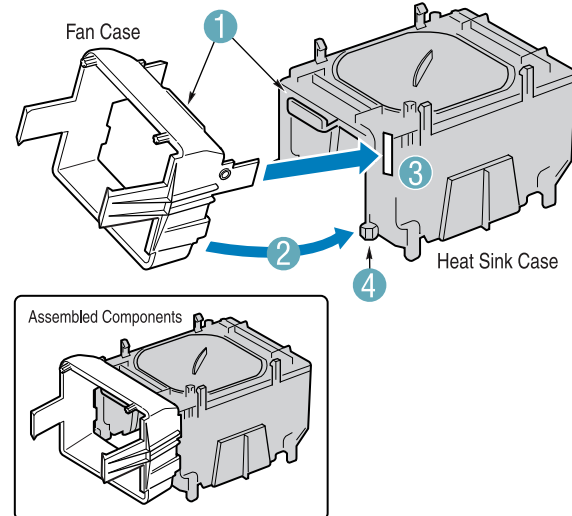# 6 Install the Wind Tunnel

Notes:
1. If installing the server board into the Intel® Server Chassis SC5200 with Redundant Hot-swap Power, disregard Steps 5 and 6, and instead refer to the Intel® Server Board SE7501BR2 Product Guide for processor installation instructions, located on your Resource CD.
2. In the Intel® Server Chassis SR1350-E, disregard Steps 5 and 6, and instead follow the instructions in the Intel® Server Chassis SR1350-E Quick Start User's Guide to install the processor[s].

This illustration shows the installed locations and airflow directions for Wind Tunnel assemblies.

CPU1
CPU2
Airflow Direction
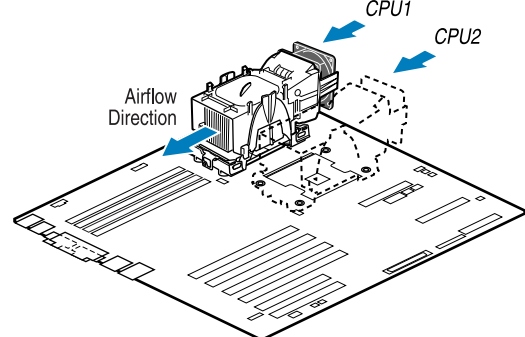
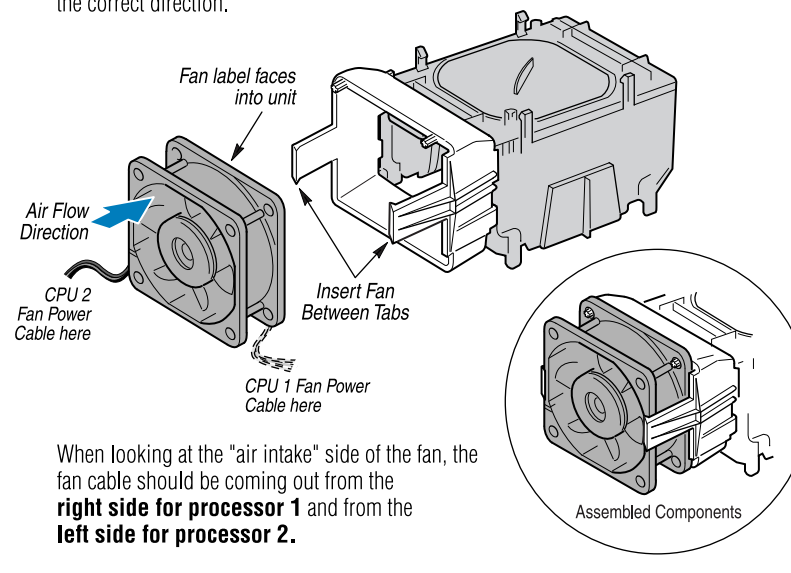## A. Attach the Fan Case to the Heat Sink Case

1. Hold the Fan Case at approximately 45 degrees and engage the clip at top of Wind Tunnel as shown.
2. Rotate Fan Case downward.
3. Insert the tabs into the two mating slots on the Wind Tunnel.
4. Make sure Fan Case snaps onto Wind Tunnel tabs here.

Fan Case
Heat Sink Case
Assembled Components

B. Attach the Fan

Note: Although the fan can be mounted at the top of the wind tunnel, for adequate DIMM cooling only the diagrammed installation below is recommended.
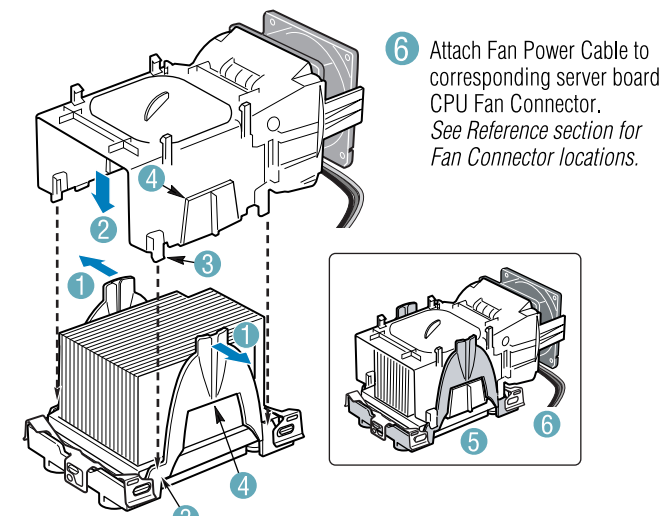
Insert one side of fan, then pull out slightly on the tab at the other side of the fan case to insert the fan between the tabs. The fan label must face into the unit for the air to flow in the correct direction.

Fan label faces into unit
Air Flow Direction
CPU 2 Fan Power Cable here
Insert Fan Between Tabs
CPU 1 Fan Power Cable here

When looking at the "air intake" side of the fan, the fan cable should be coming out from the **right side for processor 1** and from the **left side for processor 2.**

Assembled Components

C. Attach the Wind Tunnel to the Processor Assembly

1. Spread two Tabs outward slightly.
2. Lower Wind Tunnel onto Retention Mechanism.
3. Tabs on Tunnel mate to outside surface of Retention Mechanism.
4. Ledge on Tunnel snaps into mating recess on Retention Mechanism.
5. Correct assembly should look like this.
6. Attach Fan Power Cable to corresponding server board CPU Fan Connector, *See Reference section for Fan Connector locations.*

7 Install Memory

DIMM Memory Modules

Memory Type: Minimum of two identical 128MB ECC, DDR200/266-compliant registered SDRAM 184-pin gold DIMMs.

Notes and Cautions:
DIMMs must be installed in pairs and must be populated starting with DIMM Bank 1 (contiguous sockets DIMM1A and DIMM1B). Although the server board architecture allows the user to mix various sizes of DIMMs between banks, DIMMS must be identical within each bank.

For example, Bank 1 can use two 128MB DIMMs and Bank 2 can use two 256MB DIMMs.

Bank 2
Bank 1
DIMM Sockets
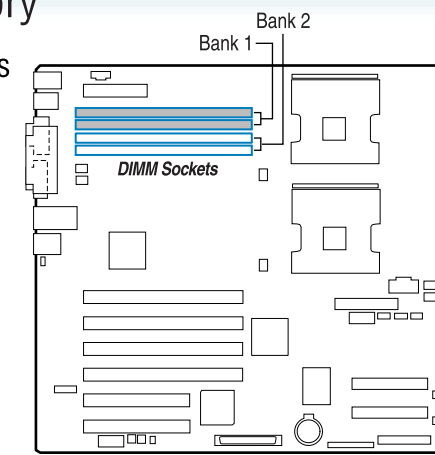
1. Open both DIMM socket levers.
2. Note location of alignment notch.
3. Insert DIMM making sure the connector edge of the DIMM aligns correctly with the slot.
4. Check that socket levers are securely latched.

⚠ Avoid touching gold contacts when handling or installing DIMMs.

DIMM Sockets

⚠ For the Intel® Server Chassis SR1350-E, use LOW-PROFILE DIMMs only.

8 Making Connections to the Server Board ... *Quick Reference*

Intel® Server Chassis SC5250-E Note: When installing your server board into the Intel® Server Chassis SC5250-E, install the hard drive bay before making your connections. See the Intel® Server Chassis SC5250-E Quick Start User's Guide for instructions on installing the drive bay.

Required Connections

for Selected Chassis	SC5200-Base	SC5200-BRP	SC5200+HSRP	SC5250-E	SR1350-E
A. Auxiliary Power Connector	■	■	■	■	
B. Main Power Connector	■	■	■	■	■
E. +12V CPU Power Connector	■	■	■	■	
F. Primary IDE Connector [top, blue connector]	■	■	■	■	■
H. Front Panel Connector	■	■	■	■	■

CPU/System Fan Connections

for Selected Chassis	SC5200-Base	SC5200-BRP	SC5250+HSRP	SC5250-E	SR1350-E
C. CPU1 Fan Connector	CPU1 Fan	CPU1 Fan	⊘	CPU1 Fan	Chassis Fan 1
C. CPU2 Fan Connector ... if CPU2 is installed	CPU2 Fan	CPU2 Fan	⊘	CPU2 Fan	Chassis Fan 3
N. System Fan 1 Header	REAR Fan	REAR Fan	REAR Fan	⊘	Chassis Fan 6
N. System Fan 2 Header	REAR Fan	REAR Fan	REAR Fan	REAR Fan	Chassis Fan 7
G. System Fan 3 Header	FRONT Fan	FRONT Fan	FRONT Fan	⊘	Chassis Fan 2
G. System Fan 4 Header	FRONT Fan	FRONT Fan	FRONT Fan	⊘	Chassis Fan 4
D. System Fan 5 Header	⊘	⊘	FRONT Fan	FRONT Fan	Chassis Fan 5
D. System Fan 6 Header	⊘	⊘	FRONT Fan	⊘	

Notes: For Intel® Server Chassis SC5200+HSRP, the system fan number is marked on each fan holder. *Connect each system fan to its corresponding connector on the server board.* For the Intel® Server Chassis SR1350-E, refer to the Intel® Server Chassis SR1350-E Quick Start User's Guide for chassis fan numbering and locations.

**Optional** Connections

for Selected Chassis	SC5200-Base	SC5200-BRP	SC5250+HSRP	SC5250-E	SR1350-E
I. Hot-swap Backplane Headers	■	■	■	■	⊘
F. Secondary IDE Connector [top, white connector]	■	■	■	■	■
M. Floppy Connector	■	■	■	■	⊘
J. Front USB Header	■	■	■	■	⊘
L. Serial B Header	■	■	■	■	
K. Chassis Intrusion Header	■	■	■	■	

CPU1 Socket
CPU2 Socket
12V
SCSI
HDD LED
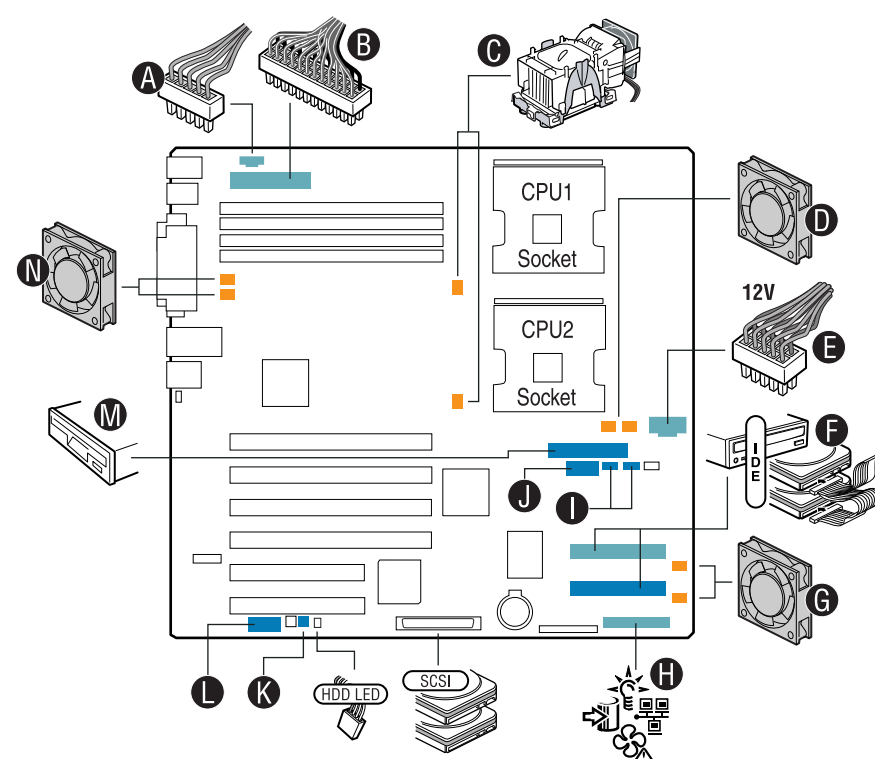
Note: Not all optional connections are shown in this diagram. Refer to the Reference section of this Quick Start User's Guide, your Intel® Server Board SE7501BR2 Product Guide, and your server chassis documentation for additional connection information.

9 Install the Serial B Cable (optional)

For the Intel® Server Chassis SC5200 Base, BRP and HSRP, and Intel® Server Chassis SC5250-E, you can connect the Serial B cable to the BACK of the chassis.

Insert from inside of chassis
Chassis Back Panel
Screwdriver Slot
Serial B Back Location
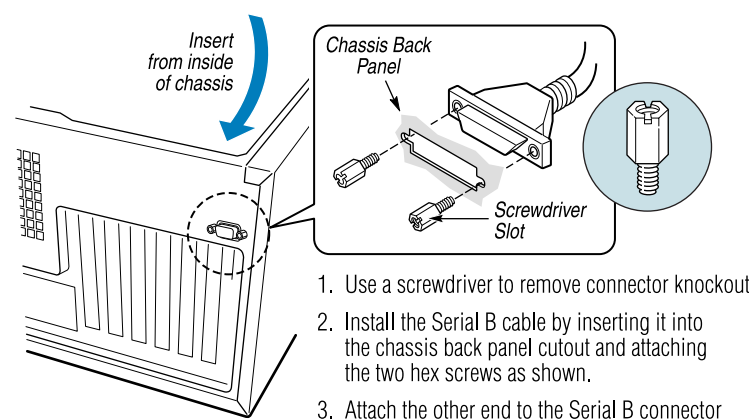
1. Use a screwdriver to remove connector knockout.
2. Install the Serial B cable by inserting it into the chassis back panel cutout and attaching the two hex screws as shown.
3. Attach the other end to the Serial B connector on the server board. *See Reference section below for the connector location.*
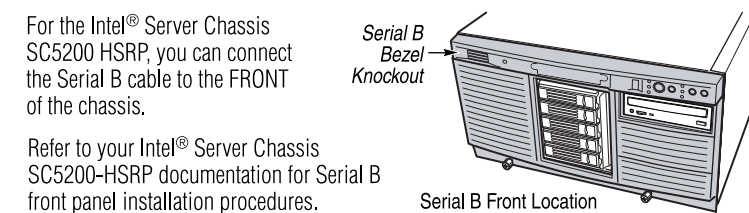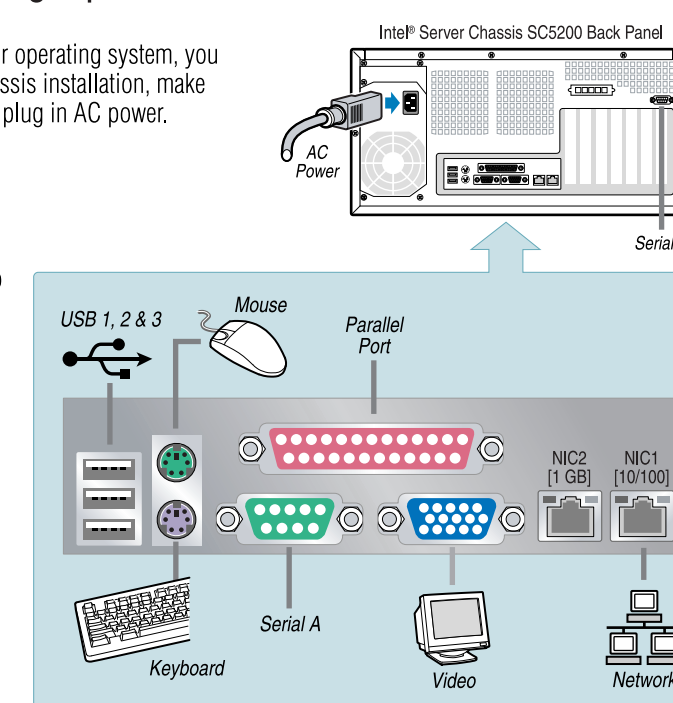
For the Intel® Server Chassis SC5200 HSRP, you can connect the Serial B cable to the FRONT of the chassis.

Refer to your Intel® Server Chassis SC5200+HSRP documentation for Serial B front panel installation procedures.

Serial B Bezel Knockout
Serial B Front Location

10 Finishing Up

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

1. Replace the chassis cover.
2. See your chassis documentation to complete rack or pedestal installation.
3. Connect your keyboard, mouse, video, and other I/O cables as shown.
4. Connect the AC power cable last.

Intel® Server Chassis SC5200 Back Panel
AC Power
Serial B

USB 1, 2 & 3
Mouse
Parallel Port
Keyboard
Serial A
Video
Network
NIC2 [1 GB]
NIC1 [10/100]

Software

Getting Started with Intel® Server Management and Intel SMaRT Tool (optional)

Intel® Server Management Software and the Service Partition provide real-time monitoring and alerting for your SE7501BR2 server hardware, as well as emergency remote management and remote server setup. Intel® Server Management is implemented by installing it within the client-server architecture.

The Service Partition on the server hard drive lets you remotely access the server for emergency management, server setup, and BIOS / firmware updates. The remote access may be accomplished through either a modem (Serial B) or LAN connection (NIC1).

The Intel® Server Maintenance and Reference Training (SMaRT) Tool is an interactive software utility that provides support information to assist with the maintenance and repair of Intel-based server systems and accessories. The SMaRT Tool features visual, step-by-step instructions for replacing parts, a complete Field Replacement Unit (FRU) database containing part numbers and images, product spares lists, and worldwide Intel support information.

Intel® Server Management provides an interface to the SMaRT Tool so error detection and alerting are combined with interactive maintenance and repair assistance. To activate Intel® Server Management's interface with the SMaRT Tool, both software programs need to be installed.

The information here describes the installation of the Service Partition, Intel® Server Management and the SMaRT Tool on a system running a Microsoft* Windows* operating system. To install the Service Partition or Intel® Server Management on other operating systems, see the Installation Guide & User Guide located in the "ISM/Docs" folder on the Intel® Server Management CD-ROM. The SMaRT Tool may only be installed on a system running a Microsoft* Windows* operating system.

Note: Prior to installation, uninstall any previous version of Intel® Server Management.

Installing the Service Partition

Note: The service Partition should be installed before installing the operating system.

1. Insert the System Resource CD into the server's CD-ROM drive.
2. Restart or power on the server.
3. Press <Esc> during the boot cycle.
4. When POST completes, the system will display the Select Boot Device dialog box. Choose ATAPI CD-ROM and press <Enter>.
5. The Server Configuration Wizard will automatically start. Select <Continue>, Server Configuration Wizard and <Continue>, then <Run Wizard>.
6. Select Install / Update a Service Partition. In addition, you may choose to configure other server management options at this time.
7. Continue following the on-screen directions. Access the on-line help as necessary.
8. When the server reboots, you are ready to install your operating system.

Install your Operating System
Install your operating system now.

Install Intel® Server Management

With the system running, insert the ISM CD. On a Windows* system, the Setup program will autorun. Choose ISM to initiate the setup.exe program. Follow the onscreen directions. For more details, see the ISM Installation and User's Guide.

Installing Intel® SMaRT Tool

The Intel® SMaRT Tool may only be installed on a system running a Microsoft* Windows* operating system. To download the SE7501BR2 SC5200 server system module for the SMaRT Tool, you must have internet access. The SMaRT Tool may be installed on chassis other than the SC5200. However, only information on the Intel® Server Board SE7501BR2 with the Intel® Server Chassis SC5200 will be displayed.

1. Insert the Intel® Server Board SE7501BR2 Resource CD into the system's CD-ROM drive. The Setup program will autorun.
2. Click on Intel® SMaRT Tool in the menu on the left side of the screen.
3. In the green "Make a Selection" drop-down menu, select SMaRT Tool Install Guide. Print and review the SMaRT Tool Install Guide before proceeding.
4. In the "Make a Selection" drop-down menu, select Install SMaRT Tool.
5. Click on the Run Installer icon to launch the SMaRT Tool Setup program.
6. Follow the on-screen installation instructions. Review the Intel® Software License Agreement and click Accept. When installation is complete, launch SMaRT Tool.
7. In the SMaRT Tool Welcome page, click on Systems.
8. Select Select System > Servers > Xeonä > SE7501BR2 SC5200 and then follow the on-screen instructions to download the SE7501BR2 SC5200 server system module. When download is complete, SMaRT Tool will restart.
9. Select Systems > Select System > Servers > Xeonä > SE7501BR2 SC5200 to access information on your new server system.
10. You can invoke SMaRT Tool directly from Intel Server Management's Platform Instrumentation Control application by clicking on the SMaRT Tool icon, or by selecting Launch SMaRT Tool from the SMaRT Tool menu. The interface between the two programs is context-sensitive. To find out more about the integration between Intel® SMaRT Tool and Intel® Server Management, please select SMaRT Tool and Server Management in the green "Make a Selection" drop-down menu.

Reference

Server Board Component Layout

A. Primary Processor CPU 1
B. Secondary Processor CPU 2
C. Processor Power Connector
D. System Fan 6 Connector
E. System Fan 5 Connector
F. Floppy Disk Drive Connector
G. IPMB Connector
H. HSBP B Connector
I. HSBP A Connector
J. USB Header Connector
K. Primary IDE Connector
L. System Fan 4 Connector
M. Secondary IDE Connector
N. System Fan 3 Connector
O. Front Panel Connector
P. Jumper Block
Q. Battery
R. LVD SCSI Connector
S. HDD LED Connector
T. Chassis Intrusion Connector
U. EMP In Use Connector
V. Serial B Connector
W. 32/33 PCI Connector
X. ICMB Connector
Y. 64/100 PCI-X Connector (Segment B)
Z. 64/100 PCI-X Connector (Segment C)
AA. System Fan 1 Connector
BB. System Fan 2 Connector

CC. ID LED Connector
DD. NIC 1 Connector (10/100)
EE. NIC 2 Connector (1.0 GB)
FF. System I/O Connectors

GG. DIMM Sockets
HH. Aux Power Connector
II. Main Power Connector
JJ. CPU1 Fan Connector
KK. CPU2 Fan Connector

DIMM Sockets
CPU1 Socket
CPU2 Socket
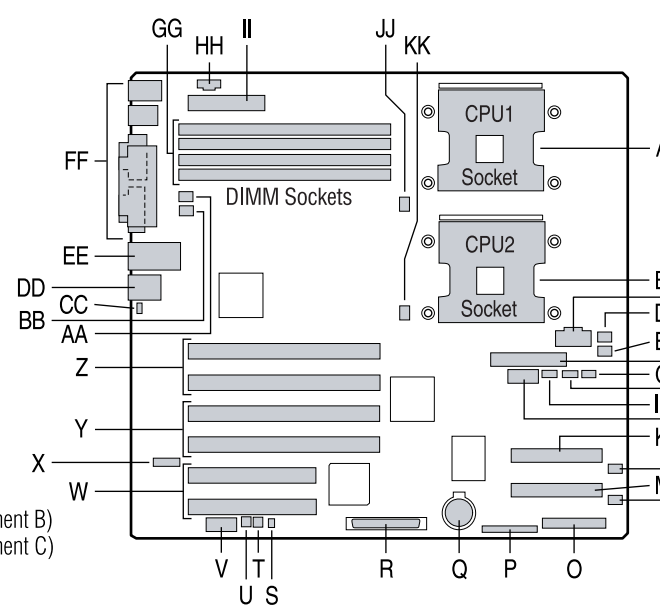
Note: PCI-X Slot 2 supports RAIDIOS Zero Channel RAID (ZCR) cards, such as the Intel® RAID Controller SRCZCR.

Common Problems and Solutions

For a list of hardware components that have been tested with this system, see: http://support.intel.com/support/motherboards/server/SE7501BR2

The system does not boot or show video at power-on.
- Check that +12V CPU power connector is plugged in. Without this cable the processors will not have any power.
- If configuring with only one processor verify that the processor is in the Primary Processor socket (CPU 1).
- Beep code 4-3-2-1 in a system using a 533 MHz Intel® Xeon™ processor means you have unrecognized or bad memory. Beep code 4-3-3-1 in a system using a 400 MHz Intel Xeon processor means you have unrecognized or bad memory.
- Remove and replace DIMMs one bank at a time to isolate which one is causing problems.
- Remember, all DIMMs must be:
  - Registered DDR266-compliant 2.5V SDRAM (DDR200 DIMMS can be used if a 400 MHz Intel Xeon processor is installed).
  - The same speed.
  - From the same manufacturer.
  - Installed beginning with DIMM 1A.
  - Paired with identical DIMMs in a bank.
- Your power supply must provide a minimum of 450W with 2A standby current, which complies with the SSI EPS 12V specification.

The system sometimes works, but is exhibiting erratic behavior.
- This is typically the result of using an under-rated power supply. Make sure you are using at least a 450 W power supply which meets the SSI EPS 12V specification. For more information, see: http://www.ssiforum.org

Accessories and Order Codes

Intel® Server Chassis SC5200 Base	KHD3BASE450
Intel® Server Chassis SC5200 Redundant Power Chassis	KHD3RP450
Intel® Server Chassis SC5250-E, beige color	KPTBASE450
Intel® Server Chassis SC5250-E, black color	FPTBASE450BLK
Intel® Server Chassis SR1350-E	SR1350E

A complete list of accessories and spares can be found at: www.intel.com/go/serverbuilder