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ESL9000 Series Tape Library Expansion Cage and Network Storage Router E2400 Installation Instructions

Overview

This document provides instructions for installing an expansion cage and Network Storage Router E2400 (NSR). This document shows the installation being performed on an ESL9326, however the procedures are similar for all ESL9000 Series Tape Libraries. Installation consists of the following steps:

- Preparing the library
- Installing the fan assembly
- Installing the expansion cage
- Installing SCSI to Fibre Channel router boards
- Installing the SCSI cables

NOTE: This kit is applicable to LVD ESL9000 tape libraries only.

To complete this upgrade you will need:

- 5/32 inch Allen wrench
- #1 and #2 Phillips screwdriver
- Flat blade screwdriver
- Multimeter
- Electrostatic Discharge (ESD) wrist strap connected by a ground cord to a grounded workstation or chassis

Part Number: 289158-001

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Preparing for the Installation



CAUTION: To prevent electrostatic damage, observe proper ESD practices when handling the expansion cage and NSR.

To prepare the library for the upgrade:

1. Power off the library.
2. Open and remove the rear center access door.

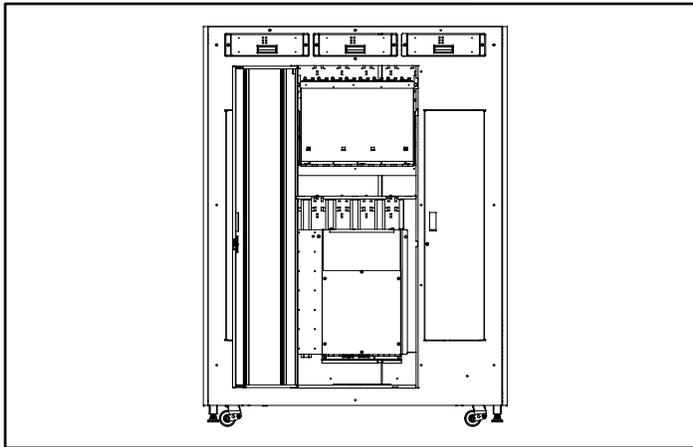


Figure 1: Opening the access door

3. Loosen the two captive screws at the top of the electronics bay frame.

4. Tilt the electronics bay out of the cabinet (see Figure 2).

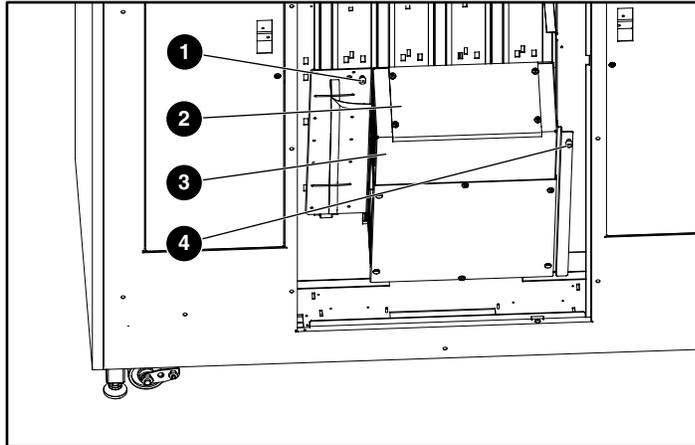


Figure 2: Opening the electronics bay

- ❶ Captive screw
- ❷ Top cover
- ❸ Electronics bay
- ❹ Captive screw

5. Remove the four screws at the corners of the top cover (see Figure 3) and remove the cover.

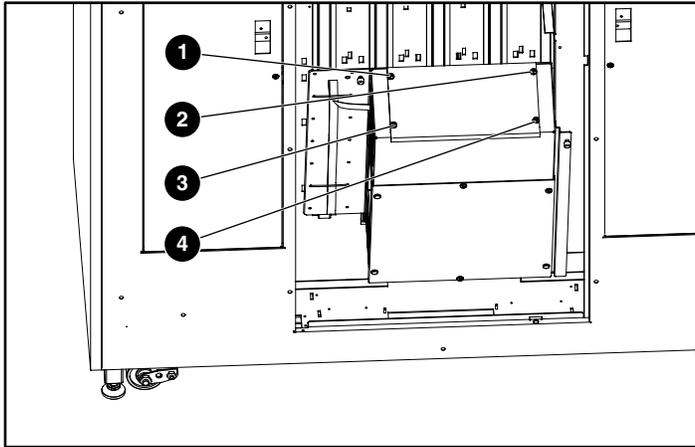


Figure 3: Removing the top cover

Installing the Fan Assembly

To install the fan assembly:

1. Position the fan so the arrow will face the upper right side of the electrical box.

NOTE: The fan will push air out of the cabinet.

2. Move the fan cable as shown in Figure 4.

The fan cable needs to face the back of the electrical box.

NOTE: If the fan cable is on the wrong side, you will have problems routing the cable to the connector.

3. Mount the fan assembly to the upper right side of the electrical box using the two screws (see Figure 4).

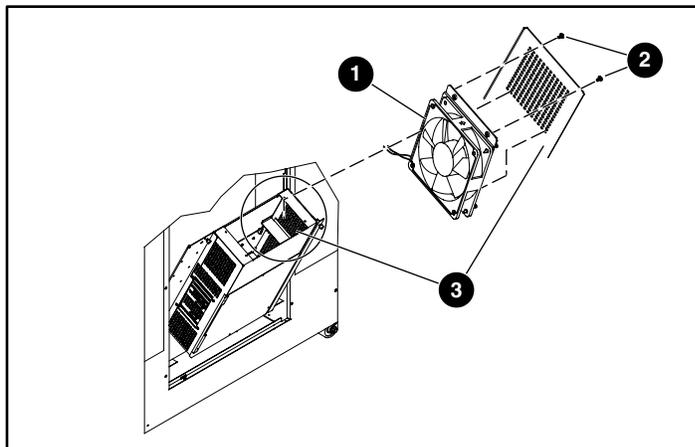


Figure 4: Mounting the fan assembly

- ❶ Fan assembly
- ❷ Screws
- ❸ Electrical box

4. Remove the six screws securing the cover to the electronic bay (see Figure 5).

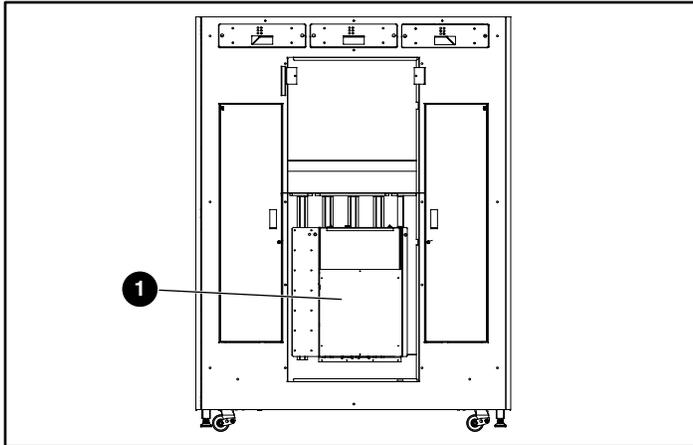


Figure 5: Removing the electronics cover

- ❶ Electronics cover

5. Route the fan power cable in the PCI chassis (see Figure 6):
 - If the PCI chassis has an opening for a cable, route the cable through the opening.
 - If the chassis does not have an opening for a cable, route the cable to the back of the PCI chassis.



CAUTION: The area for the fan power cable is limited. Route the cable as far back on the PCI chassis as it will go. This will prevent the cable from being damaged when the expansion cage is installed.

6. Plug the fan assembly into J14 on the PCI backplane (see Figure 6).

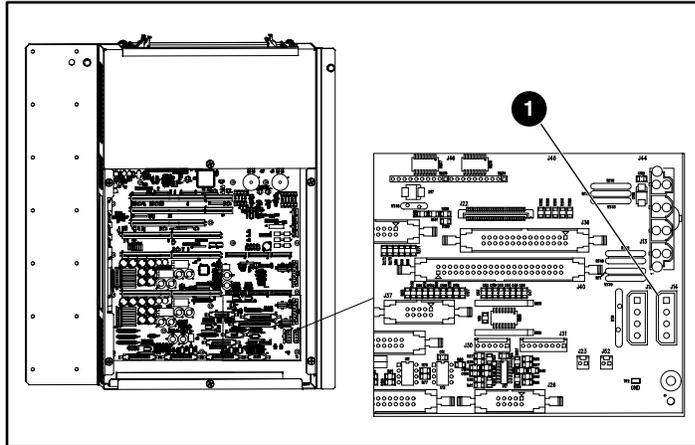


Figure 6: Connecting to J14

- 1 J14

Installing the Expansion Cage

It is important to measure the resistance between +12V and ground and +5V and ground on the PCI back plane. The initial reading will prepare you for installing the expansion cage. If the readings are showing a short after the expansion cage is installed you can deduce a problem with the expansion cage or fan connection before turning on the library and causing damage.

To measure the resistance on the PCI backplane:

1. Using a multimeter, measure the resistance between (see Figure 7):
 - +12V and ground
 - +5V and ground
2. Record the numbers as your pre-measurement.

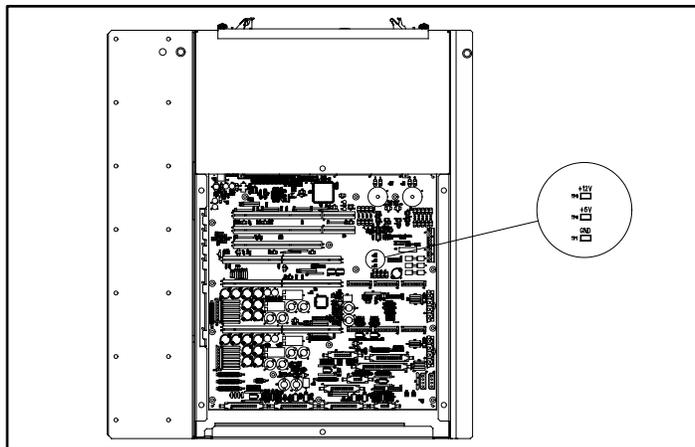


Figure 7: PCI Backplane

To install the expansion cage:

1. Remove the rear blank-off plate to allow viewing of the alignment pins during installation.
2. Look up through the PCI backplane to the top of the electronics bay.
3. Hold the expansion cage above the open cavity.

4. Lower the expansion cage into the electronics bay onto the guide pins, which are on the PCI backplane. Press down evenly on both sides of the card cage until it is firmly seated (see Figure 8).



CAUTION: Do not pinch the fan power cable while installing the expansion cage.



CAUTION: When installing the expansion cage, ensure that the connectors on the expansion cage and the PCI backplane are aligned properly.

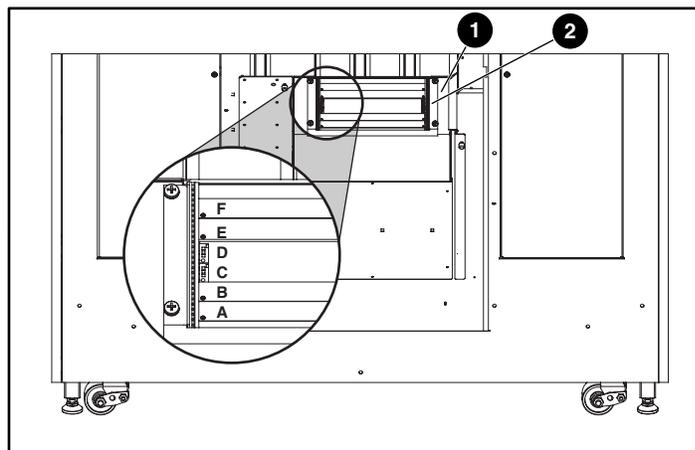


Figure 8: Installing the expansion cage

- ❶ Electronics bay
- ❷ Expansion cage

5. Measure the resistance between (see Figure 7):
 - +12V and ground
 - +5V and ground
6. If the multimeter reads a short:
 - Check the expansion cage connection
 - Check the fan connection

7. Reinstall the four top cover screws to secure the expansion cage into the electronics bay.
8. Reinstall the blank-off plate that was previously removed.



CAUTION: If a pin is bent on the expansion cage you need to replace the expansion cage. DO NOT try to fix the pin, this will cause damage to the library.

Installing the Network Storage Router E2400

There are two NSR boards in the kit with the card cage. These are installed into ESL9000 libraries that have from one to eight tape drives. For libraries with greater than eight drives, an additional kit is required, which contains two NSR boards and four SCSI cables.

To install the NSR:

1. Make sure the library is powered off.
2. Disconnect and remove all SCSI cables from the SCSI bulkhead at the base of the library.
3. Loosen the two captive screws at the top of the electronics bay frame and tilt the electronics bay out of the cabinet (see Figure 9).

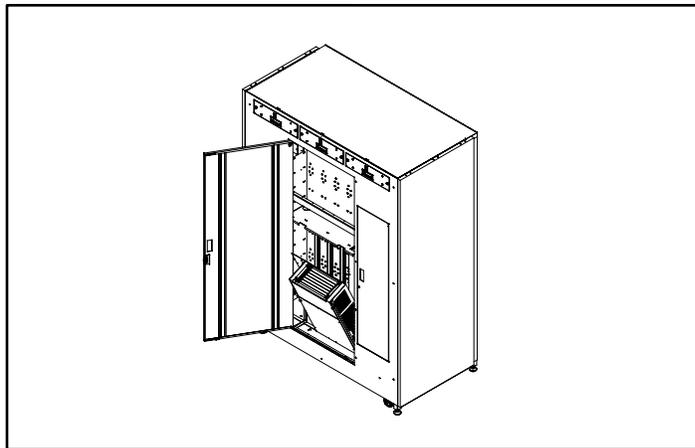


Figure 9: Tilting the electronics bay out

- ① Captive screws