Silicon Graphics® Octane2™ Workstation Display Option Board Owner's Guide

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For regulatory and compliance information, see your Octane or Octane2 Workstation Owner’s Guide.

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About This Guide

Welcome to the Silicon Graphics Octane2 Display Option Board!

With the Display Option Board, you can expand your viewing area by displaying graphics and text on two monitors. You can also use the Display Option Board to connect a single monitor.

This guide shows you how to install the Display Option Board and how to configure and troubleshoot the board. Following is a description of each chapter:

Chapter 1, “Installing the Display Option Board,” shows you how to install the board.

Chapter 2, “Connecting Monitors to the Display Option Board,” shows you how to connect two monitors to the board.

Chapter 3, “Configuring the Display Option Board,” explains how to configure the board.

Chapter 4, “Troubleshooting and Technical Specifications,” provides troubleshooting information and technical specifications.

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Installing the Display Option Board

This chapter shows you how to install the Display Option Board in your Octane or Octane2 workstation.

The following topics are covered:

- "Checking Your Shipment" on page 2
- "Checking Your Graphics Board" on page 3
- "Preparing Your Workstation" on page 4
- "Connecting the Display Option Board" on page 11
- "Reinstalling the XIO Tri-Module" on page 22
- "Removing the Display Option Board" on page 25

Checking Your Shipment

Make sure your shipment contains the items shown in Figure 1-1.

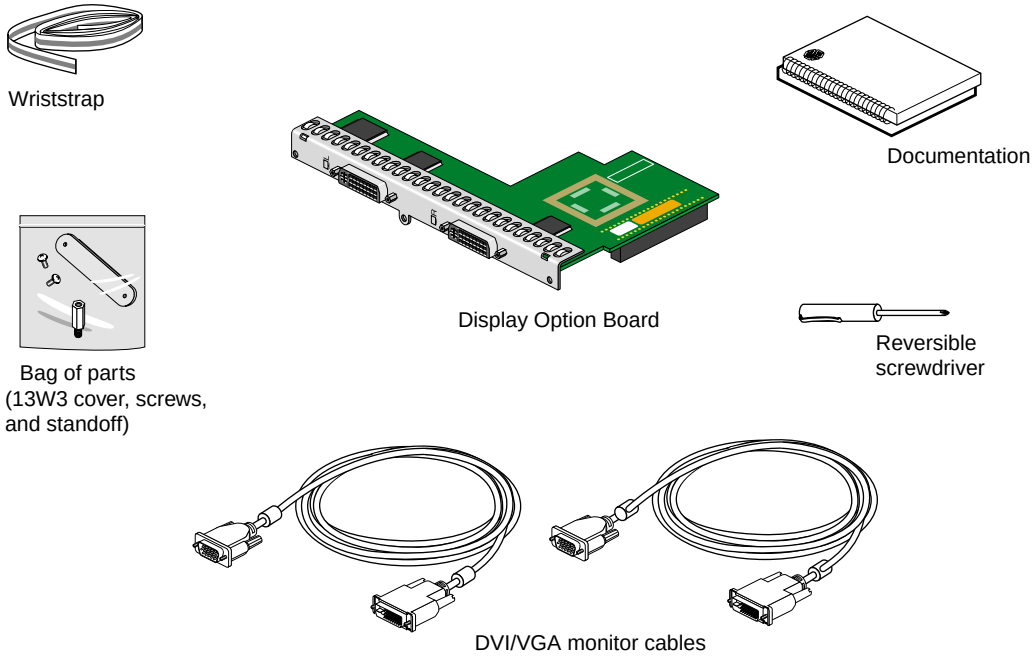

Figure 1-1 Display Option Board Shipment Components

Checking Your Graphics Board

To use the Display Option Board, your workstation must have a VPro V12 Graphics Board installed. A properly installed VPro V12 Graphics Board ensures that you are running the correct version of IRIX.

To verify that your system has a VPro V12 Graphics Board, follow these steps:

1. Open a UNIX shell.
2. At the prompt, enter **`hinv`**.

   The hardware inventory list appears, as shown in the example in Figure 1-2.
3. Look for the following line describing your graphics board.

   `Graphics board: V12`

   If V12 does not appear for your graphics board, you cannot use the Display Option Board. For more information, contact your authorized SGI sales representative.

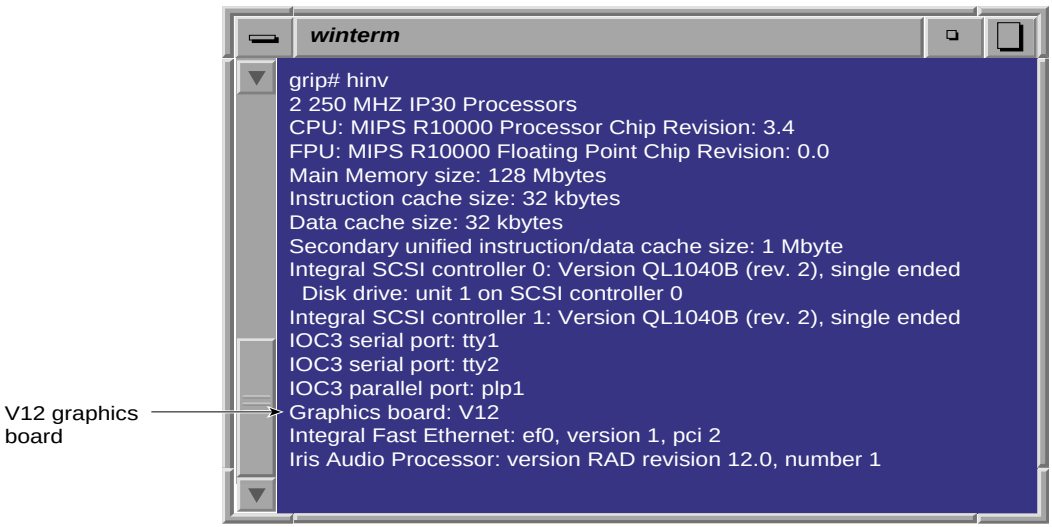

Figure 1-2 Hardware Inventory List

Preparing Your Workstation

To install the Display Option Board, you have to remove your workstation's XIO Tri-Module. Before you begin this operation, follow these steps:

1. Open the cover and press the power button to power off your workstation (see A in Figure 1-3).
2. Unplug the power cord (B).
3. Press the monitor power switch to power off your monitor (C).
4. Wait 5 minutes before removing the XIO Tri-Module.

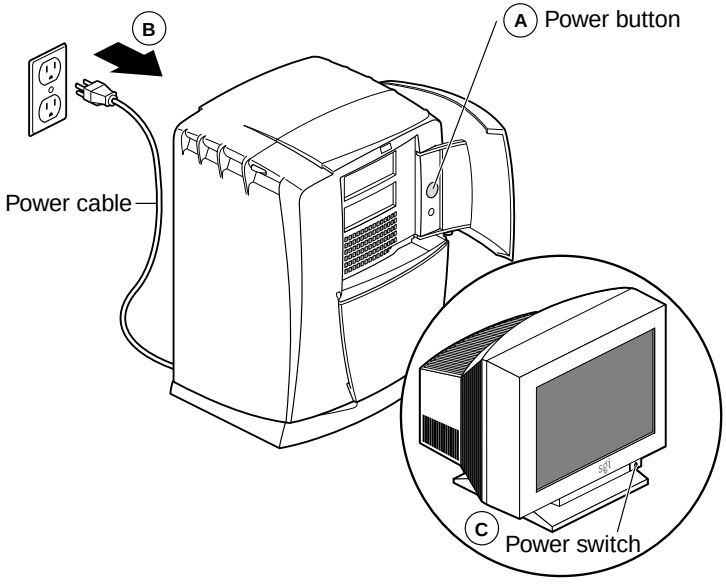

Figure 1-3 Powering Off Your Workstation

Warning: The heat sinks on the XIO boards get very hot. Wait 5 minutes after powering off your workstation before you remove the XIO Tri-Module. Test before touching any of the XIO boards.

Removing the Cables from the XIO Tri-Module

1. Remove all the cables from the XIO Tri-Module (only the monitor cable on the VPro Graphics Board is shown in Figure 1-4).

Note: The following illustrations show a workstation with a PCI module installed.

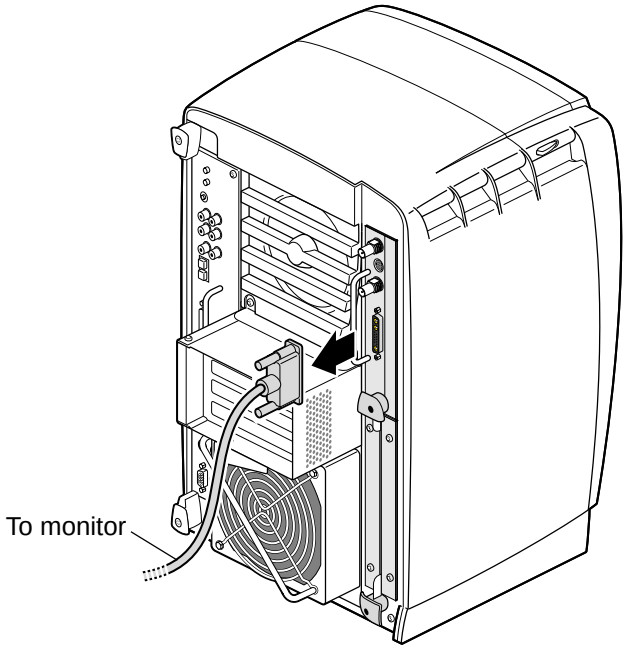

Figure 1-4 Removing the Monitor Cable

Attaching the Wrist Strap

Caution: The internal components are extremely sensitive to static electricity; always wear the wrist strap when you handle parts inside your workstation.

To attach the wrist strap, follow these steps:

1. Unroll the first two folds of the band (see A in Figure 1-5).
2. Wrap the exposed adhesive side firmly around your wrist, unroll the rest of the band, then peel the liner from the copper foil at the opposite end (B).
3. Attach the copper foil to any exposed electrical ground, such as a metal part of the workstation (C).

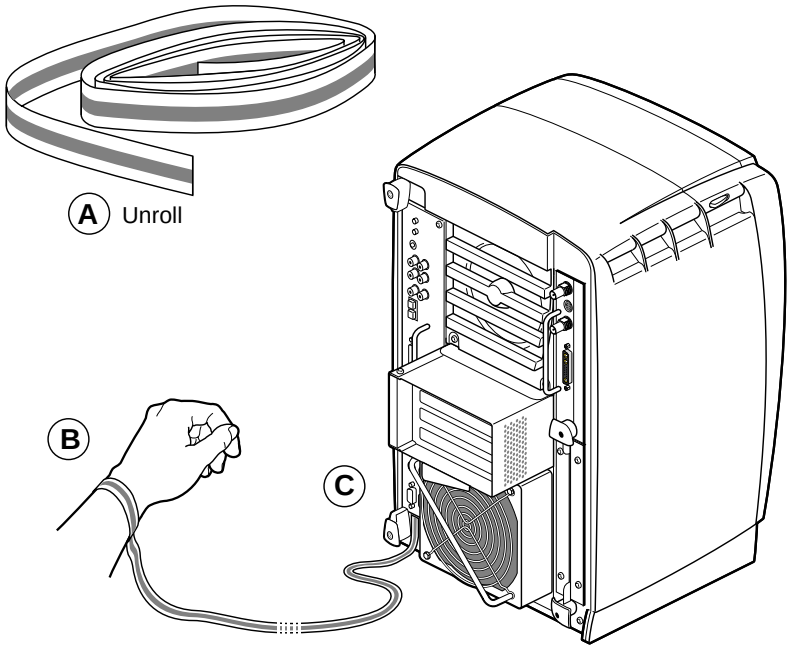

Figure 1-5 Attaching the Wrist Strap

Removing the XIO Tri-Module

You must remove your workstation's XIO Tri-Module so you can connect the Display Option Board to the daughterboard slot on the VPro Graphics Board. Before removing the XIO Tri-Module, you must power off your workstation, wait 5 minutes to allow the heat sinks to cool, and attach the wrist strap, as described in the previous sections.

1. Loosen the two captive screws in the XIO Tri-Module handles with the supplied Phillips screwdriver until the screws are disconnected from the chassis (see Figure 1-6).

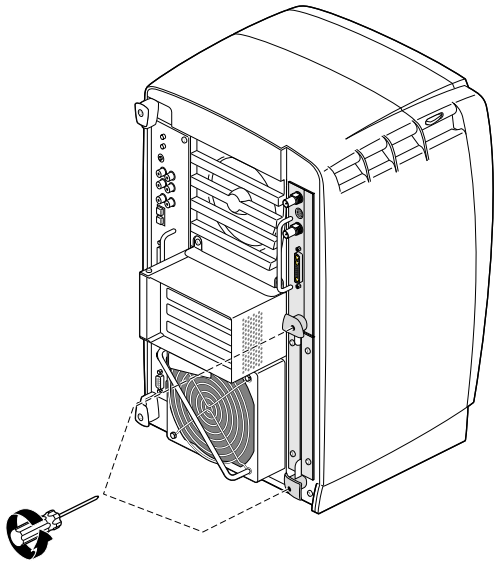

Figure 1-6 Loosening the XIO Tri-Module Screws

Warning: The heat sinks on the XIO boards get very hot. Wait 5 minutes after powering off your workstation before you remove the XIO Tri-Module. Test before touching any of the XIO boards.

2. Grasp the sliding handles and pull until the sliding portion of the XIO Tri-Module protrudes about an inch from the chassis, as shown in Figure 1-7.

   The sliding handles and XIO Tri-Module move out about one inch before the I/O panels move.

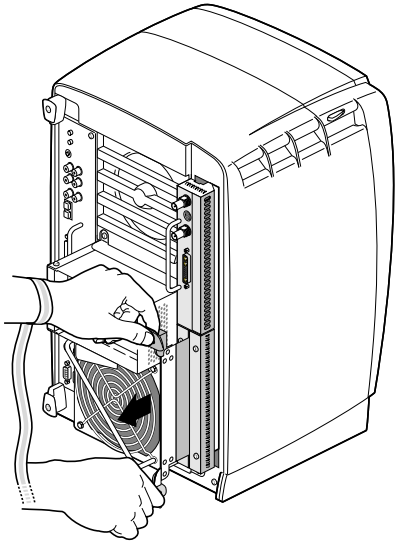

Figure 1-7 Releasing the XIO Tri-Module

3. Grasp the XIO Tri-Module by the immovable handle, and support the base of the module as you remove it from the chassis, as shown in Figure 1-8.

Caution: Do not push on the sliding handles after you remove the XIO Tri-Module. Later when you reinsert the Tri-Module, the sliding handles must protrude.

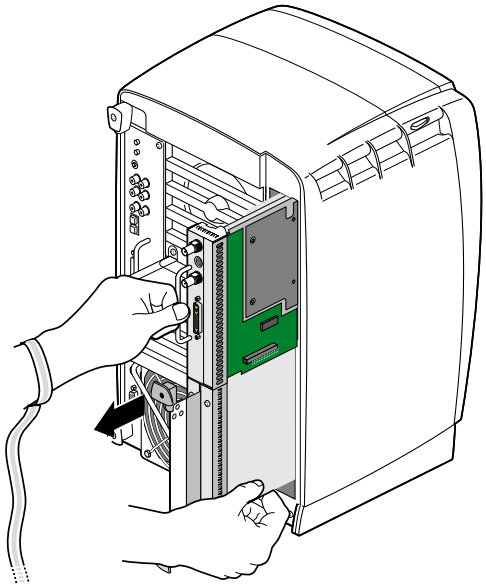

Figure 1-8 Removing the XIO Tri-Module

Compression Connector Caution

Caution: The compression connector on the XIO Tri-Module is very delicate and easily damaged. Do not touch or bump the gold bristled pad (see Figure 1-9). The connector is on the side opposite the handle, as shown in Figure 1-10. Do not grab the back of the XIO Tri-Module when you remove it, or the compression connector may be damaged.

Always place a cap on the compression connector after removing the XIO Tri-Module (caps are included with your workstation). Before reinstalling the XIO Tri-Module in your workstation, remove the cap from the compression connector.

Before you remove the XIO Tri-Module, read "Care and Cleaning of the Compression Connector" in the Appendix section of your owner's guide.

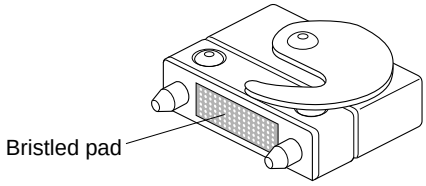

Figure 1-9 Identifying the Compression Connector

Connecting the Display Option Board

The Display Option Board connects to the daughterboard slot on the XIO Tri-Module VPro Graphics Board.

Caution: The following steps include detailed instructions for aligning the board. You must follow these specific instructions to avoid damaging the connector pins. If you attempt to connect the board before properly aligning it, the connector pins will likely be damaged.

---

1. Place the XIO Tri-Module on a flat, antistatic surface with the VPro Graphics Board I/O panel on the left side, as shown in Figure 1-10. An empty antistatic bag on your desk works well.

   When the XIO Tri-Module is out of the chassis, the sliding handles must protrude.

   A label identifies each XIO slot (B on one side, C on the other). Slot B is the daughterboard slot where you connect the Display Option Board, as described later in this chapter.

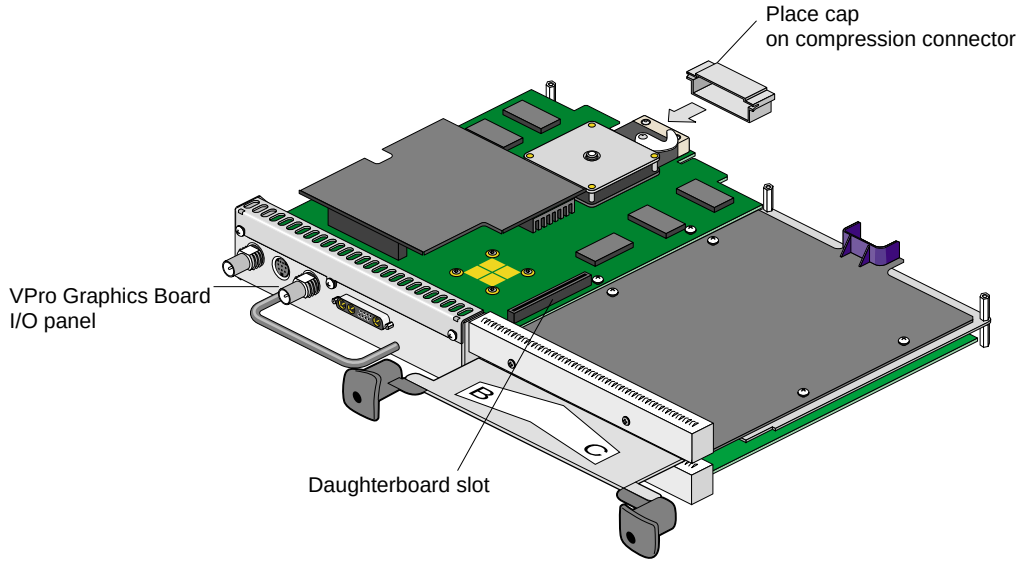

Figure 1-10 Placing the XIO Tri-Module on Its Side

2. Place a cap on the XIO Tri-Module compression connector, as shown in Figure 1-10 and Figure 1-11.

   Caps are included with your workstation.

   Caution: To prevent damage to the connector, *do not* touch or bump the gold (front) surface.

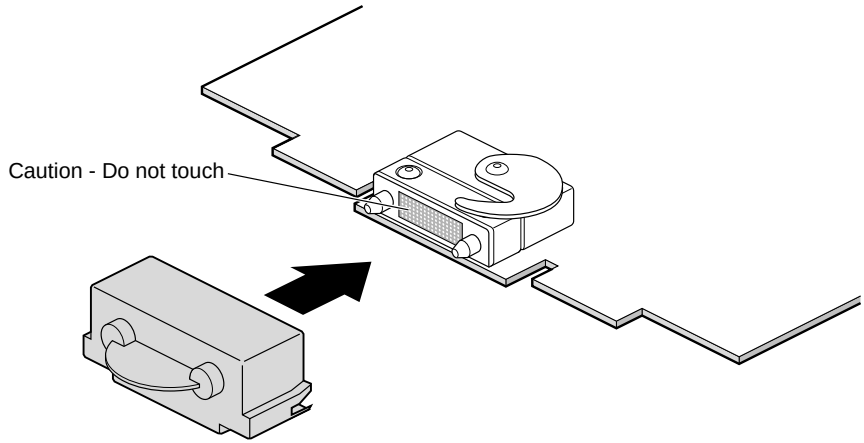

Figure 1-11 Placing a Cap on the XIO Compression Connector

3. Remove the three screws from the VPro Graphics Board blank panel, as shown in Figure 1-12. Save the screws for later in the installation.

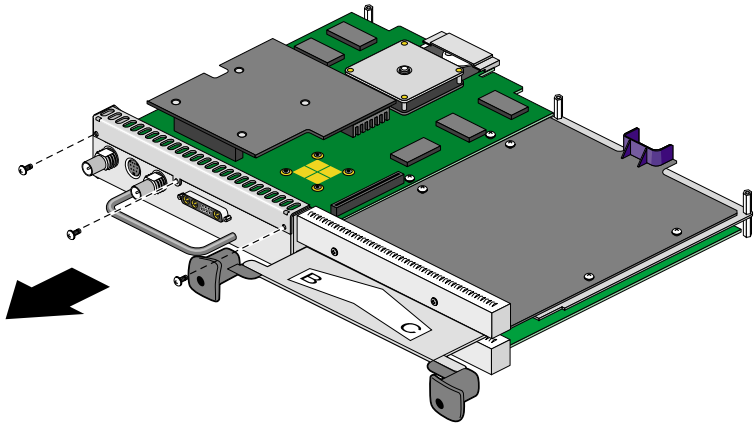

Figure 1-12 Removing the Screws from the VPro Graphics Board Blank Panel

4. Remove the blank panel from the VPro Graphics Board, as shown in Figure 1-13.

   Store the blank panel in a safe place. If you remove the Display Option Board, you need to reinstall the VPro Graphics Board blank panel.

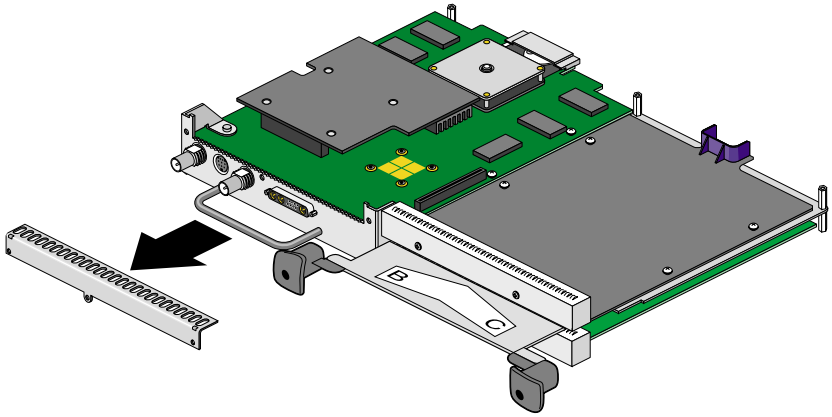

Figure 1-13 Removing the VPro Graphics Board Blank Panel

5. Remove the standoff from the bag of parts and install it as follows:
   - Remove the screw that is located behind the daughterboard connector on the VPro Graphics Board (see A in Figure 1-14), and save it for later in the installation.
   - Insert the standoff into the hole from which you removed the screw (B).
   - Seat the standoff by turning it clockwise (C), but do not overtighten.

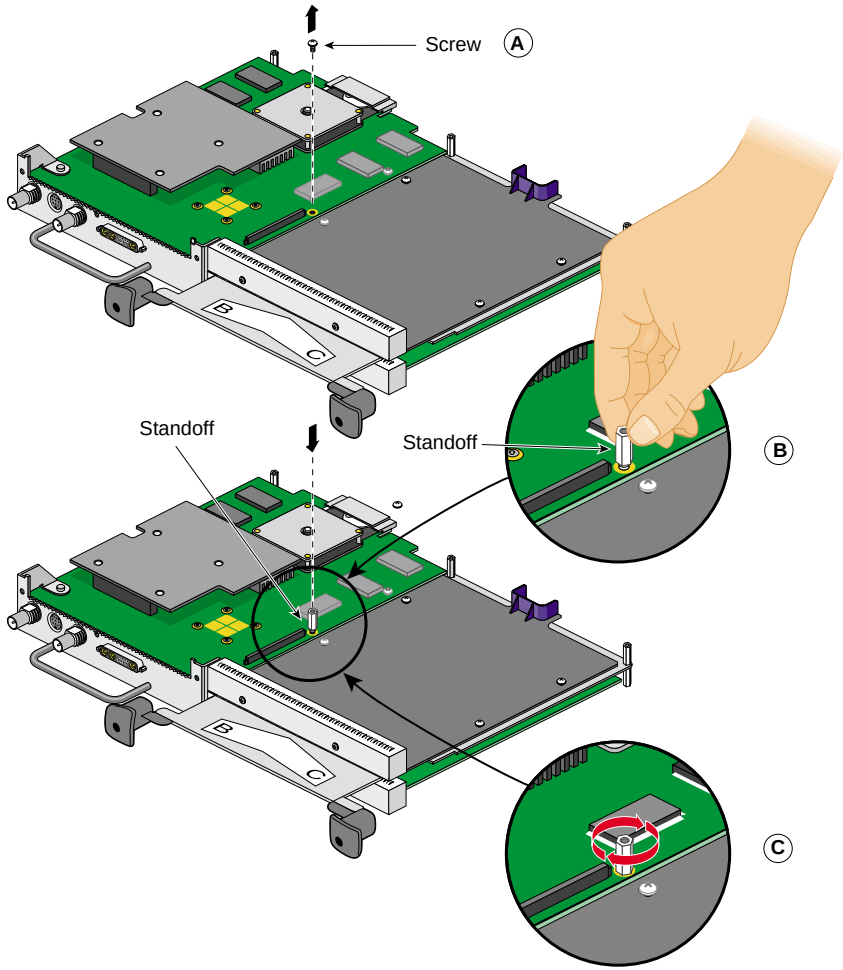

Figure 1-14 Installing the Standoff

6. Remove the Display Option Board from its antistatic bag.

Caution: The following steps include detailed instructions for aligning the board. You must follow these specific instructions to avoid damaging the connector pins. If you attempt to connect the board before properly aligning it, the connector pins will likely be damaged.

---

7. Align the Display Option Board I/O panel with the VPro Graphics Board I/O panel as follows:
   - Line up the Display Option Board's two outside holes with the two outside holes on the VPro Graphics Board (see A in Figure 1-15).
   - Place the Display Option Board on top of the VPro Graphics board.
   - Line up the two locator slots on the outside of the Display Option Board with the locator tabs on the outside of the VPro Graphics Board (B).

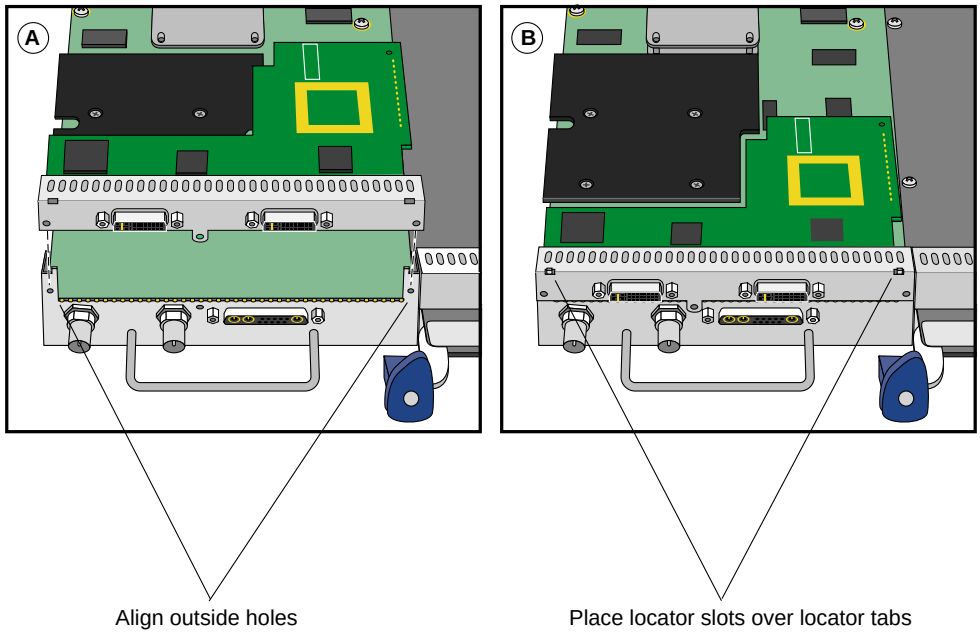

Figure 1-15 Positioning the Display Option Board

8. Seat the Display Option Board connector in the VPro Graphics Board daughterboard slot, as follows:
   - Push the top edge of the Display Option Board I/O panel against the VPro Graphics board I/O panel (see A in Figure 1-16).

     Note: As you push the board forward, the connectors move into alignment and partially seat without the assistance of downward pressure.

   - Press down on the top of the Display Option Board I/O panel to fully seat its locator slots over the VPro Graphics Board locator tabs (B).
   - Press down gently on the area above the Display Option Board connector to make sure it is fully seated (C). See Figure 1-17 for a side view seating of the board.

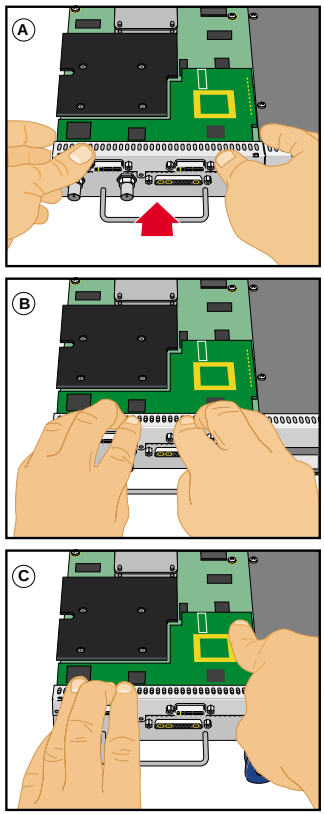

Figure 1-16 Seating the Display Option Board On the VPro Graphics Board (front view)

Figure 1-17 shows a side view seating of the board.

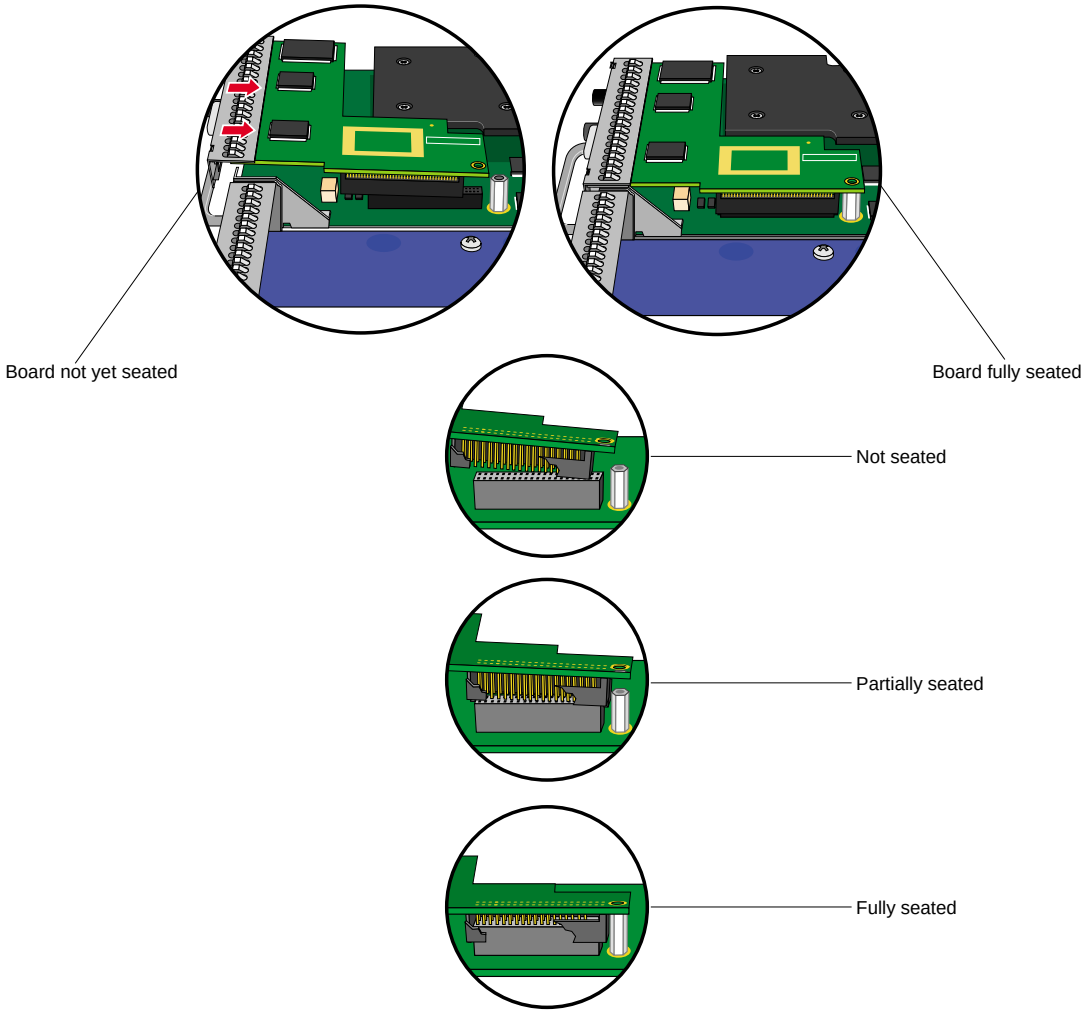

Figure 1-17 Seating the Display Option Board On the VPro Graphics Board (side view)

Note: After you complete step 8, make sure the locator tabs at each end of the VPro Graphics Board I/O panel protrude through the locator slots on each end of the Display Option Board I/O panel, as shown in Figure 1-18.

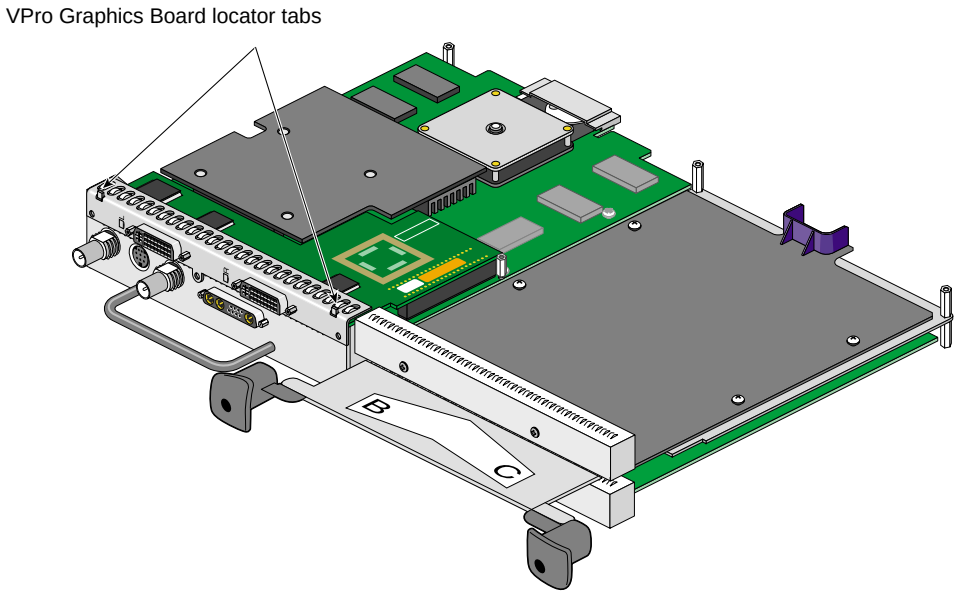

Figure 1-18 VPro Locator Tabs Protrude through Display Option Board Locator Slots

9. Secure the Display Option Board to the VPro Graphics Board with the three screws you removed from the blank panel, as shown in Figure 1-19.

   Install the two outside screws first, then install the middle screw.

Note: Turn the screws until they are snug, but do not overtighten them.

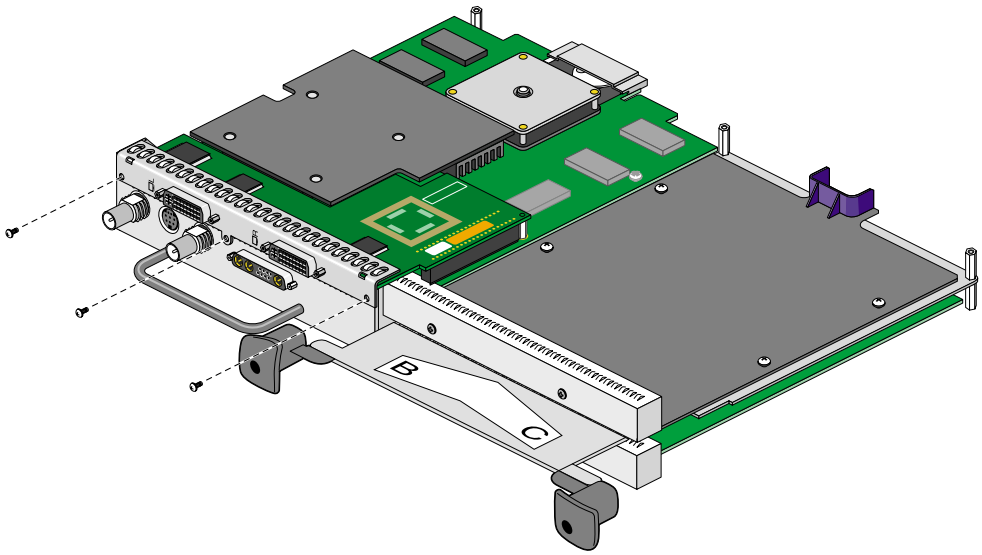

Figure 1-19 Securing the Display Option Board to the VPro Graphics Board

10. Place the screw you removed from the VPro Graphics Board into the hole behind the Display Option Board connector (above the standoff), then tighten the screw by turning it clockwise, as shown in Figure 1-20.

    The Display Option Board is now securely connected to the VPro Graphics Board.

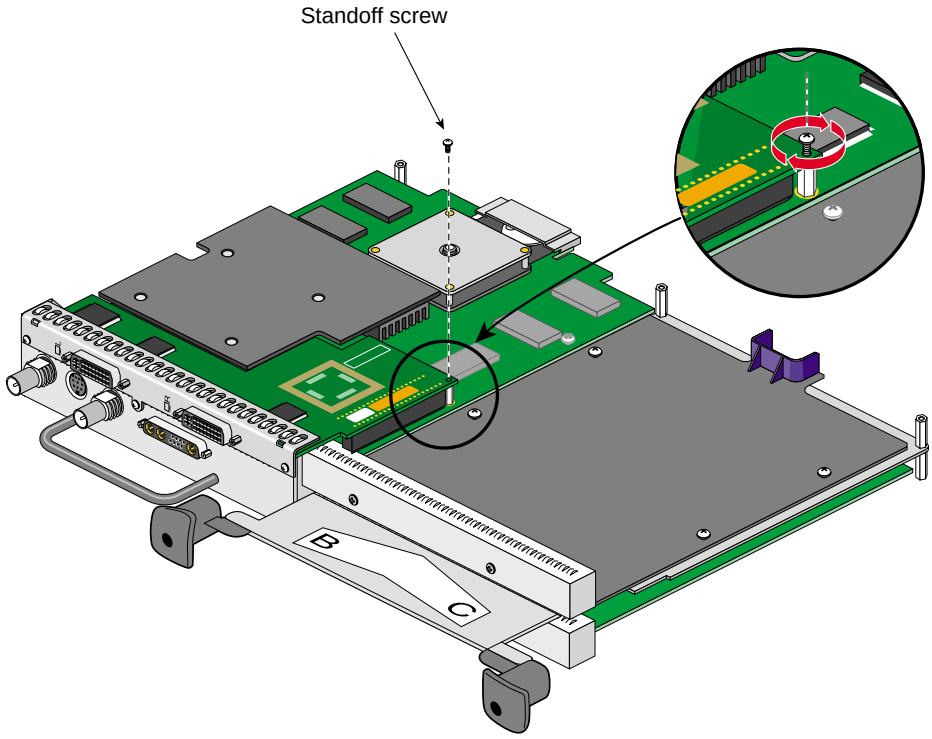

Figure 1-20 Securing the Display Option Board to the Standoff

11. Remove the 13W3 cover and the two screws from the bag of parts.
12. Place the 13W3 cover over the VPro Graphics Board monitor port, with the padded side of the cover facing the monitor port, as shown in Figure 1-21.

    When a monitor is not connected to the VPro Graphics Board monitor port, you must install the 13W3 cover to ensure that the system complies with local and international EMC regulations.
13. Align the two outside holes of the 13W3 cover with the two thumbscrew holes on the sides of the VPro Graphics Board monitor port.

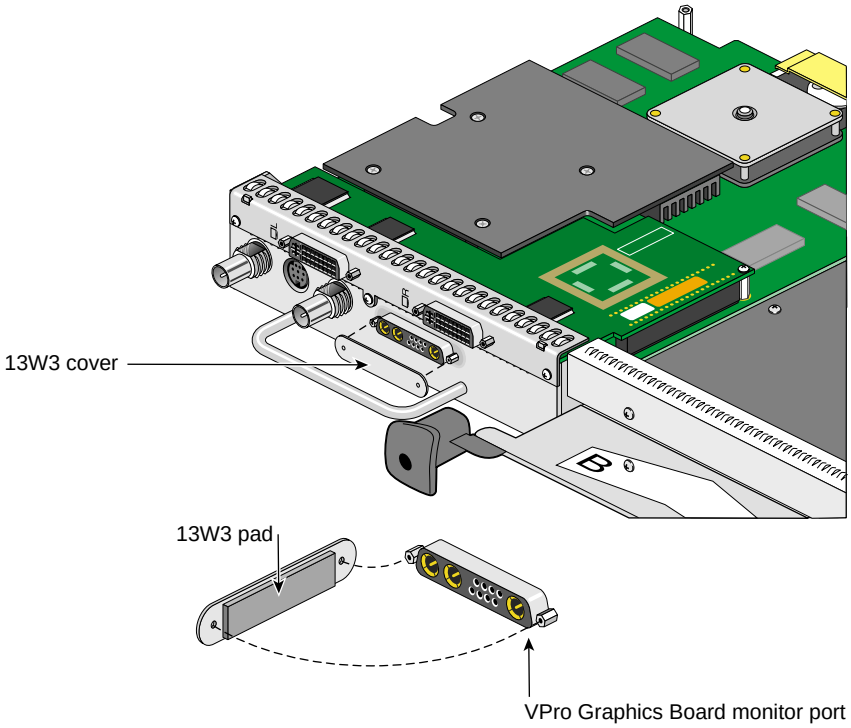

Figure 1-21 Placing the 13W3 Cover over the VPro Graphics Board Monitor Port

14. Insert a screw in each hole of the 13W3 cover, then tighten each screw to secure the cover to the VPro Graphics Board, as shown in Figure 1-22.

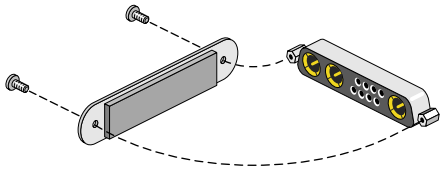

Figure 1-22 Installing the 13W3 Cover

Reinstalling the XIO Tri-Module

Caution: To prevent damage to your workstation, reinstall the XIO Tri-Module with the Graphics Board I/O panel aligned with the top of the workstation.

Follow these steps to reinstall the XIO Tri-Module:

1. Remove the cap from the XIO Tri-Module compression connector.
2. Slide the XIO Tri-Module into the guides on the top and bottom of the workstation.
3. Before you insert the XIO Tri-Module, make sure the sliding handles protrude in a locked position from the I/O panels, as shown in Figure 1-23.

   If the sliding handles are flush with the I/O panels, the XIO Tri-Module will stop during insertion. Pull out the sliding handles until the sliding portion of the XIO Tri-Module looks like Figure 1-23.
4. Grasp the immovable handle area with one hand while supporting the XIO Tri-Module with the other, and slide the module into the chassis.

   Use the immovable handle to push the XIO Tri-Module into a locked position. The I/O panels are nearly flush with the workstation when properly inserted, but there is a slight variation in the depth of the boards.
5. Push the sliding handles until the sliding portion of the module is flush with the workstation.

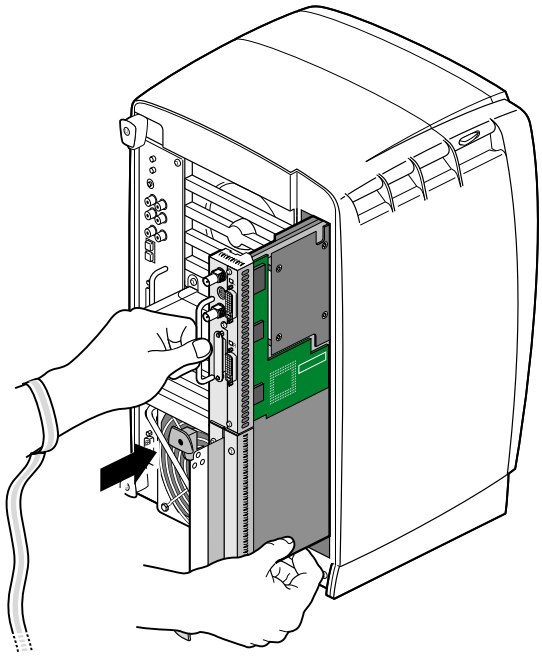

Figure 1-23 Inserting the XIO Tri-Module

6. Tighten the captive screws in the sliding handles, as shown in Figure 1-24.

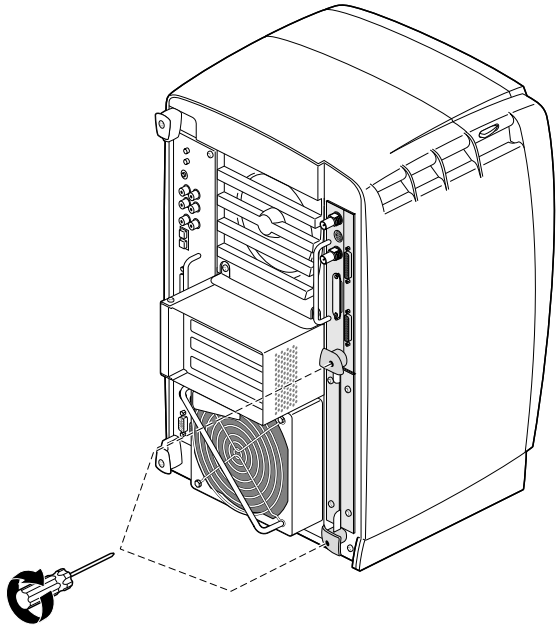

Figure 1-24 Tightening the XIO Tri-Module Screws

7. Remove the wrist strap.
8. Reconnect all cables to the XIO Tri-Module, except for the monitor cable.

   You are finished installing your Display Option board.

   Now go to Chapter 2 for instructions on connecting two monitors to the Display Option Board.

Removing the Display Option Board

If you want to remove the Display Option Board and connect a monitor to the VPro Graphics Board monitor port, follow these steps:

1. Power off and prepare your workstation, as described earlier in this chapter.
2. Remove the XIO Tri-Module, as described earlier in this chapter.
3. Remove the Display Option Board as follows (see Figure 1-25):
   - Remove the three screws that secure the Display Option Board I/O panel to the VPro Graphics Board I/0 panel.
   - Remove the standoff screw.
   - Remove the Display Option Board and store it in an antistatic bag.

Note: As you remove the Display Option Board, make sure its locator slots are completely detached from the VPro Graphics Board locator tabs.

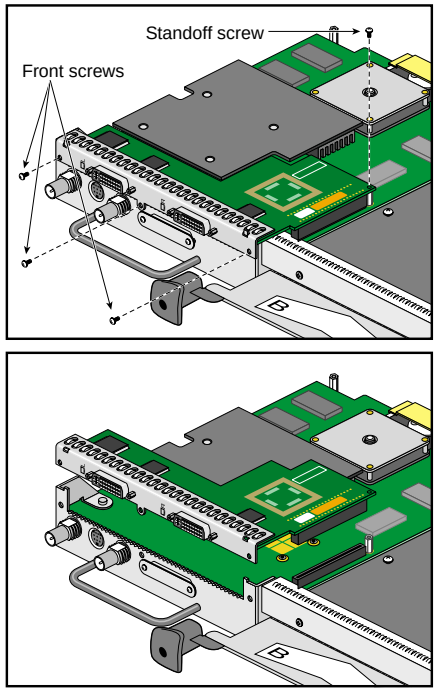

Figure 1-25 Removing the Display Option Board

4. Reinstall the VPro Graphics Board blank panel, as shown in Figure 1-26.

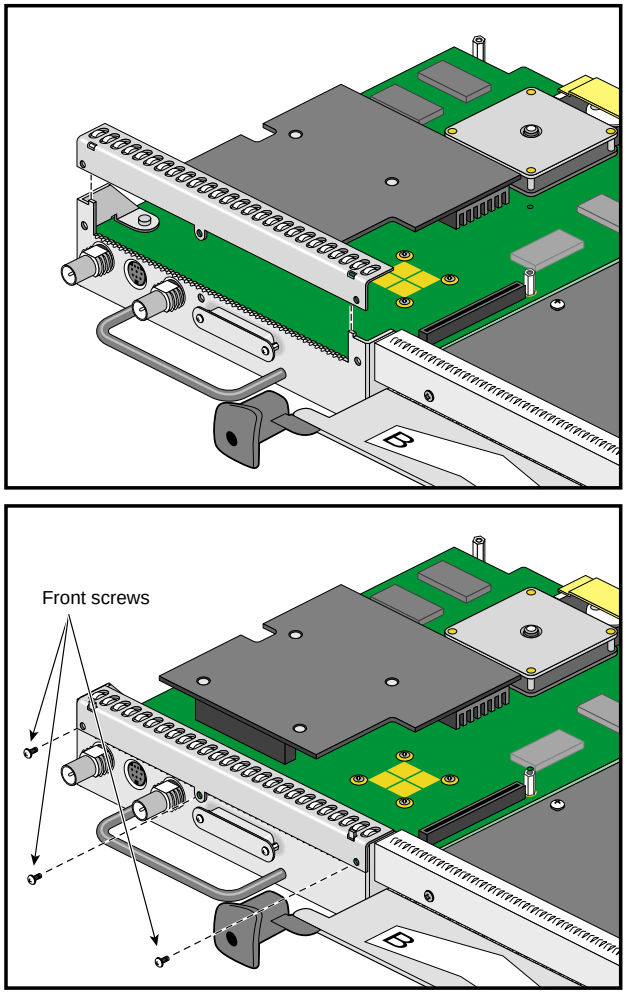

Figure 1-26 Reinstalling the VPro Graphics Board Blank Panel

5. Remove the two screws securing the 13W3 cover to the VPro Graphics Board, then remove the cover, as shown in Figure 1-27.

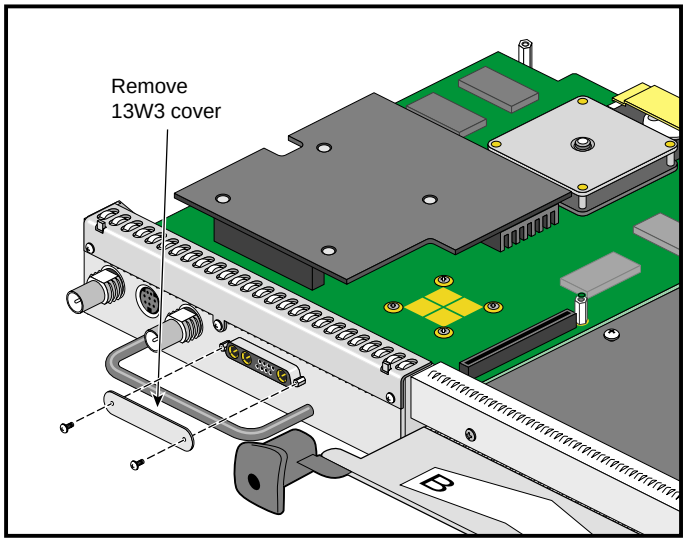

Figure 1-27 Removing the 13W3 Cover

6. Reinstall the XIO Tri-Module, as described earlier in this chapter.
7. Connect a monitor to the VPro Graphics Board monitor port, as shown in Figure 1-28.
8. Connect one end of the monitor power cable to your workstation and the other end to a 3-prong grounded electrical outlet.
9. Reconnect your workstation's power cable.
10. Power on your workstation and monitor.

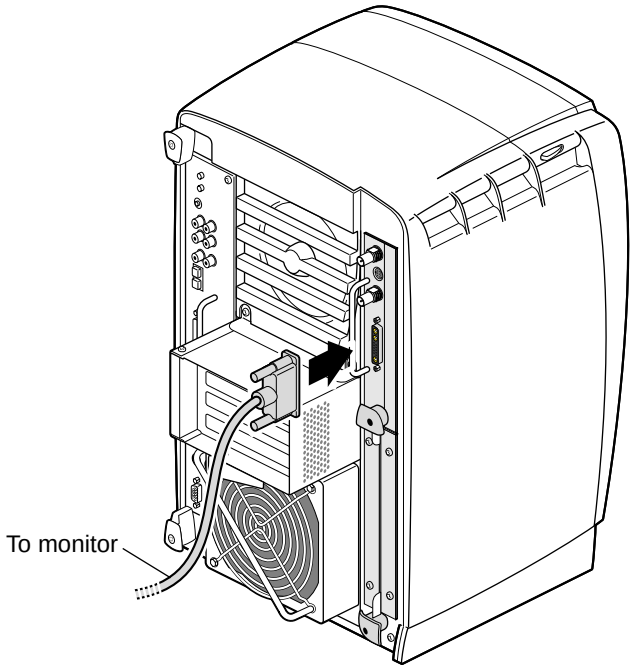

Figure 1-28 Connecting a Monitor to the VPro Graphics Board

Connecting Monitors to the Display Option Board

This chapter shows you how to connect two monitors to your Display Option Board.

The following topics are covered:

- "Connecting the Monitor Cables" on page 30
- "Connecting the Monitor Cables to the Display Option Board" on page 31
- "Connecting the Monitor Power Cables and Powering On Your Workstation" on page 32
- "Verifying the Installation" on page 33

Caution: Make sure both of the monitors that are connected to the Display Option Board have the same or similar display capabilities.

Connecting the Monitor Cables

Connect the monitor cables as follows:

1. Power off your workstation.
2. Place the monitors side by side.
3. Connect the VGA end of each DVI/VGA cable to the VGA connector on the back of each monitor, then tighten the thumbscrews on both sides of each connector (see Figure 2-1).
4. Face the front of the monitors, then place one monitor on the left and the other monitor on the right.

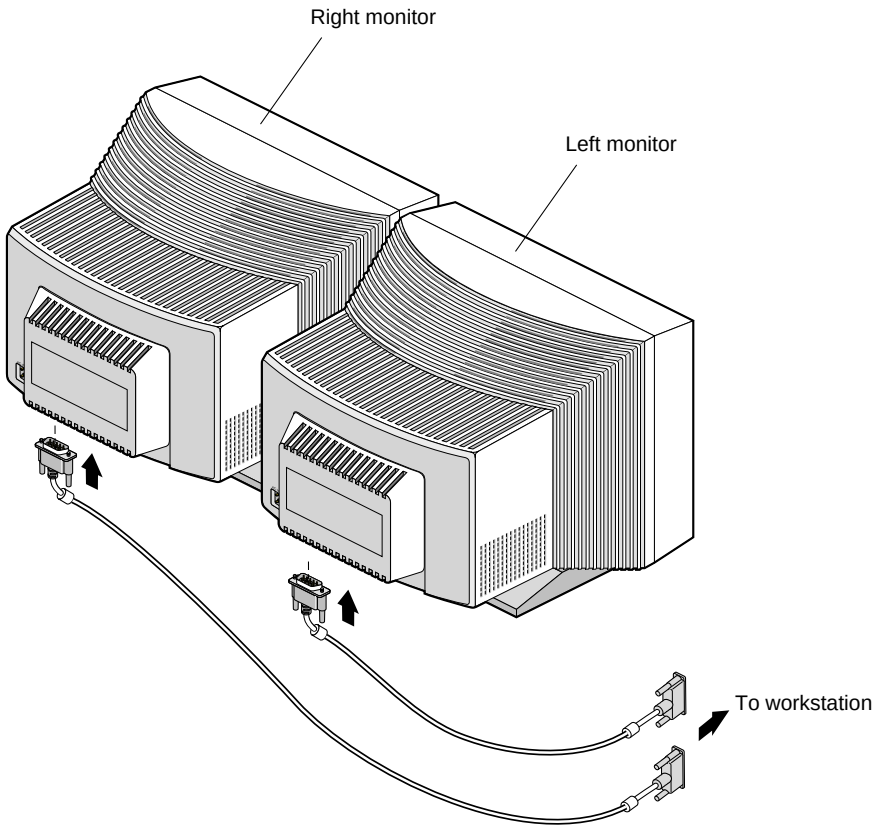

Figure 2-1 Connecting the Monitor Cables to CRTs

Connecting the Monitor Cables to the Display Option Board

1. Connect the left monitor's DVI/VGA cable to the top video connector (channel 0) on the Display Option board, as shown in Figure 2-2.

   Channel 0 drives the left monitor with the image from the top of the frame buffer.

2. Connect the right monitor's DVI/VGA cable to the bottom connector (channel 1) on the Display Option board.

   Channel 1 drives the right monitor with the image from the bottom of the frame buffer.

3. Tighten the thumbscrews on both sides of each video connector.

Caution: To ensure proper cursor movement, make sure you connect the monitor cables to the correct video connectors on the rear of your workstation.

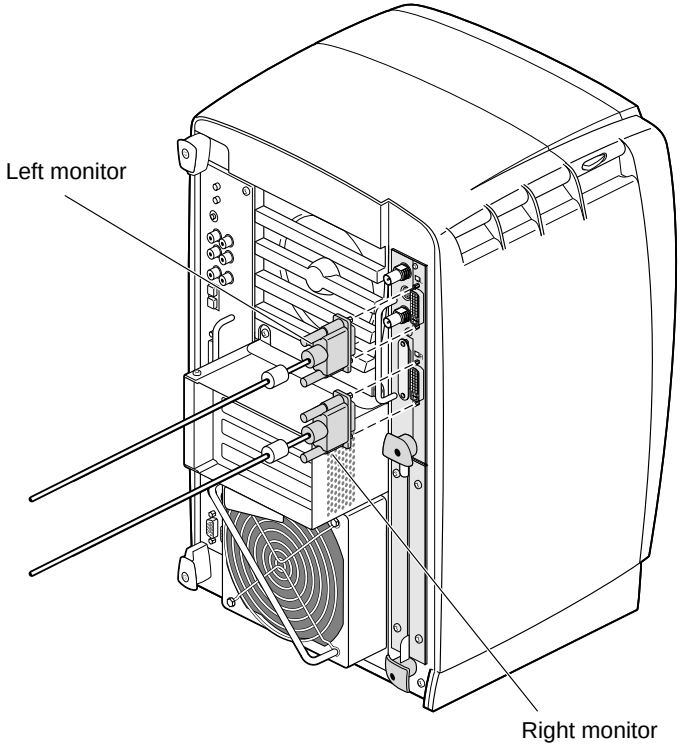

Figure 2-2 Connecting the Monitor Cables to the Display Option Board

Connecting the Monitor Power Cables and Powering On Your Workstation

Connect the power cable for each monitor as follows (see Figure 2-3):

1. Connect the female end of the power cable to the power connector on the back of the monitor.
2. Plug the male end into a three-prong grounded electrical outlet.
3. Plug your workstation's power cord into an electrical outlet.
4. Press the power button on the front of your workstation.
5. Press the power switch on the left monitor, then press the power switch on the right monitor to power on the monitors.

   For information on configuring the Display Option Board, go to Chapter 3, "Configuring the Display Option Board".

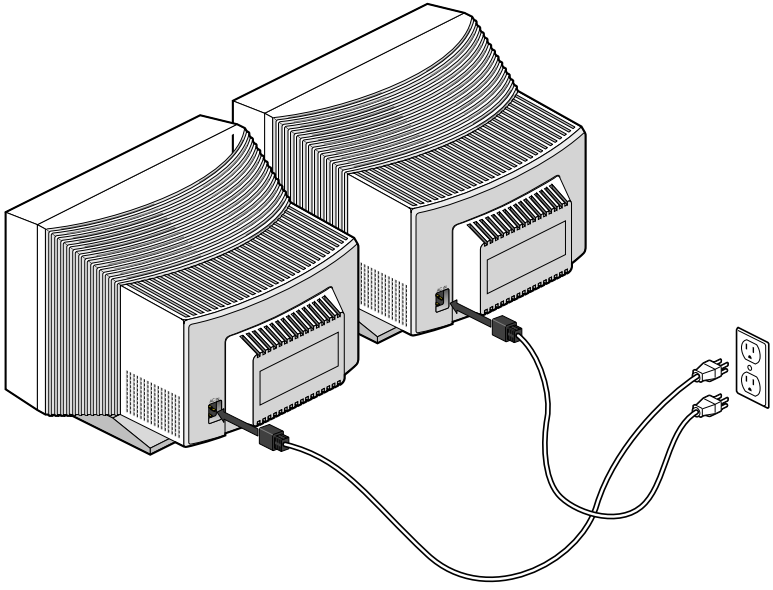

Figure 2-3 Connecting the Power Cables

Verifying the Installation

To verify a successful installation of the Display Option Board, follow these steps:

1. Open a UNIX shell.
2. At the prompt, enter **`hinv`**.

   The hardware inventory list appears, as shown in the example in Figure 2-4.
3. Look for the following line describing the Display Option Board.

   `Dual Channel Display`

   If the above line does not appear, go to Chapter 4, “Troubleshooting and Technical Specifications.”

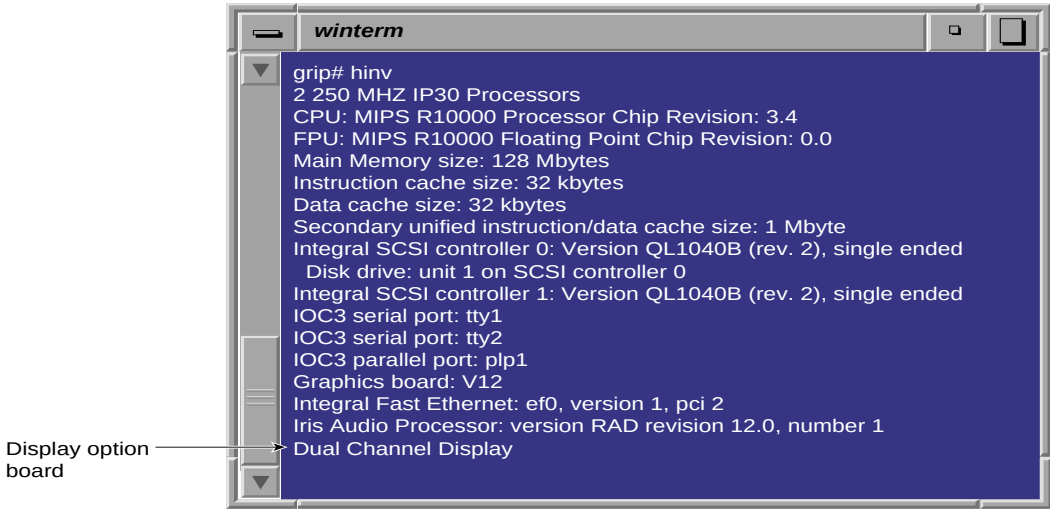

Figure 2-4 Hardware Inventory List After Installing the Display Option Board

If an image does not appear on each of your monitors, follow these steps:

1. Remove the 13W3 cap from the monitor port on the VPro Graphics Board.
2. Connect a monitor to the VPro Graphics Board monitor port.
3. Verify the installation, as described above.

Configuring the Display Option Board

This chapter shows you how to configure the Display Option Board.

The following topics are covered:

- "Enabling and Disabling the Dual Channel Display Setting" on page 36
- "Choosing the Buffer Settings" on page 38
- "Specifying the Maximum Size of a Window" on page 40
- "Resetting Window Positions" on page 41
- "Moving Windows between Monitors" on page 42

Enabling and Disabling the Dual Channel Display Setting

When the X server starts, it checks the user-defined display setting to ensure that it is valid for the current hardware configuration. If a display setting is not specified or if it is invalid, the X server automatically selects the default setting. If you do not want to use the default setting, follow these steps:

Note: Make sure both of the monitors that are connected to the Display Option Board have the same or similar display capabilities.

---

1. Open a UNIX shell.
2. Start **`xsetmon`**.

   The Graphics Back End Control window appears, as shown in the example in Figure 3-1.

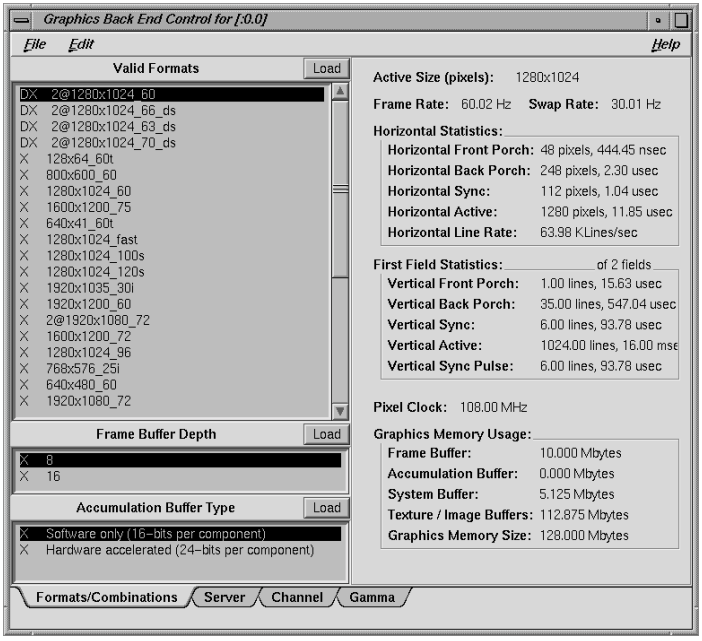

Figure 3-1 Graphics Back End Control Window

3. Choose a dual channel display setting in the Valid Formats field.

   To enable dual channel mode, choose a setting with a 2@ prefix. To disable dual channel mode, choose a setting without a 2@ prefix.

4. Click the **Load** button next to the Valid Formats title bar.

   If your display setting has the character *D* in the first column, a confirmation dialog box appears, as shown in the example in Figure 3-2.

Note: If you choose a display setting that does not have the character *D* in the first column, you must log out, and then log in again to activate the settings, as explained later in step 6.

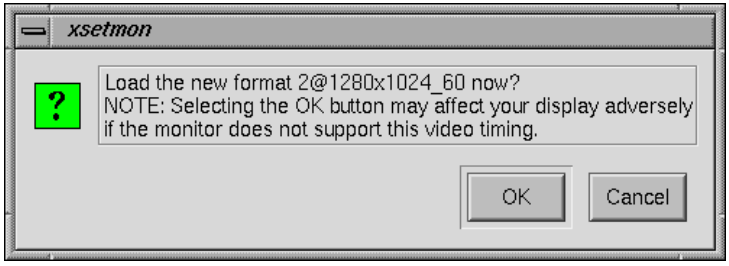

Figure 3-2 Load Confirmation Dialog Box

5. Click the **OK** button to confirm your display setting.

   Another dialog box appears that asks if you want to use this display setting as the power-on default, as shown in the example in Figure 3-3.

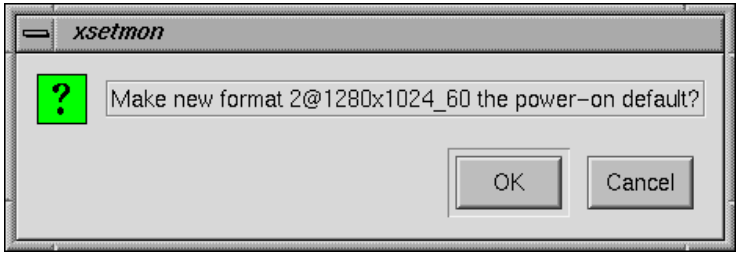

Figure 3-3 Power-On Default Dialog Box

6. Click the **OK** button to use the new display setting as the power-on default, or click the **Cancel** button to retain the current power-on default.

   If you click the **OK** button, the new display setting is immediately activated.

Note: If your specified display setting does not have the character D in the first column, a confirmation dialog box asks if you want to use this display setting as the power-on default. Click the **OK** button to confirm. The new display setting is activated the next time you log in.

Choosing the Buffer Settings

1. Choose the desired frame buffer depth in the Graphics Back End Control Window (see Figure 3-1), then click the **Load** button.

   A dialog box appears that asks if you want to use this frame buffer depth as the power-on default, as shown in the example in Figure 3-4.

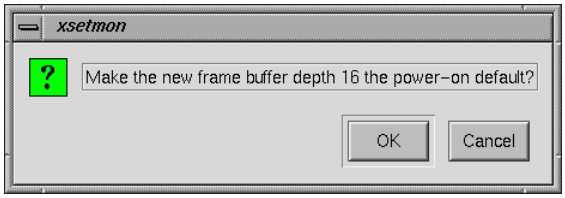

Figure 3-4 Frame Buffer Confirmation Dialog Box

2. Click the **OK** button to use this frame buffer depth as the power-on default, or click the **Cancel** button to retain the current default.

   If you click the **OK** button, another dialog box appears that says you must log out for the new settings to take effect, as shown in Figure 3-5.

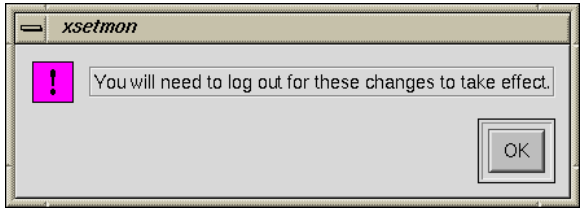

Figure 3-5 Log Out Dialog Box

3. Click the **OK** button in the dialog box.
4. Choose the desired Accumulation Buffer Type in the Graphics Back End Control Window (see Figure 3-1), then click the **Load** button.

   A dialog box appears that asks if you want to use this accumulation buffer type as power-on default, as shown in the example in Figure 3-6.

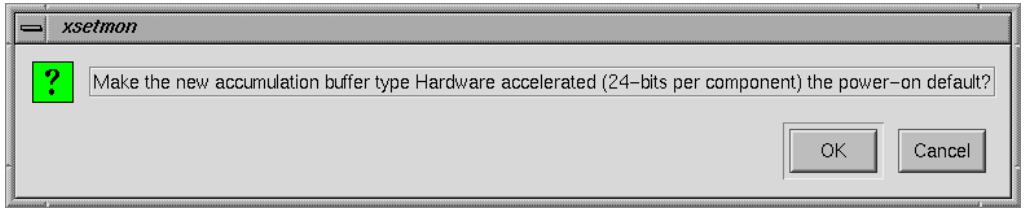

Figure 3-6 Accumulation Buffer Confirmation Dialog Box

5. Click the **OK** button to use this accumulation buffer type as the power-on default, or click the **Cancel** button to retain the current default.

   If you click the **OK** button, a dialog box appears that says you must log out for the new settings to take effect, as shown earlier in Figure 3-5.
6. Click the **OK** button in the dialog box.
7. Exit **`xsetmon`** and close all active applications.
8. Log out and then log in again to activate your new settings.

Specifying the Maximum Size of a Window

Because the Display Option Board provides a large logical display (for example, 2560 x 1024), some applications use all the available space and display a single window across both of your monitors. If this is the case, you can specify the maximum size of a window as follows:

1. As root, use an editor such as NEdit to open the file */usr/lib/X11/app-defaults/4DWm*.
2. Enter the following under 4Dwm Specific Appearance and Behavior Resources:

   ```
   *maximumMaximumSize: 1280x984
   ```

   This constrains the maximum window size to 1280 x 1024. The 40-pixel vertical difference is for the title bar and the top and bottom window borders.
3. Save the file and exit the editor.
4. Restart Window Manager by logging out and logging back in, or by choosing Toolchest > System > Utilities > Restart Window Manager and clicking **OK**.

   The above procedure limits the size of a maximized window, but the entire window may not appear on one of your monitors. To display the window on one of your monitors, click the **Maximize** button, and then move the window to the desired monitor.

Resetting Window Positions

The Display Option Board displays a single logical screen across two monitors. Most applications position their popup windows near their main window, or near the cursor. However, some applications center their popup windows. When such applications are in dual channel mode, one half of the window appears on one monitor, and the other half of the window appears on the other monitor, as shown in Figure 3-7.

To work around this, modify the application's resources, as follows:

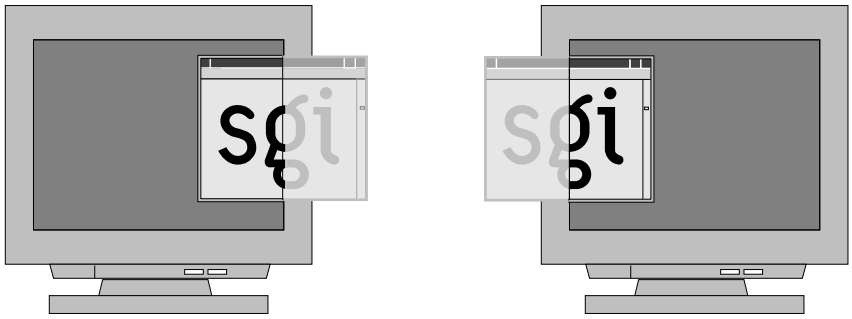

Figure 3-7 Overlapping Windows

To launch an application in a specific location, add the **`-geometry`** option to the command line. For example, the following command opens a window with the upper left hand corner of the window 30 pixels from the left of the screen and 200 pixels from the top of the screen.

```
xterm  -geometry +30+200
```

If you are using a resolution of 1280 x 1024 and you want to place a window on the second display, add 1280 to the first number. For example:

```
xterm  -geometry +1310+200
```

You can also set this X resource in **`$HOME/.Xdefaults`**. For example, the following command forces all XWsh windows to open with the upper left hand corner of the window 30 pixels from the left of the screen and 200 pixels from the top of the screen.

```
XWsh*geometry: +30+200
```

XWsh is the application's Classname.

In addition, you can use the Window Setting control panel to set specific window locations or to specify the window's last (continuous) position before you log out. To do this, choose Toolchest > Desktop > Customize > Windows.

Moving Windows between Monitors

When you move a window from one monitor to the other, the window follows the cursor as it jumps between screens. However, as it moves across, a section of the window is clipped. For example, as you move a window from the left monitor to the right monitor, the right edge of the window is clipped to the left edge of the right monitor, as shown in Figure 3-8.

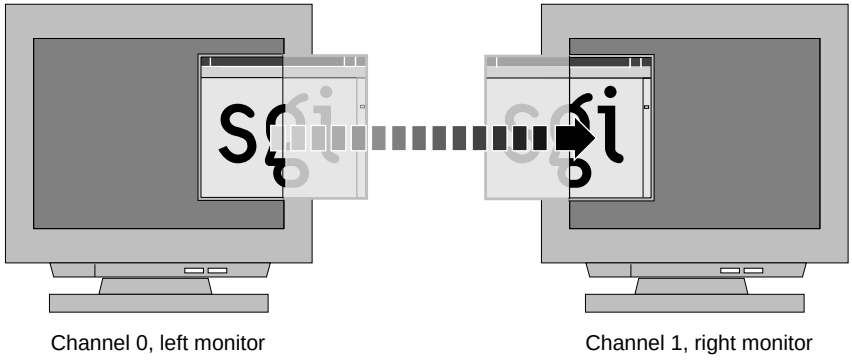

Figure 3-8 Moving a Window between Monitors

Troubleshooting and Technical Specifications

This chapter provides troubleshooting tips and pin assignments for the Display Option Board.

Following is a description of each section:

- "Troubleshooting" on page 43
- "Product Support" on page 44
- "Returning Parts" on page 45
- "Technical Specifications" on page 45

Troubleshooting

If you have a problem with your monitors, first verify that the Display Option Board appears in the hardware inventory list by following these steps:

Note: If your monitors are blank, remove the 13W3 cover from the VPro Graphics Board monitor port and connect a monitor to this port.

---

1. Open a UNIX shell.
2. At the prompt, type:

   ```
   hinv
   ```

3. Look for the following line describing the Display Option Board:

   ```
   Dual Channel Display
   ```

   If the above line does not appear, see the table of troubleshooting tips on the next page.

Table 4-1 provides troubleshooting tips that may help you isolate a problem.

Table 4-1 Display Option Board Pinout Assignment

Symptom	Possible Cause
Display Option Board does not appear in **`hinv`**.	Either the board is installed incorrectly, or it is defective. Repeat the installation steps again, and make sure you insert the board correctly. If reseating the board does not solve the problem, the board may be defective. Call your SGI service representative.
Same image appears on both monitors.	Timing mode is set to single channel. See Chapter 3.
Monitors are blank.	Remove the 13W3 cover from the VPro Graphics Board monitor port and connect a monitor to this port. Enter **`hinv`** in a UNIX shell to see if the system recognizes the board. If the system does not recognize the board, it may not be seated properly or it may be defective. If reseating the board does not solve the problem, the board may be defective. Call your SGI service representative.
In single channel modes, one monitor displays the image correctly, but the other monitor's image is bad.	The board is probably defective. Call your SGI service representative.
The images on both monitors alternate between the correct image and noise, a constant color, or a badly flickering image.	The board is probably defective. Call your SGI service representative.
In dual channel mode, two superimposed flickering images appear on a monitor connected to the VPro Graphics Board monitor port.	Currently, the VPro Graphics Board monitor port is not disabled in dual channel mode. If you connect a monitor to the VPro Graphics Board monitor port in dual channel mode, the monitor displays alternating images from the left and right channels.

Product Support

SGI provides a comprehensive range of product support for its products. If you are in North America and would like support for your SGI 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 SGI subsidiary or authorized distributor in your country.

Returning Parts

To return any part, use the packaging materials and box included with your part.

Technical Specifications

Table 4-2 lists the cable pinout assignments for both connectors on the Display Option Board.

Table 4-2 Display Option Board Pinout Assignment

Pin	Assignment	Pin	Assignment	Pin	Assignment
1	T.M.D.S. Data2-	9	T.M.D.S. Data1-	17	T.M.D.S. Data0-
2	T.M.D.S. Data2+	10	T.M.D.S. Data1+	18	T.M.D.S. Data0+
3	T.M.D.S. Data2/4 Shield	11	T.M.D.S. Data1/3 Shield	19	T.M.D.S. Data0/5 Shield
4	T.M.D.S. Data4-	12	T.M.D.S. Data3-	20	T.M.D.S. Data5-
5	T.M.D.S. Data4+	13	T.M.D.S. Data3+	21	T.M.D.S. Data5+
6	DDC Clock	14	+5V Power	22	T.M.D.S. Clock Shield
7	DDC Data	15	Ground (return for +5V, HSync, and VSync)	23	T.M.D.S. Clock +
8	Analog Vertical Sync	16	Hot Plug Detect	24	T.M.D.S. Clock-
C1	Analog Red	C2	Analog Green	C3	Analog Blue
C4	Analog Horizontal Sync	C5	Analog Ground (analog R, G, and B return)		

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