KFE72 Installation Guide

Use this manual to install the KFE72 adapter. The KFE72 allows the use of a graphics console monitor and provides other I/O ports needed to run the Windows NT operating system on AlphaServer 8200 and 8400 systems.

Digital Equipment Corporation
Maynard, Massachusetts

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Chapter 5 Verification

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Preface

Intended Audience

This manual is written for DIGITAL customer service engineers and self-maintenance customers installing the KFE72 adapter into the DWLPB shelf or PIU in AlphaServer 8200 and 8400 systems.

Document Structure

This manual uses a structured documentation design. Topics are organized into small sections for efficient online and printed reference. Each topic begins with an abstract. You can quickly gain a comprehensive overview by reading only the abstracts. Next is an illustration or example, which also provides quick reference. Last in the structure are descriptive text and syntax definitions.

This manual has six chapters and one appendix, as follows:

- **Chapter 1, Introduction,** gives an overview of the KFE72 and the installation process.

- **Chapter 2, Procedure for the 8200**, gives instructions on how to install the KFE72-BA kit in the AlphaServer 8200 system cabinet.

- **Chapter 3, Procedure for the 8400,** gives instructions on how to install the KFE72-AA kit in the AlphaServer 8400 system cabinet.

- **Chapter 4, Procedure for the KFE70 Upgrade**, describes the procedure to upgrade a system already having a KFE70 to a system with a KFE72.

- **Chapter 5, Verification**, tells how to verify that the KFE72 has been installed properly.

- **Chapter 6, Running the EISA Configuration Utility from AlphaBIOS,** tells how to use the EISA Configuration Utility from the graphics monitor installed and running AlphaBIOS. This procedure is necessary to configure the KFE72 in a Windows NT system.

- **Appendix A, PCI Device Restrictions on the Primary PCI Adapter,** describes the restrictions that apply to those who wish to use EISA/ISA graphics adapters rather than the PowerStorm 3D30 (PBXGB) supplied with the KFE72 kits.

System Options

The *DIGITAL Systems and Options Catalog* describes all options for AlphaServer 8200 and AlphaServer 8400 systems. In addition, DIGITAL maintains a list of the latest supported options on the Internet, which you can access as follows:

Using ftp, copy the file:

ftp.digital.com/pub/Digital/Alpha/systems/as8400/docs/8400-options.txt

Using a Web browser, follow links from the URL:

http://www.digital.com/info/alphaserver/products.html

Conventions Used in This Document

Icons. Icons similar to those shown below are used in illustrations for designating part placement in the system described. A shaded area in the icon shows the location of the component or part being discussed.
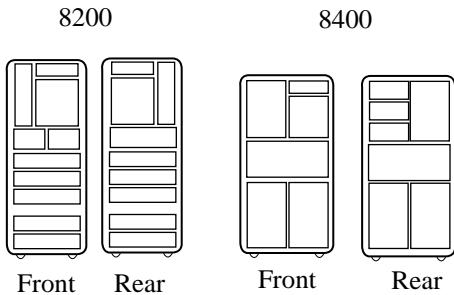
BX-0099B-97

Documentation Titles

Table 1 lists the books in the AlphaServer 8200 and 8400 documentation sets that you may find useful.

Table 1 AlphaServer 8200 and 8400 Documentation

Title	Order Number
Hardware User Information and Installation	
Operations Manual	EK–T8030–OP
Site Preparation Guide	EK–T8030–SP
AlphaServer 8200 Installation Guide	EK–T8230–IN

Table 1   AlphaServer 8200 and 8400 Documentation (Continued)

Title	Order Number
AlphaServer 8400 Installation Guide	EK–T8430–IN
AlphaServer 8200/8400 Windows NT Administrator's Guide and Release Notes	EK–T8WNT–RN
Service Information Kit	QZ–00RAC–GC
Service Manual (hard copy)	EK–T8030–SV
Service Manual (diskette)	AK–QKNFB–CA AK-QUW7B-CA AK-QUW6B-CA
Reference Manuals	
System Technical Manual	EK–T8030–TM
System Technical Manual Supplement: CPU	EK–T8030–TS
System Technical Manual Supplement: Memory	EK–MS7CC–TS
DWLPA/DWLPB PCI Adapter Technical Manual	EK–DWLPA–TM
Upgrade Manuals for Both Systems	
KN7CC CPU Installation Card	EK–KN7CC–IN
KN7CD CPU Installation Card	EK–KN7CD–IN
KN7CE CPU Installation Card	EK–KN7CE–IN
KN7CF CPU Installation Card	EK–KN7CF–IN
MS7CC Memory Installation Card	EK–MS7CC–IN
KFTHA System I/O Module Installation Card	EK–KFTHA–IN
KFTIA Integrated I/O Module Installation Card	EK–KFTIA–IN
Upgrade Manuals: 8400 System Only	
AlphaServer 8400 Upgrade Manual	EK–T8430–UI
BA654 DSSI Disk PIU Installation Guide	EK–BA654–IN
BA655 SCSI Disk and Tape PIU Installation Guide	EK–BA655–IN
DWLMA XMI PIU Installation Guide	EK–DWLMA–IN
DWLPA/DWLPB PCI PIU Installation Guide	EK–DWL84–IN

Table 1 AlphaServer 8200 and 8400 Documentation (Continued)

Title	Order Number
H7237 Battery PIU Installation Guide	EK–H7237–IN
H7263 Power Regulator Installation Card	EK–H7263–IN
KZMSA Adapter Installation Guide	EK–KXMSX–IN
RRDCD Installation Guide	EK–RRDRX–IN
Upgrade Manuals: 8200 System Only	
DWLPA/DWLPB PCI Shelf Installation Guide	EK–DWL82–IN
H7266 Power Regulator Installation Card	EK–H7266–IN
H7267 Battery Backup Installation Card	EK–H7264–IN

Chapter 1

Introduction

The KFE72 provides I/O ports needed to run the Windows NT operating system on AlphaServer 8200 and 8400 systems.

The KFE72 provides a graphics port, a keyboard port, a mouse port, a floppy disk drive port, two serial ports, and a parallel port. There are four modules that provide these ports, occupying front panel slot positions 0, 1, 2, and 4 of a DWLPB card cage. The parallel port is routed from the module in slot 1 by cable to front panel slot 3. See Figure 1-1.

Figure 1-1   KFE72 Ports and Their Front Panel Slot Positions
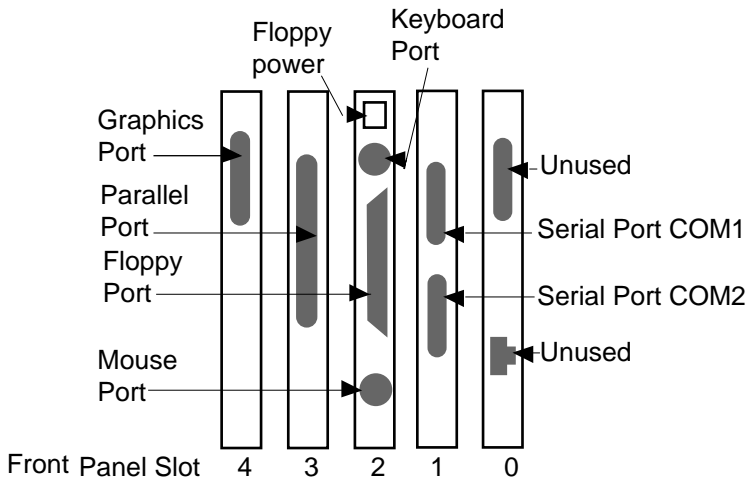
BX-0198B-97

1.1 Installation Overview

You may be installing a KFE72 in a system without a KFE70 or upgrading from a KFE70 to a KFE72. Follow the flowchart to see how to proceed.

Figure 1-2   Full Installation Flowchart
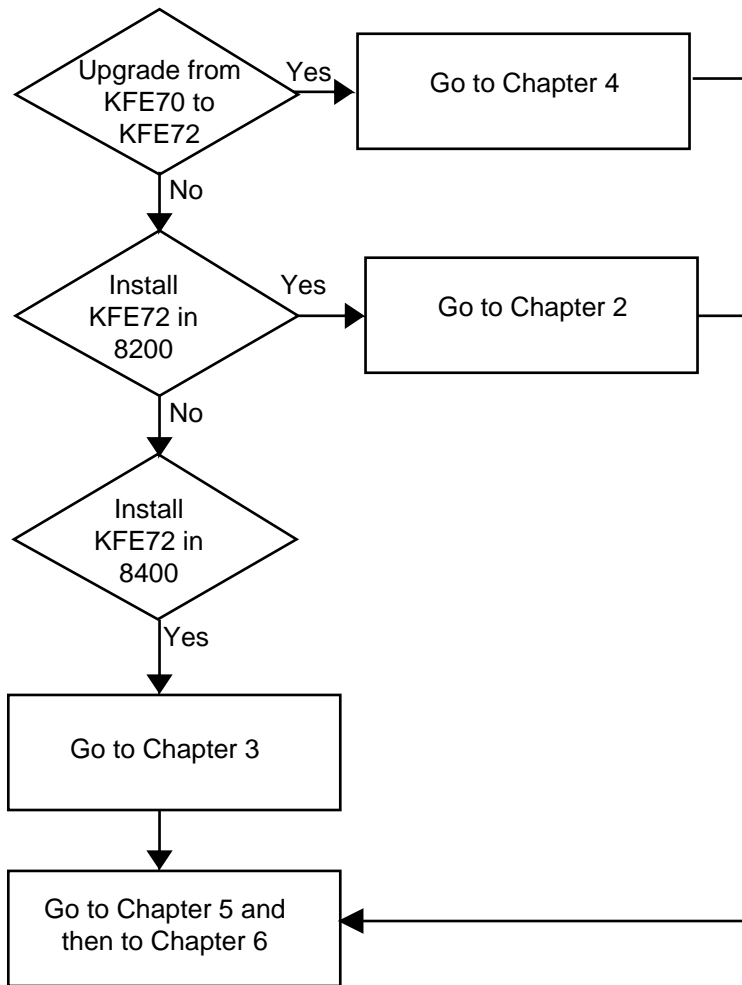
BX-0474D-97

Before You Begin

You need to install other equipment to connect a graphics monitor and run Windows NT from your AlphaServer 8200 or 8400 system. Specifically, you will need a graphics monitor and a keyboard.

Also, the KFE72 is installed in a DWLPB card cage. At the time of this printing, the DWLPB must be connected to hose 1 on a KFTIA or KFTHA I/O module in slot 8. See Figure 1-3 for the location of hose 1 in a KFTHA or a KFTIA I/O module.

There are other checks you need to make before installing a KFE72. For example, you must ensure that your system has been upgraded to the minimum SRM console revision. Also, if you have upgraded to an AlphaServer 8400 from a VAX 7000 or DEC 7000, you need to upgrade the CD-ROM to an RRDCD-CA. These and other preliminary checks are specified in the *AlphaServer 8200/8400 Windows NT Administrator's Guide and Release Notes.*

Figure 1-3   Position of Hose 1 on KFTHA and KFTIA

Hose 1 on
KFTHA
in TLSB
slot 8

Hose 1 on
KFTIA
in TLSB
slot 8

KFTHA   KFTIA
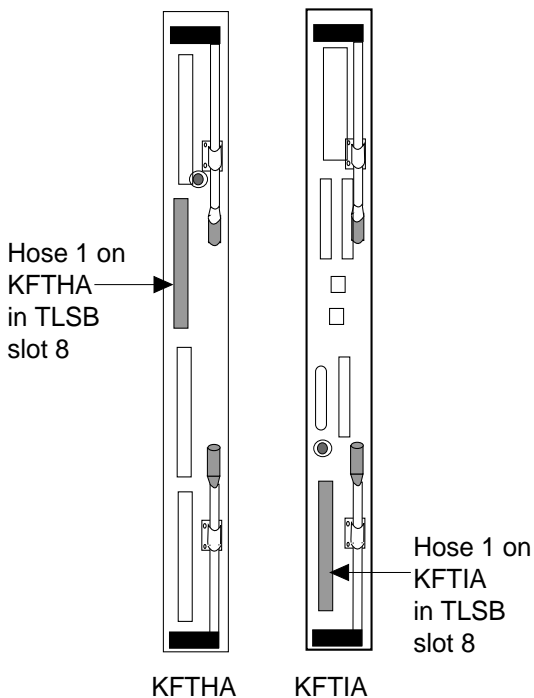
BX-0132C-97

Chapter 2

Procedure for the 8200

This chapter describes installation of KFE72 hardware in an 8200 system. Sections include:

- KFE72-BA Kit Contents

- Install KFE72 Modules

- Remove the Control Panel and Cover Plate

- Install the Floppy Drive

- Change the Control Panel Bezel

- Install Cables and Control Panel

- Attach Graphics Monitor and Related Assemblies

2.1 KFE72–BA Kit Contents

The KFE72 is an adapter installed in a PCI I/O subsystem to provide I/O options necessary for running the Windows NT operating system.

Figure 2-1   Hardware Installation Flowchart

```
┌─────────────────────┐
│  Inspect the KFE72   │
│         kit          │
└─────────────────────┘
          │
          ▼
┌─────────────────────┐
│ Install KFE72 modules│
│      in DWLPB        │
└─────────────────────┘
          │
          ▼
┌─────────────────────┐
│ Install the floppy drive │
└─────────────────────┘
          │
          ▼
┌─────────────────────┐
│    Install cables    │
└─────────────────────┘
          │
          ▼
┌─────────────────────┐
│    Run the EISA      │
│ Configuration Utility│
│   from AlphaBIOS     │
└─────────────────────┘
```
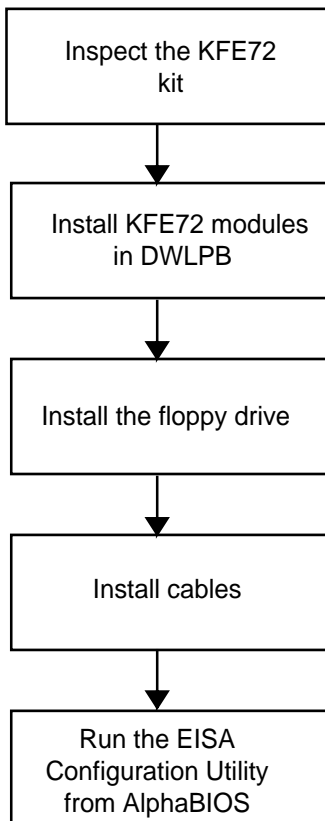
BX0474B-97

Table 2-1 KFE72–BA Kit Contents

Part Number	Quantity	Description
RX26-AA	1	2.8 Mbyte, 3.5-inch diskette drive
B2110-AA	1	Standard I/O module
54-25133-01	1	Connector module
54-25082-01	1	Serial port module
70-33322-01	1	Parallel port panel assembly
PBXGB-AA	1	PowerStorm 3D30 graphics module (module no. 54-23481-01)
17-04100-01	1	Cable assembly, flat, 34 cond (from floppy to drive panel plate)
17-04115-01	1	Cable assembly, flat, 34 cond (standard I/O to connector)
17-04116-01	2	Cable assembly, flat, 60 cond (standard I/O to serial port, serial port to connector)
BN21H-1E	1	Signal cable, RX26, connector module to drive panel plate
17-04101-01	1	Power cable, floppy to drive panel plate
17-04670-01	1	Power cable, connector module to floppy
17-04016-01	2	Extension cables for keyboard and mouse
BC13L-10	1	Extension cable for video
30-46117-02	1	Three-button mouse
74-48833-01	1	Drive panel plate
74-48125-02	1	Control panel
74-49792-02	1	New logo bar
36-44927-06	1	Sticker for new logo bar
36-42868-01	1	Label, USA
36-42868-02	1	Label, Europe
16-25105-14	1	Ferrite sleeve
90-10556-04	2	Screw, machine panel M3 pan 6 mm (floppy to drive panel plate)
12-41427-01	2	Screw, machine 4-40 pan 0.25 (signal cable to drive panel plate
EK-KFE72-IN	1	*KFE72 Installation Guide*
QC-01YAA-HC	1	EISA system configuration kit

2.2 Install KFE72 Modules

Four modules need to be installed in the PCI I/O subsystem: the standard I/O module, the connector module, the serial port module, and the graphics module.

2.2.1 Slide the PCI Card Cage Out

Slide the PCI card cage out of the 8200.

Figure 2-2   Sliding the PCI Card Cage Out
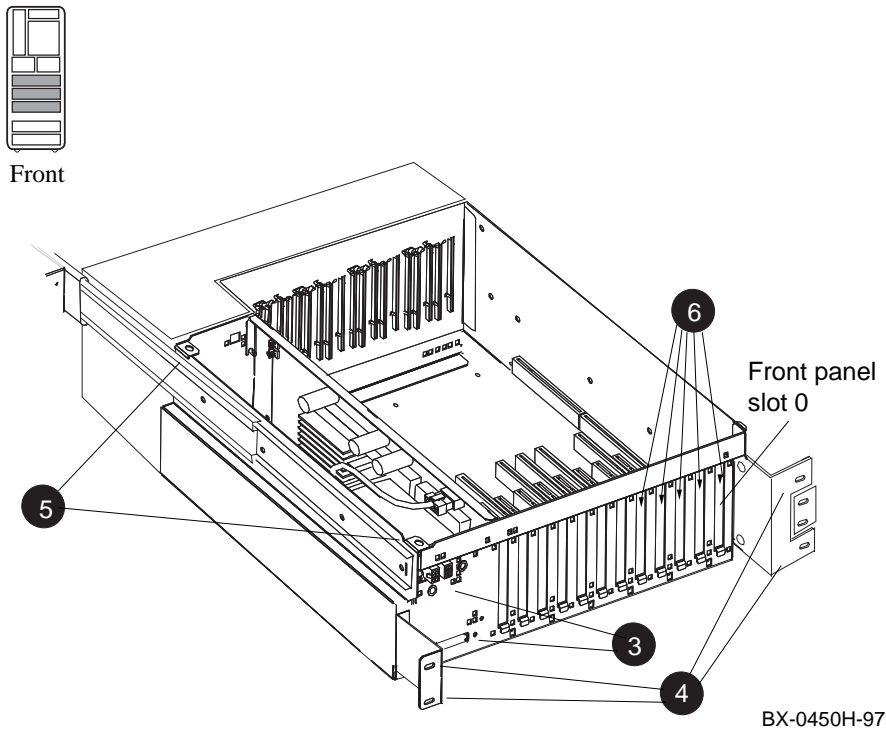
BX-0450H-97

1. Perform an orderly shutdown of the system and turn the system off by pushing the On/Off button on the control panel to Off.

2. Open the circuit breakers on the power supplies.

3. Disconnect the power cables, ❸ in Figure 2-2, the I/O hose, and any other cables that prevent the PCI shelf from being pulled out.

4. Remove the four Phillips head screws that hold the card cage and the cable management rack to the frame (see ❹), and pull the shelf out fully.

5. Remove the top cover by loosening the two quarter-turn screws, lifting the top of the cover away from the card cage, and then pulling the cover to the right and off (see ❺).

6. Remove the face plates from slots 0, 1, 2, 3, and 4 (see ❻). The face plates are held in place by a Phillips head screw on the inside top edge of the card cage. Save the screws for use in following steps.

2.2.2 Insert Modules in Slots 0 and 1

Insert the standard I/O module (B2110-AA) in slot 0. Then insert the serial port module (54-25082-01) in front panel slot 1.

Figure 2-3 Inserting the Modules
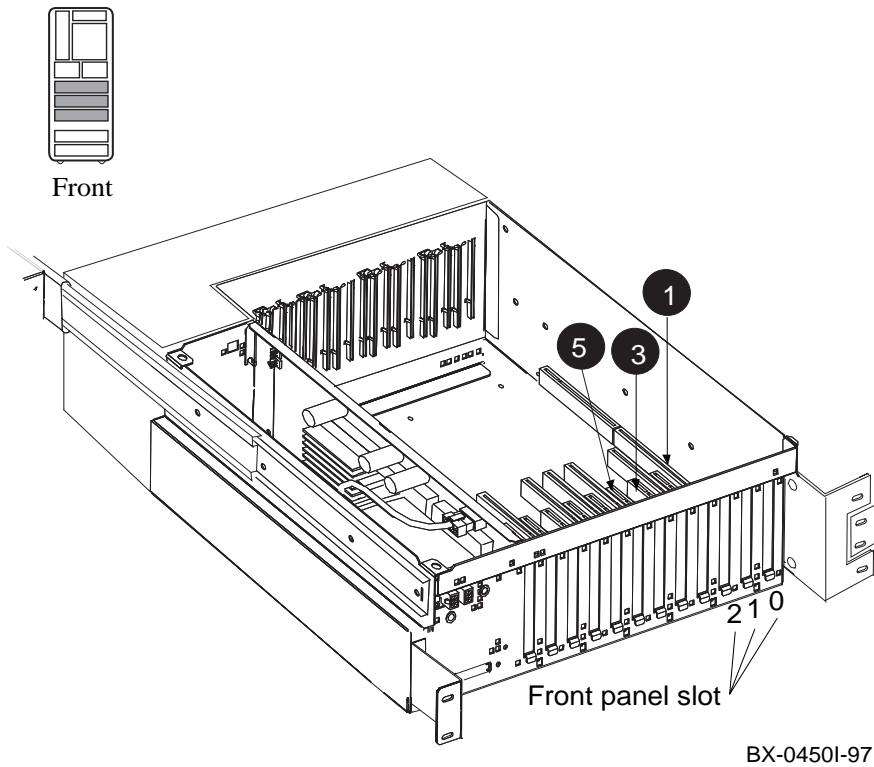
Front

Front panel slot

BX-0450I-97

NOTE: When installing PCI modules, be sure the option bulkheads mate with the EMI gasket on the PCI card cage.

1. Install the standard I/O module (part no. B2110-AA), component side to the left, in slot 0 (see ❶). Secure the module to the card cage with a screw removed in step 6 in Section 2.2.1.

2. Connect the 60-pin cables (part no. 17-04116-01) on the serial port module (54-25082-01) at connectors J1 and J2. See the figure below.

17-04116-01
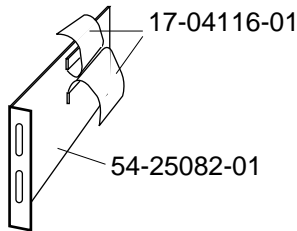
54-25082-01

BX-0561-97

3. Install the serial port module (54-25082-01), component side to the right, in front panel slot 1 (see ❸ in Figure 2-3). Secure the module to the card cage with a screw removed in step 6 in Section 2.2.1.

2.2.3 Insert Module in Slot 2

Check the connector module (54-25133-01) for proper jumper setting. Insert the connector module (54-25133-01) in slot 2 and attach ribbon cables (17-04116-01).

Figure 2-4   Jumper Settings on the Connector Module
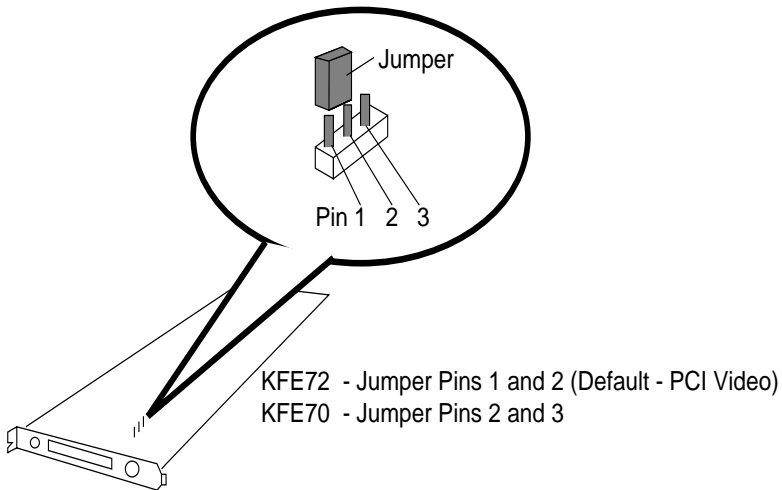
Jumper

Pin 1   2   3

KFE72 - Jumper Pins 1 and 2 (Default - PCI Video)
KFE70 - Jumper Pins 2 and 3

BX-0598-98

1. Attach the lower ribbon cable on the serial port module (54-25082-01) to the 60-pin connector on the standard I/O module (B2110-AA) at connector J8. See the figure below.

2. Check the connector module (54-25133-01) to verify that the jumper is installed in the KFE72 (default) position, over pins 1 and 2, as shown in Figure 2-4. (Appendix A discusses this jumper in more detail.)

3. Install the connector module (54-25133-01) in slot 2 (see ❺ in Figure 2-3), component side to the right. Secure the module to the card cage with a screw removed in step 7 in Section 2.2.1.

4. Attach the upper ribbon cable on the serial port module (54-25082-01) to the connector module (54-25133-01) at connector J6. See the figure below.

17-04116-01

54-25133-01

54-25082-01

B2110-AA

2   1   0   Front Panel Positions

BX-0562-97
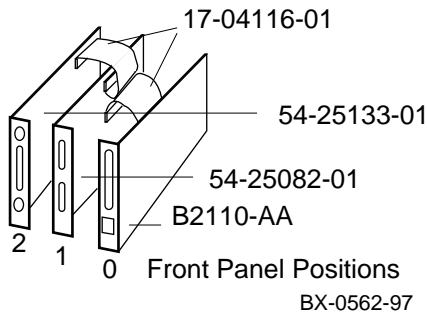
2.2.4 Finish Ribbon Cabling, Install Parallel Port Assembly and Graphics Module

Attach ribbon cable (17-04115-01) between the standard I/O module (B2110-AA) and connector module (54-25133-01). Install parallel port assembly (70-33322-01) to serial port module (54-25082-01) and install PowerStorm 3D30 graphics module (PBXGB-AA).

Figure 2-5   Ribbon Cabling and Parallel Port Assembly Installation
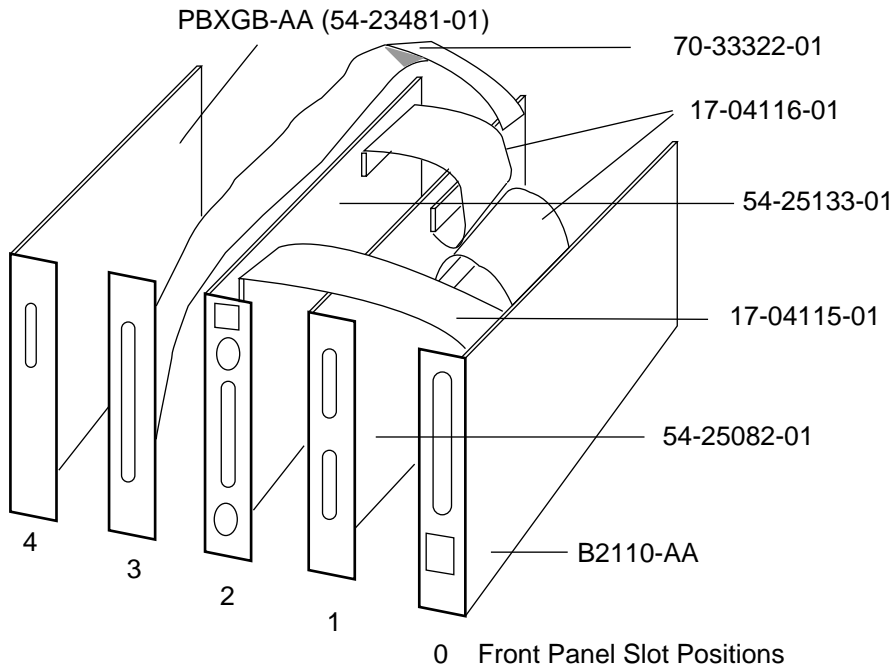
PBXGB-AA (54-23481-01)

70-33322-01

17-04116-01

54-25133-01

17-04115-01

54-25082-01

B2110-AA

4

3

2

1

0   Front Panel Slot Positions

BX-0560B-98

1. Connect the 34-pin ribbon cable (part number 17-04115-01) between the standard I/O module (B2110-AA) at connector J9 and the connector module (54-25133-01) at connector J5. (See Figure 2-5.)

2. Connect the parallel port assembly (70-33322-01) to the connector at the rear of the serial port module (54-25082-01), bring the bulkhead plate to the opening for front panel slot position 3, and attach the bulkhead plate to the card cage.

3. Install the PowerStorm 3D30 graphics module (PBXGB-AA) in front panel slot position 4.

4. If you have other options, install them in front panel slot positions 5–11.

5. Place the cover back on the card cage and tighten the two quarter-turn screws.

6. Push the shelf back into the cabinet.

7. Replace the cable management rack and secure the shelf and cable management rack to the frame.

8. Replace the power cables to the shelf.

9. Replace any other cables removed in Section 2.2.1.

2.3 Remove the Control Panel and Cover Plate

The floppy drive is installed behind the control panel.

Figure 2-6 Control Panel Removal

Front

BX-0475-95
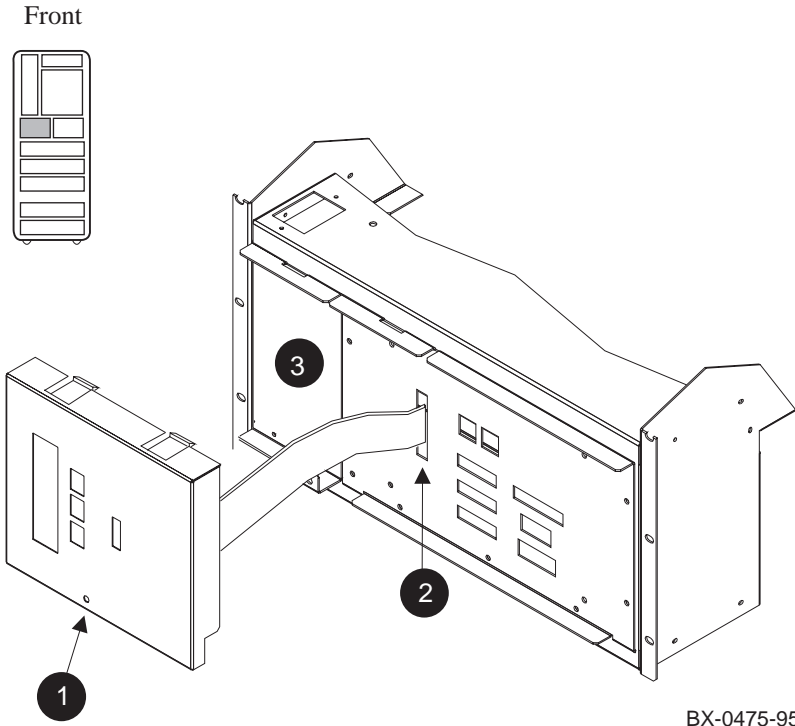
To remove the control panel:

1. Pull the black plunger on the control panel (see ❶ in Figure 2-6) and gently tilt the bottom of the bezel away from the cabinet, releasing the push tabs holding the top of the bezel in place.

2. Disconnect the 17-0406-01 cable from the CCL (see ❷). Put the control panel aside.

3. Remove the cover plate (❸) by removing the four Phillips head screws. Save the screws for installing the floppy.

2.4 Install the Floppy Drive

Install the floppy drive in the drive plate, install the cables, and place the assembly into the system.

Figure 2-7 Floppy Drive Installation

bx0476-95
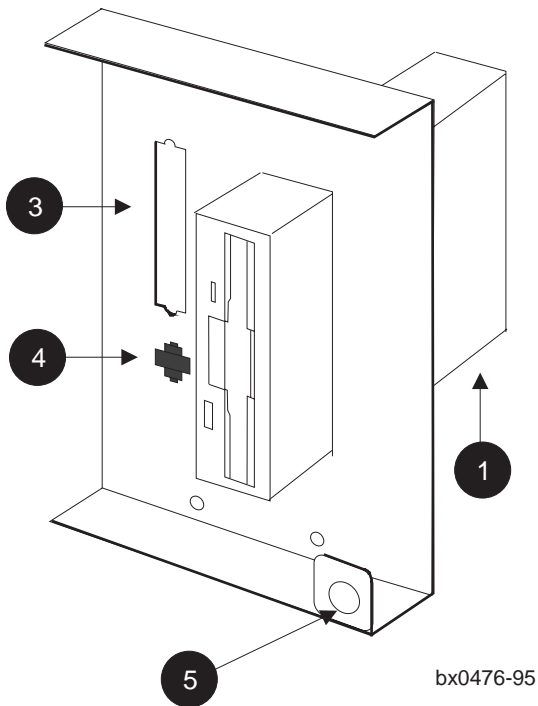
To install the floppy drive:

1. Set the mode on the floppy drive. The mode switch on the Sony drive is located on the lower edge of the drive at the back corner. See ❶ in Figure 2-7. Set it to 1. On the Mitsubishi drive the mode is set by a jumper at the back of the drive. There are two styles of Mitsubishi drives. One style has the jumper pins on the right. In this case, put the jumper on the middle pins. (See figure below). On the other style, the jumper pins are on the left. In this case, put the jumper on the bottom rightmost two pins (see figure).
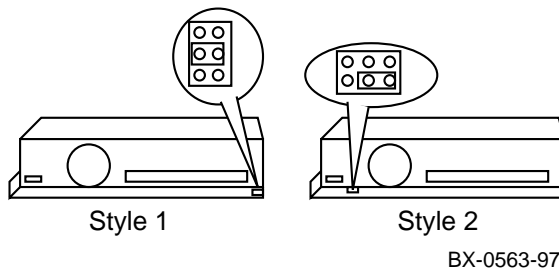
Style 1   Style 2

BX-0563-97

NOTE: Make a note of the manufacturer of the floppy disk, Sony or Mitsubishi. The brand of disk makes a difference in the way the signal cable is attached, as described in Section 2.6.

2. Place the floppy drive in the drive plate (74-48833-01) as shown in Figure 2-7 and secure it to the plate with the two 6 mm screws (90-10556-04) provided in the kit. Be sure to orient the drive correctly to the bracket.

3. Insert the connector end of the signal cable (17-04100-01) into the back of the floppy drive. Mount the other end of the signal cable to the drive plate using the two mounting screws (12-41427-01) (see ❸).

4. Insert the connector end of the twisted-pair power cable (17-04100-01) into the back of the floppy drive. Snap the other end into the drive plate (see ❹).

5. Place the floppy drive and drive plate into the system in place of the cover plate you removed and secure using the four Phillips head screws you removed. Orient the drive and plate so that the hole used to secure the control panel (❺) is down and to the right.

2.5 Change the Control Panel Bezel

A new control panel bezel is needed when a floppy is installed. Remove the circuit board from the old bezel and put it on the new one.

Figure 2-8   Control Panel Preparation

BX0482-95
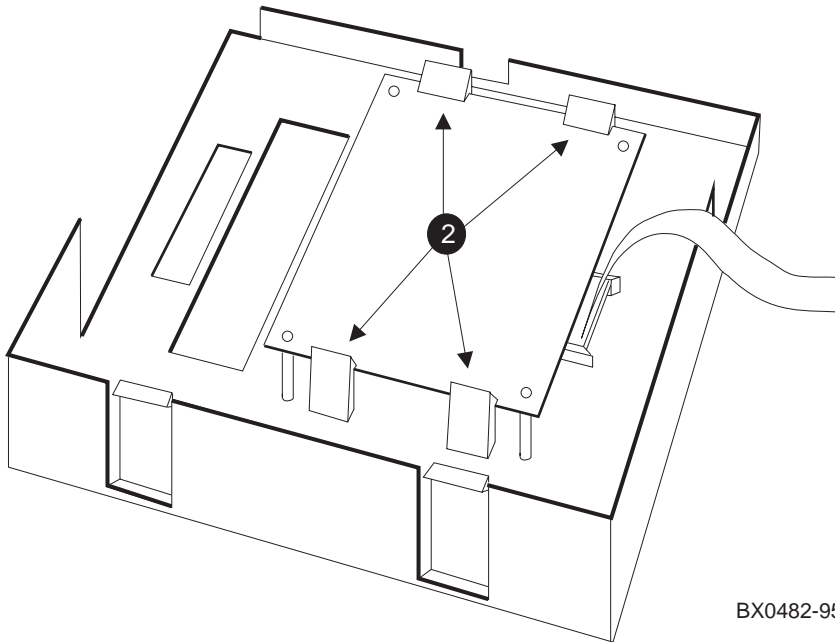
To prepare the control panel:

1. Remove the circuit board from the control panel you removed in Section 2.3.

2. Place the circuit board on the new control panel (74-48125-02) as shown in Figure 2-8 (see ❷). The plastic tabs hold the board in place.

3. Place either the U.S. label or the International label on the front of the control panel bezel.

2.6 Install Cables and Control Panel

Install cables between the floppy and the connector module in the PCI shelf. Install the control panel.

Figure 2-9   Cable Installation
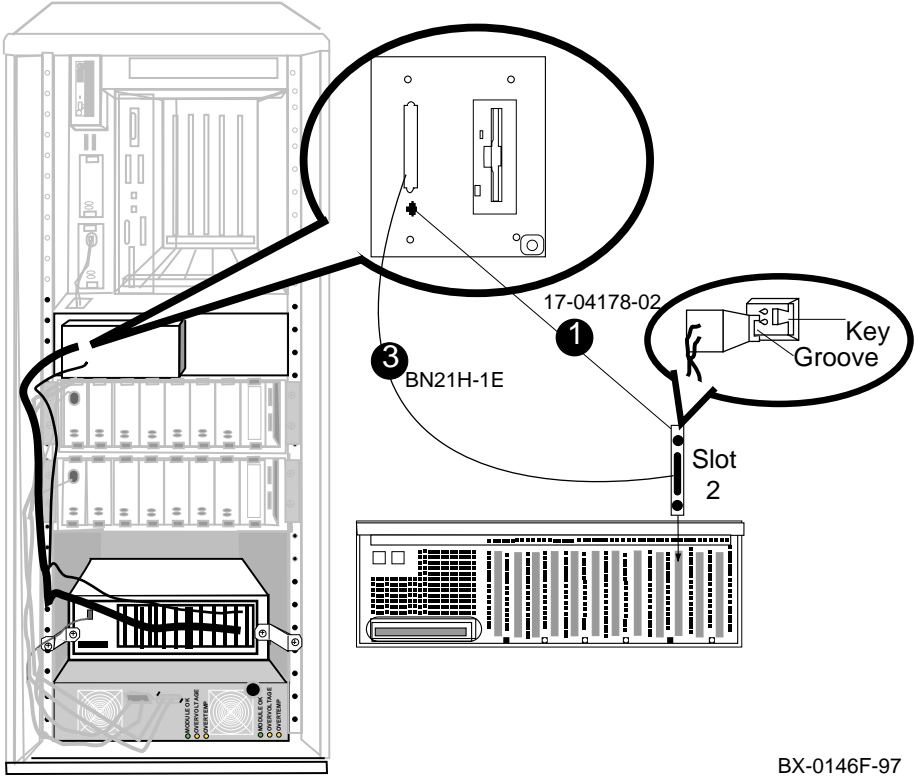
BX-0146F-97

To complete the installation:

1. Install the power cable (17-04670-01) from the connector module (54-25133-01) to the drive plate. See ❶ in Figure 2-9. **Make sure the black ground wire is up at the connector module end.**

    CAUTION: The power cable is a red and black twisted-pair cable. If you attach it to the connector module with the red wire up instead of the black wire, the fuse will blow on the connector module (54-25133-01).

    Route the twisted-pair cable along the left side frame to the drive plate.

2. Install the new control panel. Connect the signal cable from the circuit board on the control panel bezel to the connector on the CCL and then place the panel onto the cabinet.

3. Install the signal cable (BN21H-1E) from the connector module to the connector on the drive plate (see ❸). The connector passes through the hole to the left of the floppy drive in the control panel bezel.

    WARNING: For systems with Sony disks, the signal cable must be inserted according to the key shown on the drive. For systems with Mitsubishi disks, the signal cable must be inserted opposite to the way shown by the key on the drive. Failure to make the proper connection results in a solid light on the activity LED and operational failure of the disk. If this occurs, reversing the cable will fix the problem.

4. Close the circuit breaker and power up the system.

2.7 Attach Graphics Monitor and Related Assemblies

Attach the graphics monitor, keyboard, and mouse and their associated cables. Attach the ferrite sleeve to the mouse extension cable.

Figure 2-10   Ferrite Sleeve Installation
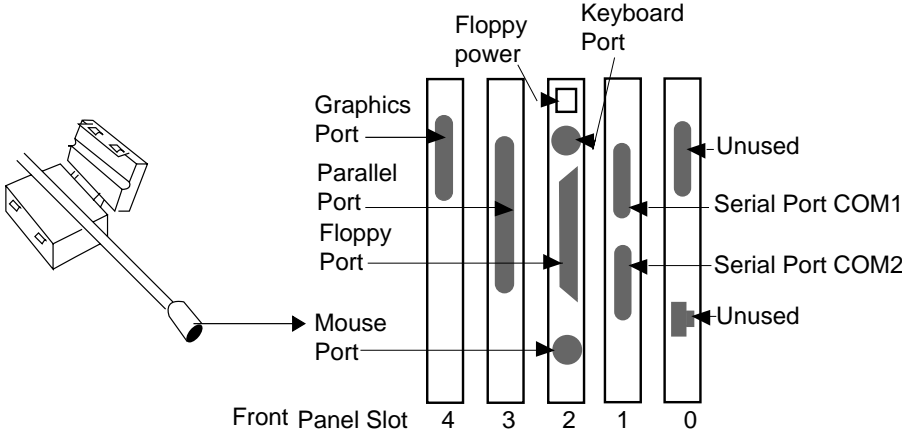
BX-0198C-97

1. Connect the graphics monitor (ordered separately) to the PowerStorm 3D30 graphics module (PBXGB-AA) installed in front panel slot 4. Use the BC13L-10 extension cable so that you can place the monitor at a more comfortable distance from the 8200 than would otherwise be possible.

2. Install the mouse and keyboard extension cables (17-04016-01) to the connector module as shown in Figure 2-10.

3. Connect the mouse (30-46117-02) to the mouse extension cable (17-04016-01).

4. Place the ferrite sleeve (16-25105-14) on the mouse extension cable 10 to 15 cm (4 to 6 in.) from the connector module and snap the sleeve shut over the cable. The ferrite sleeve is required to prevent radio interference when a mouse is used with the graphics module.

5. Connect the keyboard to the keyboard extension cable (17-04016-01).

6. Connect serial and parallel devices to the appropriate connectors, as shown in Figure 2-10.

7. Attach sticker (36-44927-06) to new logo bar (74-49792-02) and replace the old logo bar on the cabinet door with the new one.

8. See Chapter 5 for hardware verification procedures and Chapter 6 for how to run ECU to configure the KFE72.

Chapter 3

Procedure for the 8400

This chapter describes the installation of the KFE72 hardware in the AlphaServer 8400 system cabinet. Sections include:

- KFE72–AA Kit Contents

- Install KFE72 Modules

- Remove the CD-ROM Box

- Install the Floppy Drive

- Prepare the CD-ROM Box for Installation

- Replace the CD-ROM Box

- Install Cables from the PCI to the CD-ROM Box

- Attach Graphics Monitor and Related Assemblies

3.1 KFE72–AA Kit Contents

The KFE72 is an adapter installed in a PCI I/O subsystem to provide I/O options necessary for running the Windows NT operating system.

Figure 3-1   Installation Flowchart

```
        ┌─────────────────────┐
        │  Inspect the KFE72   │
        │         kit          │
        └─────────────────────┘
                  │
                  ▼
        ┌─────────────────────┐
        │ Install KFE72 modules│
        │      in DWLPB        │
        └─────────────────────┘
                  │
                  ▼
        ┌─────────────────────┐
        │     Install the      │
        │  floppy drive in the │
        │     CD-ROM box       │
        └─────────────────────┘
                  │
                  ▼
        ┌─────────────────────┐
        │                      │
        │    Install cables    │
        │                      │
        └─────────────────────┘
                  │
                  ▼
        ┌─────────────────────┐
        │    Run the EISA      │
        │ Configuration Utility│
        │   from AlphaBIOS     │
        └─────────────────────┘
```
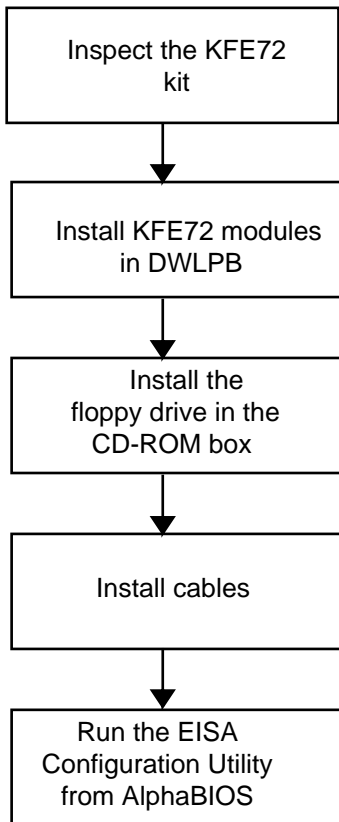
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Table 3-1   KFE72–AA Kit Contents

Part Number	Quantity	Description
RX26-AA	1	2.8 Mbyte, 3.5" diskette drive
B2110-AA	1	Standard I/O module
54-25133-01	1	Connector module
54-25082-01	1	Serial port module
70-33322-01	1	Parallel port panel assembly
PBXGB-AA	1	PowerStorm 3D30 graphics module (module no. 54-23481-01)
17-04115-01	1	Cable assembly, flat, 60 cond (standard I/O to connector)
17-04116-01	2	Cable assembly, flat, 60 cond (standard I/O to serial port, serial port to connector)
17-04100-02	1	Signal cable, RX26, internal to the CD-ROM box
17-03566-15	1	Signal cable, RX26, connector module to CD-ROM box
74-48827-01	1	Floppy bezel
74-50090-05	1	System identification sheet for cabinet door
17-04101-02	1	Power cable internal to the CD-ROM box
17-04670-02	1	Power cable, connector module to CD-ROM box
17-04016-01	2	Extension cables for keyboard and mouse
BC13L-10	1	Extension cable for video
30-46117-02	1	Three-button mouse
16-25105-14	1	Ferrite sleeve
90-10556-04	4	Screw, machine M3 pan 6 mm (floppy to floppy holder)
12-41427-01	2	Screw, machine 4-40 pan 0.25 (signal cable to CD-ROM box)
QC-01YAA-HC	1	EISA System Configuration Kit
EK-KFE72-IN	1	*KFE72 Installation Guide*

3.2 Install KFE72 Modules

Four modules need to be installed in the PCI I/O subsystem: the standard I/O module, the connector module, the serial port module, and the PowerStorm 3D30 graphics module.

3.2.1 Slide the PCI Card Cage Out

Figure 3-2 Sliding the PCI Card Cage Out

Front panel slot 0
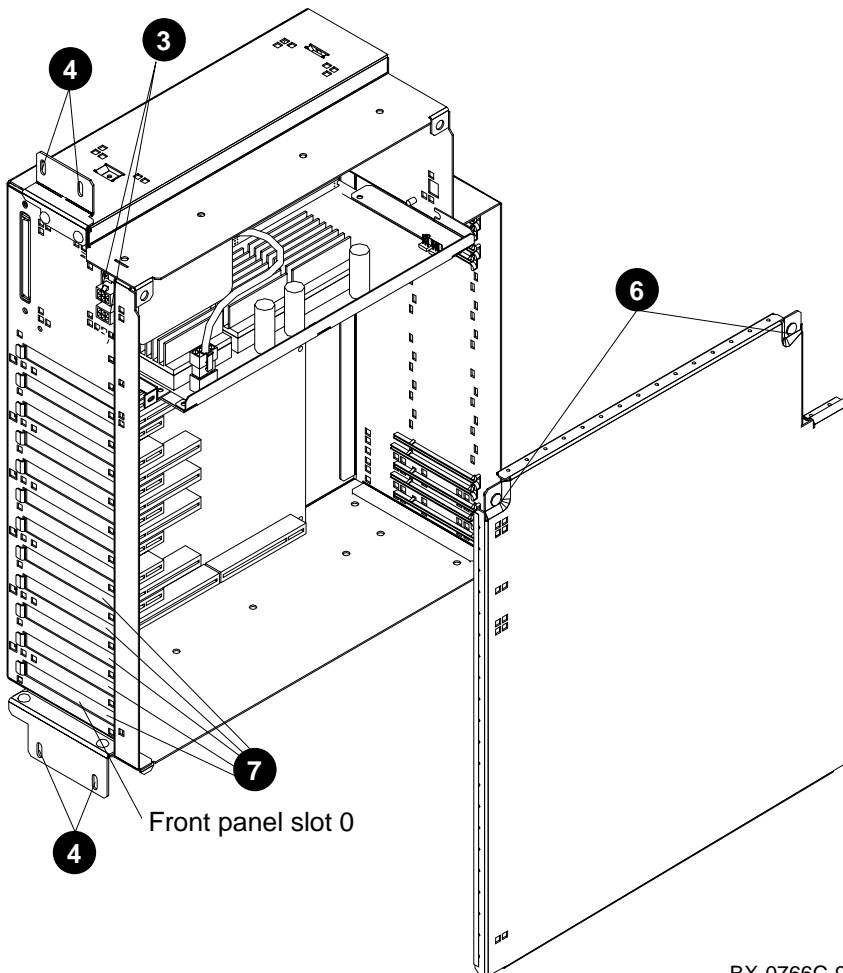
BX-0766C-97

1. Perform an orderly shutdown of the system and turn the system off using the keyswitch on the control panel.

2. Open the rear door and open the circuit breaker(s).

3. Disconnect the power cables, ❸ in Figure 3-2, the I/O hose if necessary, and any other cables that will prevent the PCI shelf from being pulled out.

4. Remove the four Phillips head screws that hold the shelf in the PIU. See ❹.

5. Pull the shelf out fully.

6. Remove the side cover by loosening the two quarter-turn screws (see ❻), tilting the top of the cover away from the shelf and then lifting the cover off the shelf.

7. Remove the face plates from slots 0, 1, 2, 3, and 4 (see ❼). The face plates are held in place by a Phillips head screw on the inside right front edge of the card cage. Save the screws for use in a later step.

3.2.2 Insert Modules in Slots 0 and 1

Insert the standard I/O module in front panel slot 0. Then connect cables to the serial port module. Insert the serial port module in front panel slot 1.

Figure 3-3 Inserting the Modules
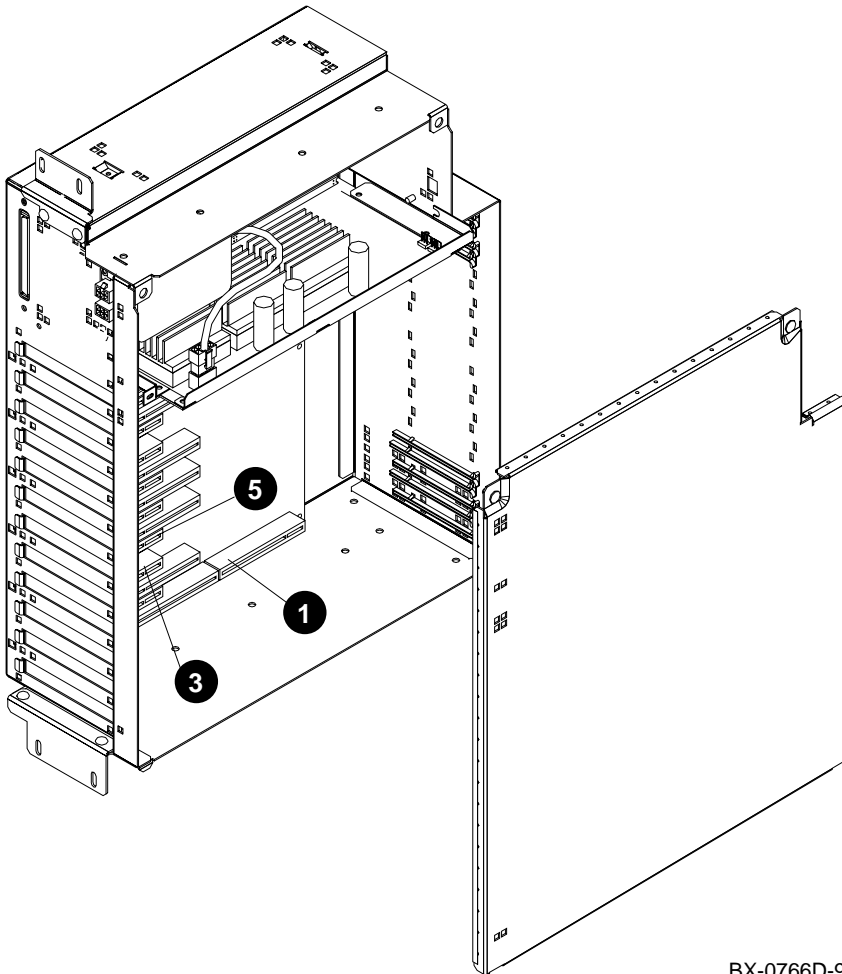
BX-0766D-97

NOTE: When installing PCI modules, be sure the option bulkheads mate with the EMI gasket on the PCI card cage.

1. Install the standard I/O module (part no. B2110-AA), component side to the left, in slot 0 (see ❶). Secure the module to the card cage with a screw removed in step 7 in Section 3.2.1.

2. Connect the 60-pin cables (part no. 17-04116-01) on the serial port module (54-25082-01) at connectors J1 and J2. See the figure below.

17-04116-01
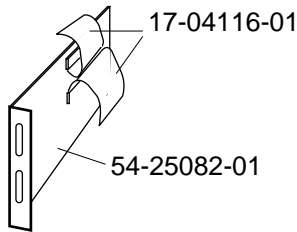
54-25082-01

BX-0561-97

3. Install the serial port module (54-25082-01), component side to the right, in front panel slot 1 (see ❸ in Figure 3-3). Secure the module to the card cage with a screw removed in step 7 in Section 3.2.1.

3.2.3 Insert Module in Slot 2

Check the connector module (54-25133-01) for proper jumper setting. Insert the connector module (54-25133-01) in slot 2 and attach ribbon cables (17-04116-01).

Figure 3-4   Jumper Settings on the Connector Module
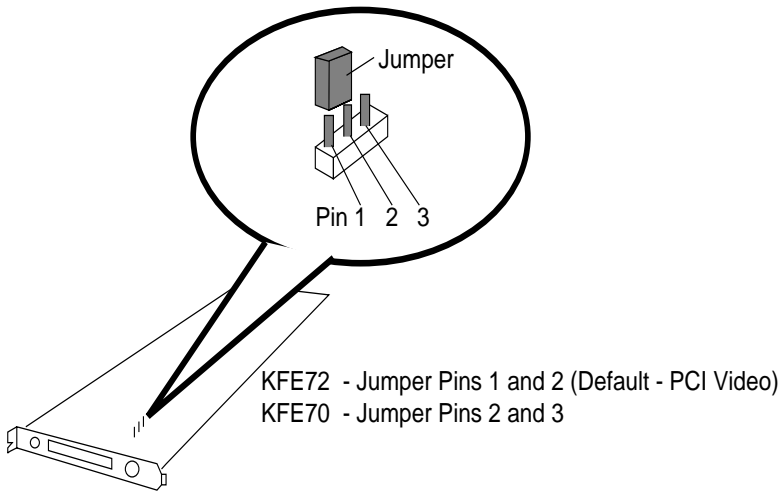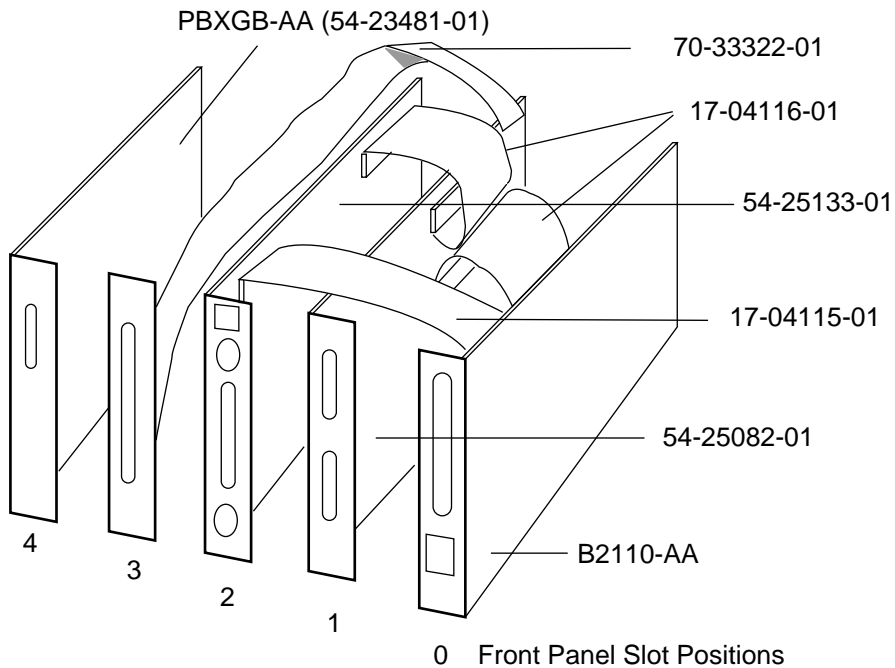
Jumper

Pin 1   2   3

KFE72 - Jumper Pins 1 and 2 (Default - PCI Video)
KFE70 - Jumper Pins 2 and 3

BX-0598-98

1. Attach the lower ribbon cable on the serial port module (54-25082-01) to the 60-pin connector on the standard I/O module (B2110-AA) at connector J8. See the figure below.

2. Check the connector module (54-25133-01) to verify that the jumper is installed in the KFE72 (default) position, over pins 1 and 2, as shown in Figure 3-4. (Appendix A discusses this jumper in more detail.)

3. Install the connector module (54-25133-01) in slot 2 (see ❺ in Figure 3-3), component side to the right. Secure the module to the card cage with a screw removed in step 7 in Section 3.2.1.

4. Attach the upper ribbon cable on the serial port module (54-25082-01) to the connector module (54-25133-01) at connector J6. See the figure below.

17-04116-01

54-25133-01

54-25082-01

B2110-AA

2 1 0 Front Panel Positions

BX-0562-97
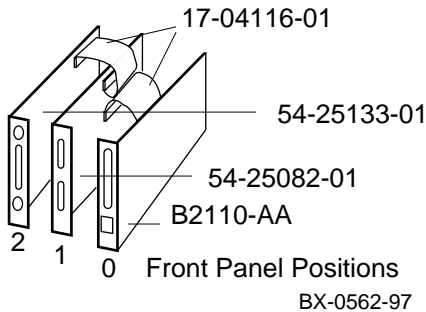
3.2.4 Finish Ribbon Cabling, Install Parallel Port Assembly and Graphics Module

Attach ribbon cable (17-04115-01) between the standard I/O module (B2110-AA) and connector module (54-25133-01). Install parallel port assembly (70-33322-01) to serial port module (54-25082-01) and install PowerStorm 3D30 graphics module (PBXGB-AA).

Figure 3-5 Ribbon Cabling, Parallel Port Assembly and Graphics Module Installation

PBXGB-AA (54-23481-01)

70-33322-01

17-04116-01

54-25133-01

17-04115-01

54-25082-01

B2110-AA

4

3

2

1

0   Front Panel Slot Positions

BX-0560B-98

1. Connect the 34-pin ribbon cable (part number 17-04115-01) between the standard I/O module (B2110-AA) at connector J9 and the connector module (54-25133-01) at connector J5. (See Figure 3-5).

2. Connect the parallel port cable assembly (70-33322-01) to the connector at the rear of the serial port module (54-25082-01), bring the bulkhead plate to the opening for front panel slot position 3, and attach the bulkhead plate to the card cage.

3. Install the PowerStorm 3D30 graphics module (PBXGB-AA) in front panel slot 4.

4. If you have other options, install them in front panel slots 5–11.

5. Place the cover back on the DWLPB shelf and tighten the two quarter-turn screws.

6. Push the shelf back into the PIU by depressing the locks on the top and bottom slides and sliding the shelf back into the system. The lock on the top is visible; you can locate the one on the bottom by touch.

7. Replace the four Phillips head screws that hold the shelf in place.

8. Replace the power cables to the shelf.

9. Replace any other cables removed in Section 3.2.1.

3.3 Remove the CD-ROM Box

The CD-ROM box must be removed to install the floppy drive in it.

Figure 3-6   CD-ROM Box Removal

BX0471-95
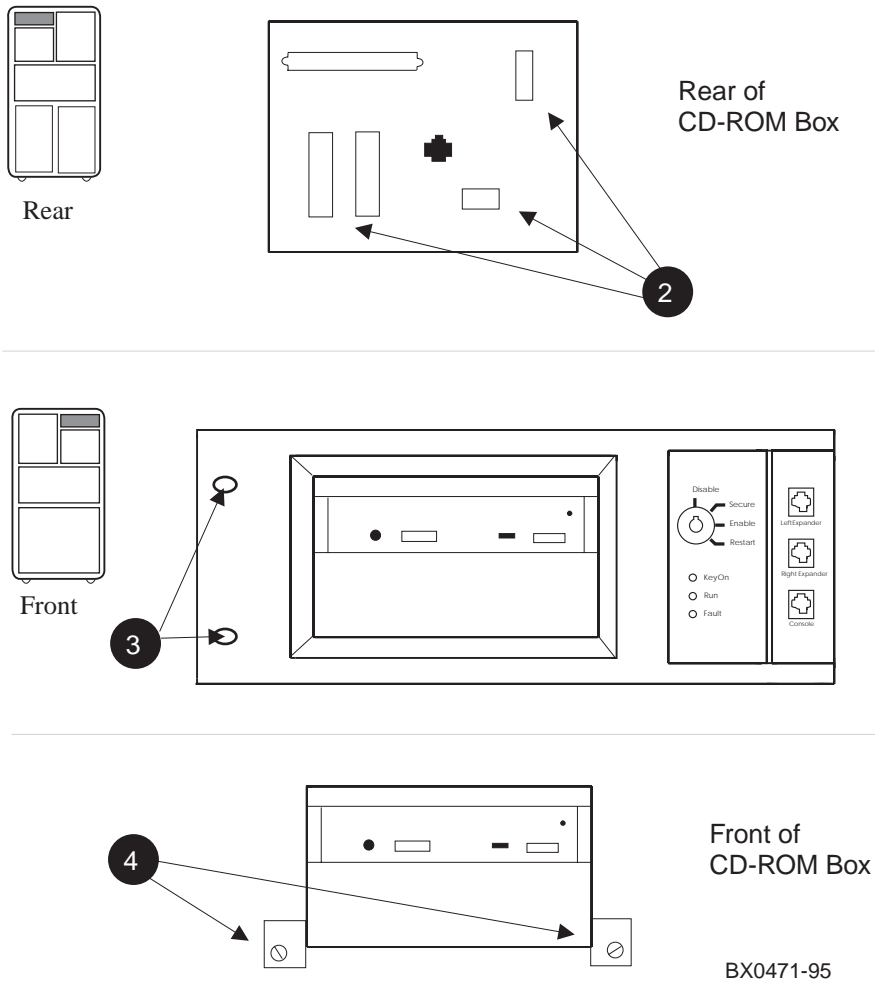
At the rear of the system

1. Remove the cover plate (74-42903-01) in the upper left hand corner of the system cabinet to expose the back of the CD-ROM box. Remove the three Phillips head screws holding the plate in place.

2. Disconnect the three cables from the back of the CD-ROM box. See ❷ in Figure 3-6.

At the front of the system

1. Remove the two Phillips head screws holding the control panel to the system. See ❸ in Figure 3-6.

2. Pull the left side of the panel away from the system about 2 inches and then pull it gently to the left. The flange securing the right side of the panel will disengage. Disconnect the cable that goes from the panel to the CCL and put the panel aside.

3. Loosen the two slotted captive screws holding the CD-ROM box in the system. (See ❹.)

4. Slide the CD-ROM box forward and remove it from the system.

3.4 Install the Floppy Drive

To install the floppy drive, the CD-ROM and floppy mounting bracket must be removed from the CD-ROM box. The floppy drive is then placed in the bracket and both drives are placed in the CD-ROM box.

Figure 3-7   Floppy Drive Installation

Unused

BX-0472-95
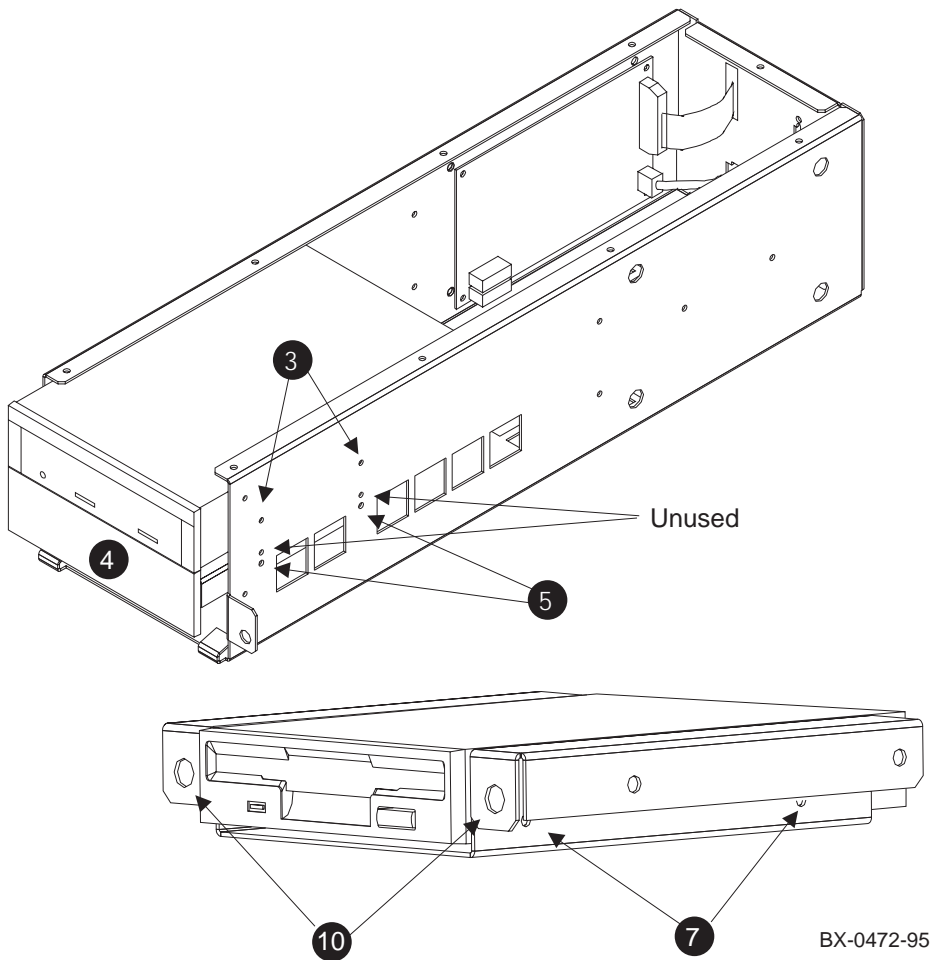
To install the floppy drive in the CD-ROM box:

1. Remove the top of the CD-ROM box by removing the Phillips head screws holding it in place.

2. Disconnect the signal and power cables at the back of the CD drive.

3. Remove the CD drive by removing the four Phillips head screws holding it in place. See ❸ in Figure 3-7.

4. Pry off the plastic filler panel (❹) using a flathead screwdriver.

5. Remove the floppy mounting bracket from the CD-ROM box by removing the four Phillips head screws holding it in place. See ❺.

6. Set the mode switch on the floppy drive to 1. The mode switch is located on the right side of the drive at the back corner. **Be sure you do this before doing step 7**, since the mounting bracket covers the switch.

7. Place the floppy drive in the mounting bracket as shown in Figure 3-7 and secure it to the bracket with the four screws (90-10556-04) provided in the kit. Be sure to orient the drive correctly in the bracket. See ❼.

   NOTE: Make a note of the manufacturer of the floppy disk, Sony or Mitsubishi. The brand of disk makes a difference in the way the signal cable is attached, as described in Section 3.7.

8. Place the floppy drive and mounting bracket into the CD-ROM box and secure with the four screws you removed when you took out the bracket. Use the lowest mounting holes (❺).

9. Place the CD drive back in the CD-ROM box above the floppy drive and secure with the four screws you removed in step 3.

10. Snap the floppy bezel (74-48827-01) in place around the floppy drive in front of the CD-ROM box. The snaps go into the holes. See ❿.

3.5 Prepare the CD-ROM Box for Installation

Install the cables in the CD-ROM box that connect to the floppy drive and reconnect those disconnected from the CD drive. Replace the CD-ROM box cover.

Figure 3-8   CD-ROM Box (Rear)

Signal to floppy

Signal to LDC

Power to floppy

SCSI signal to CD

SCSI Terminator

Power to LDC
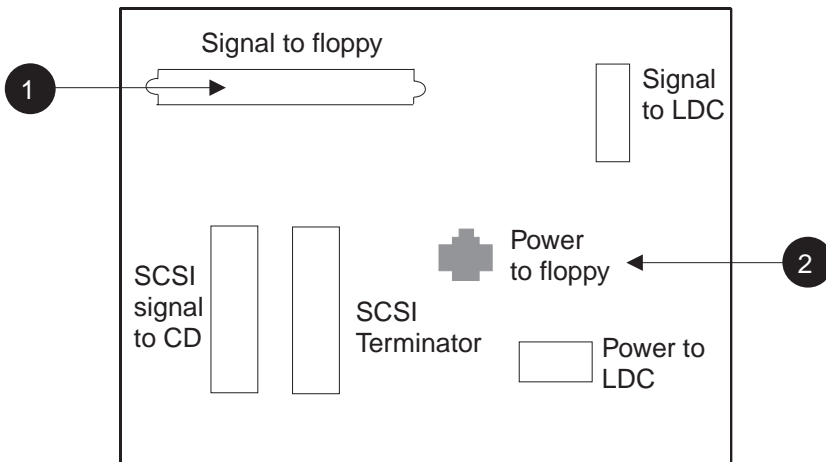
BX-0473-95

To prepare the CD-ROM box for installation:

1. Identify cable 17-04100-02. Insert the connector end into the right side of the back of the floppy drive; mount the other end using the two mounting screws (12-41427-01) to the back of the CD-ROM box. See ❶ in Figure 3-8.

2. Identify cable 17-04101-02. Insert the connector end into the left side of the back of the floppy drive; snap the other end onto the back of the CD-ROM box. See ❷.

3. Reconnect the two cables removed from the CD drive. The power cable comes from the LDC on the side of the CD-ROM box, and the signal cable comes from the back of the CD-ROM box.

4. Replace the cover on the CD-ROM box.

3.6 Replace the CD-ROM Box

Place the CD-ROM box back in the system and replace the control panel.

Figure 3-9   CD-ROM Box Replacement

Front

Front of
CD-ROM Box
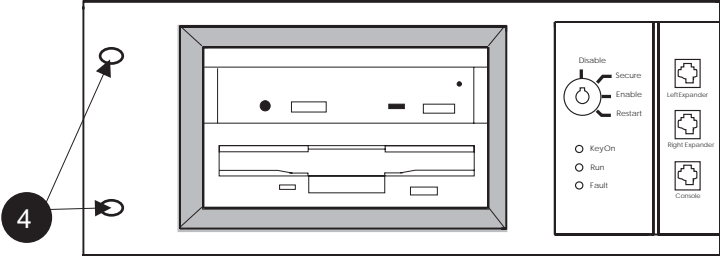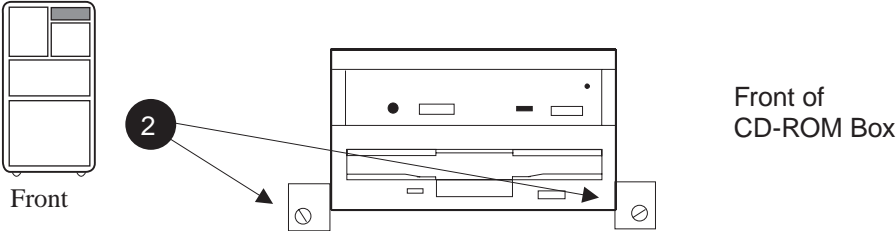
BX0471B-95

To replace the CD-ROM box:

1. Slide the CD-ROM box back into the system.

2. Secure the box with the two flathead screws you removed earlier. See ❷ in Figure 3-9.

3. Attach the signal cable from the CCL to the back of the control panel.

4. Replace the control panel and secure with the two screws removed earlier. See ❹.

3.7 Install Cables from the PCI to the CD-ROM Box

Install cables between the CD-ROM box and the connector module in the PCI. Reconnect the cable controlling the CD-ROM drive and replace the cover plate.

Figure 3-10   Cable Installation
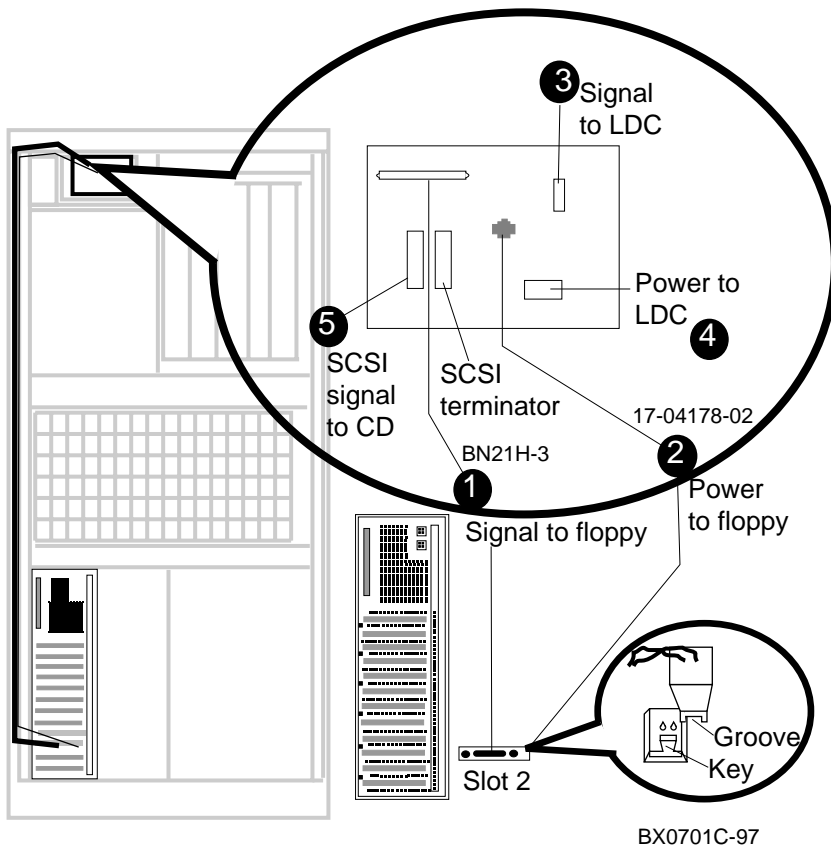
To complete the installation:

1. Install the floppy signal cable 17-03566-15 from the connector module to the back of the CD-ROM box. See ❶ in Figure 3-10.

   WARNING: For systems with Sony disks, the signal cable must be inserted according to the key shown on the drive. For systems with Mitsubishi disks, the signal cable must be inserted opposite to the way shown by the key on the drive. Failure to make the proper connection results in a solid light on the activity LED and operational failure of the disk. If this occurs, reversing the cable will fix the problem.

2. Install the power cable (17-04670-02) from the connector module to the back of the CD-ROM box. See ❷. **Make sure the black ground wire is to the right at the connector module end.**

   CAUTION: The power cable is a red and black twisted-pair cable. If you attach it to the connector module with the red wire to the right instead of the black wire, the fuse will blow on the connector module.

3. Reconnect the signal cable to the LDC. See ❸.

4. Reconnect the power cable to the LDC. See ❹.

5. Reconnect the SCSI signal cable for the CD drive. See ❺.

6. Replace the cover plate (74-42903-01).

7. Close the circuit breaker and power up the system.

3.8 Attach Graphics Monitor and Related Assemblies

Attach the graphics monitor, keyboard and mouse and their associated cables. Attach ferrite sleeve to mouse extension cable.

Figure 3-11   Ferrite Sleeve Installation
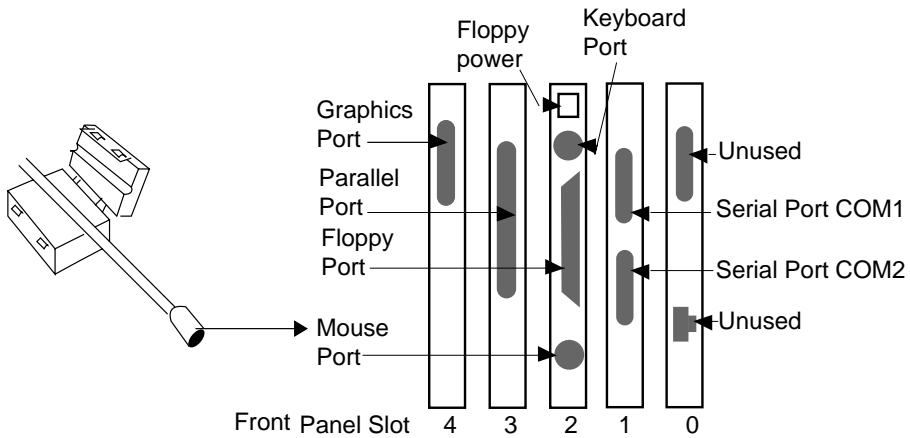
BX-0198C-97

1. Connect the graphics monitor (ordered separately) to the PowerStorm 3D30 graphics card installed in front panel slot 4. Use the BC13L-10 extension cable so that you can place the monitor at a more comfortable distance from the 8400 than would otherwise be possible.

2. Install the mouse and keyboard extension cables (17-04016-01) to the connector module as shown in Figure 3-11.

3. Place the ferrite sleeve on the mouse extension cable 10 to 15 cm (4 to 6 in.) from the connector module and snap the sleeve shut over the cable. The ferrite sleeve is required to prevent radio interference when a mouse is used with the graphics module.

4. Connect the mouse to the mouse extension cable.

5. Connect keyboard to the keyboard extension cable.

6. Connect serial and parallel devices to the appropriate connectors, as shown in Figure 3-11.

7. Remove the old system identification sheet from the front door of the cabinet and replace it with the new one (74-50090-05).

8. See Chapter 5 for hardware verification procedures, and Chapter 6 for how to run ECU to configure the KFE72.

Chapter 4

Procedure for the KFE70 Upgrade

This chapter tells how to upgrade your system from a KFE70 standard I/O adapter, used for DIGITAL UNIX and OpenVMS systems, to a KFE72 standard I/O adapter, used for Windows NT systems. Sections include:

- KFE72-UG Kit Contents

- Install KFE72-UG Modules

- Attach Graphics Monitor and Related Assemblies

4.1 KFE72-UG Kit Contents

The KFE72-UG kit is used when you are upgrading from a KFE70 adapter to a KFE72.

Figure 4-1   Installation Procedure

```
┌─────────────────────────┐
│   Replace connector     │
│       module            │
└───────────┬─────────────┘
            │
            ▼
┌─────────────────────────┐
│  Install serial port and│
│    graphics module      │
└───────────┬─────────────┘
            │
            ▼
┌─────────────────────────┐
│   Go to Chapter 5 and   │
│   then to Chapter 6     │
└─────────────────────────┘
```
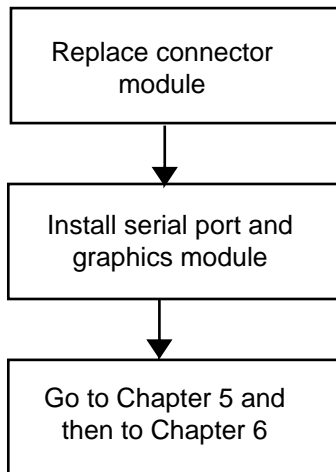
BX-0474E-98

Table 4-1 lists the contents of the KFE72-UG option kit.

Table 4-1 KFE72-UG Kit Contents

Part Number	Quantity	Description
54-25133-01	1	Connector module
54-25082-01	1	Serial port module
PBXGB-AA	1	PowerStorm 3D30 graphics module (module no. 54-23481-01)
17-04116-01	1	Cable assembly, flat, 60 cond, serial port module to connector module
70-33322-01	1	Parallel port panel assembly
17-04670-01	1	Power cable, connector module to floppy (8200)
17-04670-02	1	Power cable, connector module to CD-ROM box (8400)
17-04016-01	2	Extension cables for keyboard and mouse
BC13L-10	1	Extension cable for video
30-46117-02	1	Three-button mouse
16-25105-14	1	Ferrite sleeve
74-50090-05	1	System identification sheet for cabinet door (for 8400 only)
36-49792-02	1	New logo bar (for 8200 only)
36-44927-06	1	Sticker for new logo bar (for 8200 only)
QC-01YAA-HC	1	EISA system configuration kit
EK-KFE72-IN	1	*KFE72 Installation Guide*

4.2 Install KFE72 Modules

The old connector module (54-23491-01) must be replaced with a new connector module (54-25133-01), and the new serial port module (54-25082-01) must be installed. (Note that the DWLPA adapter is not supported for Windows NT systems; you must have a DWLPB adapter installed.)

4.2.1 Slide the PCI Card Cage Out

Slide the PCI card cage out of the 8200 or the 8400. Figure 4-2 illustrates the process for the 8200. See Section 3.2.1 for a description of this process for the 8400.

Figure 4-2   Sliding the PCI Card Cage Out of the 8200
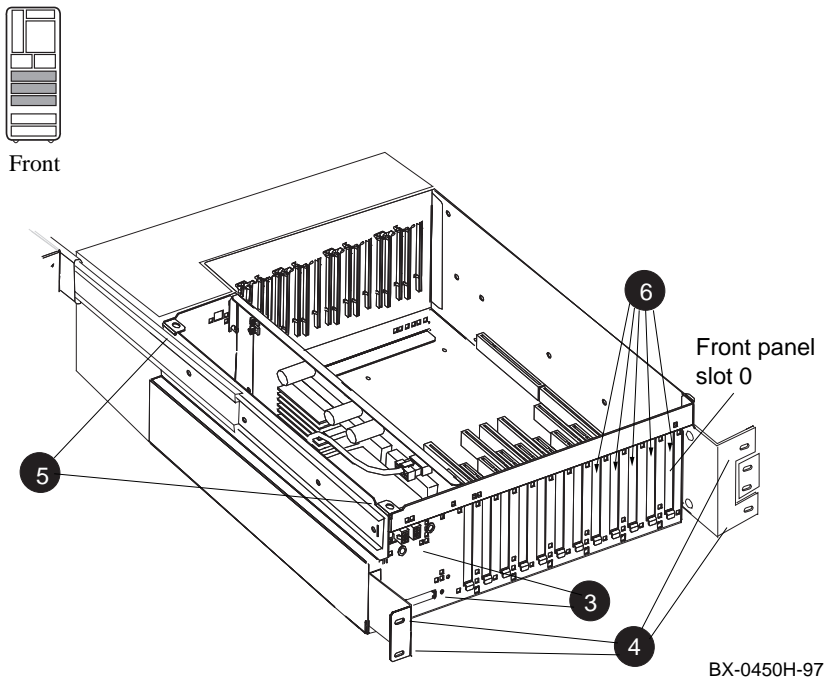
Front

Front panel
slot 0

BX-0450H-97

1. Perform an orderly shutdown of the system and turn the system off by pushing the On/Off button on the control panel to Off.

2. Open the circuit breakers on the power supplies.

3. Disconnect the power cables, ❸ in Figure 4-2, the I/O hose, and any other cables that prevent the PCI shelf from being pulled out.

4. Remove the five Phillips head screws that hold the card cage and the cable management rack to the frame (see ❹), and pull the shelf out fully.

5. Remove the top cover by loosening the two quarter-turn screws, lifting the top of the cover away from the card cage, and then pulling the cover to the right and off (see ❺).

6. Remove and reinstall any modules in front panel slots 0, 1, 2, 3, and 4. These slots are needed for the KFE72 modules.

7. Remove the face plates from any front panel slots 0, 1, 2, 3, and 4 that are unoccupied by modules (see ❻). Save the screws for later use.
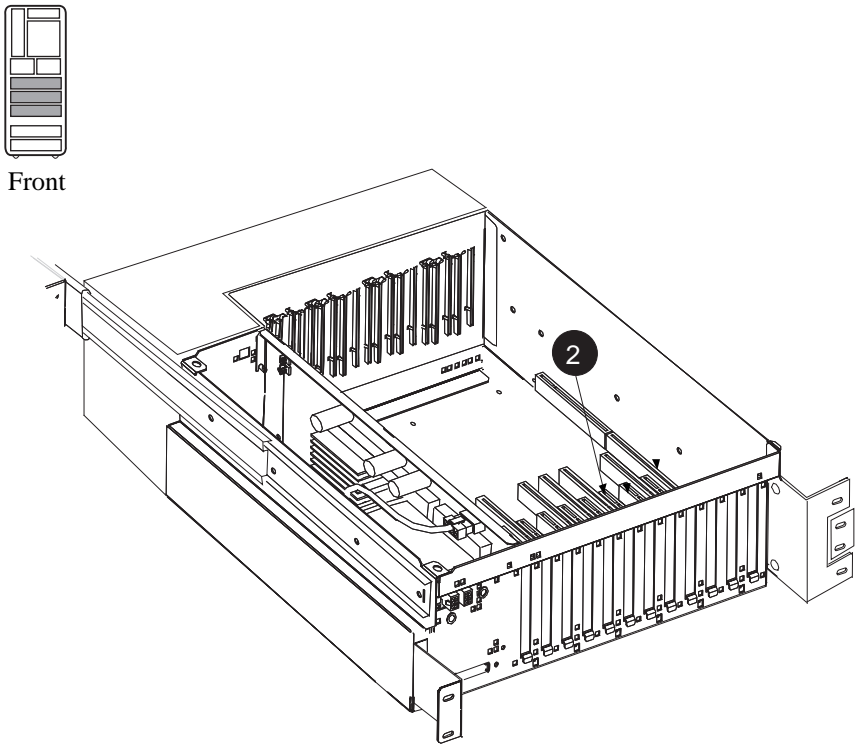
4.2.2 Insert Module in Slot 2

Remove the old connector module (54-23491-01) and replace it with the new connector module (54-25133-01) in front panel slot 2.

Figure 4-3   Inserting the Module in Slot 2

Front

BX-0450K-98

NOTE: When installing PCI modules, be sure the option bulkheads mate with the EMI gasket on the PCI card cage.

1. Disconnect the standard-I/O to connector module cable (17-04116-01) from the old connector module (54-23491-01) and the standard I/O module (B2110-AA). Save the cable for use in Section 4.2.3.

2. If you have not already done so, disconnect any I/O cables from the old connector module (54-23491-01). Remove the module from its connector (see ❷ in Figure 4-3) and slide it out of the DWLPB shelf.

3. Check the new connector module (54-25133-01) to verify that the jumper is installed in the KFE72 (default) position, as shown in Figure 4-4.

4. Insert the new connector module (54-25133-01) into the same connector, front panel slot 2.

Figure 4-4 Jumper Settings on the Connector Module

Jumper

Pin 1   2   3

KFE72 - Jumper Pins 1 and 2 (Default - PCI Video)
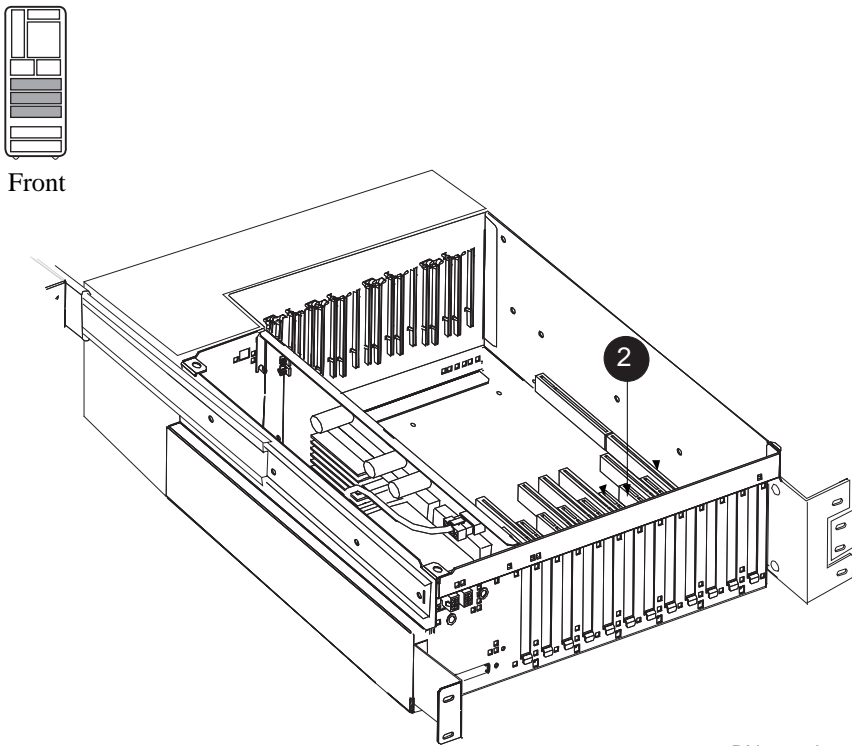KFE70 - Jumper Pins 2 and 3
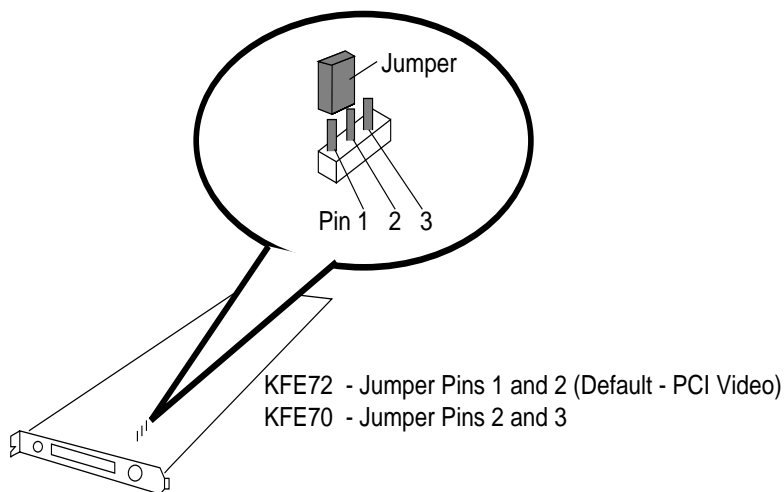
BX-0598-98

4.2.3 Insert Module in Slot 1

Attach ribbon cables (17-04116-01) to serial port module (54-25082-01). Insert the serial port module (54-25082-01) in front panel slot 1. Attach ribbon cables (17-04116-01) to new connector module and standard I/O module.

Figure 4-5   Inserting the Module in Slot 1

BX-0450L-98

1. Take the two 60-pin cables (part no. 17-04116-01), one from the kit and the one removed previously, and connect them to the serial port module (54-25082-01). See the figure below.

17-04116-01
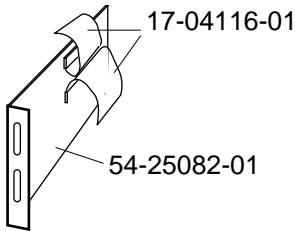
54-25082-01

BX-0561-97

2. Install the serial port module (54-25082-01), component side to the right (8200) or down (8400), in front panel slot 1 (see ❷ in Figure 4-5). Secure the module to the shelf with one of the screws removed previously.

3. Attach the lower ribbon cable on the serial port module (54-25082-01) to the 60-pin connector in the standard I/O module (B2110-AA). See the figure below.

4. Attach the upper ribbon cable on the serial port module (54-25082-01) to the new connector module (54-25133-01). See the figure below.

17-04116-01

54-25133-01

54-25082-01

B2110-AA

2   1   0   Front Panel Positions
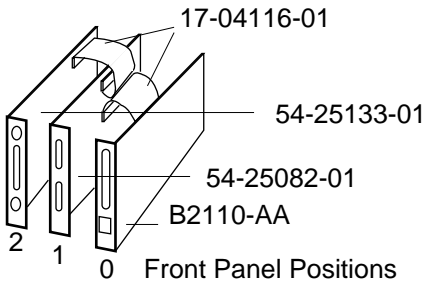
BX-0562-97

4.2.4 Finish Ribbon Cabling, Install Parallel Port Assembly and Graphics Module

Attach ribbon cable (17-04115-01) between the standard I/O module (B2110-AA) and connector module (54-25133-01). Install parallel port assembly (70-33322-01) to serial port module (54-25082-01) and install PowerStorm 3D30 graphics module (PBXGB-AA).

Figure 4-6   Ribbon Cabling and Parallel Port Assembly Installation

PBXGB-AA (54-23481-01)

70-33322-01

17-04116-01

54-25133-01

17-04115-01

54-25082-01

B2110-AA

4

3

2

1

0   Front Panel Slot Positions

BX-0560B-98

1. Connect the 34-pin ribbon cable (part number 17-04115-01) between the standard I/O module (B2110-AA) and the connector module (54-25133-01). See Figure 4-6.

2. Connect the parallel port assembly (70-33322-01) to the connector at the rear of the serial port module (54-25082-01), bring the bulkhead plate to the opening for front panel slot position 3, and attach the bulkhead plate to the card cage.
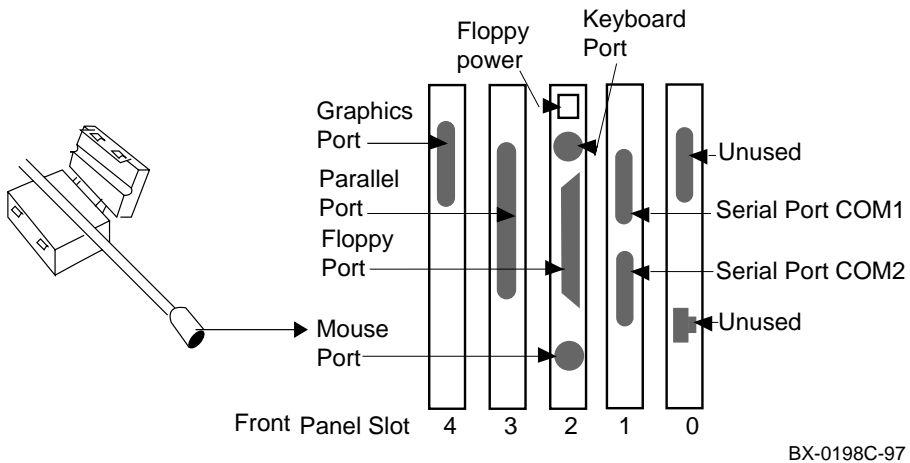
3. Place the PowerStorm 3D30 graphics module (PBXGB-AA) in front panel slot position 4 and attach it to the card cage.

4. If you have other options, install them in the shelf now.

5. Place the cover back on the DWLPB shelf and tighten the two quarter-turn screws.

6. Push the shelf back into the cabinet (8200) or PIU (8400). On the 8400, depress the locks on the slides and slide the shelf back into the system. The lock on the top slide is visible; you can locate the one on the bottom by touch.

7. On the 8200, replace the cable management rack and secure the shelf and cable management rack to the frame.

   On the 8400, replace the four Phillips head screws that hold the shelf in place.

8. Replace the power cables to the shelf.

9. Replace any other cables removed from the shelf.

4.3 Attach Graphics Monitor and Related Assemblies

Attach the graphics monitor, keyboard and mouse and their associated cables. Attach ferrite sleeve to mouse extension cable.

Figure 4-7 Ferrite Sleeve Installation

BX-0198C-97

1. Connect the graphics monitor (ordered separately) to the PowerStorm 3D30 graphics card installed in front panel slot 4. Use the BC13L-10 extension cable so that you can place the monitor at a more comfortable distance from the system than would otherwise be possible.

2. Install the mouse and keyboard extension cables (17-04016-01) to the connector module as shown in Figure 4-7.

3. Place the ferrite sleeve on the mouse extension cable 10 to 15 cm (4 to 6 in.) from the connector module and snap the sleeve shut over the cable. The ferrite sleeve is required to prevent radio interference when a mouse is used with the graphics module.

4. Connect the mouse to the mouse extension cable.

5. Connect keyboard to the keyboard extension cable.

6. Connect serial and parallel devices to the appropriate connectors, as shown in Figure 4-7.

7. **For 8200:** Attach sticker (36-44927-06) to new logo bar (74-49792-02) and replace the old logo bar on the cabinet door with the new one.

   For 8400: Remove the old system identification sheet from the front door of the cabinet and replace it with the new one (74-50090-05).

8. See Chapter 5 for hardware verification procedures, and Chapter 6 for how to run ECU to configure the KFE72.

Chapter 5

Verification

This chapter describes general verification procedures for the KFE72. Sections include:

- Run System Self-Test
- Show Configuration Command

5.1 Run System Self-Test

Self-test runs at power-up and the display should show the KFE72. Example 5-1 shows a PCI shelf with a KFE72 connected to a KFTIA.

Example 5-1   Self-Test Display

```
F   E   D   C   B   A   9   8   7   6   5   4   3   2   1   0   NODE #
                            A   M   .   .   .   .   .   .   P   TYP
                            o   +   .   .   .   .   .   .  ++   ST1
                            .   .   .   .   .   .   .   .  EB   BPD
                            o   +   .   .   .   .   .   .  ++   ST2
                            .   .   .   .   .   .   .   .  EB   BPD
                            +   +   .   .   .   .   .   .  ++   ST3
                            .   .   .   .   .   .   .   .  EB   BPD
                                +   +   +   +   +   +   +   +   C0 PCI  + ❶
            .   +   +           .   .   +   +   +   .   .   .   +   C1 PCI  + ❶
                            .   .   .   .   .   .   .   .       EISA +

                        .  A1   .   .   .   .   .   .   .   ILV
                        . 512   .   .   .   .   .   .   .   512 MB
AlphaServer 8400 Console V T5.1-30, 15-JAN-1998 16:15:10, SROM V 3.1
```

❶ Check the C0 through Cx lines to determine which modules on the PCI I/O subsystem passed self-test. The example shows two PCIs, one internal to the KFTIA in slot 8 and the other connected to the KFTIA through a hose. The adapter in slot 0 of the second PCI shows a +, so the KFE72 passed self-test.

NOTE: If any module is badly broken on any bus, the console may not get a response or be able to read whether a device passed self-test. Under such conditions, self-test does not indicate a failure but instead indicates that the slot is empty.

5.2 Show Configuration Command

Use the show configuration command to verify installation of the KFE72 you put
into the system.

Example 5-2 Show Configuration

```
P00>>> show configuration  ❶

        Name                    Type    Rev    Mnemonic
    .
    .
    .
  C0 Internal PCI connected to kftia0        pci0
    .
    .
    .
  C1 PCI connected to kftia0                 pci1
  0+    SIO              4828086  0004  sio0
  4+    VGA               D1011   0022  vga0
  5+    KZPSA             81011   0000  kzpsa0
  6+    DECchip 21041-AA  141011  0011  tulip1
  A+    DAC960            11069   0000  dac0
  B+    DEC PCI FDDI      F1011   0000  pfi0

  Controllers on SIO
  0+    DECchip 21040-AA  21011   0023  tulip0
  1+    FLOPPY                 2   0000  floppy0
  2+    KBD                   3   0000  kbd0
  3+    MOUSE                 4   0000  mouse0

  EISA connected to pci1 through sio0        eisa0
```

❶ Use the **show configuration** command to verify that the system sees the modules you just installed. This command shows the module slot number, module name, module type, revision, mnemonic, and if self-test passed.

In Example 5-2, the standard I/O module shows in slot 0 and the PowerStorm 3D30 graphics module shows in slot 4 of the PCI connected on hose 1 of the KFTIA. Other ports (keyboard, mouse, and so forth) show in the "Controllers on SIO" section of the listing.

Chapter 6

Running the EISA Configuration Utility from AlphaBIOS for Windows NT Systems

This chapter tells how to complete the installation of the KFE72 by running the EISA Configuration Utility from the graphics monitor running AlphaBIOS for Windows NT systems. Refer to the *AlphaBIOS User's Guide* for complete information on AlphaBIOS.

Sections in this chapter include:

- Starting AlphaBIOS

- First and Second Error Screens

- Updating the Configuration Using ECU

6.1 Starting AlphaBIOS

Start AlphaBIOS Setup from the SRM console after checking to make sure that both the serial console and the graphics console are enabled.

Example 6-1 Verify Proper Console Settings

```
P08>>> show console   ❷
console    both
```

Example 6-2 Changing to Proper Console Settings

```
P08>>> show console
console    serial
P08>>> set console both   ❸
P08>>> init
```

Example 6-3 Set OS Type and Issue AlphaBIOS Command

```
P08>>> set os_type nt     ❹
P08>>> set auto_action boot    ❹
P08>>> alphabios    ❹
          .
          .
          .
  [several screens initializing devices]
```

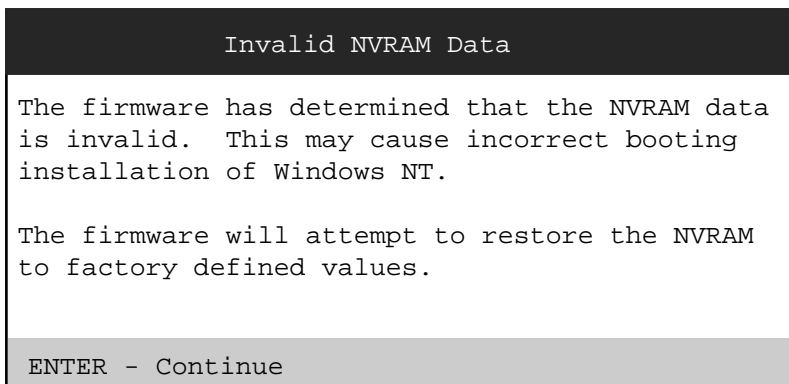To start AlphaBIOS to configure the KFE72:

NOTE: Verify that your system has been upgraded to the minimum SRM console revision as specified in the <u>AlphaServer 8200/8400 Windows NT Administrator's Guide and Release Notes.</u>

1. Plug in and turn on the graphics monitor, if it has not been turned on already.

2. Go to the SRM console and use the **show console** command to see if the graphics monitor has been set as a console. The console setting can be serial, graphics, or both. It should be set to both. (See ❷ in Example 6-1.)

3. If the console has been set to serial, use the **set console both** command to enable both terminals. (See ❸ in Example 6-2.)

4. When the console prompt appears, type the **set os_type nt , set auto_action boot**, and **alphabios** commands. (See ❹ in Example 6-3.)

5. The system begins to initialize devices, displaying messages. Eventually an error message screen appears (see next section).

6.2 First and Second Error Screens

The system displays initialization messages until an error screen appears. Press ENTER for remedial action.
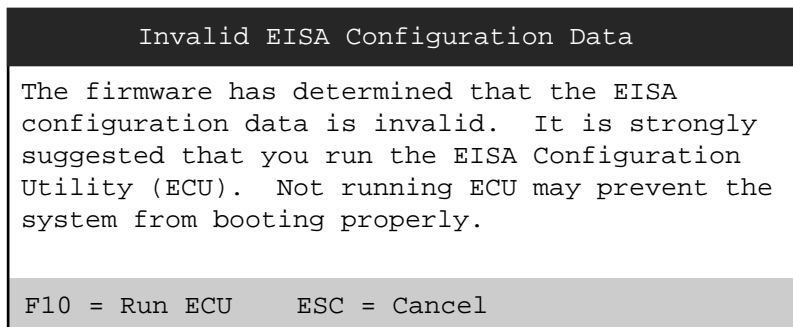
Figure 6-1   First Error Screen

```
              Invalid NVRAM Data

The firmware has determined that the NVRAM data
is invalid.  This may cause incorrect booting
installation of Windows NT.

The firmware will attempt to restore the NVRAM
to factory defined values.



 ENTER - Continue
```

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The system displays an explanatory message (Figure 6-1) and defines the remedial procedure.

1. Press ENTER.

    The system restarts the SRM console and AlphaBIOS and begins displaying the initialization information again. A second error screen appears (Figure 6-2).

Figure 6-2   Second Error Screen

```
          Invalid EISA Configuration Data

The firmware has determined that the EISA
configuration data is invalid.  It is strongly
suggested that you run the EISA Configuration
Utility (ECU).  Not running ECU may prevent the
system from booting properly.


F10 = Run ECU      ESC = Cancel
```

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The system requests that you run the EISA Configuration Utility.

2. Load the ECU disk (from ECU kit, part number QC-01YAA-HC) into drive A (the floppy drive you installed when installing the KFE72 hardware).

3. Press F10.

    The screen remains blank for some time (several minutes) and ECU is booted.

6.3 Updating the Configuration Using ECU

ECU displays a menu of configuration options. Select step 5. Press ENTER at following screens to confirm the configuration and to reboot.

Figure 6-3 ECU Configuration Screen

```
                    Eisa Configuration Utility
          ┌──── Steps in configuring your computer ────┐

     Step 1:   Important EISA configuration information

     Step 2:   Add or remove boards

     Step 3:   View or edit details

     Step 4:   Examine required switches

     Step 5:   Save and exit

  >Select = ENTER<    <Cancel = ESC>
          ┌──────────────────────────────────────┐
          │                  Help                 │
          │ To save your configuration and exit the program,
          │ press ENTER  You can also exit without saving
          │ this step
          └──────────────────────────────────────┘
```

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CAUTION: Do not attempt to make configuration changes using ECU here. You are only running ECU to initialize the NVRAM on the standard I/O module (B2110-AA).

The EISA Configuration Utility presents several screens allowing you to save the new configuration:

1. At the third screen (see Figure 6-3), use the arrow keys to select Step 5, "Save and exit."

2. ECU then asks you to confirm the action. Press ENTER.

3. ECU asks if you want to reboot. Press ENTER.

Appendix A

PCI Device Restrictions on the Primary PCI Adapter

The primary PCI adapter (DWLPB) contains the KFE72, the Windows NT console subsystem including the PCI graphics module (PBXGB). The primary PCI adapter is the one connected to Hose 1 (not Hose 0) of the KFTHA in TLSB slot 8 or the only hose of the KFTIA in TLSB slot 8, which is logical Hose 1.

A.1 PCI VGA Graphics

The PBXGB (TGA2) graphics adapter is the only PCI VGA graphics adapter supported for this system. Use of other PCI VGA devices in the primary PCI adapter may result in unpredictable system behavior resulting in a system crash.

NOTE: PCI devices using addresses in the lower 64K of I/O address space may be installed in any PCI adapter other than the primary PCI adapter.

A.2 PCI Devices Hardwired to EISA I/O Address Space

PCI devices other than the PBXGB that use or have addresses "hardwired" to the lower 64K of EISA or PCI I/O address space cannot be installed in the primary PCI adapter. Use of such devices in the primary PCI adapter may cause unpredictable system behavior resulting in a system crash. Installation of these devices in a PCI adapter other than the primary will not have this effect. Examples of such PCI devices may include a PCI IDE controller, which, for software backwards compatibility reasons, must contain addresses in the IDE address space which is within the lower 64K of I/O address space.

A.3 Lower 64K I/O Address Space Allocation and Restriction

The connector module (part number 54-25133-01) resides in PCIA slot 2. This module contains a mode jumper. The following describes the allocation of the lower 64K of PCI/EISA I/O address space relative to this jumper position. I/O addresses above 64K are allocated to all PCI slots, independent of jumper position.

A.3.1 PCI Graphics Mode — Pins 1 and 2 Connected (KFE72 Mode)

The jumper must be in this position to support the PBXGB PCI graphics adapter for Windows NT. With the jumper in this position, addresses within the VGA address space, required by the PBXGB, are deallocated from the EISA slots and made available to the PCI slots. In this mode, the following addresses are directed to PCI slots 4 through 11:

PCI memory

0x00000000 – 0x000C7FFF

0x00100000 – 0x007F7FFF

0x00800000 – 0xFFFFFFFF

PCI I/O

0x0094

0x0100 – 0x0103

0x03B0 – 0x03BB

0x03C0 – 0x03DF

0x46E8 – 0x46E8

These addresses are not available to the EISA slots. All other addresses in the lower 64K are available to the EISA slots. PCI devices using addresses in the lower 64K other than those indicated above cannot be installed in the primary PCI adapter, otherwise unpredictable system behavior will result.

A.3.2 ISA Graphics Mode — Pins 2 and 3 Connected (KFE70)

This mode is used to support EISA/ISA graphics adapters.

In this mode, the following addresses are directed to PCI slots 4 through 11.

PCI Memory

0x00800000 – 0xFFFFFFFF

All other EISA addresses are available to the EISA slots. PCI devices using addresses in the lower 64K of I/O space cannot be installed in the primary PCI adapter, otherwise unpredictable system behavior will result.

Figure A-1   Jumper Settings on the Connector Module

KFE72 - Jumper Pins 1 and 2 (Default - PCI Video)
KFE70 - Jumper Pins 2 and 3

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