Prioris™ HX 6000 Server Powergrade Kit

Installation Guide

Order Number: ER–PCB5U–IA. A01

Digital Equipment Corporation

January 1997

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This equipment generates, uses, and can radiate radio frequency energy and, if not installed and used in accordance with the instructions, may cause harmful interference to radio and television reception; however, there is no guarantee that interference will not occur in a particular installation. If this equipment does cause harmful interference to radio or television reception, which can be determined by turning the equipment off and on, the user is encouraged to try to correct the interference by one of the following measures:

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- Increase the separation between the equipment and the receiver.
- Connect the equipment to a different outlet than the receiver.
- Consult the dealer or an experienced radio/TV technician for help.

DO NOT attempt to modify this equipment. If modified, the FCC may void your authority to operate this equipment.

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NOTE: You may lose data if you have not backed up your system. If you do not wish to install this kit yourself, contact Digital Customer Service. For a nominal fee, a Customer Service Technician can install it for you.

Introduction

Thank you for purchasing the Prioris™ HX 6000 Powergrade Kit. This kit contains all the components and instructions required to upgrade your CPU configuration to one or two 200 MHz *Pentium® Pro* processors with 256KB or 512KB cache.

Installing this kit involves updating your system BIOS (Basic Input-Output System). To do this, you will need to remove any video option card, if installed, and enable the internal VGA controller. Once the BIOS process has completed successfully, you can then reinstall any video option card. You **must** install the new BIOS **before** installing your Powergrade kit. This installation guide provides the necessary details.

Kit Contents

Table 1. Kit Contents

Kit Number: FR-PCB5U	-AA	-AB	-AC
CPU board with 2 *Pentium® Pro* CPU and 256KB cache		✔	
CPU board with 1 *Pentium® Pro* CPU and 512KB cache	✔		
CPU board with 2 *Pentium® Pro* CPUs and 512KB cache			✔
Voltage regulator board (number of boards in kit)	1	2	2
Antistatic wrist strap	✔	✔	✔
ServerWORKS Manageability Suite (CD-ROM)	✔	✔	✔
Installation Guide	✔	✔	✔

Tools and Supplies Needed

- Phillips screwdriver, 1 pt.
- Antistatic wrist strap with grounding clip (supplied)
- Three MS-DOS formatted diskettes

Boot the Quick Launch CD-ROM and Create Diskettes

During this procedure, you will be creating a crisis recovery diskette for use in the rare event that the update is unsuccessful. The Quick Launch CD-ROM in the ServerWORKS Manageability Suite contains the required BIOS and crisis recovery software.

1. Power on your server and boot the Quick Launch CD-ROM.
2. From the Quick Launch Main Screen, select “Installations & Utilities.”
3. From the Utility tab (the default), select a server (if necessary).
4. Insert a formatted diskette into drive A, and choose “Prioris HX6 Server Crisis Recovery Diskette,” and select Continue.
5. Insert another diskette into drive A, and choose “Prioris HX6 Server BIOS Phlash Diskette,” and select Continue.
6. Insert an MS-DOS formatted diskette into drive A, create “Prioris System Configuration Utility (SCU)” diskette and select Continue.
7. Select the BIOS version to create the appropriate SCU diskette.
8. Select Exit to end Quick Launch.
9. Remove the Quick Launch CD-ROM.

Enable the Onboard VGA Controller

1. Insert the SCU diskette into drive A and turn on or reset your server. The diskette should boot automatically.
2. When the SCU title appears, press any key to continue. Afterwards, follow the instructions on your screen to access the SCU main menu.
3. From the main menu, use the arrow keys to highlight an item and then press Enter to select it. Press F1 at any time for help about a selection.
4. Select the Advanced Control Group and enable the

Embedded - PCI VGA controller.

5. Select Save and Exit to save this selection.

Power Down the Server

1. Turn off your server.
2. Disconnect any external devices, the **ac power cord**, and the monitor power cord.
3. Unlock the front security lock on the server.
4. Remove the left side panel by sliding it toward the rear of the server.

WARNING: You might injure yourself or damage your server if you attempt to remove the side panel before unplugging the ac and monitor power cords.

Remove any Video Option Cards

Before updating the BIOS, you must remove any video option card and use the embedded PCI VGA controller.

Set Switches on the Main Logic Board

Make sure that the following switches, shown in Figure 1, are set:

SW1-1	BIOS upgrade	Enabled (On)
SW1-3	Boot block update	Enabled (On)

Replace the Panel and Reconnect the Cables

1. Install the left side panel. The server will not power up with the side panel removed.
2. Connect the monitor video cable to the embedded VGA connector if not already connected.

3. Connect the previously removed cables, the monitor power cord, and the server power cord to the back of the server.

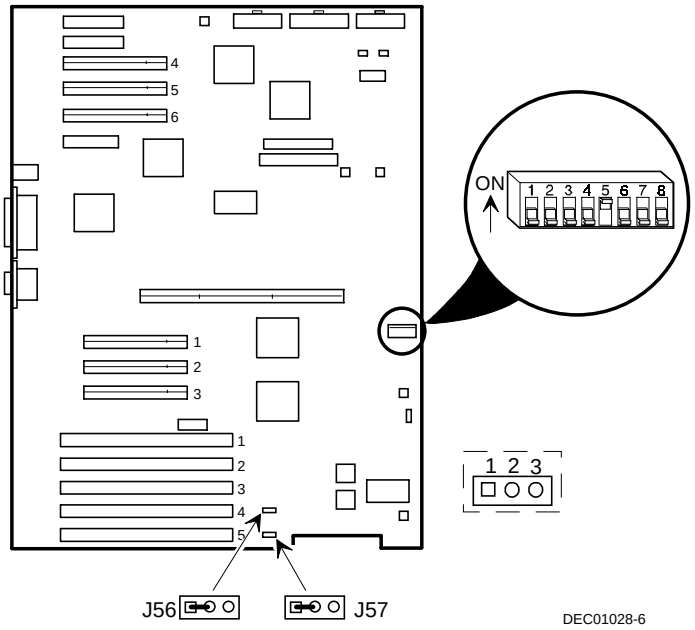

Figure 1. Main Logic Board Switch and Jumper Locations

Power Up the Server and Update Your BIOS

1. Power up the server and enable MS-DOS.
2. Insert the BIOS Update diskette into drive A and change the directory to upgrade. Example:

   A:\cd upgrade

2. At the MS-DOS prompt, type: phlash
3. You BIOS is updated automatically.

NOTE: DO NOT power down the system once this procedure has started. If the system loses power, or if at the end of this procedure the system fails, please refer to the section, "Troubleshooting – Using the Crisis Recovery Diskette if Necessary."

The system will reboot at the termination of the upgrade procedure.

4. Remove the diskette from Drive A.

Reset Switches on the Main Logic Board

1. As described previously, power down the server.
2. Make sure that the following switches, shown in Figure 1, are set to disabled to prevent any unauthorized update to your BIOS:

SW1-1	BIOS upgrade	Disabled (Off)
SW1-3	Boot block update	Disabled (Off)

Powergrade Installation

Remove the CPU Module

1. Place the antistatic wrist strap on your wrist and connect the grounding clip to a non-painted metal surface of the computer's chassis.
2. Using a Phillips screwdriver, unscrew and remove the CPU module retaining bracket (Figure 2).
3. Grasping both ends of the CPU module, carefully remove it from the main logic board and place it on an antistatic surface.

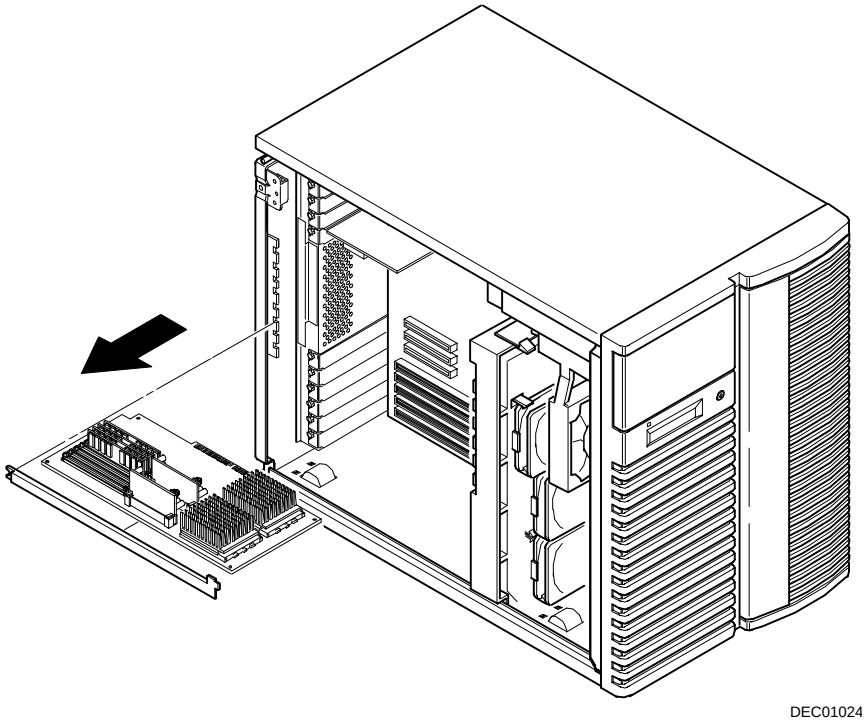

Figure 2. Removing the CPU Module

Install the Voltage Regulator Module(s)

For kit FR-PCB5U-AA, install one voltage regulator module onto the voltage regulator pins nearest the center of the new CPU module. For kits -AB and -AC, install two voltage regulator modules on the CPU module (one for each CPU installed). Note: Any extra voltage regulator module can be saved as a spare.

Item A in Figure 3 shows the CPU module switch location.

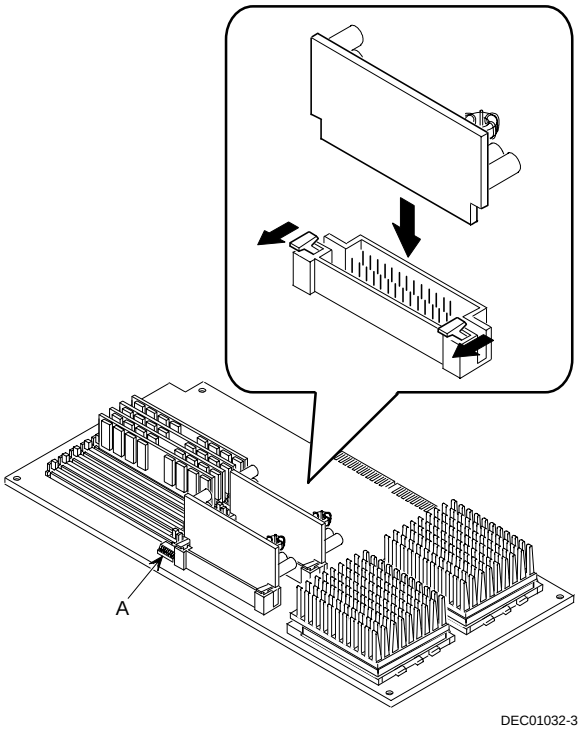

Figure 3. Installing a Voltage Regulator Module

Check the Switch Settings

Check the switch settings, shown in Figure 4, for a CPU with a speed of 200 MHz as listed in Table 2 (66 MHz $\times$ 3 $\cong$ 200 MHz).

Table 2. CPU Module Switch Settings

CPU Speed	Switch	Position	Description
200 MHz	SW4-1	Down	66 MHz bus frequency
	SW4-2	Down	$\times$ 3 bus/core frequency
	SW4-3	Up	
	SW4-4	Down	

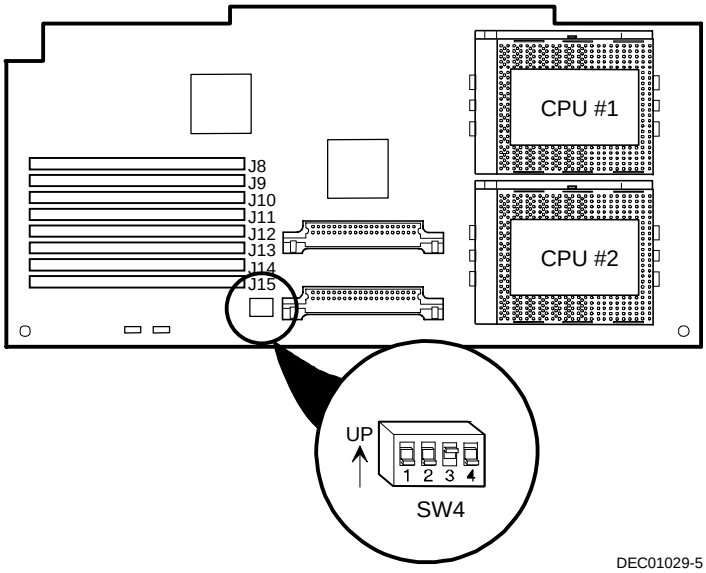

Figure 4. CPU Module Switch Location

Move the SIMMs

Remove the SIMMs from the old CPU module and install them in the same order on the new CPU module.

1. Press the SIMM retaining clips out (A, Figure 5).
2. Pivot the SIMM down and pull it out of the socket (B, Figure 5).

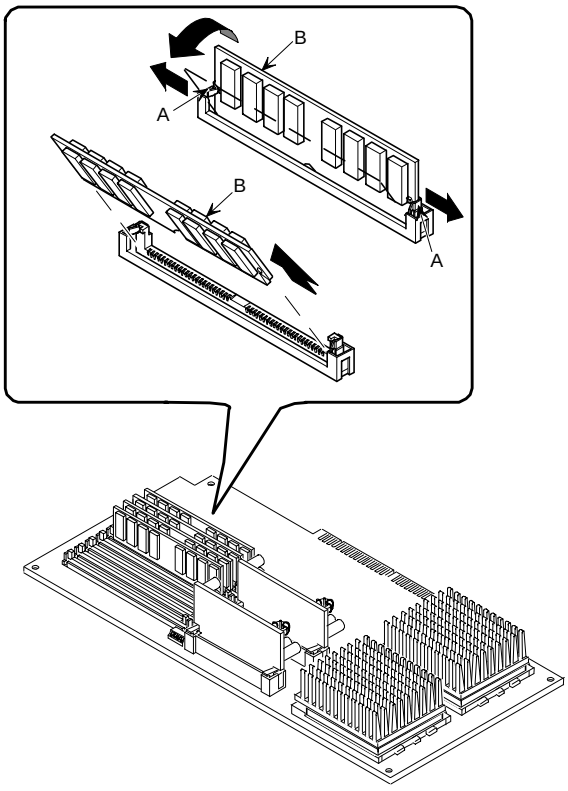

Figure 5. Removing the SIMMs from the CPU Module

3. Install the SIMM in the new CPU module at a 45° angle, making sure the notch on the SIMM is on the right.

4. Rock the SIMM gently until it engages the bottom socket, then tip it upright until both retaining clips (A) engage.

If you have additional SIMMs, install them as pairs only. SIMMs in a bank must be the same type and size. Check your *Prioris HX 6000 System Reference Manual* for the correct installation in each block.

Install the CPU Module

1. Install the CPU module into the dedicated CPU slot on the main logic board.
2. Secure the CPU module to the main logic board using the previously removed retaining bracket, screw, and a Phillips screwdriver (Figure 6).

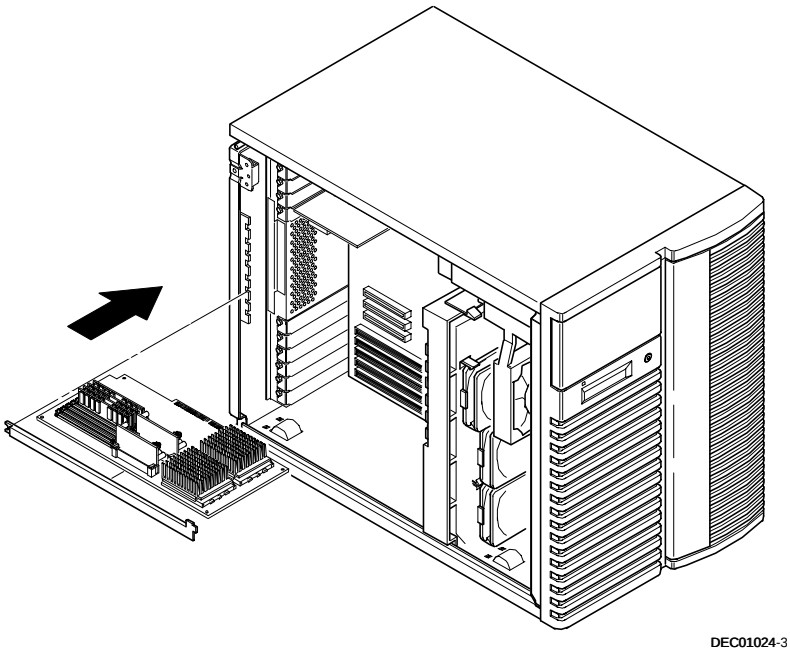

Figure 6. Installing the CPU Module

Install any Video Option Card

If you previously removed a video option card, you can install it again.

Replace the Panel and Reconnect the Cables

1. Install the left side panel and lock the server. The server will not power up with the side panel removed.
2. Connect the cables, the monitor power cord, and the server power cord to the back of the server.

Run the System Configuration Utility (SCU)

The SCU enables you to check or change your server's configuration. Run the SCU to configure your server for the new CPU chip or module.

To start and run the SCU:

1. Insert the SCU diskette into drive A and turn on your server. The diskette should boot automatically.
2. When the SCU title appears, press any key to continue. Afterwards, follow the instructions on your screen to access the SCU main menu.
3. From the main menu, press the up or down arrow to highlight an item and then press Enter to select it. Press F1 at any time for help about a selection.
4. From the main menu select Configure Computer and then View and Edit Details. Example:

   If you installed a video option card, select the Advanced Control Group and disable the Embedded - PCI VGA controller.
5. Select Save and Exit to configure your server for the CPU module.
6. When complete, remove the SCU diskette from drive A.

7. Move the video cable to the newly installed video card and reboot your server.

   Refer to Chapter 2, “Server Software and Utilities,” in your computer System Reference Guide for any additional information on running the SCU.

Troubleshooting

Using the Crisis Recovery Diskette if Necessary

The crisis recovery diskette may be used only if your computer’s BIOS fails or if a BIOS upgrade is unsuccessful.

When using the Crisis Recovery diskette, you must remove any video option card and enable the onboard VGA.

1. Turn off the server and set SW1-2 (Figure 1) to ON (Recovery mode).
2. Insert the Crisis Recovery diskette into drive A and reboot the computer.

NOTE: Remember to return switch SW1-2 to its Normal (OFF) position after using the crisis recovery diskette.

Bulletin Board Access

For future reference, you can access product information and software updates using the Internet at:

`http://www.windows.digital.com`

`http://www.windows.digital.com/~ftp/00-index.htp`

You can also access software updates through Digital's Bulletin Board Service (BBS) by calling in the United States **508-496-8800**.

The BBS is **not** a source for technical support. For advice, please call your local Digital Service Representative.