

Intel® Server System P4000RP Family Quick Installation User's Guide

Thank you for buying an Intel® Server System. The following information will help you assemble your Intel® Server System and install components.

If you are not familiar with ESD [Electrostatic Discharge] procedures used during system integration, see the complete ESD procedures described in your *Service Guide*.

This guide and other supporting documents are located on the web at:
http://www.intel.com/p/en_US/support.



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Warning



Read all caution and safety statements in this document before performing any of the instructions. Also see the *Intel® Server Board and Server Chassis Safety Information* document at: <http://www.intel.com/support/motherboards/server/sb/cs-010770.htm> for complete safety information.

Warning



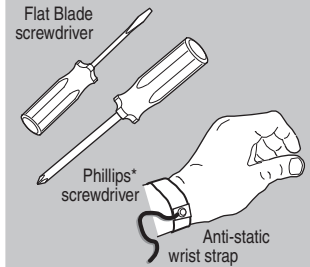
Installation and service of this product to be performed only by qualified service personnel to avoid risk of injury from electrical shock or energy hazard.

Caution



Observe normal ESD [Electrostatic Discharge] procedures during system integration to avoid possible damage to server board and/or other components.

Tools Required



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Thermal Operation and Configuration Requirements

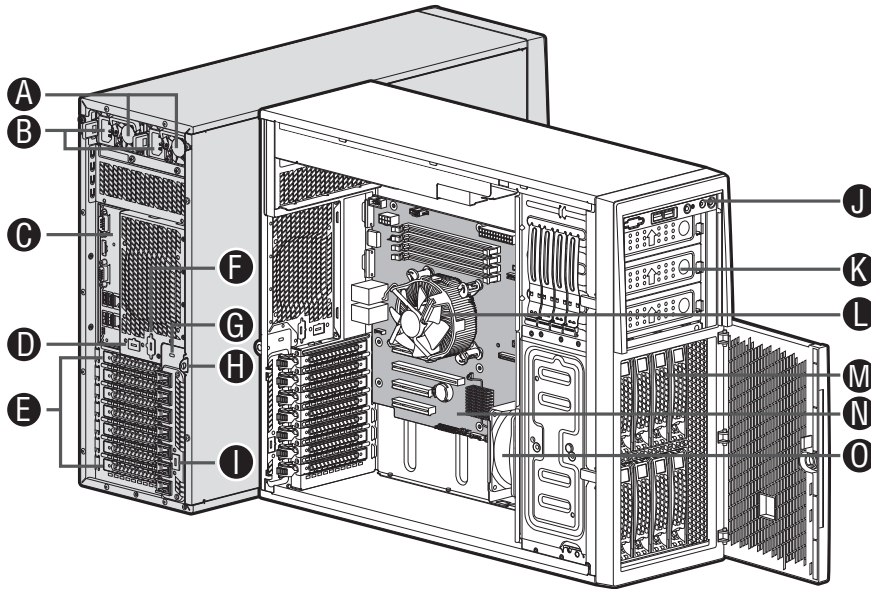
To keep the system operating within supported maximum thermal limits, the system must meet the following operating and configuration guidelines:

- Ambient in-let temperature cannot exceed 35° C and should not remain at this maximum level for long periods of time. Doing so may affect long term reliability of the system.
- DIMM Population on CPU: Install DIMMs in order; Channels A, and B. Start with 1st DIMM slot (blue) on each channel.
- All hard drive bays must be populated. Hard drive carriers either can be populated with a hard drive or supplied drive blank.
- In single power supply configurations, the second power supply bay must have the supplied filler blank installed at all times.
- The system top-cover must be installed at all times.

System Overview

Intel® Server System P4308RPLSHDR

System Features and Components

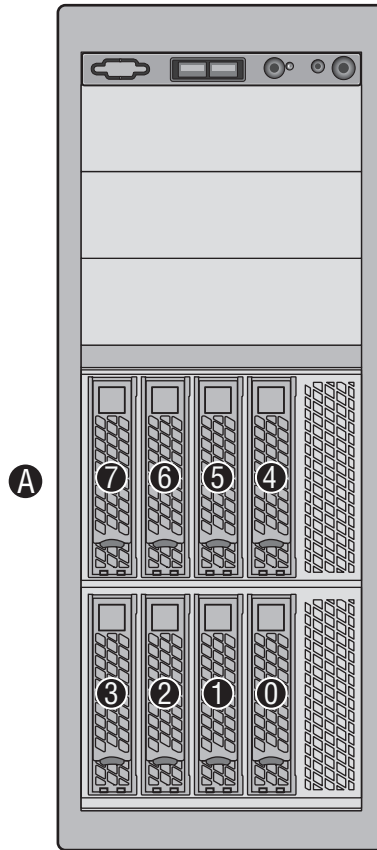


- A** 460W Hot Swap Power Supply (Two)
- B** AC Input Power Connector (Two)
- C** I/O Ports
- D** RMM4 Knockout
- E** PCI Add-in Board Slot Covers
- F** Alternate Serial Port Knockout
- G** A Kensington* Cable Lock Mounting Hole
- H** Padlock Loop
- I** Alternate RMM4 Knockout
- J** Front Control Panel
- K** 5.25" Peripheral Bays
- L** Active Heatsink
- M** 8 x 3.5" Hot-swap HDD Cage
- N** Server Board
- O** System Fan

System Overview

Hot Swap Hard Drive Bay Options and HDD Numbering

A 8 x 3.5" Hot-Swap Drive Cage



General Installation Process

The installation instructions in this section are for general components of Intel® Server System P4000RP family.

Minimum Hardware Requirements

To avoid integration difficulties and possible damage to your system, make sure you have components from each category below.

- Processor
- Heat Sink
- Memory
- Hard Disk Drives
- Power

1

Preparing the System

Observe normal **ESD** (Electrostatic Discharge) procedures.

Place your Intel® Server System on a flat anti-static surface to perform the following integration procedures. Observe ESD procedures before reaching inside to make server board connections or install components.



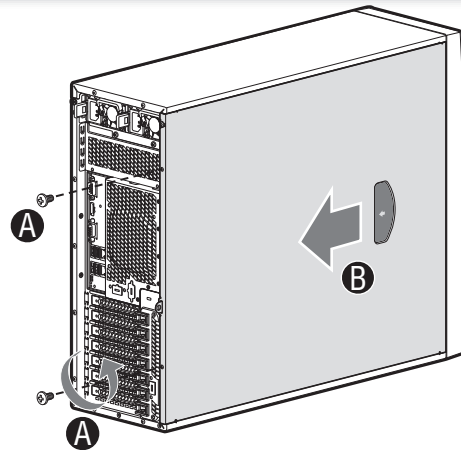
2

Remove the Side Cover

- Remove the screws.
- Slide the side cover back and lift the cover outward to remove it.

NOTE:

A non-skid surface or a stop behind the chassis may be needed to prevent the chassis from sliding on your work surface.



3

Install the Processor

Cautions:



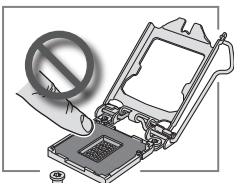
When removing the protective cover, DO NOT TOUCH the gold socket pins.



To avoid damage, DO NOT DROP the cover onto the socket pins or components.

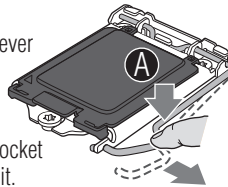


When unpacking a processor, hold by the edges only to avoid touching the gold contact pins.

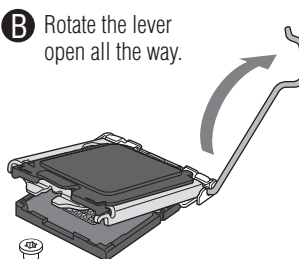


A. Open the Socket Lever

- Push the lever handle down and away from the socket to release it.

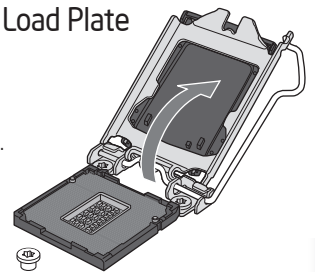


- Rotate the lever open all the way.



B. Open the Load Plate

Open the load plate as shown.



C. Unpack the Processor



Carefully remove protective cover as shown. Save the protective cover.

General Installation Process

Install the Processor ... continued

D. Install the Processor

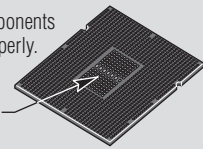


CAUTION: The underside of the processor has components that may damage the socket wires if installed improperly.

Processor must align correctly with the socket opening before installation.

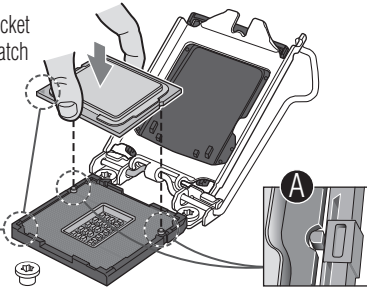
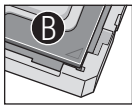
DO NOT DROP processor into socket!

Components

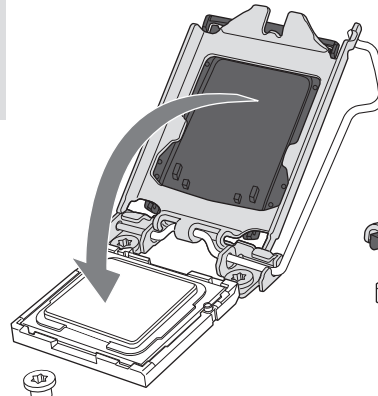


- A** Orient the processor with the socket so that the processor cutouts match the two socket pins.

- B** Note location of gold key at corner of processor.

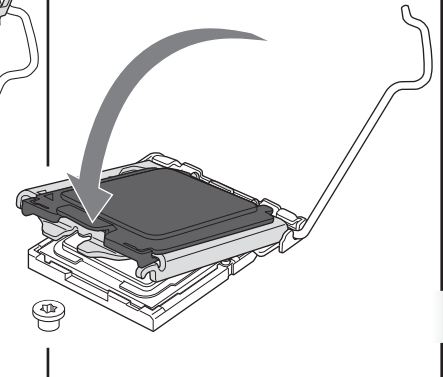


Carefully lower the load plate over the processor.



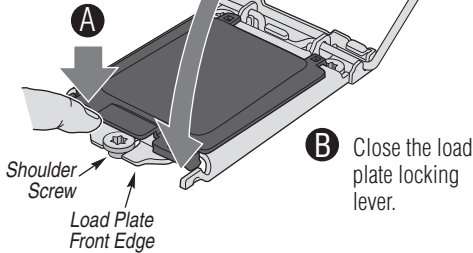
E. Close the Load Plate

Carefully lower the load plate over the processor.



F. Engage the Load Plate

- A** Make sure the front edge of the load plate slides under the shoulder screw as the lever is lowered.



- B** Close the load plate locking lever.

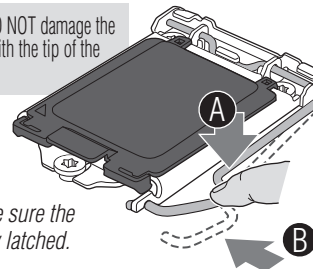
G. Latch the Locking Lever

- A** Push down on the locking lever.



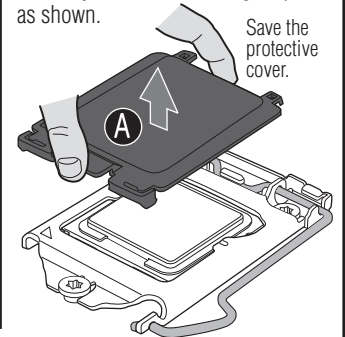
CAUTION: DO NOT damage the server board with the tip of the locking lever.

- B** Slide the tip of the lever under the notch in the load plate. Make sure the lever is securely latched.



H. Remove the Cover

Carefully lift the cover straight up as shown.



Save the protective cover.

4

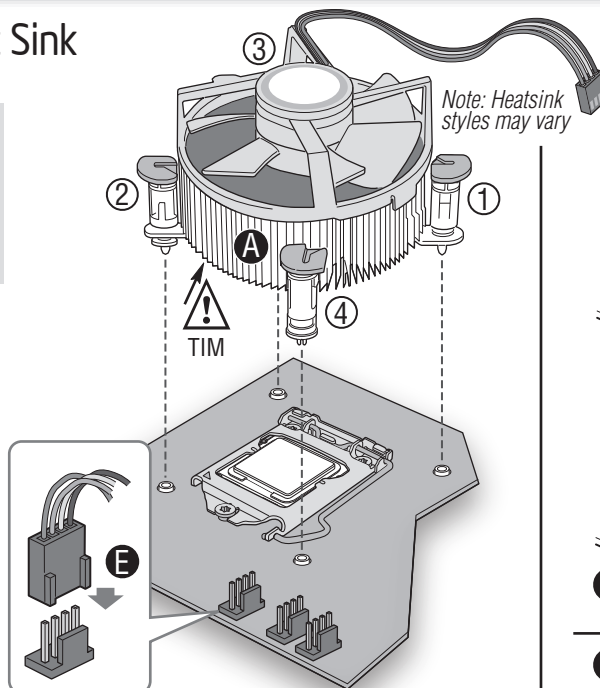
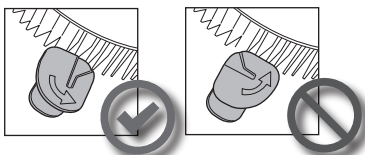
Install Active Heat Sink



CAUTION: The heat sink has thermal interface material (TIM) on the underside of it. Use caution so that you do not damage the thermal interface material. Use gloves to avoid sharp edges.

Use the following procedure to install an active heat sink to your server board:

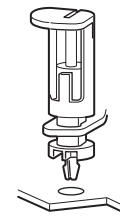
- A** Make sure the screwdriver slot at the top of each fastener is rotated perpendicular to the blades of the heat sink as shown.



Note: Heatsink styles may vary

- B** Align heat sink with holes in board and lower assembly to board. Snaps go through holes in server board.

Repeat B-D for each fastener in the numerical order shown at left.



- C** Press downward on top of cap.

- D** Fastener snaps into final position.

- E** Plug the fan cable into the CPU fan header.

General Installation Process

5

Install DIMM Memory Modules

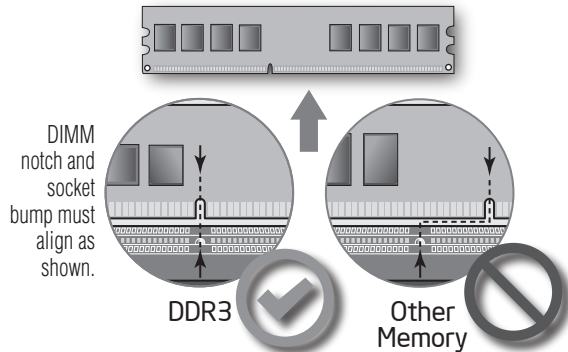
DDR3L DIMM Memory Identification:



CAUTION: Observe normal ESD (ElectroStatic Discharge) procedures to avoid possible damage to system components.



This server board supports up to 4 DDR3L 1333/1600 ECC UDIMM. Non-ECC memory is NOT supported by this server board.

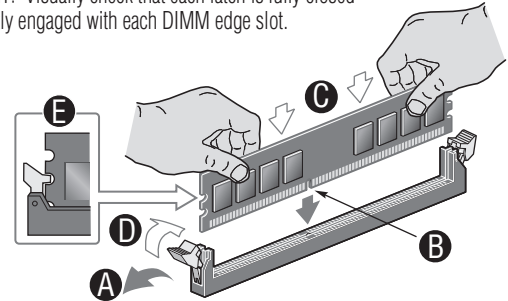


To Install DIMMs:



CAUTION: Avoid touching contacts when handling or installing DIMMs.

- Open both DIMM socket levers.
- Note location of alignment notch.
- Insert DIMM making sure the connector edge of the DIMM aligns correctly with the slot.
- Push down firmly on the DIMM until it snaps into place and both levers close.
- IMPORTANT! Visually check that each latch is fully closed and correctly engaged with each DIMM edge slot.



Install DIMM Memory Modules... *Continued*

For the best performance, a minimum of two DIMMs is recommended, populated in the blue slot of each memory channel.

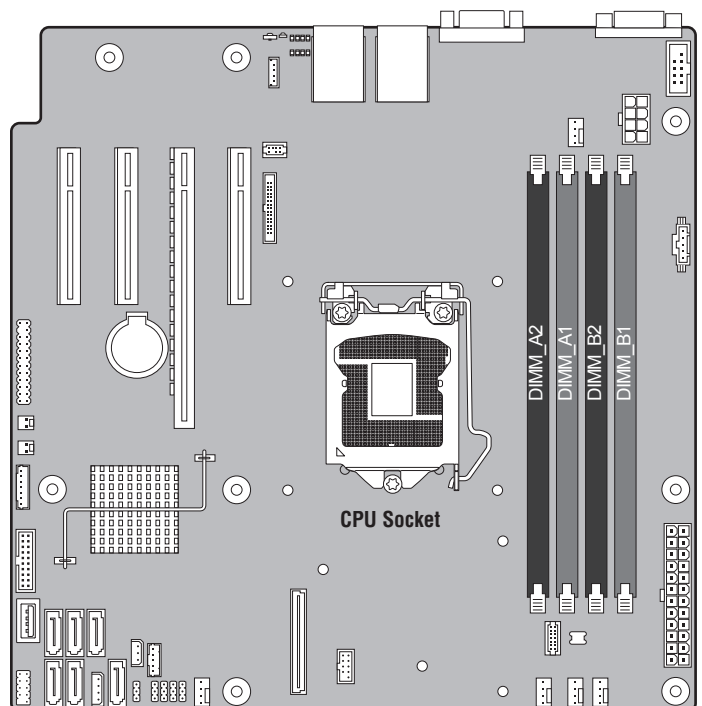
Note: For additional memory configurations, see the *Service Guide* on the Intel® Server Deployment & Management DVD that accompanied your Intel® Server System, or go to:

http://www.intel.com/p/en_US/support/ (post-production)

Memory sizing and configuration is supported only for qualified DIMMs approved by Intel®. For a list of supported memory, go to:

http://serverconfigurator.intel.com/sct_app.aspx (post-production)

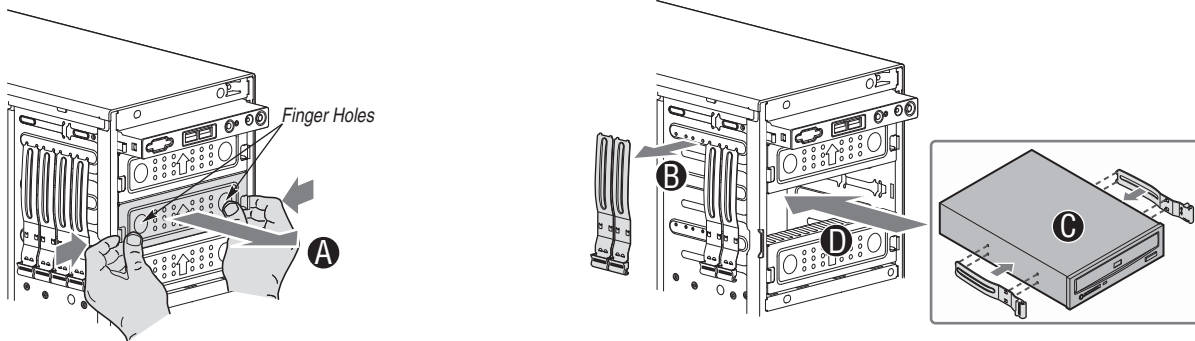
Intel® Server Board S1200V3RPL



General Installation Process

6

Install Tool-less CD-ROM or DVD-ROM Drive



A Press the release latch and use the finger holes to Pull out the EMI shield.

B Get the slides from the chassis side.

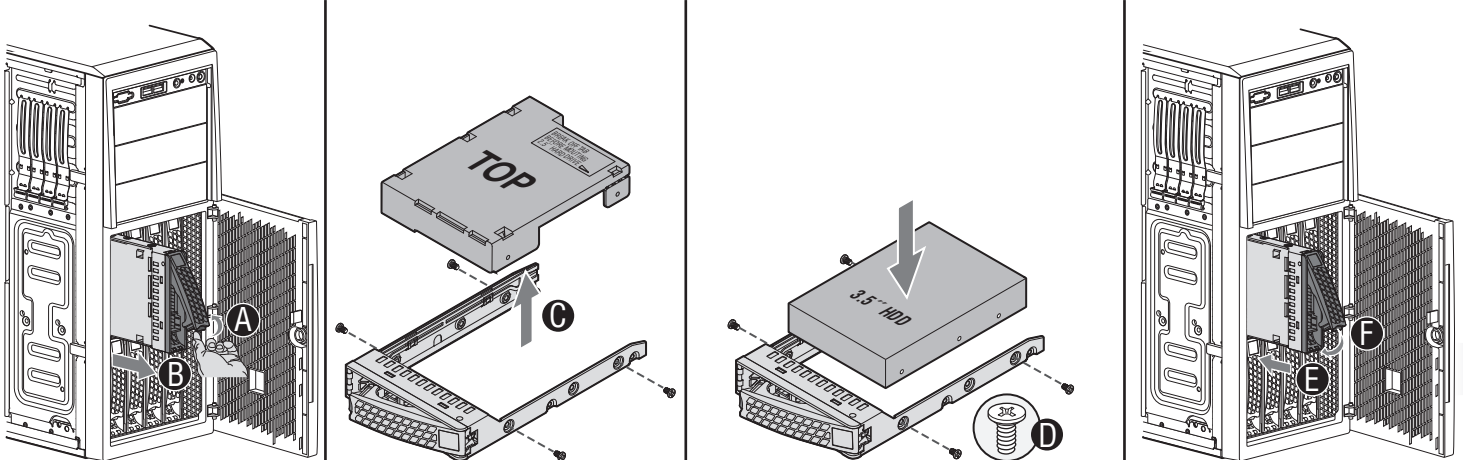
C Attach slides to the DVD or CD-ROM drive by pressing the slides firmly into the side dimples on the DVD or CD-ROM drive.

D Insert the drive/slide assembly into the device bay until the slides lock into place.

7

Install Hard Drive

3.5" Hot-Swap Hard Drive Carrier



A Open the Hot-swap door and remove the drive carrier by pressing the **green** button and opening the lever.

B Slide the carrier out.

C Remove the four screws securing the HDD interface bracket and remove the HDD interface bracket.

D Install the hard disk drive using the same four screws as shown. Make sure the connector end of the drive matches the backplane connector.

E With the lever open, insert the hard disk drive assembly into the cage opening and push until the locking lever engaged.

F Push in the lever to lock it into place, then close the door.



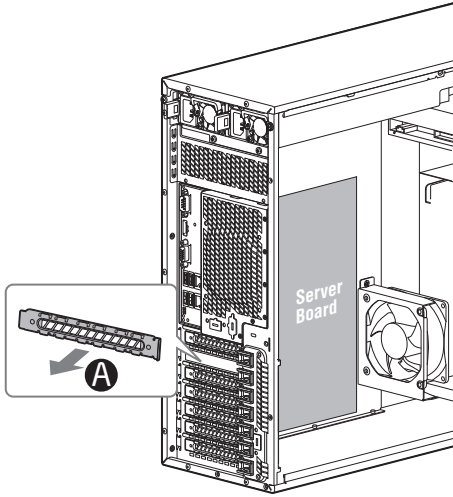
CAUTION: If you don't install all drives, empty drive bays must be occupied by carriers with plastic drive blank provided to maintain proper system cooling.

General Installation Process

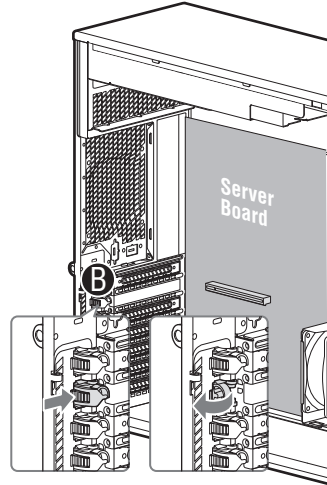
8

Install PCI-e Card Assembly

A Remove the PCI slot shield by pushing the shield out from inside the chassis.

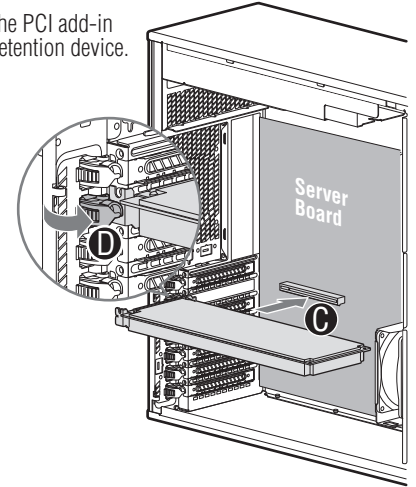


B From inside of chassis, press open the back panel PCI add-in board retention device.



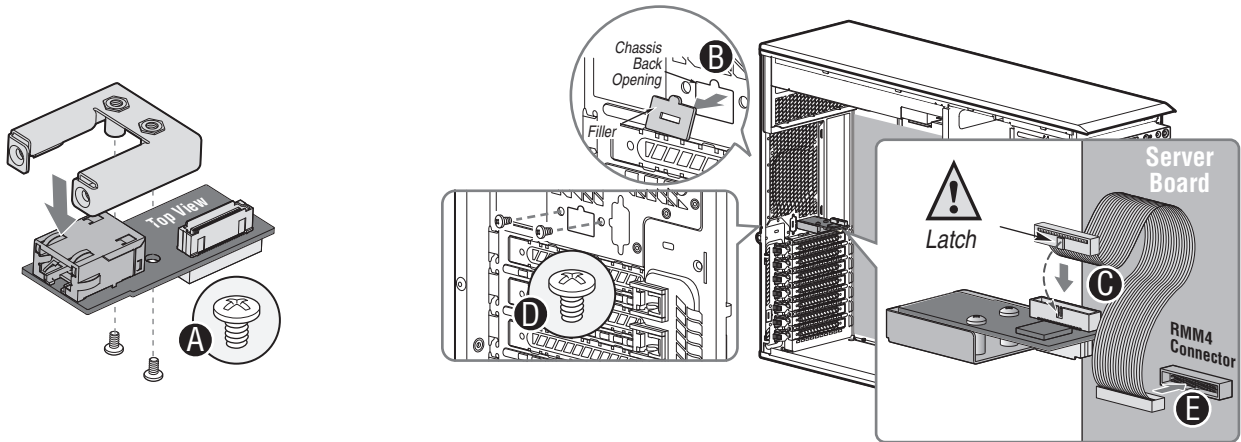
C While holding the PCI add-in board by its top edge or upper corners, firmly press the add-in board into the expansion slot.

D Close the PCI add-in board retention device.



9

Install Intel® Remote Management Module 4 NIC (optional)



A Attach the metal fastening bracket to Intel® Dedicated Server Management NIC module and secure the bracket with two screws.

B Remove the alternate RMM4 knock out by pressing the knock out from inside the chassis.

! CAUTION: Carefully remove the knock out with screwdriver, directly removing it with finger has potential risk.

C Connect the cable to the cable connector on the Intel® Dedicated Server Management NIC module.

D Mount the NIC module to the rear panel of the chassis and secure the bracket with two screws.

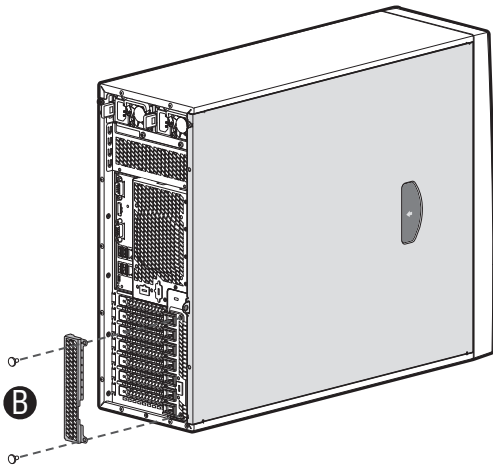
E Connect the cable to the RMM4 NIC connector to the RMM4 NIC connector on your server board.

! CAUTION: Care should be used when attaching or removing this cable. Mishandling the cable could cause damage.

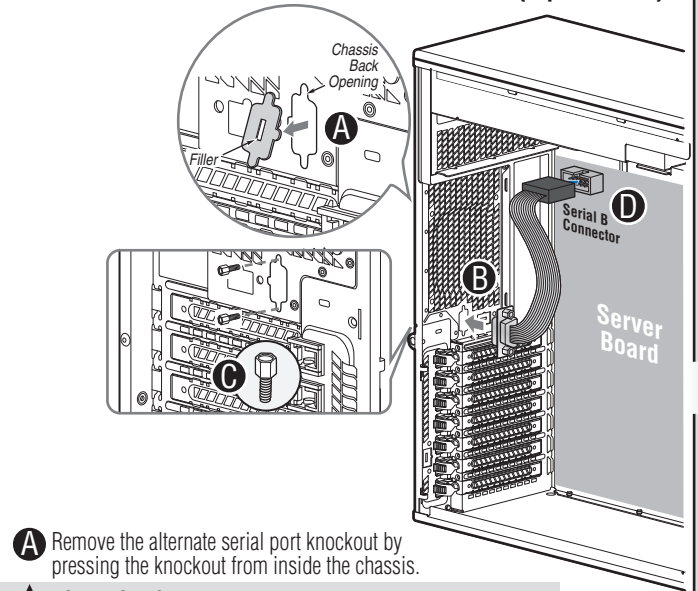
General Installation Process

10 Install RMM4 EMI Cover (optional)

- A** Install the RMM4 EMI cover with thumb screws.



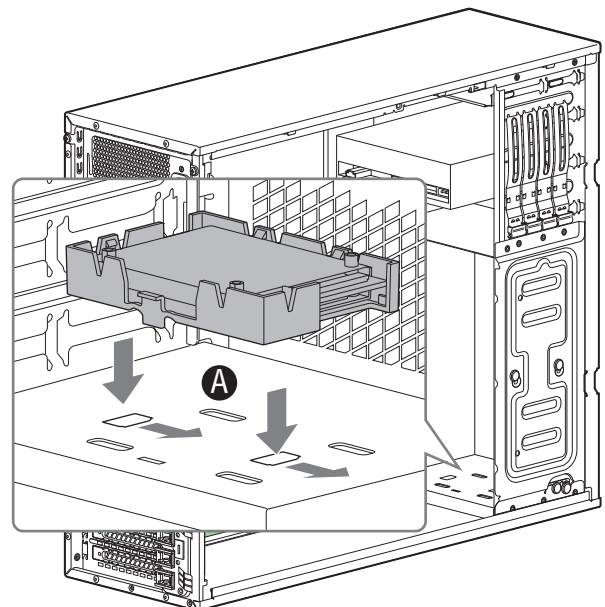
11 Install Alternate Serial Port (optional)



- A** Remove the alternate serial port knockout by pressing the knockout from inside the chassis.
- CAUTION:** Carefully remove the knock out with screwdriver, directly removing it with finger has potential risk.
- B** Mount the serial serial port on the rear panel of the chassis.
- C** secure the port with two screws.
- D** Connect the cable to the Serial B Connector on your server board.
- CAUTION:** Care should be used when attaching or removing this cable. Mishandling the cable could cause damage.

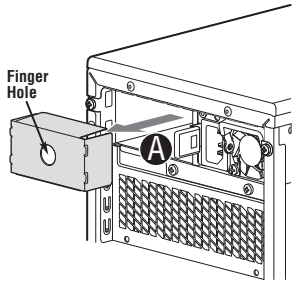
12 Install Intel® RAID Smart Battery (optional)

- A** Align the tabs on the plastic battery holder with the mounting holes in the chassis and slide the plastic battery holder toward the front of the chassis until the tabs engage with the mounting holes.

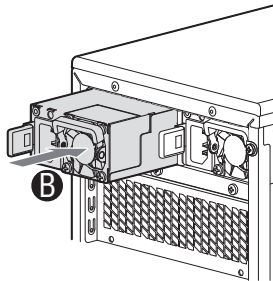


General Installation Process

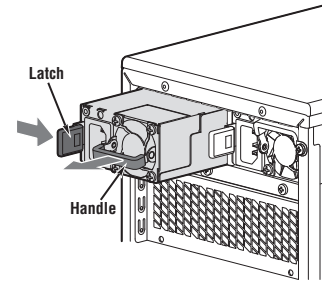
13 Install Second Power Supply Module (optional)



A Use the 'finger hole' to remove the filler panel.



B Insert the power supply module into the power supply cage and push all the way until it clicks into place.



To remove a power supply module, push the green latch in the direction shown and pull out of the system by the handle.

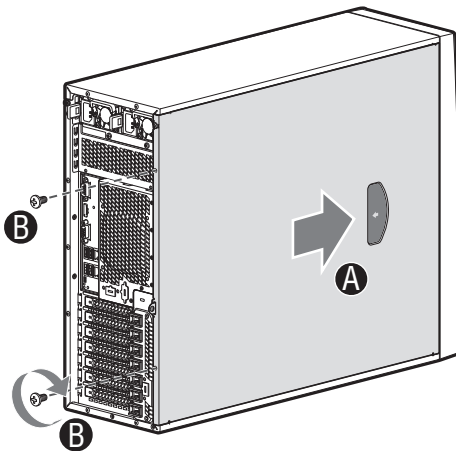
NOTE: Applies only to the chassis with hot-swap power supply configuration.

14 Install Side Cover

- A** Slide the chassis cover on the chassis.
- B** Secure the chassis cover with the screws.



CAUTION: This chassis must be operated with the **SIDE COVERS** installed to ensure proper cooling.

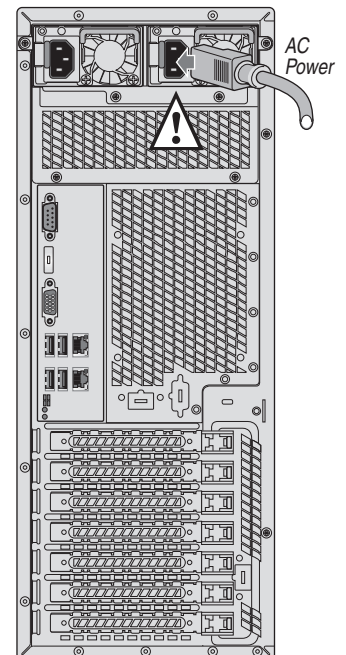


15 Finishing Up

1. See your **Intel® Server Board Quick Start User's Guide** to connect your keyboard, mouse, video, and other I/O cables.
2. Connect the AC power cable last.



CAUTION: power supply requires a 16-gauge power cord.



General Installation Process

16

Install Software

- BIOS, Drivers, and Operating System Install

A. Confirm BIOS Version: Look on the Server/System Management screen in the BIOS Setup Utility to determine the installed BIOS version. Compare this to the versions at: <http://www.intel.com/support>
If new versions are available, update the BIOS on your server. See the *User Guide* on the Intel® Server Deployment and Management DVD for update instructions.

B. Configure your RAID Controller: Use the instructions provided with the RAID controller.

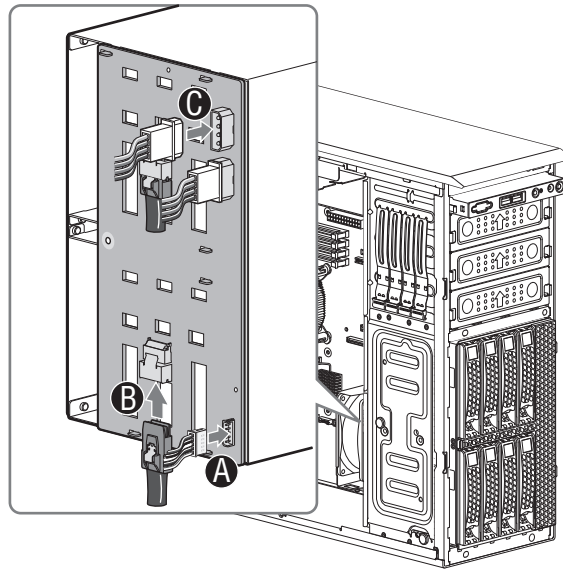
C. Install your Operating System: Use the instructions provided with the RAID controller and with the operating system.

D. Install Operating System Drivers: With the operating system running, insert the Intel® Server Deployment and Management DVD. If using a Microsoft Windows* operating system, the Express Installer will autorun and allow you to select the appropriate drivers to install. On other operating systems, browse the DVD folders to locate and install the driver files.

HDD Cage Cable Connection

NOTE: Refer to the documents which come with your server board and/or RAID controller card for instructions on connecting backplane cables to your server board or RAID controller card.

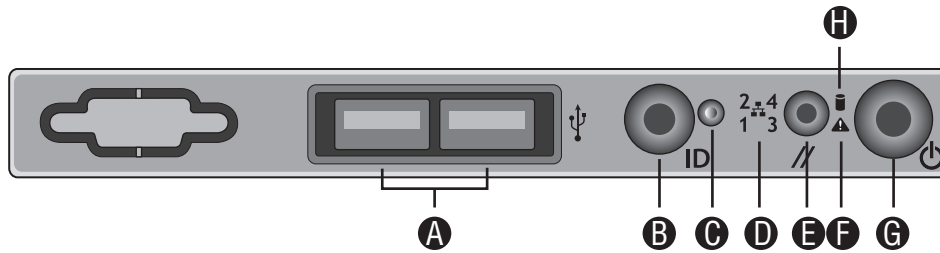
8 x 3.5" HDD Cage



- A** Connect the L²C cable to L²C connector on backplane.
- B** Connect Mini SAS data cables.
- C** Connect two power cables.

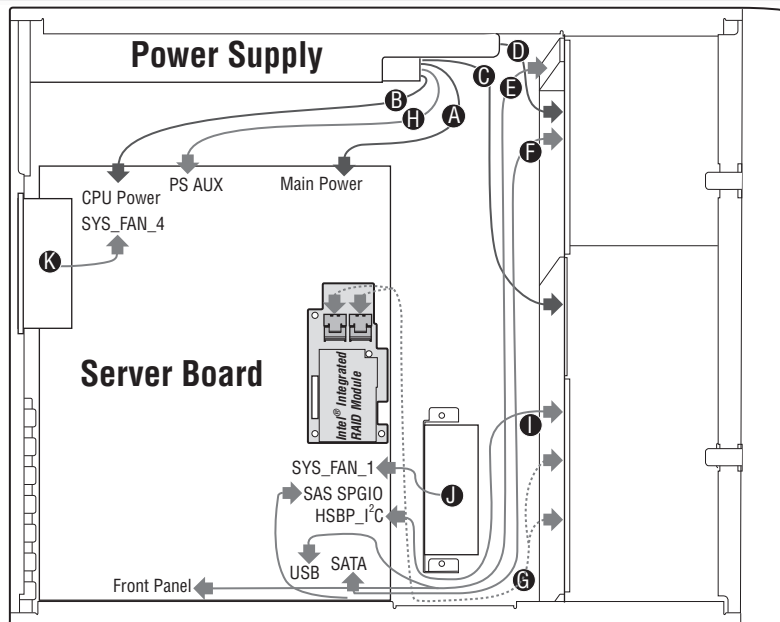
Reference

Front Panel Controls and Indicators



- A** USB Connectors
- B** ID Button with ID LED Integrated
- C** NMI Button
- D** NIC LED
- E** System Reset Button
- F** System Status LED
- G** System Power Button with Power LED
- H** HDD Activity LED

Cable Routing Diagram



Intel® Server System P4304FP2SFCN

Description
A. CPU Power Cable
B. Server Board Main Power Cable
C. Backplane Power Cable
D. ODD Power Cable
E. Front Panel Cable and USB Cable
F. ODD Data Cable (Connect to White SATA 6G Connectors on Server Board)
G. SATA/SAS Cable and SGPIO Cable (Connect to SATA/SAS 0-3 on Server Board)
H. PS AUX Cable
I. HSBP_I ² C Cable
J. PCI Zone System FAN
K. REAR FAN

G85600-002

