

Intel® Server Board S1200V3RP Family Products

Quick Start User's Guide

Thank you for buying the Intel® Server Board S1200V3RP Family Products. The following information will help you integrate your new server board into a server chassis. This document is using Intel® Server Board S1200V3RPL with Intel® Server Chassis P4000 series as an assembly example.

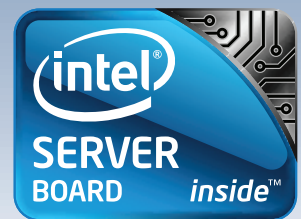
For details on these chassis or to select a third party chassis, please visit <http://www.intel.com/go/serverbuilder> and http://www.intel.com/p/en_US/support/server.

When installing the server board into a reference chassis, refer to the reference chassis instructions.

If you are not familiar with ESD (ElectroStatic Discharge) procedures used during system integration, please see the *Intel® Server Board S1200V3RP Service Guide*, available on the Intel® Server Deployment Toolkit DVD or at http://www.intel.com/p/en_US/support/server.

Please boot to the Intel® Server Deployment Toolkit DVD first for BIOS and firmware configuration and updates.

Read all cautions and warnings first before starting your server system integration.

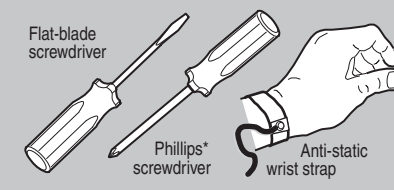


Minimum Hardware Requirements

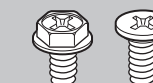
To avoid integration difficulties and possible board damage, your system must meet the following minimum requirements:

- Processor: Intel® Xeon® E3-1200 V3 processors or the 4th Generation Intel® Core™ i3 processors.
- Memory Type: 32 GB maximum with x8 ECC UDIMM (2Gb DRAM).
- Power: Minimum of 350 W with 3A of standby current, which meets the SSI EPS 5V specification.

Tools Required



Fastener Identification Guide



1 Preparing the Chassis

If using a non-Intel® server chassis, refer to the documentation that came with your chassis for preparatory steps.

Observe normal ESD (ElectroStatic Discharge) procedures.

Place your Intel® Server Chassis and Intel® Server Board on a flat anti-static surface to perform the following integration procedures. Always touch the chassis frame first, before reaching inside to install the server board, make server board connections, or install other components.

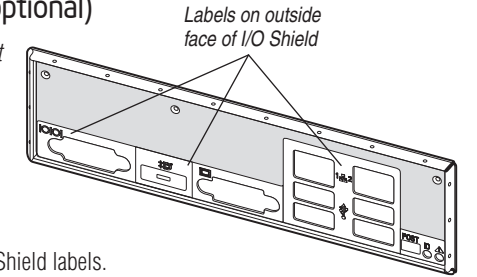
2 Installing the I/O Shield and Attach I/O Labels

Note: The I/O Shield and label installation procedures shown below apply to the Intel® Server Chassis P4000S series.

Attach the Labels to the I/O Shield (optional)

Note: Make sure you install the labels on the correct side of the I/O Shield. Note the orientation of the cutouts in the drawing before attaching your labels.

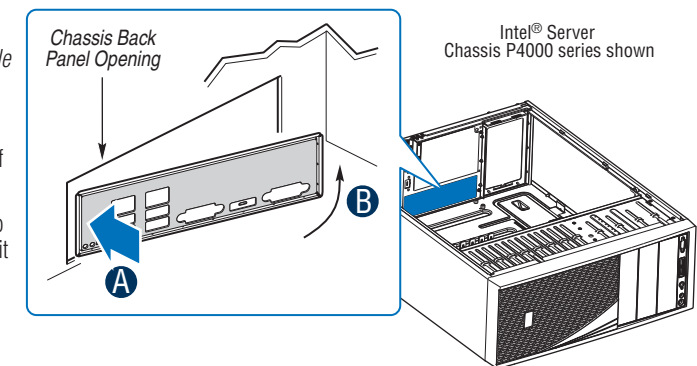
- Remove the backing from one of the three I/O Shield labels included with your server board.
- Press the label onto the I/O Shield as shown.
- Repeat steps to install the second and third I/O Shield labels.



Install the I/O Shield

Shield is installed from inside the chassis. The labels should be visible from the outside of the chassis.

- Insert one side edge of shield as shown.
- Push shield firmly into chassis opening until it clicks into place.



3 Install Server Board Bumpers

IMPORTANT NOTE: If you are using a non-Intel® server chassis that includes bumpers, refer to the chassis documentation for bumper installation. If you are using a non-Intel® server chassis that does not include bumpers, consult with the chassis vendor to determine if bumpers are required or not. If you are using an Intel® Server Chassis, use the chassis bumpers that came with the chassis.

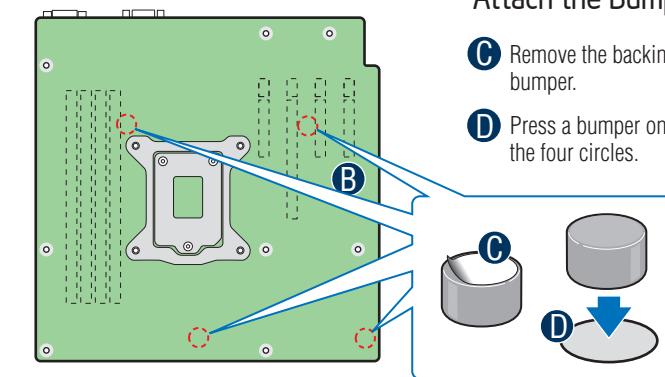
Prepare Server Board

- Rotate board to show bottom-side and hold upright as shown.
- Locate the four circles as shown.

CAUTION: To avoid damage to the server board, do not lay flat with the component side down.

Attach the Bumpers

- Remove the backing from each bumper.
- Press a bumper onto each of the four circles.



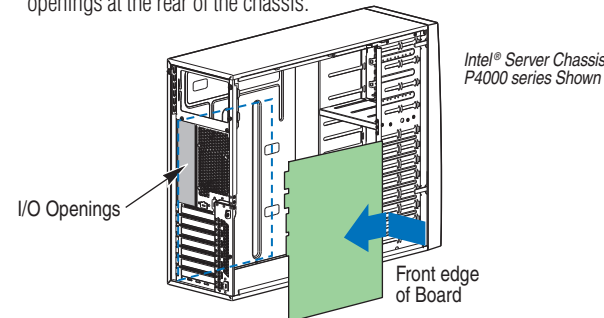
4 Install the Server Board

IMPORTANT NOTE: If you are using a non-Intel® server chassis, see your chassis documentation for preparatory steps prior to server board installation.

A. Insert the Server Board

Place the board into the chassis, making sure that the back panel I/O openings and chassis standoffs align correctly.

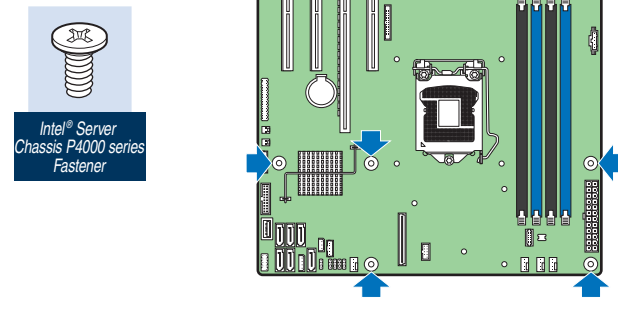
- When using the Intel® Server Chassis P4000S series, insert the front of the board first, then slide the board back so the I/O connectors fit through the I/O openings at the rear of the chassis.



B. Attach the Server Board

The directions below are for the Intel® Server Chassis P4000S series. For a non-Intel® server chassis, use the fasteners that came with your chassis.

Use screws to attach the board to the chassis at the eight locations indicated by the solid blue arrows in the figure.



5 Install the Processor

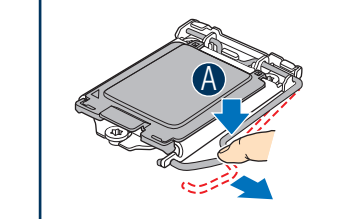
Cautions:

- CAUTION:** When removing the protective cover, DO NOT TOUCH the gold socket wires.
- CAUTION:** To avoid damage, DO NOT DROP the cover onto the socket wires or components.
- CAUTION:** When unpacking a processor, hold by the edges only to avoid touching the gold contact wires.



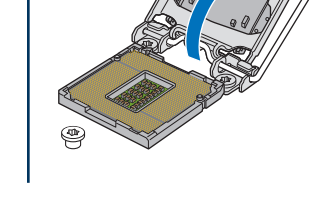
A. Open the Socket Lever

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



B. Open the Load Plate

- Open the load plate as shown.

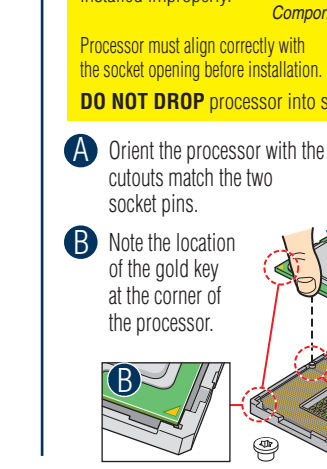


C. Unpack the Processor

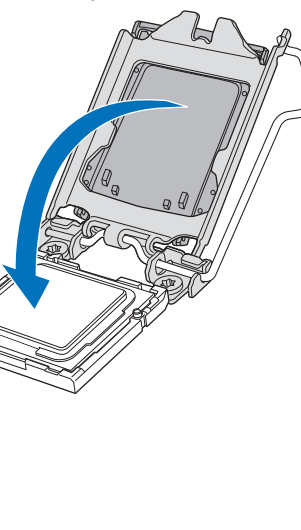
- Carefully remove protective cover as shown. Save the protective cover.

D. Install the Processor

- Orient the processor with the socket so that the processor cutouts match the two socket pins.
- Note the location of the gold key at the corner of the processor.



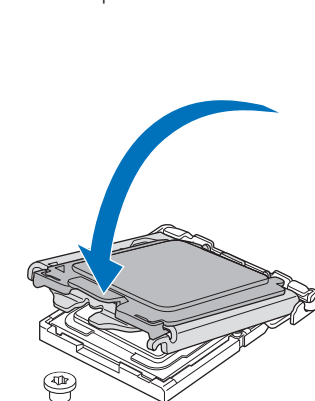
Carefully lower the load plate over the processor.



Install the Processor ...continued

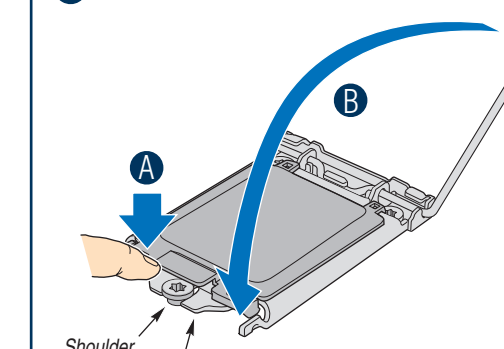
E. Close the Load Plate

Carefully lower the load plate over the processor.



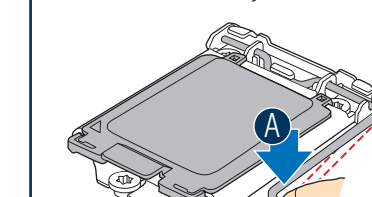
F. Engage the Load Plate

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



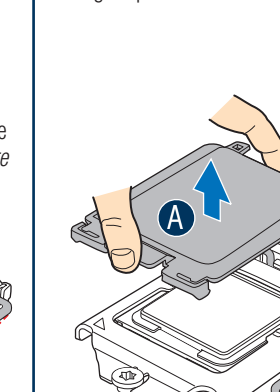
G. Latch the Locking Lever

- Push down on the locking lever.
- 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.

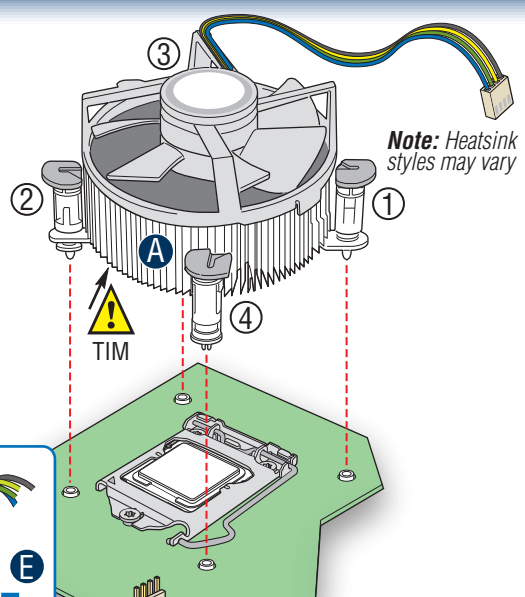


6 Install Active Heatsink(s)

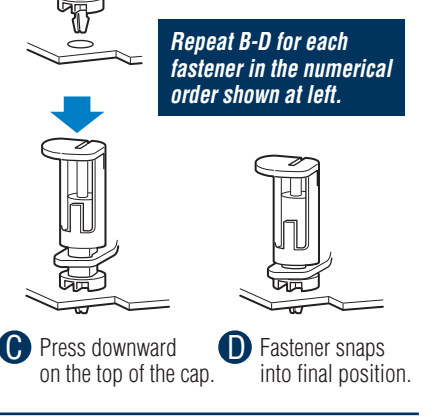
An active heatsink is required for the Intel® Entry Server Chassis P4000 series. A typical active heatsink is shown at right. Rotate the active heatsink so that the power connector can reach the CPU fan header on the server board.

CAUTION: The heatsink has thermal interface material (TIM) on the underside of it. Take caution not to damage the thermal interface material. Use gloves to avoid injuries from sharp edges.

- Make sure the screwdriver slot at the top of each fastener is rotated perpendicular to the blades of the heatsink as shown.



B. Align the heatsink to the holes in the board and lower assembly to the board. Snaps go through holes in server board.



C. Press downward on the top of the cap. D. Fastener snaps into final position. E. Plug the fan cable into the CPU fan header.

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 should only be performed 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.

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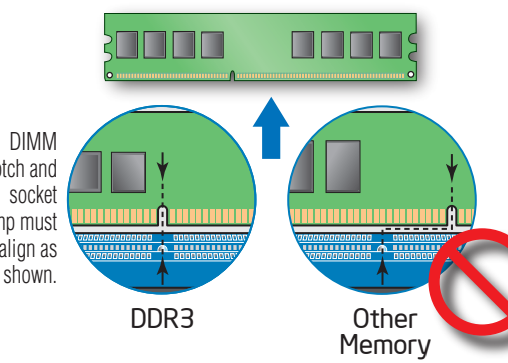
G83551-002



7 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 DDR3 1066/1333/1600 ECC UDIMM.

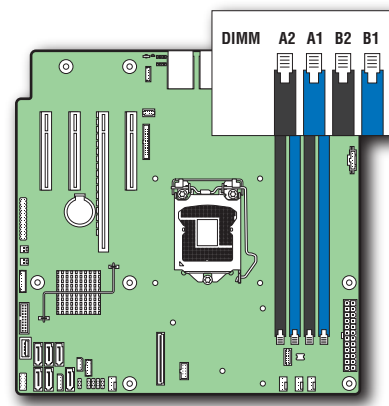


Memory Configurations and Population Order:

Memory Type: Minimum of one 1 GB, DDR3 1066/1333/1600 MHz ECC UDIMM.

Note: For additional memory configurations, see the *Technical Product Specification* on the Intel® Server Deployment Toolkit DVD that accompanied your Intel® Server Board S1200V3RP Family Products, or go to: http://www.intel.com/p/en_US/support/server.

Memory sizes and configurations are supported only for DIMMs tested by Intel®. For a list of supported memory, see the tested memory list at http://serverconfigurator.intel.com/scf_app.aspx.



To Install DIMMs:

CAUTION: Avoid touching contacts when handling or installing DIMMs.

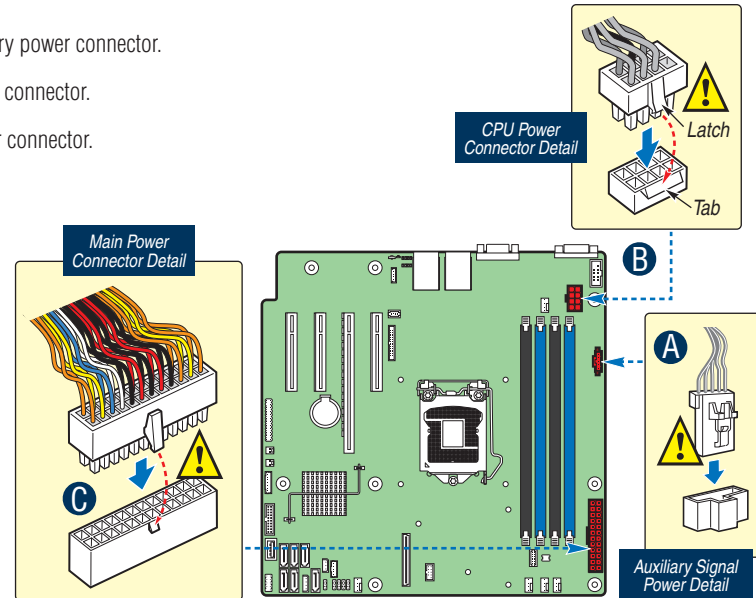
- Open both DIMM socket levers.
- Note location of alignment notch.
- Insert DIMM making sure the connector edge of the DIMM aligns correctly with the slot.
- Push down firmly on the DIMM until it snaps into place and both levers close.
- IMPORTANT!** Visually check that each latch is fully closed and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

8 Make Server Board Power Connections

- Attach the P/S Auxiliary power connector.
- Attach the CPU power connector.
- Attach the main power connector.

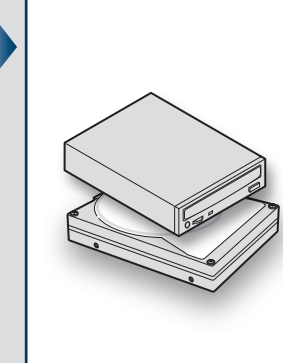
CAUTION: Note the location of the latch on each power cable connector and align it with the matching tab on each server board socket.

IMPORTANT NOTE: If you are using a non-Intel® server chassis with an ATX power supply, see the documentation that came with your chassis for installation information.



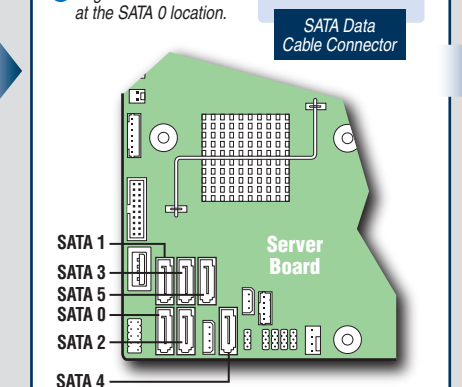
9 Install Optical Drive and Hard Drive(s)

See the documentation that came with your server chassis for drive installation.



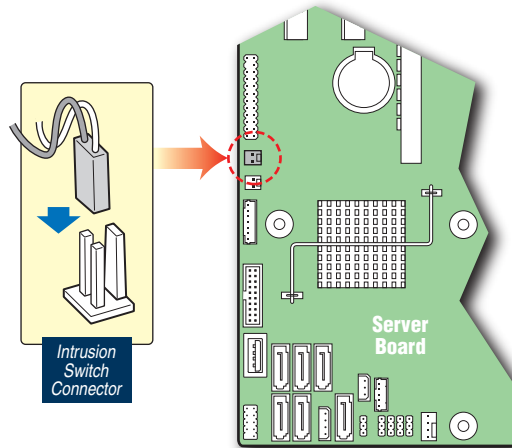
10 Connect Hard Drives/Optical Drive to Server Board

Connect SATA Data Cables to server board here.



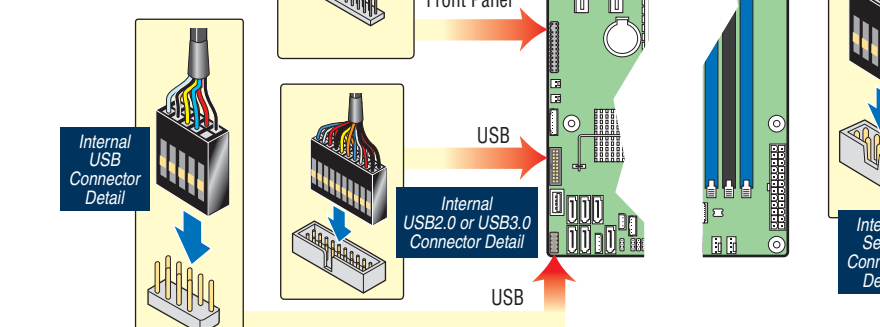
11 Attach Intrusion Switch Cable

Note: For a non-Intel® chassis, see your chassis documentation for intrusion switch requirements.



12 Attach Front Panel, Serial, and USB Connections

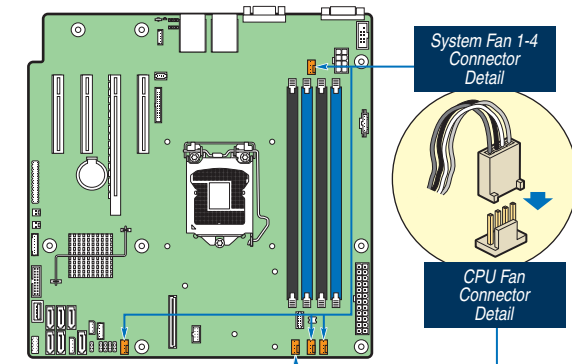
Note: For a non-Intel® chassis, see your chassis documentation for front panel features and server board connection requirements.



IMPORTANT NOTE: Return to your Intel® Server Chassis Quick Start User's Guide, or your non-Intel® chassis documentation to finish installation and configuration of your Intel® Server Board S1200V3RP series.

Return to this document to finish up, including software, BIOS, drivers, and operating system installation.

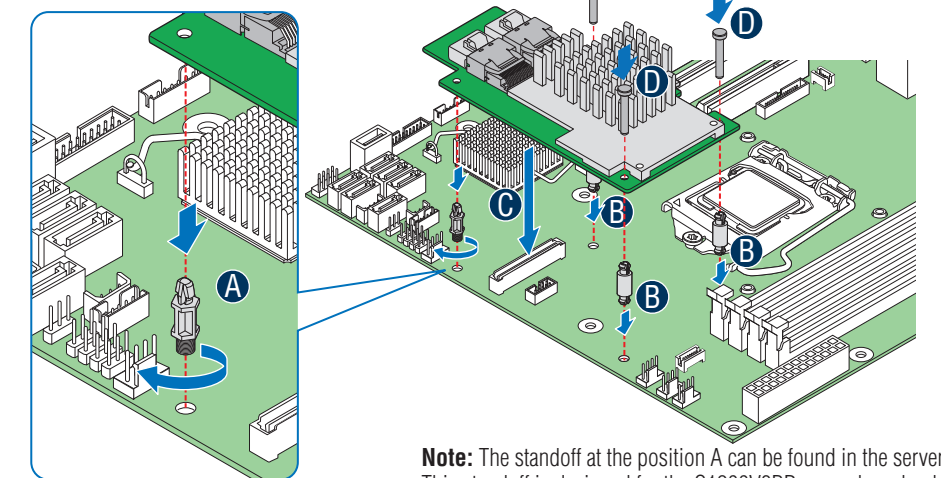
13 Chassis Fan Connections



For a non-Intel® server chassis, see the "Making Connections... Quick Reference" section below, and the documentation accompanying your chassis for specific chassis fan connection requirements.

14 Install the Intel® Integrated RAID Module

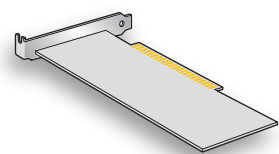
See the documentation that came with your SAS or ROC module.



Note: The standoff at the position A can be found in the server board box. This standoff is designed for the S1200V3RP server board only.

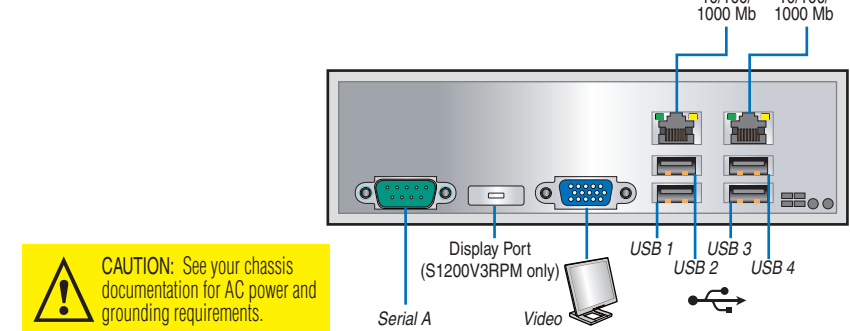
15 Install Add-in Card(s)

See the documentation that came with your server chassis for add-in card installation. For the Intel® Server Chassis P4000S series, see the *Quick Start User's Guide* accompanying the chassis.



16 Finishing Up

Before installing your operating system, you must finish your chassis installation, make I/O connections and plug in AC power.



CAUTION: See your chassis documentation for AC power and grounding requirements.

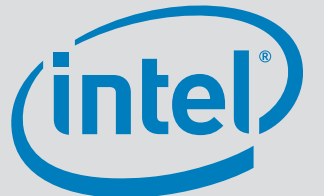
17 Software • BIOS, Drivers, and Operating System Installation

- Confirm BIOS Version:** Look at 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/p/en_US/support/server. If new versions are available, update the BIOS on your server. See the *Technical Product Specification* on the Intel® Server Deployment Toolkit DVD for update instructions.
- Configure your RAID Controller:** Use the instructions provided with the RAID controller.
- Install your Operating System:** Use the instructions provided with the RAID controller and with the operating system.
- Install Operating System Drivers:** With the operating system running, insert the Intel® Server Deployment Toolkit DVD. If using a Microsoft Windows® operating system, the Intel® Deployment Assistant 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.

Common Problems and Solutions

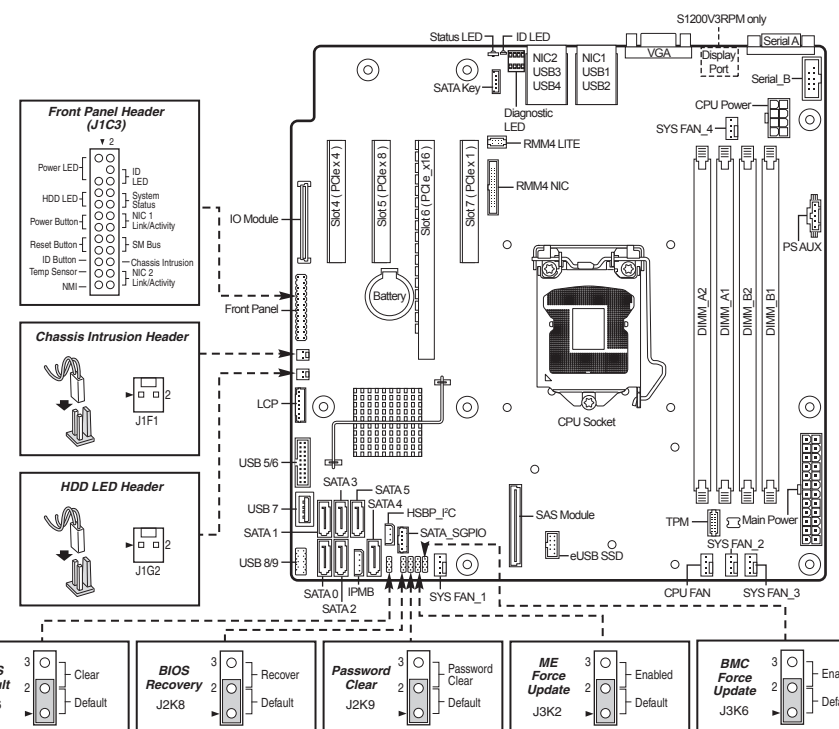
For a list of hardware components that have been tested with this system, see: http://www.intel.com/p/en_US/support/server.

- The system does not boot or show video at power-on stage.
 - Check that the +12V CPU power connector is plugged in. The processors will not have any power without this cable.
- Only Intel® Xeon® E3-1200 V3 processors or the 4th Generation Intel® Core™ i3 processors with 95W and less Thermal Design Power (TDP) are supported on this server board. Previous generation Intel® Xeon® processors are not supported.
- Beep code 1-5-2-1 in a system means you do not have the supported processor installed.
- The system generates the memory error beep code and POST diagnostic LED message (0XE0-0XEF) that indicates memory errors in early POST.
- Remember, all DIMMs must be:
 - DDR3L 1066/1333/1600 MHz UDIMM.
 - From the same manufacturer.
 - Installed beginning with DIMM A1.



Intel® Server Board S1200V3RP Family Products

Note: Not all components, jumpers, and connectors are described in this diagram. Refer to your *Server Board Technical Product Specification* on the Intel® Server Deployment Toolkit DVD for additional information.



Common Accessories and Order Codes	
AS1200GPUS	IO Shield
AXXTPMES	Intel® Trusted Platform Module
AXXSAKAVD	SATA Slim-Line DVD
RMTFR800	Intel® Integrated RAID Module
RMS2SR800	Intel® Integrated RAID Module
RMS2SR840	Intel® Integrated RAID Module
RMS2SR800	Intel® Integrated RAID Module
RMS2SR840	Intel® Integrated RAID Module
RMS2SR800	Intel® Integrated RAID Module
RMS2SR840	Intel® Integrated RAID Module
S1200V3RP/PP/OPRM Common Accessories and Order Codes	
AXXRMMR	Intel® Remote Management Module 4
AXXRMM4L	Intel® Remote Management Module 4 Lib
RMS2SR840	Intel® Integrated RAID Module
RMS2SR800	Intel® Integrated RAID Module
RMS2SR840	Intel® Integrated RAID Module
RMS2SR800	Intel® Integrated RAID Module
S1200V3RP/PPM Common Accessories and Order Codes	
AXX10GBE10M	Dual Port Intel® 10GbE I/O Expansion Module
AXX10GBE10M	Quad Port Intel® 10GbE I/O Expansion Module
AXX4P10GBE10M	Quad Port Intel® 10GbE I/O Expansion Module
AXX4P10GBE10M	Quad Port Intel® 10GbE I/O Expansion Module
AXX4P10GBE10M	Quad Port Intel® 10GbE I/O Expansion Module
AXX4P10GBE10M	Quad Port Intel® 10GbE I/O Expansion Module
AXX4P10GBE10M	Quad Port Intel® 10GbE I/O Expansion Module
AXX4P10GBE10M	Quad Port Intel® 10GbE I/O Expansion Module

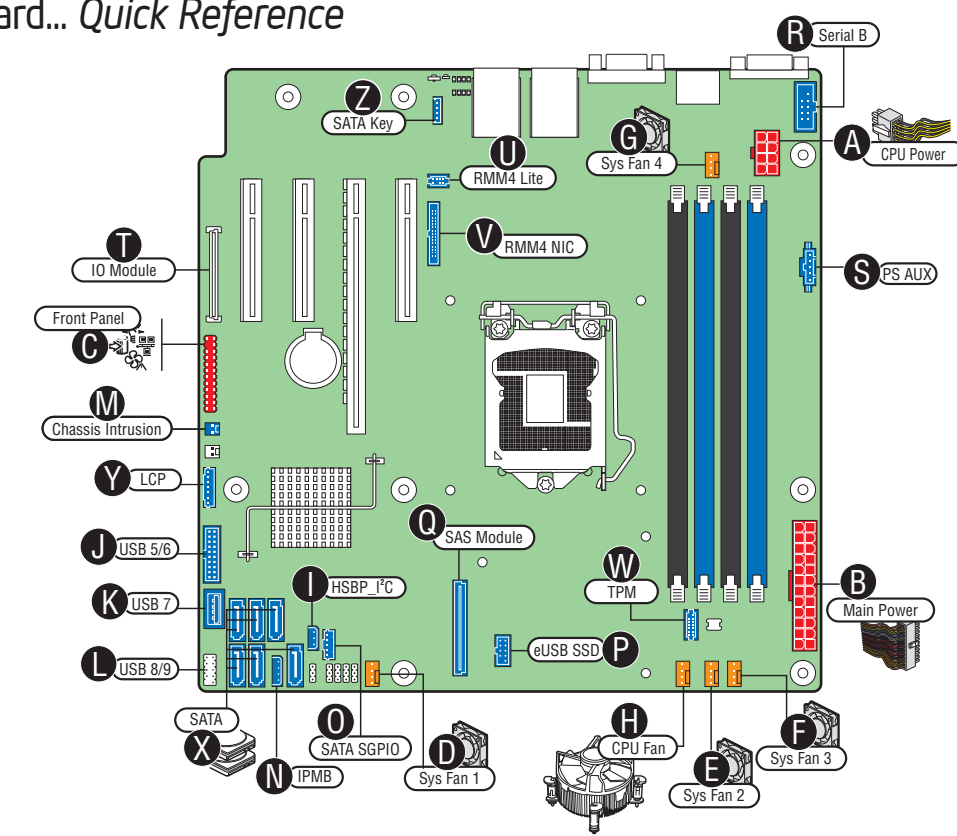
A complete list of accessories and spares can be found at: http://www.intel.com/p/en_US/support/server. (Search for the document: *Spares and Configuration Guide*.)

Document/Tool	Content
<i>Technical Product Specification</i>	In-depth technical information
<i>Monthly Specification Update</i>	Technical information and issues update
<i>Spares, Parts List, and Configuration Guide</i>	Supported accessories and spares list
Server Configurator Tool	Tested peripherals and operating systems list Tested memory list Supported processors list
Software and Drivers	Up-to-date firmware, driver, and utility information

Additional Reference documents available at: <http://www.intel.com/support/motherboards/server>

Making Connections to the Server Board... Quick Reference

Required Connections		Intel® Server Chassis P4000S series
A. +12V CPU Power Connector		Make this connection
B. Main Power Connector		Make this connection
C. Front Panel Header		Make this connection
CPU/System Fan Connections		Intel® Server Chassis P4000S series
D. System Fan 1 Header		Make this connection
E. System Fan 2 Header		
F. System Fan 3 Header		
G. System Fan 4 Header		
H. CPU Fan Header		
Optional Connections		Intel® Server Chassis P4000S series
I. HSBP		
J. USB 5-6		
K. USB 7		
L. USB 8-9		
M. Chassis Intrusion Header		
N. IPMB		
O. SATA SGPIO		
P. Internal USB SSD		
Q. SAS Module Header		
R. Serial B		
S. P/S Auxiliary		
T. IO Module		
U. RMM4 Lite		
V. RMM4 NIC		
W. TPM		
X. SATA Connectors		
Y. LCP		



Note: For a non-Intel® Chassis, see your chassis documentation for server board connection information. **Note:** Not all optional connections are shown in this diagram. Refer to your *Server Board Service Guide*, and your server chassis documentation for additional connection information.

IMPORTANT NOTE: Cables should be tied for better airflow. Use cable-ties compulsarily.