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Installing the A4315A and A4316A HCRX/VME Graphics Options



Embedded Systems Operation
Part No. A4315–90604
Edition E1097

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Preface

This guide describes how to install and configure the HCRX/VME graphics adapter on your Model 743 or 744 Single Board Computer or Model 748 Industrial System.

We've organized this guide as follows:

Chapter 1 This chapter describes how to prepare your computer for the installation. It lists the contents of the kit, system prerequisites, and how to configure HP CDE, HP VUE and X Windows for systems that operate with HP-UX.

Chapter 2 This chapter describes the step–by–step procedure for installing the HCRX/VME graphics option.

Chapter 3 This chapter describes how to configure your system and its software to recognize the new graphics adapter.

Chapter 4 This chapter tells you what to do if you experience problems after installing the new graphics adapter.

Audience

This guide is intended for use by anyone familiar with the Model 743 or 744 Single Board Computer or Model 74*8* Industrial System who wants to install an HCRX/VME graphics option.

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Installation Notice

Products designated in the applicable Hewlett–Packard price list as customer installable can be installed by computer–knowledgeable customers who carefully read and follow the instructions provided. Customers who elect to have the product installed by our field personnel are charged the applicable field installation charge, as covered under the standard terms and conditions. For more information, please contact your local sales representative.

Related Manuals

For more information, refer to the following documents:

- *Model 744 Owner's Guide* (A4511–90602)
- *Model 743 Owner's Guide* (A2636–90606)
- *Model 748 Owner's Guide* (A4511–90604)
- *X11 SERVERrt Installation and Configuration Guide* (B5492–90001)

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Revision History

The revision history for each edition of the manual is listed below:

Edition	Revision History
E1195	First edition.
E0596	Second edition, revised to include information relating to the Model 743*rt*.
E1097	Third edition, revised to include information relating to the Model 744 and CDE.

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Problems, Questions, and Suggestions

If you have any questions or problems with our hardware, software, or documentation, please contact your designated service representative.

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Documentation Conventions

Unless otherwise noted in the text, this guide uses the following symbolic conventions:

literal values	Bold words or characters in formats and command descriptions represent commands that you must use literally. Pathnames are also in bold.
user–supplied values	Italic words or characters in formats and command descriptions represent values that you must supply. Italics are also used in text for emphasis.
`screen display`	Information that the system displays appears in `this typeface`.
Enter	A rectangle with rounded corners and a key label denotes a key on your keyboard. (In this manual we refer to the **Enter** key. On your keyboard the key may be labeled either **Enter** or **Return**.)
	This symbol indicates the end of a chapter or part of this guide.



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Chapter 1
Preparing for the Installation

This chapter describes how to prepare your system for a HCRX8/VME or HCRX24/VME graphics adapter installation. Before installing your new graphics adapter, you need to complete the following tasks:

- Check that you have the necessary equipment.
- Make sure that your workstation meets the prerequisites.

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1. Check That You Have the Necessary Equipment

Verify that you have kit A4315A (HCRX8/VME) or kit A4316A (HCRX24/VME). Ensure that the kit contains the following parts.

- HCRX8/VME or HCRX24/VME graphics board
- Front panel extension plate
- Blank cover
- Screws:

  Six M2x.45x6mm pan head
  Four M2x.45x12mm pan head
  Four M2x.45x5mm panhead
- Boot ROM, upgrade (for use with Model 743 only)
- IC removal tool (for use with Model 743 only)
- Disposable anti–static wrist strap

Verify that you have the following tools to perform the installation:

- Small flat blade screwdriver
- #1 Pozidriv screwdriver

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2. System Prerequisites

Your system must meet some hardware and software prerequisites to support the HCRX/VME graphics options. These prerequisites are described in the following sections.

Hardware Prerequisites

The required hardware is as follows:

- One of the following color monitors.
  - A4032A or A4330D 1280 x 1024, 17–inch, Monitor
  - A4033A or A4331D 1280 x 1024, 20–inch, Monitor
- Adapter Cable A4304A
- A minimum of 32-MB RAM if running HP-UX version 10.20, or a minimum of 16-MB RAM if running HP-UX version 9.x, or a minimum of 24–MB RAM if running HP–RT

Firmware Prerequisites

The required firmware is as follows:

- A Model 743 Single Board Computer (SBC) may require a firmware upgrade if the Boot ROM included in this kit is a later version than the one in use on your SBC. To determine if the Boot ROM of your SBC needs to be replaced, you need to determine the revision number, which can be done in one of two ways: use the Boot Console Handler (BCH) interface as described in the *Model 743 Owner's Guide*, or you can examine the label on the Boot ROM – a revision number is printed on the label. If the revision number on the Boot ROM installed on the Model 743 is a lower number than the one included in this kit, you should replace the Boot ROM with the one included in this kit. If the revision number on the Boot ROM installed on the Model 743 is equal to or greater than the one included in this kit, **DO NOT** replace the Boot ROM on the Model 743.
- A Model 744 Single Board Computer (SBC) does not require a firmware upgrade

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Software Prerequisites

The required software is as follows:

- For Model 743 SBC with HP-UX, software release 9.x with patch PHSS_6142, or release 10.10 or later version.
- For Model 744 SBC with HP-UX, software release 10.20 or later version.

  To identify which revision of HP-UX your workstation is running, enter the following command:

  uname –r Enter

  A line similar to the following is displayed:

  ```
  A.09.05
  ```

  If a number less than 09.05 is displayed it means that you need to update your software before installing your HCRX/VME graphics upgrade.

- For Model 743 SBC with HP-RT, the operating system software revision of the host system must be HP-UX 10.10, and the HP-RT target system must have HP-RT 2.20 and X11 SERVERrt 2.20. For more information, refer to the *X11 SERVERrt Installation and Configuration Guide.*

- For Model 744 SBC with HP-RT, the operating system software revision of the host system must be HP-UX 10.10, and the HP-RT target system must have HP-RT 2.21 and X11 SERVERrt 2.21. For more information, refer to the *X11 SERVERrt Installation and Configuration Guide.*

Contact your designated service representative for information on receiving an upgrade to the correct version of the operating system.

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3. For HP-UX 9.x only, Configure X Windows and HP VUE

NOTICE: If you use HP–UX 10.20 or HP-RT as your operating system, please go to Chapter 2.

If your HP–UX 9.x system is running X windows and HP VUE, use these procedures to configure your new HCRX/VME graphics option.

Follow the instructions in "Setting Up a Single Monitor System" to set up your system to use only the HCRX/VME graphics. Follow the instructions in "Setting Up a Dual Monitor System" to set up your system to use both the HCRX/VME graphics and the built–in graphics.

Setting Up a Single Monitor System (HP–UX 9.x only)

This subsection describes how to set up your workstation to use only the HCRX/VME graphics.

a. Log in as **root**.

b. Enter the following command line to create a device file to support the HCRX/VME graphics adapter:

/etc/mknod /dev/*new_device_name* **c 12 0x000000** Enter

Where *new_device_name* can be any name that doesn't already exist in the **/dev** directory.

This command allows the operating system to recognize the new graphics device.

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c. Enter the following command line to set the attributes of the device file:

chmod 666 /dev/*new_device_name* Enter

d. Make a backup copy of **/usr/lib/X11/X0screens** by entering the following command line:

cp /usr/lib/X11/X0screens /usr/lib/X11/X0screens.backup Enter

e. Use a text editor, such as vuepad or vi, to edit the following file:

/usr/lib/X11/X0screens

f. Edit the file so that every line begins with a pound sign (**#**).

g. Add the following line to the file exactly as shown:

/dev/*new_device_name*

Including the new device in **X0screens** allows X to recognize the new graphics device.

h. Save your changes and close the file.

NOTICE: Any time that you switch between graphics devices, you need to change the **X0screens** file (as described above) so that X will recognize the new graphics device.

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Setting Up a Dual Monitor System (HP–UX 9.x only)

This subsection describes how to set up your workstation to use both the HCRX/VME graphics and the onboard graphics.

The HCRX/VME graphics is set up as the default display and console device and the onboard graphics is set up as the secondary display device.

a. Log in as **root**.

b. Enter the following command line to create a device file to support the HCRX/VME graphics adapter:

/etc/mknod /dev/*new_device_name* **c 12 0x000000** Enter

Where *new_device_name* can be any name that doesn't already exist in the **/dev** directory.

This command allows the operating system to recognize the new graphics device.

c. Enter the following command line to set the attributes of the device file:

chmod 666 /dev/*new_device_name* Enter

d. Make a backup copy of **/usr/lib/X11/X0screens** by entering the following command line:

cp /usr/lib/X11/X0screens /usr/lib/X11/X0screens.backup Enter

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e. Use a text editor, such as vuepad or vi, to edit the following file:

/usr/lib/X11/X0screens

f. Edit the file so that every line begins with a pound sign (**#**).

g. Add the following two lines to the file exactly as shown and in the order shown:

/dev/*new_device_name*
/dev/crt

Including the new device in **X0screens** allows X to recognize the new graphics device.

Since the device file for the HCRX/VME graphics is listed first, it becomes the default (0.0) display device and the built–in graphics becomes the secondary (0.1) display device. The default display device (0.0) is the one that displays the HP VUE login screen and control panel.

h. Save your changes and close the file.

NOTICE: Any time that you switch between graphics devices, you need to change the **X0screens** file (as described above) so that X will recognize the new graphics device.

i. Use a text editor, such as vuepad or vi, to edit the following file:

/usr/vue/app–defaults/Vuewm

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j. Add the following two lines exactly as shown:

```
Vuewm*multiScreen:  True
Vuewm*screenList:  One  Two
```

This gives HP VUE access to both screens.

k. Save your changes and close the file.



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Chapter 2
Installing the HCRX/VME Graphics Hardware

This chapter describes how to install the HCRX/VME graphics option hardware. Before beginning the hardware installation, you must complete the tasks in Chapter 1. The tasks for installing the graphics option hardware are as follows:

- Remove the single board computer (SBC).
- Remove option boards, if installed.
- For Model 743 SBC, install new Boot ROM, if required.
- Install front panel expansion plate, if needed.
- Install HCRX/VME board.
- Install a blank cover.
- Reinstall option board.
- Replace the single board computer.
- Connect the monitor.

CAUTION: The HCRX/VME graphics board is susceptible to damage due to electrostatic discharge. When handling your graphics option board, always wear the static–grounding wrist strap that came in the kit. Always handle printed circuit boards carefully.

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1. Remove SBC from the card cage.

a. Power down your card cage.

b. Disconnect the power cord(s) from the wall outlet and the card cage.

c. Power off any external peripherals attached to your computer, and unplug their power cables from the wall outlet.

d. Attach the anti–static grounding wrist strap to your wrist and an exposed piece of metal on your computer, as described on the wrist strap's packaging.

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e. Loosen the SBC's two captive screws with a small flat blade screwdriver. Depending on your configuration, you could have four captive screws – two on the SBC, and two on the expansion slot. If you have these four captive screws, you will need to remove all four. See Figure 2–1.

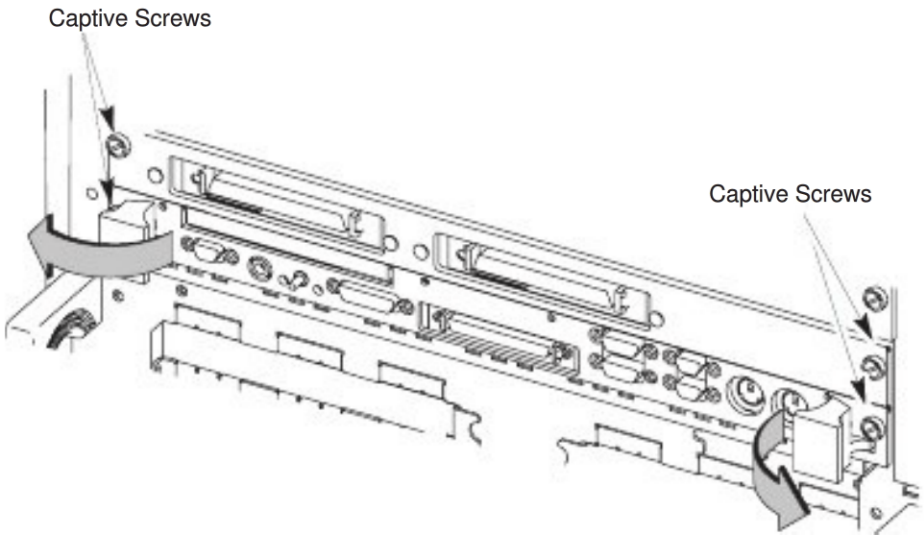


Figure 2–1. Removing the Single Board Computer

f. Push the ejector handles to the outside of the board and remove the SBC from the card cage, as shown in Figure 2–1.

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2. Remove option boards and expansion board, if installed.

If any option boards or the GSC expansion board are installed on the SBC, remove them as follows:

a. If any option boards are installed on the SBC, use a #1 Pozidriv screwdriver to remove their two mounting screws and carefully disconnect them, as shown in Figure 2–2.

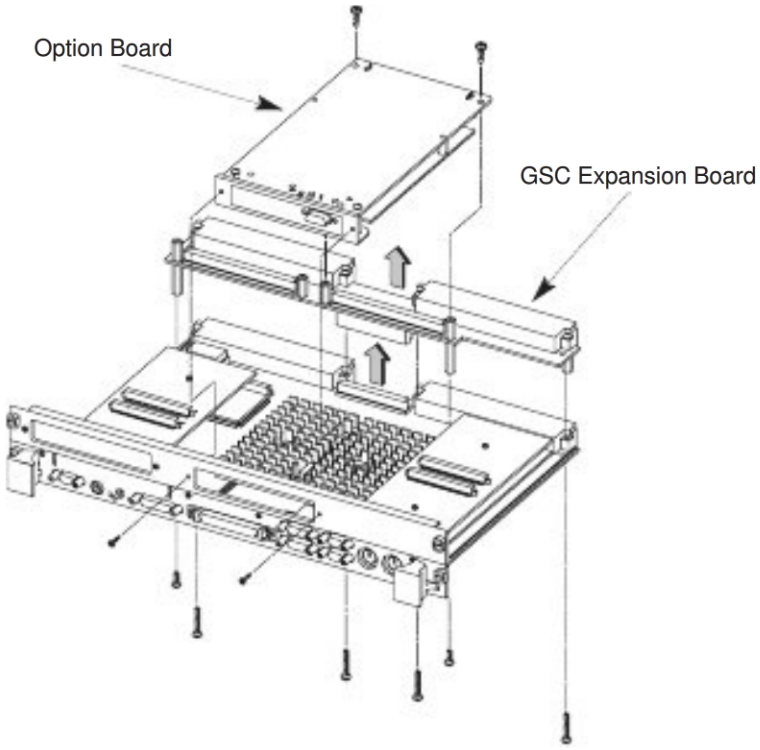


Figure 2–2. Removing Option Boards and GSC Expansion Board

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b. Remove the screws from the bottom of the SBC and carefully disconnect the GSC expansion board, as shown in Figure 2–2.

c. Remove the blank plate installed in the right most opening of the front panel expansion plate, if installed. See Figure 2–3.

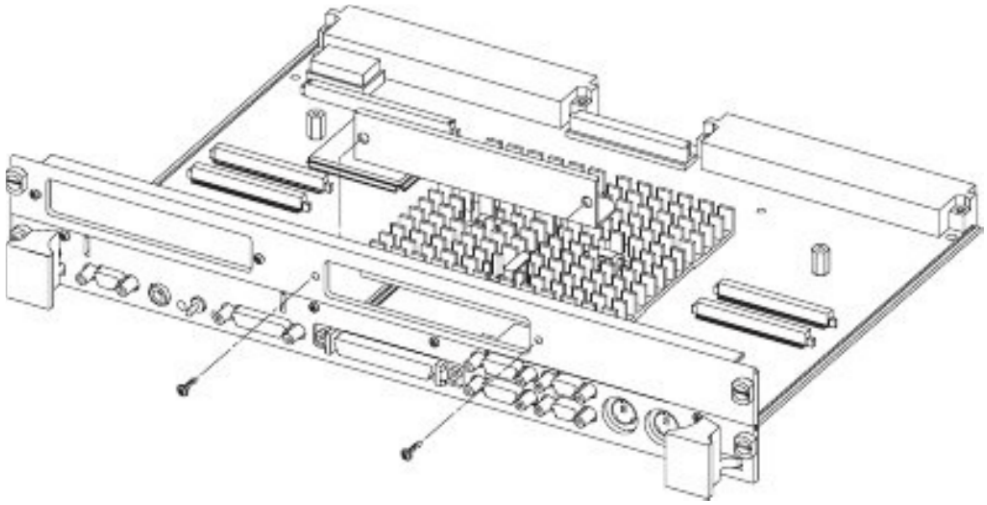


Figure 2–3. Removing a Blank Plate

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3. For Model 743 only, install new Boot ROM if required.

If after reading the prerequisites for firmware in Chapter 1 you must replace the Boot ROM, use the following procedure.

a. Remove the Boot ROM from its socket on the Model 743, at location U54, using the IC removal tool as shown in Figure 2–4.

b. Align the new Boot ROM in its socket, at location U54, with the keyed corner matching the sockets keyed corner. Carefully press the new Boot ROM into its socket. See Figure 2–4.

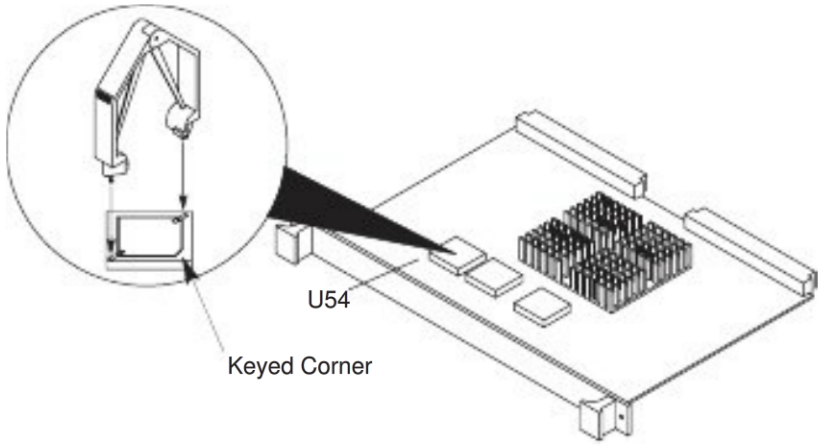


Figure 2–4. Removing and Replacing the Boot ROM

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4. Install front panel extension plate, if needed.

If the SBC did not have any option boards or an expansion kit installed, you need to install the front panel extension plate that came with the HCRX/VME kit, as follows:

a. Remove the EMI gaskets from the top lip of the SBC's front panel.

b. Place the front panel extension plate on the SBC's front panel with its tabs behind the existing front panel, as shown in Figure 2–5.

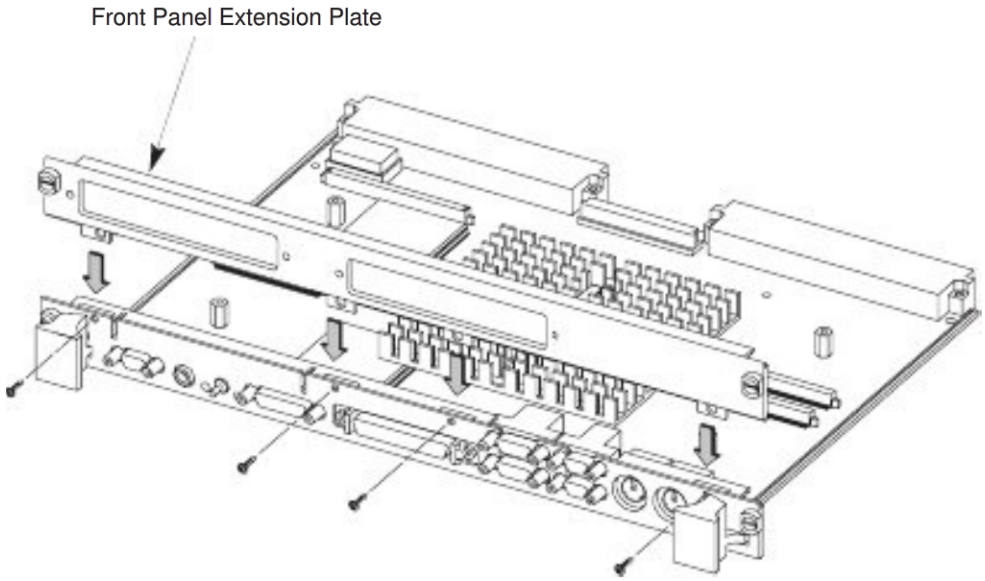


Figure 2–5. Installing the Front Panel Extension Plate

c. Insert the four M2x.45x5mm screws through the existing front panel and into the front panel extension and tighten them with a #1 Pozidriv screwdriver. See Figure 2–5.

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5. Install HCRX/VME graphics board.

NOTICE: When installing the HCRX/VME graphics board make sure that the memory connector on the left side (front panel facing you) of the SBC has no more than one memory card installed.

a. Align the video connector on the HCRX/VME graphics board with the right hand (front panel facing you) cutout on the front extension plate. See Figure 2–6.

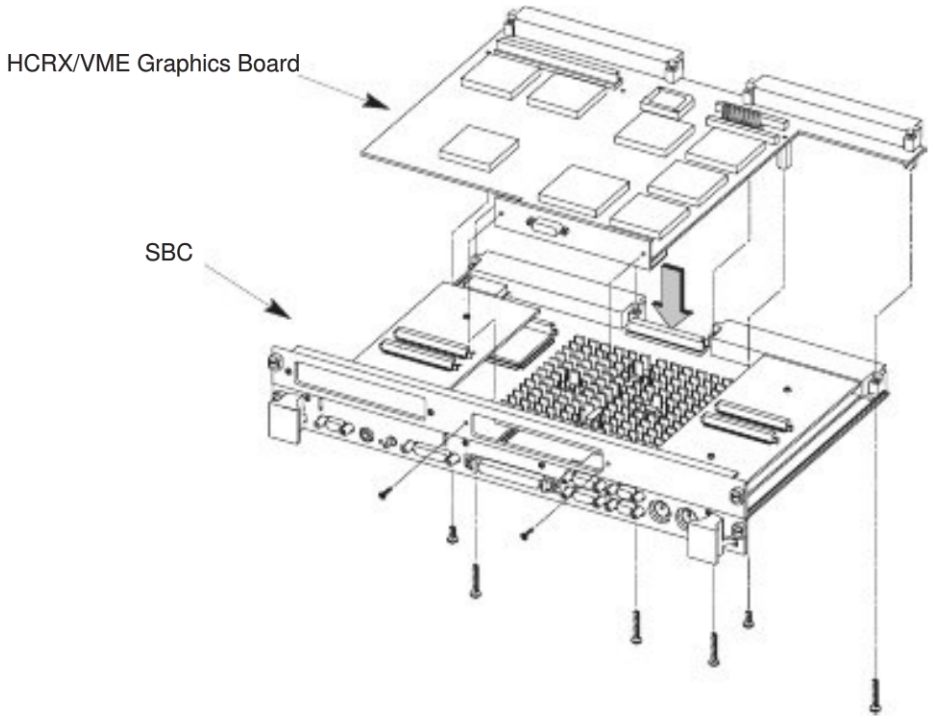


Figure 2–6. Installing the HCRX/VME Option Board

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b. Align the connector on the bottom of the HCRX/VME graphics board with the GSC connector on the SBC. See Figure 2–6.

c. Gently press down on the graphics board until the connectors are fully seated.

d. Insert the four M2x.45x12mm screws through the bottom of the SBC and through the VMEbus connectors into the standoffs on the HCRX/VME graphics board. See Figure 2–6.

e. Use a #1 Pozidriv screwdriver to tighten the four screws.

f. Insert the the two M2x.45x6mm screws through the bottom of the SBC into the remaining two standoffs on the HCRX/VME graphics board. See Figure 2–6.

g. Use a #1 Pozidriv screwdriver to tighten the two screws.

h. Install two M2x.45x5mm screws through the front panel extension plate on either side of the HCRX/VME board's video connector to secure the video connector plate. See Figure 2–6.

i. Use a #1 Pozidriv screwdriver to tighten the two screws.

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6. Install a blank cover.

If you are not reinstalling an option board, in the opening on the left side of the front panel extension plate, install a blank cover that came with the kit using two M2x.45X5mm screws. Use a Pozidriv screwdriver to tighten the screws. See Figure 2–7.

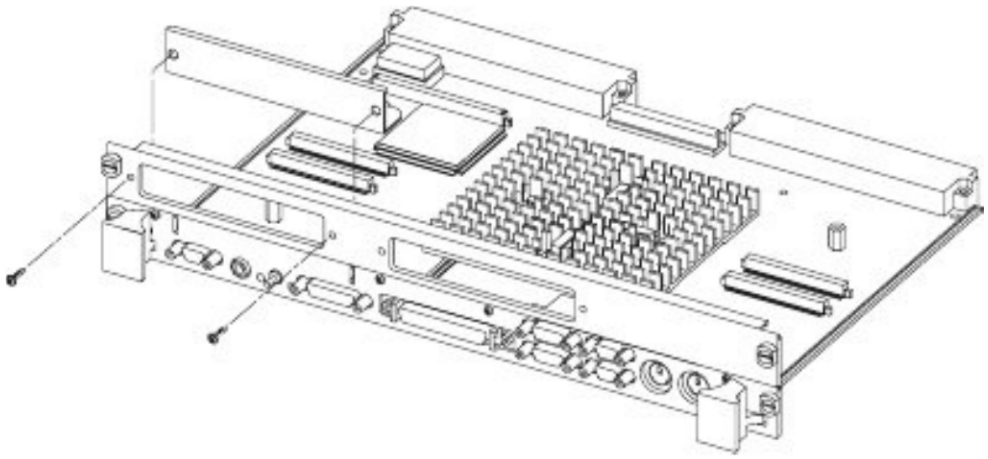


Figure 2–7. Installing a Blank Plate

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7. Reinstall an option board.

If you removed any option boards earlier you may reinstall up to one of them at this time.

NOTICE: With the HCRX/VME graphics board installed you may only install one other option board.

– With HP-RT, only one graphics controller is supported
– With HP-UX 9.0x, two graphics controllers are supported
– With HP-UX 10.x, three graphics controllers are supported.

a. Align the option board's connector with the connector on the HCRX/VME graphics board, as shown in Figure 2–8.

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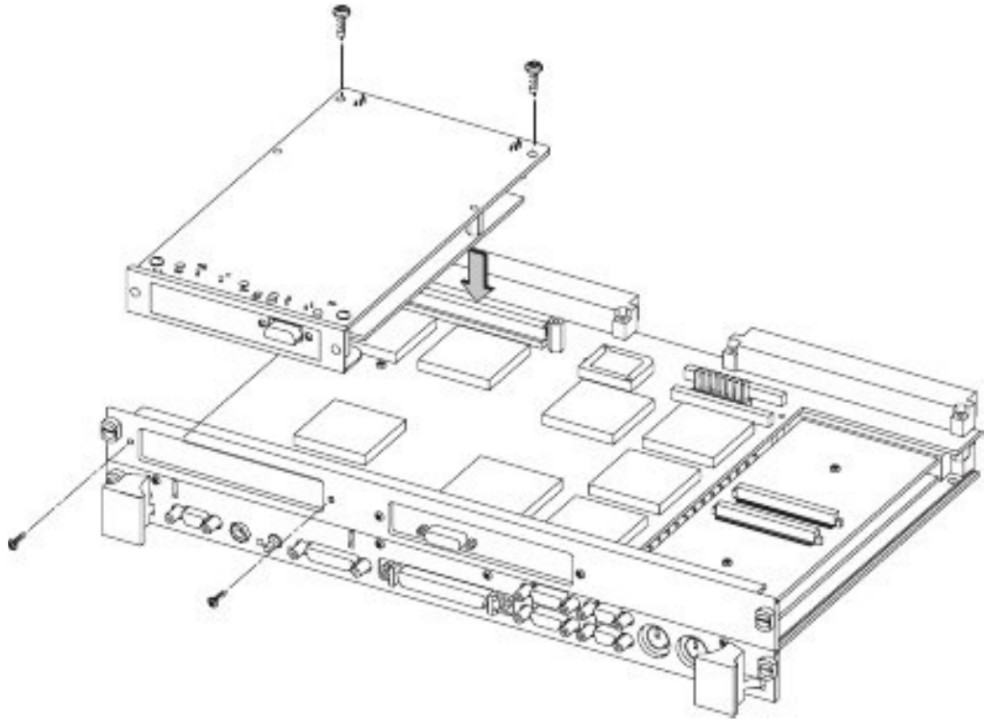


Figure 2–8. Reinstalling an Option Board

b. Press firmly on the option board until the connectors are fully seated.

c. Use the two screws that you removed from the option board earlier to secure it to the HCRX/VME option board.

d. Use a #1 Pozidriv screwdriver to tighten the screws.

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8. Replace the SBC in the Card Cage.

a. Replace the SBC in the VME card cage.

b. Push on the SBC's ejector handles until it is fully seated in the card cage, as shown in Figure 2–9.

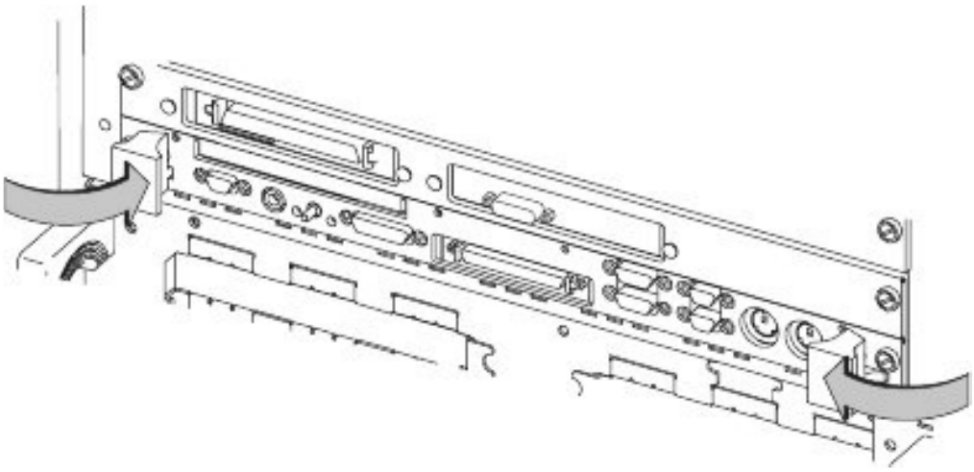


Figure 2–9. Replacing the Single Board Computer

c. Use a small flat blade screwdriver to tighten the two captive screws on the SBC and the two captive screws on the expansion slot.

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9. Connect the monitor.

a. Connect adapter cable A4304A to the connector on the HCRX/VME board, as shown in Figure 2–10. Be sure to firmly tighten the screws on the connector.

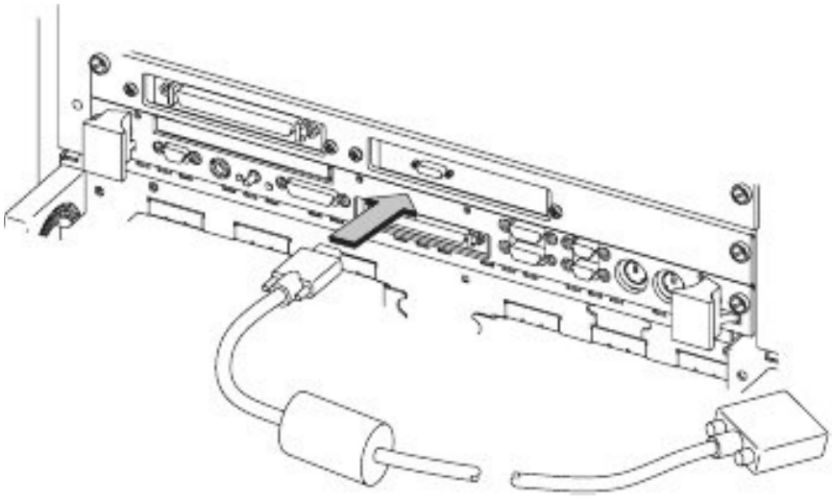


Figure 2–10. Connecting the Adapter Cable

b. Connect one of the following monitors to the connector on the adapter cable:

- 1280 x 1024, 17–inch Monitor
- 1280 x 1024, 19–inch Monitor

c. Connect monitors to any other graphics device(s).

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10. Proceed to Chapter 3, “Setting Your Graphics Configuration”.

The hardware installation is complete. Follow the instructions in Chapter 3, “Setting Your Graphics Configuration” for information in setting up your default console device, and for systems using HP-UX, to configure the Operating System to recognize and use the new HCRX/VME graphics option.

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Chapter 3
Setting Your Graphics Configuration

This chapter describes how to configure your system for a HCRX8/VME or HCRX24/VME graphics adapter. Before configuring your system you should perform the procedures described in Chapters 1 and 2.

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1. Power on your system and set the console device.

NOTICE: These instructions allow you to set the console device to any installed graphics device that has a monitor connected or to a terminal connected to the serial port.

For the Model 743 SBC, the initial selection is not saved in stable storage. Complete all the steps given here to permanently set the console path. The Model 744 SBC saves the initial setting as the console device.

a. Make sure that the monitor(s) are powered on.

b. Hold the SBC's reset/abort switch in its **Abt** position, then turn on power to the VMEbus card cage.

The following sections are separated into Model 744 instructions and Model 743 instructions. Please follow the instructions for your SBC model.

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Model 744

a. A message similar to the following is displayed on each monitor connected to a graphics device recognized by the system:

NOTICE: If this message is not displayed on your monitor, review the procedures in Chapter 1 and Chapter 2 to make sure that you correctly installed the option board.

```
GRAPHICS(1) MONITOR INFORMATION

Slot     Model      Type    Resolution        Freq     Class
----  -----------   ----    ---------------   ----     -----
   1    HPA4315A      1     1280x1024         72

The following keyboard(s) are available:

         PS2

Press the <n> key to select GRAPHICS(1) as the CONSOLE or
press the <TAB> key to select the next monitor type.
```

Enter the number, **<n>,** that corresponds to the display that you want as the console, or press Tab to change the monitor type. When the correct monitor type is displayed, enter the number for that console device.

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b. The following message is then displayed:

```
Press the <ESC> key to confirm selection of GRAPHICS(1)
as the CONSOLE.

This selection will time out if not confirmed.
```

Press Esc to confirm your selection. If you do not press Esc, the screen returns to the previous console selection screen.

c. After confirming your selection of the console device, the system begins the sequence to boot from the primary path stored in the Boot ROM.

If the boot path is not valid, the Boot Console Handler's **Main Menu** is displayed as follows:

```
------ MAIN MENU ----------------------------------------------

Command                          Description
-------                          -----------
BOot [PRI|ALT|<path>]            Boot from a specified path
PAth [PRI|ALT|CON|KEY|<path>]    Display or modify a path
SEArch [DIsplay|IPL] [<path>]    Search for boot devices

COnfiguration [<command>]        Access Configuration menu/commands
INformation [<command>]          Access Information menu/commands
SERvice [<command>]              Access Service menu/commands

DIsplay                          Redisplay the current menu
HElp [<menu>|<command>]          Display help for menu or command
RESET                            Restart the system
------
Main Menu: Enter command>
```

You must enter or define a boot path to boot the system.

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Model 743

a. A message similar to the following is displayed on each monitor connected to a graphics device recognized by the system:

```
Press n to select this CONSOLE
```

Where *n* is a single digit number.

When the message is displayed clear and undistorted on the monitor you wish to use as the console device, enter the number that is displayed on that monitor.

NOTICE: The message is displayed for only seven seconds before proceeding to the next monitor resolution. Make the monitor selection as soon as possible after the message is displayed.

NOTICE: If this message is not displayed on your monitor, review the procedures in Chapter 1 and Chapter 2 to make sure that you correctly installed the option board.

b. The following message is then displayed:

```
TO CONFIRM THIS DEVICE AS THE CONSOLE, press [Esc]
```

Press Esc to confirm your selection.

NOTICE: The message is displayed for only three seconds before console search is resumed. Press Esc as soon as possible after the message is displayed.

The following message is then displayed on the selected display:

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```
You have selected this device as the CONSOLE.
```

CAUTION

```
Before selecting 77 or 99:
Set the CONSOLE PATH to this device, then
Deselect INTERACTIVE CONSOLE SEARCH
```

c. Disregard the message:

```
Press [Esc] to discontinue the Auto Boot process
```

The Auto Boot process is automatically aborted due to the invocation of the interactive console search feature.

The Boot Console Handler's (BCH's) **Main Menu** is displayed as follows:

```
==== MAIN MENU ========================================

         Key  Operation
         ---  ------------------------------------------------
         1    Boot From a Device
         2    Path Configuration
         3    Mode Configuration
         4    Interactive Testing
         5    Firmware Information
         6    Hardware Information
         7    System Configuration
         ...  ..............................................
         77   Reset the System
         88   Change Mode
         99   Restart Auto Boot
-------------------------------------------------------------
Press Key, then press [Enter/Return]
```


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2. Permanently set the console path and monitor type with the boot console handler.

The procedure for setting the console path and monitor type is differs according to the model SBC on which you installed the HCRX board. Follow the procedure appropriate for your SBC.

Model 744:

When you selected the boot console in the Step 1, the settings were stored in the Boot ROM. You only need to use the following procedure if you decide to change the boot console settings.

a. When the Boot Console Handler's **Main Menu** is displayed, type

pa con graphics(*n*) Enter

where *n* is: **0** for onboard graphics,
1 for HCRX graphics, or
2 for an 8–plane graphics card.

b. At the **Main Menu**, type:

reset Enter to restart the system

c. As the system boots, a message similar to the following appears:

```
If monitor selection is correct, press any key other
than <TAB> or will time out in 10 seconds.

If monitor selection is wrong, press <TAB> to start
monitor selection poll loop.
```

If you press Tab or wait more than 10 seconds, the system cycles through all of the available monitor types one at a time.

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When you see a message similar to the following clearly and legibly, select that monitor type by pressing Enter

```
  Path      Slot   Head   Type      Size       Freq   Class
---------   ----   ----   ----   --------      ----   -----
GRAPHICS(0)   0      1      n     nnnnnnnn      nnHz
Press [RETURN] to select this monitor type (type n of n types).
```

Confirm your selection by typing **Y** when prompted. The system continues its boot process.

Model 743:

a. When the Boot Console Handler's (BCH's) **Main Menu** is displayed, press 2 Enter

The **PATH CONFIGURATION** menu is then displayed.

b. Press 3 Enter to select **Console Path**.

The **CONSOLE PATH** menu is then displayed.

c. The BCH designation for each graphics device depends on which graphics options are installed on your Model 743 SBC. They may be designated as GRAPHICS 1, GRAPHICS 2, or GRAPHICS 3.

For systems with an HP-RT operating system, please refer to the *X11 SERVERrt Installation and Configuration Guide* for information to determine your system's graphic configuration.

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For systems with an HP-UX operating system, use the following table to determine what the BCH designations are for each option.

Graphics Configuration	**Boot Console Menu Label**
If you have three installed options:	The designations are:
Onboard Graphics	GRAPHICS 1
HCRX/VME Graphics Option	GRAPHICS 2
A4267A Graphics Option	*GRAPHICS 3
If you have these two options:	The designations are:
743 Onboard Graphics	GRAPHICS 1
HCRX/VME Graphics Option	GRAPHICS 2
If you have these two options:	The designations are:
HCRX/VME Graphics Option	GRAPHICS 1
A4267A Graphics Option	GRAPHICS 2
If you have this one option:	The designation is:
HCRX/VME Graphics Option	GRAPHICS 1
* Three Graphics Devices are supported only on HP–UX 10.0 or later.	

d. On the **CONSOLE PATH MENU**, find the number under the **Key** column that corresponds to the GRAPHICS device that you want to set as the default console device. Enter that number on your keyboard and press **Enter**.

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For example: In the example **CONSOLE PATH MENU** in Step **b** above, if you wanted to make GRAPHICS 2 your default console device, you would press 2 Enter.

The **CONSOLE PATH MONITOR TYPE** menu is then displayed.

e. Select the parameters for the monitor connected to the graphics device which you chose in the previous step by pressing the number in the **Key** column and pressing Enter.

f. Press 5 5 Enter.

g. Press 0 Enter until the **MAIN MENU** is displayed.

h. Press 7 7 Enter to reset the system and restart the boot process.

If your system is running HP–UX 9.x, once the system boots, your installation and configuration is complete.

If your system is running HP–UX 10.x, once the system boots, go to Step 3.

If your system is running HP–RT, go to the *X11 SERVERrt Installation and Configuration Guide.*.

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3. For HP-UX 10.x only, Configure X Windows and HP CDE or HP–VUE.

If your system is running HP–UX 10.x, you can configure your graphics system(s) through the HP System Administration Manager (SAM).

NOTICE: If you are running HP–UX 9.x, you already configured X Windows or HP–VUE in Chapter 1.

To use SAM, you must be able to log in as **root** or **superuser**.

a. Start SAM from the command line using the **sam** command of through the System_Admin toolbox in HP–VUE or HP–CDE.

b. Select the `X Server Configuration` option.

c. Select any inactive subsystems.

d. From the `Actions ->` menu select `Add Screen to Configuration.`

e. Save the configuration file.

f. Restart the system.

Your system is now configured to use the HCRX/VME graphics controller.

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Chapter 4
Troubleshooting

This chapter describes how to solve installation problems.

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Table 4–1. Troubleshooting HP-RT or HP-UX

Problem (with HP-RT or HP–UX)	**Solution**
No text during interactive search	Check the video and power cable connections to the monitor and the system. Check the system for a fault indication. Power off the system and and make sure that you have correctly installed the option board.
Distorted image during interactive search	Check the video connections to the monitor and system. Verify that your monitor type is supported. Retry the procedure in Chapter 3, Section 1, making certain that you do not cause any keyboard input to occur until an undistorted image is displayed.
No video	Check the video and power cable connections to the monitor and the system. Check the system for a fault indication. Power off the system and make sure you have correctly installed the option board.
Distorted video	Check the video cable connections. Verify that your monitor type is supported. Retry the procedure in Chapter 3, Section 1, making certain that you do not cause any keyboard input to occur until an undistorted image is displayed.

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Table 4–2. Troubleshooting HP-UX

Problem (HP-UX systems only)	Solution
During the HP-UX boot sequence, yellow blocks are not replaced by boot status messages	Find a login prompt on either the on–board graphics device or the RS–232 port. Alternatively, follow the procedure in Chapter 3, Section 1, to select this graphics device as the boot console and boot the machine manually. This causes the login prompt to be displayed on this device. Login and check that the X Windows, HP CDE, and HP VUE configurations are correct.
Blank colored or textured background	The system is configured for two graphics heads and this is not the primary head. Log in through the primary graphics head and check that the X Windows, HP CDE, or HP VUE configurations are correct.
Unable to start HP CDE or HP VUE warning message	Use <CR> to get a login prompt. Log in and check that the X Windows, HP CDE, and HP VUE configurations are correct.
The HP CDE or HP VUE login window is not displayed, but you do see a console login prompt	Log in and check that the X Windows, HP CDE, and HP VUE configurations are correct.

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If you verify that you correctly installed and configured your graphics option and you still have no display, contact your designated service representative.



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