SR2000 Chassis Subassembly Product Guide

A Guide for Technically Qualified Assemblers of Intel® Identified Subassemblies/Products

Order Number: A11521-001

If an FCC declaration of conformity marking is present on the board, the following statement applies:

FCC Declaration of Conformity

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 related to the EMC performance of this product, contact:

Intel Corporation
5200 N.E. Elam Young Parkway
Hillsboro, OR 97124
1-800-628-8686

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 the receiver.
- Connect the equipment to an outlet on a circuit other than the one to which the receiver is connected.
- Consult the dealer or an experienced radio/TV technician for help.

Canadian Department of Communications Compliance Statement:

This digital apparatus does not exceed the Class B limits for radio noise emissions from digital apparatus set out in the Radio Interference Regulations of the Canadian Department of Communications.

Le présent appareil numerique német pas de bruits radioélectriques dépassant les limites applicables aux appareils numériques de la classe B prescrites dans le Réglement sur le broullage radioélectrique édicté par le ministére des Communications du Canada.

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The SR2000 Chassis may contain design defects or errors known as errata which may cause the product to deviate from published specifications. Current characterized errata are available on request.

† Third party brands and names are property of their respective owners.

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1 Introduction

The SR2000 2U server chassis provides support for the L440GX+ server board, with security and environmental features specifically designed for server applications[1]. The SR2000 comes in kit form and contains the following features:

- Base server chassis with:
  - Front bezel
  - Two-fan cooling system
  - 275W PFC power supply
  - PCI riser card
  - Two hot swappable 1-inch SCSI hard drive carriers with drive blanks (baffles)
  - Two hot swappable 1.6-inch SCSI hard drive carriers with drive blanks (baffles)
  - Ultra2/Ultra160 SCSI backplane with SAF-TE supporting up to 4 SCA drives
  - One empty 3.5-inch drive bay which supports either a standard floppy, a 1-inch drive or other half height peripheral
  - Beige half-height ("slim-line") CD-ROM drive with IDE interface
- Cables:
  - Power cord (U.S. version)
  - Ultra2/Ultra160 SCSI cable (non-terminated for baseboard to backplane connection)
  - Front panel cable
  - I2C cable
  - Chassis intrusion cable
  - Motherboard power harness
  - Sleep button cable
- Sliding rail mount kit

[1] The Intel L440GX+ server board is the first board validated with the SR2000. Please see http://support.intel.com/support/motherboards/server/ for additional validation and configuration information.

To complete the server, you must add the server board with the desired number of processors, memory, and device cards, and any additional peripherals.

The following sections provide you with an overview of the system and then provide procedural information about how to assemble, install, operate, and maintain the SR2000 system.

2 System Description

The SR2000 system consists of the following major components:

- The chassis and its subassemblies, device bays, and front bezel
- A slim-line CD-ROM drive
- The power supply
- The cooling system

To complete the system you must add a server board and optional peripherals and devices. The following subsections take you on a tour of each of these components.

Chassis

The major component of the kit is the chassis, which comes pre-assembled with the exception of the server board and optional peripherals. Before adding these devices, it is important to become familiar with the chassis both externally and internally and the security features it provides.

NOTE

The following sections provide a high-level overview of the chassis. For a more detailed, technical description, contact your Intel representative about how to receive or gain access to the *Intel® SR2000 KDK Server Chassis Technical Product Specification.*

External View

Externally, the SR2000 chassis has a front bezel that provides a cover for its front panel and peripheral devices and a back panel that houses its connectors and access to its power supply.

Front Panel

The front panel controls and indicators are located behind the front bezel of the system as shown in Figure 1. You can access the panel and the system peripherals by grasping the bezel at its edges and gently pulling it towards you.

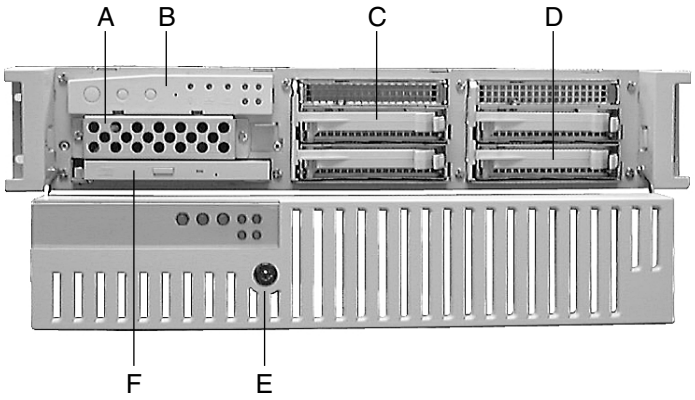

Figure 1. Front View of the SR2000

A. 3.5-inch peripheral bay
B. Control panel
C. 1.6-inch hot swap drive bay (up to 2 drives)
D. 1-inch hot swap drive bay (up to 2 drives)
E. Bezel lock
F. Slim line CD-ROM drive

For a description of the control panel and its controls and indicators, refer to "Using the Front Panel Controls and Indicators" on page 58.

Back Panel

The back panel provides connectors for the server board, slots for add-in cards, and the power supply for the server. Figure 2 identifies the features of the back panel.

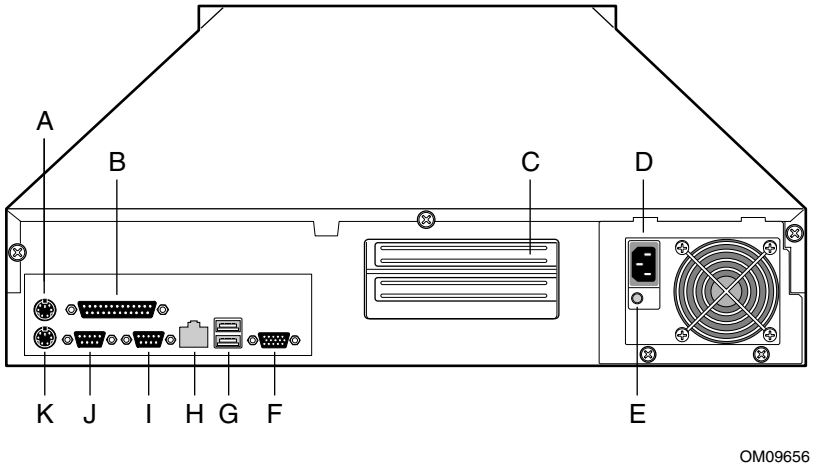

Figure 2. Back View of the SR2000

A. Mouse connector
B. Parallel Port connector
C. PCI Expansion slots
D. AC input power connector
E. Power supply fault indicator
F. Video connector
G. USB connectors
H. RJ45 Network connector
I. Serial port connector (Com 1)
J. Serial port connector (Com 2)
K. Keyboard connector

Internal View

Internal to the chassis are all the major components of the system. These include the peripheral bays, the server board area, a riser card for adding PCI cards, the fan assembly, and the power supply. Figure 3 depicts the major chassis components and their locations.

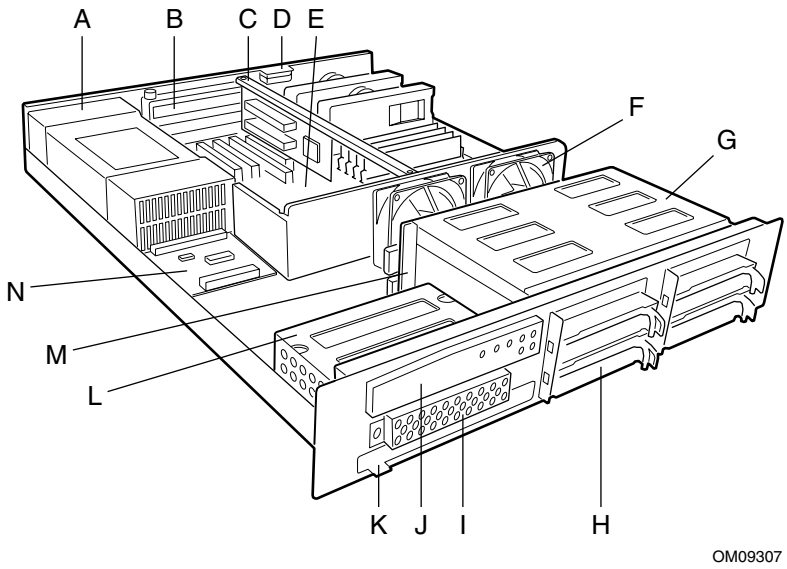

Figure 3. Major Internal Components of SR2000

A. Power supply
B. PCI expansion slots
C. Riser card
D. Intrusion switch
E. Server board (accessory to system)
F. Fan assembly
G. Hot swap peripheral bay
H. Hard drives (up to four)
I. EMI shield
J. Control panel
K. Slim line CD-ROM drive
L. Bay assembly for CD-ROM and 3.5-inch drive
M. Hot swap backplane
N. Power distribution board

Power Supply

Within the chassis is a power supply and a power distribution board. The supply provides 275-watts of power and is designed to minimize EMI. The supply operates within the following voltage ranges and is rated as follows:

- 100-120 V~ at 50/60 Hertz (Hz); 4.6 A maximum
- 200-240 V~ at 50/60 Hz; 2.3 A maximum

The DC output voltages of the power supply are +5.125 V, +12 V, +3.3 V, -5 V, -12 V, and +5 V standby. The power supply features a 24-pin main power connector and a 6-pin auxiliary ATX power connector.

System Cooling

The chassis includes two system fans for cooling and airflow. Both fans provide cooling for the processor(s), hard drives, and add-in cards. The power supply contains its own built-in fan for cooling. As shown in Figure 3, two 80 mm fans are located in the middle of the chassis to pull cooling air through the length of the chassis.

Security

To help prevent unauthorized entry or use of the system, the chassis includes a mechanical lock on the front bezel to prevent access to the system's peripherals and control panel. The chassis also includes an intrusion switch that can be monitored by server management software. When the top cover is opened, the switch transmits a signal to the server board, where server management software processes the signal. For example, the system can be programmed to respond to an intrusion by powering down or by locking the keyboard.

Optional Peripherals

In addition to the slim line CD-ROM drive that comes with it, the chassis provides for a variety of peripherals that can be added to the system. The following describes the available options.

Hot-Swappable Hard Disk Drives

The chassis provides a hot-swap bay for the installation of up to four 3.5-inch SCSI hard drives. A major feature of the hot swap bay is the backplane which powers down a drive when a failure is detected and reported to the SCSI bus. When a new drive is inserted, the power control waits a short time for the drive to become fully seated and then applies power to the drive. The backplane provides signals to the control panel to indicate failure status for each drive in the bay.

Either four 1-inch high or two 1-inch high and two 1.6-inch high, 3.5-inch SCA-compatible SCSI hard drives can be installed in the bay. Drives can consume up to 17 watts of power each. Drives must be specified to run at a maximum ambient temperature of 50 °C.

The chassis ships with four drive carriers for mounting the separately purchased hard drives. For information on how to install these drives, refer to page 40.

Fixed Drives

The chassis provides a bay for installing one of many types of 3.5-inch fixed (i.e. non-hot swappable) drives including a diskette drive, zip drive, tape drive, or an additional hard drive. The chassis includes a drive tray for installing the device, which must be purchased separately. For information on how to install a fixed drive, refer to page 43.

Server Board

To complete the system you must add a server board and optionally, other accessories that are available for use with the chassis. The SR2000 chassis supports the L440GX+ server board[2]. This server board is a monolithic printed circuit board that can accept one or two Intel® Pentium® II or Pentium III processor cards, and industry-standard PCI I/O expansion cards. In addition, the server board contains embedded devices for PCI, memory control, video, SCSI, NIC, standard I/O, and server management. Its architecture is based on a design that supports dual processor operation using Pentium II or Pentium III processor cartridges and the Intel® 440GX APG set.

The L440GX+ server board provides a PCI-based I/O subsystem containing embedded devices for disk and network control. The server board also provides server management and monitoring hardware support, and interrupt control (I/O APIC and PC/AT† compatible). The L440GX+ server board provides the following features:

- Volume server platform supporting dual Pentium II or Pentium III processor cartridges. On the L440GX server board, this processor operates with a 100 MHz front side bus. The server board provides two 100 MHz 242-contact slot connectors.
- Using dual processors, the system is fully Multi-Processor Specification (MPS) 1.4 compliant with appropriate Pentium II or Pentium III extensions. In addition, support is provided for MP operating systems that may not be fully MPS 1.4 compliant.
- System design based on Intel 440GX AGP set, PIIX4e, and I/O APIC devices.
- 100 MHz main memory interface supporting up to 2 GB of PC/100-compliant commodity SDRAM DIMMs. (ECC and Non-ECC)
- PCI I/O system, compliant with revision 2.1 of the PCI specification.
- Integrated Adaptec† 7896 PCI dual-port SCSI controller providing separate Ultra2/Ultra160 and Ultra wide SCSI channels.
- Integrated Intel® EtherExpress™ PRO100+ 10/100 Mbit PCI Ethernet controller with integrated physical layer (Intel® 82559).

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[2] The Intel L440GX+ server board is the first board validated with the SR2000. Please see http://support.intel.com/support/motherboards/server/ for additional validation and configuration information.

- Cirrus Logic† GD5480 high performance 2D PCI video controller with 2 MB of SGRAM on board.
- PCI IDE controller (in PIIX4e) providing dual independent Ultra DMA/33 IDE interfaces, each able to support two IDE drives.
- Four PCI 33 MHz, 5 volt, 32-bit expansion slots.
- Two PCI 33/66 MHz, 5 volt, 32-bit expansion slots.
- One ISA expansion slot (not shared).
- Compatibility I/O device integrating floppy, serial, and parallel ports.
- Integration of server management features, including thermal, voltage, fan, and chassis monitoring into one controller.
- Dual Universal Serial Bus (USB) ports.
- Emergency management port (EMP).
- Platform event paging (PEP).
- Flash BIOS support for all of the above.

For additional information about the L440GX+ server board, refer to the *L440GX+ Server Board Product Guide*.

3 Assembling the System

Before the SR2000 can be installed for use, you must assemble the hardware components that make up your particular system. Minimally, you must install a server board with the desired number of processors and memory. Additionally, you will want to add any peripherals and add-in cards purchased for the system. The following procedures help guide you through this assembly process and create your desired system configuration.

Before You Begin

Before you start the assembly process you will need to have the right tools available to you and you will need to make sure you follow certain basic safety precautions.

Tools and Supplies Needed

Before beginning your work, make sure you have the following tools and supplies available:

- a Phillips (cross head) screwdriver (#2 bit)
- an anti-static wrist strap (recommended)
- an SR2000 subassembly kit
- an L440GX+ DP server board kit
- the processors and memory you purchased separately to add to the server board
- any optional peripherals and add-in cards you want to include in the system

Installation / Assembly Safety Instructions

⚠ CAUTION

Integration / servicing of this chassis sub-assembly shall be performed only by technically qualified persons.

Follow these guidelines to meet and maintain safety and product regulatory requirements when integrating this chassis subassembly.

Read and adhere to all of these instructions and the instructions supplied with this assembly. If you do not follow these instructions, the UL listing and other regulatory approvals will be void, and the product will most likely be non-compliant with regional product laws and regulations.

Use Only for Intended Applications

This product was evaluated as Information Technology Equipment (ITE) that may be installed in offices, homes, schools, computer rooms and similar locations. The suitability of this product for other Product Categories and Environments other than ITE applications, (such as medical, industrial, alarm systems, and test equipment) may require further evaluation.

When you integrate this subassembly, observe all warnings and cautions in the Installation Guide.

To avoid injury, be careful of:

- Sharp pins on connectors
- Sharp pins on printed circuit assemblies
- Rough edges and sharp corners on the chassis
- Hot components (like processors, voltage regulators, and heat sinks)
- Damage to wires that could cause a short circuit

Checking the Power Cords

⚠ WARNING

Do not attempt to modify or use the supplied AC power cord(s) if it is not the exact type required.

The power supply cords are the main disconnect device to mains (AC power). The socket outlet shall be installed near the equipment and shall be readily accessible.

If the power cord(s) supplied with the system is not compatible with the AC wall outlet in your region, get one that meets the following criteria:

- The cord must be rated for the available AC voltage and have a current rating that is at least 125% of the current rating of the server.
- The plug on the power cord that plugs into the wall outlet must be a grounding-type male plug designed for use in your region. It must have certification marks showing certification by an agency acceptable in your region.
- The connector that plugs into the AC receptacle on the power supply must be an IEC 320, sheet C13, type female connector.
- In Europe, the cord must be less than 4.5 meters (14.76 feet) long, and it must be flexible <HAR> (harmonized) or VDE certified cordage to comply with the chassis' safety certifications.

Warnings and Cautions

These warnings and cautions apply whenever you remove the access cover to access components inside the server. Only a technically qualified person should integrate and configure the server.

⚠ WARNING / BEFORE YOU REMOVE THE ACCESS COVER

Before removing the access cover for any reason, observe these safety guidelines.

1. Turn off all peripheral devices connected to the server.
2. Turn off the server by pressing the power button on the front of the chassis. Then unplug the AC power cord from the chassis or wall outlet.
3. Label and disconnect all peripheral cables and all telecommunication lines connected to I/O connectors or ports on the back of the chassis.
4. Provide some electrostatic discharge (ESD) protection by wearing an antistatic wrist strap attached to chassis ground—any unpainted metal surface—when handling components.

⚠ WARNING

The power button on the front panel DOES NOT turn off the AC power. To remove power from server, you must unplug the AC power cord(s) from the wall outlet or the chassis.

WARNING

Hazardous electrical conditions may be present on power, telephone, and communication cables. Turn off the server and disconnect the power cords, telecommunications systems, networks, and modems attached to the server before opening it. Otherwise, personal injury or equipment damage can result.

WARNING

Do not open the power supply. Risk of electric shock and burns from high voltage and rapid overheating. Refer servicing of the power supply to qualified technical personnel

Installing the Server Board

Installing the server board consists of the following steps:

1. Removing the cover.
2. Mounting the server board in the chassis.
3. Cabling the server board to the other chassis components.
4. Adding processors and memory to the server board.
5. Replacing the cover.

Removing the Cover

To remove the top cover of the system:

1. Remove and save the three screws on the rear of the system (see Figure 4).
2. Pull the cover back and remove it from the chassis.
3. Set chassis cover and screws aside and away from immediate work area.

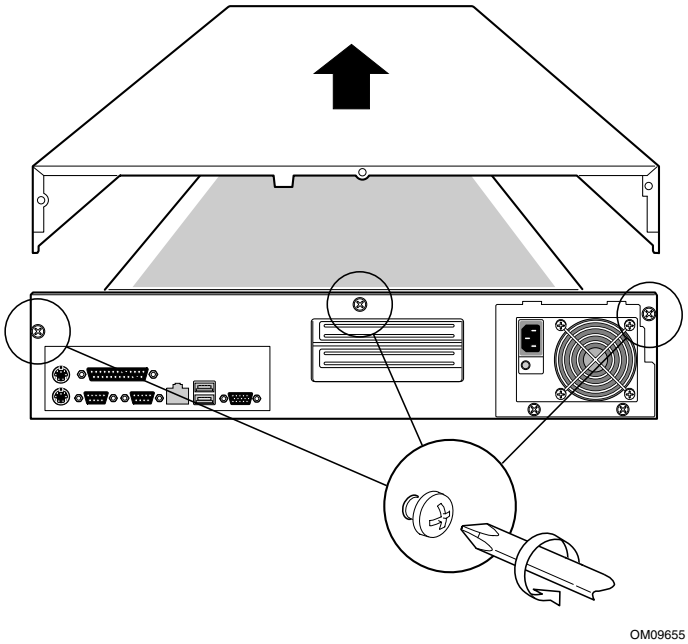

Figure 4. Opening the Cover

Mounting the Server Board

With the cover off, you can now mount the server board in the chassis. Before you begin, make sure you have the server board and other associated components (processors, memory, and mounting hardware) available.

To mount the server board:

1. Remove the two mounting screws that hold the riser card in the chassis (A in Figure 5) and save the screws.
2. Remove the riser card (B) from the chassis to give you full access to the server board area.

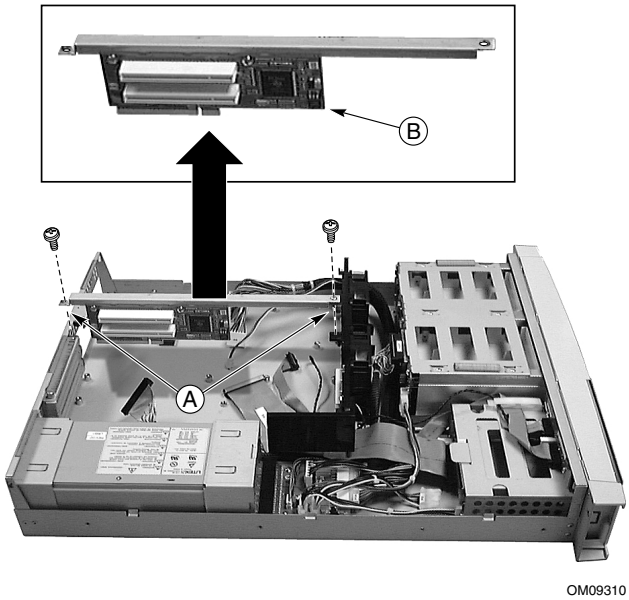

Figure 5. Removing the Riser Card

3. Remove the I/O shield from the bag that comes from your server board kit (B in Figure 6).
4. Position the I/O shield in the lower rear chassis opening (A in Figure 6) and snap it into place.

NOTE

To position the shield correctly, the outline of the connectors on the I/O shield should be viewable from the chassis opening.

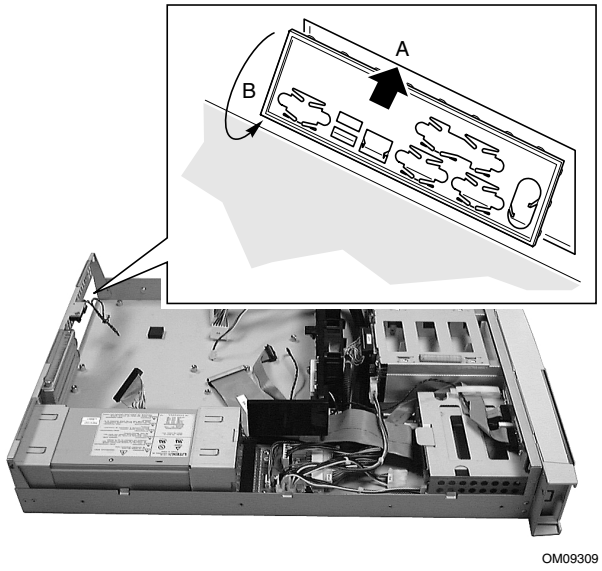

Figure 6. Installing the I/O Shield

5. Remove the mounting screws for the fan assembly and save the screws (A in Figure 7).

   Removing the mounting screws lets you move the fans out of the way letting you slide the server board into place.

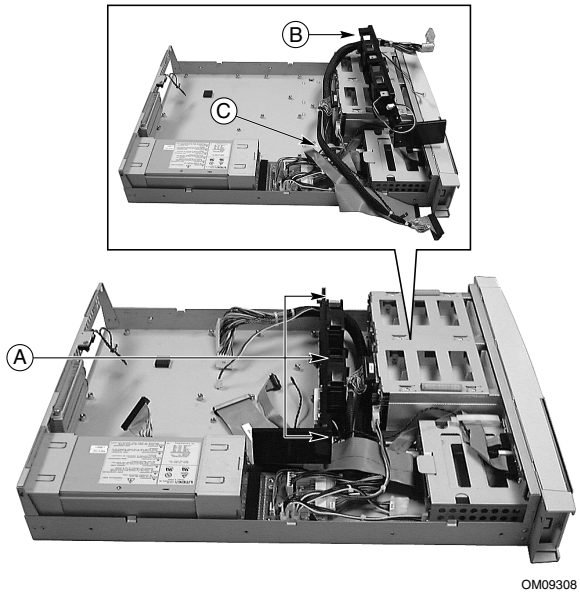

Figure 7. Removing the Fan Assembly Mounting Screws

6. Pull fan assembly out of tab slot on the floor of chassis (A in Figure 8).
7. Lay the fan assembly on top of the hard drive chassis assembly (B in Figure 7). Make sure all cabling is pulled back and away from the server board area (C in Figure 7).
8. Remove the server board from its protective anti-static bag.

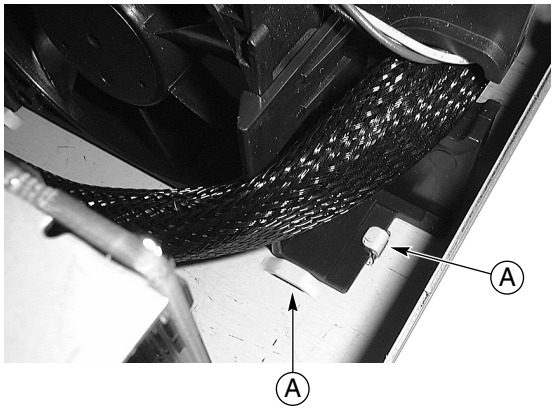

Figure 8. Removing the Fan Assembly from Chassis Tabs

9. Orient the board so that the I/O connectors on the board are (see Figure 9) positioned in front of the I/O shield.
10. Insert connector edge of the server board into the chassis first making sure the connectors are properly seated in the I/O shield.

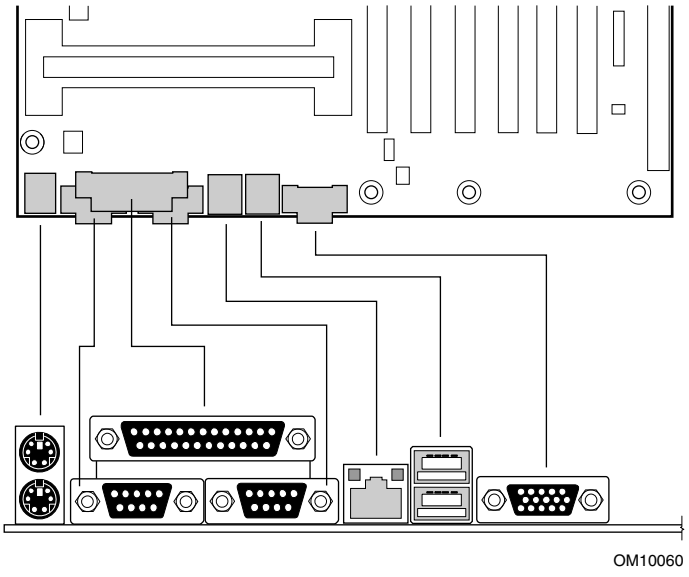

Figure 9. I/O Connector Edge of Server Board

11. Lie board flat on the standoffs that are located on the chassis floor.
12. Align the board by making sure the two standoffs with shoulders are inserted into their matching holes on the board (A in Figure 10).
13. Mount the board to the chassis by inserting the mounting screws supplied with the chassis through the holes on the server board (see dark arrows in Figure 10).

NOTE

As shown in Figure 10, the two server board holes nearest the add-in slot covers are not used.

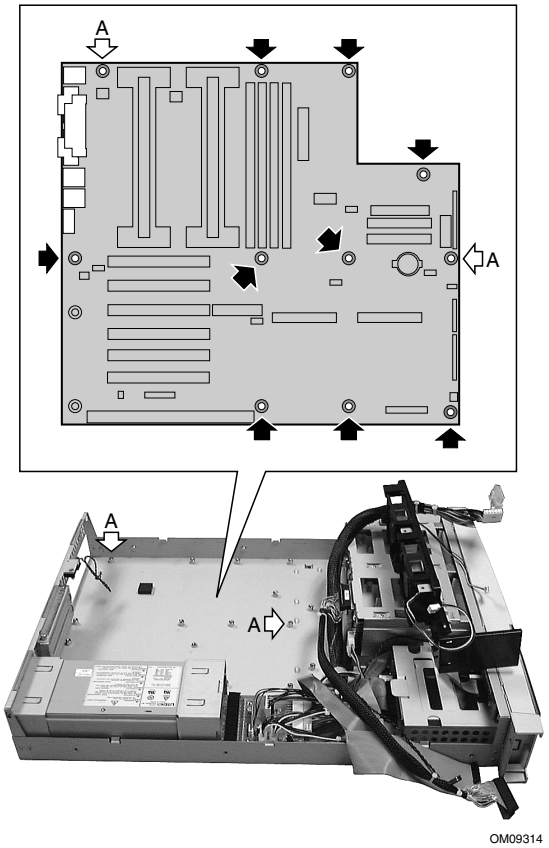

Figure 10. Mounting the Server Board on the Chassis Standoffs

14. Place fan assembly back into tabs on chassis floor and route cables around the assembly so that they reach server board and are not pinched.
15. Secure the fan assembly to the chassis by reinserting the mounting screws you removed earlier.
16. Place riser card into its corresponding connector on the server board.
17. Secure the riser card to the chassis by reinserting the mounting screws you removed earlier.

Cabling the Server Board

After mounting the server board, it needs to be cabled to the following chassis subassembly components:

- the front panel
- the CD-ROM drive
- the hot-swappable disk drive assembly
- the fan assembly
- the chassis intrusion switch
- the power supply

To cable the board:

1. Connect the chassis intrusion switch cable to connector J1B1 (F in Figure 11) on the server board.

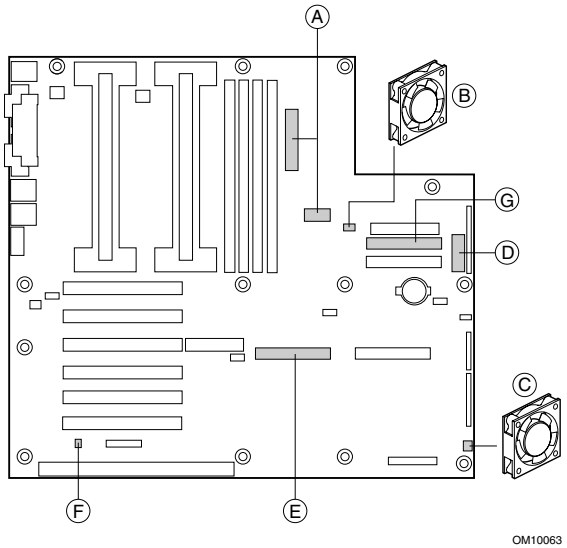

Figure 11. Connecting Cables to the Server Board

2. Connect the power cables to connector J7F1 (A-larger) and the AUX connector to J6F1 (B-smaller) on the server board. The power cables are routed from the power board, around the fan assembly, to the server board area.
3. Connect the power cables for fan1 to connector J1J1 (B) and fan 2 to connector J6G1 (C) on the server board.
4. Connect the SCSI connector from the hot swap backplane cable to connector J3E2 (E in Figure 11) on the server board.
5. Connect the IDE cable for the CD-ROM to the J5H2 connector (G) on the server board.
6. Connect the front panel cable to the J5J1 connector (D) on the server board.

Adding Components to the Server Board

After installing the server board, you must add the desired number of processors and memory cards.

Processors and Termination Cards

The server supports up to two Intel Pentium II or Pentium III processors (with 100 MHz front side bus). If you are installing two processors, make sure they are the same speed, voltage, and stepping. If you are installing one processor, you must install the termination card provided with the L440GX+ server board into the second, unused processor slot.

The following procedure describes how to install a processor or termination card. Before performing the procedure, please observe the safety and ESD precautions at the beginning of this chapter and the following additional cautions.

⚠ CAUTIONS

Processor must be appropriate: You may damage the server if you install a processor that is inappropriate for your server. Make sure your server can handle a newer, faster processor (thermal and power considerations). For exact information about processor interchangeability, contact your customer service representative or visit the Intel Customer Support web site:

http://support.intel.com/support/motherboards/server

Heat sink must be appropriate: Depending on your configuration, the existing processor may have a passive heat sink. If you REPLACE the processor with a faster one, it must have an active fan heat sink (powered fan instead of a passive heat sink). If you ADD a second processor, it must have a fan heat sink. When adding a processor, you must leave the existing one in the primary connector (closest to the DIMM slots on the server board).

ESD and handling processors: Reduce the risk of electrostatic discharge (ESD) damage to the processor by doing the following: (1) Touch the metal chassis before touching the processor or server board. Keep part of your body in contact with the metal chassis to dissipate the static charge while handling the processor. (2) Avoid moving around unnecessarily.

To install a processor and or termination card:

1. Remove the GRM processor mounts (A in Figure 12) and mounting fasteners (D and E) that come with the server board.
2. Insert the washers (E) and pins (D) through a GRM and into the mounting holes on the server board around the slot 1 processor connector (C).
3. Repeat step 2 for the matching GRM that is located on the opposite end of the slot 1 connector.
4. Repeat steps 2 and 3 for the GRMs that are to mounted around the slot 2 processor connector.

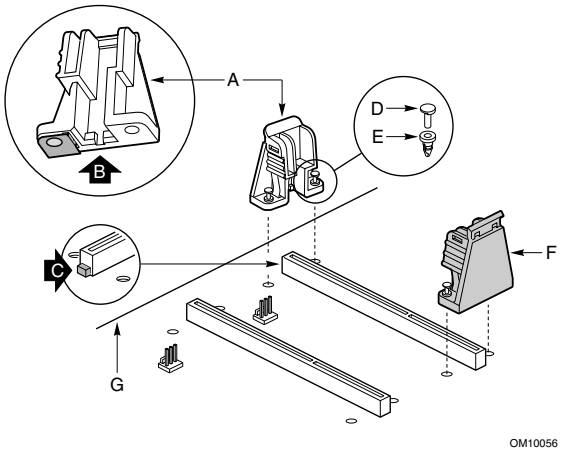

Figure 12. Inserting GRM Mounts for Processors

5. Remove the new processor from its anti-static package and place it on a grounded, static free surface or conductive foam pad.
6. Orient the processor so that the heat sink faces the I/O connectors (see Figure 13). Slide the processor (A) into the retention module (B). Push down firmly, with even pressure on both sides of the top, until the processor is seated.
7. To lock in the processor, push the latches inward on the retention module until they click into place. The latches must be secured for proper electrical connection of the processor.
8. Attach the small end of the power cable to the fan connector on the S.E.C. cartridge, then attach the connector (E) to the 3-pin signal prongs (F) on the server board.

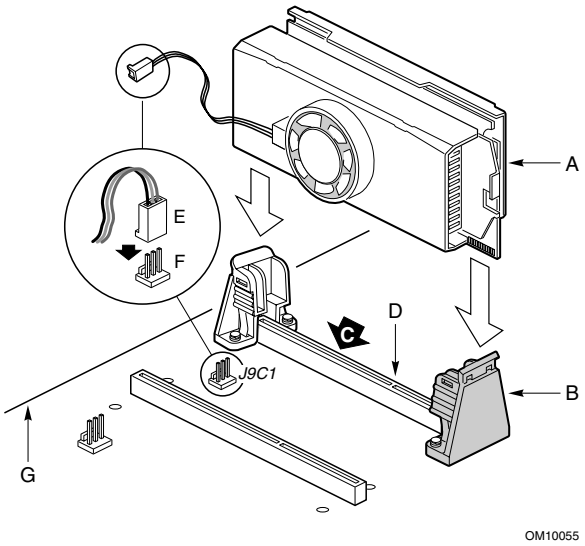

Figure 13. Installing a Primary Processor

A. Primary processor
B. Retention mechanism
D. Primary processor slot
E. Processor fan 1 connector
F. Fan 1 header J9C1

9. After you have installed the processor, you must configure its speed in the BIOS setup. Refer to the product guide for the server board for instructions about how to run the BIOS setup.
10. If you are installing a second processor, repeat steps 1 through 9 to install the processor as shown in Figure 14.

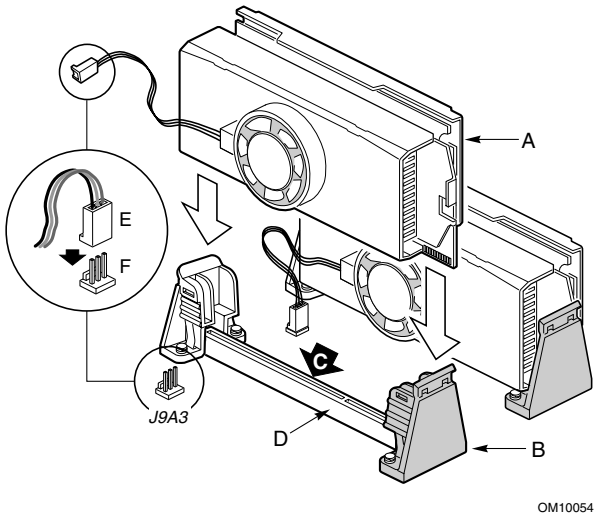

Figure 14. Installing a Secondary Processor

A. Second processor
B. Retention mechanism
D. Secondary processor slot
E. Processor fan 2 connector
F. Fan 2 header J9A3

⚠ CAUTION, SINGLE-PROCESSOR CONFIGURATIONS

If you install only one processor in a system, it must go in the primary connector (closest to the DIMM sockets). With a single-processor configuration, you must install a termination card (A in see Figure 15) and secure it with locking tabs (B) in the empty secondary connector (D) to ensure proper operation of your system. A termination card is provided with your system.

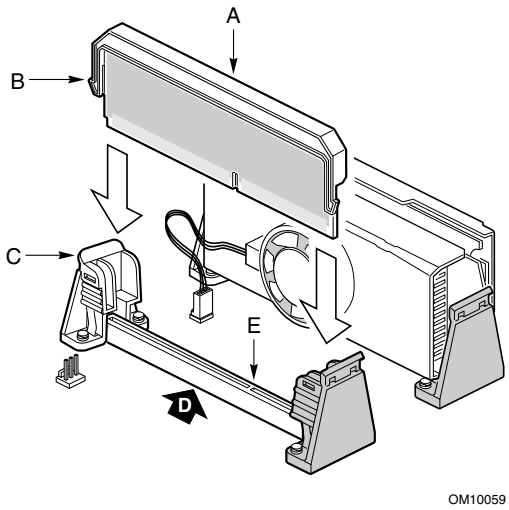

Figure 15. Installing a Termination Card

A. Termination card
B. Plastic locking tabs (one on each side)
C. Retention mechanism
E. Secondary processor slot

Memory

The server only supports 100 MHz PC/100-compliant SDRAM.

- Install from 32 MB to 2 GB of unbuffered memory, using up to four single or double-banked DIMMs

or

- Install from 32 MB to 2 GB of registered memory, using up to four single or double-banked DIMMs

Installed DIMMs must be the same speed and either all registered or all unbuffered. For a list of supported memory, call your service representative or visit the Intel Support website:

http://support.intel.com/support/motherboards/server/l440gx/compat.htm

The following procedure describes how to install a memory card. Before performing the procedure, please observe the safety and ESD precautions at the beginning of this chapter and the following additional caution.

⚠ CAUTION

Use extreme care when installing a DIMM. Applying too much pressure can damage the socket. DIMMs are keyed and can be inserted in only one way.

Mixing dissimilar metals may cause later memory failures resulting in data corruption. Only install DIMMs with gold-plated edge connectors in gold-plated sockets.

To install a DIMM card:

1. Holding the DIMM card only by its edges, remove it from its anti-static package.
2. Orient the DIMM card (see Figure 16) so that the two notches in the bottom edge of the DIMM card align with the keyed socket.
3. Insert the bottom edge of the DIMM card into the socket, and press down firmly on the DIMM until it seats correctly.
4. Gently push the plastic ejector levers on the socket ends to the upright position.
5. Repeat the steps to install each DIMM card.

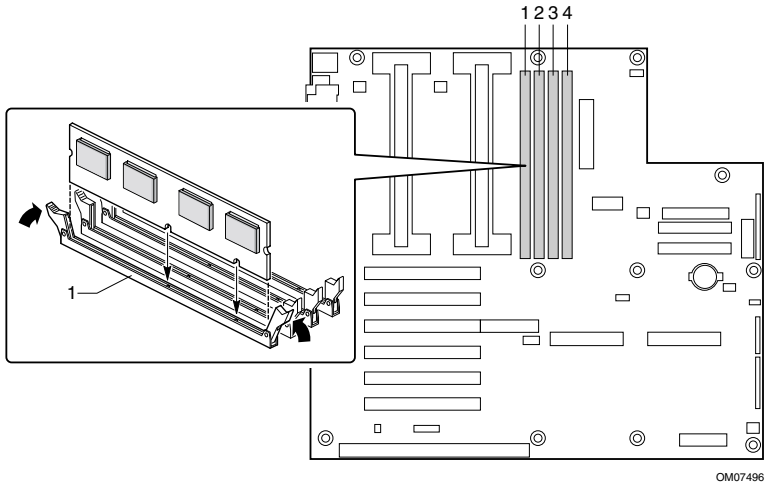

Figure 16. Installing Memory

Reattaching the Cover

Once the server board and its components are installed, you are done assembling the system unless you have optional peripherals or add-in cards you wish to install. If you need to install these components, continue on to the next section. Otherwise, reattach the cover and continue on to Chapter 4, which describes how to install the system in a cabinet.

To reattach the cover:

1. Place the cover on the chassis and slide it forwards as far as possible.
2. Tighten the three screws on the rear of the chassis.

Installing Optional Peripherals and Devices

Peripherals and add-in cards are not included in your system and must be purchased separately and installed. The following sections describe how to install:

- Up to four hard drives into the system's hot-swappable hard drive bay
- A fixed 3.5" drive into the system's fixed drive bay
- Up to two PCI add-in cards into the system's riser card

Hard Drives

Your server does not include a hard drive. You must purchase them separately and install them. The server has four hot-swappable hard drive bays.

1. Remove the drive carrier(s) from the drive bays by unclipping the retention lever on the right side of the handle (Figure 17).

   Pull the retention lever toward you until the tab end (B) of the lever is free of the housing slot (A). Pull the drive forward and out of the housing.

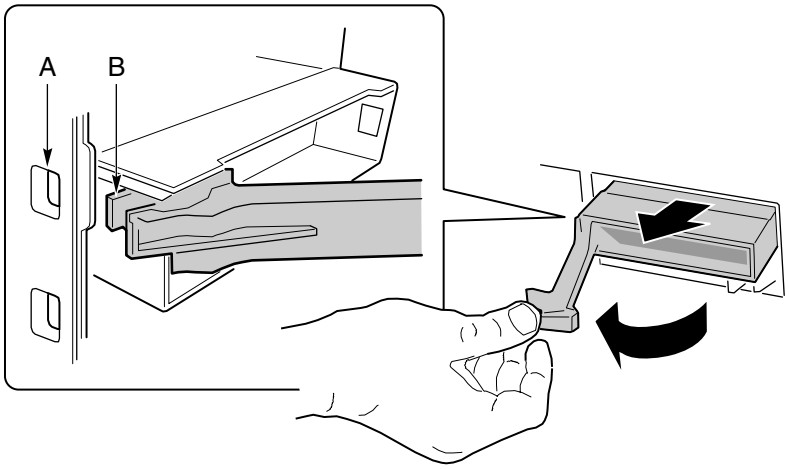

Figure 17. Removing the Hard Drive Carrier from the Chassis

2. Release the air baffle (B) by removing the four screws (A) from the drive carrier/drive slide track.
3. Remove the hard drive from its wrapper and place it on an anti-static surface.
4. Set any jumpers and/or switches on the drive according to the drive manufacturer's instructions.

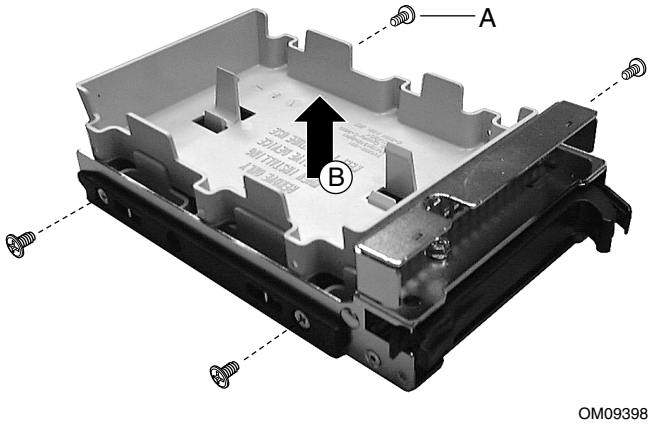

Figure 18. Removing the Air Baffles

5. Align the drive holes (see Figure 19) to the holes in the drive carrier slide track (C), insert the screws that you previously removed, and attach the carrier (B) to the drive (A). Make sure that the connector end of the drive (E) is facing the back of the carrier and the drive top is facing upward before inserting the screws.
6. Slide the carrier/drive into the chassis with the retention mechanism extended in the open position, then push the arm towards the front of the chassis until the lever tab clicks into the chassis slot indicating that it is closed.

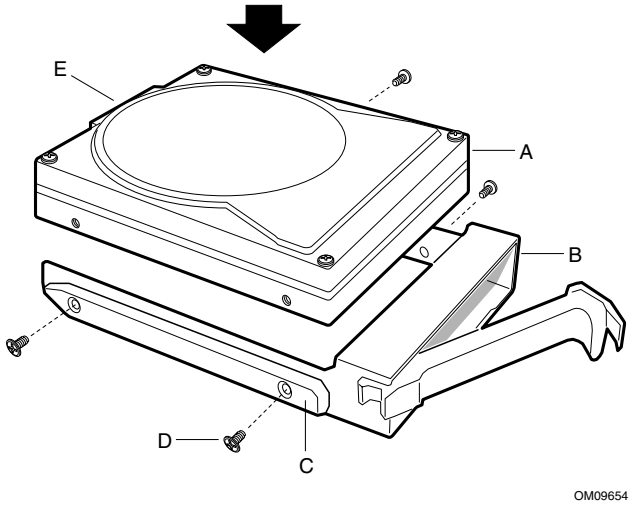

Figure 19. Attaching the Drive to the Carrier

A. Hard disk drive
B. Drive carrier
C. Plastic slide rails (2)
D. Screws (4)
E. Connector end of drive

Fixed Drives

The system provides a 3.5-inch drive bay that allows you to install a variety of different fixed drives such as a diskette drive, a hard drive, a tape drive, or a ZIP† drive. The following is a generic procedure that, for the purpose of example, shows how to install a hard drive.

1. Remove the chassis cover if the chassis is not already open.
2. Remove the EMI shield from the 3.5-inch drive bay opening by removing and saving the two mounting screws (A in Figure 20).
3. Slide the drive tray (B) out of the chassis.

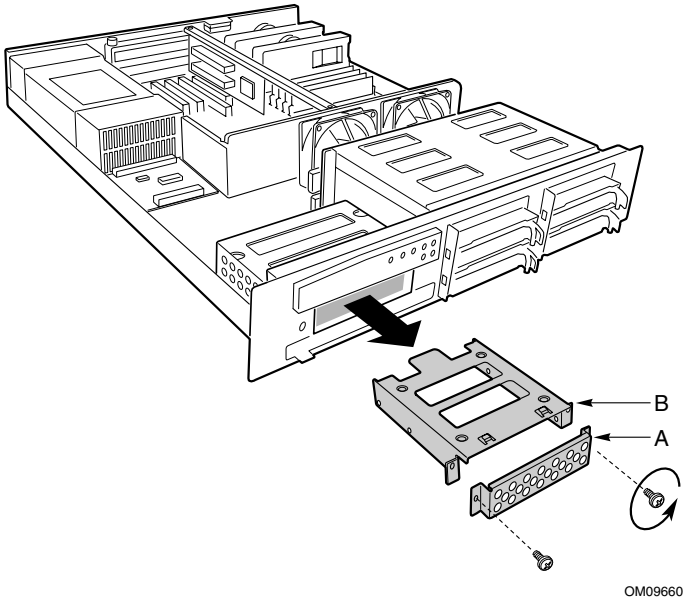

Figure 20. Removing Fixed Drive Tray

4. Remove the 3.5-inch diskette drive from its protective wrapper, and place it component-side up on an anti-static surface.
5. Set any jumpers and/or switches on the drive according to the drive manufacturer's instructions.
6. Install the drive into the drive tray and secure it with the provided mounting screws (see Figure 21).

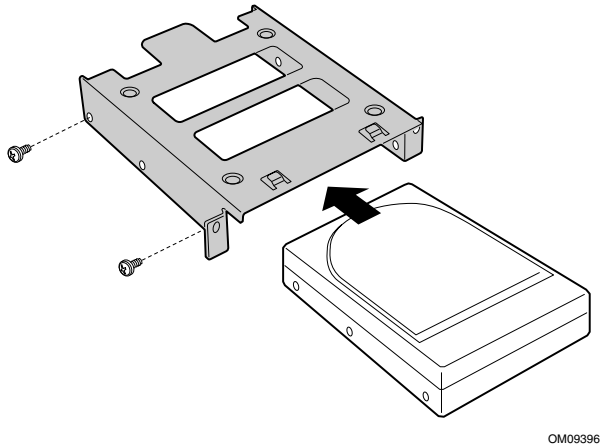

Figure 21. Installing a Drive into the Fixed Drive Tray

7. Slide the drive carrier through the front of the chassis (see Figure 22).
8. Secure the drive tray and the EMI shield to the front of the chassis with the screws you removed earlier.

NOTE

If you are installing a device that requires user access such as a diskette, tape, or zip drive, do not reattach the EMI shield.

9. Connect the signal (D) and power (C) cables to the drive according to the manufacturer's specifications.
10. Reattach the chassis cover if you have no other work to do within the chassis.

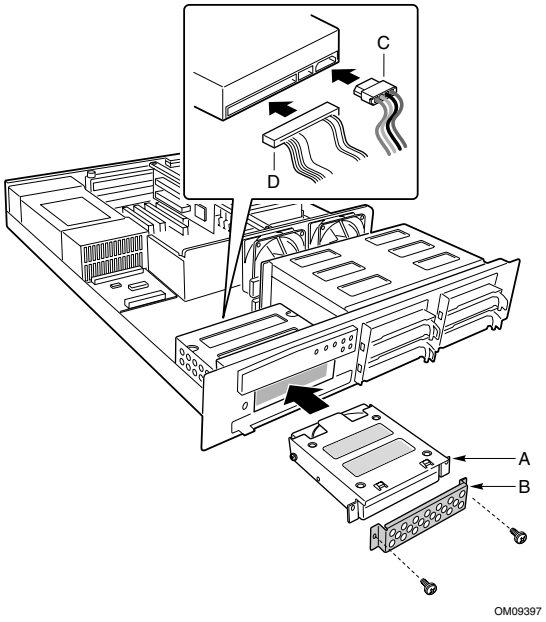

Figure 22. Installing the Fixed Drive into the Chassis

Add-In Cards

You can only add two PCI cards to this server. You must use the PCI slots on the riser card and cannot use any expansion slots on the server board.

NOTE

If you are installing PCI SCSI add-in card, attach the SCSI cable before you insert the card into the chassis. It might be difficult to attach the cable to the card after you have seated it into the chassis.

To insert an add-in card:

1. Remove the chassis cover if the chassis is not already open.
2. Remove the expansion slot cover for the slot you wish to use. Remove the thumbscrew (B in Figure 23) holding the cover retention bracket (A) to the chassis. Remove the bracket from the chassis.
3. Remove the expansion slot cover (C) for the slot you wish to use.
4. Remove the add-in board from its protective wrapper. Set jumpers or switches according to the manufacturer's instructions.

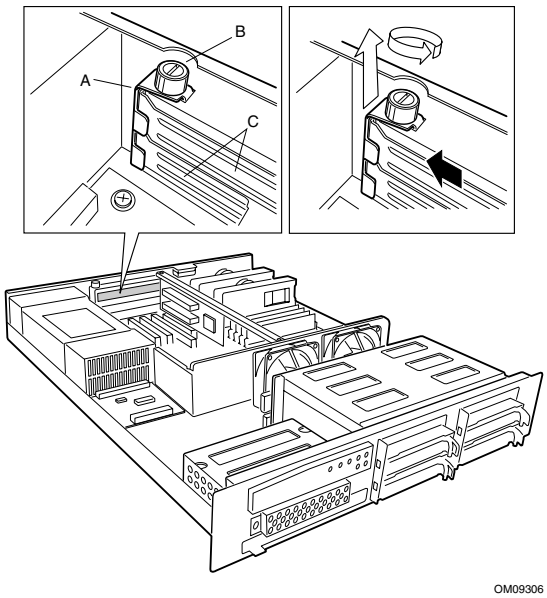

Figure 23. Removing the Slot Cover Retention Bracket

A. Slot cover retention bracket
B. Thumbscrew
C. Slot covers

5. Hold the board by its top edge or upper corners. Firmly press it into an open expansion slot (B in Figure 24) on the riser card. ***If you are installing a single PCI card, you must use the bottom slot.*** The tapered foot of the board-retaining bracket must fit into the mating slot in the expansion slot frame. Install the board component side DOWN.

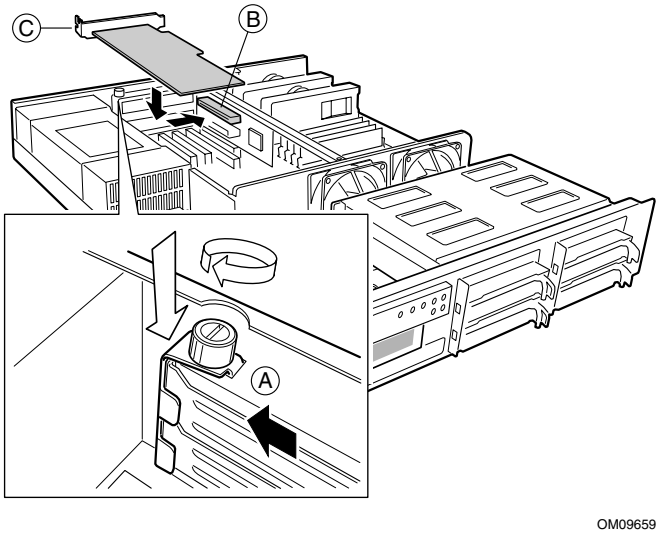

Figure 24. Installing an Add-In Card

A. Slot cover retention bracket
B. PCI slot
C. Add-in card bracket

NOTE

If you are installing a full-length PCI card, slide the card guide (see Figure 25) in front of the fans before installing the card. Also, you must remove the ISA retainer found on the right side of the board as you look at it from the component side; the board will not fit in the system with the retainer still attached.

6. Align the rounded notch in the retaining bracket (C Figure 24) in with the threaded hole in the frame. The bracket fits the space that was occupied by the slot cover.

NOTE

If you are installing a full-length PCI card, slide the card guide back into place (see Figure 25). The back edge of the card should be held in place by the rail of the card guide.

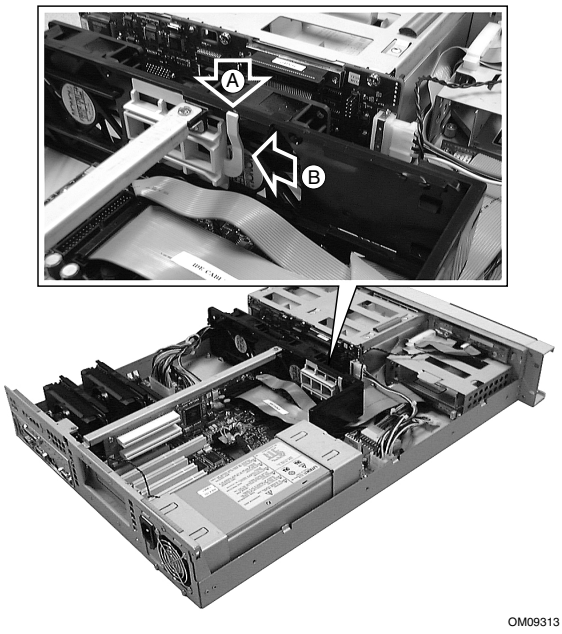

Figure 25. Using the Add-in Card Guide

7. Install the cover retention bracket and thumbscrew.
8. Reattach the chassis cover if you have no other work to do within the chassis.

4 Installing the System

The SR2000 system comes with a rail kit that allows you to install it into a four-post, network server cabinet (e.g. APC Netshelter). If the cabinet is not of this general type, you will have to purchase a separate rail kit that is specific to your cabinet.

Follow these steps to install the rail kit and place your system into the cabinet.

1. Assemble tools and miscellaneous parts. You will need a Phillips screwdriver and assorted lock washers and nuts.
2. Remove the inside piece (C in Figure 26) from both sides of the rail system.

   To remove an inside piece of the rail system, slide the part as far out as you can. This action reveals a brass colored finger tab (D) that when depressed allows you to completely separate the inside rail piece from the outer (A) and middle (B) rail pieces.

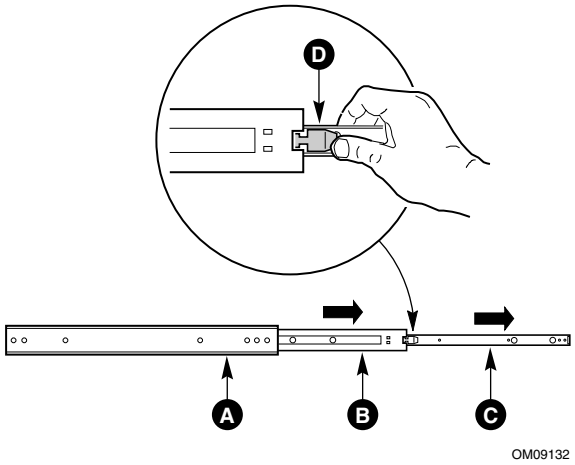

Figure 26. Chassis Rail System

3. Align each inside rail (A in Figure 27) to a side of the chassis.

   Be sure that the flat end of the inside rail is toward the front of the chassis and that the brass colored finger tab (D) is facing outward. With the holes in the chassis (C) aligned with the holes in the rail, fasten the rail using the smallest screws (B) supplied with the rail kit.

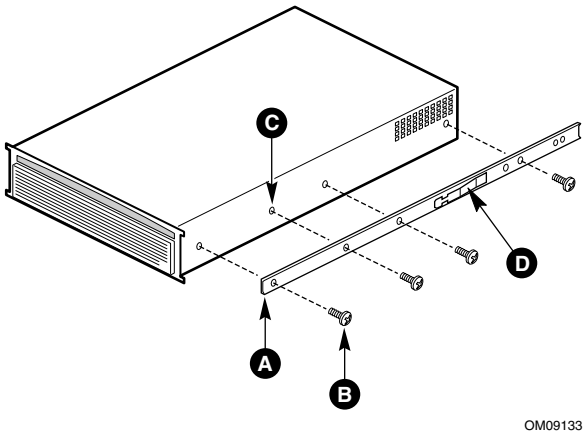

Figure 27. Aligning Rail to Chassis

4. Here is a combination side and rear view (see Figure 28) of the chassis after the right inside rail has been attached.

Figure 28. Chassis Rear and Side View

5. Locate the front and rear rail brackets for one side of the rail kit. One pair (A and B in Figure 29) exists for each side of the cabinet rack.

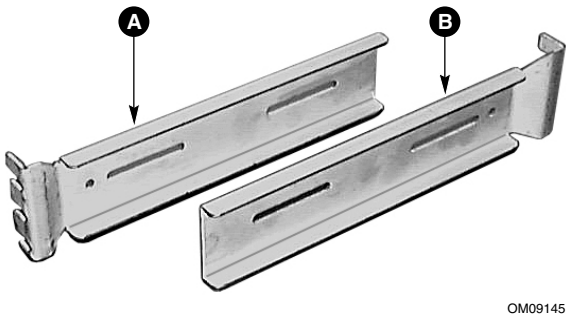

Figure 29. Rail Brackets

6. Attach all four rail brackets to the cabinet rack. Be sure that the sharper angled side of each bracket is facing up.

   To attach a rail bracket, use two flat-head mounting screws (A), supplied with the kit, to secure the bracket to the inside of the cabinet rack. Fasten the screws by aligning the nutbar behind the bracket. Be sure that the nutbar is positioned such that the isolated hole (C) is upright. Tighten the screws (A) through the nutbar holes (B). Figure 30 shows how to align all pieces. Each bracket is attached similarly.

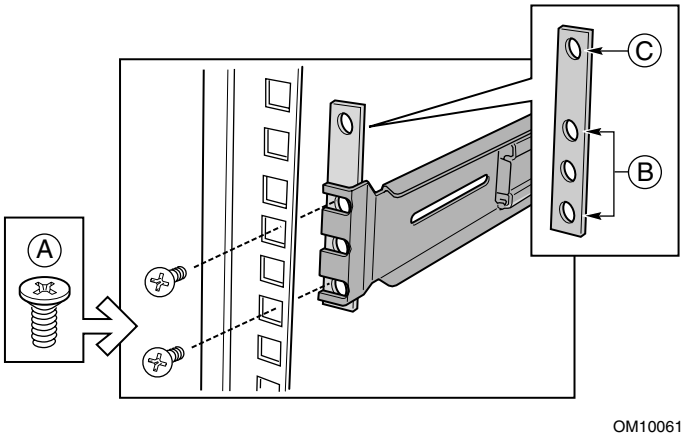

Figure 30. Attaching Rail Brackets to the Cabinet Rack

7. Attach the side rail system's outer pieces (total of two) to the rail brackets you installed in step six.

   To attach the front part of an outer piece to a rail bracket, you must reveal the access hole (A in Figure 31) by sliding the innermost piece toward the back. Once you see the access hole, align it with the hole in the rail bracket (B) such that you can secure the bolt. Insert the screw through the rail and the front hole in the bracket. Then put the nut on the backside of the rail bracket.

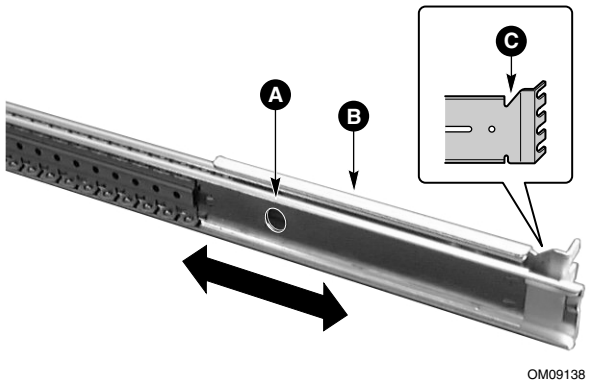

Figure 31. Attaching Outer Pieces to the Rail Brackets

8. To attach the rear part of the rail system to the rear rail bracket (A in Figure 32), slide the rail system within the rail brackets such that you can place a bolt through the rail's hole (B) and into the rail bracket's slot. Tighten the bolt and nut.

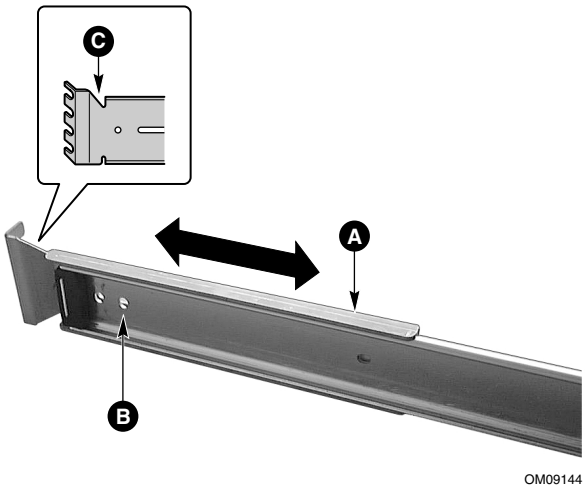

Figure 32. Attaching the Rail System to the Rear Rail Bracket

NOTE

For a very deep cabinet, you might need to move the front screw used in the front bracket to one of the bracket slots. If you do use slots instead of holes in the brackets, be sure to use the same rail positions for both sides.

9. Extend the right and left rails (A in Figure 33) so they fully extend in front of the cabinet rack and slide the bearing insert (inside the rails) to the front of the rails. The rail system is now ready to receive the chassis.

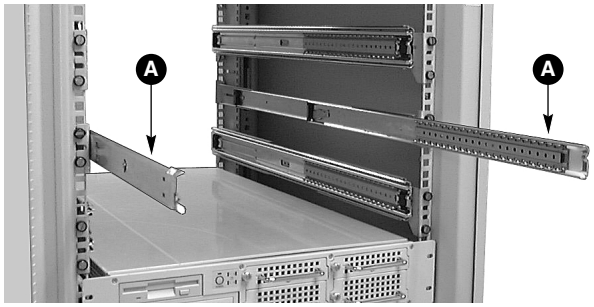

Figure 33. Extending the Rails

10. Lift the chassis with its front facing you and carefully guide the inner rail (A in Figure 34), which is mounted to the chassis system, into the outer pieces (B) you attached in previous steps.

    Gently move the system evenly towards the rear of the cabinet until it locks. Press the brass colored finger tabs located in the center of each inner side rail piece to slide the chassis all the way back. If you feel resistance as you slide the chassis, loosen the front mounting screws and retighten them to adjust for width.

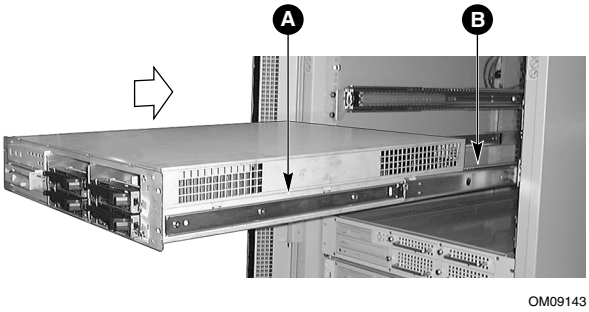

Figure 34. Guiding the Chassis into the Rack

11. With the chassis fully inserted into the cabinet rack, you can easily access both the front and rear of the system. Be sure to use the largest screws to secure the chassis into the cabinet to keep the chassis from sliding out. The photo in Figure 35 shows the system from the rear fully inserted into the cabinet.

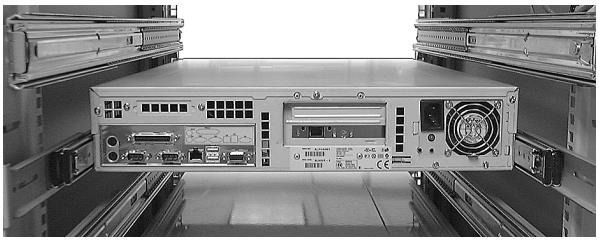

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Figure 35. Chassis Mounted into the Rack

5 Operating the System

The operation of the SR2000 involves the use of the front panel and the bezel that covers and secures it from unwanted access.

Opening and Closing the Bezel

With the bezel open you have access to all of your system's front panel functions and indicators. With the bezel closed you can protect critical functions and still view the system's indicators.

To open the bezel, do the following:

1. Stand in front of the chassis and grasp the edges of the bezel from each side.
2. Gently pull the bezel towards you until it begins to separate from the chassis (see Figure 36).
3. As the bezel separates from the chassis, allow it to swing to its open position situated below the chassis.

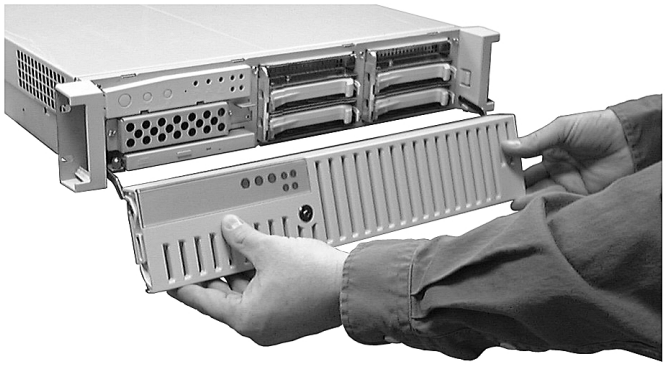

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Figure 36. Opening the Bezel

To close the bezel, gently raise it upwards. The hinging mechanism will guide the bezel into the correct position where it will snap shut.

Locking and Unlocking the Bezel

The bezel can be locked and unlocked to prevent unwanted access to the system.

To lock the bezel:

1. Remove the keys from inside the bezel (they should be taped to the inside).
2. Close the bezel and insert the key into the lock. Turn the lock counterclockwise until it stops (about a quarter turn). The bezel is now locked and cannot be opened.

To unlock the bezel, insert the key into the lock and turn the lock clockwise until it stops (about a quarter turn). The bezel is now unlocked and can be opened again.

Using the Front Panel Controls and Indicators

The front panel allows you to control and determine the status of the system. Figure 37 presents the controls and indicators for the unit.

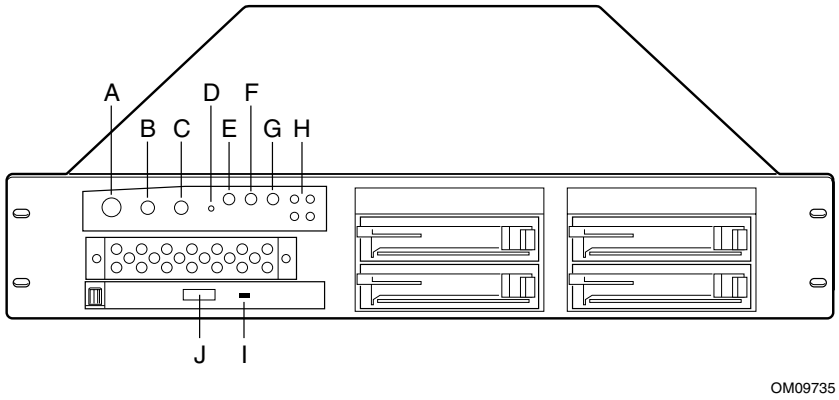

Figure 37. Front Panel Controls and Indicators

A. Power button
B. Sleep button
C. Reset button
D. NMI button
E. Power LED
F. NIC activity LED
G. Fail LED
H. Disk activity/fail LEDs
I. CD-ROM activity LED
J. CD-ROM eject button

The control panel buttons provide the following function:

Power button	Powers the system up and down.
Sleep button	Puts the system in idle mode and reduces the power consumption needed by the system.
Reset button	Reboots and initializes the system.
NMI button	Puts server in a halt state for diagnostic purposes. The button is recessed and allows you to issue a non-maskable interrupt. After issuing the interrupt, a memory dump can be performed to determine the cause of the problem.

The control panel LEDs report the following status:

Power LED	A green LED that, when lit, indicates that the system has power applied to it.
NIC activity LED	A green LED that, when lit, indicates activity between the system and the network to which it is connected.
Fail LED	A yellow LED that, when lit, indicates a system fault/failure has occurred.
Disk activity/fail LEDs	A bi-color LED that is either green or yellow. A green LED indicates disk activity is occurring and yellow LED indicates a disk failure occurred.

6 Maintaining the System

Should you have any problem with SR2000 components, you can order parts for the system and replace them. For information about these parts and how to order them, contact your Intel representative. The following procedures describe how to replace these components in your system.

Safety: Before You Remove the Cover

Before removing the system cover to work inside the system, observe these safety guidelines.

1. Turn off all peripheral devices connected to the system.
2. Turn off the system by pressing the power button on the front of the system. Then unplug the AC power cord from the system or wall outlet.
3. Label and disconnect all peripheral cables and all telecommunication lines connected to I/O connectors or ports on the back of the system.
4. Provide some electrostatic discharge (ESD) protection by wearing an anti-static wrist strap attached to chassis ground of the system—any unpainted metal surface—when handling components.

Bezel

Your system includes a hinged bezel that both protects the front panel and hides the system's hard drives. When you receive the system, the bezel is already attached to the system. If you need to replace the bezel, you must remove the existing bezel parts and replace them with bezel pieces you receive.

Removing the Bezel

To remove the existing bezel:

1. Be sure the bezel is in the lowered position. You can lower the bezel by facing the appliance and grasping the top and bottom of the bezel and gently moving it downward (see Figure 38).

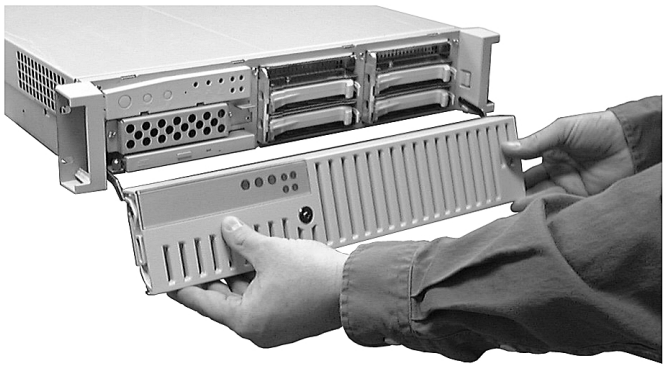

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Figure 38. Lowering the Bezel

2. Once the bezel is in the lowered position, place your hands to the right and left of the bezel (Figure 39) such that you can gently press each bezel hinge inward. Pressing the hinges inward removes the hinge pegs from the bezel mounts.

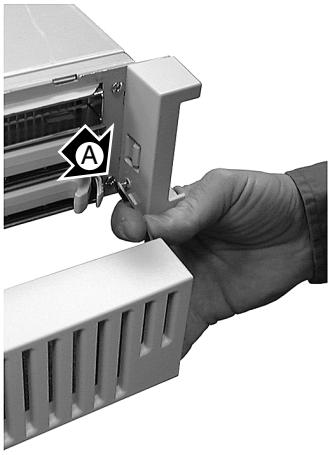

Figure 39. Removing Hinge Pegs from Bezel Mounts

3. Remove the right bezel mount with the fastening hole on the right side of the system's front panel (see Figure 40). Detach the mount from the panel by removing the two screws from the back of the bezel mount.
4. Remove the left bezel mount from the left side of the system in a manner similar to that described for the right bezel mount.

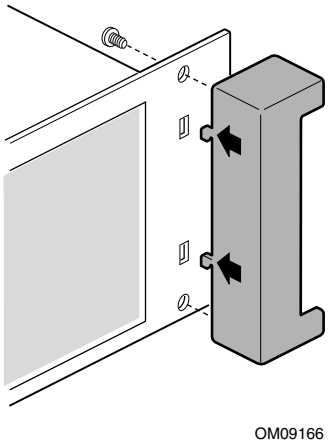

Figure 40. Removing the Bezel Mount

Attaching the Bezel

To install a new bezel:

1. Locate the two bezel mounts and the screws used to fasten them to the right and left sides of the front panel (see Figure 41).

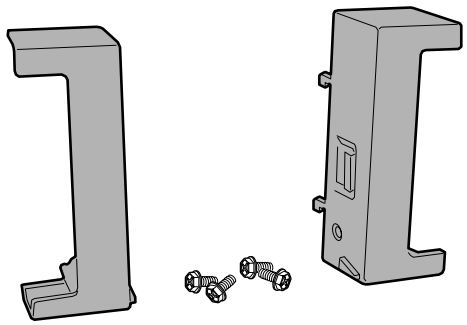

Figure 41. Bezel Mounting Hardware

2. Align the right bezel mount with the fastening hole on the right side of the system's front panel (see Figure 42). Fasten the mount to the panel by securing the two screws from the back of the bezel mount.

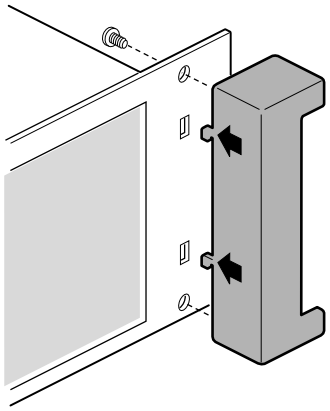

Figure 42. Attaching the Bezel Mount

3. Attach the left bezel mount to the left side of the system in a manner similar to that described for the right bezel mount.

4. Locate the bezel's left and right hinges (A in Figure 43) and extend them away from the bezel.

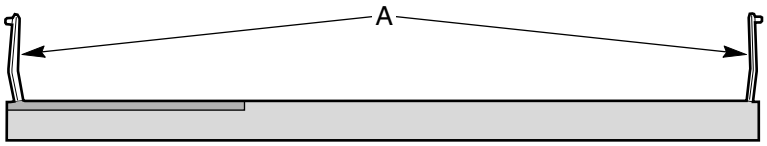

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Figure 43. Extending the Bezel Hinges

5. Align the round pegs at the ends of the hinges with their respective holes in each bezel mount (A in Figure 44). Press inward on each hinge slightly to allow you to seat the pegs in the holes.

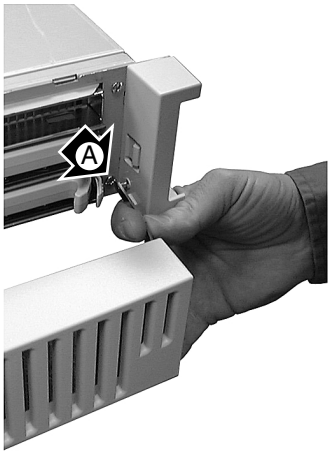

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Figure 44. Attaching the Bezel

Front Panel Board

To replace the front panel board:

1. Observe the safety precautions at the beginning of this chapter.
2. Remove the cover from the chassis.
3. Unplug the server board cable (C) from the front panel board (see Figure 45).

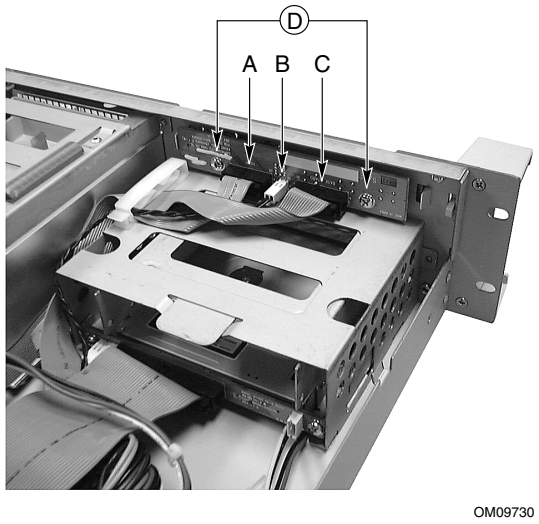


Figure 45. Replacing the Front Panel Board

4. Unplug the cable (A) to the hot-swappable backplane.
5. Unplug the sleep cable (B).
6. Remove and save the two mounting screws (D) from the board.
7. Attach the new board to the chassis using the two screws removed earlier.
8. Plug the server board and hot-swappable cables back into the front panel board.
9. Replace the chassis cover if you have no additional work to do inside the chassis.

Hot-Swap Backplane

The hot swap hard drive assembly has a replaceable backplane board. To replace the backplane:

1. Observe the safety precautions at the beginning of this chapter.
2. Remove the disk drives from the hot swap drive bay.
3. Remove the cover from the chassis.
4. Locate the backplane board (A in Figure 46) and the cables connected to it.

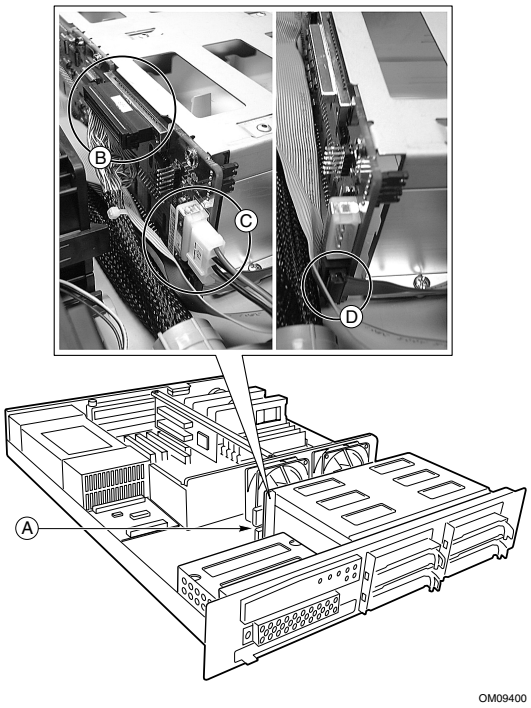


Figure 46. Uncabling the Hot Swap Backplane

A. SCSI backplane
B. SCSI data cable
C. Power connector
D. Front panel connector

5. Uncable the SCSI data cable (B) that connects the backplane to the server board. Lay the connector end away from the assembly.
6. Uncable the power connector (C) that connects the backplane to the power supply board. Lay the connector end away from the assembly.
7. Uncable the data cable (D) that connects the backplane to the front panel. Lay the connector end away from the assembly.

8. Remove and save the four interior screws (A in Figure 47) that hold the bay assembly to the bottom of the chassis.

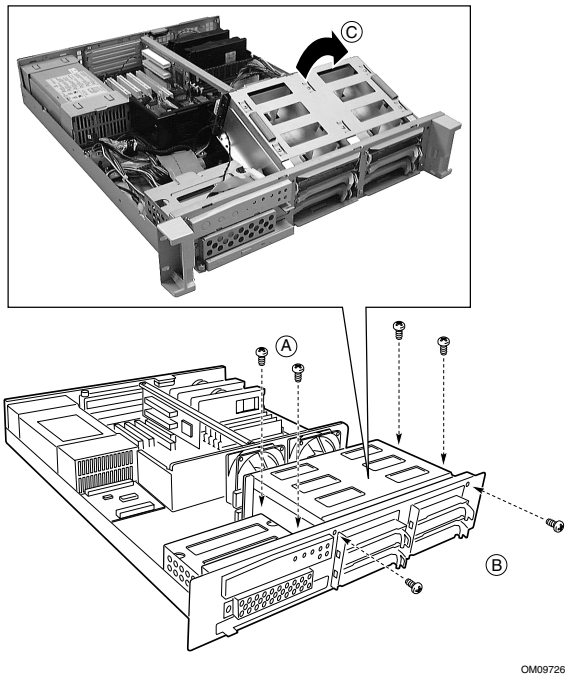


Figure 47. Removing the Hot Swap Bay

9. Remove and save the two exterior screws (B) that hold the bay assembly to the front of the chassis.
10. Slide the chassis out of the tabs on the bottom of the chassis and tilt the backplane side of the assembly up and toward the front of the chassis (C).
11. Pull the assembly out and clear of the chassis and set the front of bay assembly on a flat working surface.

12. Remove and save the six mounting screws (A in Figure 48) that hold the backplane to the bay assembly.

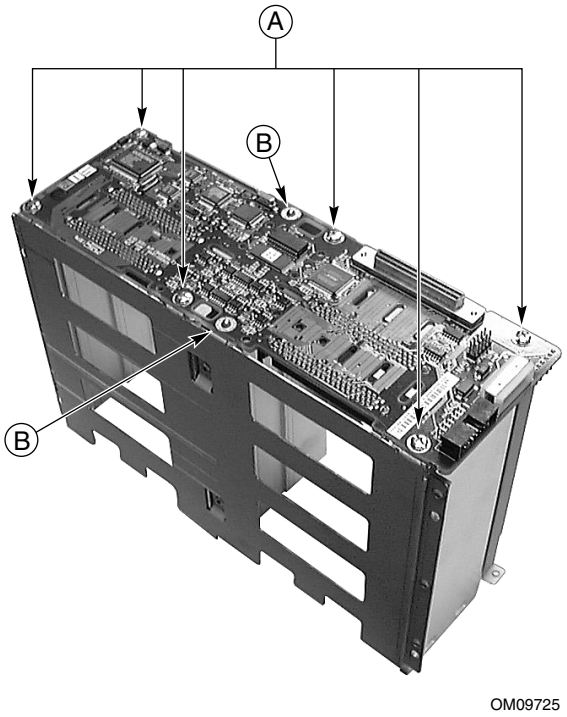


Figure 48. Removing the Hot Swap Backplane

13. Remove the backplane from the assembly and place it in an anti-static bag.
14. Remove the new backplane from its packaging.
15. Orient the new board on the assembly bay such that the locating pins on the assembly (B) pass through the board.
16. Attach the board to the bay assembly using the six screws that you removed earlier.
17. Position the assembly bay back into the chassis.

18. Insert the front of chassis first (A in Figure 49) and then lower the backplane end.

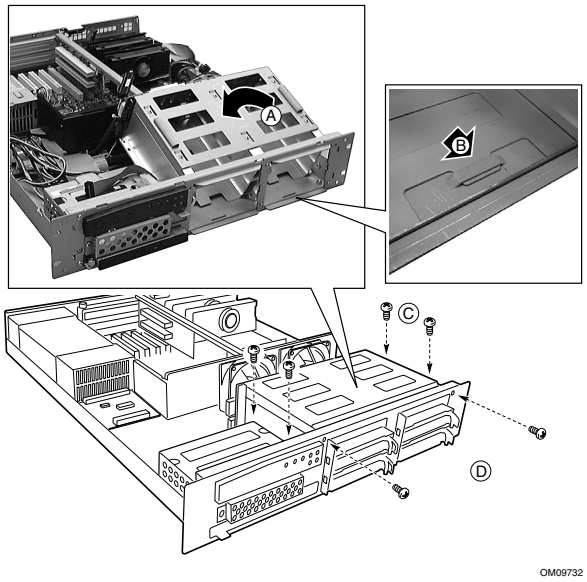


Figure 49. Reinstalling the Hot Swap Bay

19. Slide the assembly into the tab located on the bottom front of the chassis (B).
20. Insert the interior and exterior screws that you removed earlier to reattach the assembly bay to the chassis.
21. Replace the chassis cover if you have no additional work to do inside the chassis.

Fans

Both fans in the fan assembly can be replaced. To replace a fan:

1. Observe the safety precautions at the beginning of this chapter.
2. Remove the cover from the chassis.
3. Unplug the two fan cables from the server board. The cable for fan1 goes to connector J1J1, while the cable for fan 2 goes to J6G1. For location of those connectors, see Figure 11.

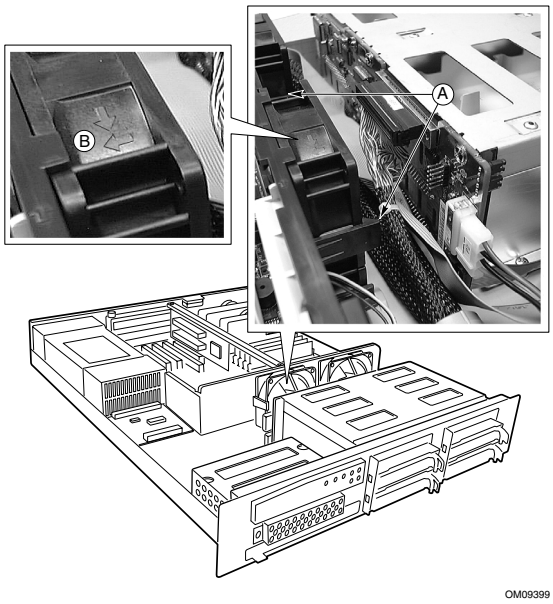


Figure 50. Replacing a Fan

4. Press the tabs (A) on both sides of the fan and lift it out of the fan assembly.
5. Insert the new fan into the fan assembly making sure that the flow and rotation arrows on the fan point as shown in the figure (B).
6. Plug the fan cables back into the connectors on the server board.
7. Replace the chassis cover if you have no additional work to do inside the chassis.

CD-ROM

To replace the CD-ROM drive you must remove the existing drive and install the new one.

Removing the CD-ROM Drive

To remove the CD-ROM drive from the chassis:

1. If there is a drive in the 3.5-inch drive bay, remove it to have better access to the CD-ROM drive.
2. Remove the three screws holding the drive to the chassis (C and D in Figure 51).
3. Disconnect the signal (A) and power (B) cables from the drive.
4. Slide the drive tray out of the front of the chassis.

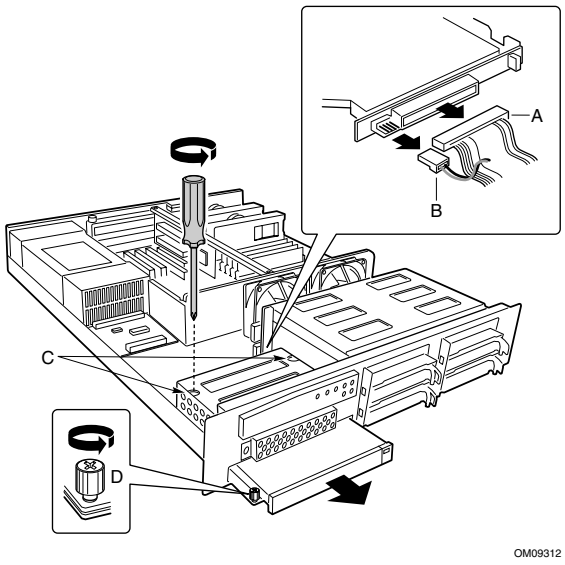


Figure 51. Removing the CD-ROM Drive

A. Signal cable
B. Power cable
C. Screws
D. Retention screw

5. Remove the CD-ROM from the CD-ROM tray (see Figure 52) and save the screws.
6. Place the drive in an anti-static protective wrapper if you are not reinstalling the same drive.

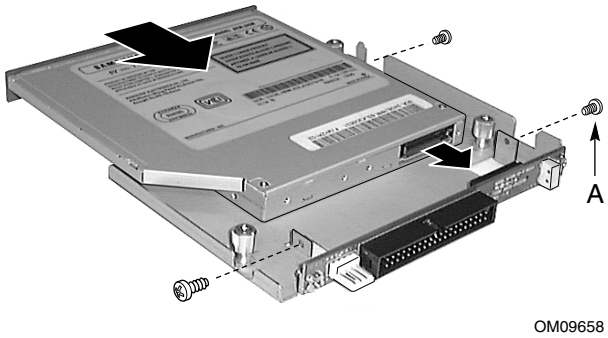


Figure 52. Removing a CD-ROM Drive from the CD-ROM Tray

A. Mounting screws

Installing a CD-ROM Drive

To replace the CD-ROM drive:

1. Remove the drive from its protective wrapper, and place it on an anti-static surface.
2. Set any jumpers and/or switches on the drive according to the drive manufacturer's instructions.
3. Attach the CD-ROM drive to the CD-ROM tray using the mounting screws (A in Figure 52) supplied with the system.
4. Remove the screws that hold the filler panel to the front of the chassis and slide out the panel.

5. Slide the slimline CD-ROM tray into the CD-ROM bay (see Figure 53).

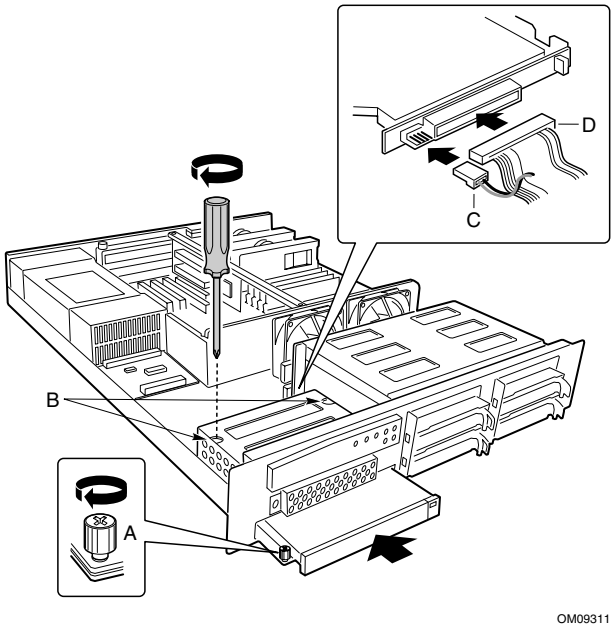


Figure 53. Installing a CD-ROM Drive

A.	Retention screw	C.	Data cable
B.	Screws	D.	Signal cable

6. Connect the CD-ROM IDE cable and power cables (A and B in Figure 53) to the connector at the back of the CD tray.
7. Insert the recessed retention screws (B in Figure 53) through the access holes in the top of the drive bay housing.
8. Insert the retention screw (A in Figure 53) on the front of the chassis.
9. If you removed a drive from the 3.5-inch drive bay to replace the CD-ROM drive, re-install it.

Server Board

The following procedures describe how to replace the server board or one of its processors or memory cards.

Replacing the Server Board

To replace the server board:

1. Observe the safety precautions at the beginning of this chapter.
2. Remove the cover from the chassis.
3. Remove any PCI cards from the riser card.
4. Remove the two mounting screws holding the riser card to the chassis and lift the card out of its server board connector.
5. Disconnect all cables from the server board and set their ends aside and away from the server board.
6. Remove the mounting screws that secure the fan assembly to the chassis.
7. Gently lift the fan assembly up and lay it on the hot swap bay assembly.
8. Remove any processors and memory cards that you wish to use with the new board.
9. Remove the mounting screws that secure the server board to the chassis.
10. Place the server board in an anti-static bag.
11. Remove the new server board from its previous package.
12. Mount the new server board to the chassis as described in the procedure on page 26.
13. Re-cable the new server board to the chassis as described in the procedure on page 31.
14. Re-install the processors and memory cards into the new server board by following the procedures on page 33 and 38.
15. Re-install any add-in cards to the riser card by following the procedure on page 46.
16. Replace the chassis cover if you have no additional work to do inside the chassis.

Replacing a Processor

To replace a processor:

1. Observe the safety precautions at the beginning of this chapter.
2. Remove the cover from the chassis.
3. Unplug the 3-prong fan power cable from the connector on the server board.
4. Unlock the latches on the retention module and slide the processor out of the connector.
5. Remove the existing processor and place it into an anti-static package.
6. Install the replacement processor by following the steps on page 33.
7. Repeat steps 1 through 6 to replace the other processor if necessary.
8. Replace the chassis cover if you have no additional work to do inside the chassis.

Replacing Memory Cards

To replace a DIMM card:

1. Observe the safety precautions at the beginning of this chapter.
2. Remove the cover from the chassis.
3. Open the plastic ejector levers on the socket ends.
4. Holding the DIMM card you want to replace only by its edges, remove it from the keyed socket.
5. Place the DIMM card in an anti-static bag.
6. Perform the memory card installation procedure on page 38 to install the new DIMM.
7. Repeat steps 1 through 6 to replace any additional DIMM cards.
8. Replace the chassis cover if you have no additional work to do inside the chassis.

Replacing the Backup Battery

The lithium battery on the server board powers the real time clock (RTC) for up to 10 years in the absence of power. When the battery starts to weaken, it loses voltage, and the server settings stored in CMOS RAM in the RTC (for example, the date and time) may be wrong. Contact your customer service representative or dealer for a list of approved devices.

⚠ CAUTION

Refer to technically qualified persons only for replacement of battery.

The following warning is provided on the server board configuration label, which is provided with the Intel server board boxed product. There is insufficient space on the server board to place this label. Therefore, the label must be placed permanently on the inside of the chassis, as close to the battery as possible.

⚠ WARNING

Danger of explosion if battery is incorrectly replaced. Replace with only the same or equivalent type recommended by the manufacturer. Dispose of used batteries according to the manufacturer's instructions.

⚠ ADVARSEL!

Lithiumbatteri - Eksplosionsfare ved fejlagtig håndtering. Udskiftning må kun ske med batteri af samme fabrikat og type. Levér det brugte batteri tilbage til leverandøren.

⚠ ADVARSEL!

Lithiumbatteri - Eksplosjonsfare. Ved utskifting benyttes kun batteri som anbefalt av apparatfabrikanten. Brukt batteri returneres apparatleverandøren.

VARNING

Explosionsfara vid felaktigt batteribyte. Använd samma batterityp eller en ekvivalent typ som rekommenderas av apparattillverkaren. Kassera använt batteri enligt fabrikantens instruktion.

VAROITUS

Paristo voi räjähtää, jos se on virheellisesti asennettu. Vaihda paristo ainoastaan laitevalmistajan suosittelemaan tyyppiin. Hävitä käytetty paristo valmistajan ohjeiden mukaisesti.

To replace the lithium battery:

1. Observe the safety precautions at the beginning of this chapter.
2. Remove the cover from the chassis.
3. Locate the battery on the server board (see Figure 54) and insert the tip of a small flat bladed screwdriver, or equivalent, under the tab in the plastic retainer.

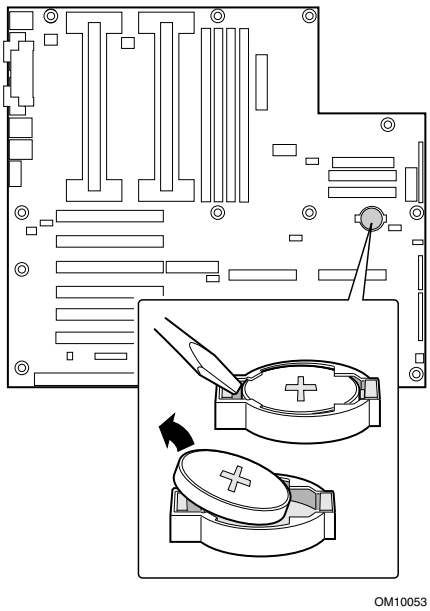


Figure 54. Replacing the Server Board Battery

4. Gently push down on the screwdriver to lift the battery.
5. Remove the battery from its socket.
6. Dispose of the battery according to local ordinance.
7. Remove the new lithium battery from its package, and, being careful to observe the correct polarity, insert it in the battery socket.
8. Reinstall the plastic retainer on the lithium battery socket.
9. Replace the chassis cover if you have no additional work to do inside the chassis.
10. Run the SSU to restore the configuration settings to the RTC.

Power Supply

The system has two power supply components that can be replaced, the power supply itself and the power distribution board.

Replacing the Power Supply

To replace the power supply:

1. Unplug the power cord from the power source and from the power cord receptacle (A in Figure 55) at the right rear side of the system.

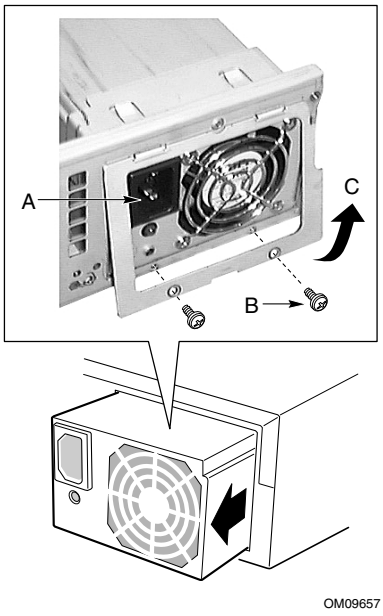


Figure 55. Replacing the Power Supply

A. Power cord receptacle
B. Screws
C. Cover

2. Remove the top cover of the system. Refer to “Removing the Cover” on page 25.
3. Remove and save the two screws (B) from the power supply cover (C).
4. Grasp the bottom edge of the power supply cover and lift it up and away from the power supply.
5. Grasp the sides of the power supply and slide it backwards, out of the chassis.

6. Slide the new power supply into the chassis and make sure it is seated in the chassis connector.
7. Close the power supply cover and re-insert the screws you set aside earlier.
8. Re-connect the power cord to the power cord receptacle and plug the cord back into its power source.

Replacing the Power Distribution Board

To replace the power distribution board:

1. Observe the safety precautions at the beginning of this chapter.
2. Remove the cover from the chassis.
3. Remove the power supply as described in the procedure on page 80.

4. Unplug the cables that connect to the power supply board (A in Figure 56).

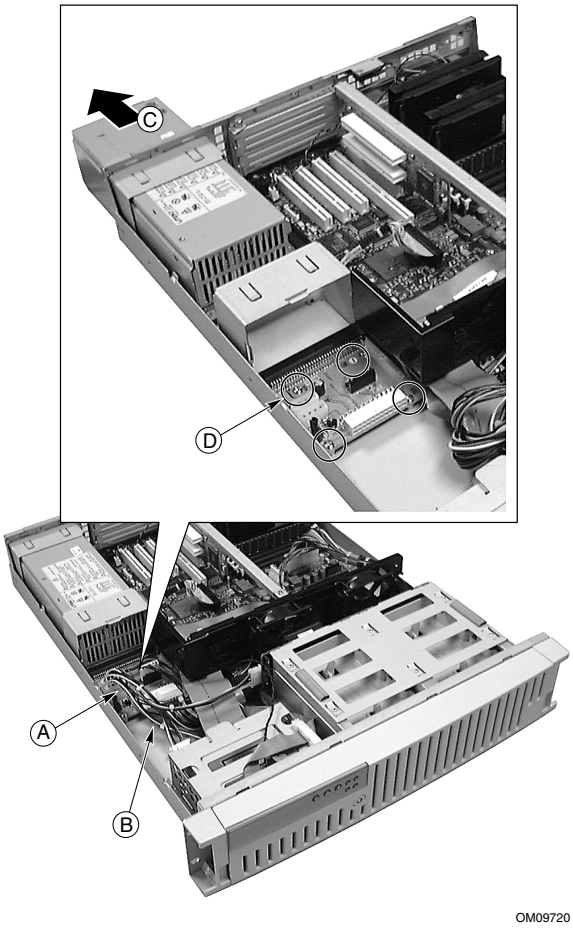


Figure 56. Removing the Power Supply Board

5. Remove and save the four screws that attach the board to the chassis.
6. Remove the existing board from the chassis and place it in an anti-static bag.
7. Place the new board in the chassis orienting it in the same manner as the previous board.
8. Insert the four, previously saved mounting screws to attach the board to the chassis.
9. Reconnect the power cables to the new board.
10. Reinstall the power supply into the chassis.
11. Replace the chassis cover if you have no additional work to do inside the chassis.

A Regulatory and Certification Information

WARNING

You must adhere to the assembly instructions in this guide to ensure and maintain compliance with existing product certifications and approvals. Use only the described, regulated components specified in this guide. Use of other products / components will void the UL Listing and other regulatory approvals of the product, and will most likely result in noncompliance with product regulations in the region(s) in which the product is sold.

Product Regulatory Compliance

The SR2000 chassis subassembly, when correctly assembled and integrated per this guide, complies with the following safety and electromagnetic compatibility (EMC) regulations.

Product Safety Compliance

- UL 1950 - CSA 950 (US/Canada)
- EN 60 950 (European Union)
- IEC60 950 (International)
- CE – Low Voltage Directive (73/23/EEC) (European Union)
- EMKO-TSE (74-SEC) 207/94 (Nordics)

Product EMC Compliance

- FCC (Class B) – Radiated & Conducted Emissions (USA)
- ICES-003 (Class B) – Radiated & Conducted Emissions (Canada)
- CISPR 22 (Class B) – Radiated & Conducted Emissions (International)
- EN55022 (Class B) – Radiated & Conducted Emissions (European Union)
- EN55024 (Immunity) (European Union)
- EN61000-3-2 & -3 (Power Harmonics & Fluctuation and Flicker)
- CE – EMC Directive (89/336/EEC) (European Union)
- VCCI (Class B) – Radiated & Conducted Emissions (Japan)
- AS/NZS 3548 (Class B) – Radiated & Conducted Emissions (Australia / New Zealand)
- RRL (Class B) (Korea)
- BSMI (Class A) (Taiwan)

Product Regulatory Compliance Markings

This product is provided with the following Product Certification Markings.

- UL / cUL Listing Mark
- CE Mark
- German GS Mark
- Russian GOST Mark
- FCC, Class B Markings (Declaration of Conformity)
- ICES-003 (Canada EMC Compliance Marking)
- VCCI, Class B Mark
- Australian C-Tick Mark
- Taiwan BSMI Class A Markings

Europe (CE Declaration of Conformity)

This chassis subassembly has been tested in accordance to, and complies with the Low Voltage Directive (73/23/EEC) and EMC Directive (89/336/EEC). The product has been marked with the CE Mark to illustrate its compliance.

Electromagnetic Compatibility Notices

FCC Declaration of Conformity

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 related to the EMC performance of this product, contact:

Intel Corporation
5200 N.E. Elam Young Parkway
Hillsboro, OR 97124
1-800-628-8686

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 the receiver.
- Connect the equipment to an outlet on a circuit other than the one to which the receiver is connected.
- Consult the dealer or an experienced radio/TV technician for help.

ICES-003 (Canada)

Cet appareil numérique respecte les limites bruits radioélectriques applicables aux appareils numériques de Classe B prescrites dans la norme sur le matériel brouilleur: “Appareils Numériques”, NMB-003 édictée par le Ministre Canadian des Communications.

(English translation of the notice above) This digital apparatus does not exceed the Class B limits for radio noise emissions from digital apparatus set out in the interference-causing equipment standard entitled “Digital Apparatus,” ICES-003 of the Canadian Department of Communications.

NOTE

If a Class A device is installed within this system, then the system is to be considered a Class A system. In this configuration, operation of this equipment in a residential area is likely to cause harmful interference.

VCCI (Japan)

この装置は、情報処理装置等電波障害自主規制協議会（ＶＣＣＩ）の基準に基づくクラスＢ情報技術装置です。この装置は、家庭環境で使用することを目的としていますが、この装置がラジオやテレビジョン受信機に近接して使用されると、受信障害を引き起こすことがあります。
取扱説明書に従って正しい取り扱いをして下さい。

(English translation of the notice above) This is a Class B product based on the standard of the Voluntary Control Council For Interference (VCCI) from Information Technology Equipment. If this is used near a radio or television receiver in a domestic environment, it may cause radio interference. Install and use the equipment according to the instruction manual.

When used near a radio or TV receiver, it may become the cause of radio interference.

Read the instructions for correct handling.

This equipment has been tested for radio frequency emissions and has been verified to meet CISPR 22 Class B.

BSMI (Taiwan)

The following BSMI Class A EMC Warning along with the BSMI ID number is located on the outside rear area of the product.

警告使用者：

這是甲類的資訊產品，在居住的環境中使用時，
可能會造成射頻干擾，在這種情況下，使用者會
被要求採取某些適當的對策。

Regulated Specified Components

To maintain the UL listing and compliance to other regulatory certifications and/or declarations, the following regulated components must be used, and conditions adhered to. Interchanging or use of other component will void the UL Listing and other product certifications and approvals.

Updated product information for configurations can be found on Intel's Server Builder Web-site at http://channel.intel.com/go/serverbuilder. If you do not have access to Intel's web address please contact your local Intel representative.

- **SR2000 chassis** (base chassis is provided with power supply and fans)—UL listed.
- **Server board**—you must use the Intel® L440GX+ Server Board – UL Recognized.
- **Add-in boards**—must have a printed wiring board flammability rating of minimum UL94V-1. Add-in boards containing external power connectors and/or lithium batteries must be UL Recognized or UL Listed. Any add-in board containing modem telecommunication circuitry must be UL Listed. In addition the modem must have the appropriate telecommunications, safety and EMC approvals for the region in which it is sold.

- **Peripheral storage devices**—must be UL recognized or UL listed accessory and TUV or VDE licensed. Maximum capacity for this chassis is 10 devices; maximum power rating of any one device is 19W. Total server configuration is not to exceed maximum loading conditions of power supply.
  - When using a UL Recognized Peripheral Storage Device, the plastic bezel must be made of a UL recognized plastic with flammability rating of UL94V-1.

Equipment Rack Precautions

⚠ WARNINGS

ANCHOR THE EQUIPMENT RACK: The equipment rack must be anchored to an unmovable support to prevent it from falling over when one or more servers are extended in front of it on slide assemblies. The anchors must be able to withstand a force of up to 113 kg (250 lbs). You must also consider the weight of any other device installed in the rack.

MAIN AC POWER DISCONNECT: You are responsible for installing an AC power disconnect for the entire rack unit. This main disconnect must be readily accessible, and it must be labeled as controlling power to the entire unit, not just to the server(s).

GROUNDING THE RACK INSTALLATION: To avoid the potential for an electrical shock hazard, you must include a third wire safety grounding conductor with the rack installation. If server power cords are plugged into AC outlets that are part of the rack, then you must provide proper grounding for the rack itself. If server power cords are plugged into wall AC outlets, the safety grounding conductor in each power cord provides proper grounding only for the server. You must provide additional, proper grounding for the rack and other devices installed in it.

Overcurrent protection: The server is designed for an AC line voltage source with up to 20 amperes of overcurrent protection. If the power system for the equipment rack is installed on a branch circuit with more than 20 amperes of protection, you must provide supplemental protection for the server. If more than one server is installed in the rack, the power source for each server must be from a separate branch circuit. The overall current rating of a server configured with three power supplies is under 12 amperes.

⚠ CAUTIONS

Temperature: The operating temperature of the server, when installed in an equipment rack, must not go below 5 °C (41 °F) or rise above 35 °C (95 °F). Extreme fluctuations in temperature can cause a variety of problems in your server.

Ventilation: The equipment rack must provide sufficient airflow to the front of the server to maintain proper cooling. It must also include ventilation sufficient to exhaust a maximum of 4,100 Btu's per hour for the server. The rack selected and the ventilation provided must be suitable to the environment in which the server will be used.

B Equipment Log and Worksheets

Equipment Log

Use the blank equipment log provided here to record information about your system. You will need some of this information when you run the SSU.

Item	Manufacturer Name and Model Number	Serial Number	Date Installed
Chassis			
Server board			
Processor speed and cache			
Video display			
Video Controller			
Keyboard			
Mouse			
3.5” drive			
CD-ROM drive			
Hard disk drive 1			
Hard disk drive 2			
Hard disk drive 3			
Hard disk drive 4			

continued

Equipment Log (continued)

Item	Manufacturer Name and Model Number	Serial Number	Date Installed

Current Usage

Calculating Power Usage

The total combined wattage for your configuration **must be less than 275 watts**, with any combination of loads not to exceed maximum currents on any one channel as defined in Table 1. Use the two worksheets in this section to calculate the total used by your configuration. For current and voltage requirements of add-in boards and peripherals, see your vendor documents.

Worksheet, Calculating DC Power Usage

1. List the current for each board and device in the appropriate voltage level column.
2. Add the currents in each column. Then go to the next worksheet.

Table 1. Power Usage Worksheet 1

	Current (maximum) at voltage level:					
Device	**+5Vsb**	**+3.3 V**	**+5 V**	**–5 V**	**+12 V**	**–12 V**
Boards, processors, and memory (get totals from your board manual)						
SCSI backplane						
Front panel board						
3.5-inch drive						
CD-ROM drive			0.4 A		1.0 A	
1st hot-swap hard drive						
2nd hot-swap hard drive						
3rd hot-swap hard drive						
4th hot-swap hard drive						
Cooling fan 2, 80 mm					0.4 A	
Total Current						
Maximum Ratings (for comparison)	2.0 A	14.0 A	20.0 A	0.2 A	14.0 A	0.2 A

Worksheet, Total Combined Power Used by the System

1. From the previous worksheet, enter the total current for each column.
2. Multiply the voltage by the total current to get the total wattage for each voltage level.
3. Add the total wattage for each voltage level to arrive at a total combined power usage on the power supply.

Table 2. Power Usage Worksheet 2

Voltage level and total current (V X A = W)	Total Watts for each voltage level
(+5 Vsb) X (_____ A)	_____ W
(+3.3 V) X (_____ A)	_____ W
(+5 V) X (_____ A)	_____ W
(–5 V) X (_____ A)	_____ W
(+12 V) X (_____ A)	_____ W
(–12 V) X (_____ A)	_____ W
Total Combined Wattage	_____ **W**

CAUTION

Do not overload: as an overall current usage limitation on the power supply, do not exceed a combined power output of 275 watts for all DC outputs.

C Safety Warnings

WARNING: English (US)

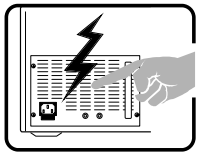
AVERTISSEMENT: Français

WARNUNG: Deutsch

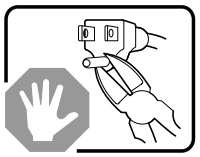
AVVERTENZA: Italiano

ADVERTENCIAS: Español

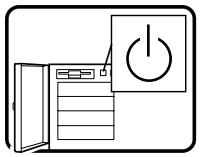
WARNING: English (US)



The power supply in this product contains no user-serviceable parts. There may be more than one supply in this product. Refer servicing only to qualified personnel.

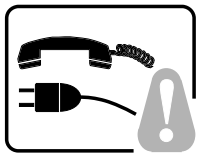


Do not attempt to modify or use the supplied AC power cord if it is not the exact type required. A product with more than one power supply will have a separate AC power cord for each supply.



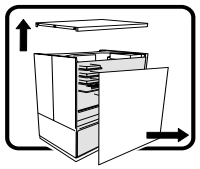
The power button on the system does not turn off system AC power. To remove AC power from the system, you must unplug each AC power cord from the wall outlet or power supply.

The power cord(s) is considered the disconnect device to the mains (AC) power. The socket outlet that the system plugs into shall be installed near the equipment and shall be easily accessible.



SAFETY STEPS: Whenever you remove the chassis covers to access the inside of the system, follow these steps:

1. Turn off all peripheral devices connected to the system.
2. Turn off the system by pressing the power button.
3. Unplug all AC power cords from the system or from wall outlets.
4. Label and disconnect all cables connected to I/O connectors or ports on the back of the system.
5. Provide some electrostatic discharge (ESD) protection by wearing an antistatic wrist strap attached to chassis ground of the system—any unpainted metal surface—when handling components.
6. Do not operate the system with the chassis covers removed.

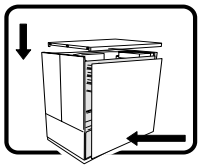


After you have completed the six SAFETY steps above, you can remove the system covers. To do this:

1. Unlock and remove the padlock from the back of the system if a padlock has been installed.
2. Remove and save all screws from the covers.
3. Remove the covers.

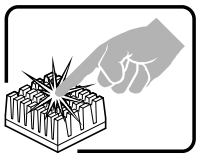
continued

WARNING: English (continued)

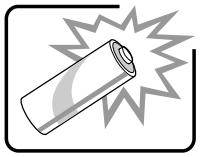


For proper cooling and airflow, always reinstall the chassis covers before turning on the system. Operating the system without the covers in place can damage system parts. To install the covers:

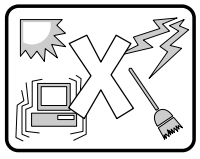
1. Check first to make sure you have not left loose tools or parts inside the system.
2. Check that cables, add-in boards, and other components are properly installed.
3. Attach the covers to the chassis with the screws removed earlier, and tighten them firmly.
4. Insert and lock the padlock to the system to prevent unauthorized access inside the system.
5. Connect all external cables and the AC power cord(s) to the system.



A microprocessor and heat sink may be hot if the system has been running. Also, there may be sharp pins and edges on some board and chassis parts. Contact should be made with care. Consider wearing protective gloves.



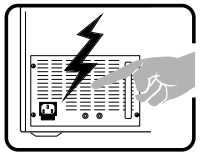
Danger of explosion if the battery is incorrectly replaced. Replace only with the same or equivalent type recommended by the equipment manufacturer. Dispose of used batteries according to manufacturer's instructions.



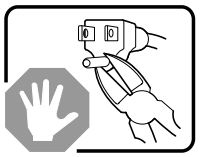
The system is designed to operate in a typical office environment. Choose a site that is:

- Clean and free of airborne particles (other than normal room dust).
- Well ventilated and away from sources of heat including direct sunlight.
- Away from sources of vibration or physical shock.
- Isolated from strong electromagnetic fields produced by electrical devices.
- In regions that are susceptible to electrical storms, we recommend you plug your system into a surge suppresser and disconnect telecommunication lines to your modem during an electrical storm.
- Provided with a properly grounded wall outlet.
- Provided with sufficient space to access the power supply cords, because they serve as the product's main power disconnect.

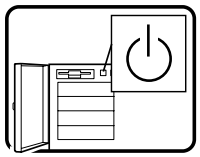
AVERTISSEMENT: Français



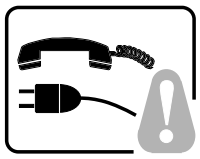
Le bloc d'alimentation de ce produit ne contient aucune pièce pouvant être réparée par l'utilisateur. Ce produit peut contenir plus d'un bloc d'alimentation. Veuillez contacter un technicien qualifié en cas de problème.



Ne pas essayer d'utiliser ni modifier le câble d'alimentation CA fourni, s'il ne correspond pas exactement au type requis. Le nombre de câbles d'alimentation CA fournis correspond au nombre de blocs d'alimentation du produit.

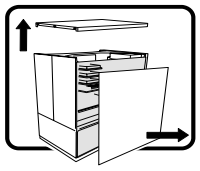


Notez que le commutateur CC de mise sous tension /hors tension du panneau avant n'éteint pas l'alimentation CA du système. Pour mettre le système hors tension, vous devez débrancher chaque câble d'alimentation de sa prise.



CONSIGNES DE SÉCURITÉ - Lorsque vous ouvrez le boîtier pour accéder à l'intérieur du système, suivez les consignes suivantes :

1. Mettez hors tension tous les périphériques connectés au système.
2. Mettez le système hors tension en mettant l'interrupteur général en position OFF (bouton-poussoir).
3. Débranchez tous les cordons d'alimentation c.a. du système et des prises murales.
4. Identifiez et débranchez tous les câbles reliés aux connecteurs d'E-S ou aux accès derrière le système.
5. Pour prévenir les décharges électrostatiques lorsque vous touchez aux composants, portez une bande antistatique pour poignet et reliez-la à la masse du système (toute surface métallique non peinte du boîtier).
6. Ne faites pas fonctionner le système tandis que le boîtier est ouvert.

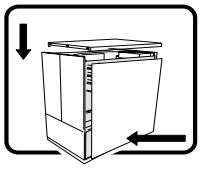


Une fois TOUTES les étapes précédentes accomplies, vous pouvez retirer les panneaux du système. Procédez comme suit :

1. Si un cadenas a été installé sur à l'arrière du système, déverrouillez-le et retirez-le.
2. Retirez toutes les vis des panneaux et mettez-les dans un endroit sûr.
3. Retirez les panneaux.

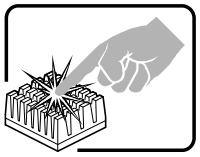
suite

AVERTISSEMENT: Français (suite)

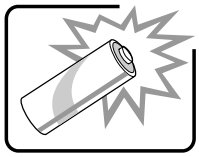


Afin de permettre le refroidissement et l'aération du système, réinstallez toujours les panneaux du boîtier avant de mettre le système sous tension. Le fonctionnement du système en l'absence des panneaux risque d'endommager ses pièces. Pour installer les panneaux, procédez comme suit :

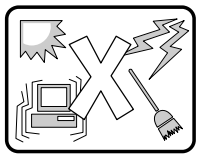
1. Assurez-vous de ne pas avoir oublié d'outils ou de pièces démontées dans le système.
2. Assurez-vous que les câbles, les cartes d'extension et les autres composants sont bien installés.
3. Revissez solidement les panneaux du boîtier avec les vis retirées plus tôt.
4. Remettez le cadenas en place et verrouillez-le afin de prévenir tout accès non autorisé à l'intérieur du système.
5. Rebranchez tous les cordons d'alimentation c. a. et câbles externes au système.



Le microprocesseur et le dissipateur de chaleur peuvent être chauds si le système a été sous tension. Faites également attention aux broches aiguës des cartes et aux bords tranchants du capot. Nous vous recommandons l'usage de gants de protection.



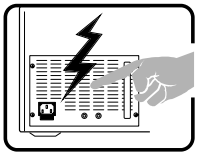
Danger d'explosion si la batterie n'est pas remontée correctement. Remplacer uniquement avec une batterie du même type ou d'un type équivalent recommandé par le fabricant. Disposez des piles usées selon les instructions du fabricant.



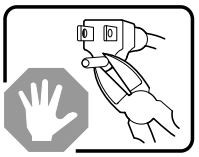
Le système a été conçu pour fonctionner dans un cadre de travail normal. L'emplacement choisi doit être :

- Propre et dépourvu de poussière en suspension (sauf la poussière normale).
- Bien aéré et loin des sources de chaleur, y compris du soleil direct.
- A l'abri des chocs et des sources de vibrations.
- Isolé de forts champs électromagnétiques géenérés par des appareils électriques.
- Dans les régions sujettes aux orages magnétiques il est recomandé de brancher votre système à un supresseur de surtension, et de débrancher toutes les lignes de télécommunications de votre modem durant un orage.
- Muni d'une prise murale correctement mise à la terre.
- Suffisamment spacieux pour vous permettre d'accéder aux câbles d'alimentation (ceux-ci étant le seul moyen de mettre le système hors tension).

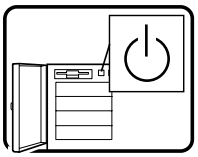
WARNUNG: Deutsch



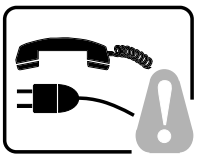
Benutzer können am Netzgerät dieses Produkts keine Reparaturen vornehmen. Das Produkt enthält möglicherweise mehrere Netzgeräte. Wartungsarbeiten müssen von qualifizierten Technikern ausgeführt werden.



Versuchen Sie nicht, das mitgelieferte Netzkabel zu ändern oder zu verwenden, wenn es sich nicht genau um den erforderlichen Typ handelt. Ein Produkt mit mehreren Netzgeräten hat für jedes Netzgerät ein eigenes Netzkabel.

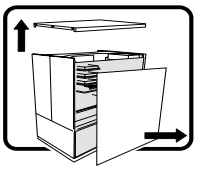


Der Wechselstrom des Systems wird durch den Ein-/Aus-Schalter für Gleichstrom nicht ausgeschaltet. Ziehen Sie jedes Wechselstrom-Netzkabel aus der Steckdose bzw. dem Netzgerät, um den Stromanschluß des Systems zu unterbrechen.



SICHERHEISMASSNAHMEN: Immer wenn Sie die Gehäuseabdeckung abnehmen um an das Systeminnere zu gelangen, sollten Sie folgende Schritte beachten:

1. Schalten Sie alle an Ihr System angeschlossenen Peripheriegeräte aus.
2. Schalten Sie das System mit dem Hauptschalter aus.
3. Ziehen Sie den Stromanschlußstecker Ihres Systems aus der Steckdose.
4. Auf der Rückseite des Systems beschriften und ziehen Sie alle Anschlußkabel von den I/O Anschlüssen oder Ports ab.
5. Tragen Sie ein geerdetes Antistatik Gelenkband, um elektrostatische Ladungen (ESD) über blanke Metallstellen bei der Handhabung der Komponenten zu vermeiden.
6. Schalten Sie das System niemals ohne ordnungsgemäß montiertes Gehäuse ein.

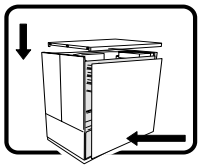


Nachdem Sie die oben erwähnten ersten sechs SICHERHEITSSCHRITTE durchgeführt haben, können Sie die Abdeckung abnehmen, indem Sie:

1. Öffnen und entfernen Sie die Verschlußeinrichtung (Padlock) auf der Rückseite des Systems, falls eine Verschlußeinrichtung installiert ist.
2. Entfernen Sie alle Schrauben der Gehäuseabdeckung.
3. Nehmen Sie die Abdeckung ab.

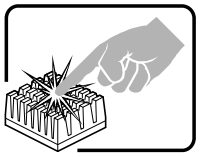
Fortsetzung

WARNUNG: Deutsch (Fortsetzung)

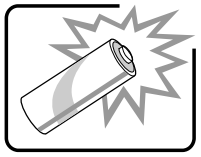


Zur ordnungsgemäßen Kühlung und Lüftung muß die Gehäuseabdeckung immer wieder vor dem Einschalten installiert werden. Ein Betrieb des Systems ohne angebrachte Abdeckung kann Ihrem System oder Teile darin beschädigen. Um die Abdeckung wieder anzubringen:

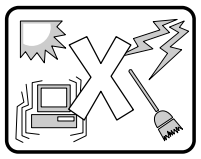
1. Vergewissern Sie sich, daß Sie keine Werkzeuge oder Teile im Innern des Systems zurückgelassen haben.
2. Überprüfen Sie alle Kabel, Zusatzkarten und andere Komponenten auf ordnungsgemäßen Sitz und Installation.
3. Bringen Sie die Abdeckungen wieder am Gehäuse an, indem Sie die zuvor gelösten Schrauben wieder anbringen. Ziehen Sie diese gut an.
4. Bringen Sie die Verschlußeinrichtung (Padlock) wieder an und schließen Sie diese, um ein unerlaubtes Öffnen des Systems zu verhindern.
5. Schließen Sie alle externen Kabel und den AC Stromanschlußstecker Ihres Systems wieder an.



Der Mikroprozessor und der Kühler sind möglicherweise erhitzt, wenn das System in Betrieb ist. Außerdem können einige Platinen und Gehäuseteile scharfe Spitzen und Kanten aufweisen. Arbeiten an Platinen und Gehäuse sollten vorsichtig ausgeführt werden. Sie sollten Schutzhandschuhe tragen.



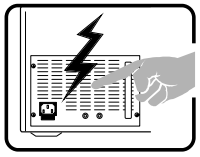
Bei falschem Einsetzen einer neuen Batterie besteht Explosionsgefahr. Die Batterie darf nur durch denselben oder einen entsprechenden, vom Hersteller empfohlenen Batterietyp ersetzt werden. Entsorgen Sie verbrauchte Batterien den Anweisungen des Herstellers entsprechend.



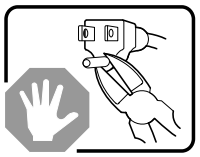
Das System wurde für den Betrieb in einer normalen Büroumgebung entwickelt. Der Standort sollte:

- sauber und staubfrei sein (Hausstaub ausgenommen);
- gut gelüftet und keinen Heizquellen ausgesetzt sein (einschließlich direkter Sonneneinstrahlung);
- keinen Erschütterungen ausgesetzt sein;
- keine starken, von elektrischen Geräten erzeugten elektromagnetischen Felder aufweisen;
- in Regionen, in denen elektrische Stürme auftreten, mit einem Überspannungsschutzgerät verbunden sein; während eines elektrischen Sturms sollte keine Verbindung der Telekommunikationsleitungen mit dem Modem bestehen;
- mit einer geerdeten Wechselstromsteckdose ausgerüstet sein;
- über ausreichend Platz verfügen, um Zugang zu den Netzkabeln zu gewährleisten, da der Stromanschluß des Produkts hauptsächlich über die Kabel unterbrochen wird.

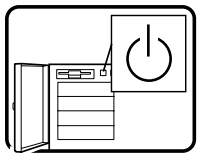
AVVERTENZA: Italiano



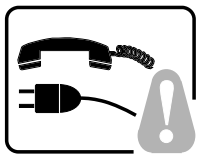
Rivolgersi ad un tecnico specializzato per la riparazione dei componenti dell'alimentazione di questo prodotto. È possibile che il prodotto disponga di più fonti di alimentazione.



Non modificare o utilizzare il cavo di alimentazione in c.a. fornito dal produttore, se non corrisponde esattamente al tipo richiesto. Ad ogni fonte di alimentazione corrisponde un cavo di alimentazione in c.a. separato.

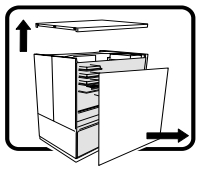


L'interruttore attivato/disattivato nel pannello anteriore non interrompe l'alimentazione in c.a. del sistema. Per interromperla, è necessario scollegare tutti i cavi di alimentazione in c.a. dalle prese a muro o dall'alimentazione di corrente.



PASSI DI SICUREZZA: Qualora si rimuovano le coperture del telaio per accedere all'interno del sistema, seguire i seguenti passi:

1. Spegnere tutti i dispositivi periferici collegati al sistema.
2. Spegnere il sistema, usando il pulsante spento/acceso dell'interruttore del sistema.
3. Togliere tutte le spine dei cavi del sistema dalle prese elettriche.
4. Identificare e sconnettere tutti i cavi attaccati ai collegamenti I/O od alle prese installate sul retro del sistema.
5. Qualora si tocchino i componenti, proteggersi dallo scarico elettrostatico (SES), portando un cinghia anti-statica da polso che è attaccata alla presa a terra del telaio del sistema – qualsiasi superficie non dipinta – .
6. Non far operare il sistema quando il telaio è senza le coperture.

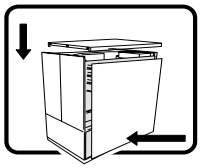


Dopo aver seguito i sei passi di SICUREZZA sopracitati, togliere le coperture del telaio del sistema come seque:

1. Aprire e rimuovere il lucchetto dal retro del sistema qualora ve ne fosse uno installato.
2. Togliere e mettere in un posto sicuro tutte le viti delle coperture.
3. Togliere le coperture.

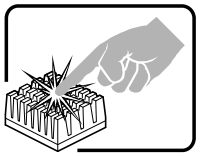
continua

AVVERTENZA: Italiano (continua)

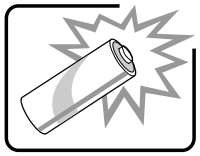


Per il giusto flusso dell'aria e raffreddamento del sistema, rimettere sempre le coperture del telaio prima di riaccendere il sistema. Operare il sistema senza le coperture al loro proprio posto potrebbe danneggiare i componenti del sistema. Per rimettere le coperture del telaio:

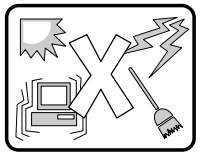
1. Controllare prima che non si siano lasciati degli attrezzi o dei componenti dentro il sistema.
2. Controllare che i cavi, dei supporti aggiuntivi ed altri componenti siano stati installati appropriatamente.
3. Attaccare le coperture al telaio con le viti tolte in precedenza e avvitarle strettamente.
4. Inserire e chiudere a chiave il lucchetto sul retro del sistema per impedire l'accesso non autorizzato al sistema.
5. Ricollegare tutti i cavi esterni e le prolunghe AC del sistema.



Se il sistema è stato a lungo in funzione, il microprocessore e il dissipatore di calore potrebbero essere surriscaldati. Fare attenzione alla presenza di piedini appuntiti e parti taglienti sulle schede e sul telaio. È consigliabile l'uso di guanti di protezione.



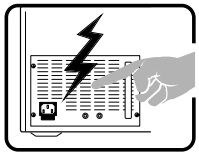
Esiste il pericolo di un esplosione se la pila non viene sostituita in modo corretto. Utilizzare solo pile uguali o di tipo equivalente a quelle consigliate dal produttore. Per disfarsi delle pile usate, seguire le istruzioni del produttore.



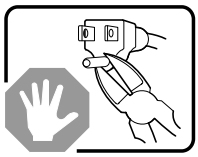
Il sistema è progettato per funzionare in un ambiente di lavoro tipo. Scegliere una postazione che sia:

- Pulita e libera da particelle in sospensione (a parte la normale polvere presente nell'ambiente).
- Ben ventilata e lontana da fonti di calore, compresa la luce solare diretta.
- Al riparo da urti e lontana da fonti di vibrazione.
- Isolata dai forti campi magnetici prodotti da dispositivi elettrici.
- In aree soggette a temporali, è consigliabile collegare il sistema ad un limitatore di corrente. In caso di temporali, scollegare le linee di comunicazione dal modem.
- Dotata di una presa a muro correttamente installata.
- Dotata di spazio sufficiente ad accedere ai cavi di alimentazione, i quali rappresentano il mezzo principale di scollegamento del sistema.

ADVERTENCIAS: Español

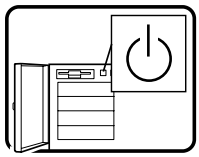


El usuario debe abstenerse de manipular los componentes de la fuente de alimentación de este producto, cuya reparación debe dejarse exclusivamente en manos de personal técnico especializado. Puede que este producto disponga de más de una fuente de alimentación.

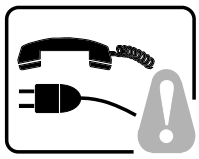


No intente modificar ni usar el cable de alimentación de corriente alterna, si no corresponde exactamente con el tipo requerido.

El número de cables suministrados se corresponden con el número de fuentes de alimentación de corriente alterna que tenga el producto.

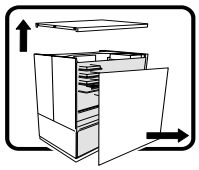


Nótese que el interruptor activado/desactivado en el panel frontal no desconecta la corriente alterna del sistema. Para desconectarla, deberá desenchufar todos los cables de corriente alterna de la pared o desconectar la fuente de alimentación.



INSTRUCCIONES DE SEGURIDAD: Cuando extraiga la tapa del chasis para acceder al interior del sistema, siga las siguientes instrucciones:

1. Apague todos los dispositivos periféricos conectados al sistema.
2. Apague el sistema presionando el interruptor encendido/apagado.
3. Desconecte todos los cables de alimentación CA del sistema o de las tomas de corriente alterna.
4. Identifique y desconecte todos los cables enchufados a los conectores E/S o a los puertos situados en la parte posterior del sistema.
5. Cuando manipule los componentes, es importante protegerse contra la descarga electrostática (ESD). Puede hacerlo si utiliza una muñequera antiestática sujetada a la toma de tierra del chasis — o a cualquier tipo de superficie de metal sin pintar.
6. No ponga en marcha el sistema si se han extraído las tapas del chasis.

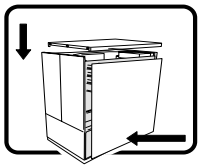


Después de completar las seis instrucciones de SEGURIDAD mencionadas, ya puede extraer las tapas del sistema. Para ello:

1. Desbloquee y extraiga el bloqueo de seguridad de la parte posterior del sistema, si se ha instalado uno.
2. Extraiga y guarde todos los tornillos de las tapas.
3. Extraiga las tapas.

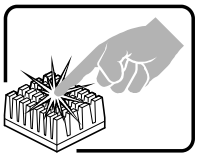
continúa

ADVERTENCIAS: Español (continúa)

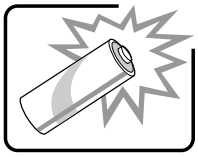


Para obtener un enfriamiento y un flujo de aire adecuados, reinstale siempre las tapas del chasis antes de poner en marcha el sistema. Si pone en funcionamiento el sistema sin las tapas bien colocadas puede dañar los componentes del sistema. Para instalar las tapas:

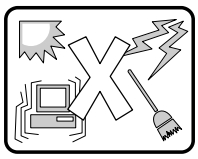
1. Asegúrese primero de no haber dejado herramientas o componentes sueltos dentro del sistema.
2. Compruebe que los cables, las placas adicionales y otros componentes se hayan instalado correctamente.
3. Incorpore las tapas al chasis mediante los tornillos extraídos anteriormente, tensándolos firmemente.
4. Inserte el bloqueo de seguridad en el sistema y bloquéelo para impedir que pueda accederse al mismo sin autorización.
5. Conecte todos los cables externos y los cables de alimentación CA al sistema.



Si el sistema ha estado en funcionamiento, el microprocesador y el disipador de calor pueden estar aún calientes. También conviene tener en cuenta que en el chasis o en el tablero puede haber piezas cortantes o punzantes. Por ello, se recomienda precaución y el uso de guantes protectores.



Existe peligro de explosión si la pila no se cambia de forma adecuada. Utilice solamente pilas iguales o del mismo tipo que las recomendadas por el fabricante del equipo. Para deshacerse de las pilas usadas, siga igualmente las instrucciones del fabricante.



El sistema está diseñado para funcionar en un entorno de trabajo normal. Escoja un lugar:

- Limpio y libre de partículas en suspensión (salvo el polvo normal).
- Bien ventilado y alejado de fuentes de calor, incluida la luz solar directa.
- Alejado de fuentes de vibración.
- Aislado de campos electromagnéticos fuertes producidos por dispositivos eléctricos.
- En regiones con frecuentes tormentas eléctricas, se recomienda conectar su sistema a un eliminador de sobrevoltage y desconectar el módem de las líneas de telecomunicación durante las tormentas.
- Provisto de una toma de tierra correctamente instalada.
- Provisto de espacio suficiente como para acceder a los cables de alimentación, ya que éstos hacen de medio principal de desconexión del sistema.

D Warranty

Limited Warranty for Intel® Chassis Subassembly Products

Intel warrants that the Products (defined herein as the Intel® chassis subassembly and all of its various components and software delivered with or as part of the Products) to be delivered hereunder, if properly used and installed, will be free from defects in material and workmanship and will substantially conform to Intel's publicly available specifications for a period of three (3) years after the date the Product was purchased from an Intel authorized distributor. Software of any kind delivered with or as part of products is expressly provided "as is" unless specifically provided for otherwise in any software license accompanying the software.

If any Product furnished by Intel which is the subject of this Limited Warranty fails during the warranty period for reasons covered by this Limited Warranty, Intel, at its option, will:

- **REPAIR** the Product by means of hardware and/or software; OR
- **REPLACE** the Product with another Product; OR
- **REFUND** the then-current value of the Product if Intel is unable to repair or replace the Product.

If such Product is defective, transportation charges for the return of Product to buyer within the USA will be paid by Intel. For all other locations, the warranty excludes all costs of shipping, customs clearance, and other related charges. Intel will have a reasonable time to make repairs or to replace Product or to refund the then-current value of the Product.

In no event will Intel be liable for any other costs associated with the replacement or repair of Product, including labor, installation or other costs incurred by buyer

This Limited Warranty, and any implied warranties that may exist under state law, apply only to the original purchaser of the Product.

Extent of Limited Warranty

Intel does not warrant that Products to be delivered hereunder, whether delivered stand-alone or integrated with other Products, including without limitation semiconductor components, will be free from design defects or errors known as “errata”. Current characterized errata are available upon request.

This Limited Warranty does not cover damages due to external causes, including accident, problems with electrical power, usage not in accordance with product instructions, misuse, neglect, alteration, repair, improper installation, or improper testing.

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These warranties replace all other warranties, expressed or implied including, but not limited to, the implied warranties of merchantability and fitness for a particular purpose. Intel makes no expressed warranties beyond those stated here. Intel disclaims all other warranties, expressed or implied including, without limitation, implied warranties of merchantability and fitness for a particular purpose. Some jurisdictions do not allow the exclusion of implied warranties, so this limitation may not apply.

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This limited warranty gives you specific legal rights, and you may also have other rights that vary from jurisdiction to jurisdiction.

Any and all disputes arising under or related to this Limited Warranty shall be adjudicated in the following forums and governed by the following laws: for the United States of America, Canada, North America and South America, the forum shall be Santa Clara, California, USA and the applicable law shall be that of the State of California, USA; for the Asia Pacific region, the forum shall be Singapore and the applicable law shall be that of Singapore; for Europe and the rest of the world, the forum shall be London and the applicable law shall be that of the United Kingdom.

In the event of any conflict between the English language version and any other translated version(s) of this Limited Warranty, the English language version shall control.

How to Obtain Warranty Service

To obtain warranty service for this Product, you may contact Intel or your authorized distributor.

North America—Call Intel at 1-800-628-8686 during the warranty period during normal business hours (pacific time), excluding holidays. Please be prepared to provide: (1) your name, address, and telephone numbers; (2) model name and serial number of the Product; (3) an explanation of the problem. The customer service representative may need additional information from you depending on the nature of the problem.

In Europe, Asia, or South America—Contact your original authorized distributor for warranty service.

Any replacement Product is warranted under this written warranty and is subject to the same limitations and exclusions for the remainder of the original warranty period.

Telephone Support

If you can't find the information you need on Intel's World Wide Web site (http://www.intel.com), call your local distributor or an Intel Customer Support representative.

Country	Customer Support Telephone Number	Hours (Monday-Friday)	Billing
United States	1-900-555-5800	7:00 - 17:00	$2.50/minute
United States & Canada	1-800-404-2284	7:00 - 17:00 PST	Credit card calls $25.00/incident
European Community English: Francaise: Deutsch: Italiano:	 +44-131-458-6847 +44-131-458-6848 +44-131-458-6954 +44-131-458-6951	UK time 8:00 - 17:00 (M, Th, F) 8:00 - 16:00 (Tues - W)	Credit Card Calls $25.00/incident Levied in local currency at the applicable credit card exchange rate plus applicable VAT
Asia-Pacific Australia: Hong Kong: Korea: Manila: PRC: Singapore: Taiwan:	 +1-800-649-931 +852-2-844-4456 +822-767-2595 +886-2-718-9915 +852-2-844-4456 +65-831-1311 +886-2-718-9915	Singapore local time Oct-April: 6:00 - 16:00 April-Oct: 5:00 - 16:00	Credit card calls $25.00/incident
Everywhere else	+916-377-7000	7:00 - 17:00 PST	Credit card calls $25.00/incident

Returning a Defective Product

Before returning any product, call your authorized dealer/distribution authority.

- From Europe:
  - — in English +44 1793 431144
  - — in French +44 1793 421777
  - — in German +44 1793 421333
- All other locations: +(503) 264-7000

If the customer support group verifies that your product is defective, you will receive a Return Material Authorization (RMA)number to place on the outer package of the product. Intel can not accept any product without an RMA number on the package.