StorageWorks Interface Manager Card, or have already installed the Interface Manager Card, please disregard this poster and use the installation poster for the Interface Manager Card.

Refer to the *HP StorageWorks e2400-160 Fibre Channel Interface Controller User Guide* for detailed procedures on configuring the controller. For LUN mapping in OpenVMS or large SAN environments, refer to the *HP StorageWorks Fibre Channel Interface Controller Implementation Issues* Application Note.

Note: If you are replacing a faulty controller, try to restore the old controller's configuration settings using the FTP User Interface [**ftp -> login -> bin -> put <path><filename>.cfg**].

For All Configurations:

1. Cable the serial interface and use your host application to communicate over the serial bus. [Defaults: 115200 Bits per second, 8 Data bits, No Parity, 1 Stop bit, and Xon/Xoff Flow Control]
2. Use the serial user interface to set the Ethernet configurations (DHCP, IP address, Subnet, and Gateway.) [Perform Configuration -> Ethernet and SNMP Configuration]
3. **Save Configuration.** [Perform Configuration -> Ethernet and SNMP Configuration]
4. **Reboot** the controller. [Main Menu]
5. Document controller's IP address. [Perform Configuration -> Ethernet and SNMP Configuration]
6. Enter the Visual User Interface by opening your web browser and entering the controller's IP address. [Defaults: Logon-root Password-password]
7. Set the Real-Time Clock. [System -> Real-Time Clock]
8. Set the Fibre Channel port **Performance Mode** for both fibre ports. (1 GB or 2 GB; 2 GB is the default, depending on the hardware the controller is connected to. The controller is not auto-switching.) [Ports -> FC Port 0 or FC Port 1]
9. Assign **Port 0 Device Map** to the FC Port 0 hosts or **Port 1 Device Map** to the FC Port 1 hosts that need to communicate with the library or drives. [Mapping -> FC Port 0 or FC Port 1]
10. Select **Port 0 Device Map** or **Port 1 Device Map** and click **Edit/View**. [Mapping -> FC Port 0 or FC Port 1]
11. Set the **Fill Map Priority** to **Bus/Target**, and **Fill Map**. [Mapping -> FC Port 0 or FC Port 1 -> Select Map -> Edit/View]
12. Since any device connected to any of the four SCSI buses will be added, the device load should be distributed between FC Port 0 and FC Port 1 for performance/load balancing. Use **Delete Map Item(s)** to remove devices. [Mapping -> FC Port 0 or FC Port 1 -> Select Map -> Edit/View]

- If the fibre port is running at 2 GB, configure up to 2 SCSI Ultra 3 drives (for example Ultrium 460) per fibre port, or up to 4 SCSI Ultra 2 drives (for example SDLT 220, SDLT 320, and Ultrium 230) per fibre port.
- If the fibre port is running at 1 GB configure up to 1 SCSI Ultra 3 drive (for example Ultrium 460) per fibre port, or up to 2 SCSI Ultra 2 drives (for example SDLT 220, SDLT 320, and Ultrium 230) per fibre port.

13. Active Fabric (AF) should be the last LUN used on the map if there is an HP-UX host on the SAN. Do not move AF to map LUN 0 (Device specific LUN=0 is normal). [Mapping -> FC Port 0 or FC Port 1 -> Select Map -> Edit/View]
14. **Remove Gaps** in the LUN sequence. [Mapping -> FC Port 0 or FC Port 1 -> Select Map -> Edit/View]
15. Repeat steps 9-14 so that both **Port 0 Device Map** and **Port 1 Device Map** are assigned and configured.
16. **Reboot** the controller. [Reboot]

Additional Steps for Direct Connect (Point to Point) Configurations:

1. Set **Port Mode** to **Auto Sense**. *[Ports -> FC Port 0 or FC Port 1]*
2. Set **Hard AL_PA** to **Enable**. *[Ports -> FC Port 0 or FC Port 1]*
3. Click **Set AL_PA** to select any available AL_PA. The only other used AL_PA should be the host bus adapter (HBA). Using a high number will help to avoid potential conflicts. [Ports -> FC Port 0 or FC Port 1]
4. Repeat steps 1-3 so that both **FC Port 0** and **FC Port 1** are configured.
5. **Reboot** the controller. [Reboot]

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