

Intel® Server Chassis P4000S Family Service Guide

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

Order Number: G20364-003

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Intel server boards contain a number of high-density VLSI and power delivery components that need adequate airflow for cooling. Intel's own chassis are designed and tested to meet the intended thermal requirements of these components when the fully integrated system is used together. It is the responsibility of the system integrator that chooses not to use Intel developed server building blocks to consult vendor datasheets and operating parameters to determine the amount of airflow required for their specific application and environmental conditions. Intel Corporation can not be held responsible if components fail or the server board does not operate correctly when used outside any of their published operating or non-operating limits.

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Safety Information

Important Safety Instructions

Read all caution and safety statements in this document before performing any of the instructions. See also Intel Server Boards and Server Chassis Safety Information on the Intel® Server Deployment Toolkit 3.0 CD and/or at <http://www.intel.com/support/motherboards/server/sb/cs-010770.htm>.

Wichtige Sicherheitshinweise

Lesen Sie zunächst sämtliche Warn- und Sicherheitshinweise in diesem Dokument, bevor Sie eine der Anweisungen ausführen. Beachten Sie hierzu auch die Sicherheitshinweise zu Intel-Serverplatinen und Servergehäusen auf der Intel® Server Deployment Toolkit 3.0 CD oder unter <http://www.intel.com/support/motherboards/server/sb/cs-010770.htm>.

Consignes de sécurité

Lisez attention toutes les consignes de sécurité et les mises en garde indiquées dans ce document avant de suivre toute instruction. Consultez Intel Server Boards and Server Chassis Safety Information sur le Intel® Server Deployment Toolkit 3.0 CD ou bien rendez-vous sur le site <http://www.intel.com/support/motherboards/server/sb/cs-010770.htm>.

Instrucciones de seguridad importantes

Lea todas las declaraciones de seguridad y precaución de este documento antes de realizar cualquiera de las instrucciones. Vea Intel Server Boards and Server Chassis Safety Information en el Intel® Server Deployment Toolkit 3.0 CD y/o en <http://www.intel.com/support/motherboards/server/sb/cs-010770.htm>.

重要安全指导

在执行任何指令之前，请阅读本文档中的所有注意事项及安全声明。和/或 <http://www.intel.com/support/motherboards/server/sb/cs-010770.htm> 上的 *Intel Server Boards and Server Chassis Safety Information*（《Intel 服务器主板与服务器机箱安全信息》）。

Warnings

Heed safety instructions: Before working with your server product, whether you are using this guide or any other resource as a reference, pay close attention to the safety instructions. 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.

System power on/off: The power button DOES NOT turn off the system AC power. To remove power from the system, you must unplug the AC power cord from the wall outlet. Make sure the AC power cord is unplugged before you open the chassis, add, or remove any components.

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

Electrostatic discharge (ESD) and ESD protection: ESD can damage disk drives, boards, and other parts. We recommend that you perform all procedures in this chapter only at an ESD workstation. If one is not available, provide some ESD protection by wearing an antistatic wrist strap attached to chassis ground—any unpainted metal surface—on your server when handling parts.

ESD and handling boards: Always handle boards carefully. They can be extremely sensitive to ESD. Hold boards only by their edges. After removing a board from its protective wrapper or from the server, place the board component side up on a grounded, static free surface. Use a conductive foam pad if available but not the board wrapper. Do not slide board over any surface.

Installing or removing jumpers: A jumper is a small plastic encased conductor that slips over two jumper pins. Some jumpers have a small tab on top that you can grip with your fingertips or with a pair of fine needle nosed pliers. If your jumpers do not have such a tab, take care when using needle nosed pliers to remove or install a jumper; grip the narrow sides of the jumper with the pliers, never the wide sides. Gripping the wide sides can damage the contacts inside the jumper, causing intermittent problems with the function controlled by that jumper. Take care to grip with, but not squeeze, the pliers or other tool you use to remove a jumper, or you may bend or break the pins on the board.

Preface

About this Manual

Thank you for purchasing and using the Intel® Server Chassis P4000S family products.

This manual is written for system technicians who are responsible for troubleshooting, upgrading, and repairing this server chassis. This document provides a brief overview of the features of the board/chassis, a list of accessories or other components you may need, troubleshooting information, and instructions on how to add and replace components on the Intel® Server Chassis P4000S family. For the latest version of this manual, refer to http://www.intel.com/p/en_US/support.

Manual Organization

Chapter 1 provides a brief overview of the Intel® Server Chassis P4000S family.. In this chapter, you will find a list of the server chassis features, photos of the product, and product diagrams to help you identify components and their locations.

Chapter 2 provides instructions on adding and replacing components. Use this chapter for step-by-step instructions and diagrams for installing or replacing components such as the fan, power supply, front panel board, and battery, among other components.

Chapter 3 provides technical reference information on cable routing, power supply specifications, and system environment requirements.

At the back of this document, you will find appendices on safety, “Getting Help”, and warranty information.

Product Accessories, Order Options, and Accessories

The Intel® Server Chassis P4304XXSFCN is compatible with the following Intel® Server Boards and workstation Boards:

- Intel® Server Board S1200BTL
- Intel® Server Board S1200BTS

Your Intel® Server Chassis P4304XXSFCN ships with the following items:

- Single fixed 365W power supply, installed in the chassis
- One fixed system rear fan, installed in the chassis
- Four fixed HDD carrier tray, installed in the chassis
- Front control panel, installed in the chassis
- Front Bezel for fixed hard drive, EMI shield, 5.25” bay filler
- Pre-routing cables

The Intel® Server Chassis P4304XXSHCN is compatible with the following Intel® Server Boards and workstation Boards:

- Intel® Server Board S1200BTL

Your Intel® Server Chassis P4304XXSHCN ships with the following items:

- Single fixed 365W power supply, installed in the chassis
- One fixed system rear fan, installed in the chassis

Preface

- 4X3.5" Hot-swap hard drive cage with four 3.5" hot-swap HDD carrier, installed in the chassis
- Front control panel, installed in the chassis
- Front Bezel for hot-swap hard drive, EMI shield, 5.25" bay filler
- Pre-routing cables

In addition, you may need or want to purchase one or more of the following accessory items for your server:

- Processor and HeatSink
- Memory DIMMs
- Hard drives
- CD-ROM or DVD-ROM drive
- RAID controller
- Operating System

For information about compatible accessories, memory, processors, and third-party hardware and ordering information for Intel products, see: <http://www.intel.com/support>.

Additional Information and Software

If you need more information about this product or information about the accessories that you can use with this server chassis, use the following resources. These files are available at:

<http://www.intel.com/support>.

Unless otherwise indicated in the following table, once on this web page, type the document or software name in the search field at the left side of the screen and select the option to search "This Product".

For this information or software	Use this Document or Software
For in-depth technical information about this product.	<i>Intel® Server Chassis P4000S Family Technical Product Specification</i> See the section on the web page titled, "Technical Specifications".
If you just received this product and need to install it.	<i>Intel® Server Chassis P4000S Family Quick Installation User's Guide</i> See the section on the web page titled, "Installation and Use".
Accessories or other Intel® server products.	<i>Spares and Configuration Guide</i> See the section on the web page titled, "Installation and Use".
To quickly and efficiently select compatible components to design a complete system.	Intel® Server Configurator tool A link to the Intel® Server Configurator tool is available under "Other Resources" at the right side of the web page screen
Hardware (peripheral boards, adapter cards, and so on) and operating systems tested with this product.	Tested Hardware and Operating System List See the section on the compatible server/workstation board web page titled, "Compatibility".
To make sure your system falls within the allowed power budget.	Power Budget Analysis Tool See the section on the web page titled, "Installation and Use".
For software to manage your Intel® server.	Intel Server Management Software See the section on the web page titled, "Installation and Use".
For firmware and drivers.	Firmware and Drivers See the section on the web page titled, "Software and Drivers".

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1 Server Chassis Features

This chapter briefly describes the main features of the Intel® Server Chassis P4000S family. This chapter provides a list of the server chassis features, and diagrams showing the location of important components and connections on the server chassis.

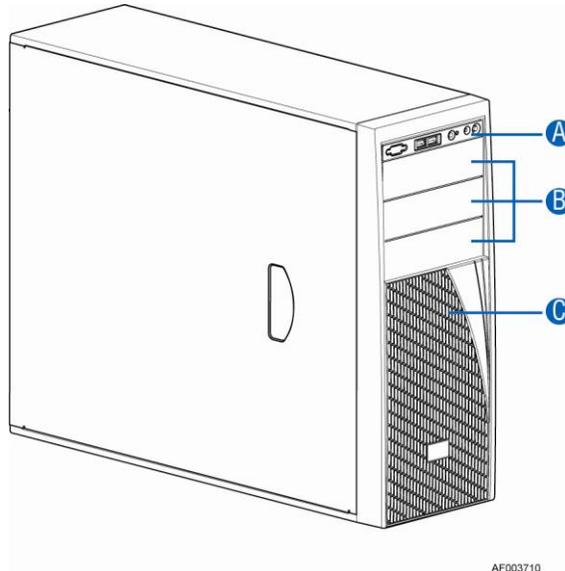
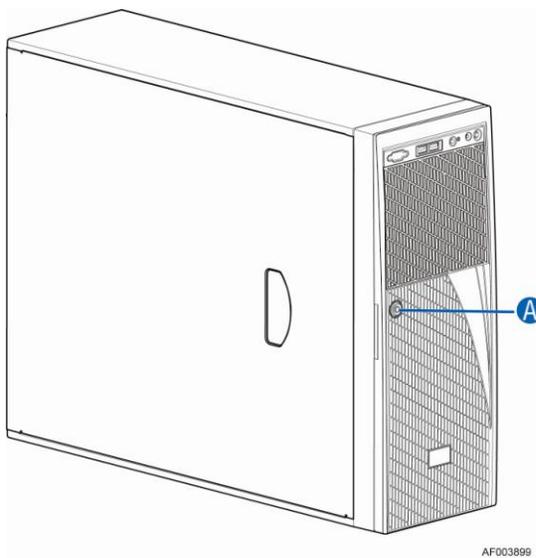


Figure 1. Front Closed Chassis View of Intel® Server Chassis P4304XXSFCN



A. Security Lock

Figure 2. Front Closed Chassis View of Intel® Server Chassis P4304XXSHCN

Table 1. Breakdown of Intel® Server Chassis P4000S family

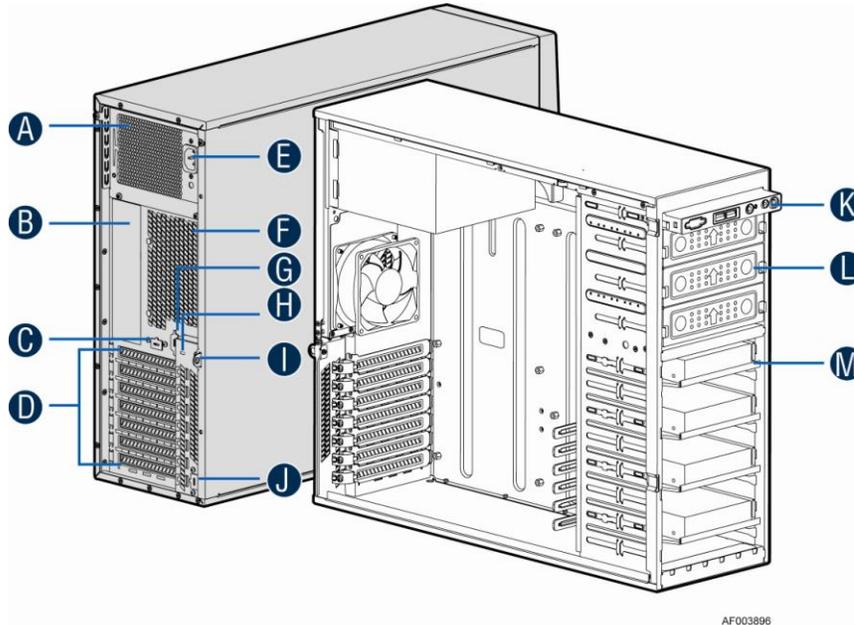
Intel® Server Chassis	Configuration Intel® Server Board
Intel® Server Chassis P4304XXSFCN	Intel® Server board S1200BTL, S1200BTS
Intel® Server Chassis P4304XXSHCN	Intel® Server board S1200BTL

Table 2 summarizes the features of the Intel® Server Chassis P4304XXSFCN, P4304XXSHCN

Table 2. Intel® Server Chassis P4304XXSFCN, P4304XXSHCN Base Features

Feature	Description
Dimensions	<ul style="list-style-type: none"> ▪ 17.2 inches high ▪ 6.8 inches wide ▪ 22 inches deep (without bezel: 21.5 inches) ▪ 17.74 kilograms
Hard Drives	<ul style="list-style-type: none"> ▪ Supports up to 4 fixed/hot-swap HDDs
Peripherals	<ul style="list-style-type: none"> ▪ Three multi-mount 5.25 peripheral bays
Control Panel (dependent on option selected)	<ul style="list-style-type: none"> ▪ Front Control Panel ▪ Intel® Local Control Panel (Optional)
LEDs and displays (dependent on option selected)	<ul style="list-style-type: none"> ▪ With Front Control Panel <ul style="list-style-type: none"> ○ NIC1 Activity ○ NIC2 Activity ○ NIC3 Activity ○ NIC4 Activity ○ Power/Sleep ○ System Status ○ System Chassis Identification ○ Hard Drive Activity
Power Supply	<ul style="list-style-type: none"> ▪ One fixed 365-W Power Supply with an integrated cooling fan
Fans	<ul style="list-style-type: none"> ▪ One 92mm system rear fan
USB 2.0	<ul style="list-style-type: none"> ▪ Two front panel USB ports with Front Control Panel ▪ Four Back panel USB ports (depending on server/workstation board)
Video	<ul style="list-style-type: none"> ▪ One rear panel video port

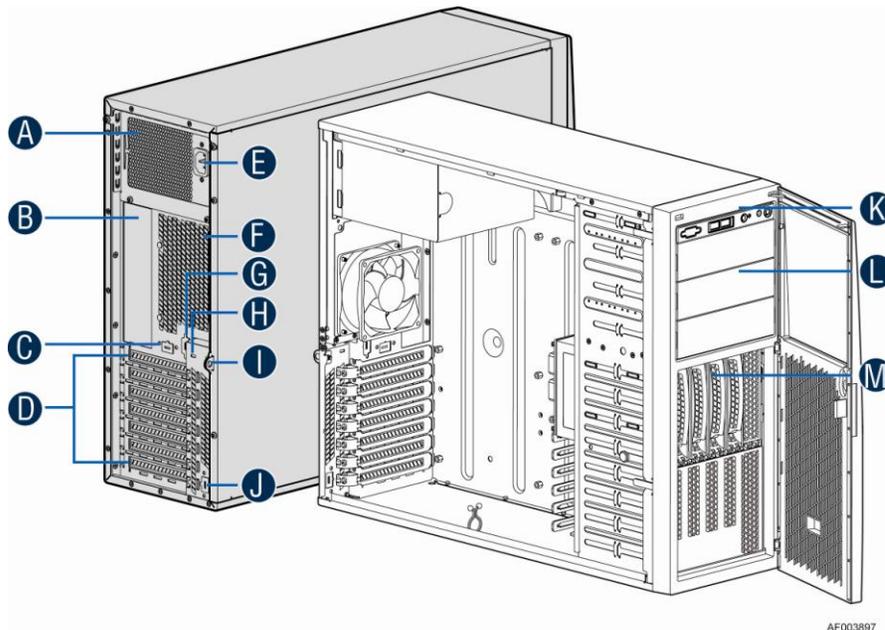
Component Identification



AF003896

- A. 365-W Fixed Power supply
- B. I/O Ports
- C. Alternate RMM4 Knockout
- D. PCI Add-in Board Slot Covers
- E. AC Input Power Connector
- F. 92-mm System Rear Fan
- G. Serial Port Knockout
- H. A Kensington* Cable Lock Mounting Hole
- I. Padlock Loop
- J. Alternate RMM4 Knockout
- K. Front Control Panel
- L. 5.25" Peripheral Bays
- M. Hard Drive Bays

Figure 3. Internal Chassis View of Intel® Server Chassis P4304XXSFCN



AF003897

- A. 365-W Fixed Power Supply
- B. I/O Ports
- C. Alternate RMM4 Knockout
- D. PCI Add-in Board Slot Covers
- E. AC Input Power Connector
- F. 92-mm System Rear Fan
- G. Serial Port Knockout
- H. A Kensington* Cable Lock Mounting Hole
- I. Padlock Loop
- J. Alternate RMM4 Knockout
- K. Front Control Panel
- L. 5.25" Peripheral Bays
- M. 4X3.5" Hot-swap HDD Cage

Figure 4. Internal Chassis View of Intel® Server Chassis P4304XXSFCN

Front Panel

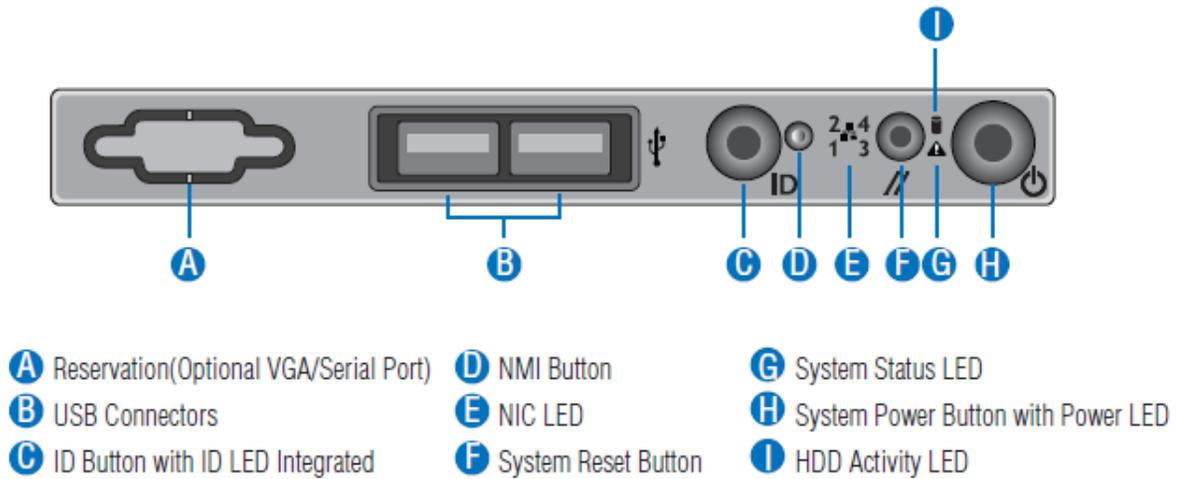


Figure 5. Front Panel Controls and Indicators

Descriptions of the front control panel LEDs are listed in the following table. See your server/workstation documentation for functionality of the buttons.

Table 3. Front Panel LED Functionality

LED	Color	Condition	What It Means
Power/Sleep	Green	On	Power on or S0 sleep.
	Green	Blink	S1 sleep or S3 standby only for workstation baseboards.
		Off	Off (also sleep S4/S5 modes).
Status	Green	On	System ready/No alarm.
	Green	Blink	System ready, but degraded: redundancy lost such as PS or fan failure; non-critical temp/voltage threshold; battery failure; or predictive PS failure.
	Amber	On	Critical alarm: Voltage, thermal, or power fault; CPU missing; insufficient power unit redundancy resource offset asserted.
	Amber	Blink	Non-Critical failure: Critical temp/voltage threshold; VDR hot asserted; min number fans not present or failed.
		Off	AC power off: System unplugged. AC power on: System powered off and in standby, no prior degraded/non-critical/critical state.
Global HDD Activity	Green	Blink	HDD access.
		Off	No access and no fault.
LAN 1-4 Activity/Link (LAN 1-2 for Intel® Server Board S1200BT)	Green	On	LAN link/no access.
	Green	Blink	LAN access.
		Off	Idle
Chassis	Blue	On	Front panel chassis ID button pressed.

LED	Color	Condition	What It Means
Identification	Blue	Blink	Unit selected for identification via software.
		Off	No identification.

 **NOTE**

This is dependent on server board support. Not all server boards support all features. For additional details about control panel functions supported for a specific board, refer to the individual server board specifications.

Mechanical Locks

All configurations of the server chassis can support the installation of a padlock loop (see letter “A” in the following figure) at the rear of the chassis.

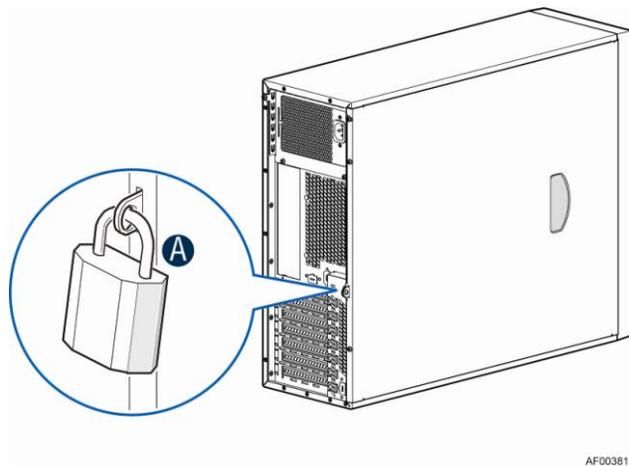


Figure 6. Mechanical Locks

2 Hardware Installations and Upgrades

Before You Begin

Before working with your server product, pay close attention to the “Appendix B: Safety Information”

This document provides instructions for adding and replacing chassis components. For instructions on replacing components on the server board, such as the processor and memory DIMMs, see the instructions provided with the server/workstation board.

Tools and Supplies Needed

- Phillips* (cross head) screwdriver (#1 bit and #2 bit)
- Needle nosed pliers
- Anti-static wrist strap and conductive foam pad (recommended)

System Reference

All references to left, right, front, top, and bottom assume the reader is facing the front of the chassis as it would be positioned for normal operation.

Removing and Installing the Chassis Cover

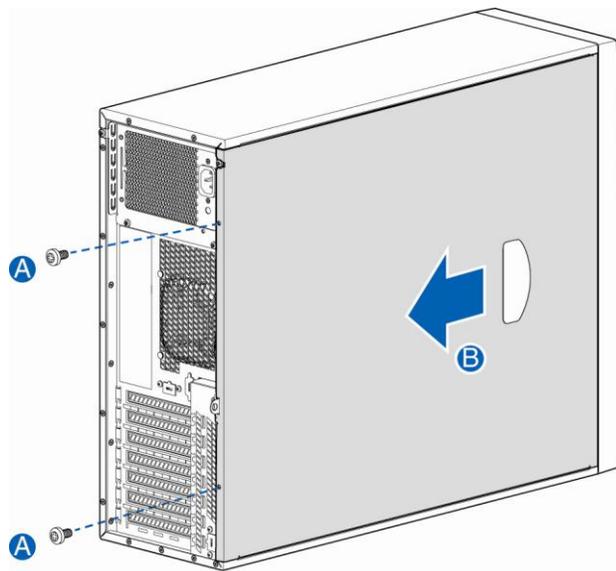
Remvoing the Chassis Cover

The Intel® Server Chassis P4000S family must be operated with the top cover in place to ensure proper cooling. You will need to remove the top cover to add or replace components inside of the platform. Before removing the top cover, power down the server and unplug all peripheral devices and the AC power cable.

 **NOTE**

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

1. Observe the safety and ESD precautions at the beginning of this book.
2. Turn off all peripheral devices connected to the server. Turn off the server.
3. Disconnect the AC power cord.
4. Remove the screws (see letter "A").
5. Slide the side cover back (see letter "B") and lift the cover outward to remove it.

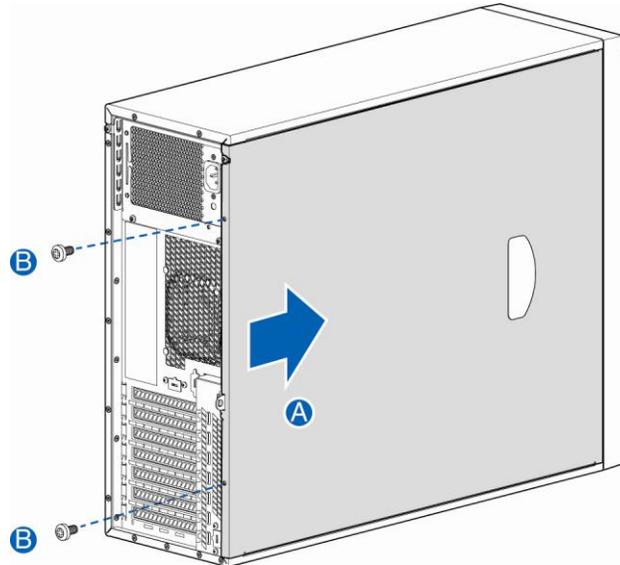


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Figure 7. Removing the Chassis Cover

Installing the Chassis Cover

1. Slide the chassis cover on the chassis (see letter "A").
2. Latch the cover securely to the chassis.
3. Secure the chassis cover with the screws (see letter "B").



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Figure 8. Installing the Chassis Cover

Removing and Installing the Front Bezel

Remvoing the Front Bezel

NOTE

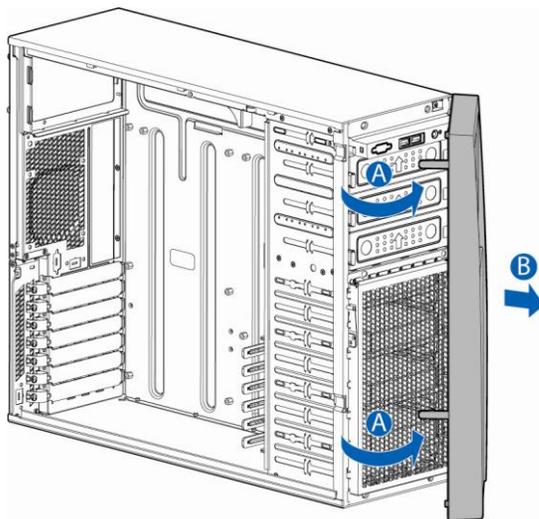
For a rack configuration or chassis on its side, position the chassis hanging over the edge of a table or workbench before removing the bezel.

CAUTION

Do not rotate the bezel assembly more than 40 degrees or you will damage the bezel assembly.

1. Observe the safety and ESD precautions at the beginning of this book.
2. Power down the server and unplug all peripheral devices and the AC power cable.
3. Remove the chassis cover. For instructions, see "Removing the Chassis Cover".

4. Release the two plastic tabs on the left side of the bezel assembly to disengage the tabs, and rotate the bezel assembly (see letter “A”) no more than 40 degrees outward.
5. At a 40-degree angle, push the bezel assembly away from the chassis (see letter “B”).
6. If the bezel assembly does not immediately disconnect from the chassis, tap the left-hand side of the bezel assembly to disengage the bezel hooks on the right-hand side of the chassis.



AF003603

Figure 9. Removing the Front Bezel

Installing the Front Bezel

1. Fit the right edge of the bezel assembly against the right side of the chassis.
2. Engage the plastic bezel hooks (see letter “A”) into the raised metal slots at the chassis edge.
3. Rotate the bezel assembly toward the chassis.
4. Latch the two plastic tabs (see letter “B”) on the left side of the bezel assembly to the chassis.

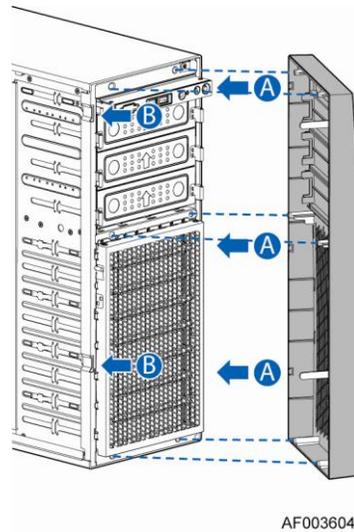


Figure 10. Installing the Front Bezel

Removing and Installing the EMI Shield

Removing the EMI Shield

1. Observe the safety and ESD precautions at the beginning of this book.
2. Power down the server and unplug all peripheral devices and the AC power cable.
3. Remove the chassis cover. For instructions, see “Removing the Chassis Cover”.
4. Remove the front bezel. For instructions, see “Removing the front bezel”.
5. Lift the EMI shield (see letter “A”) and move EMI shield outward from the chassis (see letter “B”).

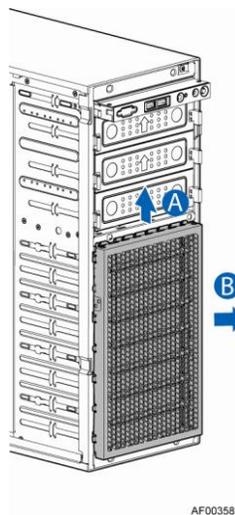
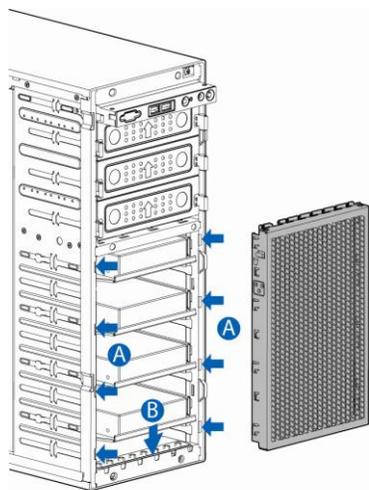


Figure 11. Removing the EMI Shield

Installing the EMI Shield

1. Fit the edges of the EMI Shield against the sides of the chassis (see letter “A”).
2. While pressing the EMI Shield, slide the EMI Shield downwards until the latches on the EMI Shield are engaged with the chassis (see letter “B”).



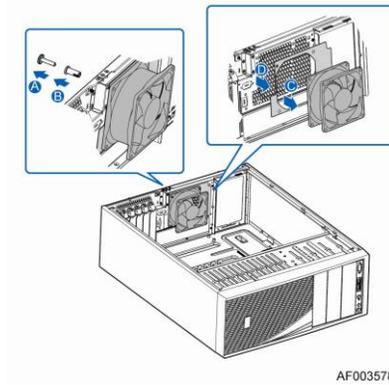
AF003580

Figure 12. Installing the EMI Shield

Removing and Installing the Fixed Fan

Removing the Fixed Fan

1. Observe the safety and ESD precautions at the beginning of this book.
2. Power down the server and unplug all peripheral devices and the AC power cable.
3. Remove the chassis cover. For instructions, see “Removing the Chassis Cover”.
4. Disconnect the appropriate fan power cable from the server board.
5. Locate the four nylon rivets on the four corners of the Fan assembly. From the inside of chassis, push the push-pins (inner part of the rivet) outward, then remove the sleeves (outer part of the rivet). See letter “A” and “B”
6. Remove the Fan and the rear vent cover under the Fan (see letter “C” and “D”).

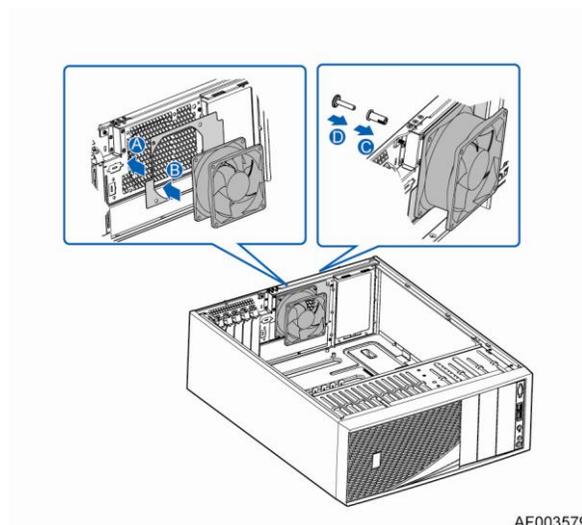


AF003578

Figure 13. Removing the Fixed Fan

Installing the Fixed Fan

1. Observe the safety and ESD precautions at the beginning of this book.
2. Power down the server and unplug all peripheral devices and the AC power cable.
3. Remove the chassis cover. For instructions, see “Removing the Chassis Cover”.
4. Press the rear vent cover and the fan against the inner side of the chassis rear, adjust until the rivet holes on the chassis, rear vent cover and the fan are aligned with each other (see letter “A” and “B”).
5. While holding the rear vent cover and fan, insert the sleeves of the nylon rivet into the rivet holes from outside of the chassis. Push the push-pins of the nylon rivet into the sleeves (see letter “C” and “D”).
6. Connect fan power cable to the server/workstation board. See the *Quick Start User’s Guide* or *Service Guide* provided with your Intel server/workstation board for appropriate connection location.



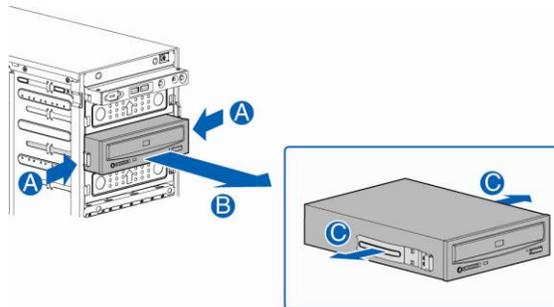
AF003579

Figure 14. Installing the Fixed Fan

Removing and Installing a DVD or CD-ROM Drive

Removing a DVD or CD-ROM Drive

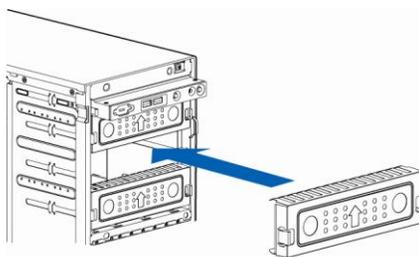
1. Observe the safety and ESD precautions at the beginning of this book.
2. Power down the server and unplug all peripheral devices and the AC power cable.
3. Remove the chassis cover. For instructions, see “Removing the Chassis Cover”.
4. Remove the front bezel if it is installed. For instructions, see “Removing the Front Bezel”.
5. Disconnect the power and data cables to the DVD/CD-ROM drive.
6. Press on the slide release latches (see letter “A” in the following figure) and pull the DVD/CD-ROM drive/slide assembly from the chassis (see letter “B” in the following figure). Remove the slides from the DVD or CD-ROM drive (see letter “C”).



AF003583

Figure 15. Removing DVD or CD-ROM Drive

7. If not replacing with another drive, reinsert an EMI shield into chassis (see below picture).



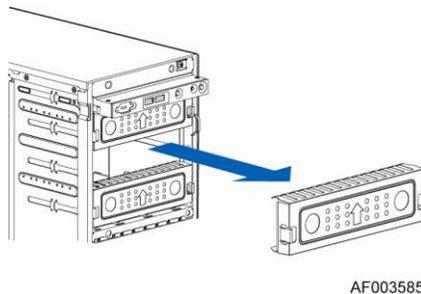
AF003584

Figure 16. Re-inserting Empty EMI Shield

8. Install the front bezel. For instructions, see “Installing the Front Bezel”.
9. Install the chassis cover. For instructions, see “Installing the Chassis Cover”.
10. Plug all peripheral devices and the AC power cable into the server.
11. Power up the server.

Installing a DVD or CD-ROM Drive

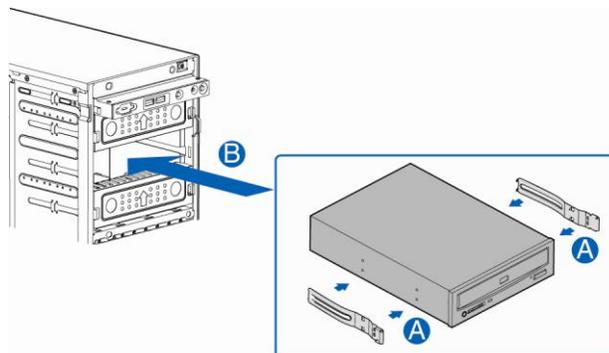
1. Observe the safety and ESD precautions at the beginning of this book.
2. Power down the server and unplug all peripheral devices and the AC power cable.
3. Remove the chassis cover. For instructions, see “Removing the Chassis Cover”.
4. Remove the front bezel if it is installed. For instructions, see “Removing the Front Bezel”.
5. Remove an EMI shield (see picture below).



AF003585

Figure 17. Removing EMI Shield

6. Attach slides to the DVD or CD-ROM drive by pressing the slides firmly into the side dimples on the DVD or CD-ROM drives (see letter “A”). Insert the drive/slide assembly into the device bay until the slides lock into place (see letter “B”).



AF003622

Figure 18. Installing DVD or CD-ROM Drive

7. Connect power and data cables.
8. Install the front bezel. For instructions, see “Installing the Front Bezel”.
9. Install the chassis cover. For instructions, see “Installing the Chassis Cover”.
10. Plug all peripheral devices and the AC power cable into the server.
11. Power up the server.

Removing and Installing Fixed Hard Drive(s)

Removing Fixed Hard Drive(s)

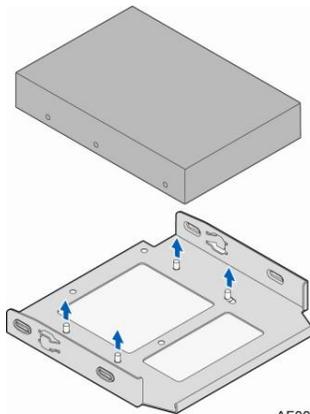
1. Observe the safety and ESD precautions at the beginning of this book.
2. Power down the server and unplug all peripheral devices and the AC power cable.
3. Remove the chassis cover. For instructions, see “Removing the Chassis Cover”.
4. Remove the front bezel if it is installed. For instructions, see “Removing the Front Bezel”.
5. Remove the EMI shield. For instructions, see “Removing and Installing the EMI Shield”.
6. Remove power and data cables from the hard drive connectors.
7. Pull out the HDD carrier tray.



AF003586

Figure 19. Removing Fixed Hard Drives

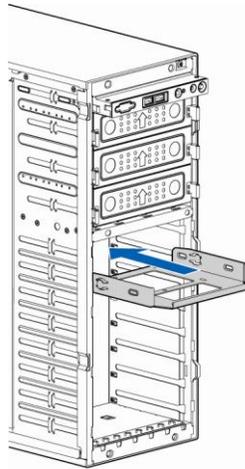
8. Use screwdriver to release the HDD from the carrier tray.



AF003590

Figure 20. Removing the HDD

9. Reinstall the HDD carrier tray into chassis.



AF003588

Figure 21. Reinstalling the HDD Carrier Tray

10. Install the EMI shield. For instructions, see “Installing the EMI Shield”.
11. Install the front bezel. For instructions, see “Installing the Front Bezel”.
12. Install the chassis cover. For instructions, see “Installing the Chassis Cover”.
13. Plug all peripheral devices and the AC power cable into the server.
14. Power up the server.

Installing Fixed Hard Drive(s)

1. Observe the safety and ESD precautions at the beginning of this book.
2. Power down the server and unplug all peripheral devices and the AC power cable.
3. Remove the chassis cover. For instructions, see “Removing the Chassis Cover”.
4. Remove the front bezel if it is installed. For instructions, see “Removing the Front Bezel”.
5. Remove the EMI shield. For instructions, see “Removing the EMI Shield”.
6. Pull out the HDD carrier tray.

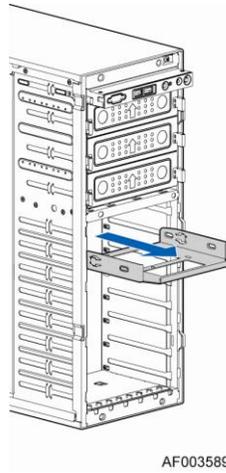


Figure 22. Removing Fixed Hard Drive

7. Secure the HDD on the HDD carrier tray with screws.

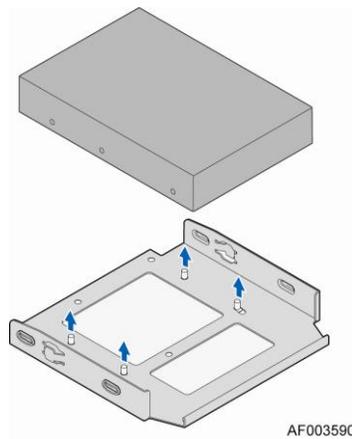


Figure 23. Securing the HDD Carrier Tray

8. Insert the HDD carrier tray into chassis.

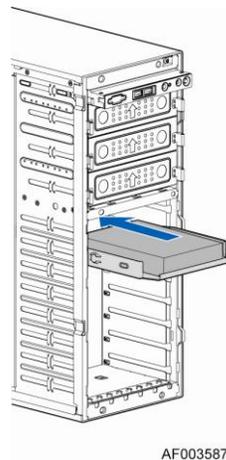


Figure 24. Inserting the HDD Carrier Tray

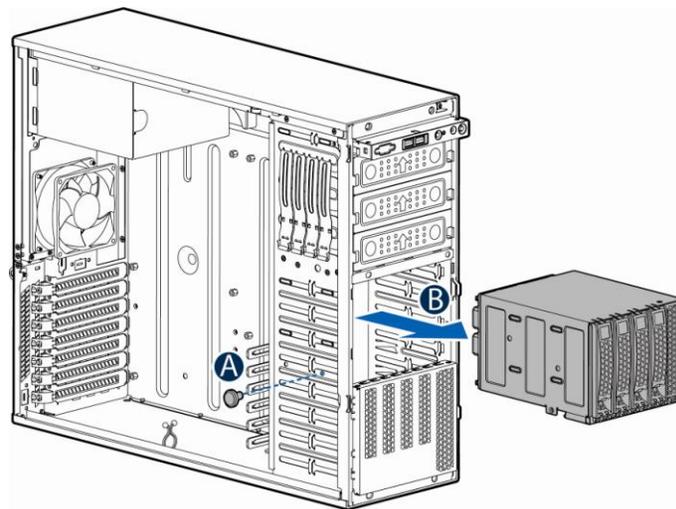
9. Connect power and data cables on HDD.

10. Install the EMI shield. For instructions, see “Installing the EMI Shield”.
11. Install the front bezel. For instructions, see “Installing the Front Bezel”.
12. Install the chassis cover. For instructions, see “Installing the Chassis Cover”.
13. Plug all peripheral devices and the AC power cable into the server.
14. Power up the server.

Removing and Installing 4x3.5” Hot-swap Hard Drive Cage

Removing 4x3.5” Hot-swap Hard Drive Cage with Backplane

1. Observe the safety and ESD precautions at the beginning of this book.
2. Power down the server and unplug all peripheral devices and the AC power cable.
3. Remove the chassis cover. For instructions, see “Removing the Chassis Cover”.
4. Remove the front bezel if it is installed. For instructions, see “Removing the Front Bezel”.
5. Disconnect the power and data cables to the backplane.
6. Use screwdriver to release the hot-swap hard drive cage (see letter “A”) from the chassis and remove the hot-swap hard drive cage (see letter “B”).



AF003791

Figure 25. Removing the 4x3.5” HDD Cage

7. Lift the EMI shield (see letter “A”) and move EMI shield outward from the chassis (see letter “B”).

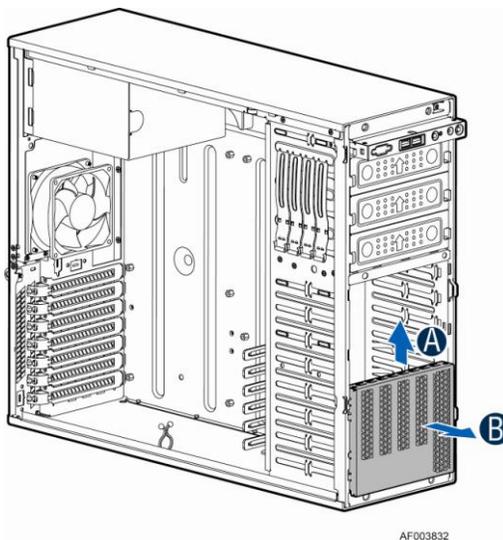


Figure 26. Removing the EMI shield

Installing 4x3.5" Hot-swap Hard Drive Cage with Backplane

CAUTION

It is critical that you connect the SAS/SATA data cables correctly from the SAS/SATA backplane to your server board or RAID controller card. Failure to do so may result in data loss.

1. Observe the safety and ESD precautions at the beginning of this book.
2. Power down the server and unplug all peripheral devices and the AC power cable.
3. Remove the chassis cover. For instructions, see "Removing the Chassis Cover".
4. Remove the front bezel if it is installed. For instructions, see "Removing the Front Bezel".
5. Install the hot-swap EMI HDD shield under the hot-swap cage.
 - 1) Fit the edges of the EMI Shield against the sides of the chassis (see letter "A").
 - 2) While pressing the EMI shield, slide the EMI Shield downwards until the latches on the EMI shield are engaged with the chassis (see letter "B").

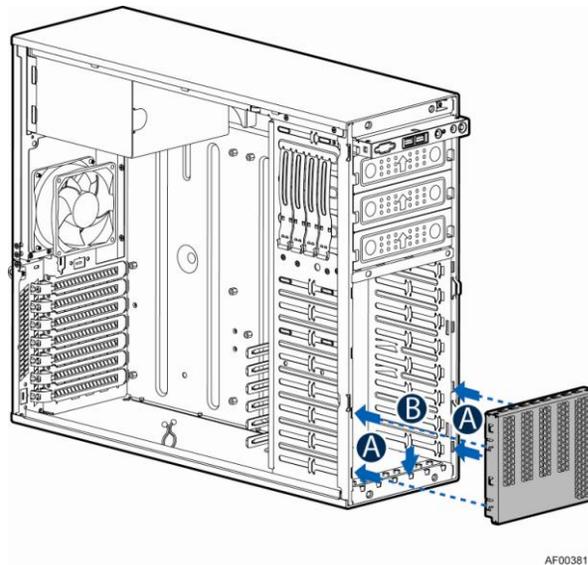


Figure 27. Installing the EMI shield

6. Install the 4x3.5" Hot-Swap Hard Drive Cage.
 - 1) Slide the 4x3.5" Hot-Swap Drive Cage into the slot (see letter "A").
 - 2) Secure the Hard Drive Cage with the Screw (see letter "B").

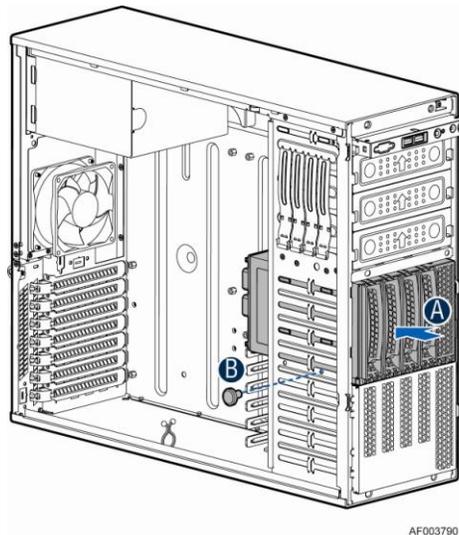
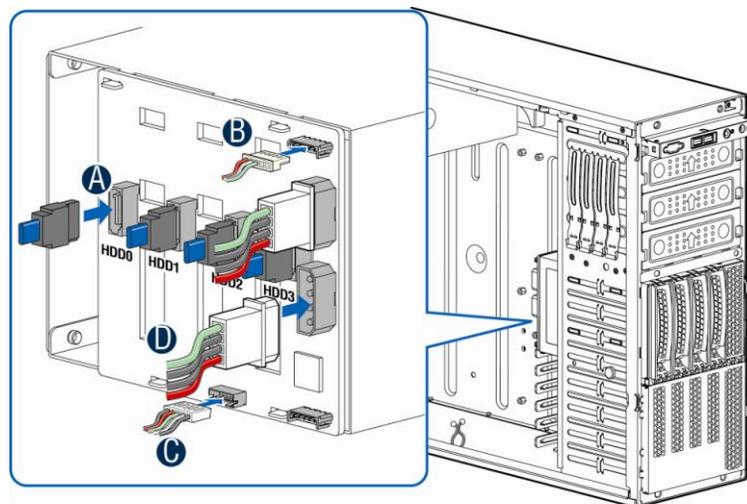


Figure 28. Installing the 4x3.5" Hot-Swap Hard Drive Cage

7. Make the backplane and server board/RAID controller card cable connections. Refer to the documentation that came with your server board and/or RAID controller card for instructions on connecting backplane cables to your server board or RAID controller card.
 - 1) Connect data cables (letter "A").
 - 2) Connect an I2C_IN cable (letter "B").
 - 3) Connect an SGPIO cable (letter "C").
 - 4) Connect power cable (letter "D").



AF003812

Figure 29. 4x3.5" Hot Swap Backplane Cable Connections

15. Install the front bezel. For instructions, see "Installing the Front Bezel".
16. Install the chassis cover. For instructions, see "Installing the Chassis Cover".
17. Plug all peripheral devices and the AC power cable into the server.
18. Power up the server.

Removing and Installing 4x3.5" Hot-swap Backplane

Removing 4x3.5" Hot-swap Backplane

1. Observe the safety and ESD precautions at the beginning of this book.
2. Power down the server and unplug all peripheral devices and the AC power cable.
3. Remove the chassis cover. For instructions, see "Removing the Chassis Cover".
4. Remove the front bezel if it is installed. For instructions, see "Removing the Front Bezel".
5. Remove the 4x3.5" Hot-swap Hard drives cage. For instructions, see "Removing 4x3.5" Hot-swap Hard Drive Cage".
6. Remove the screw on the backplane (see letter "A").
7. Push the backplane (see letter "B") and remove the backplane from the chassis (see letter "C").

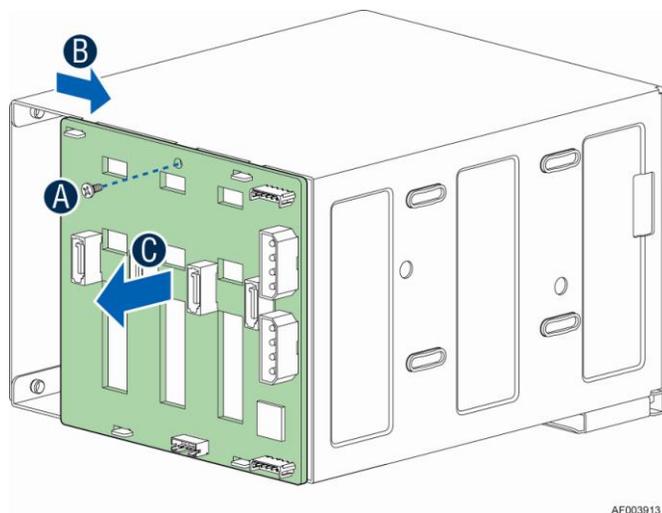


Figure 30. Removing 4x3.5" Hot-swap Backplane

Installing 4x3.5" Hot-swap Backplane

1. Observe the safety and ESD precautions at the beginning of this book.
2. Power down the server and unplug all peripheral devices and the AC power cable.
3. Remove the chassis cover. For instructions, see "Removing the Chassis Cover".
4. Remove the front bezel if it is installed. For instructions, see "Removing the Front Bezel".
5. Remove the 4x3.5" Hot-swap Hard drives cage. For instructions, see "Removing 4x3.5" Hot-swap Hard Drive Cage".
6. Attach the backplane to the back side of the hot-swap drive cage, and make sure the hooks on the cage are inserted in the backplane holes (see letter "A").
7. Push the backplane (see letter "B") and secure the backplane with the screw (see letter "C").

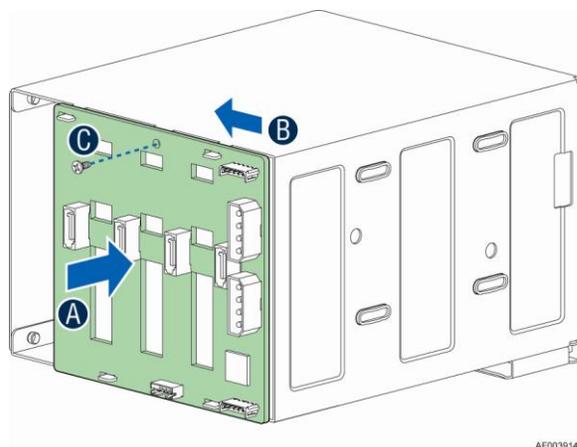


Figure 31. Installing 4x3.5" Hot-swap Backplane

8. Install the 4x3.5" Hot-swap Hard drives cage. For instructions, see "installing 4x3.5" Hot-swap Hard Drive Cage".
9. Install the front bezel. For instructions, see "Installing the Front Bezel".
10. Install the chassis cover. For instructions, see "Installing the Chassis Cover".
11. Plug all peripheral devices and the AC power cable into the server.
12. Power up the server.

Installing Hot-swap Hard Drive

Installing 3.5" Hard Disk Drive



CAUTION

The 3.5" hard disk drive can be a SSD or SAS and SATA. Refer to your server board or system documentation to determine SSD/SAS/SATA support for your server system.

1. Remove the four screws securing the 2.5" HDD interface bracket and remove the 2.5" HDD interface bracket.

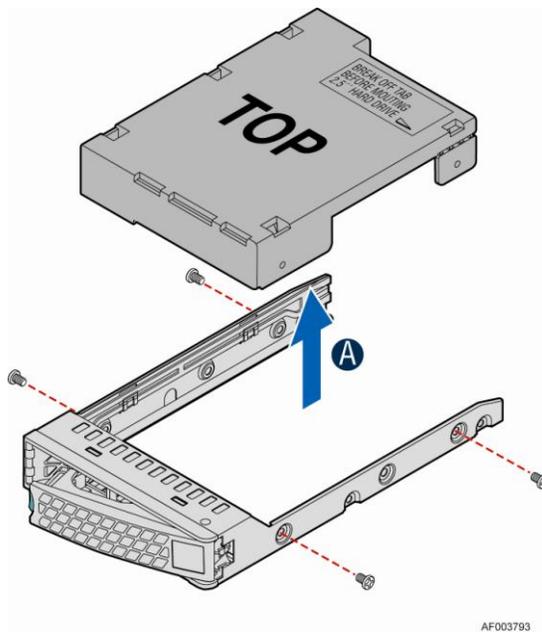


Figure 32. Removing the 2.5" HDD interface bracket from Carrier

2. Install the 3.5" hard disk drive using the same four screws as shown. Make sure the connector end of the drive matches the backplane connector.

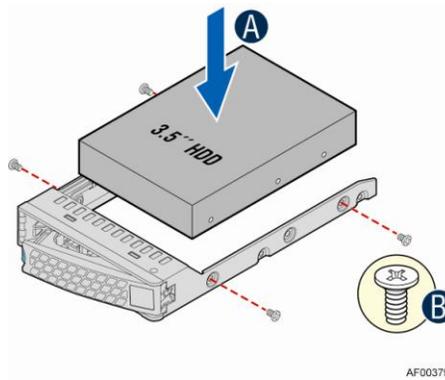


Figure 33. Installing the 3.5" HDD into the Carrier

Installing 2.5" Hard Disk Drive



CAUTION

The 2.5" hard disk drive can be a SSD or SAS and SATA. Refer to your server board or system documentation to determine SSD/SAS/SATA support for your server system.

1. Remove the four screws securing the 2.5" HDD interface bracket and remove the 2.5" HDD interface bracket.

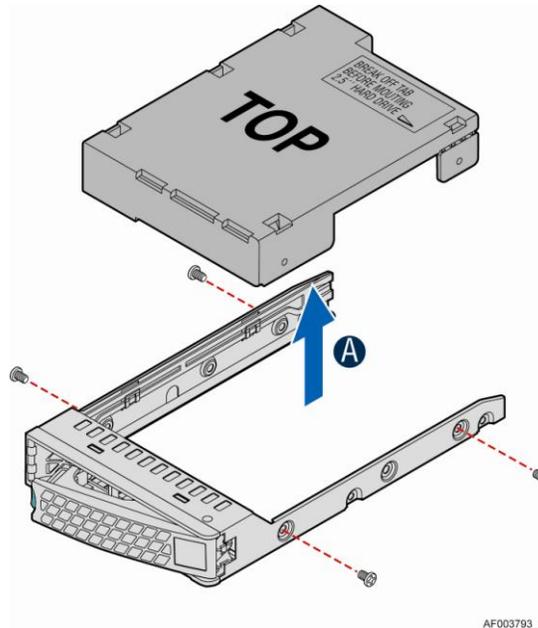
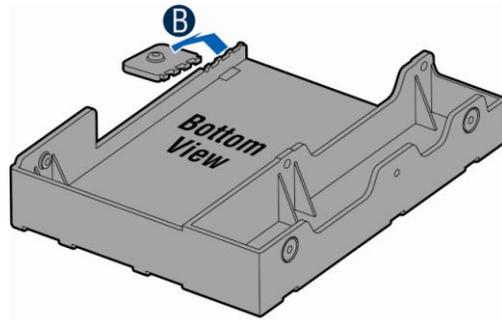


Figure 34. Removing the 2.5" HDD interface bracket from Carrier

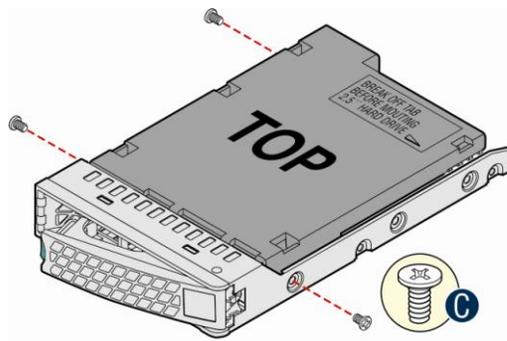
2. Break off the tab on the 2.5" HDD interface bracket (see letter "B").



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Figure 35. Breaking off the tab on the bracket

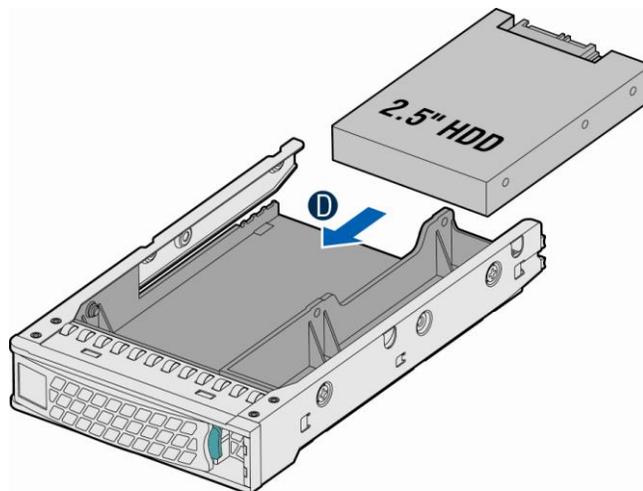
3. Install the 2.5" Hard Drive Interface Bracket from top. Secure the bracket using the same screws as shown.



AF003837

Figure 36. Installing 2.5" HDD interface bracket into Carrier

4. Slide the 2.5" HDD into the bracket to align the screw holes with the right and left rail (See figure "D"). Secure the hard disk drive using the screws for the 2.5" HDD (See figure "E").



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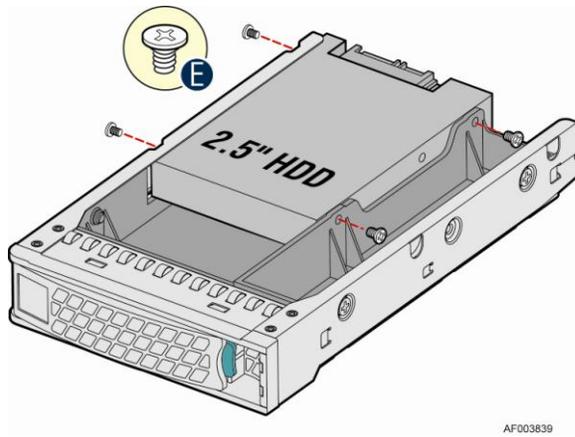


Figure 37. Installing the 2.5" HDD into carrier

Removing and Installing PCI Add-in Board(s)

Removing PCI Add-in Board(s)



CAUTION

When removing a full-length add-in card, you must pull back the latch on the plastic card guide at the front of the chassis to release the card from the card guide.

1. Observe the safety and ESD precautions at the beginning of this book.
2. Power down the server and unplug all peripheral devices and the AC power cable.
3. Remove the chassis cover. For instructions, see "Removing the Chassis Cover".
4. Remove any cables attached to the add-in card, if necessary.
5. Press the tab to release the PCI add-in card retention device and rotate the device to outwards of the chassis (see letter "A").
6. Firmly grab the PCI add-in board by its top edge or outer corners and remove from the expansion slot on the server board (see letter "B").

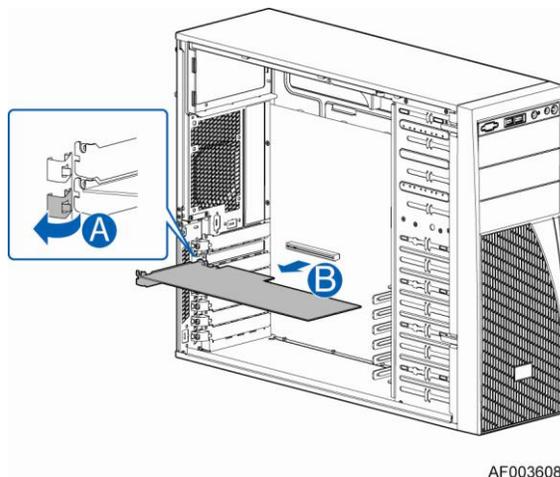


Figure 38. Removing the PCI add-in card

7. Install the PCI blank filler and close the PCI add-in card retention device.
8. Install the chassis cover. For instructions, see “Installing the Chassis Cover”.
9. Plug all peripheral devices and the AC power cable into the server.
10. Power up the server.

Installing PCI Add-in Board(s)



CAUTION

You may want to install an operating system before installing any add-in boards.

Do not overload the server board by installing add-in boards that draw excessive current.

Add-in boards can be extremely sensitive to ESD and always require careful handling. After removing the board from its protective wrapper, place it component side up on a grounded, static-free surface. Do not slide the board over any surface.

When removing a full-length add-in card, you must pull back on the latch on the plastic card guide at the front of the chassis to release the card from the card guide.

1. Observe the safety and ESD precautions at the beginning of this book.
2. Power down the server and unplug all peripheral devices and the AC power cable.
3. Remove the chassis cover. For instructions, see “Removing the Chassis Cover”.
4. Remove the PCI slot shield (see letter “A”) by pushing from the shield out from inside the chassis.

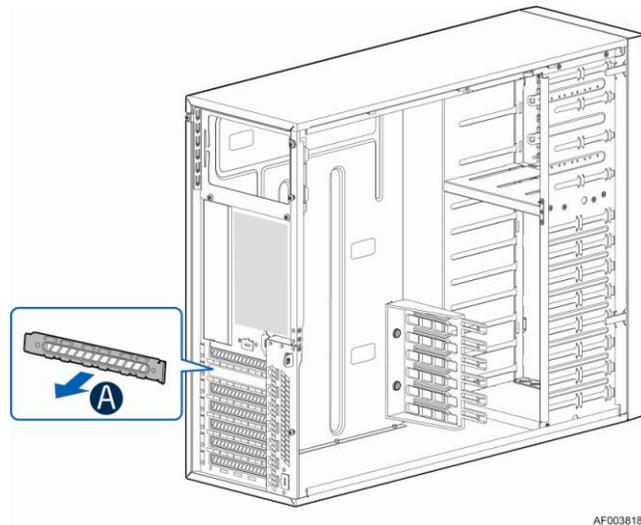


Figure 39. Preparing Chassis for Addition of PCI add-in board

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

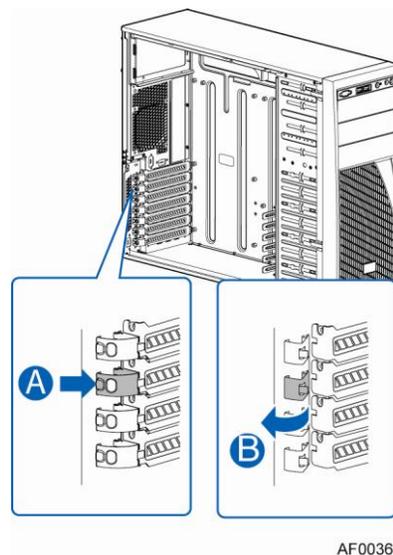


Figure 40. Open the back panel PCI add-in board retention device

- Remove the PCI add-in board from its protective wrapper. Be careful not to touch the components or gold edge connectors. Place the add-in board on an anti-static surface. Record the type and serial number of the add-in board in your equipment log. Set the jumpers or switches on the board according to the manufacturer's instructions.
- Hold the PCI add-in board by its top edge or upper corners. Firmly press the add-in board into an expansion slot on the server board (see letter "B" in the following figure). Close the back panel PCI add-in card retention device (see letter "C").

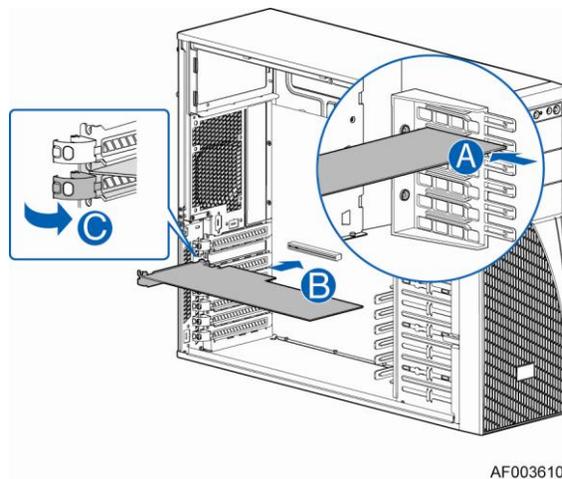


Figure 41. Installing PCI Add-in Board

8. Attach cables if necessary.
9. Install the chassis cover. For instructions, see “Installing the Chassis Cover”.
10. Plug all peripheral devices and the AC power cable into the server.
11. Power up the server.

Removing and Installing the Fixed Power Supply

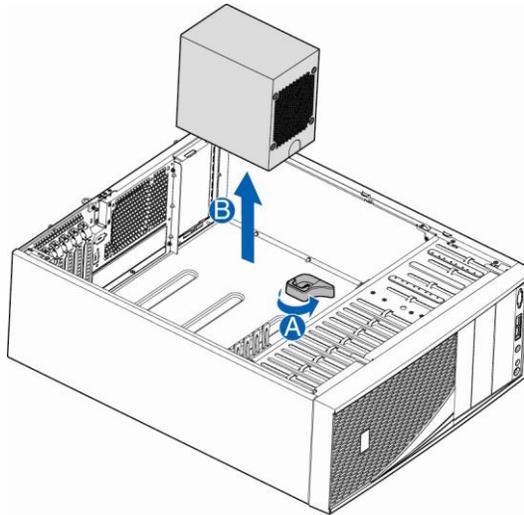


WARNING

Hazardous voltage, current, and energy levels are present inside the power supply. There are no user-serviceable parts inside it; servicing should be done by technically qualified personnel.

Removing the Fixed Power Supply

1. Observe the safety and ESD precautions at the beginning of this book.
2. Power down the server and unplug all peripheral devices and the AC power cable.
3. Remove the chassis cover. For instructions, see “Removing the Chassis Cover”.
4. Disconnect all internal power cables from chassis components and server board.
5. Rotate the power supply locking device counter-clockwise (see letter “A”) and remove the fixed power supply (see letter “B”).

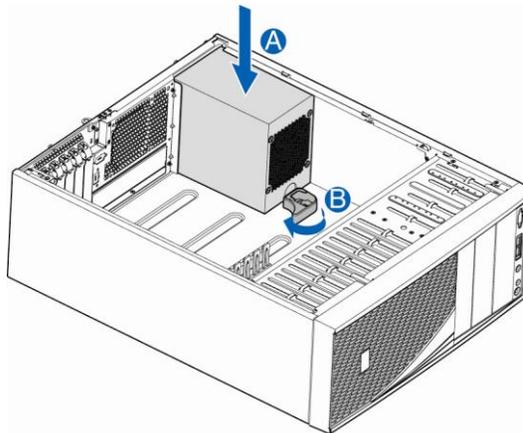


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Figure 42. Removing Fixed Power Supply

Installing the Fixed Power Supply

1. Insert new fixed power supply and rotate the power supply locking device clockwise (see letter “A” and “B”).



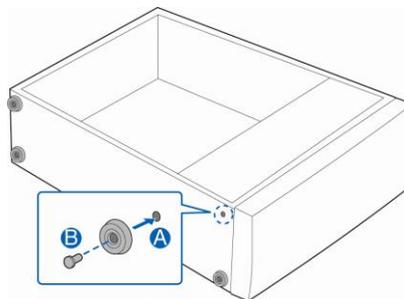
AF003614

Figure 43. Installing Fixed Power Supply

2. Reconnect power cables to other chassis components as appropriate.
3. Install the chassis cover. For instructions, see “Installing the Chassis Cover”.
4. Plug all peripheral devices and the AC power cable into the server.
5. Power up the server.

Installing the Chassis Feet (Pedestal Configuration Only)

1. Insert rubber foot into chassis hole (see letter “A”).
2. Secure foot by inserting pin through the rubber foot (see letter “B”).
3. Repeat above steps until all four feet are installed.



AF003561

Figure 44. Installing the Chassis Feet

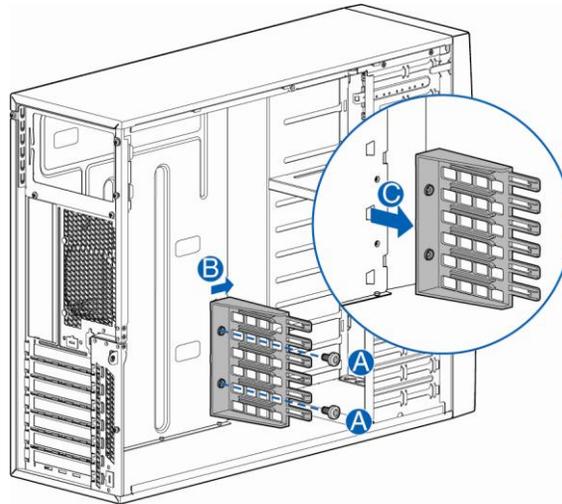
Removing and Installing the PCI Card Guide

Removing PCI Card Guide

 **NOTE**

When full length PCI card is plugged, PCI Card Guide is needed to secure the PCI Card.

1. Observe the safety and ESD precautions at the beginning of this book.
2. Power down the server and unplug all peripheral devices and the AC power cable.
3. Remove the chassis cover. For instructions, see “Removing the Chassis Cover”.
4. Unplug all the PCI cards if there are PCI cards plugged in.
5. Remove the two screws securing the PCI card guide (See letter “A”).
6. Remove the PCI card guide (See letter “B” and letter “C”).



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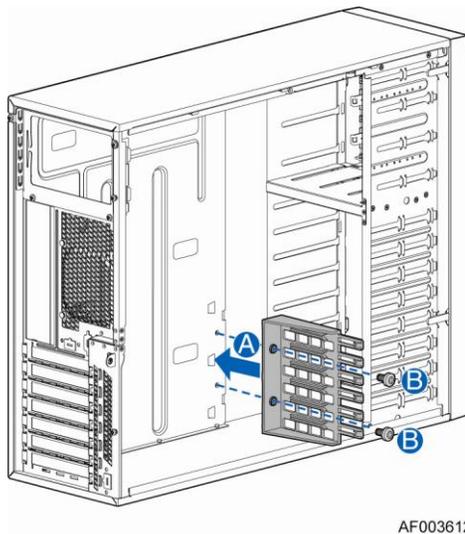
Figure 45. Removing the PCI Guard

Installing PCI Card Guide

NOTE

Required only when full length PCI card is plugged.

1. Observe the safety and ESD precautions at the beginning of this book.
2. Power down the server and unplug all peripheral devices and the AC power cable.
3. Remove the chassis cover. For instructions, see “Removing the Chassis Cover”.
4. Unplug all the PCI cards if there are PCI cards plugged in.
5. Insert tabs on left side of PCI Card Guide into slots in chassis (See letter “A”).
6. Secure the PCI Card Guide with the screws (See letter “B”).
7. Reconnect power cables to other chassis components as appropriate.
8. Install the chassis cover. For instructions, see “Installing the Chassis Cover”.
9. Plug all peripheral devices and the AC power cable into the server.
10. Power up the server



AF003612
Figure 46. Installing the PCI Guard

Removing and Installing the Front Panel Tray



CAUTION

The front panel is NOT hot swappable. Before removing or replacing the control panel, you must first take the server out of service, turn off all peripheral devices connected to the system, turn off the system by pressing the power button, and unplug the AC power cord from the system or wall outlet.

Removing the Front Control Panel Tray

1. Observe the safety and ESD precautions at the beginning of this book.
2. Power down the server and unplug all peripheral devices and the AC power cable.
3. Remove the chassis cover. For instructions, see “Removing the Chassis Cover”.
4. Remove the front bezel if it is installed. For instructions, see “Removing the Front Bezel”.
5. Disconnect the front panel cable, USB cable from the server board

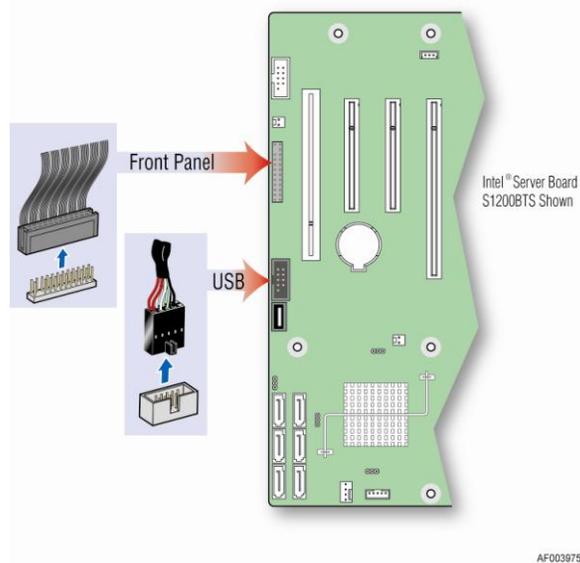


Figure 47. Disconnecting the Cables from the Server Board

6. Loosen the front panel cable and USB cable from the wire clip on chassis
7. Press the latch at the sides of the front panel (see Letter "A") and carefully slide the front panel out (see Letter "B").

CAUTION

Do not slide the front panel out far from the front of the chassis before you disconnect the instruction cable from the front panel board.

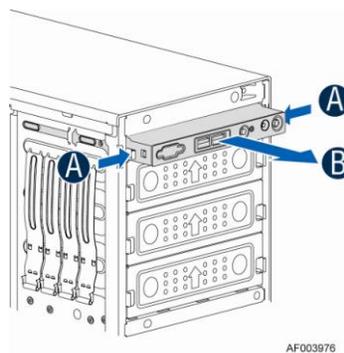
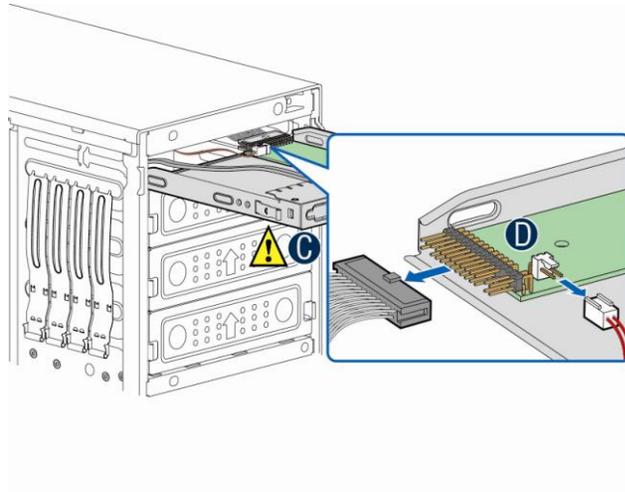


Figure 48. Sliding the Front Panel Tray out from the Chassis

8. Slide the front panel out from the front of the chassis to the place (see Letter "C") so that you can reach the front panel and USB cable connectors at the rear of the front panel. Then disconnect the front panel cable and intrusion switch cable from the front panel board (see Letter "D").



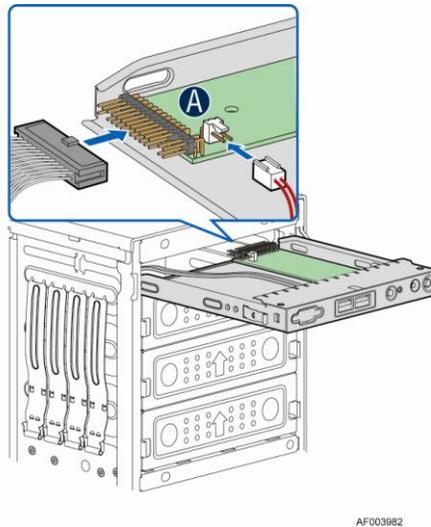
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Figure 49. Disconnecting the Cables from Front Panel Board

9. Slide the front panel tray out.

Installing the Fron Panel Tray

1. Observe the safety and ESD precautions at the beginning of this book.
2. Power down the server and unplug all peripheral devices and the AC power cable.
3. Remove the chassis cover. For instructions, see “Removing the Chassis Cover”.
4. Remove the front bezel if it is installed. For instructions, see “Removing the Front Bezel”.
5. Attach the front panel cable and the chassis intrusion cable (see Letter “A”) to the front panel board.



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Figure 50. Connecting the Cables to the Front Panel Board

- Slide the front panel tray in chassis

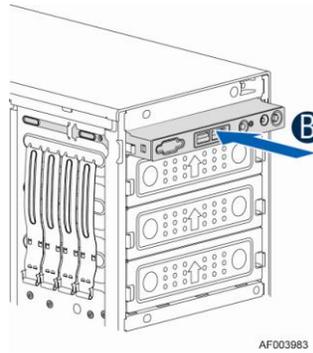


Figure 51. Installing the Front Panel Tray in Chassis

- Connect the front panel and USB cables to server board.

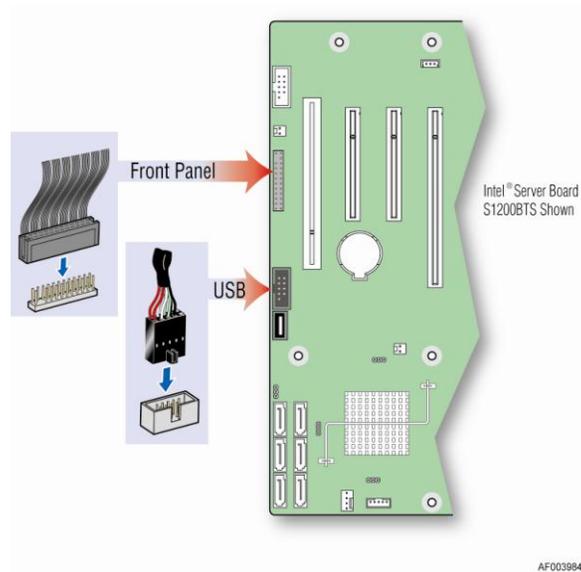


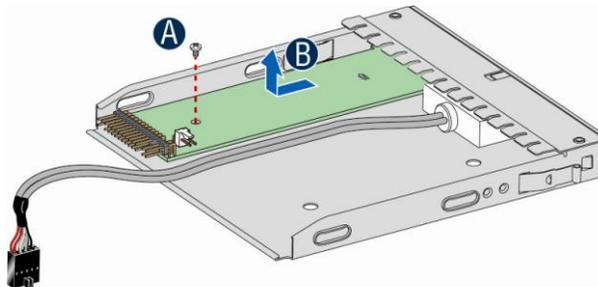
Figure 52. Connecting the Cables to Server Board the Front Panel Tray in Chassis

- Install the front bezel. For instructions, see “Removing and Installing the Front Bezel”.
- Install the chassis cover. For instructions, see “Installing the Chassis Cover”.
- Plug all peripheral devices and the AC power cable into the server.
- Power up the server.

Replacing the Front Panel Board

- Observe the safety and ESD precautions at the beginning of this book.
- Power down the server and unplug all peripheral devices and the AC power cable.
- Remove the chassis cover. For instructions, see “Removing the Chassis Cover”.

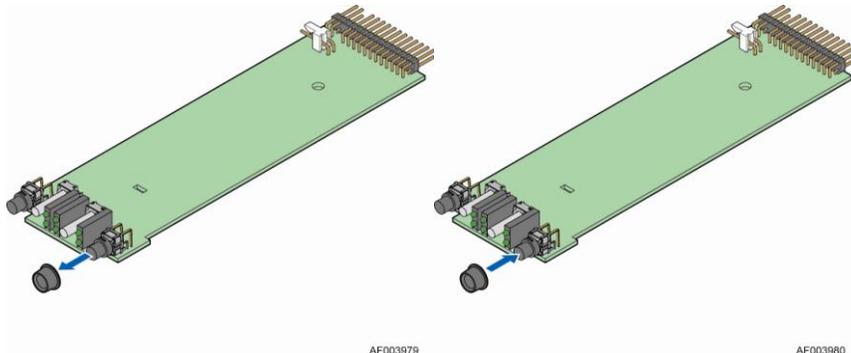
4. Remove the front bezel if it is installed. For instructions, see “Removing the Front Bezel”.
5. Remove the front panel tray if it is installed. For instructions, see “Removing the Front Panel Tray”.
6. Loosen the screw “see Letter “A”) securing the front panel board and remove the front panel board (see Letter “B”)



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Figure 53. Removing the Front Panel Board

7. Remove the cap on the front panel board power LED and install the cap on the new front panel board.

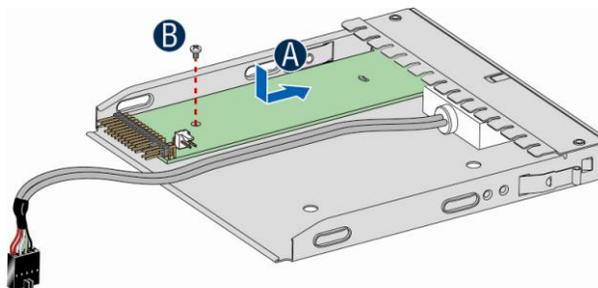


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Figure 54. Removing and Installing the Cap on Front Panel Board

8. Attach the new front panel board in the front panel tray (see letter “A”) and secure the new front panel board with the screw (see letter “B”).



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Figure 55. Installing the New Front Panel Board

9. Install the front panel tray with the front panel board. For instructions, see “Installing the Front Panel Tray”.
10. Install the front bezel. For instructions, see “Removing and Installing the Front Bezel”.

12. Install the chassis cover. For instructions, see “Installing the Chassis Cover”.
13. Plug all peripheral devices and the AC power cable into the server.
14. Power up the server.

Installing and/or Removing a Server/Workstation Board

NOTE

The server/workstation board you can install in your chassis depends upon the chassis model.

To install or remove a server board, do the following:

1. Observe the safety and ESD precautions at the beginning of this book.
2. Power down the server and unplug all peripheral devices and the AC power cable.
3. Remove the chassis cover. For instructions, see “Removing the Chassis Cover”.
4. Remove the front bezel assembly if it is installed. For instructions, see “Removing the Bezel Assembly (Pedestal Only)”
5. Remove any PCI add-in boards that are present. For instructions, see “Removing PCI Add-in Board(s)”.
6. If installing a server board, refer to the *Service Guide* and/or *Quick Start User's Guide* that shipped with your Intel® server/workstation board for installation instructions. Use the mounting screws, bumpers and standoffs (if necessary) that came with your chassis to secure the server/workstation board to the chassis. Make sure the server/workstation board is properly seated and then tighten the screws firmly, starting with the screws at the center of the server/workstation board. Make cable connections per instructions in the Intel® server/workstation board *Service Guide* and/or *Quick Start User's Guide*.
7. If removing a server board, disconnect all cables connected to the server board.
8. Remove the mounting screws, starting with the screws at the center of the server/workstation board. Remove the server board.
9. If desired, install any PCI Add-in boards. For instructions, see “Installing PCI Addin Board(s)”
10. Re-install the front bezel assembly. For instructions, see “Installing the Front Bezel (Pedestal Only)”.
11. Re-install the chassis cover. For instructions, see “Installing the Chassis Cover”.
12. Plug all peripheral devices and the AC power cable into the server.
13. Power up the server.

Connecting and Disconnecting Cables to or from Server Workstation Board



CAUTION

Use caution when routing cables to ensure that cables do not obstruct fan airflow.

1. See your *Intel® Server/Workstation Board Service Guide* or *Quick Start User's Guide* for cable connection locations.
2. If your server has a hot swap power supply, secure the cables (that route toward the server/workstation board) to the chassis.

Connecting Cables to Server/Workstation Board

1. If your server has a hot swap power supply, connect the cables (that route toward the server/workstation board) to the chassis.
2. See your *Intel® Server/Workstation Board Service Guide* or *Quick Start User's Guide* for cable connection locations.

Removing Cables from Server/Workstation Board

1. If your server has a hot swap power supply, remove the cables (that route toward the server/workstation board) to the chassis.
2. See your *Intel® Server/Workstation Board Service Guide* or *Quick Start User's Guide* for cable connection locations.

3 Technical Reference

Power Supply Specification

365-W Single Power Supply Input Voltage

- 100-127V at 50/60 Hz; 10A max.
- 200-240V at 50/60 Hz; 10A max.

365-W Single Power Supply Output Voltages

The following table defines the minimum power and current ratings. The power supply must meet both static and dynamic voltage regulation requirements for all conditions.

Table 4. Power Supply Output Voltages

Parameter	Min	Max.	Peak	Unit
5V	0.3	10.0		A
12V1	0.7	16.0	18.0	A
12V2	1.5	16.0	18.0	A
3.3V	0.5	18.0		A
- 12V	0.0	0.5		A
5V	0.0	2.5	3.0	A

Notes:

1. Max combined power for all output shall not exceed 365W.
2. Peak combined power for all outputs shall not exceed 385W.
3. Max combined power of 12V1 and 12V2 shall not exceed 318W.
4. Max combined power on 3.3V and 5V shall not exceed 80W.
5. Peak power and current loading shall be supported for a minimum of 12 second.

System Environmental Requirements

Table 5. Environmental Requirements

Parameter	Limits
Operating temperature	+10°C to +35°C with the maximum rate of change not to exceed 10°C per hour.
Non-operating temperature	-40°C to +70°C

Technical Reference

Parameter	Limits
Non-operating humidity	50% to 90%, non-condensing with a maximum wet bulb of 28° C (at temperatures from 25° C to 35° C)
Acoustic noise	7.0 BA LWA in a typical office ambient temperature (18-25°C)
Shock Operating	Half sine, 2 g, 11 milliseconds
Shock Unpackaged	Trapezoidal, 25 g, velocity change 136 inches/second (40 lbs to < 80 lbs)
Shock Packaged	Operational after a free fall of 9 – 36 inches depending on the weight
Vibration unpackaged	5 Hz to 500 Hz 2.20 g RMS random
Vibration packaged	5 Hz to 500 Hz 1.09 g RMS random
Packaged shock	Operational after a free fall of 9 – 36-inches depending on the weight
ESD	Air discharge: 0 to 15.0kV; Contact Discharge: 0 to 8.0kV

Current Usage

Calculation Power Usage

The total combined wattage for your configuration **must be less than the wattage rating for your power supply**. 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

Table 6. Power Usage Worksheet

Device	Current (maximum) at voltage level					
	+3.3V	+ 5V	-5 V	+12 V	-12 V	5V Standby
Baseboard, Front Panel						
Board and Fans						
Processor(s)						
Memory						
3.5-inch Diskette Drive						
CD-ROM Drive						
Second 5.25-inch Device						
Third 5.25-inch Device						
1st Hard Drive						
2nd Hard Drive						
3rd Hard Drive						
4th Hard Drive						

	Current (maximum) at voltage level					
Expansion Board 1						
Expansion Board 2						
Expansion Board 3						
Expansion Board 4						
Expansion Board 5						
Expansion Board 6						
Intel® Remote Management						
Module						
Control Panel						
Total Current						

Worksheet, Total Combined Power Used by the Server

- From the previous worksheet, enter the total current for each column.
- Multiply the voltage by the total current to get the total wattage for each voltage level.

Add the total wattage for each voltage level to arrive at the total combined power usage for the power subsystem.

Table 7. Power Usage Worksheet 2

Voltage level and total current (V X A = W)	Total watts for each voltage level
(+3.3 V) X (_____ A)	_____ W
(+5 V) X (_____ A)	_____ W
(+12 V) X (_____ A)	_____ W
(-12 V) X (_____ A)	_____ W
(5 V standby) X (_____ A)	_____ W
Total Combined Wattage	_____ W

Appendix A: Regulatory and Compliance Information

Please refer to the Server Products Regulatory and Safety document for the product regulatory compliance reference. The document can be downloaded from <http://www.intel.com/support/motherboards/server/>.

Appendix B: Safety Information

Please refer to the Server Products Regulatory and Safety document for the Safety Information. The document can be downloaded from <http://www.intel.com/support/motherboards/server/>.

Appendix C: Installation/Assembly Safety Instructions

Please refer to the Server Products Regulatory and Safety document for the Installation/Assembly Safety Instructions. The document can be downloaded from <http://www.intel.com/support/motherboards/server/>.

Appendix D: Getting Help

If you encounter an issue with your server platform, please follow these steps to obtain support on your product.

1. Get connected to our [support web page](#) for 24x7 support when you need it to get the latest and most complete technical support information on all Intel Enterprise Server and Storage Platforms. Information available at the support site includes:
 - o Latest BIOS, firmware, drivers and utilities
 - o Product documentation, installation and Quick Start Guides
 - o Full product specifications, technical advisories and errata
 - o Compatibility documentation for memory, hardware add-in cards, chassis support matrix, and operating systems
 - o Server and chassis accessory parts list for ordering upgrades or spare parts
 - o A searchable knowledgebase to search for product information throughout the support site
2. Send an email to Intel's technical support center using the following online form if you still cannot obtain a solution to your issue.
3. Lastly, you can contact an Intel support representative using one of the following support phone numbers. Charges may apply. Intel customer support suggests filling out the [issue report form](#) to better service the issue.

Intel now offers Channel Program members around-the-clock [24x7 technical phone support+](#) on Intel® server boards, server chassis, server RAID controller cards, and Intel® Server Management.

NOTE

You must login in to the reseller site to obtain the 24x7 number.

Warranty Information

To obtain warranty information, visit the following Intel web site:

<http://www.intel.com/support/motherboards/server/sb/cs-010807.htm>

Appendix E: Intel® Server Issue Report Form

Issue Report Form (Rev 3.5)

 **NOTE**

FILLING OUT THIS FORM COMPLETELY IS REQUIRED FOR ANY ESCALATION

An on-line/automatic submission version of this form is available at TBD For the fastest service, please submit your form via the Internet.

Customer Contact Information:

Customer Support Case#:

Intel® Server Board or System:

(Example: S1200BT, P4304XXSFCN)

Server Chassis:

(Example PXXXX. If third-party chassis used, indicate make and model.)

Base Board Information: (some information maybe found by accessing BIOS & going through the Server Management menu -> System Information)

Baseboard PBA/TA/AA # (Example: 123456-789):

- You can find this on the white sticker label on the baseboard.

System BIOS Version:

Intel® Remote Management Module Firmware Version (if applicable):

Intel® Management Module BMC Revision (if applicable) :

BMC/mBMC Version:

FRU/SDR Version:

HSC Version:

Has the latest BIOS been tried? (Yes/No):

Has the latest BMC/mBMC been tried? (Yes/No):

Has the latest IMM BMC been tried? (Yes/No):

Has the latest RMM Firmware been tried? (Yes/No):

Has the latest FRU/SDR been tried? (Yes/No):

Has the latest HSC been tried? (Yes/No):

Processor information:

	Type	Speed	sSpec	Thermal Solution
Processor 1				
Processor 2				
Processor 3				
Processor 4				

Thermal solution (Heat sink) examples:

(1U, Passive w/air ducting, Active w/fan, and so on)

Memory:

Manufacturer	Part Number	DRAM Part Number	On Intel tested list?

Add-in adapters (Example: NICs, Management Adapters, Serial Expansion Cards, PCI-Express* Adapters, RAID Controllers, SCSI Controllers, and so on):

Type	Slot	Manufacturer	Model	Firmware

Other third part hardware (Example: Example: KVM, Chassis, and so on):

Description/Use	Manufacturer	Model	Firmware

Storage Devices (Example: SCSI, SATA, SAS, USB, Tape, and so on):

Manufacturer	Model	Type	Size	Firmware	In Hot Swap Bay?

Operating System Information (Example: RedHat* Enterprise Linux, Microsoft* Windows* Server 2003, Service pack 1, OEM CD):

Manufacturer:

Version:

Language version (English, Arabic, Chinese (Simplified)):

Service Pack Level or Kernel Revision:

Distribution (OEM/Retail):

Intel® RAID Controller: (Example SRCU42E)

RAID controller part number (PBA number):

RAID controller firmware version:

Has the latest RAID firmware been tried? (Yes/No):

RAID driver version:

Has the latest RAID driver been tried? (Yes/No):

RAID volumes configuration (disks & RAID level):

RAID volume use (Boot device/Data Volume):

Is BBU (Battery Backup Unit) installed? (Yes/No):

BBU part number:

Detailed description of issue:

Troubleshooting tried:

Steps to replicate the issue:

Issue impact statements:

Do you have any potential Intel system, or component purchases that this issue is holding up? If yes, please provide a brief description below.

Do you have systems already purchased that are not being delivered to your customers because of this issue? If yes, please provide a brief description below.

Have you returned systems or components to your place of purchase because of this issue? If yes, please provide a brief description below.

*All other brands and names are property of their respective owners.

Appendix F: 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 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 and in particular, any costs relating to the removal or replacement of any product soldered or otherwise permanently affixed to any printed circuit board.

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 standalone 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.

Warranty Limitations and Exclusions

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.

All expressed and implied warranties are limited in duration to the limited warranty period. No warranties apply after that period. Some jurisdictions do not allow limitations on how long an implied warranty lasts, so this limitation may not apply to you.

Limitations of Liability

Intel's responsibility under this, or any other warranty, implied or expressed, is limited to repair, replacement, or refund, as set forth above. These remedies are the sole and exclusive remedies for any breach of warranty. Intel is not responsible for direct, special, incidental, or consequential damages resulting from any breach of warranty under another legal theory including, but not limited to, lost profits, downtime, goodwill, damage to or replacement of equipment and property, and any costs of recovering, reprogramming, or reproducing any program or data stored in or used with a system containing this product. Some jurisdictions do not allow the exclusion or limitation of incidental or consequential damages, so the above limitations or exclusions may not apply to you.

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 and Latin America: To obtain warranty repair for the product, please go to the following Web site to obtain instructions: <http://support.intel.com/support/motherboards/draform.htm>
- In Europe and in Asia: 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 cannot 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.

See Appendix D: Getting Help for telephone numbers.

Returning a Defective Product

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