



ProSignia 200 6/233 Server

Setup and Installation Guide

Third Edition (October 1997)

292988-003

Compaq Computer Corporation

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Contents

Preface

| | |
|--|------|
| Using the Setup and Installation Guide | ix |
| Text Conventions..... | x |
| Symbols in Text..... | xi |
| Symbols on Equipment..... | xi |
| For More Information | xii |
| Online Help | xiii |
| Compaq CDs | xiv |
| Other Hardcopy Documents..... | xv |
| Compaq Web Site..... | xv |
| Compaq Authorized Reseller or Service Provider | xvi |
| Customer Support | xvii |
| Getting Product Updates..... | xvii |

Chapter 1

Compaq ProSignia 200 6/233 Features

| | |
|-------------------------------------|-----|
| Industry Support | 1-1 |
| Comprehensive Customer Support..... | 1-2 |
| Standard Features | 1-2 |
| Front Panel Components | 1-2 |
| Rear Panel Connectors | 1-3 |
| Network Controller | 1-5 |
| Drive Positions | 1-5 |
| Processor Board..... | 1-6 |
| System Memory | 1-7 |
| Expansion Slots | 1-7 |
| IDE Enhanced Disk Controller | 1-7 |
| Network Controller | 1-8 |

Compaq ProSignia 200 6/233 Features *Continued*

| | |
|--|------|
| Video Controller..... | 1-8 |
| ROM..... | 1-8 |
| Power Supply | 1-8 |
| Warranty | 1-8 |
| Server Management and Configuration | 1-9 |
| Compaq SmartStart | 1-9 |
| Compaq Insight Manager | 1-9 |
| Automatic Server Recovery-2 (ASR-2) | 1-10 |
| Security Features | 1-10 |
| Getting Additional Configuration Information | 1-11 |
| Ordering ECC Memory Upgrades..... | 1-11 |

Chapter 2

Server Installation Overview

| | |
|---|-----|
| Overview of Installing the Server..... | 2-2 |
| Selecting a Site and Unpacking the Server | 2-3 |
| Installing Hardware Options and Setting Switches..... | 2-4 |
| Locating Materials..... | 2-4 |
| Removing the Side Access Panel..... | 2-5 |
| Replacing the Side Access Panel | 2-6 |

Chapter 3

Installing Hardware Options

| | |
|--|-----|
| Pre-Failure Warranty | 3-2 |
| Insight Manager Alert | 3-2 |
| Using the Power Switch Security Feature | 3-2 |
| Disabling the Power Switch Security Feature..... | 3-3 |
| Installing Expansion Boards..... | 3-5 |
| Removing the Expansion Backplane Brace | 3-6 |
| Removing an Expansion Slot Cover | 3-7 |

Installing Hardware Options *Continued*

| | |
|--|------|
| Installing an Expansion Board | 3-8 |
| Replacing the Expansion Backplane Brace..... | 3-10 |
| Installing a Processor in Your ProSignia 200 6/233 Server..... | 3-11 |
| Removing the System Board Tray | 3-11 |
| Replacing the Processor | 3-13 |
| Removing the Processor..... | 3-13 |
| Installing the Processor | 3-15 |
| Installing a Memory Upgrade on the Video Graphics Board | 3-17 |
| Adding Memory to the ProSignia 200 6/233 | 3-19 |
| Installing SIMMs..... | 3-20 |
| Configuring Mass Storage Devices..... | 3-22 |
| Removable Media Storage | 3-22 |
| Drive Installation Guidelines | 3-22 |
| Installing Drives into the ProSignia 200 6/233 Server..... | 3-24 |

Chapter 4

Cabling Guidelines

| | |
|--|------|
| IDE Cabling Guidelines | 4-1 |
| IDE Standard Cables | 4-1 |
| IDE Cabling Scenarios | 4-3 |
| Device Installation Rules | 4-4 |
| SCSI Cabling Guidelines..... | 4-5 |
| SCSI Cable Connectors..... | 4-6 |
| Determining Cabling Needs | 4-7 |
| Internal Cabling Guidelines | 4-8 |
| Internal Cabling Guidelines | 4-15 |
| Connecting the Power Cord and Peripheral Devices | 4-17 |
| Completing the Installation Process | 4-20 |

Chapter 5

Server Configuration and Utilities

| | |
|---|------|
| Resolving Resource Conflicts | 5-2 |
| Starting the System Configuration Utility..... | 5-3 |
| System Configuration Utility Main Menu..... | 5-3 |
| System Configuration Menu | 5-4 |
| System Partition | 5-6 |
| Creating a New System Partition | 5-7 |
| Verifying the System Partition..... | 5-7 |
| Upgrading the System Partition | 5-8 |
| Configuration Backup | 5-8 |
| Configuration Backup and Configuration History Files | 5-8 |
| Configuring PCI Boards Automatically | 5-10 |
| Removing Boards | 5-10 |
| Installing an Operating System | 5-10 |
| Loading Compaq Device Drivers..... | 5-11 |
| Compaq NetWare and IntranetWare Device Drivers..... | 5-12 |
| Windows NT Device Drivers from Compaq | 5-14 |
| SCO OpenServer and SCO UnixWare Device Drivers from Compaq..... | 5-15 |
| SCO OpenServer | 5-16 |
| UnixWare | 5-16 |
| IBM OS/2 Device Drivers from Compaq | 5-16 |
| Banyan VINES Device Drivers from Compaq | 5-17 |
| Diagnostics and Other Utilities | 5-18 |

Appendix A

Electrostatic Discharge

| | |
|------------------------|-----|
| Grounding Methods..... | A-1 |
|------------------------|-----|

Appendix B

Installing a New Battery

| | |
|--|-----|
| System Board Battery Replacement..... | B-1 |
| System Board Battery Install..... | B-2 |
| Placing the Battery | B-3 |
| Riser Board Battery Replacement | B-3 |
| Riser Board Battery Installation..... | B-4 |
| Battery Placement on Riser Board | B-5 |

Appendix C

Power Cord Set Requirements

| | |
|-------------------------------------|-----|
| General Requirements | C-1 |
| Country-Specific Requirements | C-2 |

Appendix D

Switches and Jumpers

| | |
|---|-----|
| Setting System Board Switches..... | D-1 |
| Switch Bank Switch SW1 Settings | D-2 |
| Setting NIC Switches Using Switch SW2 | D-2 |
| Switch Bank Switch SW 3 Settings | D-3 |
| SCSI Device Jumper Settings..... | D-4 |
| Jumper Settings..... | D-5 |

Appendix E

Regulatory Compliance Notices

| | |
|---|-----|
| Federal Communications Commission Notice..... | E-1 |
| Modifications..... | E-1 |
| Cables | E-2 |
| Declaration of Conformity for Products Marked with the FCC Logo-United States only | E-2 |
| Canadian Notice (Avis Canadien) | E-2 |

Regulatory Compliance Notices *Continued*

| | |
|---|-----|
| European Union Notice | E-3 |
| Japanese Notice | E-3 |
| Laser Devices | E-4 |
| Laser Safety Warnings | E-4 |
| Compliance with CDRH Regulations | E-4 |
| Compliance with International Regulations | E-4 |
| Laser Product Label..... | E-5 |
| Laser Information | E-5 |
| Battery Replacement Notice..... | E-6 |
| Battery Recycling Notice | E-6 |

Appendix F

Specifications and Connector Interfaces

| | |
|--|-----|
| ProSignia 200 6/233 Specifications | F-1 |
| Connector Interfaces..... | F-2 |

Index

Preface

Using the Setup and Installation Guide

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- **Chapter 1 – *Compaq ProSignia 200 6/233 Features***
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This section contains information on replacing the system and riser board batteries.
- **Appendix C – *Power Cord Set Requirements***
This appendix contains requirements for the power cord set now available with the ProSignia 200 6/233 servers. A table lists power cord set requirements for each country.

- **Appendix D – *Switches and Jumpers***
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- **Appendix E – *Regulatory Compliance Notices***
This appendix includes regulatory notices required by various agencies.
- **Appendix F – *Specifications and Connector Interfaces***
This appendix provides detailed specifications for easy reference.
- **Index**

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WARNING: Any surface or area of the equipment marked with these symbols indicates the presence of electrical shock hazards. The enclosed area contains no operator serviceable parts. To reduce risk of injury from electrical shock hazards, do not open this enclosure.



WARNING: Any RJ-45 receptacle marked with these symbols indicates a Network Interface Connection. To reduce risk of electrical shock, fire, or damage to the equipment, do not plug telephone or telecommunications connectors into this receptacle.

For More Information

Contact your nearest Authorized Compaq Reseller or Service Provider for more information.

- In the United States, call 1-800-345-1518.
- In Canada, call 1-800-263-5868.
- For Compaq technical support in the United States and Canada, call 1-800-OKCOMPAQ (1-800-652-6672).

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- Online services such as CompuServe, Prodigy, and America Online can be used if you are a member. Use the keywords to access Compaq materials:
 - ❑ Compuserve- The keywords are “GO COMPAQ.”
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Compaq Systems Reference Library CD is located in the Reference Information pack and includes the following online documents:

- ❑ Diagnostics
- ❑ Insight Manager documentation
- ❑ Integration TechNotes
- ❑ Part number lists
- ❑ SCSI and other options guides
- ❑ Security Management
- ❑ Server Maintenance and Service Guides (MSGs)
- ❑ Server reference guides

Compaq SmartStart and Support Software CD

Compaq SmartStart and Support Software CD is located in the Server Setup and Management pack and contains:

- ☐ System Configuration Utility software
- ☐ ROMPaq
- ☐ Drivers

Compaq Management CD

The Compaq Management CD is located in the Server Setup and Management pack and contains:

- ☐ Insight Manager Utility software
- ☐ Online Help for the Insight Manager Utility

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Customer Support

Compaq servers are backed by comprehensive and flexible customer support programs. Refer to your SmartStart and Support Software CD for information on Compaq Service Providers and Authorized Compaq Resellers in your area. This information is located under the Service Catalog button of the SmartStart and Support Software CD Online Reference menu.

Compaq Integration TechNotes provide detailed information on optimizing Compaq servers for advanced networks. Download TechNotes from the Systems Reference Library CD.

Getting Product Updates

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| Netherlands | 06-91681616 | 06-89911116 |
| New Zealand | 649-307-3969 | |
| Norway | 22-072-020 | 22-072-021 |
| Poland | 48-2-630-3535 | 48-2-630-3553 |
| Portugal | 351-1-4120132 | 351-1-4120654 |
| Singapore | 65-7503030 | 65-7504909 |
| South Africa | 27-11-728-6999 | 27-11-728-3335 |
| Spain | 341-640-1302 | 341-640-0124 |
| Sweden | (46) 8 703 5240 | (46) 8 703 5222 |
| Switzerland | 411 838 410/2222 | 01-837-0969 |
| Taiwan | (886) 2-3761170 | (886) 2-7322660 |
| Thailand | 62-2-679-6222 | 62-2-679-6220 |
| United Kingdom | 44-81-332-3888 | 44-81-332-3409 |
| United States | 1-800-386-2172 | 1-800-345-1518 |
| Venezuela | (582) 953.69.44 | (582) 952.86.70 |

Customer Support

Compaq servers are backed by comprehensive and flexible customer support programs. Refer to your SmartStart and Support Software CD for information on Compaq Service Providers and Authorized Compaq Resellers in your area. This information is located under the Service Catalog button of the SmartStart and Support Software CD Online Reference menu.

Compaq Integration TechNotes provide detailed information on optimizing Compaq servers for advanced networks. Download TechNotes from the Systems Reference Library CD.

Getting Product Updates

The latest product updates are available on the Internet at the Compaq World Wide Web site. Access the site through the following address:
<http://www.compaq.com>

Chapter 1

Compaq ProSignia 200 6/233 Features

The Compaq ProSignia 200 6/233 server uses high-performance processor and I/O technologies to give you maximum performance and flexibility. It is the only server that delivers true server functionality at the price of a desktop PC.

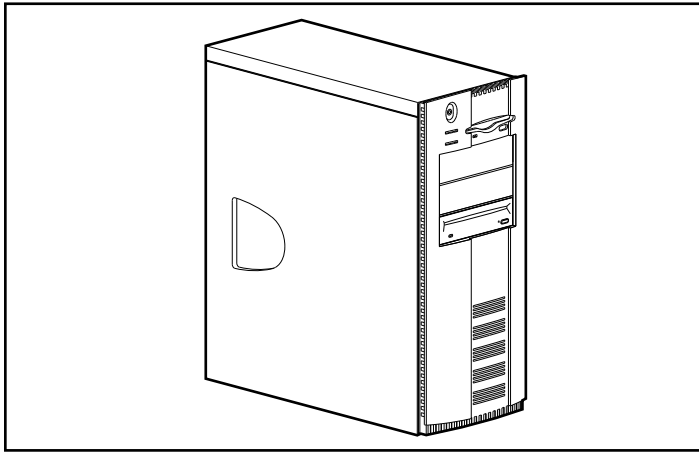


Figure 1-1. Compaq ProSignia 200 6/233 server

Industry Support

Compaq delivers extensive testing and support for major server operating systems. Because Compaq provides industry-standard buses for expansion, you have access to thousands of high-performance PCI and ISA expansion boards. The ProSignia 200 6/233 comes standard with integrated EIDE device controllers.

Comprehensive Customer Support

Compaq servers are backed by comprehensive and flexible customer support programs. Refer to SmartStart and Support Software diskettes for information on Compaq Service Providers and Authorized Compaq Resellers in your area.

Compaq Integration TechNotes provide detailed information on optimizing Compaq servers for advanced networks. You can print TechNotes from the Systems Reference Library CD.

Standard Features

The following features are standard on all Compaq ProSignia 200 6/233 models, unless otherwise noted.

Front Panel Components

The following illustration and table show and describe the components on the front panel of the server.

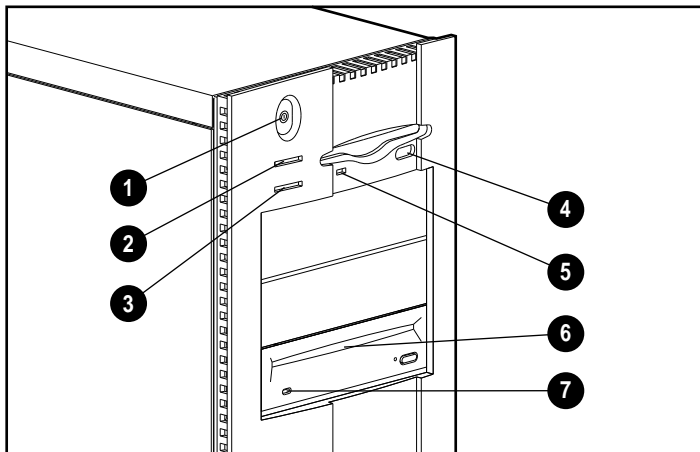


Figure 1-2. ProSignia 200 6/233 front panel components

Table 1-1
Front Panel Components

| Ref. | Component | Function |
|------|-------------------------------|--|
| 1 | Power Switch | Turns the server on and off. Includes security feature to prevent accidental power-down. |
| 2 | Power-On Light | Turns on when power to the server is turned on. |
| 3 | Hard Drive Activity Light | Turns on when the hard drive is being accessed. |
| 4 | Diskette Eject Button | Ejects a diskette from the floppy drive. |
| 5 | Diskette Drive Activity Light | Turns on when the diskette drive is being accessed. |
| 6 | CD-ROM Drive | Holds the CD-ROM disk. |
| 7 | CD-ROM LED | Turns on when CD-ROM Drive is being accessed. |

Rear Panel Connectors

The following illustration and table show and describe the connectors and switches on the rear panel of the server. Each connector includes an icon to help you identify its function.



WARNING: This equipment is designed for connection to a grounded (earthed) outlet. The grounding type plug is an important safety feature. To avoid the risk of electrical shock or damage to your equipment, do not disable this feature.

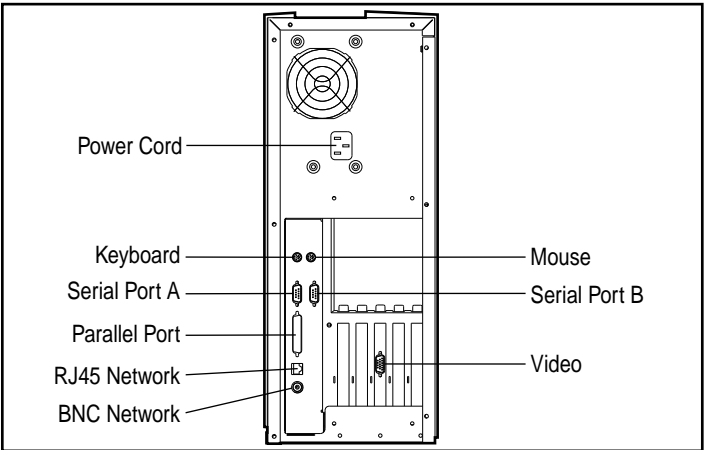


Figure 1-3. ProSignia 200 6/233 rear panel connectors and switches

Table 1-2
Rear Panel Connectors

| Connectors | Function |
|--------------------------------|--|
| Power Cord | Connects the server to an electrical power outlet. |
| Serial Port A and B Connectors | Connects a serial device, such as a serial printer or modem. |

continued

Rear Panel Connectors *continued*

| | |
|--------------------------|---|
| BNC Network Connector | Connects to an Ethernet network, using a Thinnet (coaxial) cable. Supports 10Base2. |
| RJ-45 Ethernet Connector | Connects to an Ethernet network, using a twisted pair cable, Supports 10BaseT. |
| Parallel Connector | Connects a parallel device, such as a parallel printer. |
| Keyboard | Connects a keyboard (orange icon). |
| Video | Connects a monitor to the PCI graphics controller. |
| Mouse | Connects a mouse or other pointing device (green icon). |

Network Controller

There is an Integrated Netelligent 10/100 T/2 PCI UTP/Coax Network Interface Controller on the PCI local bus. Its features include a RJ-45 connector for 10BaseT Ethernet (module upgradable to 100TX) and a BNC connector for 10Base2 Thinnet Ethernet.

Drive Positions

The ProSignia 200 6/233 server can house up to five mass storage devices. The following table and illustration describe the recommended drive configurations.

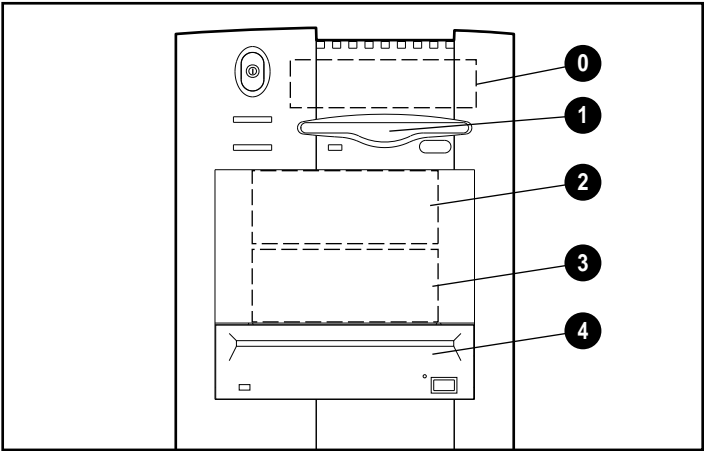


Figure 1-4. ProSignia 200 6/233 server drive positions

Table 1-3
Description of Drive Bays

| Drive Position | Configuration |
|----------------|---|
| 0 | 3.5-inch wide by 1-inch drive bay (some models have a preinstalled hard drive in this bay) |
| 1 | 3.5-inch 1.44MB standard diskette drive |
| 2 | 5.25-inch wide x 1.6-inch drive bay (removable media area) |
| 3 | 5.25-inch wide x 1.6-inch drive bay (removable media area) |
| 4 | 5.25-inch wide by 1.6-inch drive bay occupied by standard CD-ROM drive (removable media area) |

Processor Board

- 233 MHz 512K Non-ECC Cache Pentium II Processor
- Upgradable to future Intel Slot-1 SEC processors

System Memory

The Compaq ProSignia 200 6/233 server supports up to 192 MB of EDO memory through six 72-pin, industry-standard SIMM connectors. The ProSignia 200 6/233 also supports up to 384 MB of FastPage Mode (FPM) ECC memory (requires removal of EDO memory to enable ECC functionality). The system ships standard with 32 MB (two 16-MB SIMMs) of EDO memory.

IMPORTANT: ECC-capable FastPage Mode (FPM) memory can be purchased as an option kit from Compaq. The ProSignia 200 6/233 does not support the mixing of EDO and FPM memory.

For information on upgrading memory, see Chapter 3, “Installing Hardware Options.”

Expansion Slots

Five expansion slots may be configured using the following slots:

- Three PCI slots for access to the PCI bus providing peripheral transactions at a PCI bus clock speed of up to 33 MHz.
- One ISA slot to access the ISA bus.
- One shared PCI/ISA slot for access to either the PCI or ISA slot.

IDE Enhanced Disk Controller

If you install an IDE drive in the server, the system ROM automatically detects and configures the drive for operation in the server.

IMPORTANT: Non Compaq IDE Drives may require jumpers to be set to “Cable Select Mode” in order to have the drives function correctly. Refer to the documentation provided with the drive for instructions on setting the jumpers for “Cable Select Mode.”

Network Controller

The ProSignia 200 6/233 server uses an Integrated 32-Bit NetFlex-3 Controller on the PCI local bus. Includes an RJ-45 connector for 10BaseT Ethernet (module upgradable to 100TX) and a BNC connector for 10Base2 Thinnet Ethernet.

Video Controller

The video controller (graphics card) in the Compaq ProSignia 200 6/233 server has sockets for a memory upgrade from 1 megabyte of video RAM to 2 megabytes of video RAM. Compaq does not offer this upgrade and does not offer support for it.

To upgrade the memory, contact the Video Graphics Card vendor, STB Systems Inc., directly by calling the technical support desk phone number, 800-234-4334. Outside the US, call 972-669-0989. When contacting STB, provide them with both the Compaq part number (296361-001) and STB part number (1X0-0471-102) to reference the correct video upgrade kit. Features of the board include the following:

- PCI video with a Cirrus 5446-based graphics accelerator, providing a resolution of 1024 x 768 non-interlaced resolution at 256 colors with standard 1-MB EDO RAM; upgradable to 2 MB.
- Up to 65,536 colors, depending on graphics mode.
- Supports SVGA, VGA, EGA, and CGA graphics resolution.

ROM

- Software upgradable firmware

Power Supply

- 280 W

Warranty

- **Three-Year, On-Site Limited Worldwide Warranty**

Server Management and Configuration

Compaq offers an extensive set of features and optional tools to support effective server management and configuration. These features fall into the categories listed below and are described in this guide:

- SmartStart
- Compaq Insight Manager
- Automatic Server Recovery-2 (ASR-2)
- Server Health Logs

Compaq SmartStart

SmartStart is the intelligent way to configure your Compaq server with major operating system software. SmartStart can help you achieve a well-integrated server that ensures maximum dependability and supportability. For further information about configuration, refer to Chapter 5, “Server Configuration and Utilities.”

Compaq Insight Manager

Compaq Insight Manger is an easy-to-use software utility for collecting server information. Insight Manager uses this information to perform the following functions:

- Monitor fault conditions and server performance
- Send fault condition alerts to a predetermined destination
- Control server security and configuration

- Remotely control servers, if this option is set
- Initiate rapid recovery services

Automatic Server Recovery-2 (ASR-2)

If there is a critical system failure, Automatic Server Recovery-2 allows you to restart the server and page a designated system administrator. See the information about ASR-2 on the Systems Reference Library CD (SRL).

Security Features

Refer to the online documentation on the SRL CD for more information on these security features:

- Power-On Password
 - Administrator Password
 - Network Server Mode
 - Diskette Boot Control
 - Diskette Write Control
 - QuickLock
 - Serial Interface Control
 - Parallel Interface Control
 - Security Lock Provision
 - Power Switch Security Feature
-

Getting Additional Configuration Information

The latest product updates are available on the Internet at the Compaq World Wide Web site. Access the site through the following address:

<http://www.compaq.com>

Upgrading ECC Memory

If you have added an optional ECC memory upgrade for your server and require Compaq Insight Manager support and Pre-Failure Warranty support for the ECC memory, you must upgrade StartStart and Support Software CD v3.4 to Smart and Support Software CD v3.5.

World-Wide Contacts

- In North America, call 800-635-8269
Press option 5 and then press option 3.
- Outside of North America contact either:
 - Your Compaq authorized supplier
 - Your local Compaq authorized Care Center

Chapter 2

Server Installation Overview

The following instructions are provided for first-time installations and for hardware option upgrades. If you have any problems, contact your Compaq Authorized Reseller.



WARNING: To reduce the risk of electric shock or damage to the equipment:

- Do not disable the power cord grounding plug. The grounding plug is an important safety feature.
 - Plug the power cord into a grounded (earthed) electrical outlet that is easily accessible at all times.
 - Disconnect power from the server or other product by unplugging the power cord from either the electrical outlet or the server.
-



WARNING: To reduce the risk of personal injury from hot surfaces, allow the internal system components to cool before touching.



CAUTION: Electrostatic discharge can damage electronic components. Be sure you are properly grounded before beginning any installation procedure. Refer to Appendix A, "Electrostatic Discharge," for more information.

Overview of Installing the Server

The general steps outlined below are either detailed later in this chapter or in Chapter 3, “Installing Hardware Options.” This sequence is the same as illustrated on the Quick Hardware Installation poster that came with your new server. Additional information on each step is provided in the remainder of this manual. When installing your server, follow the detailed steps to ensure safe and proper installation.

IMPORTANT: To complete the installation process, follow the detailed procedures provided later in this chapter and in other sections of this *Setup and Installation Guide* to reduce the risk of physical injury and/or damage to your server.

- **Ordering SmartStart Activation Keys.** If you are purchasing an operating system from Compaq (optional), you should order the SmartStart Activation Keys now, so that you will receive the keys by the time you are ready to install the OS. For ordering information, refer to the Server Setup and Management pack shipped with your server.
- **Selecting a site and unpacking the server.** Refer to the next section in this chapter.
- **Setting switches and installing hardware options.**
 - ❑ Refer to the label located inside the side access. Confirm that the switch banks are set as shown on the label.
 - ❑ Install additional memory, hard drives (remember to set the SCSI ID settings on your SCSI hard drives), external storage devices, and any ISA and/or PCI expansion boards. Refer to Chapter 3, “Installing Hardware Options” for hardware option installation procedures.
- **Connecting External Interfaces.** Connect the cables associated with the keyboard, mouse, monitor, network, and power, as well as any other cables for the server.

- **Booting and Configuring the System.** Turn on the monitor and server and use the SmartStart CD to boot and configure the server. For SmartStart CD initialization procedures, refer to the server Setup and Management pack shipped with your server.
- **Installing Compaq Insight Manager.** Use this utility to manage your server. For Compaq Management CD initialization procedures, refer to the server Setup and Management pack shipped with your server. Register your Server using the server registration information that is shipped with your server in the Setup and Management pack.

For complete details on the SmartStart program, read the SmartStart and Setup Installation card included in your SmartStart package.

After the SmartStart program has finished configuring your systems, you have completed the installation of your new Compaq server.

Selecting a Site and Unpacking the Server

Make sure your server site has the following features:

- A sturdy, level installation site that includes dedicated and properly grounded circuits, air conditioning equipment, and static electricity protection
- A 3-inch (7.6-cm) clearance at the front and back of the computer for proper ventilation
- A separate electrical circuit for the server



WARNING: To reduce the risk of electric shock or damage to the equipment:

- Do not disable the power cord grounding plug. The grounding plug is an important safety feature.
 - Plug the power cord into a grounded (earthed) electrical outlet that is easily accessible at all times.
 - Disconnect power from the server or other products by unplugging the power cord from either the electrical outlet or the server.
-



CAUTION: Protect the server from power fluctuations and temporary interruptions with a regulating uninterruptible power supply (UPS). This device protects the hardware from damage caused by power surges and voltage spikes and keeps the system in operation during a power failure.

Unpack the server, keyboard, and cables following the instructions and illustrations printed on the packaging.

Installing Hardware Options and Setting Switches

General tasks include “Removing the Side Access Panel” and “Replacing the Side Access Panel” are discussed at the end of this chapter.

Locating Materials

Locate the following materials shipped with your new server:

- Documentation inside of the server. Most installation and setup instructions are located on the label inside the side access cover and in the *Setup and Installation Guide*. The information is repeated for your easy access.
-

- Hardware documentation and software packs inside the shipping box:
 - *Quick Hardware Installation poster*
 - *Compaq ProSignia 200 Setup and Installation Guide*
 - *SmartStart and Support Software CD Documentation Package*
- ProSignia 200 6/233 Server
- Keyboard
- Mouse
- Power cord

In addition to these supplied items, you may need:

- T-15 Torx screw driver
- Options to be installed
- Application software diskettes
- Optional uninterruptible power supply (UPS)

Removing the Side Access Panel

To remove the side access panel:

1. If the computer is on, turn it off and disconnect the power cord.
2. Disconnect any other external equipment connected to the computer.
3. Remove the three thumbscrews on the rear of the unit.

4. Slide the side access panel toward the rear of the unit. (See the Figure below.)
5. Lift and remove the panel.

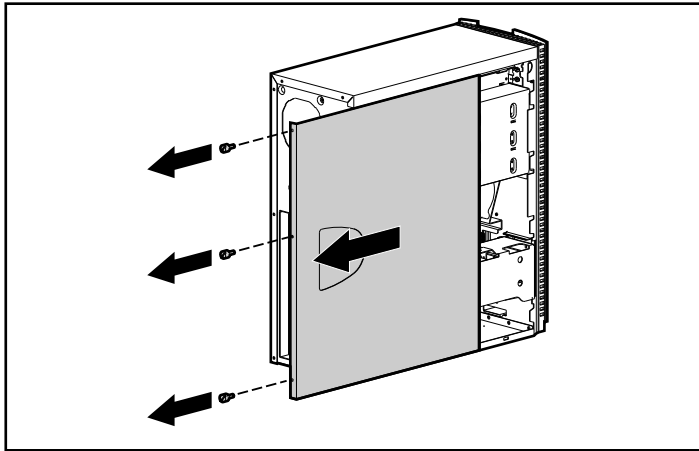


Figure 2-1. Removing the side access panel

Replacing the Side Access Panel

1. Reverse steps in “Removing the Side Access Panel” to replace the side access panel.
2. If desired, the side access panel can be locked (with a customer-supplied padlock) to prevent unauthorized access to system components. See Figure 2-2 for information.



CAUTION: Operating the server with the side access panels removed should only be done when performing system maintenance and when the ambient temperature is below 30° C or 86° F.

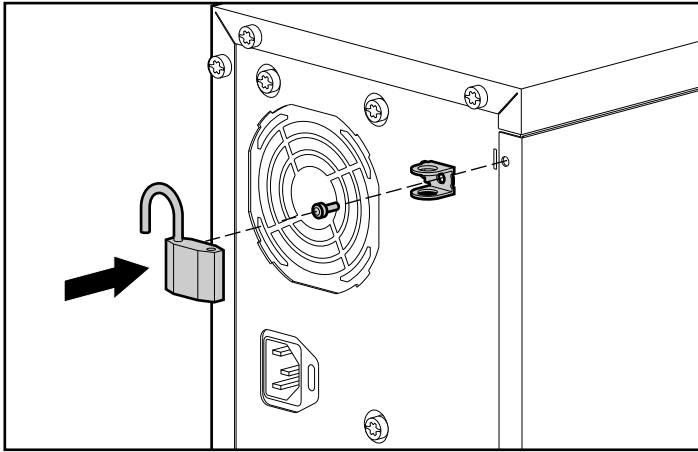


Figure 2-2. Securing the system with a user-supplied padlock

Removing the Front Bezel

To gain access to the hard drive and removable media you must remove the front bezel:

1. Remove the side access panel.
2. Release the three snaps that hold the bezel in place; one is located at the bottom ❶ and two are located on the side of the bezel ❷.
3. Rotate the front bezel out to about 45 degrees, then pull to remove the bezel from the chassis ❸.

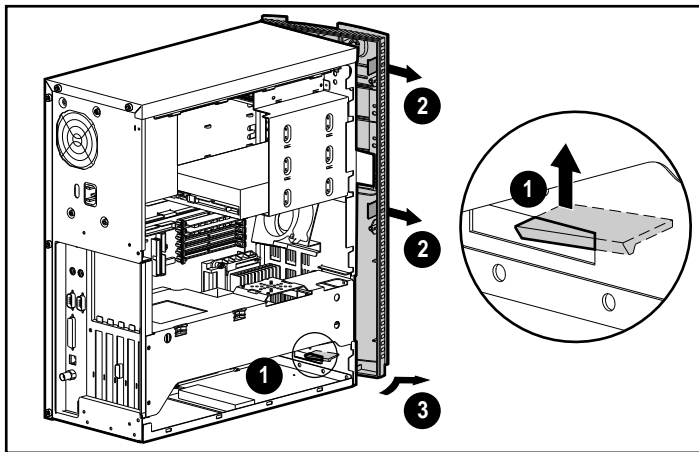


Figure 2-3. Opening the front bezel

Chapter 3

Installing Hardware Options

Before installing or removing options, follow these steps:

1. Back up your server data.
2. Power down the server and remove the power cable.
3. Remove the side access panel. (See Chapter 2, “Server Installation Overview.”)



CAUTION: Before removing the side access panel, be sure that the server is turned off and that the power cord is disconnected from the electrical outlet.

For more detailed information, see the Quick Installation Poster that accompanied your server, and read Chapter 2, “Server Installation Overview.”



WARNING: To reduce the risk of electric shock or damage to the equipment:

- Do not disable the power cord grounding plug. The grounding plug is an important safety feature.
 - Plug the power cord into a grounded (earthed) electrical outlet that is easily accessible at all times.
 - Disconnect power from the server or other product by unplugging the power cord from either the electrical outlet or the server.
-



WARNING: To reduce the risk of personal injury from hot surfaces, allow the internal system components to cool before touching.



CAUTION: Electrostatic discharge can damage electronic components. Be sure you are properly grounded before beginning any installation procedure. Refer to Appendix A, "Electrostatic Discharge," for more information.

Pre-Failure Warranty

Pre-Failure Warranty is supported by your server if you run Compaq Insight Manager and purchase the optional FPM ECC memory, or if you purchase hard drives from Compaq through a Compaq Authorized Reseller. Supported components are eligible for replacement under this warranty before they actually fail, if the system determines that these components have degraded below predetermined reliability thresholds within the product warranty period.

Insight Manager Alert

When Insight Manager alerts you that a component may be eligible for Pre-Failure Warranty replacement, follow the on-screen instructions or contact an Authorized Compaq Service Provider in your area.

Insight Manager status indicator: a yellow status display on the Insight Manager control panel that shows that a component is in a degraded condition. Insight Manager recommends that you replace a component that is in a prefailure condition.

Using the Power Switch Security Feature

The server is shipped from the factory with the power switch cover security feature in the locked position. This protects the server from accidentally being shut-down due to incidental contact with the power switch cover. To turn the server ON or OFF, you must use a thin object to depress the center circle of the power switch cover. The eraser end of a pencil works well.

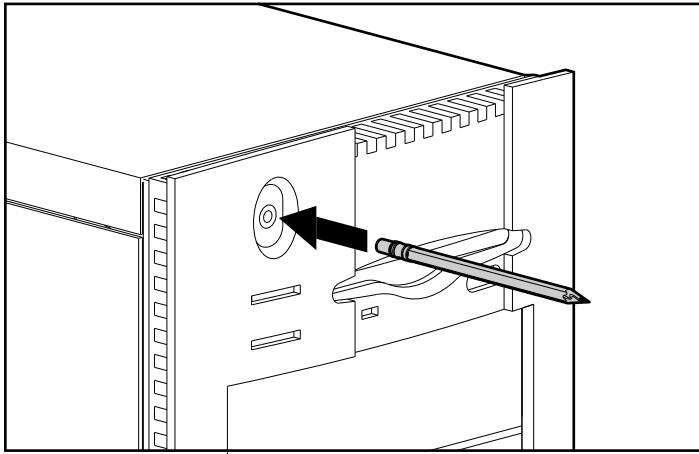


Figure 3-1. Using a slender object to turn the server on or off

Disabling the Power Switch Security Feature

The entire switch assembly can be depressed with your index finger; now depressing the switch does not require the eraser end of a pencil.



CAUTION: Before removing the front bezel, ensure that the computer is turned off and that the power cord is disconnected from the electrical outlet.

1. Remove the side access panel. (See chapter 2.)
2. Remove the front bezel. (See chapter 2.)
3. Locate the two clips securing the switch in the front bezel on the rear side of the bezel assembly.

4. Use a narrow instrument to release each clip from the bezel ❶; push the clip inward slightly ❷.
5. Once each clip is disengaged, remove the switch parts from the bezel ❸, collecting the two plastic parts and the spring as they disengage from the bezel. Tension in the spring may cause it to loosen; be careful not to lose the spring.

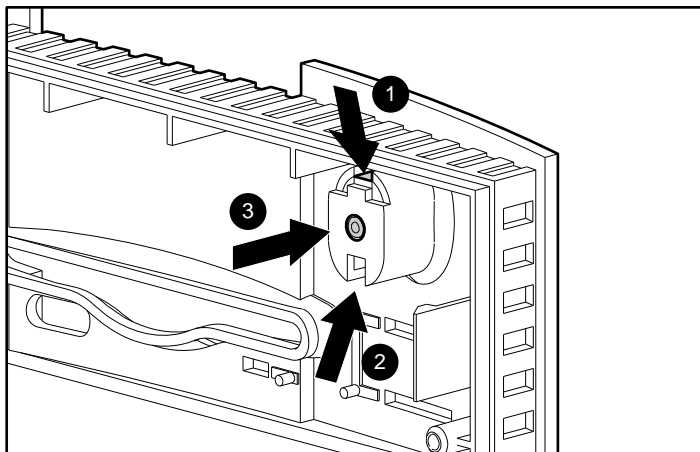


Figure 3-2. Removing the power switch from the front bezel

6. Rotate the switch assembly 180 degrees.
7. Insert the switch into the front bezel as shown below. Make sure you include the spring, that the clips on the switch engage, and that the center post of the switch aligns with the hole in the bezel.

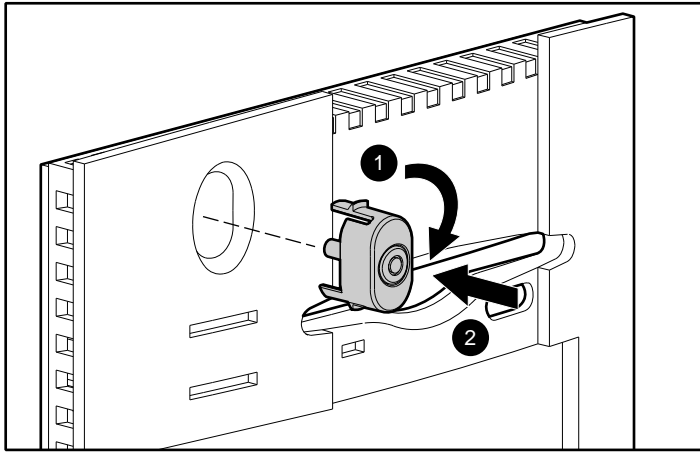


Figure 3-3. Inserting the power switch into the front bezel

8. Replace the front bezel.
9. Replace the Side Access Panel.

Installing Expansion Boards

The ProSignia 200 6/233 server contains five expansion slots:

- Three dedicated PCI local bus expansion slots (slots 1, 2, and 3); the Video card occupies slot 3.

IMPORTANT: In SCSI models slot 2 is occupied by a preinstalled PCI Wide-Ultra SCSI Controller.

- One shared PCI/ISA slot (slot 4)
- One ISA expansion slot (slot 5)

PCI and ISA expansion boards can be installed in the expansion board slot locations shown on the following figure.

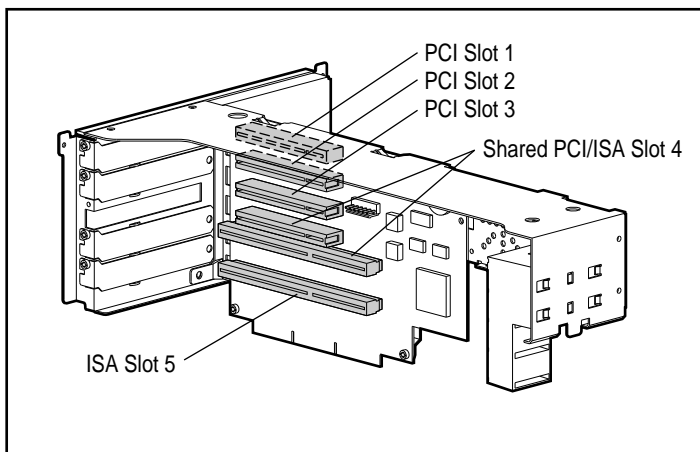


Figure 3-4. Locating ProSignia 200 6/233 expansion board slots

Removing the Expansion Backplane Brace



CAUTION: Before an expansion board can be installed or replaced, you must remove the expansion backplane brace that holds the expansion cards.

Follow these steps to safely remove the expansion backplane brace.

1. Turn off the server and disconnect the power cord.
2. Remove the side access panel. (See chapter 2.)

3. Grasp the expansion backplane brace at both ends and pull it out of the server chassis. Use care when guiding the expansion backplane brace out of the unit to prevent damaging the boards.

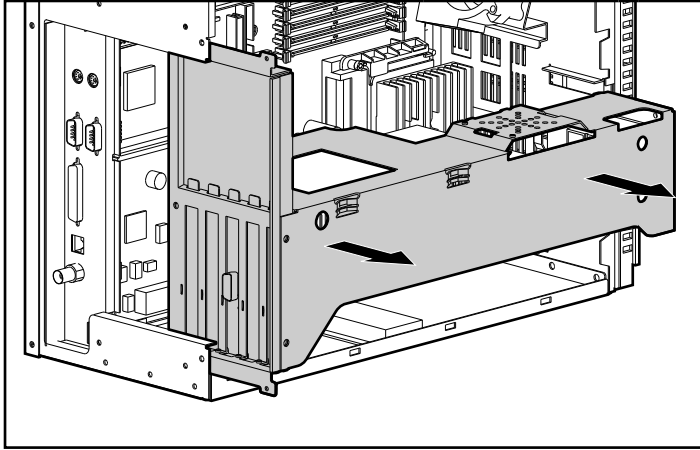


Figure 3-5. Removing the expansion backplane brace

Removing an Expansion Slot Cover

To install a PCI or an ISA expansion board, complete the following steps:

1. Locate the correct vacant slot in the expansion board.

2. Remove the screw from the expansion slot cover, then remove the expansion slot cover. You can now install an expansion board.

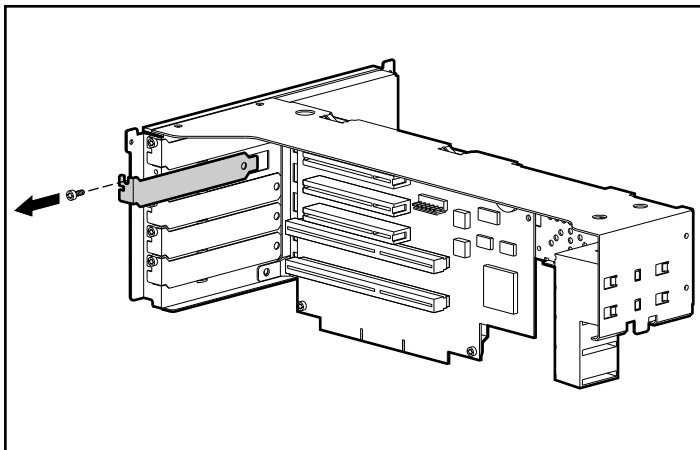


Figure 3-6. Removing the screw and expansion slot cover

Installing an Expansion Board

1. Install a PCI or ISA expansion board, making sure you press firmly on the board so that the entire connector seats properly in the expansion board slot.

2. Replace the screw at the side of the expansion slot.

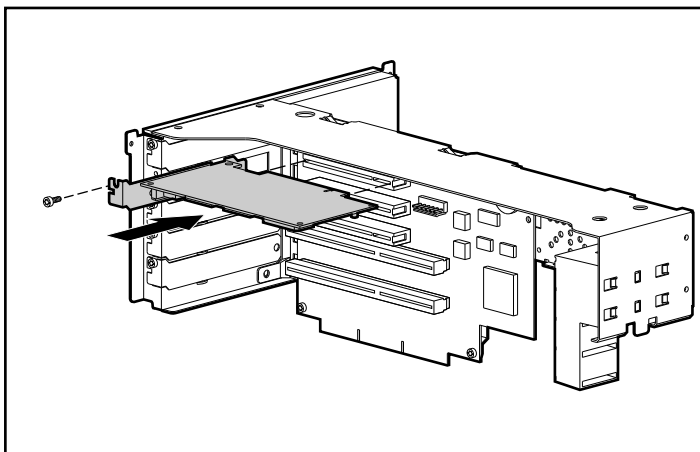


Figure 3-7. Sliding an expansion board into the expansion slot

3. Replace the expansion board cage into the server chassis.

Replacing the Expansion Backplane Brace

1. Grasp the expansion backplane brace at both ends and push it into the server chassis. Use care when guiding the assembly into the unit to prevent damaging the boards.

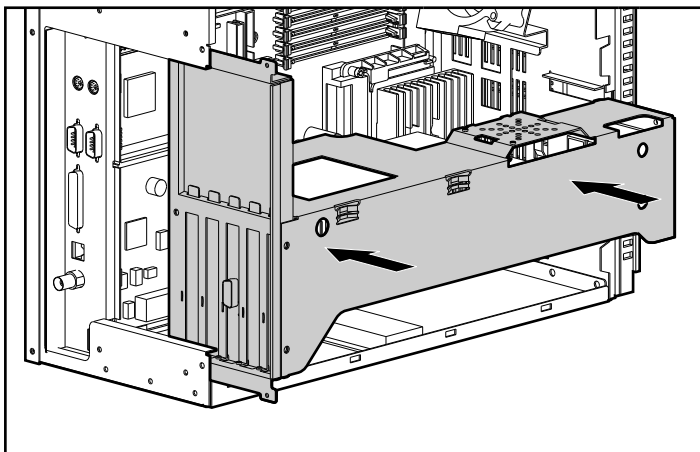


Figure 3-8. Replacing the expansion backplane brace

2. Replace the server cover.
3. Reconnect the power cord and cables to the server and turn it on.

IMPORTANT: When reinstalling the expansion backplane brace, fully seat the backplane board attached to the cage into the system board socket to ensure complete electrical contact.

Installing a Processor in Your ProSignia 200 6/233 Server



CAUTION: Installing the processor upgrade incorrectly may cause damage to the processor board. Compaq recommends that you have a Compaq Authorized Reseller or Service Provider install the processor upgrade. If you plan to install it yourself, read all the instructions carefully before you begin.

To replace the installed processor with a new processor, complete the following steps:

1. Remove the system board tray.
2. Remove the processor.
3. Install the processor upgrade.

Removing the System Board Tray



WARNING: To reduce the risk of personal injury from hot surfaces, allow the internal system components to cool before touching.

The slide-out system board tray allows you to quickly remove the system board without using tools.

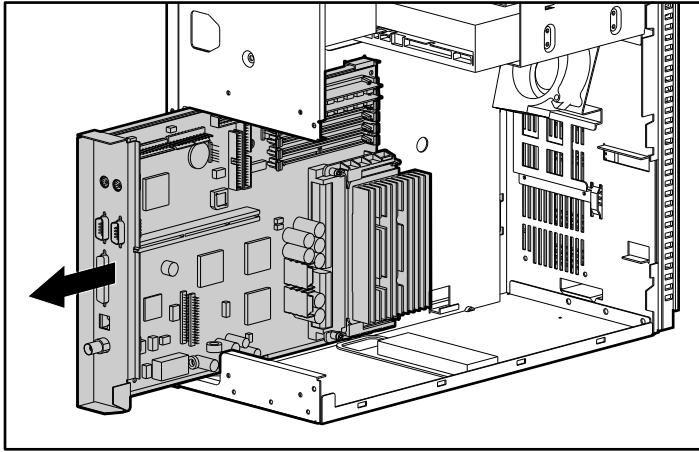


Figure 3-9. Removing the system board tray

To remove the system board tray, follow these steps:

1. Shut down all programs and the operating system.
2. Turn off the server and any external devices.
3. Disconnect the power cord from the power outlet.
4. Remove the side access panel. (See chapter 2, “Server Installation Overview.”)



CAUTION: Before removing the side access panel, be sure that the server is turned off and the power cord is disconnected from the electrical outlet.

5. Remove the expansion backplane brace as described in the previous section, “Removing the Expansion Backplane Brace.”
 6. Disconnect the power supply, drive signal cables, and fan cable from the system board.
 7. Grasp the back edge of the system board tray and slide it out of the chassis.
-

Replacing the Processor



WARNING: To reduce the risk of personal injury from hot surfaces, allow the internal system components to cool before touching.

To replace a Pentium II processor, remove the installed processor and then install the new one. The Pentium II processor, thermal pad, and heat sink are provided as one assembly; they should not be disassembled.

Removing the Processor

To remove the Pentium II processor:

1. Unplug the thermistor cable from header P1005 on the system board.

NOTE: Clicking once releases the tabs, clicking twice locks the tabs open.

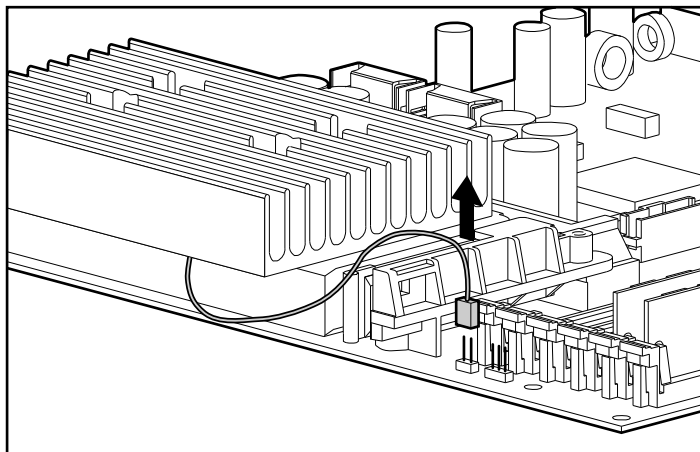


Figure 3-10. Unplugging the thermistor cable from the System board

2. Push the locking tabs in on either end of the Pentium II processor. Push til you hear two clicks to lock the tabs in the open position.

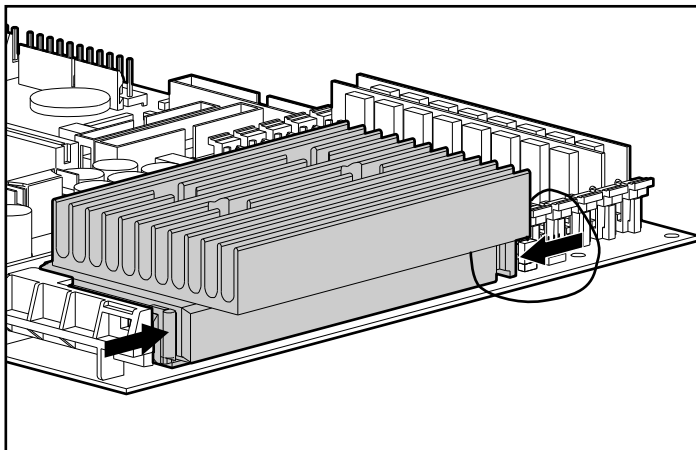


Figure 3-11. Pushing the tabs inward to open the latches on the Pentium II Processor

3. Remove the processor by pulling it out of the processor connector.



CAUTION: When removing the processor, do not press against the metal leads of the processor connector. Damaged leads will adversely effect Pentium II Processor performance.

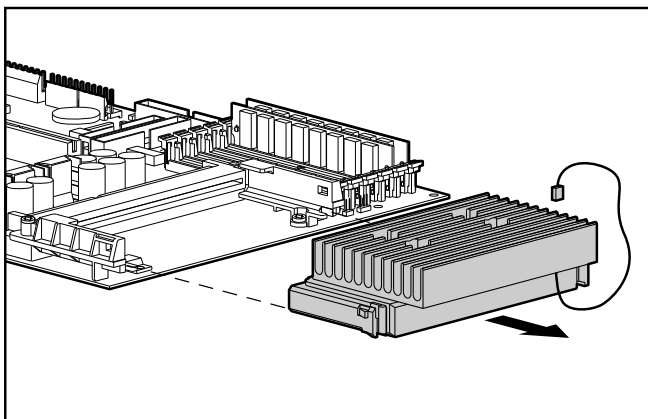


Figure 3-12. Removing the Pentium II Processor

Installing the Processor



WARNING: To reduce the risk of personal injury from hot surfaces, allow the internal system components to cool before touching.

To install the Pentium II processor, reverse the steps from the “Removing the Processor” section or follow the detailed steps below.

1. Slide the processor along the rails and push it into the processor connector.

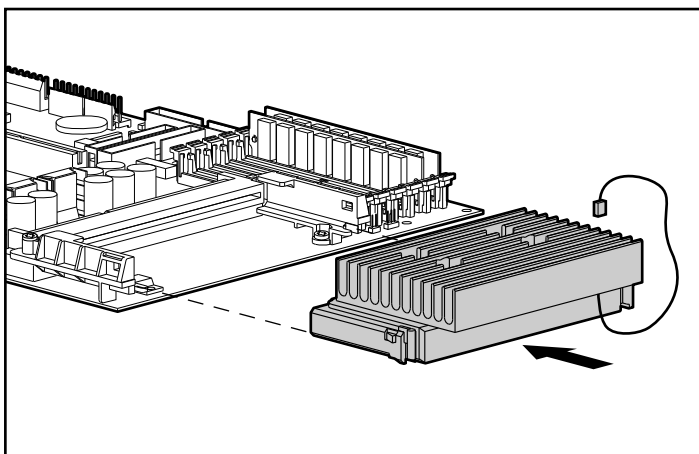


Figure 3-13. Inserting the Pentium II Processor into the processor connector

2. Pull the processor tabs outward. The tabs will click twice, indicating that the processor is locked to the system board.

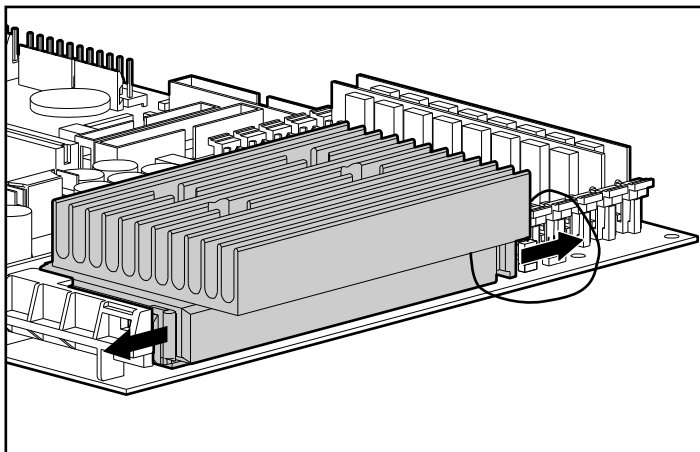


Figure 3-14. Pull the Pentium II processor tabs outward to lock the processor to the system board

3. Plug the thermistor cable into header P1005 on the system board.

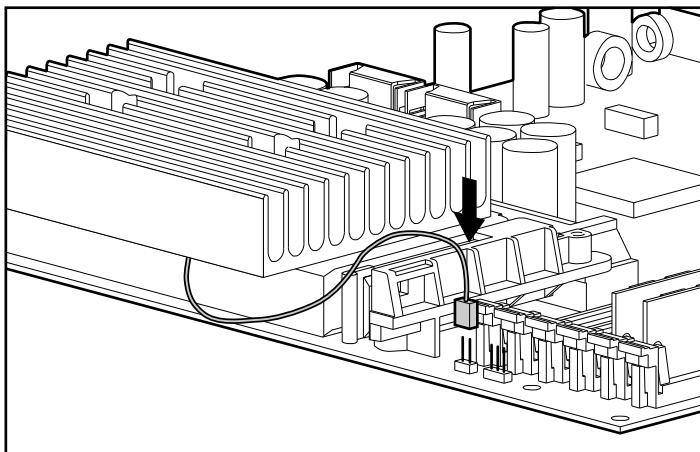


Figure 3-15. Plugging the thermistor cable into the system board

Installing a Memory Upgrade on the Video Graphics Board

The video graphics card in the Compaq Prosignia 200 6/233 server has sockets for a memory upgrade from 1 Megabyte of video RAM to 2 Megabytes of Video RAM. Compaq does not offer this upgrade and does not offer support for it.

To upgrade the memory contact the Video Graphics Card vendor, STB Systems Inc., directly by calling the technical support desk phone number, 800-234-4334, or outside the US, call 972-669-0989. When contacting STB, provide them with both the Compaq part number (296361-001) and STB part number (1X0-0471-102) to reference the correct video upgrade kit.

To install an additional 1-MB DRAM upgrade module on the PCI video graphics board, follow these instructions, which detail how to remove the board and install the video upgrade once it has been purchased from STB.

1. Turn off the server, disconnect the power cord from the electrical outlet and remove the side access panel.



CAUTION: Static electricity can damage electronic components or optional boards. Before beginning these procedures, be sure that you are discharged of static electricity by briefly touching a grounded metal object. Refer to Appendix A, "Electrostatic Discharge," for more information.

2. Remove the expansion board cage.
3. Remove the screw at the side of the expansion slot and remove the video graphics board.

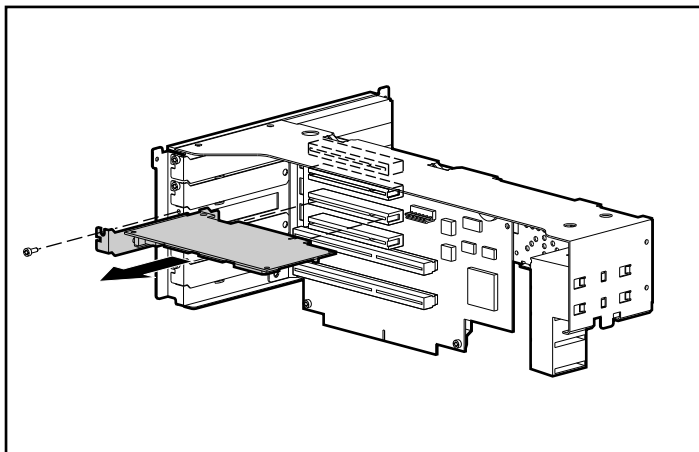


Figure 3-16. Removing the graphics board from the expansion slot

4. Place the PCI video graphics board on a grounded, flat surface and install the video memory upgrade module as illustrated below.

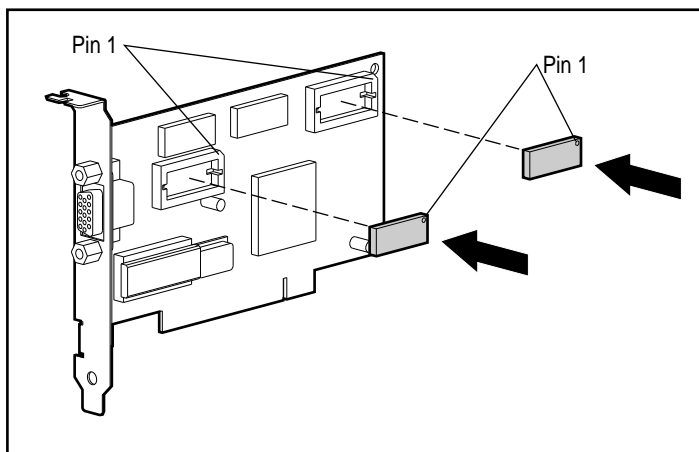


Figure 3-17. Installing upgrade memory modules on the PCI video graphics board

5. Replace the video graphics board into the same expansion slot.
6. Replace the screw into the expansion slot.

7. Replace the expansion board cage into the server chassis and replace the side panel.
8. Change the video resolution to take advantage of the additional display modes now available with the upgraded memory. Refer to Systems Reference Library (SRL) CD for additional information.

Adding Memory to the ProSignia 200 6/233



CAUTION: Use only tin-lead plated Compaq SIMMs. Some third-party SIMMs are known to adversely affect data integrity.

- You can expand server memory by installing Compaq SIMMs (Single Inline Memory Modules) on the system board.
- There are six memory sockets that can be populated when you install memory on the system board. However, two of these memory sockets are used to hold the 32 MB Memory Modules that are preinstalled. You may replace the preinstalled memory modules with higher capacity memory modules to achieve maximum memory.

SIMMs are installed in equally matched pairs, for example, two 16-MB modules or two 32-MB modules. The ProSignia 200 6/233 supports both EDO and FastPage mode (FPM) memory, but not at the same time. The system comes preinstalled with EDO memory. Options may be purchased to upgrade the system to a maximum of 192-MB of EDO memory. When the ProSignia 200 6/233 is using EDO memory, all ECC Memory Functions are turned off.

The ProSignia 200 6/233 also supports FPM memory in option kits that can be purchased from Compaq. These FPM option kits allows you to use the ECC functionality of the ProSignia 200 6/233. With the FPM option kits, the ProSignia 200 6/233 server can be upgraded to a maximum of 384 MB of memory. EDO and FPM memory should not be mixed in the ProSignia 200 6/233 system. See figure 3-18 for a drawing of the six memory module slots.

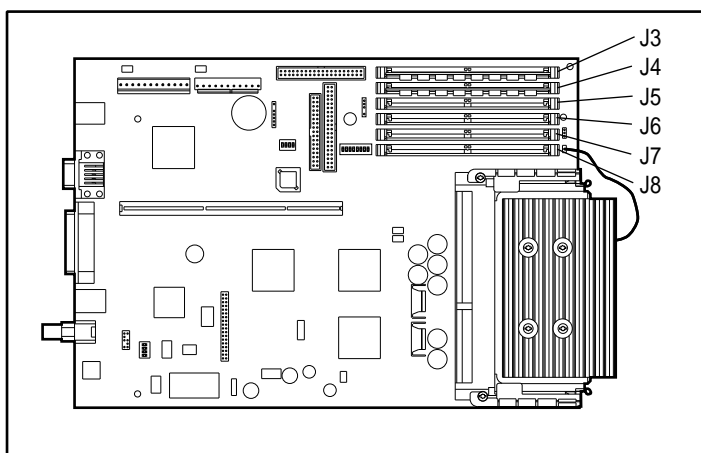


Figure 3-18. Six memory sockets on the ProSignia 200 6/233 Pentium II-based system board

Table 3-1
ProSignia 200 6/233 Memory Upgrade

| Model | Standard | Expandable |
|------------|----------------|----------------------------|
| All models | 32-MB EDO DRAM | 192-MB EDO or 384 FPM DRAM |

Installing SIMMs



CAUTION: Electrostatic discharge can damage electronic components. Be sure you are properly grounded before beginning any installation procedure. Refer to Appendix A, "Electrostatic Discharge," for more information.

To install a SIMM, complete the following steps:

1. Remove the expansion backplane brace.
2. Remove the system board tray. Details are found in the "Installing a Processor Upgrade" section later in this chapter.

3. Align the notch on the SIMM with the tab on the memory socket. A SIMM will not seat if turned the wrong way.

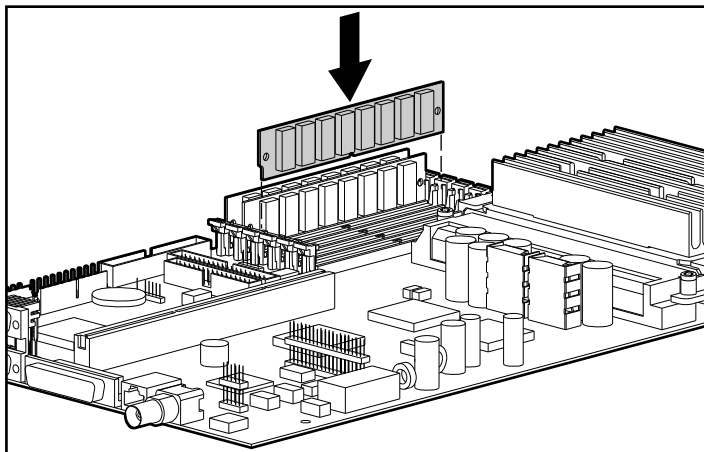


Figure 3-19. Inserting a SIMM in the memory expansion slots

4. Push the module down into the socket, ensuring that the module is fully inserted and properly seated.



CAUTION: You do not need to force the module into the slot. The module slides into the socket with slight pressure.

5. Rotate the module gently to an upright position, allowing the latches to snap into place.
6. Your server recognizes system memory upgrades and automatically reconfigures the server.

Configuring Mass Storage Devices

The ProSignia 200 6/233 server supports up to five internal drives. They may be installed in various configurations.

Removable Media Storage

A 1.44-MB diskette drive comes standard in removable media drive bay 1 and a CD-ROM drive is installed in bay 5. Some models have a preinstalled hard drive in bay 0. For further details, refer to the Drive Installation guidelines below.

Drive Installation Guidelines

Compaq strongly recommends that only an authorized service provider replace your primary hard drive. Below is a diagram of the media locations on the server.

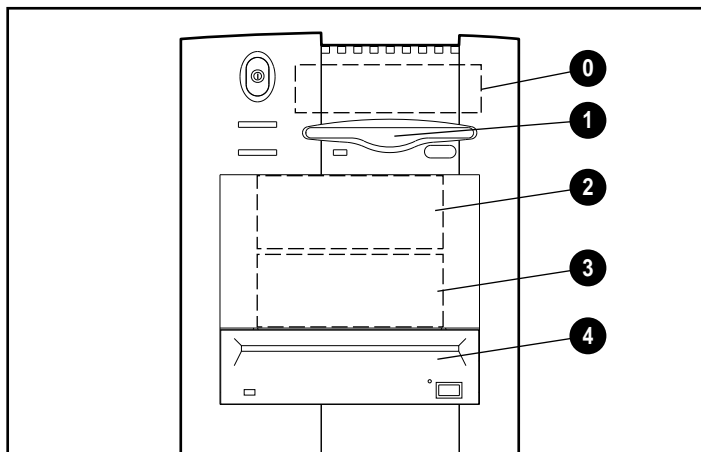


Figure 3-20. ProSignia 200 6/233 removable media bays 2, 3, and 4

Table 3-2
Mass Storage Bay Locator

| Position Identifier | Drive Bay Description | Standard Hardware Installed | Optional Hardware Installation |
|---------------------|--------------------------------------|--|---|
| 0 | 3.5-inch wide x 1-inch height bay | 1-inch height hard drive (Some models have a 1-inch height hard drive) | |
| 1 | 3.5-inch wide x 1-inch height bay | A standard 3.5-inch diskette drive | |
| 2 | 5.25-inch wide x 1.6-inch height bay | | 5.25 x 1.6-inch height bay |
| 3 | 5.25-inch wide x 1.6-inch height bay | | 5.25 x 1.6" height bay |
| 4 | 5.25-inch wide x 1.6-inch height bay | CD-ROM drive | diskette drive (3.5-inch or 5.25-inch), tape drive in the top position, or 1.6-inch height hard drive |

Follow these guidelines to install an additional hard drive into the drive bay:

1. Turn off the server and remove the server cover.
2. Locate the extra U.S. and metric screws stored in the front of the server frame. (U.S. screws have a silver finish, while metric screws have a black finish.)

NOTE: Installing a third-party hard drive requires the use of the special Compaq flanged screws stored in the front of the server frame.

Installing a Mass Storage Device in the Removable Media Area

To install drives independently, use the drive adapter tray included in the country kit. Compaq provide extra guide screws, installed in the front of the server chassis, under the front bezel.

Installing Drives into the ProSignia 200 6/233 Server

With the ProSignia 200 6/233 server you can install drives independently.

IMPORTANT: 3.5-inch drives require a 5.25-inch mounting bracket to install the drives independently.

Follow the steps listed below to install a 3.5-inch drive into a 5.25-inch drive bay.

1. Shut down all programs and the operating system.
2. Turn off the server, disconnect the power cord from the electrical outlet, and remove the side access panel and front bezel. See Chapter 2, “Server Installation Overview” for details.
3. Attach the 3.5-inch drive to the 5.25-inch bracket. Secure the drive to the bracket with the screws provided.

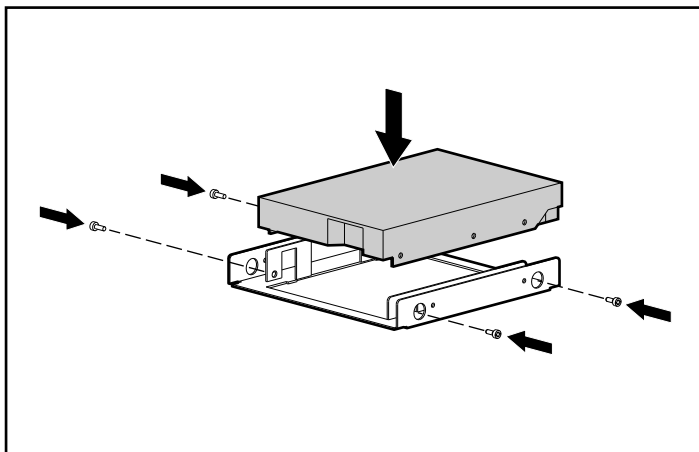


Figure 3-21. Attaching a 3.5-inch drive to a 5.25-inch bracket

4. Install the guide screw in the front screw hole on the right side of the bracket.

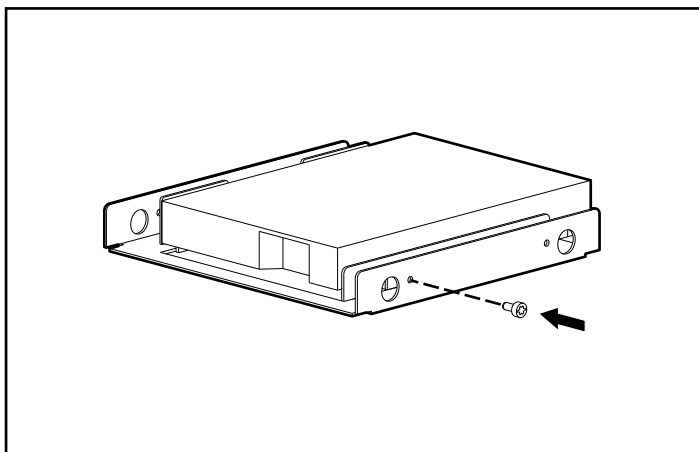


Figure 3-22. Installing the guide screw in the drive bracket

5. Install the bracket and drive into the desired drive bay and secure the bracket with two screws through the side of the drive cage. Be sure the guide screw lines up with the guide slot in the drive cage.

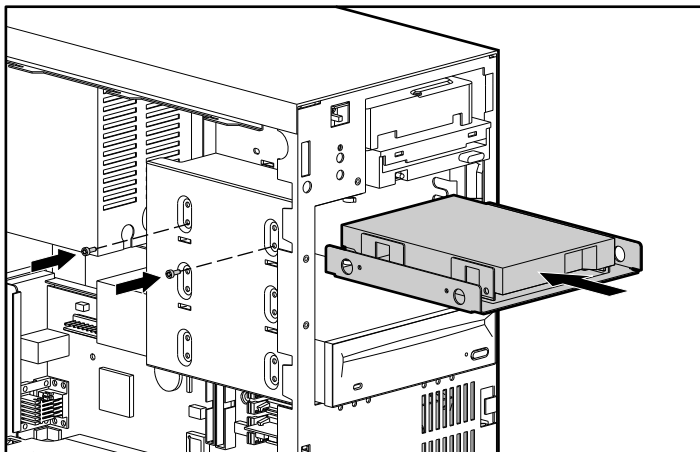


Figure 3-23. Installing the drive into the chassis

6. Connect the drive power and signal cables.

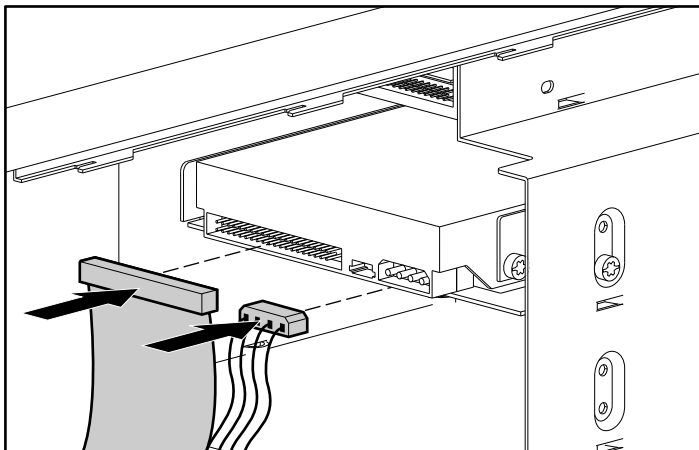


Figure 3-24. Connecting the drive power and signal cables

7. Replace the front bezel and side panel.
8. Reconnect the power cord and peripherals.
9. Reconfigure the server. See Chapter 5, “Server Configuration and Utilities,” for more information.

Chapter 4

Cabling Guidelines

This chapter provides information to assist you with setting up your server for optimal performance. Use this chapter, along with the technical information on the Quick Hardware Installation Poster and the label found inside the side access panel for complete and comprehensive information. Both IDE and SCSI cabling are discussed.

IMPORTANT: SCSI cables are included only in the SCSI model, so check your model type to ensure you have the correct cables.

The first section discusses IDE cabling and adding IDE devices. The SCSI cabling section discusses cabling ProSignia 200 6/233 SCSI models and cabling optional SCSI controllers and associated media devices, such as hard drives.

IDE Cabling Guidelines

This section discusses the IDE cabling issues for the ProSignia 200 6/233.

IDE Standard Cables

The ProSignia 200 6/233 comes with a high speed PCI/IDE interface. This interface has a Primary and Secondary Channel. Each channel has a separate IDE cable with connectors for two devices.

IMPORTANT: All models ship with a Primary and a Secondary IDE cable connected to the system board.

The connectors for each channel are indicated in the figure below.

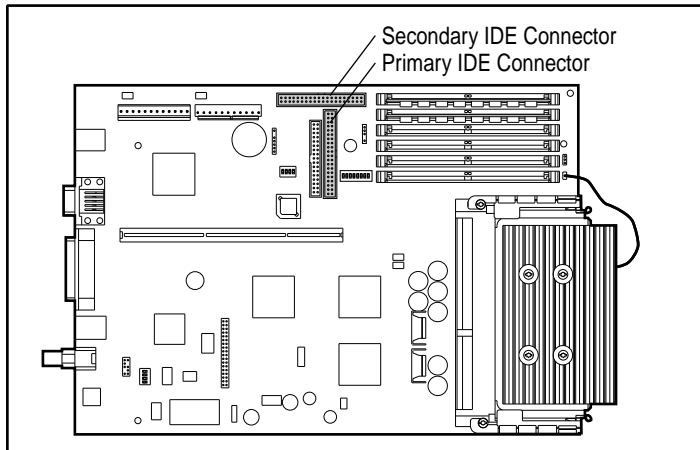


Figure 4-1. Primary and Secondary IDE connectors identified on the system board

Each cable has a System Board, a Drive 0, and a Drive 1 connector. All connectors are labeled as either SYS BD(System Board), Drive 0, or Drive 1, to indicate where the cable is to be attached.

The two cables for primary and secondary channels include:

- Primary IDE channel cable
 - Drive 0 connector is located at the end of the cable
 - Drive 1 connector located in the middle of the cable
- Secondary IDE channel cable
 - Drive 0 connector is located in the middle of the cable
 - Drive 1 connector is located on the end of the cable

The Primary and Secondary cables are compared below.

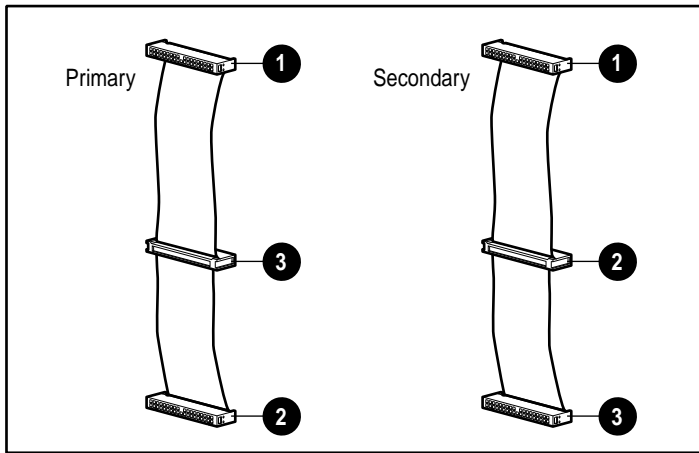


Figure 4-2. ProSignia 200 6/233 Primary and Secondary IDE connectors where:

- ❶ System board connector
- ❷ Drive 0 connector
- ❸ Drive 1 connector

The ProSignia 200 6/233 Model 3200 comes with the hard disk installed on the Drive 0 connector of the Primary Channel. All models have an IDE CD-ROM device attached to the Drive 0 connector of the secondary channel. Refer to the label located inside the side access panel for a detailed drawing.

IDE Cabling Scenarios

The ProSignia 200 6/233 supports the addition of both hard disks and ATAPI devices such as CD-ROMS or Tape Drives. The IDE Channels and Connectors have the following priority order for drive installation.

1. Primary Channel Drive 0 Connector
2. Primary Channel Drive 1 connector
3. Secondary Channel Drive 0 Connector
4. Secondary Channel Drive 1 connector.

The Compaq ProSignia 200 6/233 server provides support for multiple SCSI buses for maximum configuration flexibility. The combination of a maximum of three optional, dual-SCSI controllers (assuming one expansion slot is occupied by the video controller) results in a total of four SCSI channels.

Device Installation Rules

When installing devices, the cabling connector rules must be followed. These rules specifically discuss attaching a device to the correct connector.

- The primary boot drive is to be located on the Primary channel Drive 0 connector.
- Do not populate a Drive 0 connector (with a ATAPI device such as a Tape Drive or CD-ROM) if a Hard Disk is populated on the Drive 1 connector.
- Do not place a device on a Drive 1 connector of a given channel if there is no device on the Drive 0 connector.

The table below provides examples of proper cabling connections in relation to Hard Disks and ATAPI devices such as tape drives and CD-ROMs.

Table 4-1
ProSignia 200 6/233 Cable Connection Scenarios

| Drive Position | Scenario 1 (model 3200) | Scenario 2 | Scenario 3 | Scenario 4 |
|-------------------|-------------------------------|------------|------------|------------|
| Primary Drive 0 | Hard Disk | Hard Disk | Hard Disk | Hard Disk |
| Primary Drive 1 | | ATAPI | Hard Disk | Hard Disk |
| Secondary Drive 0 | ATAPI | Hard Disk | Hard Disk | ATAPI |
| Secondary Drive 1 | | ATAPI | ATAPI | ATAPI |

The positioning of the connectors on some IDE cables may require moving the CD-ROM to allow for correct cabling and logical cabling layout.

IMPORTANT: If you run a server with a SCSI hard drive and IDE hard drive, the IDE hard drive must be your default boot device.

SCSI Cabling Guidelines

This section discusses cabling SCSI cables included in your ProSignia 200 6/233 server (the SCSI model only), and cabling with other optional cables necessary for successful installation of possible SCSI options.

IMPORTANT: If you run a server with a SCSI hard drive and IDE hard drive, the IDE hard drive must be your default boot device.

SCSI Cable Connectors

To help identify the SCSI cables required for ProSignia 200 6/23 server installation, see the illustrations below. The characteristics of SCSI cables are:

- External SCSI cables have a round wire with securable connectors.
- Internal SCSI cables have a flat ribbon wire with push-on connectors.
- Compaq SCSI cables are keyed so they cannot be installed incorrectly.
- Fast-Wide SCSI-2 (wide SCSI) internal ribbon cables are physically smaller (narrower) than the Fast-SCSI-2 (standard SCSI) cables.

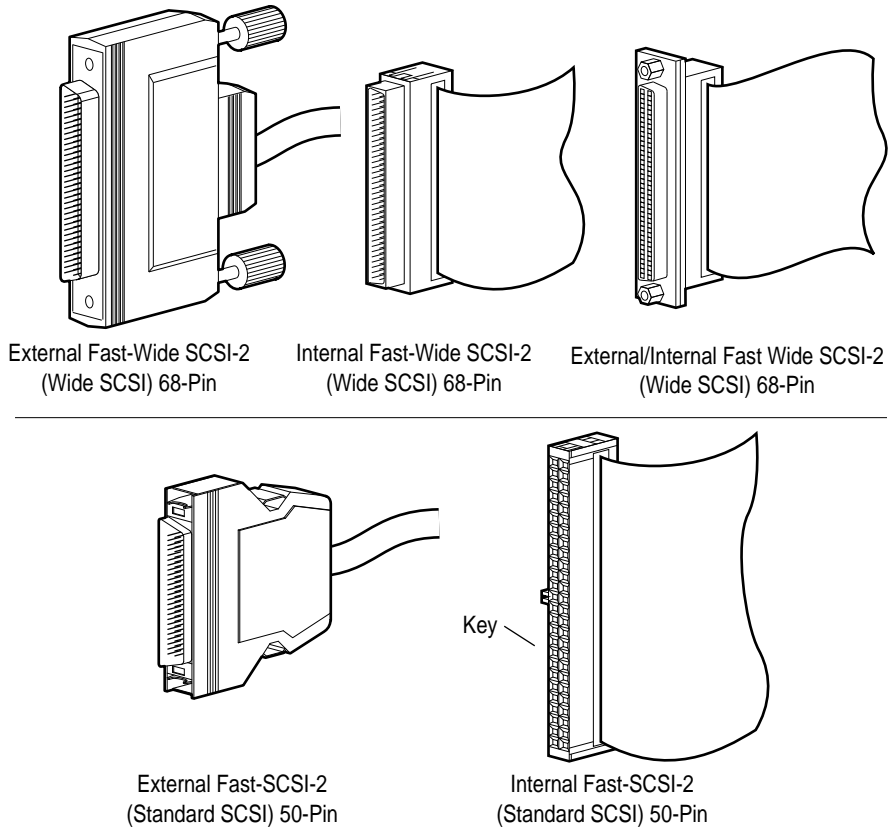


Figure 4-3. SCSI Cable connector examples

Determining Cabling Needs

In order to customize the cabling needs of your Compaq ProSignia 200 6/233 server for your specific application, follow the procedure below:

1. Determine whether the cabling needs are internal or external.
2. Determine whether external cabling needs are for primary storage (hard drive) or secondary storage (tape drive or CD-ROM).
3. Identify the controller type.

4. Identify the drive type to be used.
 - ☐ Wide-Ultra SCSI Hard Drive
 - ☐ Fast-Wide SCSI-2 Hard Drive
 - ☐ Fast SCSI-2 Hard Drive
 - ☐ Tape Drive
 - ☐ CD-ROM
5. Refer to the appropriate entry in the SCSI Cabling Tables on the following pages to determine the correct usage and routing of the cables specific to your configuration.

IMPORTANT: Only those controllers listed in the SCSI Cabling tables below are supported by Compaq ProSignia 200 6/233 servers.

Internal Cabling Guidelines

Provided SCSI Cables

The ProSignia 200 6/233 Model 1 SCSI comes with a Wide-Ultra SCSI Controller in a PCI slot. This model comes with a single Wide 4 Device Terminated Cable. Also provided on the cable is one Wide-to-Narrow SCSI Adapter (68 to 50 pin) (PN 199618-001). This adapter may be removed if four wide connectors are needed. The four-device cable is designed so that it can reach all three removable media bays, and the dedicated hard drive bay.

IMPORTANT: The ProSignia 200 6/233 Model 1 IDE and Model 3200 do not provide SCSI cables. The addition of any SCSI controllers and devices requires the additional purchase of a cable option kit for internal cabling needs.

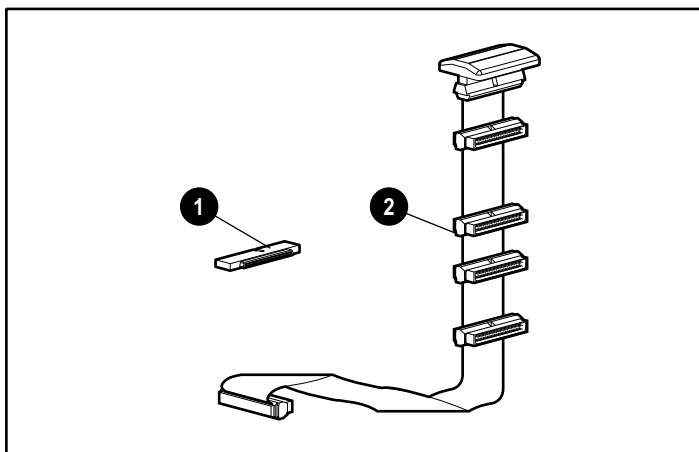


Figure 4-4. SCSI cable kit contents provided with SCSI model ProSignia 200 6/233 servers

The following labels apply to the figure above:

- ❶ 68 to 50 Pin Adapter
- ❷ 4-Device Wide Terminated SCSI Cable

Internal SCSI Cabling

The table below provides information for internal SCSI cabling with the Compaq ProSignia 200 6/233 server.

Table 4-2
Internal SCSI Cabling Guide for IDE Models

| Model 1 IDE Model 3200 Includes 2 IDE cables for IDE devices including CD-ROM, No SCSI cable is provided | Wide-Ultra and Fast-Wide SCSI Non Hot-Plug Hard Drives | Fast SCSI-2 Non Hot-Plug Hard Drives | 2/8 Dat Drive, 4/16 TurboDat Drive, SCSI CD-ROM |
|---|--|---|--|
| Wide-Ultra SCSI PCI Controller or 32 Bit Fast-Wide SCSI-2 PCI Controller | Order Option Kit 296206-001 Attach the four-device Wide terminated cable to the controller and the devices. | Order Option Kit# 212051-002 Attach the standard four-device terminated cable to the controller and the devices. | Order Option Kit# 212051-002 Attach the standard four-device terminated cable to the controller and the devices. |

Continued

Internal SCSI Cabling Guide for IDE Models *Continued*

| Model 1 IDE Model 3200 Includes 2 IDE cables for IDE devices including CD-ROM, No SCSI cable is provided | Wide-Ultra and Fast-Wide SCSI Non Hot-Plug Hard Drives | Fast SCSI-2 Non Hot-Plug Hard Drives | 2/8 Dat Drive, 4/16 TurboDat Drive, SCSI CD-ROM |
|---|--|---|--|
| SMART-2/P Array Controller | Order Option Kit 296206-001 Attach the four-device Wide terminated cable to the controller and the devices. | Order Option Kit# 212051-002 Attach the standard four- device terminated cable to the controller and the devices. Attach the 68-50 pin adapter, supplied with the array controller to the array controller and attach the cable to the devices. | Not Supported |
| SMART-2SL Array Controller | Order Option Kit 296206-001 Attach the four-device Wide terminated cable to the controller and the devices. | Order Option Kit # 212051-002 Attach the standard four- device terminated cable to the controller and the devices. | Not Supported |

To combine Wide-Ultra or Fast-Wide SCSI hard drives with Fast SCSI devices internally, order Wide Cable Option Kit #296206-001 rather than option #212051-001. For each Fast SCSI-2 device that you wish to connect, order Option Kit # 212055-001 (68-50 pin adapter). Use the 68 to 50 pin adapter to connect Fast SCSI-2 device to the wide cable.

Table 4-3
Internal SCSI Cabling Guide for SCSI Models

| Model 1 SCSI Includes 2 IDE cables for IDE devices including CD-ROM, a SCSI cable, and a 68 to 50 pin adapter | Wide-Ultra and Fast-Wide SCSI Non Hot-Plug Hard Drives | Fast SCSI-2 Non Hot-Plug Hard Drives | 2/8 Dat Drive, 4/16 TurboDat Drive, SCSI CD-ROM |
|--|---|---|---|
| PCI Wide-Ultra SCSI Controller (preinstalled in a slot) | No additional cables are required. Attach the four-device Wide terminated cable to the devices. | No additional cables are required. Attach the 68-50 pin adapter to the Wide terminated cable and at the device. Order Option Kit PN 212055-001 if more than one adapter is required. | No additional cables are required. Attach the 68-50 pin adapter to the Wide terminated cable and at the device. Order Option Kit PN 212055-001 if more than one adapter is required. |
| SMART-2/P Array Controller or SMART-2SL Array Controller | No additional cables are required Detach the four-device Wide terminated cable from the PCI Wide-Ultra SCSI Controller. Attach the four-device Wide terminated cable to the controller and the devices. See NOTE 1 | Order Option Kit # 212051-002 Attach the standard four- device terminated cable to the controller and the devices. | Not Supported |

NOTE 1: If you are using the PCI-Wide Ultra SCSI Controller and an array controller, order Option Kit # 296206-001.

Internal SCSI Hard Drive Installation Guidelines

Chapter 3, “Installing Hardware Options” provides detailed instructions on installing mass storage devices in the ProSignia 200 6/233 server. When installing SCSI mass storage devices, the same procedures should be used.

In addition, the following guidelines should be noted when adding SCSI hard drives:

- A maximum of seven SCSI devices may be added per SCSI channel.
- Each SCSI drive must have a unique address.
- Compaq SCSI cables for the ProSignia 200 6/233 server are terminated. Be sure to remove all terminating jumpers from third-party SCSI devices.
- Supported Compaq SCSI options are not terminated.
- For internal cabling Compaq recommends setting the ID of the drive to its corresponding bay number.

Below is a diagram of the media locations on the server.

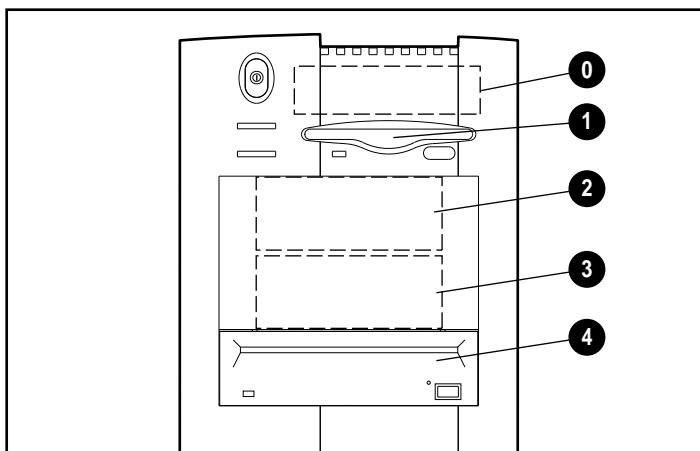


Figure 4-5. ProSignia 200 6/233 removable media bays 2, 3, and 4

Table 4-4
Mass Storage Bay Locator

| Position Identifier | Drive Bay Description | Standard Hardware Installed | Optional Hardware Installation |
|---------------------|--------------------------------------|--|---|
| 0 | 3.5-inch wide x 1-inch height bay | 1-inch height hard drive (Some models have a 1-inch height hard drive) | . |
| 1 | 3.5-inch wide x 1-inch height bay | Standard 3.5-inch diskette drive | |
| 2 | 5.25-inch wide x 1.6-inch height bay | | 5.25 x 1.6-inch height bay under optional hardware installation column |
| 3 | 5.25-inch wide x 1.6-inch height bay | | 5.25 x 1.6" height bay under optional hardware installation column |
| 4 | 5.25-inch wide x 1.6-inch height bay | CD-ROM drive | diskette drive (3.5-inch or 5.25-inch), tape drive in the top position, or 1.6-inch height hard drive |

Once all SCSI mass storage devices have been inserted into the server, then the cable can be attached. At this point, connect each drive to a power cable from the power supply and to the SCSI cable selected. If any adapters are needed, be sure to connect them to the drives.

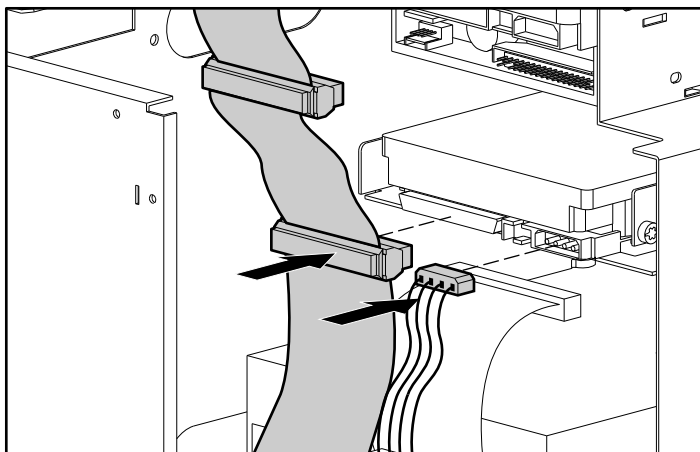


Figure 4-6. ProSignia 200 6/233 removable media bays 2, 3, and 4

Internal Cabling Guidelines

External Cabling For Primary Storage

Table 4-5
External Cabling for Primary Storage

| ProSignia 200 6/233 Servers all models | Hot-Plug Wide-Ultra Hard Drives, Fast-Wide SCSI Hard Drives | Hot-Plug Fast SCSI-2 Hard Drives |
|--|---|---|
| ProLiant Storage System and ProLiant Storage System Model 1/RPS | No additional cables required. All cables are included with the ProLiant Storage System. | No additional cables required. All cables are included with the ProLiant Storage System. |

Continued

External Cabling for Primary Storage *Continued*

| ProSignia 200 6/233 Servers all models | Hot-Plug Wide-Ultra Hard Drives, Fast-Wide SCSI Hard Drives | Hot-Plug Fast SCSI-2 Hard Drives |
|--|---|---|
| ProLiant Storage System Model F1 | No additional cables required. | No additional cables required. |
| ProLiant Storage System Model F2 | All cables are included with the ProLiant Storage System. | All cables are included with the ProLiant Storage System. |
| External SCSI Storage Expander | No additional cables required. All cables are included with the SCSI Storage Expander | No additional cables required. All cables are included with the SCSI Storage Expander |
| Note: Not supported with the SMART-2 Array controller or SMART-2SL Array controller. | NOTE: To daisy chain up to three SCSI Storage Expander units, order Spare Kit #146776-003 for daisy chain cables. | NOTE: To daisy chain up to three SCSI Storage Expander units, order Spare Kit #146776-003 for daisy chain cables. |

External Cabling for Secondary Storage

Table 4-6
External Cabling for Secondary Storage

| | | | |
|---|---|--|--|
| ProSignia 200 6/233 Servers all models | 2/4 Dat Drive, 4/8 TurboDat Drive, Internal 4/16 TurboDat Autoloader PN 142183-001 | External 4/16 TurboDat Autoloader PN 142187-001 | 15/30 DLT Drive DLT Tape Array Model 0 and Model 4 |
| 32-bit Fast-Wide SCSI-2 PCI Controller or Wide-Ultra SCSI Controller | The SCSI Storage Expander Option Kit includes all necessary cabling for this configuration. | All External Tape Drive Systems include all necessary cabling for this configuration. | All External Tape Drive Systems include all necessary cabling for this configuration. |

Connecting the Power Cord and Peripheral Devices

After all internal options have been installed and the side panel has been replaced, connect the power cord and peripheral devices, such as mouse, and monitor. Icons on the back of the server identify the function of each connector.

The connections for the ProSignia 200 6/233 server are shown below.

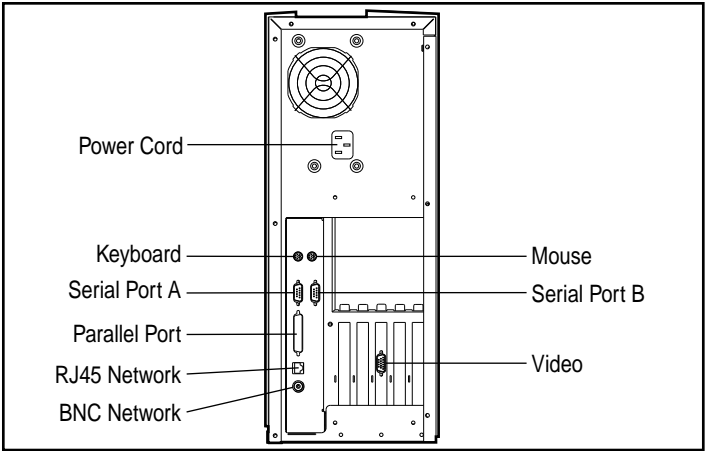


Figure 4-7. External Connectors

Table 4-7
Rear Panel Connectors

| Connector | Function |
|--------------------------------|--|
| Power Cord | Connects the server to an electrical power outlet. |
| Serial Port A and B Connectors | Connects a serial device such as a serial printer or modem. |
| Keyboard Connector | Connects the keyboard (orange icon). |
| BNC Network Connector | Connects to an Ethernet network using a Thinnet (coaxial) cable. Supports 10Base2. |

Continued

Rear Panel Connectors *Continued*

| Connector | Function |
|--------------------------|--|
| RJ-45 Ethernet Connector | Connects to an Ethernet network, using a twisted pair cable, Supports 10BaseT. |
| Parallel Connector | Connects a parallel device, such as a parallel printer. |
| Video | Connects a monitor to the PCI graphics controller. |
| Mouse | Connects a mouse or other pointing device (green icon). |

Observe the following Warnings and Cautions when connecting cables to the server, see Chapter 3, “Installing Hardware Options” for detailed instructions.



WARNING: Any RJ-45 receptacle marked with these symbols indicates a Network Interface Connection. To reduce risk of electrical shock, fire, or damage to the equipment, do not plug telephone or telecommunications connectors into this receptacle.



WARNING: To reduce the risk of electrical shock or damage to your equipment, do not disable the power cord grounding feature. This equipment is designed to be connected to a grounded (earthed) power outlet that is easily accessible to the operator. The grounding plug is an important safety feature.



CAUTION: Before connecting the power cord and peripheral devices, verify that the AC Voltage Select Switch on the rear of the server next to the power cord connector is set correctly to your local line voltage (either 115 or 230 volts). A reminder label that covers the power cord connector must be removed to install the power cord. If the AC Voltage Select Switch is not properly set, the server will be damaged when power is applied.



CAUTION: Be sure that the power outlet you plug your power cord into is easily accessible and located as close as possible to the equipment operator. When disconnecting power to the equipment, be sure to unplug the power cord from the power outlet.

IMPORTANT: Do not place anything on power cords or cables. Arrange them so that no one may accidentally step or trip on them. Do not pull on a cord or cable. When unplugging cords from the electrical outlet, grasp the cord by the plug.

Completing the Installation Process

IMPORTANT: The SmartStart and Support Software CD also holds the Compaq System Configuration Utility. Run the System Configuration Utility after you install an option in your ProSignia 200 6/233 server.

Use the Compaq SmartStart and Support Software CD to set up your new configuration.

Chapter 5

Server Configuration and Utilities

The Compaq System Configuration Utility performs a wide range of configuration activities, including:

- Configuring PCI and ISA Plug and Play boards automatically
- Providing switch and jumper settings
- Resolving resource conflicts in areas such as memory, port addresses, and interrupt requests (IRQs)
- Managing the installation of mass storage devices such as hard drives, tape drives, and diskette drives
- Setting and storing power-on features like date and time
- Storing configuration information in nonvolatile memory
- Assisting in installing an operating system
- Assisting in running diagnostic tools such as the Test and Inspect Utilities

If the SmartStart and Support Software CD is used during the initial system installation, the SmartStart program automatically creates a system partition and installs the System Configuration Utility and other Compaq utilities in that partition.

IMPORTANT: This Compaq system utilities partition should not be confused with the partition(s) created by your operating system.

In ProSignia 200 6/233 servers, the system ROM automatically configures memory changes.

The System Configuration Utility uses option configuration (.CFG) files to set up and configure the computer. The .CFG files provide information such as switch settings, IRQs, and software installation guidelines. The .CFG files for Compaq computers are located on the System Configuration diskettes and the SmartStart and Support Software CD (SmartStart CD).

For PCI boards, the utility reads the configuration options from the PCI board's configuration space and optionally from a PCI configuration file (.PCF). The .PCF file can be found on the following media:

- Compaq Option Configuration Files diskette
- Non-Compaq Option Configuration Files diskette
- SmartStart and Support Software CD

The .CFG file provides board resource requirements and switch and jumper-setting alternatives. Although not all ISA boards have the automatic configuration capabilities of PCI boards, the System Configuration Utility can allocate system resources to these boards and provide instructions for setting switches and jumpers.

If the SmartStart and Support Software CD is used during the initial system installation, the SmartStart program automatically creates a system partition and installs the System Configuration Utility and other Compaq utilities in that partition.

Resolving Resource Conflicts

If you add a PCI expansion board later, the system recognizes this change when you turn on the computer. The system ROM reads the PCI board identifier and compares it with the current configuration information stored in nonvolatile memory. The system ROM automatically configures PCI boards. If a user selection is required, a POST message directs you to run the System Configuration Utility. Additionally, you may change the default automatic settings by running the System Configuration Utility.

The System Configuration Utility reads the option configuration .CFG files to determine any resource conflicts, such as two devices requiring the same hardware interrupt. If the system identifies a conflict, the software then rechecks all the expansion board specifications to determine if settings for a previously read board can be changed to automatically resolve the conflict between the two boards.

Starting the System Configuration Utility

To start the Compaq System Configuration Utility for the first time, refer to the SmartStart Installation poster.

After the SmartStart and Support Software CD is used for the first time to create and populate the Compaq system partition, you may access the System Configuration Utility as follows:

1. Press the **Ctrl+Alt+Del** keys to reboot the server.
2. When the following prompt appears at the top of the screen during Power-On Self-Test (POST), press the **F10** key. The System Configuration Utility main menu displays:

Press "F10" key for System Partition Utilities

IMPORTANT: The text appears for only two seconds. If you do not press **F10** during this time, you must reboot the server.

System Configuration Utility Main Menu

This overview of the main menu options explains how to access the menu and set the power-on features.

The following options are available from the main menu:

- **System Configuration** - Takes you through the configuration process step-by-step. Select the System Configuration option when a configuration change is required. For example, select this option when adding, replacing, or removing expansion boards, or adding a diskette drive or a hard drive.

IMPORTANT: You must run the Compaq System Configuration Utility after adding ISA Plug and Play boards.

- **Operating System Installation** - Allows you to install one of the operating systems listed or to specify installation of an operating system that is not listed.
- **Diagnostics and Utilities** - Tests and inspects the computer.
- **Exit from this Utility** - Restarts the computer.

System Configuration Menu

The following options are available from the System Configuration Utility menu:

- Configure Hardware
- Power-On Defaults
- System Partition
- Configuration Backup

Configuring Hardware

When you select the Configure Hardware menu, a screen with five steps displays. A brief explanation of each step follows:

Step 1: Important System Configuration Information

This step provides an overview of the configuration process.

Step 2: Add or Remove Boards

Use this step to add non-Plug and Play ISA boards to the configuration or remove any boards from the configuration. You do not need to choose this option to add or remove PCI boards or ISA Plug and Play boards. These boards are added and removed from the system configuration automatically during the System Configuration Utility initialization.

NOTE: Most ISA Plug and Play boards allow the board to be set to either of two modes – Plug and Play mode or Legacy mode. If a board is set to Legacy mode, usually through a jumper setting on the board or through configuration software supplied with the board, see *step 2: Add or Remove Boards*, for the procedure for adding the board to the system configuration.

Step 3: View or Edit Details

Use this step to make necessary configuration changes.

IMPORTANT: If you edit a function or resource in Step 3, be sure to review Step 4.

Step 4: Examine Required Switches

Use this step to find the required switch and jumper settings for most ISA boards. Then adjust the switch and jumper settings on each board to match the settings displayed on the screen.

Step 5: Save and Exit

Use this step to save the configuration update when you have made changes.

Setting Power-On Defaults

You can set and change the Power-On features at any time.

1. Select *System Configuration* from the Main Menu; then select Power-On Defaults.
2. Set the current date in the format:
MM-DD-YYYY
3. Set the correct time in the format:
HH:MM:SS
4. Set the Power-On Num Lock state:
() OFF
(*) ON

* This activates the numeric keypad when the computer is turned ON.

System Partition

The System Partition option allows you to copy and delete configuration files and create, upgrade, or delete a system partition on the hard drive for the utilities.

The following menu options are available:

- Create System Partition
- Upgrade System Partition
- Delete System Partition
- Copy Files
- Delete Files

Creating a New System Partition

If you used SmartStart to configure your server, this procedure was done for you. Use the following procedure if SmartStart was not used to configure your server.

To create a system partition, follow this procedure:

1. Insert the Compaq SmartStart and Support Software CD in the CD-ROM drive and turn on the server.

IMPORTANT: The system partition requires about 32 MB of disk space at the beginning of the hard drive and an unused entry in the boot record.

2. Select *Create/Update System Partition*. This process requires three reboots.

Verifying the System Partition

To verify that the system partition exists, follow this procedure:

1. Remove any media from the CD-ROM drive and the diskette drive.
2. Reboot the system by pressing **Ctrl+Alt+Del** or by turning the server OFF and then ON again.
3. Press the **F10** key when the following prompt appears.

Press "**F10**" key for System Partition Utilities

IMPORTANT: The text appears for only two seconds. If you do not press **F10** within during this time, you must reboot the server in order to access the System Partition Utilities.

4. If a system partition exists, the server boots to the partition. If not, a message displays that no system partition exists.

Upgrading the System Partition

To upgrade the system partition, follow this procedure:

1. Insert the Compaq SmartStart and Support Software CD in the CD-ROM drive and turn on the computer.
2. Select *Upgrade System Partition*.
3. Select to upgrade the utilities. SmartStart copies the new utilities from the CD to the system partition.

Configuration Backup

The Configuration Backup option allows you to create a backup of the system configuration and restore the system configuration from the backup.

The following menu options are available:

- Backup
- Restore

Configuration Backup and Configuration History Files

When you save and exit the System Configuration Utility, the utility keeps a history of the configuration. The utility maintains three versions of the system configuration files, including the current and two previous configurations in both binary (.SCI) and text (.CHL) file formats.

- The .SCI files can be used to restore a previous configuration using the System Configuration menu and Restore System Configuration from a .SCI File submenu.
 - The .CHL files are text-based files displaying information that is stored in the corresponding .SCI file.
-

Table 5-1
System Configuration History Log Files

| Filename | Description |
|--------------------|---|
| <i>SYSTEM.SCI</i> | Current configuration information |
| <i>SYSTEM1.SCI</i> | Previous configuration information |
| <i>SYSTEM2.SCI</i> | Previous configuration information (oldest) |
| <i>SYSTEM.CHL</i> | Textual representation of SYSTEM.SCI file |
| <i>SYSTEM1.CHL</i> | Textual representation of SYSTEM1.SCI file |
| <i>SYSTEM2.CHL</i> | Textual representation of SYSTEM2.SCI file (oldest) |

IMPORTANT: If there is not enough disk space for the entire System Configuration History Log, the utility deletes log files, starting with the oldest files (*SYSTEM2.SCI* and *SYSTEM2.CHL*) until enough disk space is available for the current configuration backup and history files.

Configuring PCI Boards Automatically

The system ROM automatically configures PCI boards. If a user selection is required, a POST message directs you to run the System Configuration Utility. Also, you can use the System Configuration Utility to change the default automatic settings.

Removing Boards

System ROM automatically reconfigures the server after a PCI board or SIMM is removed.

Installing an Operating System

The ProSignia 200 6/233 server supports the following operating systems:

- NetWare 3.12, 4.11, and IntranetWare for Small Business and IntranetWare
- Windows NT 3.51 and 4.0
- SCO OpenServer 3.0, 5.0, and 5.02
- SCO UnixWare 2.1
- IBM OS/2 Warp 3.x, Warp Server 4.0, and Warp Server Advanced 4.0
- IBM OS/2 2.x (Microsoft OS/2 not supported)
- Banyan VINES v 6.X and above, including VINES 7.X

When you select the Operating System Installation feature from the System Configuration Utility main menu, the utility provides prompts to simplify the installation.

First, the utility prompts you to select the correct operating system. Use the arrow keys to select the operating system and press the **Enter** key. The utility then prompts you for the operating system CD or diskette.

Not all operating systems ship with each server. Consult your local reseller or Compaq Customer Service to get the “Setup, Management, and Software Products” pack with additional operating system support materials. Some operating systems have driver support/updates but not integrated SmartStart installation. You can still configure your server and manually install your operating system. Some operating systems have an integrated installation using the operating system manufacturer’s CDs.

Loading Compaq Device Drivers

Drivers are located on the Support Software Diskettes and on the Compaq SmartStart and Support Software CD. The drivers on the Support Software Diskettes may be newer versions with new functionality and upgraded utilities.

IMPORTANT: Always check *README* files on SmartStart or any Software Support Diskettes or CDs. If present, these files may contain information about important software updates.

Compaq NetWare and IntranetWare Device Drivers

Your server must have certain device drivers to operate using NetWare. These drivers are located on the Compaq SmartStart and Support Software CD shipped with the server. If you use SmartStart to install the operating system, these drivers will be installed automatically. Otherwise, you can use SmartStart to create a Novell Support Software Diskette (NSSD) to support a manual installation of NetWare.

For more information on these drivers, run the *README.COM* file in the root directory of the NetWare Programs from Compaq diskette.

Manual installation

If you choose to install the operating system without SmartStart, follow this procedure:

1. Insert the Compaq SmartStart and Support Software CD into the CD-ROM drive.
2. Boot your system.
3. Select *Manual Installation*.
4. Follow the instructions provided by the operating system that you are installing.

Special Considerations

1. Please run README.COM on the Novell Support Software Diskette (NSSD) diskettes for more detailed driver installation instructions. NSSD V3.10 has support for the ProSignia 200 6/233.

2. If you are running IntranetWare, Compaq recommends that you use LAN adapter drivers that have been upgraded to the latest Novell specification (ODI 3.3 compliant). These drivers are on NSSD V3.10 for server support. The LAN adapter drivers are located in the \NETWORK sub-directory. For example, to load the driver for the Compaq NetFlex-3 family of adapters, from the Server console, type:

LOAD A:\NETWORK\CPQNF3.LAN

Please read *NET_SRVR.RDM* from the NSSD diskettes for further information.

3. Your ProSignia 200 6/233 server comes with two IDE channels to which you can attach IDE devices. For each IDE channel to which you have an attached device, you must load the following drivers found on the NSSD diskette, according to the type of device attached:

- ☐ *LOAD A:\IDE\IDEATA.HAM* for each IDE channel.
- ☐ *LOAD A:\IDE\IDEHD.CDM* for an IDE fixed disk.
- ☐ *LOAD A:\IDE\IDECD.CDM* for an IDE CD-ROM drive.

Please read *STORAGE.RDM* from the NSSD diskettes for further information.

4. If your server has more than 16 MB of system memory (RAM) installed, you must apply a loader patch provided by Novell. If you are running NetWare 3.12, the loader patch is in the 312PT9.EXE (or newer) file. If you are running NetWare 4.10, the loader patch is in the 410PT6.EXE (or newer) file. IntranetWare does not require a patch. The 312PT9.EXE and 410PT6.EXE files are available from Novell through NetWire or their support web site:

<http://support.novell.com>

You can also obtain the 312PT9.EXE patch from the Compaq SmartStart NetWare CD No. 3 under: \PATCHES\NW312

Read the *STORAGE.RDM* file from the NSSD diskettes for further information.

For more information on driver installation, run the *README.BAT* file in the root directory of the SSD for Windows NT. This will load the WinHelp file *NTREADME.HLP*.

1. Insert the Compaq SmartStart and Support Software CD into the CD-ROM drive.
2. Boot your server.
3. Select *Manual Installation*.
4. Follow the instructions that display on the monitor.

SCO OpenServer and SCO UnixWare Device Drivers from Compaq

Your server must have certain device drivers to operate under the SCO OpenServer and SCO UnixWare 2 operating systems. These drivers are located on the Compaq SmartStart and Support Software CD. There are three methods to install the SCO operating system onto your server:

1. An integrated SmartStart installation is available to assist you with installation of your server by automatically creating the Compaq System Partition with tools to help configure and diagnose your server. The SmartStart and Support Software CD also includes all the SCO UNIX device drivers for your system.
2. Alternatively, by booting the SmartStart and Support Software CD and choosing a manual installation path, you can use the SCO UNIX from Compaq CDs to install your SCO software. This will also automatically install all the drivers your server needs while presenting the more familiar SCO interview process instead of the SmartStart interview process. It will also automatically create the Compaq System Partition with tools to help configure and diagnose your server.
3. To install SCO UNIX using software from SCO, you will need to create the Boot Time Loadable Drivers (BTLDs) and the UNIX drivers from the Compaq Enhanced Functionality Supplement (EFS). These can be downloaded onto diskettes with tools available on the SmartStart and Support Software CD. To create these diskettes, boot the SmartStart and Support Software CD and follow the instructions to create Supplemental Support Software diskettes (SSD). One of the diskettes on the Compaq EFS contains a bootable documentation diskette. Before attempting to install the SCO UNIX software, boot this diskette and read the README file for the Compaq EFS. It tells you how to use the boot time-loadable driver diskettes along with the SCO installation media.

The features requiring device drivers are:

- Compaq Ethernet/Token Ring Adapter
- Automatic Server Recovery-2

- Compaq ProLiant Storage System
- IDE Controller
- Compaq NetFlex-3/Netelligent Adapter

Special Considerations

Be certain to check *README* files on the SmartStart and Support Software CD, EFS Diskettes, or CDs for additional details.

SCO OpenServer

The *README* file included in the Compaq EFS for SCO UNIX contains any information needed to install using SCO media. If you install using SCO UNIX from Compaq using either the integrated or manual methods, the fixes are already included.

UnixWare

The PTF 3009 is needed for an IDE driver for IDE hard drives and ATAPI CD-ROM-based installations.

During the installation process, you must manually configure the secondary IDE controller. Instructions are provided in the *README* file included on the Compaq EFS-bootable documentation diskette for SCO UnixWare.

IBM OS/2 Device Drivers from Compaq

Your server must have certain device drivers for some server options to operate using IBM OS/2 Warp Server 4.0, OS/2 Warp, OS/2 Warp Connect 3.0, or OS/2 2.x. These drivers are located on the Compaq SmartStart and Support Software CD you received with your server. If you use SmartStart to install your operating system, these drivers are loaded automatically. Otherwise, you can use SmartStart to create an OS/2 Support Software Diskette (SSD) from Compaq to support a manual installation of OS/2.

For more information on these drivers, run the README.COM file in the root directory of the OS/2 SSD from Compaq.

Manual installation

If you choose not to let SmartStart install your operating system, follow this procedure:

1. Insert the Compaq SmartStart and Support Software CD into the drive.
2. Boot your server.
3. Select *Manual Installation*.
4. Follow the instructions that display on the monitor.

Banyan VINES Device Drivers from Compaq

Your server must have certain device drivers for some server options to operate using the Banyan VINES operating system. Compaq provides driver support for Banyan VINES 6.X(0) and above, including the new VINES 7.X.

These drivers are located on the Compaq SmartStart and Support Software CD you received with your server. You can use SmartStart to create a Banyan VINES Support Software Diskette (SSD) from Compaq to support a manual installation of Banyan VINES.

There are two types of SSDs:

- LAN Adapter SSD
- Peripheral Adapter SSD

These SSDs contain the *README* files listing available drivers and driver installation procedures. These drivers can also be ordered through SoftPAQ and can be downloaded from the Compaq Web site.

Manual installation

1. Insert the Compaq SmartStart and Support Software CD into the drive.
2. Boot your server.

3. Select *Manual Installation*.
4. Follow the instructions that display on the monitor.

Diagnostics and Other Utilities

- When you select the Diagnostics and Utilities feature from the System Configuration Utility main menu, the utility provides prompts to test, inspect, upgrade, and diagnose the server.
 - Diagnostics and Utilities are located on the system partition on the hard drive and must be accessed when a system configuration error is detected during the Power-On Self-Test (POST).
- Once the computer has been configured, run the Inspect Utility to get information about the operating system environment.
- For instructions on using the Diagnostics Utility and other Compaq utilities, refer the System Reference Library CD.

Appendix A

Electrostatic Discharge

A discharge of static electricity from a finger or other conductor may damage system boards or other static-sensitive devices. This type of damage may reduce the life expectancy of the device. To prevent damaging the system, follow these precautions when setting up the system or handling parts.

- Avoid hand contact by transporting and storing products in static-safe containers.
- Place parts on a grounded surface before removing them from their containers.
- Avoid touching pins, leads, or circuitry.
- Always be properly grounded when touching a static-sensitive component or assembly.

Grounding Methods

There are several methods for grounding. Use one or more of the following measures when handling or installing electrostatic-sensitive parts:

- Use a wrist strap connected by a ground cord to a grounded workstation or computer chassis. Wrist straps are flexible straps with a minimum of 1 megohm +/- 10 percent resistance in the ground cords. To provide proper ground, wear the strap snug against the skin.
- Use heelstraps, toestraps, or bootstraps at standing workstations. Wear the straps on both feet when standing on conductive floors or dissipating floor mats.
- Use conductive field service tools.
- Use a portable field service kit with a folding static-dissipating work mat.

If you do not have any of the suggested equipment for proper grounding, have an Authorized Compaq Reseller install the part. For more information on static electricity or assistance with product installation, contact your Authorized Compaq Reseller.

Appendix B

Installing a New Battery

The ProSignia 6/233 server has two CMOS memories, one on the system board and the other on the Expansion Options riser board, that require batteries to maintain the contents of the CMOS data.

System Board Battery Replacement

When your server no longer automatically displays the correct date and time, you may need to replace the battery that provides power to the real-time clock. Under normal use, battery life is usually about five to ten years. Use Compaq replacement battery 160274-001 or a comparable 600-milliampere, alkaline, 4.5-volt battery.



CAUTION: It is important to make a set of backup diagnostics diskettes before you install a new battery.



CAUTION: If you are using a third-party hard drive, it is important to take the following steps **before** installing the battery.

1. Run the System Configuration Utility and note the drive type that is displayed in the summary. Make a set of backup diagnostics diskettes before you install a new battery.
2. If the drive type number is 65 or 66, make a note of the drive parameters. You can view these parameters by restarting the server and pressing **F10** when the square cursor appears in the upper-right corner of the screen. From the Compaq Utilities menu, select the System Configuration Utility to view the parameters. It is important to write down these parameters before continuing.
3. When you have completed the battery installation, you may need to run the System Configuration Utility and reconfigure your server using the drive table parameters noted earlier.

System Board Battery Install

To install the new battery, complete the following steps:



WARNING: The system board contains a clock/CMOS lithium battery. The lithium battery may explode if mistreated. The battery is soldered in place and may not be removed. Do not abuse or disassemble. Use only replacement batteries supplied by Compaq Computer Corporation (spare part number 160274-001).

1. Turn off your server, unplug it, and disconnect any external devices.
2. Remove the server cover. See the instructions in chapter 2, "Installing the Server," for information on removing the cover.
3. Plug the battery connector onto pins 1-4 at E2 on the system board.
4. Change the jumper at battery connect header E2 from pins 6-7 to pins 5-6.

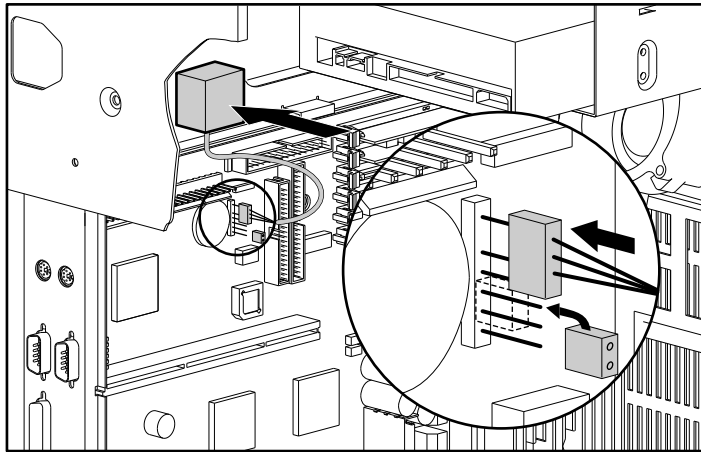


Figure B-1. Plug the battery connector onto pins 1-4 at E2 on the system board.

Placing the Battery

1. Remove the backing from the adhesive on the hook-and-loop fastener strip.
2. Place the battery and the hook-and-loop fastener strip on the chassis floor, as shown in Figure B-1 above.
3. Replace the server cover.
4. Place the sticker included with your battery kit on the back of your server above the power connector.
5. Plug in the server and reconnect any external devices.



WARNING: To reduce the risk of electric shock or damage to the equipment:

- Do not disable the power cord grounding plug. The grounding plug is an important safety feature.
 - Plug the power cord into a grounded (earthed) electrical outlet that is easily accessible at all times.
 - Disconnect power from the server or other product by unplugging the power cord from either the electrical outlet or the server.
-

Riser Board Battery Replacement



CAUTION: It is important to make a set of backup diagnostics diskettes before you install a new battery.

When your server displays an error of “172-1 Configuration Nonvolatile Memory Invalid,” you may need to replace the battery providing power to the nonvolatile CMOS on the riser board. Battery life is usually about five to ten years under normal use. Use Compaq replacement battery 160274-001 or a comparable 600-milliampere alkaline, 4.5-volt battery.



CAUTION: If you are using a third-party hard drive, it is important to take the following steps *before* installing the battery.

1. Run the Computer Setup utility and observe the drive type that is displayed in the System Configuration summary.
2. If the drive type number is 65 or 66, make a note of the drive parameters. You can view these parameters by restarting the server and pressing **F10** when the square cursor appears in the upper-right corner of the screen. From the Compaq Utilities menu, select Computer Setup. Select Storage, then select Configure Fixed Disk Drive to view the parameters. Write down these parameters before continuing.
3. When you have completed the battery installation, you may need to run the Computer Setup utility and reconfigure your system using the drive table parameters noted earlier.

Riser Board Battery Installation



WARNING: The system board contains a clock/CMOS lithium battery. The lithium battery may explode if mistreated. The battery is soldered in place and may not be removed. Do not abuse or disassemble. Use only replacement batteries supplied by Compaq Computer Corporation (spare part number 160274-001).



CAUTION: Do not attempt to remove your old battery, as it is permanently installed.

To install the new battery, complete the following steps:

1. If your server is on, turn it off.
2. Unplug the server and disconnect any external devices.
3. Remove the server cover. See the instructions in Chapter 2, "Server Installation Overview," for information on removing the cover.

Battery Placement on Riser Board

1. Connect the new battery to the E4 battery header connector.

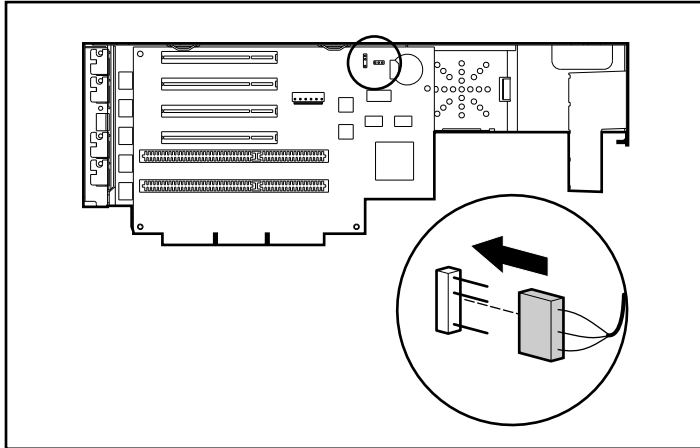


Figure B-2. Connecting the battery

2. Change the jumper at battery connect header E1 from the pin 1-2 to pin 2-3.

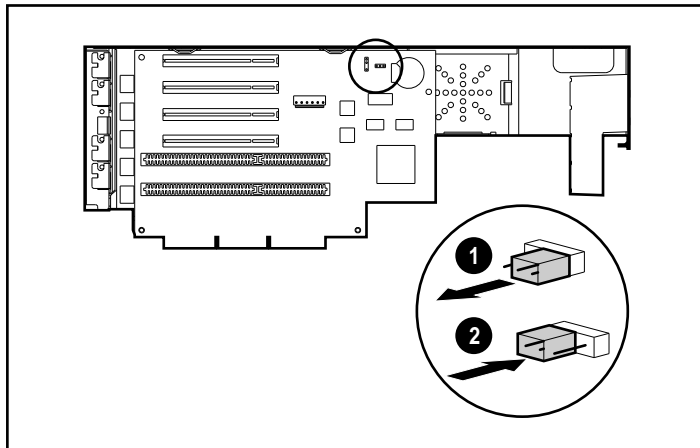


Figure B-3. Connecting the battery jumper on the riser board

NOTE: When the jumper is placed at E1 / 1-2 on the riser board, the internal battery is used. When the jumper is placed at E1 / 2-3, the external battery is used.

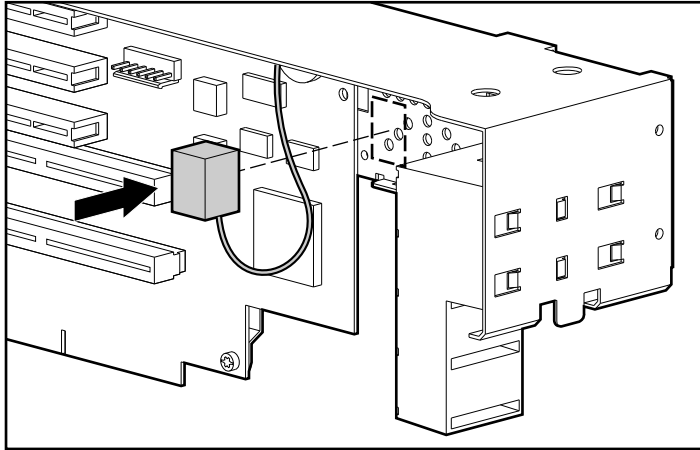


Figure B-4. Installing a battery on the brace chassis

3. Remove the backing from the adhesive on the hook-and-loop fastener strip. Place the battery and the hook-and-loop fastener strip as shown in the following illustration.
4. Replace the server cover.
5. Place the sticker included with your battery kit on the back of your server above the power connector.
6. Plug in the server and reconnect any external devices.



WARNING: To reduce the risk of electric shock or damage to the equipment:

- Do not disable the power cord grounding plug. The grounding plug is an important safety feature.
 - Plug the power cord into a grounded (earthed) electrical outlet that is easily accessible at all times.
 - Disconnect power from the server or other product by unplugging the power cord from either the electrical outlet or the server.
-

7. Turn on the server.
8. Run the Compaq System Configuration Utility to reconfigure the system. Refer to Chapter 5, "Server Configuration and Utilities."

Appendix C

Power Cord Set Requirements

The power cord set meets the requirements for use in the country where you purchased your equipment. The voltage selection switch allows you to select the appropriate line voltage for your server.

Power cord sets for use in other countries must meet the requirements of the country where you use the server. For more information on power cord set requirements, contact your Authorized Compaq Dealer.

General Requirements

The requirements listed below are applicable to all countries:

- The length of the power cord must be at least 6.0 feet (1.8 m) and a maximum of 12.0 feet (3.7 m).
- The power cord set must be approved by an acceptable accredited agency responsible for evaluation in the country where the power cord will be used.
- The power cord set must have a minimum current capacity and nominal voltage rating of 10 A/125 volts AC, or 10A/250 volts AC, as required by each country's power system.
- The appliance coupler must meet the mechanical configuration of an EN 60 320/IEC 320 Standard Sheet C13 connector, for mating with appliance inlet on the server.

Country-Specific Requirements

Use the following table to identify the appropriate accredited agency in your country.

Table C-1
Power Cord Set Requirements - By Country

| Country | Accredited Agency | Applicable Note Numbers |
|----------------|-------------------|-------------------------|
| Australia | EANSW | 1 |
| Austria | OVE | 1 |
| Belgium | CEBC | 1 |
| Canada | CSA | 2 |
| Denmark | DEMKO | 1 |
| Finland | SETI | 1 |
| France | UTE | 1 |
| Germany | VDE | 1 |
| Italy | IMQ | 1 |
| Japan | JIS | 3 |
| Norway | NEMKO | 1 |
| Sweden | SEMKO | 1 |
| Switzerland | SEV | 1 |
| United Kingdom | BSI | 1 |
| United States | UL | 2 |

Notes:

1. Flexible cord must be <HAR> Type H05VV-F, 3-conductor, 1.0 mm² conductor size. Power cord set fittings (appliance coupler and wall plug) must bear the certification mark of the agency responsible for evaluation in the country where it will be used.
2. Flexible cord must be Type SVT or equivalent, No. 18 AWG, 3-conductor. Wall plug must be a two-pole grounding type with a NEMA 5-15P (15A, 125V).
3. Appliance coupler, flexible cord, and wall plug must bear a "T" mark and registration number in accordance with the Japanese Dentori Law. Flexible cord must be Type VCT or VCTF, 3-conductor, 1.0 mm² conductor size. Wall plug must be a two-pole grounding type with a Japanese Industrial Standard C8303 (7A, 125V) configuration.

Appendix D

Switches and Jumpers

When you add or remove a component or change a security feature, you must reconfigure the server to recognize these changes. If the system configuration is incorrect, your server may not work properly and you may receive error messages on the screen. Setting the system board switches is part of the reconfiguration process, along with running the System Configuration Utility.

Setting System Board Switches

The Compaq ProSignia 200 6/233 System board has three switches (SW1, SW2, and SW3) that are used to set configuration options on your server. Switch SW1 provides maintenance and security features. Switch SW2 is a 4-position switch used to enable the optional 100TX Network Interface Controller upgrade module. Switch SW3 is an 8-position switch (S1 - S8) which provides for speed settings for your processor and memory bus. Refer to the hood label on the side access panel or to the Quick Installation Poster for proper switch settings.

Switch Bank Switch SW1 Settings

The following table defines the function for each switch setting on SW1.

| Table D-1 Settings for SW1 Switch | | | | |
|--------------------------------------|------------|---|---|--|
| Switch | Position | Status | Function | |
| 1 | ON OFF* | Enabled (set in Config.) Disabled | Password Defeat: On Position permanently clears all system passwords. For new passwords turn off and run System Configuration Utility. | |
| 2 | ON OFF* | Enabled Disabled | Setting to On and running POST clears CMOS. | |
| 3- Floppy Boot Override | ON OFF* | Enabled Disabled | Diskette Boot Enable: System can be booted from diskette drive regardless of the Diskette Boot control option selected with the System Configuration Utility. | |
| 4-Reserved | ON OFF* | | | |

**Indicates the default position.*

Setting NIC Switches Using Switch SW2

SW2 controls the network frequency of the optional ProSignia 200 6/233 100Mb/s Network Adapter module.

- Placing all the SW2 switches in the **ON** position places the integrated NIC in the 10Mb/s mode.

- Placing all the switches in the **OFF** position activates the 100Mb/s option, if installed.

The ProSignia 200 6/233 server comes standard with the 10 Mb/s and requires the 100Mb/s option for this switch to be functional.

Switch Bank Switch SW 3 Settings

The following table defines the function for each switch setting on SW1.

Table D-2
Host Bus Speed Switch Settings

| Host Bus Frequency | S1 | S2 | S3 | S4 |
|--------------------|------|-----|------|-----|
| 50 MHz | ON | ON | ON | ON |
| 60 MHz | ON | OFF | ON | OFF |
| 66.66 MHz | OFF* | ON* | OFF* | ON* |

**Indicates the default position.*

Switch positions S5, S6, S7, and S8 control the host bus speed by the processor-to-host ratio. The equation to determine processor speed is host bus speed multiplied by the processor-to-host ratio to equal the processor speed or

$$(\text{Host Bus Speed})(\text{Processor-to-Host Ratio}) = \text{Processor Speed}$$

For example, with the host bus speed set at 66Mhz, and the processor-to-host ratio set at 7/2, the processor speed is $66.66 * 7/2 = 233\text{Mhz}$.

Table D-3
Processor Speed-to-Host Bus Ratio Switch Settings

| Processor/Bus | S5 | S6 | S7 | S8 |
|---------------|----|----|----|-----|
| 4/2 | ON | ON | ON | ON |
| 5/2 | ON | ON | ON | OFF |

Continued

Processor Speed-to-Host Bus Ratio Switch Settings *Continued*

| Processor/Bus | S5 | S6 | S7 | S8 |
|---------------|-----|-----|------|------|
| 6/2 | ON | ON | OFF | ON |
| 7/2 | ON* | ON* | OFF* | OFF* |
| 8/2 | ON | OFF | ON | ON |
| 9/2 | ON | OFF | ON | OFF |
| 10/2 | ON | OFF | OFF | ON |
| 11/2 | ON | OFF | OFF | OFF |

**Indicates the default position.*

SCSI Device Jumper Settings

No two SCSI devices connected to the same SCSI controller can have the same SCSI ID. If another SCSI device is connected to the same controller, check its SCSI ID in the Compaq System Configuration Utility before beginning the installation procedure for this additional drive. The SCSI ID is set by jumpers ID 2, ID 1, and ID 0 located on each SCSI device.

The following chart provides the SCSI ID jumper settings for Compaq SCSI hard drives.

Table D-4
SCSI ID Settings

| SCSI ID | Bit 2 | Bit 1 | Bit 0 |
|---------|-------|-------|-------|
| 6 | ON | ON | OFF |
| 5 | ON | OFF | ON |
| 4 | ON | OFF | OFF |
| 3 | OFF | ON | ON |
| 2 | OFF | ON | OFF |
| 1 | OFF | OFF | ON |
| 0 | OFF | OFF | OFF |

Jumper Settings

The System board has an internal battery that allows you to add a battery external to the System board itself. Jumper header E2 on the System board allows the selection of a battery external to the riser board. Placing the jumper on pins 6-7 selects the internal battery. Placing the jumper on pins 5-6 selects the external battery. The Riser card also has an connector that allows you to add a battery external to the riser card itself. Header E1 on the Riser card allows the selection of either the internal battery or an external battery. Placing the jumper on pins 1-2 selects the internal battery. Placing the jumper on pins 2-3 selects the external battery. See Appendix B, "Installing a New Battery," for more specific information.

Appendix E

Regulatory Compliance Notices

Federal Communications Commission Notice

This equipment has been tested and found to comply with the limits for a Class B digital device, pursuant to Part 15 of the FCC Rules. These limits are designed to provide reasonable protection against harmful interference in a residential installation. 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 communications. 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 or more of the following measures:

- Reorient or relocate the receiving antenna.
- Increase the separation between the equipment and receiver.
- Connect the equipment into an outlet on a circuit different from that to which the receiver is connected.
- Consult the dealer or an experienced radio or television technician for help.

Modifications

The FCC requires the user to be notified that any changes or modifications made to this device that are not expressly approved by Compaq Computer Corporation may void the user's authority to operate the equipment.

Cables

Connections to this device must be made with shielded cables with metallic RFI/EMI connector hoods in order to maintain compliance with FCC Rules and Regulations.

Declaration of Conformity for Products Marked with the FCC Logo-United States only

This device complies with Part 15 of the FCC Rules. Operation is subject to the following two conditions: (1) this device may not cause harmful interference, and (2) this device must accept any interference received, including interference that may cause undesired operation. For questions regarding this declaration, contact:

- ❑ Compaq Computer Corporation
P. O. Box 692000, Mail Stop 510101
Houston, Texas 77269-2000

Or, call

- ☐ (281) 514-3333

To identify this product, refer to the Series number found on the product.

Canadian Notice (Avis Canadien)

This Class B digital apparatus meets all requirements of the Canadian Interference-Causing Equipment Regulations.

Cet appareil numérique de la classe B respecte toutes les exigences du Règlement sur le matériel brouilleur du Canada.

European Union Notice

Products with the CE Marking comply with both the EMC Directive (89/336/EEC) and the Low Voltage Directive (73/23/EEC) issued by the Commission of the European Community.

Compliance with these directives implies conformity to the following European Norms:

- EN55022 (CISPR 22) - Electromagnetic Interference
- EN50082-1 (IEC801-2, IEC801-3, IEC801-4) - Electromagnetic Immunity
- EN60950 (IEC950) - Product Safety

Japanese Notice

お使いになっている装置にVCCIマークが付いていましたら、次の説明文をお読み下さい。

この装置は、第二種情報装置（住宅地域又はその隣接した地域において使用されるべき情報装置）で住宅地域での電波障害防止を目的とした情報処理装置等電波障害自主規制協議会（VCCI）基準に適合しております。しかし、本装置をラジオ、テレビジョン受信機に近接してご使用になると、受信障害の原因となることがあります。取扱説明書に従って正しい取り扱いをして下さい。

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Laser Devices

The CD-ROM drive contains a laser device. All Compaq systems equipped with laser device comply with appropriate safety standards including International Electrotechnical Commission (IEC) 825. With specific regard to the laser, the equipment complies with laser product performance standards set by government agencies as a Class 1 laser product. The product does not emit hazardous light; the beam is totally enclosed during all modes of customer operation and maintenance.

Laser Safety Warnings



WARNING: To reduce the risk of fire, bodily injury, and damage to the equipment, observe the following procedures:

- Do not operate controls, make adjustments, or perform procedures to a laser device other than those specified herein or in the CD-ROM drive installation guide.
 - Allow only Compaq Authorized service technicians to repair the laser equipment.
-

Compliance with CDRH Regulations

The Center for Devices and Radiological Health (CDRH) of the U.S. Food and Drug Administration implemented regulations for laser products on August 2, 1976. These regulations apply to laser products manufactured from August 1, 1976. Compliance is mandatory for products marketed in the United States.

Compliance with International Regulations

All Compaq systems equipped with CD-ROM drives comply with the appropriate safety standards, including IEC825.

Laser Product Label

The following label or equivalent is located on the surface of your CD-ROM drive.



This label indicates that the product is classified as a CLASS 1 LASER PRODUCT. This label appears on a laser device installed in your product.

Laser Information

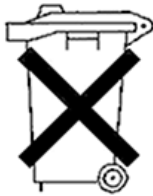
| | |
|--------------------|--|
| Laser Type | Semiconductor GaAlAs |
| Wave Length | 780 nm +/- 35 nm |
| Divergence Angle | 53.5 degrees +/- 0.5 degrees |
| Output Power | Less than 0.2 mW / $10,869 \text{ W} \cdot \text{m}^{-2} \cdot \text{sr}^{-1}$ |
| Polarization | Circular 0.25 |
| Numerical Aperture | 0.45 inches +/- 0.04 inches |

Battery Replacement Notice

To reduce the risk of personal injury, your server is provided with a battery-powered Real-Time Clock circuit. There is a danger of explosion and risk of personal injury if the battery is incorrectly replaced or mistreated. Replacement is to be done by an Authorized Compaq Service Provider using the Compaq spare designated for this product. For more information about Real-Time Clock battery replacement or proper disposal, contact your Compaq Authorized Reseller or your Compaq Authorized Service Provider.

This product contains an internal Lithium Manganese Dioxide or Lithium Vanadium Pentoxide, or alkaline battery. Replacement should be performed by a qualified Compaq authorized service technician.

Battery Recycling Notice



Batteries, battery packs, and accumulators should not be disposed of together with the general household waste. To forward them for recycling or proper disposal, please use the public collection system or return them to Compaq, your authorized Compaq Partners, or their agents.

Appendix F

Specifications and Connector Interfaces

This appendix provides operating and operational specifications for the Compaq ProSignia 200 6/233 components. For other specifications, refer to the Systems Reference Library CD.

ProSignia 200 6/233 Specifications

Table F-1
ProSignia 200 6/233 Specifications

| | | |
|---------------------------|----------------|----------------|
| Dimensions | | |
| Height | 18.9 in | 48.0 cm |
| Depth | 17.1 in | 43.4 cm |
| Width | 7.5 in | 19.1 cm |
| Weight | | |
| Fully Configured | 33.5 lbs | 15.2 kg |
| Input Requirements | | |
| Rated Input Voltage | 100 to 120 VAC | 200-240 VAC |
| Rated Input Frequency | 50 - 60 Hz | |
| Rated Input Current | 5.0 A @ 115VAC | 3.0 A @ 230VAC |
| Power Supply Output Power | | |
| Rated Steady-State Power | 280 W | |
| Maximum Peak Power | 280 W | |
| BTUs | 1700 BTU/hr | 1700 BTU/hr |

continued

ProSignia 200 6/233 *Continued*

| | | |
|-----------------------------------|--------------|--------------|
| Temperature Range | | |
| Operating Range | 50° to 95°F | 10° to 35°C |
| Non-operating Range | -4° to 122°F | -20° to 50°C |
| Relative Humidity (noncondensing) | | |
| Operating | 8% to 90% | 8% to 90% |
| Nonoperating | 5% to 95% | 5% to 95% |
| Maximum Wet Bulb Temperature | 101.7° F | 38.7° C |

Connector Interfaces

For the pinouts and signals of these connector interfaces, refer to the Systems Reference Library CD:

- Keyboard Connector
- Mouse Connector
- Serial (2) Connector
- Parallel Connector
- Video Connector
- Fast-Wide SCSI-2 Connector
- BNC Network Connector
- RJ-45 Network Connector

Index

.

.CFG files 5-2
 .CHL files 5-8
 .PCF files 5-2
 .SCI files 5-8

A

Adding memory 3-19
 ASR-2 1-10
 Automatic Server Recovery-2 *See*
 ASR-2

B

Backup configuration 5-8
 Banyan VINES 5-17
 Battery, installing B-1
 BNC network connector 1-5, 4-18
 BNC network controller 1-5
 Brace, expansion backplane
 removing 3-6
 replacing 3-10

C

Clock, replacing battery B-1
 CMOS memory B-1
 Compaq
 Internet address 1-11
 Compaq Insight Manager *See* Insight
 Manager
 Compaq TechNotes Integration 1-2
 Configuration
 additional information on Web
 site 1-11

 backup 5-8
 History Log Files 5-8
 Configuring
 hardware menu 5-4
 using .CFG files 5-2
 using .PCF files 5-2
 Connecting power cord and
 peripherals 4-19
 Connector interfaces F-2
 Connectors
 rear panel 1-3
 Controller
 Super I/O EIDE 1-1

D

Device drivers
 loading 5-11
 manual installation
 NetWare 5-12, 5-16
 OS/2 5-16, 5-17
 Windows NT 5-14
 Diagnostics, System Configuration
 Utility 5-18
 Disk controller 1-7
 Drive installation guidelines 4-13
 Drive, installing guide screws 3-24
 Drivers, loading software 5-11

E

EDO memory 1-7
 EIDE device controller 1-1
 Electrostatic Discharge 4-6
 Enhanced disk controller, IDE 1-7
 Expansion backplane brace,
 removing 3-6
 replacing 3-10
 Expansion board, installing 3-8

Expansion slots 1-7
 locating 3-5
 slot cover
 removing 3-7

F

Features of ProSignia 200 6/233 1-1
Front panel components 1-2

G

Grounding methods A-1

H

Hard drives, installing 3-22
Hardware, configuring hardware
 menu 5-4
Hardware, installing options 3-1
History Log Files, configuration 5-8

I

IBM OS/2 device drivers 5-16
IDE enhanced disk controller 1-7
Insight Manager 1-9
 Pre-Failure alert 3-2
 status indicators 3-5
Installation
 drive guidelines 4-13
 materials 2-5
Installing
 hard drives 3-22
 hardware options 3-1
 mass storage devices 3-22
 memory on video board 3-17
 operating system 5-10
 PCI or ISA board 3-8

 processor upgrade 3-11
 selecting a site 2-3
Internet address for Compaq 1-11
ISA
 expansion slots 3-5
 installing board 3-8
 slot locations 1-7

J

Jumper settings D-4

K

Keyboard connector 1-5, 4-18

M

Memory
 adding SIMMs 3-19
 CMOS B-1
 installing on video board 3-17

N

NetWare device drivers 5-12
Network connectors,
 RJ-45 1-5, 4-19
 BNC 1-5, 4-18
Network controller 1-5

O

Operating system
 installing 5-10

Option configuration files *See* .CFG files

Options

installing 3-1
video memory, installing 3-17

OS/2

device drivers 5-16

P

Parallel, connector 1-5, 4-19

Partition

creating system 5-7
system 5-6

PCI

configuring boards
 automatically 5-10
expansion slots 3-5
installing board 3-8
removing boards 5-10
slot locations 1-7
configuration files *See* .PCF files

Power cord and peripherals,

connecting 4-19
connectors 1-4, 4-18

Power supply 1-8

Power Switch Security feature 3-3

Power-on, setting defaults 5-6

Processor 1-6

installing an upgrade 3-11
standard speed 1-6

R

Rear panel connectors 1-3, 4-18

Regulatory notices E-1

Removable media storage 3-22

Removing

expansion slot cover 3-7
system board tray 3-11

Replacing

expansion backplane brace 3-10

Resource conflicts, resolving 5-2

Riser board

battery replacement B-3
jumper settings D-5

RJ-45 etwork connector 1-5

ROM 1-8

S

SCO OpenServer 5-15, 5-16

SCO UnixWare 5-15

SCSI

Cabling 4-8
device jumper settings D-4
models 4-13

Security features 1-10

Selecting a site 2-3

Serial connector 1-4, 4-18

Server

management and configuration
 1-9
specifications F-1

Setting power-on defaults 5-6

Side access panel

installation 2-6
removing 2-5

SIMMs 1-7

adding memory 3-19
removing 5-10

Slots

expansion
 locating 3-5

- expansion slot cover, removing 3-7
- PCI and ISA 1-7
- SmartStart
 - creating system partition 5-7
 - device drivers
 - for IBM OS/2 5-16
 - for Novell NetWare 5-12
 - for Windows NT 5-14
- Specifications F-1
- Standard features of the ProSignia 200 6/233 1-2
- Status indicators for Compaq Insight Manager 3-5
- Storage
 - installing devices 3-22
 - removable media 3-22
- Super I/O EIDE controller 1-1
- System
 - Configuration Utility 5-1
 - creating partition 5-7
 - memory 1-7
 - partition upgrading 5-8
 - partition verifying 5-7
- System board tray, removing 3-11
- System Configuration Utility
 - main menu 5-4
- System partition 5-6
- Systems Reference Library
 - downloading TechNotes 1-2

T

TechNotes, Compaq 1-2

U

UnixWare 5-16
Utilities

Diagnostics 5-18
Inspect, running after
configuration 5-18
System Configuration 5-1

V

Video connector 1-5
Video controller 1-8

W

Warranty 1-8
Web site, Compaq 1-11
Windows NT device drivers 5-14