

Presenter Option Board for OCTANE™ Installation Guide

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St Peter's Basilica image courtesy of ENEL SpA and InfoByte SpA. Disk Thrower image courtesy of Xavier Berenguer, Animatica.

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Introduction

This guide tells you how to install the Presenter option board in the OCTANE™ workstation. The Presenter board supports the Indy Presenter™ (1024 x 768) and Presenter 1280 (1280 x 1024) flat panel monitors.

For instructions on how to set up and use the Presenter flat panel monitor, see the manual that comes with the Presenter flat panel monitor.

- Chapter 1 provides information on preparing the workstation and installing the board.
- Chapter 2 explains how to remove the board.
- Appendix A contains technical specifications.

Installing the Presenter Option Board

The Presenter option board supports the Indy Presenter (1024 x 768) as well as the Presenter 1280 (1280 x 1024) flat panel monitors.

This chapter explains how to install the board in your OCTANE workstation and connect the cables.

The following topics are covered:

- “Unpacking the Presenter Option Board” on page 10
- “Preparing the Workstation” on page 11
- “Removing the XIO Module” on page 15
- “Attaching the Presenter Option Board to the XIO Module” on page 21
- “Reinstalling the XIO Module” on page 31
- “Connecting the Presenter’s Audio Cable and Interface Cable” on page 35
- “Powering On the OCTANE Workstation” on page 39
- “Verifying the Hardware Installation” on page 40

For instructions on how to set up and use the Presenter flat panel monitor, see the manual that comes with the Presenter monitor.

Unpacking the Presenter Option Board

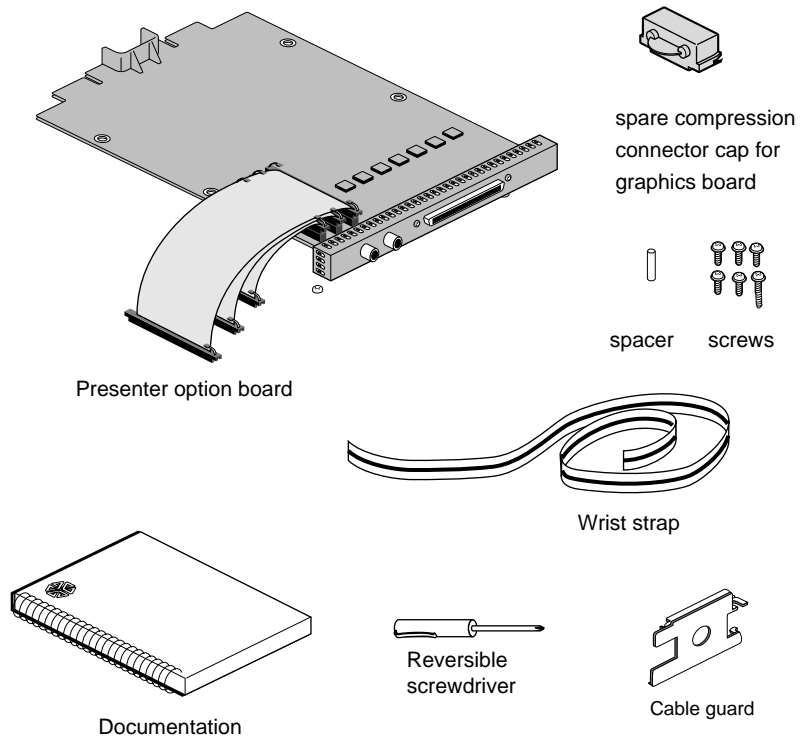


Figure 1-1 Checking the Shipment

Check your shipment to make sure you received all the parts shown above.

Preparing the Workstation

To prepare the workstation before installing the Presenter board, you must power off the workstation and monitor, unplug the power cord, attach the wrist strap, wait five minutes, and remove the XIO module. Detailed instructions for these tasks follow.

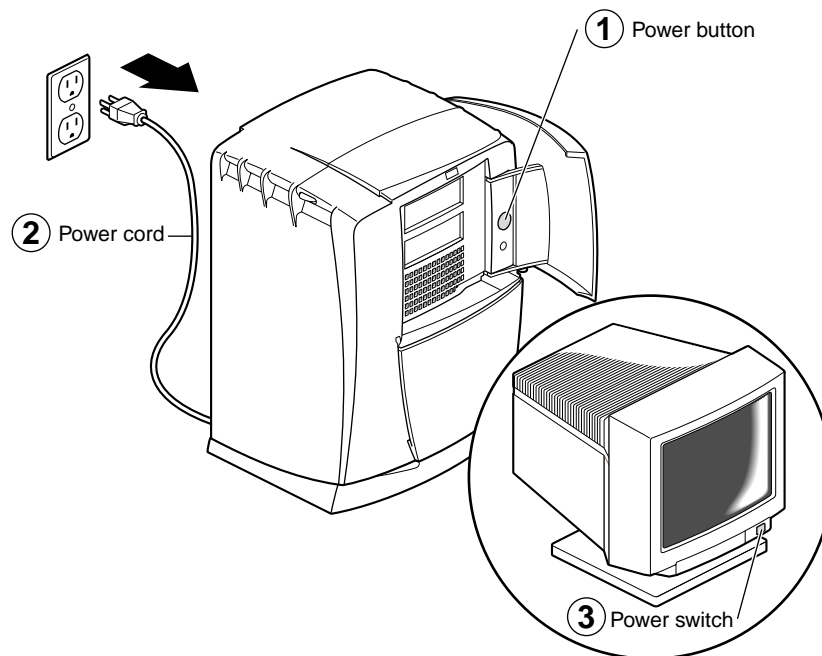


Figure 1-2 Powering Off the OCTANE Workstation

1. Open the cover and push the power button to power off the OCTANE workstation. Wait until the system completes its shutdown procedure.
2. Unplug the power cord.
3. Power off the monitor by pressing the power button.
4. Wait five minutes before removing the XIO module.



Warning: The heat sinks on the XIO boards become very hot. Wait 5 minutes after powering off the OCTANE workstation before you remove the XIO module. Test before touching any of the XIO boards.

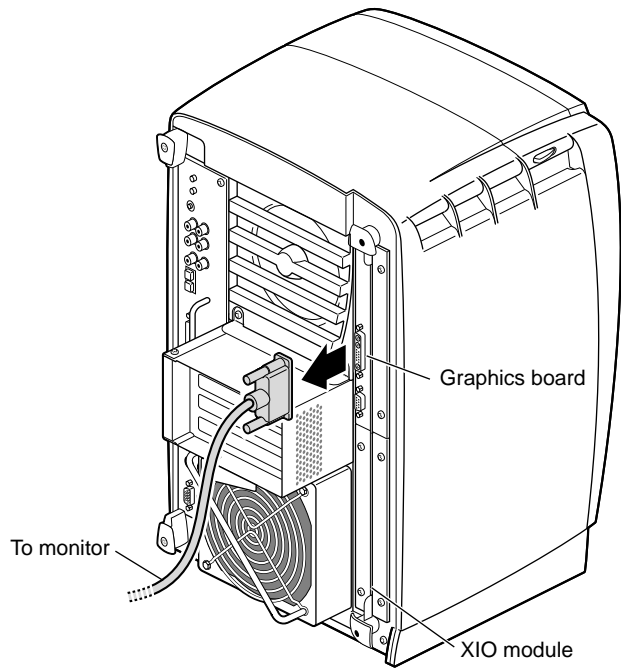


Figure 1-3 Removing the Monitor Cable

5. Remove the monitor and all other cables from the XIO module. (Only one cable is shown here.) The XIO module is on the right side as you face the rear of the OCTANE chassis.

About the XIO Module

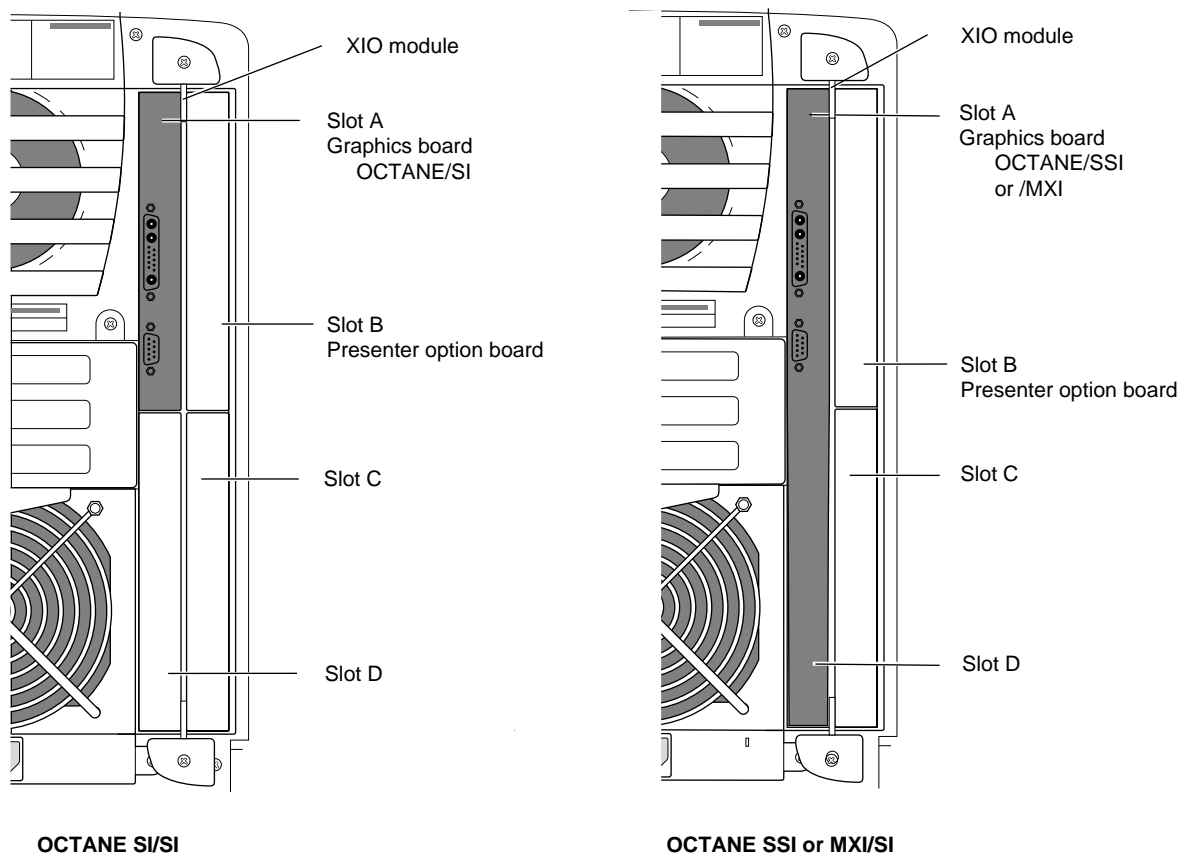


Figure 1-4 The XIO Module

The XIO module is a holder for XIO graphics and XIO option boards. It holds up to four XIO boards. Think of it as a tray to which boards are attached. The four quadrants of the XIO module are Slots A, B, C and D.

- The OCTANE/SI graphics board is always in slot A. The OCTANE/SSI or OCTANE/MXI graphics board occupies slots A and D.
- The Presenter option board must occupy slot B.

Attaching the Wrist Strap

Caution: The components inside the OCTANE workstation are extremely sensitive to static electricity; you must wear the wrist strap while replacing parts inside the workstation.

To attach the wrist strap, follow these steps:

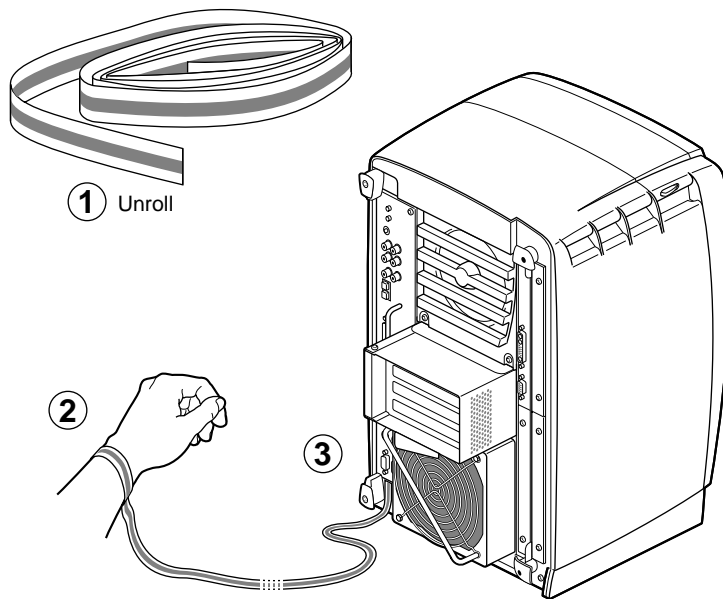


Figure 1-5 Attaching the Wrist Strap

1. Unwrap the first two folds of the band and wrap the exposed adhesive side tightly around your wrist.
2. Unroll the rest of the band and peel the liner from the copper foil at the opposite end.
3. Attach the copper foil to a convenient and exposed electrical ground, such as a metal part of the OCTANE workstation.

Removing the XIO Module

1. If you have not already done this, go to “Preparing the Workstation” on page 11 and follow the instructions through attaching the wriststrap. Then return here and follow the directions.

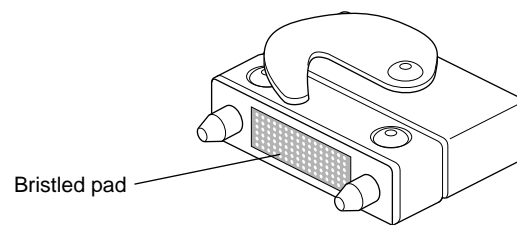


Figure 1-6 Identifying the XIO Compression Connector

When you remove the XIO module, the compression connectors on the back of the XIO module (XIO boards) are accessible and easily damaged. All XIO graphics boards have compression connectors, and most XIO option boards do.

Caution: The compression connectors on each XIO board are very delicate and easily damaged. Do not touch or bump the gold, bristled pad.

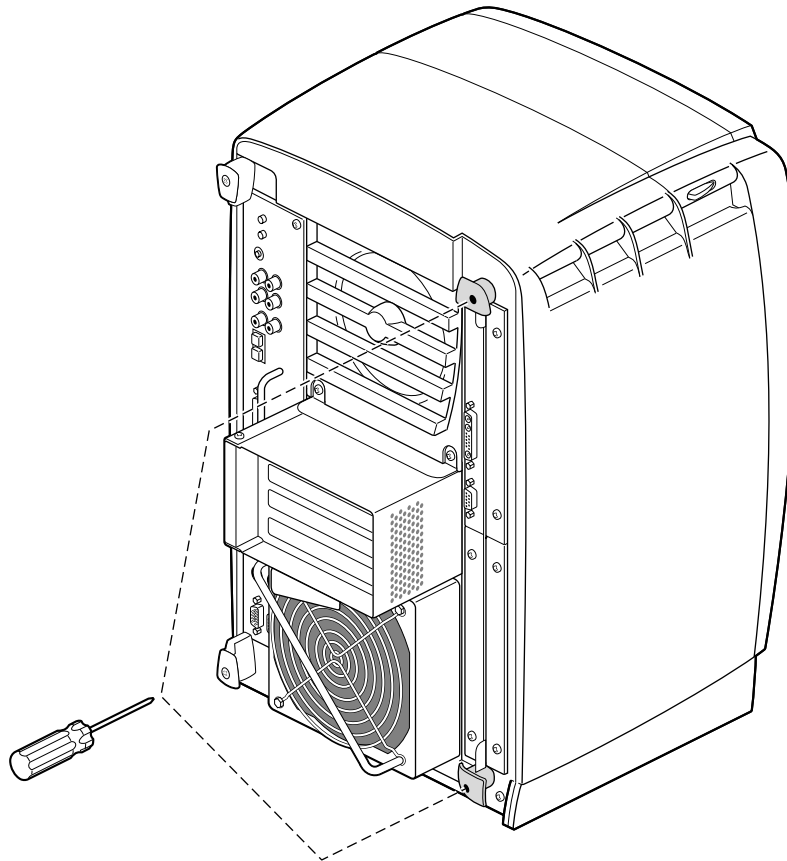


Figure 1-7 Removing the XIO Module Screws



The heat sinks on the XIO boards become very hot. Wait 5 minutes after powering off the OCTANE workstation before you remove the XIO module. Test before touching any of the XIO boards.

2. Loosen the two captive screws in the XIO module handles until the handles move free from the workstation.

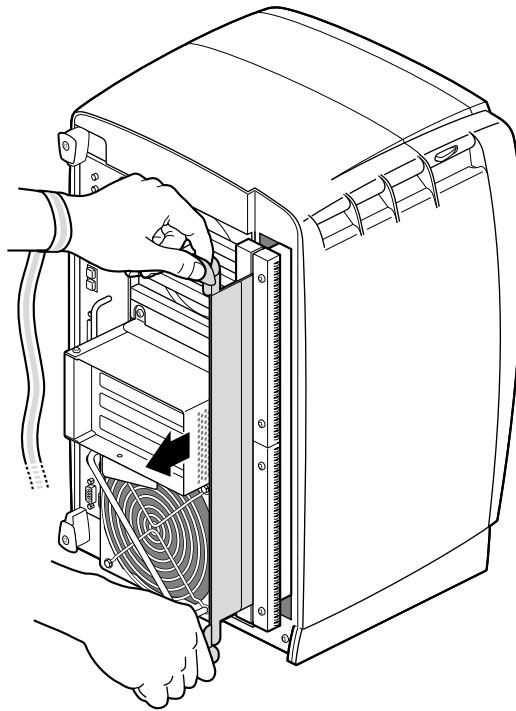


Figure 1-8 Releasing the XIO Module

3. Grasp the handles and pull until the XIO module protrudes a few inches from the chassis.

The handles and XIO module move out about two inches before the I/O panels move.

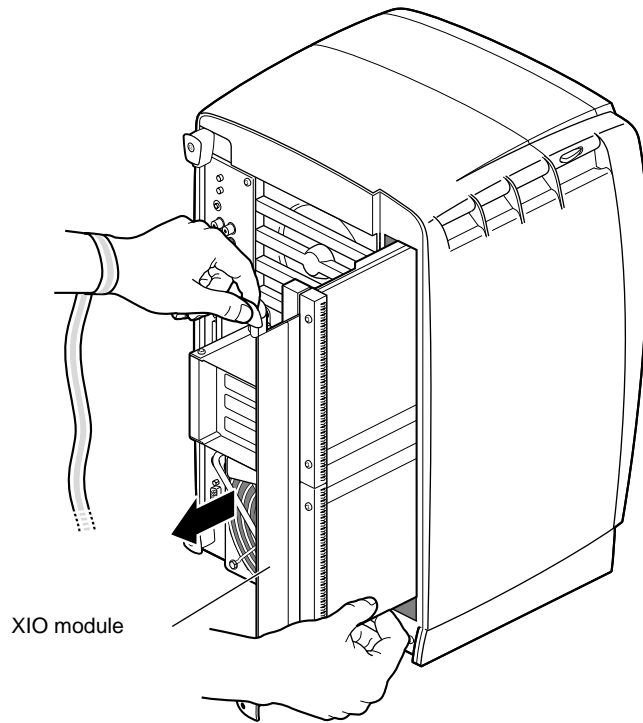


Figure 1-9 Removing the XIO Module

4. Grasp the XIO module along its length, and support the base of the module with your hands as you remove it from the chassis.
Continue to pull on the handles until the XIO module releases from the workstation.

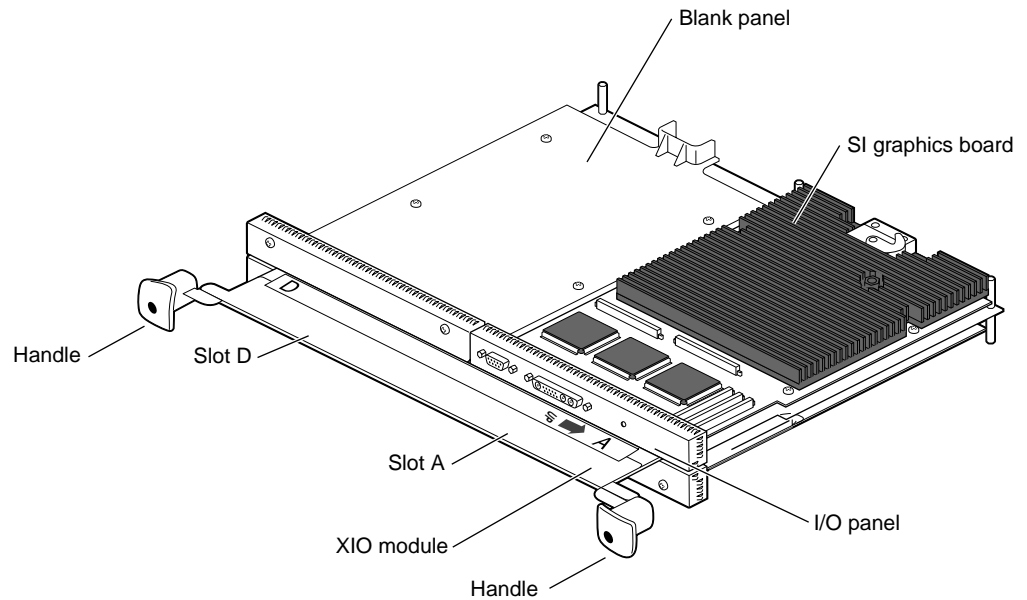


Figure 1-10 Placing the XIO Module on a Flat Surface

5. Place the XIO module on a flat, antistatic surface with the graphics board on top. An empty antistatic bag or your desktop works well. The handles protrude when the XIO module is out of the chassis. When protruding, you see the identification slots for the XIO boards, D and A, and B and C.

Note: Do not push on the handle area after you have removed the XIO module. The XIO module locks to the workstation only if the handle area is protruding.

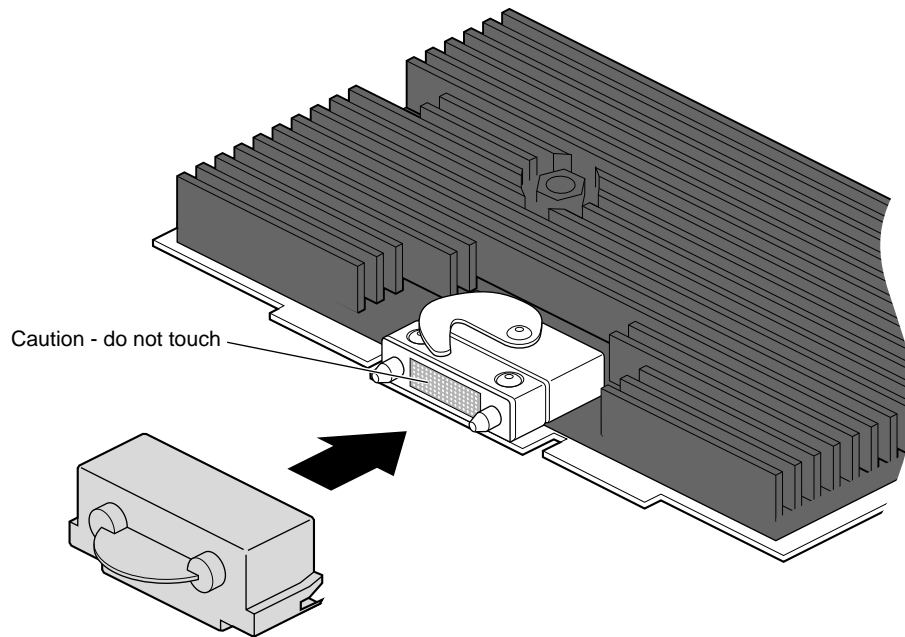


Figure 1-11 Placing a Protective Cap on the XIO Compression Connector

6. Place a cap on the XIO graphics board compression connector. Extra caps are located on the blank panels in the XIO module.

Note: The cap prevents damage to the gold (front) surface when XIO boards are removed from OCTANE. Place caps on any XIO compression connector as soon as you remove the XIO module from the chassis, and then remove them before reinstalling the XIO module in the chassis.

Attaching the Presenter Option Board to the XIO Module

You must install the Presenter option board in slot B on the XIO module, because the Presenter board has flex cables that attach to the graphics board.

Before installing the Presenter option board, you must power off the OCTANE workstation, wait 5 minutes for the heat sinks to cool, attach a wriststrap, remove the XIO module, and install the plastic cap on the XIO compression connector.

If you have not already done so, go to “Preparing the Workstation” on page 11 and follow the instructions through removing the XIO module. Then return to this section and follow the instructions.

Removing the Blank Panel or Option Board

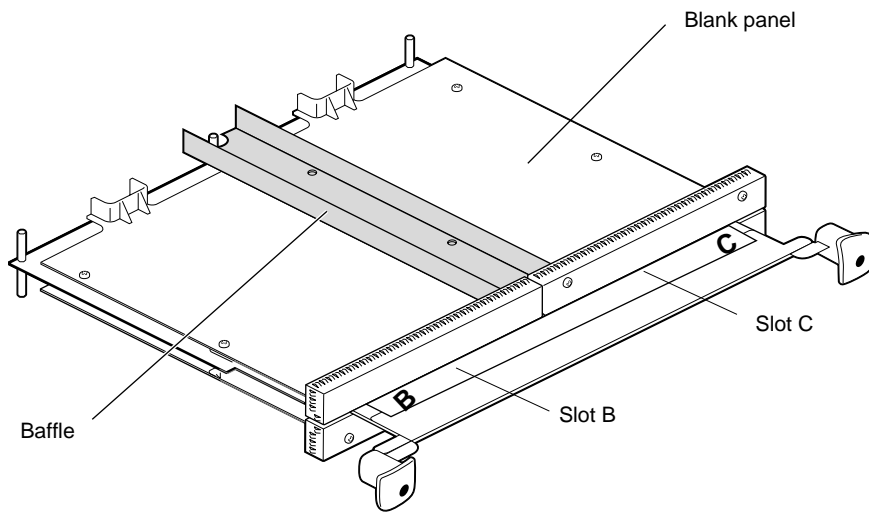


Figure 1-12 Orienting the XIO Module

1. Orient the XIO module so that slots B and C face you.
2. Choose one of these paths:
 - If there is an option board installed in slot B, remove it, following the instructions in the installation guide that came with it.
 - If there is a blank panel in slot B, and an option board installed in slot C, go to step 4.
 - If there are blank panels installed in slots B and C, go to step 3.

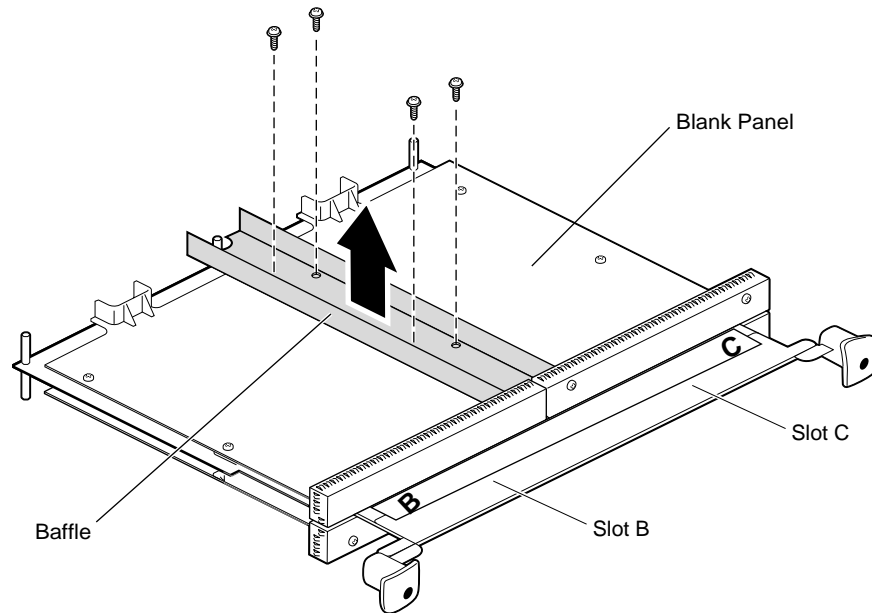


Figure 1-13 Removing the Baffle

3. Remove the baffle attached to the two blank panels:
 - Using a Phillips screwdriver, remove the four screws holding the baffle to the two blank panels.
 - Remove the baffle.
 - Replace the two screws into the blank panel in slot C.
4. Remove the remaining screws from the blank panel in Slot B.
5. Remove the blank panel. Keep it in a safe place. If you later remove an option board and do not replace it, you must reinstall the blank panel. A blank panel or board must be in place in each slot on the XIO module.

Attaching the Board to the XIO Module

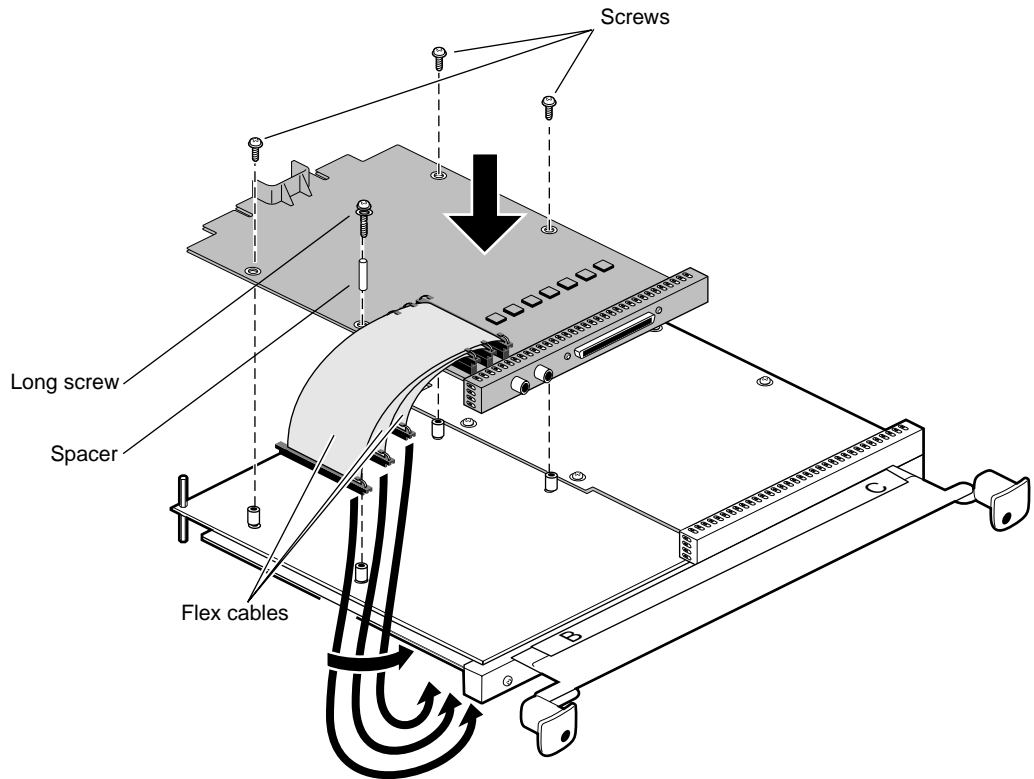


Figure 1-14 Attaching the Presenter Option Board to the XIO Module

1. Attach the Presenter option board as follows:
 - Orient the XIO module with slots B and C facing you.
 - Place the Presenter option board on the XIO module, aligning the holes in the board with the standoffs on the module.
 - Insert and tighten the three short screws that came with this package to attach the Presenter option board to the standoffs on the XIO module.
 - Place the spacer over the fourth hole and place the long screw and washer over the spacer. Tighten the screw. The spacer is for the cable guard which you will install later.

Attaching the Flex Cables and Flex Cable Guard

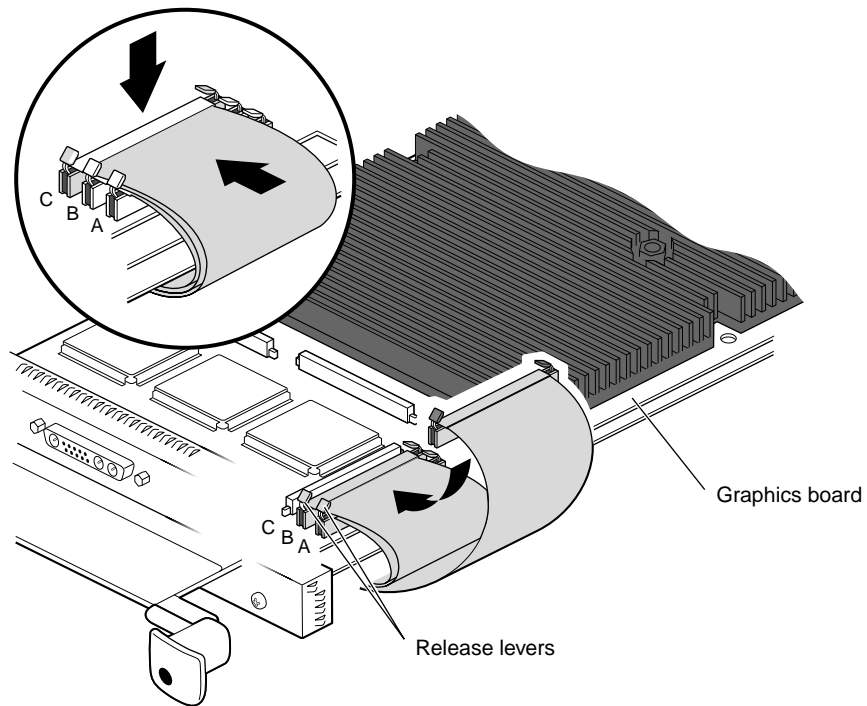


Figure 1-15 Connecting the Flex Cables to the Graphics Board

1. Turn the XIO module over so you are facing the graphics board in slot A or slots A and D. Connect the three flex cables from the Presenter board to the graphics board in slot A as follows:
 - Attach the connector on the shortest flex cable to slot A on the graphics board. Press down on the middle of the connector to seat it properly.
 - Lay the medium-length flex cable through the release levers of connector A and attach the connector to slot B. Press down on the middle of the connector to seat it properly.
 - Lay the longest flex cable through the release levers of connectors A and B and attach the connector to slot C. Press down on the middle of the connector to seat it properly.

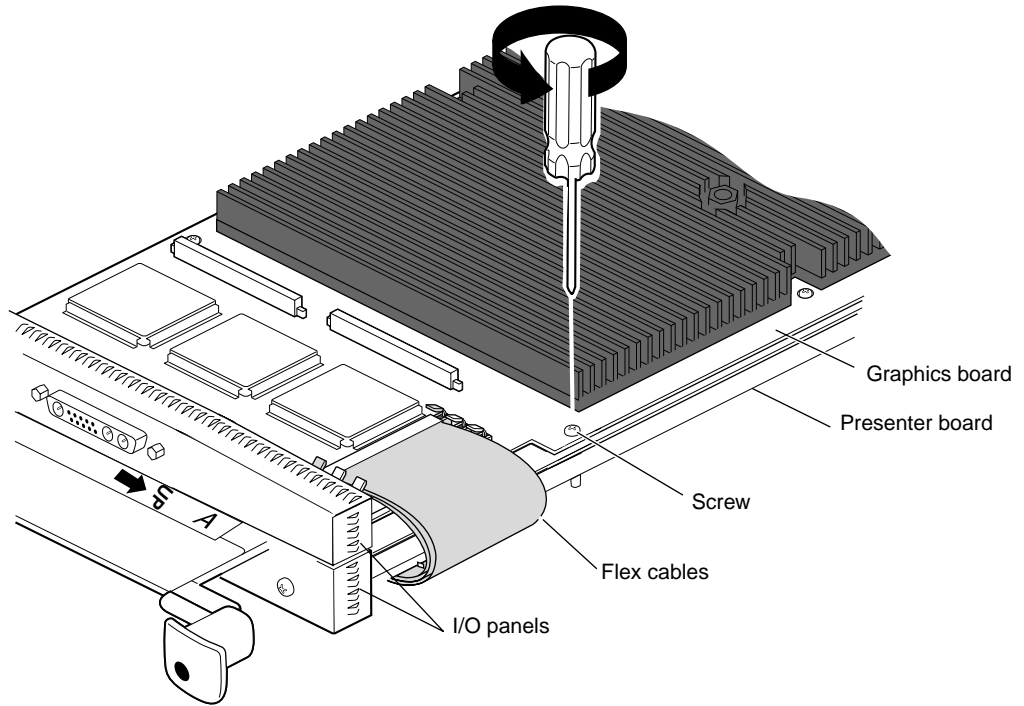


Figure 1-16 Removing the Screw From the Graphics Board

2. To install the flex cable guard you must first remove the screw from the graphics board as shown in Figure 1-16.

The flex cable guard protects the flex cables from being scratched or caught on the chassis when you insert or remove the XIO module from the workstation.

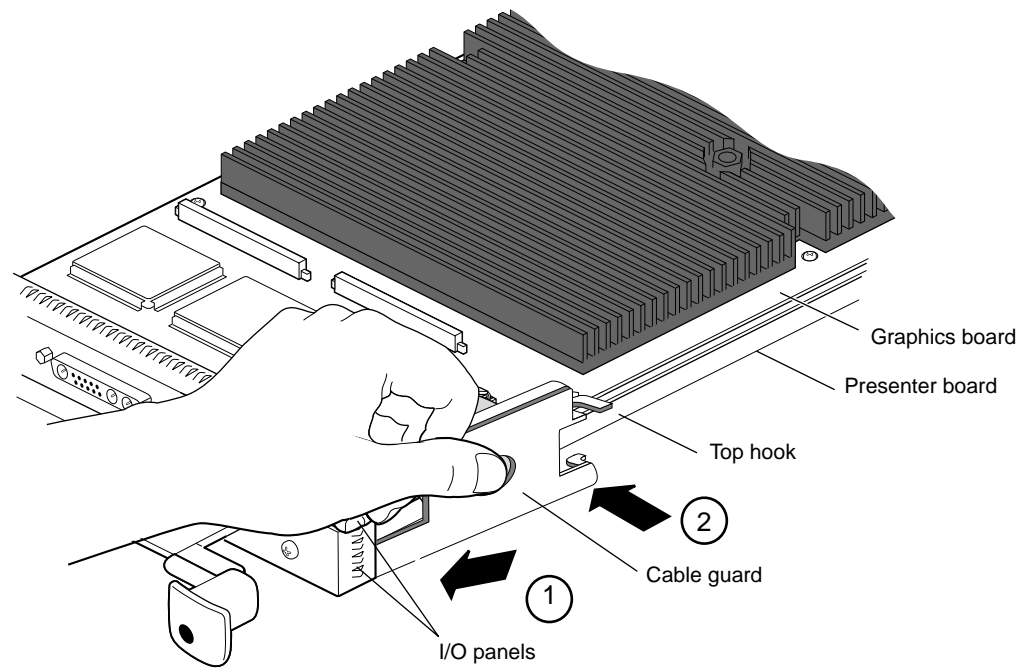


Figure 1-17 Sliding the Cable Guard Under the I/O Panels

3. Slide the two prongs of the flex cable guard under the I/O panels.
4. Push the cable protector toward the flex cables, laying the top hook on the top of the graphics board. Continue to place pressure on the flex cables.

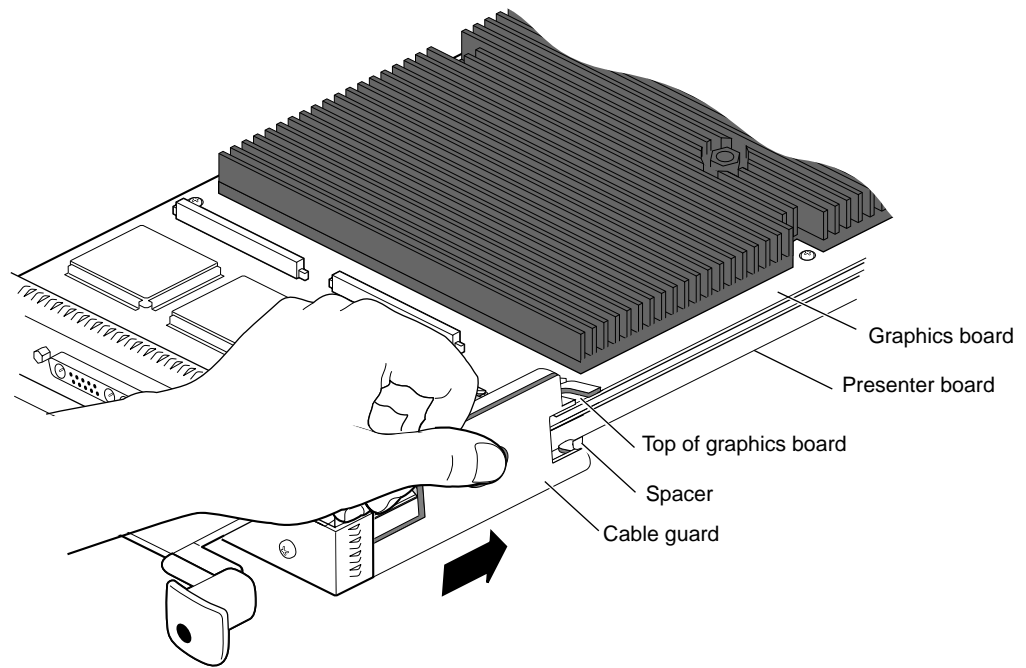


Figure 1-18 Sliding the Cable Guard Behind the Standoff

5. Press down on the center hole of the cable guard and slide it backward until the bottom half-hook on the cable guard rests behind the spacer that you installed earlier on the Presenter board. See Figure 1-18.

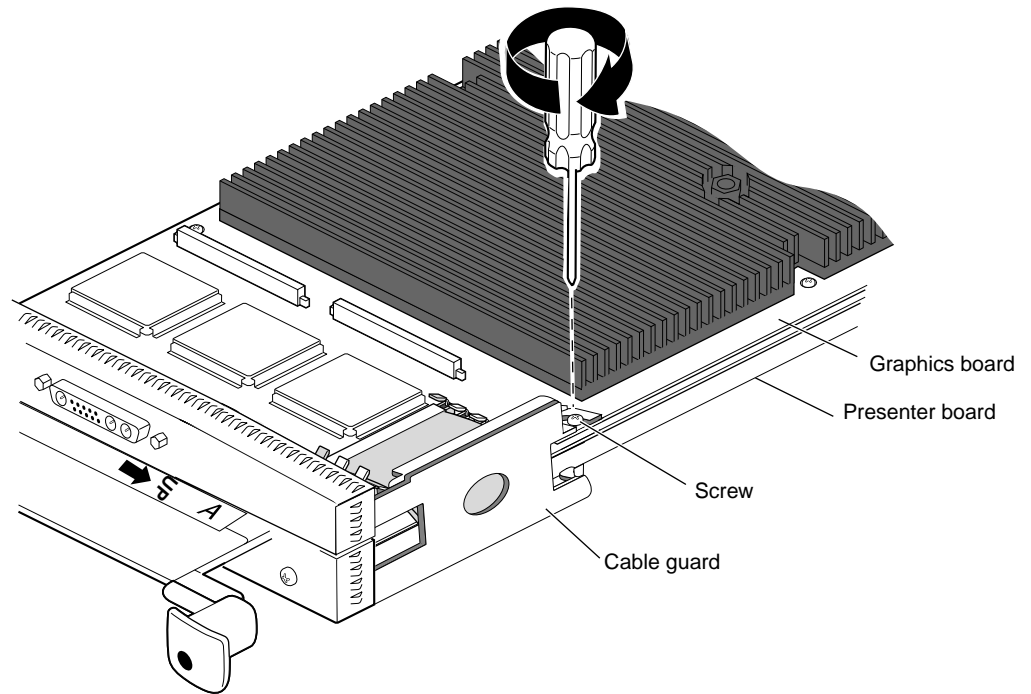


Figure 1-19 Attaching the Screw to Anchor the Cable Guard to the Graphics Board

6. Replace the screw through the hook on the cable guard, through the graphics board, and into the spacer on the Presenter board.

You have finished installing the flex cables and cable guard.

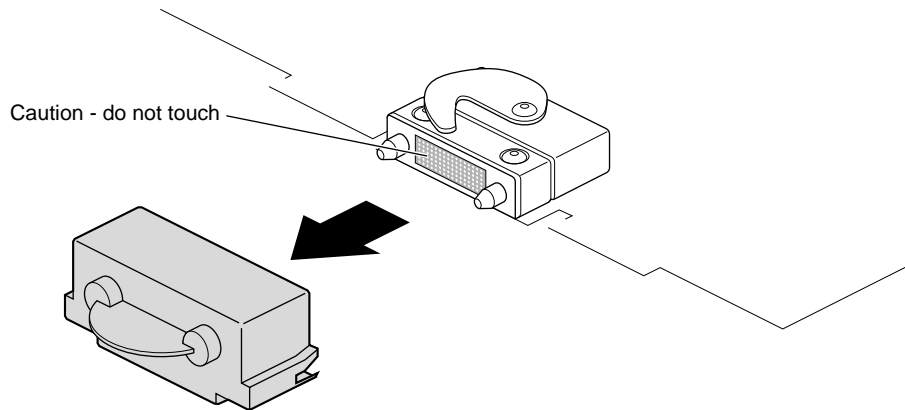
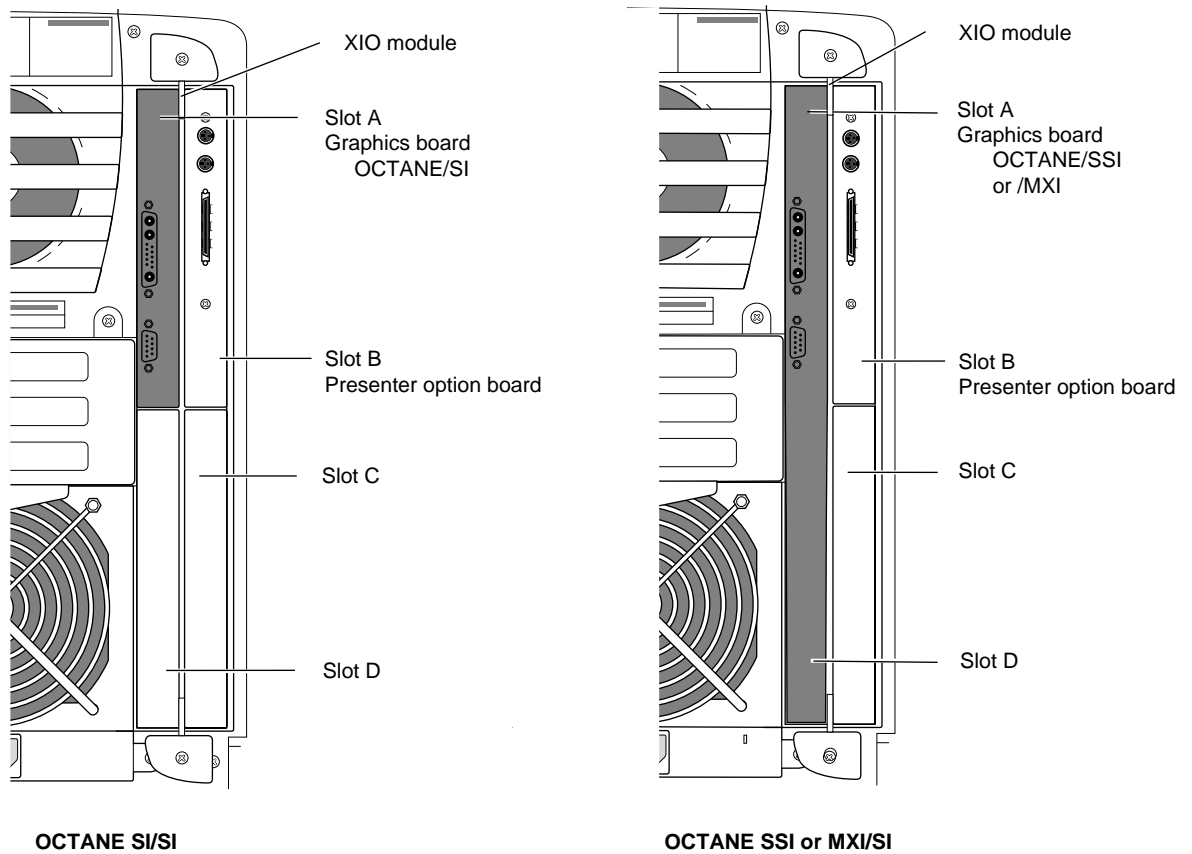


Figure 1-20 Removing the Cap From the Compression Connector

7. Remove the cap from the XIO compression connector. Keep the cap to protect the compression connector should you ever remove this board.

Reinstalling the XIO Module



OCTANE SI/SI

OCTANE SSI or MXI/SI

Figure 1-21 Reinstalling the XIO Module With Slots A and D Toward the Interior of the OCTANE Workstation

Caution: The XIO module must be replaced with the graphics board toward the interior of the workstation to prevent overheating and damage to the boards. If the XIO module is inserted with the OCTANE/SSI or OCTANE/MXI graphics board toward the exterior, a notifier appears during power on telling you to insert the XIO module with the graphics boards toward the interior of the workstation.

Follow these steps to replace the XIO module:

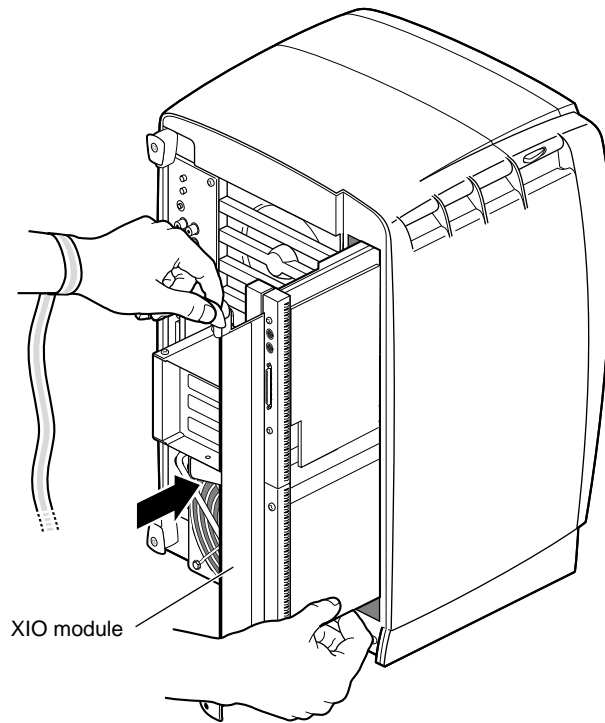


Figure 1-22 Inserting the XIO Module Into the Chassis

1. Replace the XIO module in the OCTANE chassis as follows.
 - Slide the XIO module into the guides on the top and bottom of the workstation.
 - Make sure the handle portion protrudes in a locked position from the I/O panels, as shown in Figure 1-22.
 - If the handles are flush with the I/O panels, the XIO module stops during insertion. Pull out the handles until the sliding portion of the XIO module looks like that shown in Figure 1-22, and then continue inserting the XIO module into the chassis.
 - Use the handles to push the XIO module into a locked position.

Note: The I/O panels are not completely flush with each other or the chassis. There is some slight variation in the depth of individual boards.

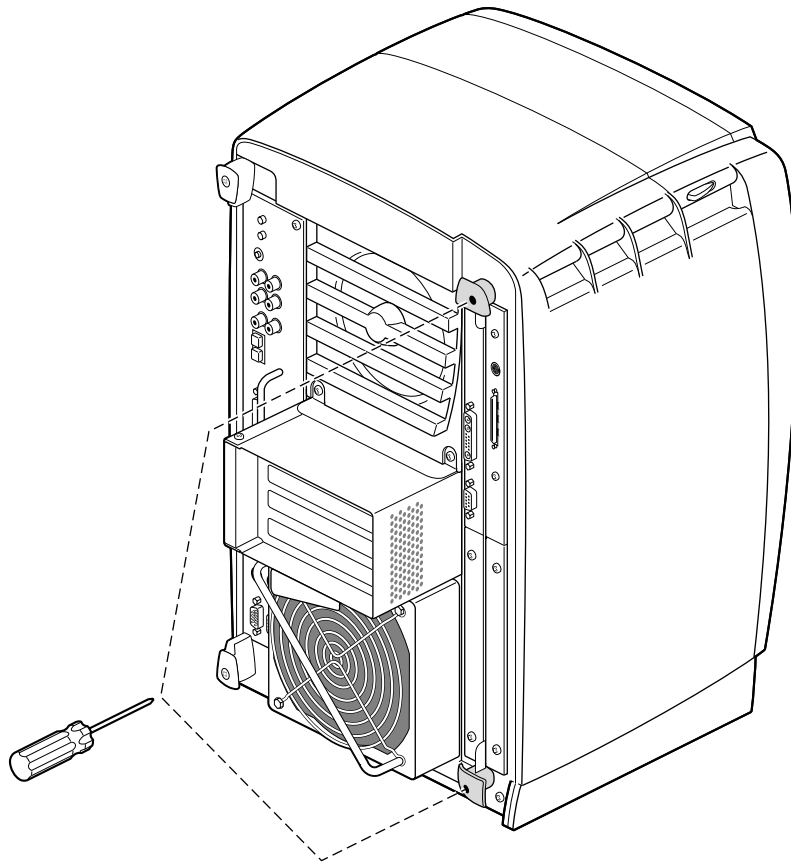


Figure 1-23 Replacing the XIO Module Screws

2. Tighten the screws in the handles to attach the XIO module to the chassis.
3. Remove the wrist strap.

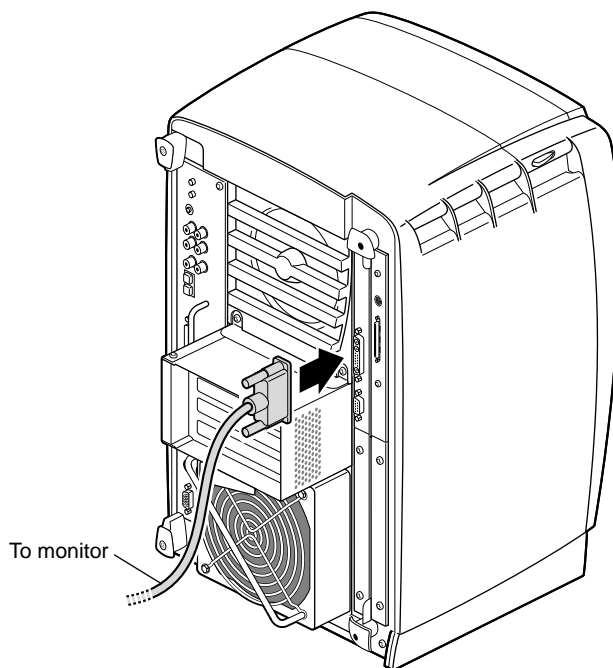


Figure 1-24 Replacing the Monitor Cable

4. Reconnect the monitor cable and any cables you removed earlier.
5. Go to “Connecting the Presenter’s Audio Cable and Interface Cable” on page 35.

Note: For information on setting up and using the Presenter flat panel monitor, see the Owner’s Guide that comes with the Presenter flat panel monitor.

Connecting the Presenter's Audio Cable and Interface Cable

You must connect two cables before using the Presenter flat panel monitor—the stereo audio cable with RCA connectors at each end (supplied with this package), and the Presenter's interface cable. Follow the steps on the next page.

Note: The Presenter's interface cable is supplied with the Presenter monitor, not with this package. For more details on setting up and using the Presenter flat panel monitor, see the Owner's Guide that comes with it.

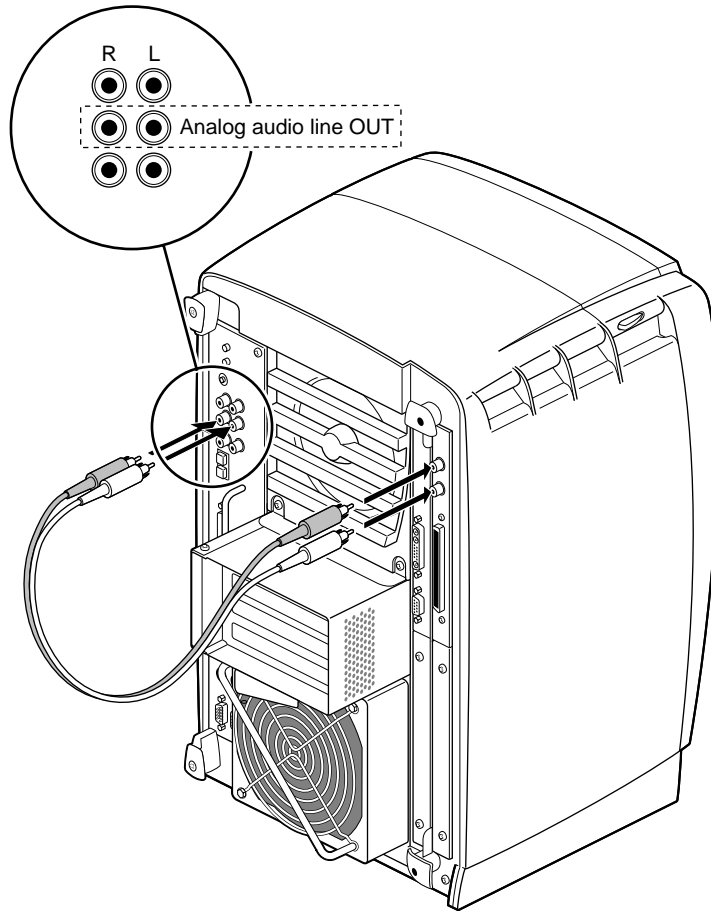


Figure 1-25 Connecting the Stereo Audio Cable

1. Connect the supplied audio cable as follows:
 - Connect one end to the audio connectors on the Presenter board, matching red with red and white with white.
 - Connect the other end to the workstation's analog audio line out connectors, matching red with red (right), and white with white (left).

Note: Make sure that the workstation's two external speakers are on.

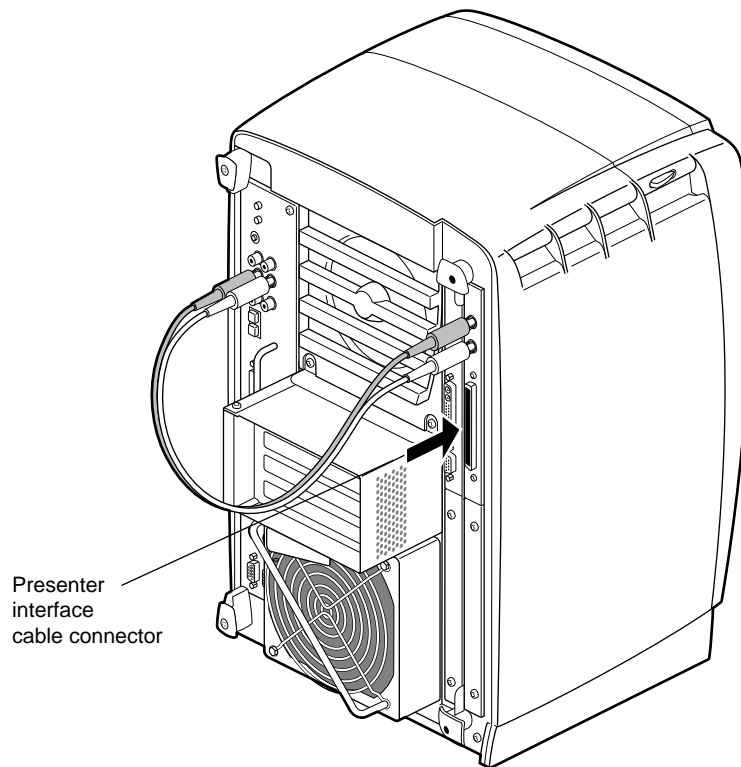


Figure 1-26 Connecting the Presenter's Interface Cable

2. Connect the Presenter's interface cable to the Presenter board's I/O connector (Figure 1-26) and to the Presenter flat panel monitor.

Note: For information on locating the Presenter's interface connector, see the owner's guide that comes with the Presenter flat panel monitor.

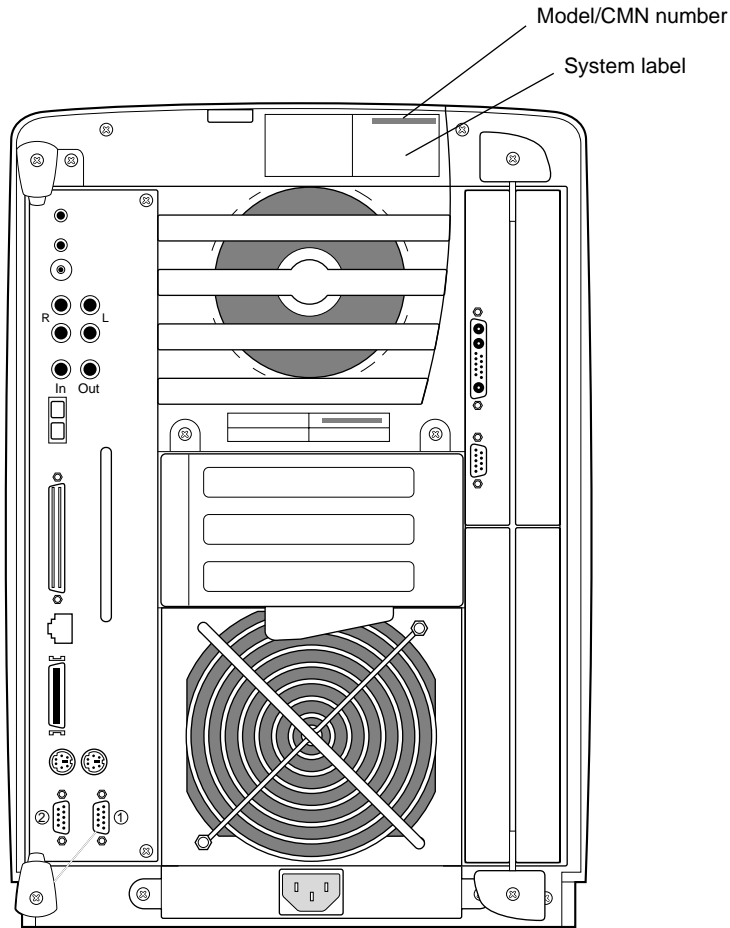


Figure 1-27 Rear View of the OCTANE Workstation

3. If you received a system upgrade label, place it on the system label as follows:
 - Face the rear of the OCTANE workstation. The system label (containing the model/CMN number) is located at the top center of the rear of the workstation.
 - Place the label over the VCCI and CISPR 22 information.
4. Now go to “Powering On the OCTANE Workstation” on page 39.

Powering On the OCTANE Workstation

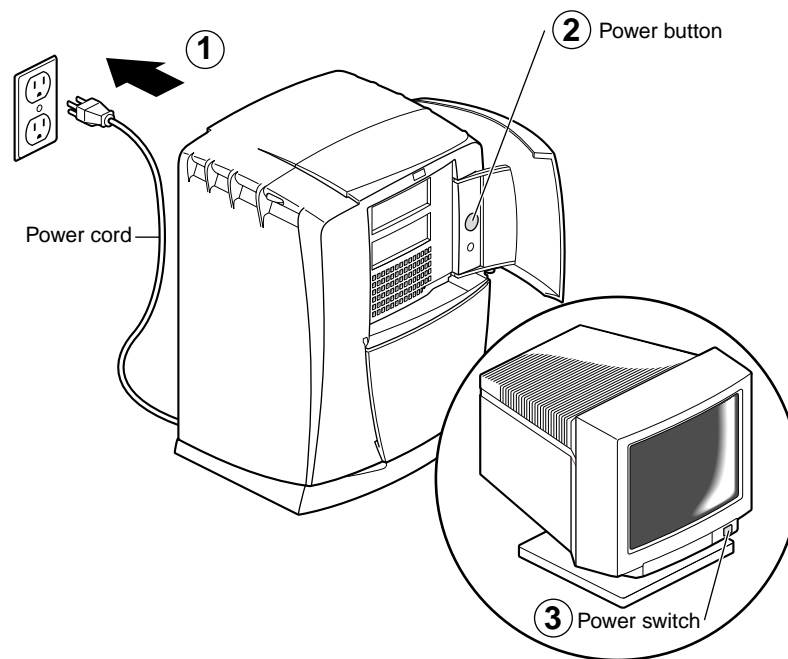


Figure 1-28 Powering On the OCTANE Workstation

1. Plug OCTANE's power cord into an electrical outlet.
2. Plug the Presenter monitor's power cord into an electrical outlet.
3. Push the power button on the front of the OCTANE workstation.
4. Push the power switch on your CRT monitor, if being used.

Verifying the Hardware Installation

Once you have installed the Presenter option board, turned on the workstation, and logged in, verify that the system recognizes the new hardware:

1. Open a UNIX shell. At the prompt type

```
hinv
```

Look for a line similar to this:

```
Presenter adapter board and display
```

If the Presenter option board is not shown, turn off the workstation and go over all the installation steps again to make sure you have installed the board correctly.

Removing the Presenter Option Board From the XIO Module

This chapter tells you how to remove the Presenter option board from your workstation. It also explains how to attach a system upgrade label (if you received one), and how to contact Silicon Graphics.

The following topics are covered in this chapter:

- “Removing the Flex Cable Guard and Flex Cables” on page 43
- “Detaching the Presenter Board” on page 49
- “Returning Parts” on page 52
- “Product Support” on page 52

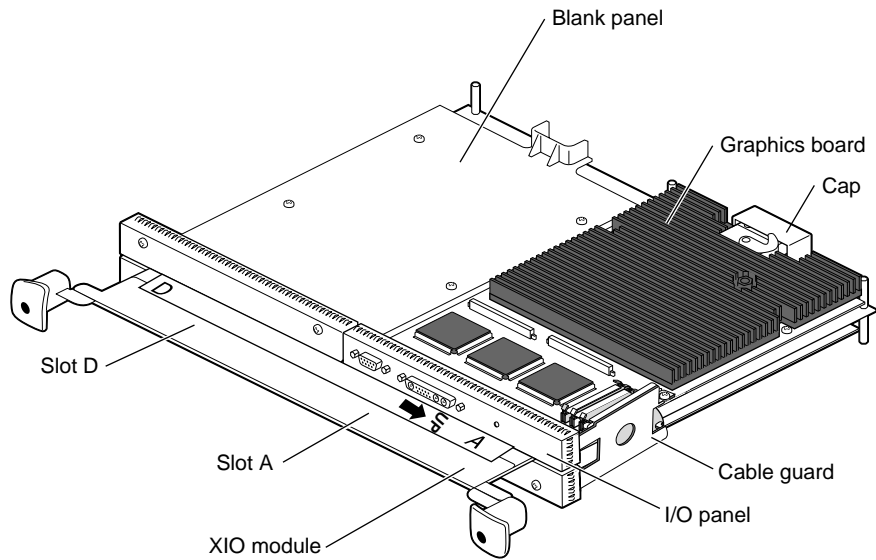


Figure 2-1 Orienting the XIO Module

Before removing the board you must power off the workstation, wait five minutes, remove any cables, and remove the XIO module.

1. If you have not already done so, go to “Preparing the Workstation” on page 11 and follow the instructions through removing the XIO module. Then return to this section and follow these instructions.
2. Position the XIO module so that slots D and A are facing you.

Removing the Flex Cable Guard and Flex Cables

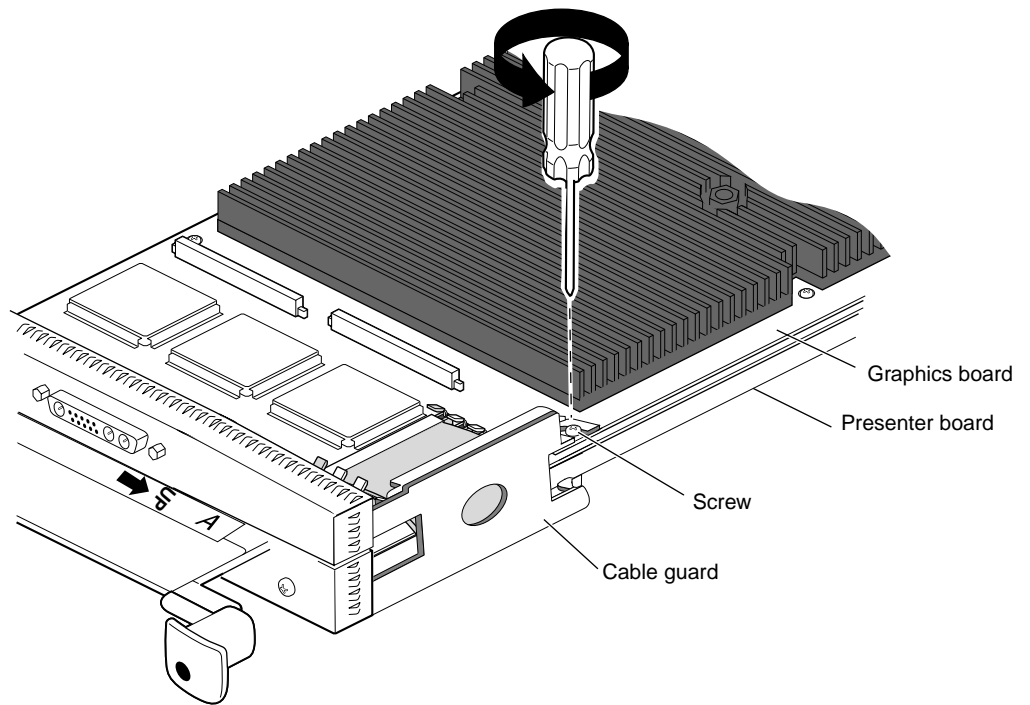


Figure 2-2 Removing the Screw on the Graphics Board

1. Remove the flex cable guard by removing the screw on the graphics board closest to the cable guard.

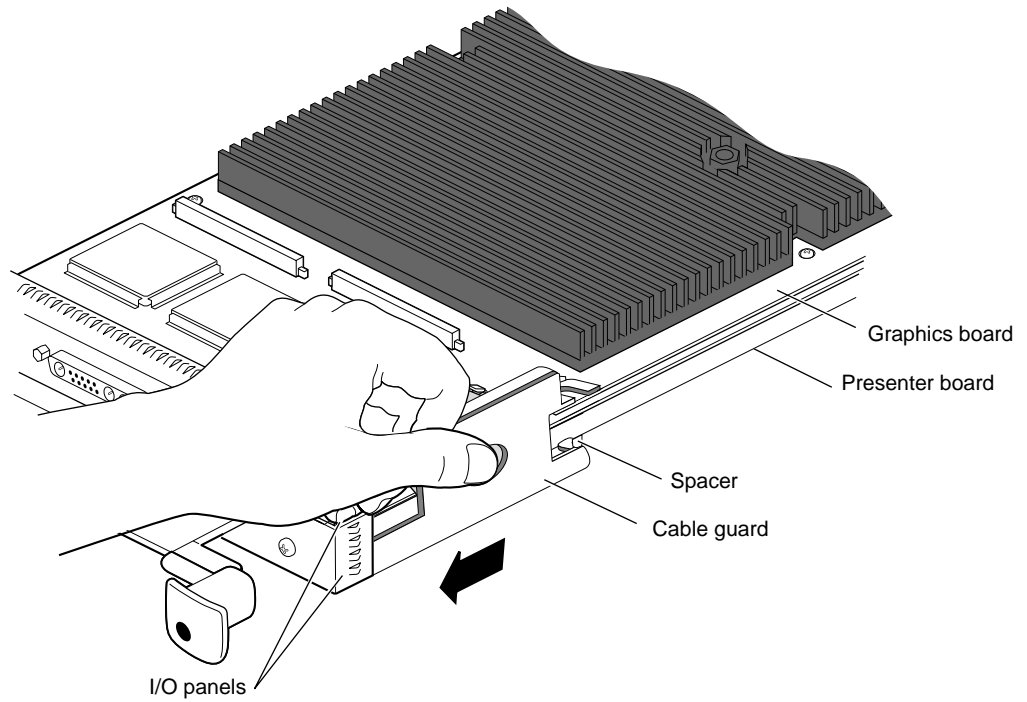


Figure 2-3 Sliding the Cable Guard Toward the I/O panels.

2. Press down on the middle of the cable guard and slide it toward the I/O panels. This action releases the cable guard half-hook from behind the spacer.

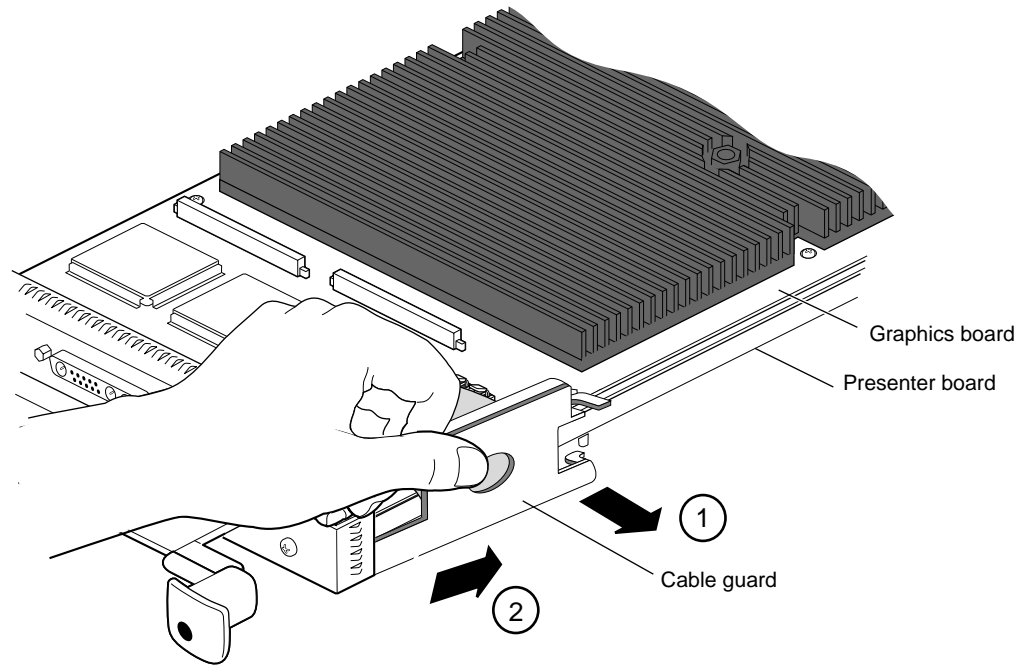


Figure 2-4 Sliding the Cable Guard Off the XIO Module and Boards

3. Slide the cable guard off the XIO module and boards.
 - Pull the cable guard away from the XIO module, so that the hook and half-hook are free.
 - Slide the cable guard out from under the edges of the I/O panels.
4. Keep the cable guard. You use it whenever you are connecting an option board to the graphics board with flex cables.

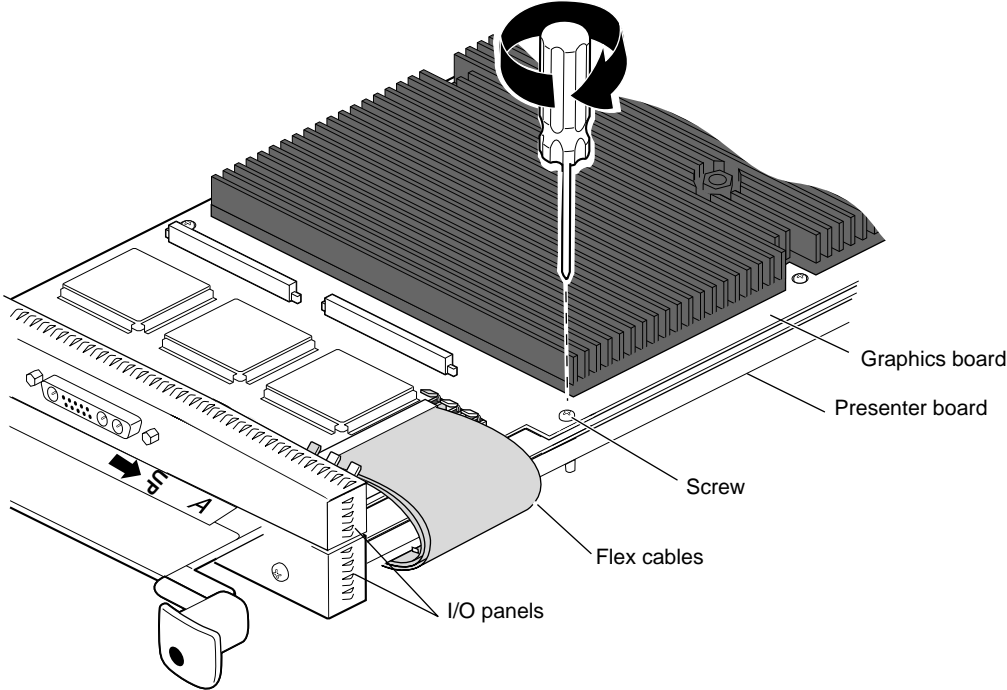


Figure 2-5 Replacing the Screw Securing the Graphics Board to the XIO Module

- 5. Replace the screw through the graphics board into the standoff on the XIO module.

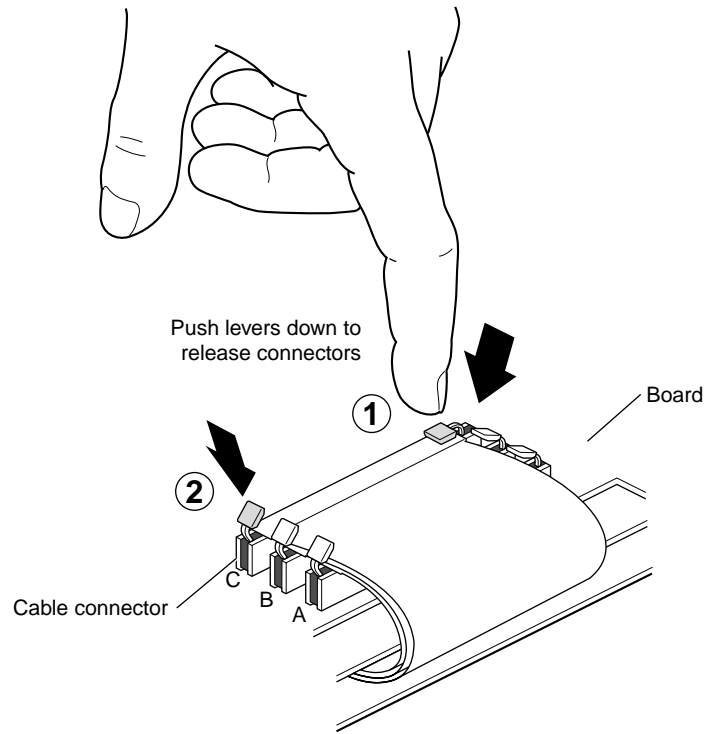


Figure 2-6 Releasing the Flex Cables From the Graphics Board

6. Release the flex cables from the graphics board, beginning with the slot labeled C. Press down the release lever on one side and then the other.

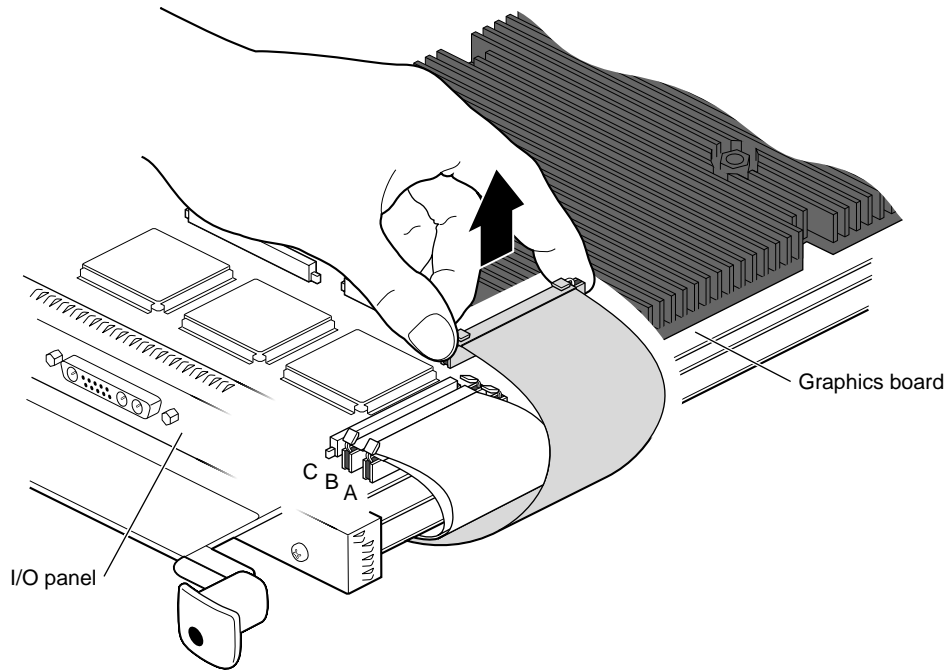


Figure 2-7 Removing the Flex Cables

7. Pull up on the connector until it releases.
8. Remove flex cable B, then flex cable A, following the instructions in steps 6 and 7.

Note: Do not remove the flex cables from the Presenter option board.

Detaching the Presenter Board

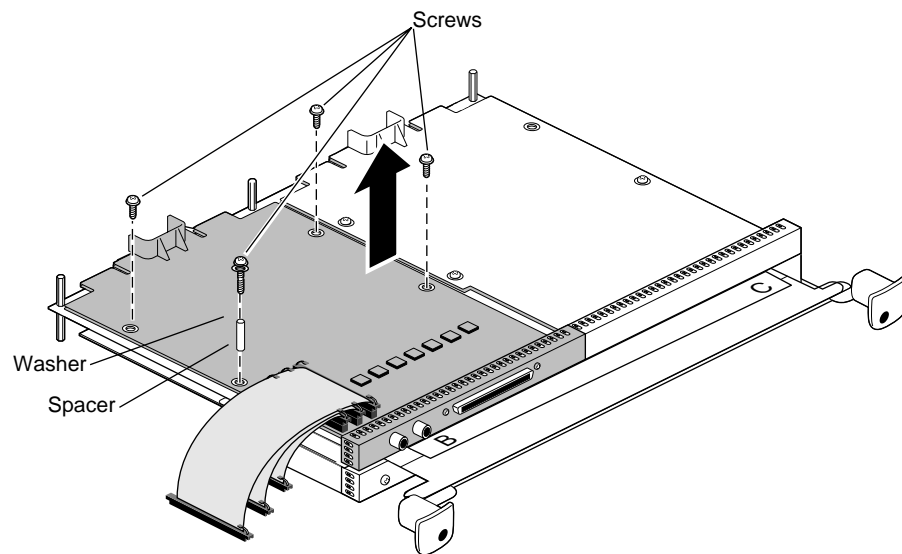


Figure 2-8 Removing the Four Screws and Spacer

1. Turn the XIO module over again so that slots B and C are facing you.
2. Remove the Presenter option board as follows:
 - Use a Phillips screwdriver to remove the four screws and the spacer.
 - Lift the board off the XIO module. Place it on a clean, dry, antistatic surface such as your desktop.

3. Choose a path from the following:
 - If you are replacing the Presenter option board with another Presenter option board, go to “Attaching the Presenter Option Board to the XIO Module” on page 21.
 - If you are installing a different option board, go to the installation guide that came with it.
 - If you are not installing an option board, you must install a blank panel. If a blank panel is also in slot C, you must place a baffle over them to allow proper airflow in the workstation. Go to the next step.

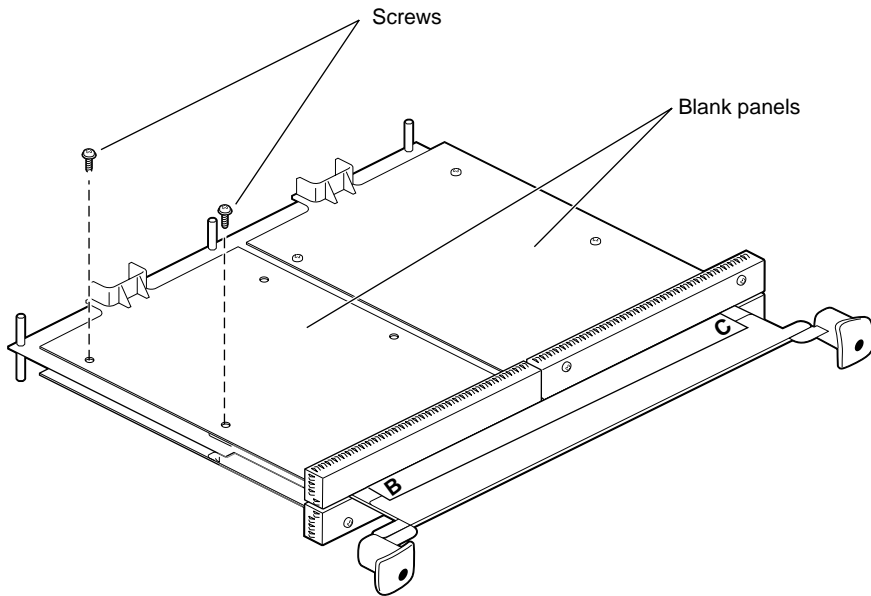


Figure 2-9 Installing a Blank Panel in Slot B

4. Attach the blank panel to slot B as follows:
 - If there is a blank panel in slot C, insert and tighten two short screws through the blank panel and into the standoffs in slot B.
 - If there is a board installed in slot C, insert and tighten four screws in slot B. Go to step 6.

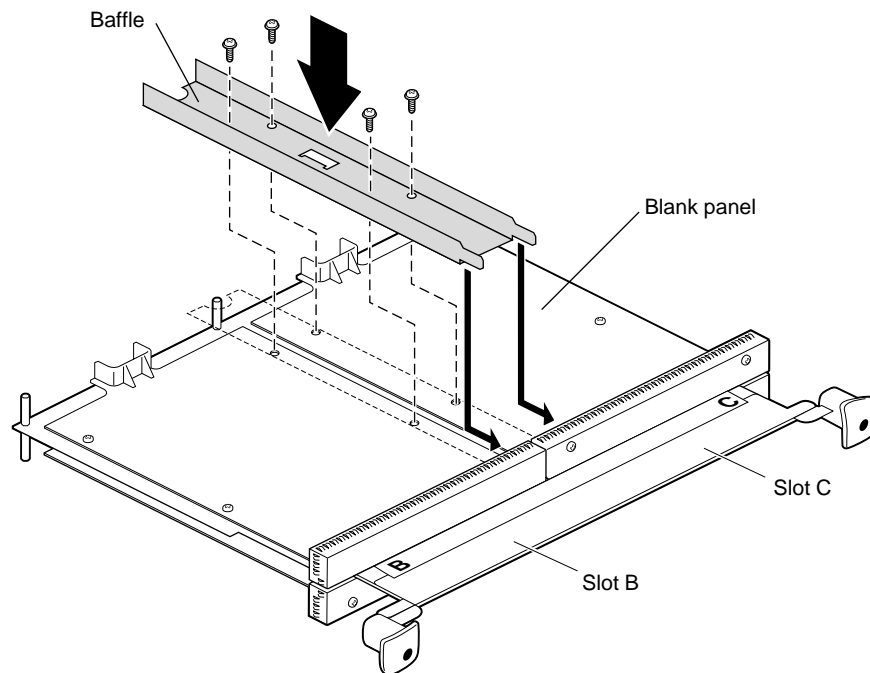


Figure 2-10 Installing the Baffle Across Both Blank Panels

5. If there is a blank panel in slots B and C, place a baffle over both panels as follows:
 - Remove the inner two screws from the blank panel in slot C.
 - Place the baffle across the two blank panels.
 - Insert and tighten the four screws that hold the baffle to the blank panels.
6. If you are returning the Presenter option board to your authorized service representative, use the packing material and box in which you received your replacement part.
7. Go to “Reinstalling the XIO Module” on page 31.

Returning Parts

To return any part, use the packaging materials and box that came with your replacement part.

Product Support

Silicon Graphics, Inc., provides a comprehensive range of product support for its products. If you are in North America and would like support for your Silicon Graphics® supported products, contact the Technical Assistance Center at 1-800-800-4SGI or your authorized service provider. If you are outside North America, contact the Silicon Graphics subsidiary or authorized distributor in your country.

Technical Specifications

This appendix contains technical information for the Presenter option board.

Cable Pinouts

Table A-1 shows the cable pinout assignments for the Presenter option board.

Table A-1 Presenter Option Board Cable Pinout Assignments

| Pin | Assignment | Pin | Assignment |
|-----|------------|-----|------------|
| 1 | RED_P[0] | 35 | RED_P[1] |
| 2 | RED_N[0] | 36 | RED_N[1] |
| 3 | RED_P[2] | 37 | RED_P[3] |
| 4 | RED_N[2] | 38 | RED_N[3] |
| 5 | RED_P[4] | 39 | RED_P[5] |
| 6 | RED_N[4] | 40 | RED_N[5] |
| 7 | RED_P[6] | 41 | RED_P[7] |
| 8 | RED_N[6] | 42 | RED_N[7] |
| 9 | GRN_P[0] | 43 | GRN_P[1] |
| 10 | GRN_N[0] | 44 | GRN_N[1] |
| 11 | GRN_P[2] | 45 | GRN_P[3] |
| 12 | GRN_N[2] | 46 | GRN_N[3] |
| 13 | GRN_P[4] | 47 | GRN_P[5] |
| 14 | GRN_N[4] | 48 | GRN_N[5] |

Table A-1 (continued) Presenter Option Board Cable Pinout Assignments

| Pin | Assignment | Pin | Assignment |
|------------|--------------------------|------------|-------------------------|
| 15 | GRN_P[6] | 49 | GRN_P[7] |
| 16 | GRN_N[6] | 50 | GRN_N[7] |
| 17 | BLUE_P[0] | 51 | BLUE_P[1] |
| 18 | BLUE_N[0] | 52 | BLUE_N[1] |
| 19 | BLUE_P[2] | 53 | BLUE_P[3] |
| 20 | BLUE_N[2] | 54 | BLUE_N[3] |
| 21 | BLUE_P[4] | 55 | BLUE_P[5] |
| 22 | BLUE_N[4] | 56 | BLUE_N[5] |
| 23 | BLUE_P[6] | 57 | BLUE_P[7] |
| 24 | BLUE_N[6] | 58 | BLUE_N[7] |
| 25 | FP_PIXEL_CLK_P | 59 | FP_HSYNC_CLK_P |
| 26 | FP_PIXEL_CLK_N | 60 | FP_HSYNC_CLK_N |
| 27 | FP_VSYNC_CLK_P | 61 | FP_AUDIO_R-P |
| 28 | FP_VSYNC_CLK_N | 62 | FP_AUDIO_R-N |
| 29 | POWERGOOD | 63 | FP_AUDIO_L-P |
| 30 | RESERVED | 64 | FP_AUDIO_L-N |
| 31 | CABLE_GND | 65 | CABLE_GND |
| 32 | CABLE_GND | 66 | CABLE_GND |
| 33 | FP_I ² C_DATA | 67 | FP_I ² C_CLK |
| 34 | CABLE_GND | 68 | CABLE_GND |

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