

# Intel® Server Board SE7520AF2 User Guide

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

Order Number: C63389-003

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# Preface

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## About this Manual

Thank you for purchasing and using the Intel® Server Board SE7520AF2.

This manual is written for system technicians who are responsible for troubleshooting, upgrading, and repairing this server board. 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 Board SE7520AF2. For the latest version of this manual, refer to

<http://support.intel.com/support/motherboards/server/SE7520AF2/>

## Manual Organization

Chapter 1 provides a brief overview of the Server Board SE7520AF2. In this chapter, you will find a list of the server board 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 memory, processor, and the battery, among other components.

Chapter 3 provides instructions on using the utilities that are shipped with the board or that may be required to update the system. This includes how to perform a BIOS update, and how to reset the password or CMOS. Information about the specific BIOS settings and screens is available in the [Intel® Server Board SE7520AF2 Technical Product Specification](#).

Chapter 4 provides troubleshooting information. In this chapter, you will find BIOS error messages and POST code messages. You will also find suggestions for performing troubleshooting activities to identify the source of a problem.

## Product Accessories

This server board is compatible with the following Intel® Server Chassis:

- Intel® Server Chassis SC5300
- Intel® Server Chassis SC5300BRP
- Intel® Server Chassis SC5300LX

You may need or want to purchase one or more of the following accessory items for your server:

- Intel® RAID Activation Key
- Intel® Portable Cache Module (battery back-up unit) with 128MB ECC DDR333
- Intel® Server Management Module “Professional Edition”
- Intel® Server Management Module “Advanced Edition”
- Processor(s), DDR2-400 system memory DIMMs, hard drive(s), floppy drive, CD-ROM or DVD-ROM drive, RAID controller, operating system

## Preface

For information about which accessories, memory, processors, and third-party hardware have been tested and can be used with your board, and for ordering information for Intel products, see <http://support.intel.com/support/motherboards/server/SE7520AF2/>.

## Additional Information and Software

If you need more information about this product or information about the accessories that can be used with this server board, use the following resources. These files are available at <http://support.intel.com/support/motherboards/server/SE7520AF2/>

For this information or software	Use this Document or Software
For in-depth technical information about this product, including BIOS settings and chipset information	<a href="#">Intel® Server Board SE7520AF2 Technical Product Specification</a>
If you just received this product and need to install it	Intel® Server Board SE7520AF2 Quick Start User's Guide in the product box, or online at: <a href="http://support.intel.com/support/motherboards/server/sb/CS-012985.htm">http://support.intel.com/support/motherboards/server/sb/CS-012985.htm</a>
For virtual system tours and interactive repair information	<a href="http://support.intel.com/design/servers/smarttool/index.htm">http://support.intel.com/design/servers/smarttool/index.htm</a>
Accessories or other Intel server products	<a href="#">Spares and Configuration Guide</a>
Hardware (peripheral boards, adapter cards) and operating systems that have been tested with this product	<a href="#">Tested Hardware Operating Systems List</a>
Chassis that have been tested with this product	<a href="#">Reference Chassis List</a>
Processors that have been tested with this product	<a href="#">Supported Processors</a>
DIMMs that have been tested with this product	<a href="#">Tested Memory List</a>
To make sure your system falls within the allowed power budget	<a href="#">Power Budget Tool</a>
For software to manage your Intel® server	<a href="#">Intel® Server Management Software</a>
For drivers	<a href="#">Driver (for an extensive list of drivers available)</a> <a href="#">Operating System Driver (for operating system drivers)</a>
For firmware and BIOS updates, or BIOS recovery	<a href="#">Download Finder</a>

## Safety Information



### **WARNING**

**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.**

#### **Emissions Disclaimer**

To ensure EMC compliance with your local regional rules and regulations, the final configuration of your end system product may require additional EMC compliance testing. For more information please contact your local Intel Representative.

See “[Regulatory and Integration Information](#)” for product safety compliance and EMC regulatory compliance information. This is an FCC Class A device. Integration of it into a Class B chassis does not result in a Class B device.

#### **Intended Uses**

This product was evaluated as Information Technology Equipment (ITE), which may be installed in offices, schools, computer rooms, and similar commercial type locations. The suitability of this product for other product categories and environments (such as: medical, industrial, telecommunications, NEBS, residential, alarm systems, test equipment, etc.), other than an ITE application, may require further evaluation

#### **EMC Testing**

Before computer integration, make sure that the chassis, power supply, and other modules have passed EMC testing using a server board with a microprocessor from the same family (or higher) and operating at the same (or higher) speed as the microprocessor used on this server board.



## Warnings

**System power on/off:** The power button DOES NOT turn off the system AC power. To remove power from 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.

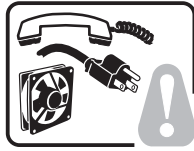
**ESD and handling boards:** Always handle boards carefully. They can be extremely sensitive to ESD. Hold boards only by their edges. After removing a board from its protective wrapper or from the server, place the board component side up on a grounded, static free surface. Use a conductive foam pad 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 stake pins on the board.

## Safety Cautions

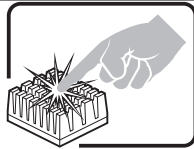
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Read all caution and safety statements in this document before performing any of the instructions. See also *Intel Server Boards and Server Chassis Safety Information* on the Resource CD and/or at <http://support.intel.com/support/motherboards/server/safecert.htm>.



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

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



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

## Wichtige Sicherheitshinweise

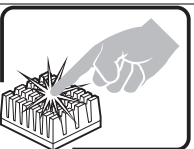
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Lesen Sie zunächst sämtliche Warn- und Sicherheitshinweise in diesem Dokument, bevor Sie eine der Anweisungen ausführen. Beachten Sie hierzu auch die Sicherheitshinweise zu Intel-Serverplatinen und -Servergehäusen auf der Ressourcen-CD oder unter <http://support.intel.com/support/motherboards/server/safecert.htm>.



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

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



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

## 重要安全指

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在行任何指令之前，本文档中的所有注意事及安全声明。参 Resource CD (源光) 和/或 <http://support.intel.com/support/motherboards/server/safecert.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》)。

## Consignes de sécurité

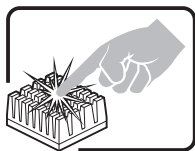
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Lisez attention toutes les consignes de sécurité et les mises en garde indiquées dans ce document avant de suivre toute instruction. Consultez *Intel Server Boards and Server Chassis Safety Information* sur le CD Resource CD ou bien rendez-vous sur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



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

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



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



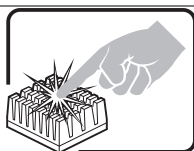
## Instrucciones de seguridad importantes

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 CD Resource y/o en <http://support.intel.com/support/motherboards/server/safecert.htm>.



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

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



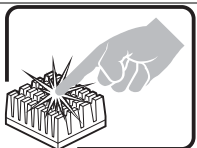
Si el sistema ha estado en funcionamiento, el microprocesador y el dissipador de calor pueden estar aún calientes. También conviene tener en cuenta que en el chasis o en el tablero puede haber piezas cortantes o punzantes. Por ello, se recomienda precaución y el uso de guantes protectores.

## AVVERTENZA: Italiano



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

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



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

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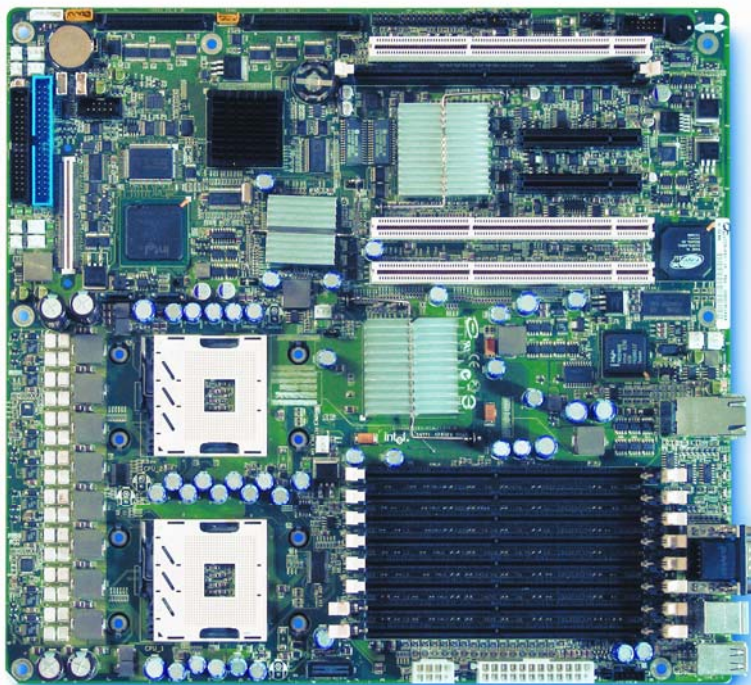
# 1 Server Board Features

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This chapter briefly describes the main features of the Intel® Server Board SE7520AF2. This chapter provides a photograph of the product, a list of the server board features, and diagrams showing the location of important components and connections on the server board.

Two versions of this server board are manufactured. One version provides PCI hot plug support that allows you to remove PCI cards from the system without removing the system AC power supply. The hot plug option may not be available in your geography, contact your Intel representative for more details. The other version does not provide PCI hot plug features. This document describes features of both versions of the server board. The differences are called out where they apply.

The Intel® Server Board SE7520AF2 is shown in the following picture.



**Figure 1. Intel® Server Board SE7520AF2**

Table 1 summarizes the major features of the server board.

**Table 1. Server Board Features**

<b>Feature</b>	<b>Description</b>
Processors	Up to two Intel® Xeon processors with an 800 MHz Front Side Bus (FSB).
Memory	<ul style="list-style-type: none"> <li>▪ DDR2-400 MHz compliant registered ECC DIMMs for up to 16 GB of system memory in a dual-channel architecture</li> <li>▪ DIMM sockets: eight 72-bit, 240-pin</li> <li>▪ Supported DIMM sizes: 256 MB, 512 MB, 1 GB, 2 GB</li> <li>▪ Dual channel architecture</li> <li>▪ Memory Mirroring and Sparing</li> </ul>
Chipset	Intel® E7520 chipset: <ul style="list-style-type: none"> <li>▪ Supports 800 MHz Front Side Bus (FSB)</li> <li>▪ Intel® E7520 Memory Controller Hub (MCH)</li> <li>▪ Intel® 6700PHX 64-Bit PCI Hub</li> <li>▪ Intel® 82801ER I/O Controller Hub5 (ICH-5R)</li> </ul>
I/O Control	Super I/O controller chip that provides: <ul style="list-style-type: none"> <li>▪ Two stacked and interchangeable PS/2* compatible keyboard / mouse ports</li> <li>▪ Three external USB 2.0 ports</li> <li>▪ USB header providing for two additional front panel USB Ports</li> <li>▪ One external serial port on the rear I/O port area (Serial A)</li> <li>▪ One serial port header to provide a second, optional serial port (Serial B)</li> <li>▪ One IDE connector supporting up to two ATA-100 compatible devices</li> <li>▪ One standard floppy drive interface</li> </ul>
Video	<ul style="list-style-type: none"> <li>▪ Integrated onboard ATI Rage* XL SVGA video controller</li> <li>▪ 8 MB SDRAM video memory</li> <li>▪ SVGA video port</li> </ul>
Hard Disk Drive	<ul style="list-style-type: none"> <li>▪ Dual-channel LSI Logic* 53C1030 Ultra320 wide SCSI controller</li> <li>▪ Two serial ATA 150 ports</li> <li>▪ Supported for entry-level RAID functionality (LSI Logic* integrated mirroring and integrated striping)</li> </ul>
RAID	<ul style="list-style-type: none"> <li>▪ Integrated Intel® RAID Controller SROMBU42E through Intel XScale® technology. Includes support for up to 256 MB of unbuffered DDR333 RAID cache. (Requires Intel® RAID Activation Key and either the Intel® Portable Cache Module or one 128 MB DDR333 memory DIMM. See ROMB battery backup unit support below.)</li> <li>▪ LSI Logic* integrated mirroring and integrated striping</li> <li>▪ ROMB battery backup unit support. (Requires the Intel® Portable Cache Module accessory kit or one 128 MB DDR333 memory DIMM.)</li> </ul>

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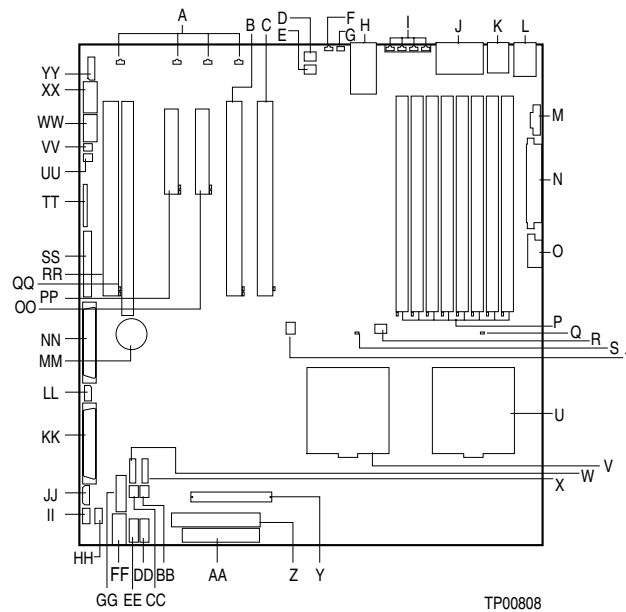
**Table 1. Server Board Features** (continued)

LAN	<ul style="list-style-type: none"> <li>▪ Dual integrated 10/100/1000 Mb on-board Ethernet connectors</li> <li>▪ Two RJ-45 stacked connectors</li> <li>▪ Intel® 82546GB</li> </ul>
Expansion Slots	<p>Five full-length, full-height PCI expansion slots.<sup>1</sup></p> <ul style="list-style-type: none"> <li>▪ Slot 1: PCI-X* 64-bit/133 MHz (Hot-Plug capable on Hot Plug SKU only.)</li> <li>▪ Slot 3: PCI Express* x4 (Hot-Plug capable on Hot Plug SKU only.)</li> <li>▪ Slot 4: PCI Express* x8 (Hot-Plug capable on Hot Plug SKU only.)</li> <li>▪ Slot 5: PCI-X* 64-bit/133 MHz (Hot-Plug capable on Hot Plug SKU only.)</li> <li>▪ Slot 6: PCI-X* 64-bit/100 MHz (One slot and two slot riser capable.)</li> </ul>
Fans	<ul style="list-style-type: none"> <li>▪ Six multi-speed system fan headers</li> <li>▪ Two single-speed CPU fan headers</li> </ul>
Server Management	<ul style="list-style-type: none"> <li>▪ National Semiconductor* PC87431 controller to provide monitoring, alerting and logging of critical sensor information</li> <li>▪ Intel® Light Guided Diagnostics on critical FRU devices, such as processors, memory, and power</li> <li>▪ Front panel LCD connectors for use with the Intel® Local Control Panel</li> <li>▪ Flexible management controller to support Standard and Advanced Management modules</li> </ul>
Form Factor	<ul style="list-style-type: none"> <li>▪ SSI-EEB3.5 compliant form factor</li> <li>▪ Board size 12 inches by 13 inches</li> </ul>

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<sup>1</sup> The omission of Slot 2 is deliberate. Slot 2 is reserved for the RAID DIMM.

## Connector and Header Locations

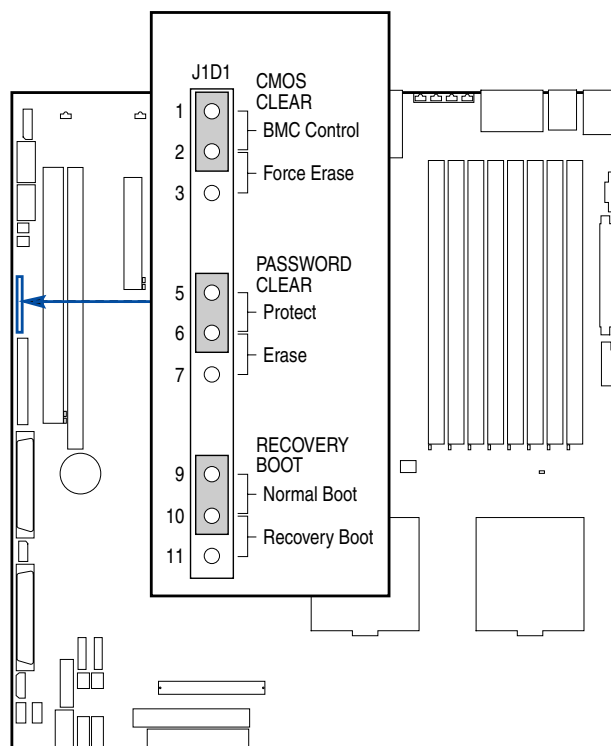


A	Hot Plug PCI Rear Attention LEDs	R	CPU1 Fan Header	II	HSBP A Header
B	PCI Slot 5 (PCI-X*, 64-bit/133 MHz)	S	CPU2 Fault LED	JJ	Front Panel Control LED Header
C	PCI Slot 6 (PCI-X*, 64-bit/100 MHz)	T	CPU2 Fan Header	KK	SCSI Channel A Header
D	System Fan 6 Header	U	CPU1 Socket	LL	IPMB Header
E	System Fan 5 Header	V	CPU2 Socket	MM	Intel® RAID Activation Key Socket
F	ID LED	W	SATA A1 Header	NN	SCSI Channel B Header
G	Status LED	X	SATA A2 Header	OO	PCI Slot 4 (PCI Express* x8)
H	NIC 2 (top), NIC 1 (bottom) Connectors	Y	Intel® Management Module Connector	PP	PCI Slot 3 (PCI Express* x4)
I	POST LEDs	Z	ATA-100 Connector	QQ	RAID DIMM Socket
J	Serial A (top), Video (bottom) Connectors	AA	Floppy Connector	RR	PCI Slot 1 (PCI-X*, 64-bit / 133 MHz)
K	Mouse (top), Keyboard (bottom) Connectors	BB	System Fan 1 Header	SS	Front Panel Header
L	USB1, USB2, USB3 Connectors	CC	System Fan 2 Header	TT	Jumper Block
M	Auxiliary Signal Header	DD	System Fan 3 Header	UU	HDD LED Header
N	Main Power Header	EE	System Fan 4 Header	VV	Chassis Intrusion Header
O	+12 V CPU Header	FF	USB 4-5 Header	WW	OEM RMC Header
P	DIMM Sockets (left to right: DIMM4A, DIMM4B, DIMM3A, DIMM3B, DIMM2A, DIMM2B, DIMM1A, DIMM1B)	GG	Battery	XX	Serial B Header
Q	CPU1 Fault LED	HH	HSBP B Header	YY	ICMB Header

**Figure 2. Server Board Connector and Header Locations**



# Configuration Jumpers



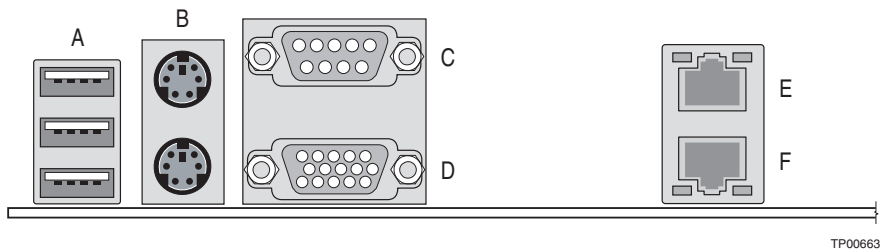
TP00809

**Figure 3. Configuration Jumper Location**

**Table 2. Configuration Jumper [J1D1]**

Jumper Name	Pins	What happens at system reset...
CMOS Clear	1-2	BMC Control: These pins should be jumpered for normal operation.
	2-3	Force Erase: If these pins are jumpered, the CMOS settings will be cleared on the next reset. These pins should not be jumpered for normal operation.
Password Clear	5-6	Protect: These pins should be jumpered for normal operation.
	6-7	Erase: If these pins are jumpered, administrator and user passwords will be cleared on the next reset. These pins should not be jumpered for normal operation.
Recovery Boot	9-10	Normal Boot: These pins should be jumpered for normal operation.
	10-11	Recovery Boot: If these pins are jumpered, the system will attempt to recover the BIOS by loading the BIOS code into the flash device from a bootable recovery device. This jumper is typically used when the BIOS has become corrupted. These pins should not be jumpered for normal operation.

## Back Panel Connectors



- |                                  |                |
|----------------------------------|----------------|
| A USB 1, 2, 3                    | D Video        |
| B Mouse (top), Keyboard (bottom) | E NIC 2 (1 GB) |
| C Serial A                       | F NIC 1 (1 GB) |

**Figure 4. Back Panel Connectors**

The NIC LEDs at the right and left of each NIC provide the following information.

**Table 3. NIC LEDs**

LED Color	LED State	Description
Left LED	Off	No network connection is in place
	Solid Green	Network connection is in place
	Blinking Green	Transmit/receive activity
Right LED	Off	10 Mbps connection (if left LED is on or blinking)
	Solid Green	100 Mbps connection
	Solid Amber	1000 Mbps connection

### NOTE

**Hot-plug SKU only:** If the PCI Hot-plug board and the Intel® Server Chassis SC5300 PCI Hot Plug Upgrade kit are installed, the LEDs in the I/O port area provide attention information for PCI slots 1, 3, 4, and 5.

## Hardware Requirements

To avoid integration difficulties and possible board damage, your system must meet the minimum requirements outlined below. For a list of qualified components, see the links under “[Additional Information and Software](#).”

Depending on accessory components selected, your server system may have additional requirements not listed here. For example, to use the integrated Intel® RAID Controller SR0MB4UE option, you must purchase and install both the Intel® RAID Activation Key and one DDR333 128 MB DIMM or the Intel® Portable Cache Module. The documentation provided with these accessories outlines the hardware requirements and dependencies to install them.

### Processor

Up to two Intel® Xeon™ processors can be used. These must have frequencies starting at 2.8 GHz using the 90 nanometer technology and utilizing an 800 MHz front side bus. Previous generations of the Intel® Xeon™ processors are not supported.

When two processors are installed, both must be of identical revision, core voltage, cache size, and bus / core speed. When a single processor is installed, it must be in the socket labeled CPU\_1.

See [Supported Processors](#).

### System Memory

The Intel® Server Board SE7520AF2 includes four banks of DIMMs across two channels. Channel A consists of DIMMs 1A, 2A, 3A, and 4A. Channel B consists of DIMMs 1B, 2B, 3B, and 4B. Bank 1 (DIMMs 1B and 1A) are closest to the edge of the server board. DIMMs must be identical within each bank.

The minimum allowed memory is 256 MB, using a single 256 MB DIMM in either DIMM socket 1B or DIMM socket 1A. The system operates in single channel when only a single DIMM is installed. The maximum allowed usable memory is 16 GB, using 2 GB DIMMs.

DIMMs must meet the following requirements:

- Use only DDR2-400 ECC, registered DDR DIMM modules
- DIMM organization x72 ECC
- Use 240-pin DIMMs
- DIMMs of the following size can be used: 256 MB, 512 MB, 1 GB, and 2 GB.

For a complete list of supported memory DIMMs, see [Tested Memory List](#).

The Intel® E7520 chipset includes hardware that supports memory mirroring and memory on-line sparing. Both memory mirroring and memory on-line sparing provide a way to prevent data loss in case a DIMM fails.

With memory mirroring the system maintains two copies of all data in the memory subsystem. If a DIMM fails, the data is not lost because the second copy of the data is available from the mirrored DIMM. The system will not fail due to memory error unless both the primary and the mirrored copy of the data become corrupt at the same time.

In a mirrored system, the maximum usable memory is one-half of the installed memory, with a minimum of four DIMMs installed. Since the data is duplicated across DIMMs, it means that up to four DIMMs are actively in use at any one time. If eight 2 GB DIMMs are installed, the maximum usable memory is 8 GB. The remaining four 2 GB DIMMs are used for mirroring.

Three methods for memory mirroring are available:

- Four identical DIMMs are used in DIMM sockets 1A, 2A, 1B, and 2B. If the DIMM in socket 1B fails, the DIMM in socket 2A takes over. If the DIMM in socket 1A fails, the DIMM in socket 2B takes over. See Figure 5.
- Six DIMMs are used with identical DIMMs in sockets 1A and 1B, and with identical DIMMs in sockets 2A, 2B, 3A, and 3B. See Figure 6.

If the DIMM in socket 1A fails, the DIMM in socket 1B takes over.

If the DIMM in socket 2B fails, the DIMM in socket 3A takes over.

If the DIMM in socket 2A fails, the DIMM in socket 3B takes over.

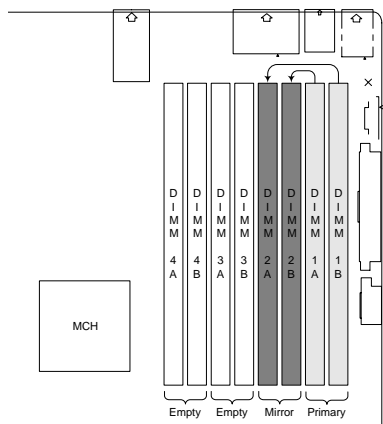
- Eight DIMM population with identical devices in DIMM Bank 1 and Bank 2, and identical devices in Bank 3, and Bank 4. DIMMs 1A, 1B, 2A, 2B must be identical and DIMMs 3A, 3B, 4A, 4B must be identical. See Figure 7.

If the DIMM in socket 1B fails, the DIMM in socket 2A takes over.

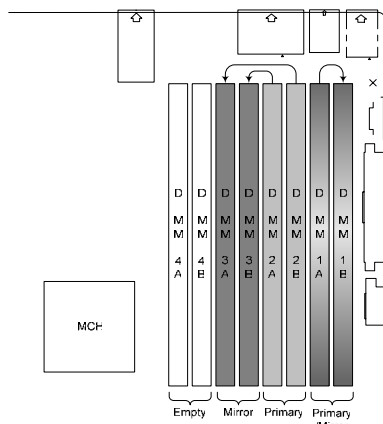
If the DIMM in socket 1A fails, the DIMM in socket 2B takes over.

If the DIMM in socket 3B fails, the DIMM in socket 4A takes over.

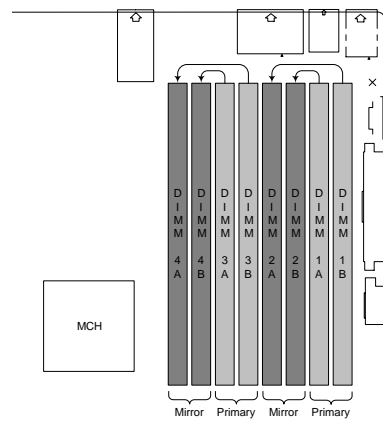
If the DIMM in socket 3A fails, the DIMM in socket 4B takes over.



**Figure 5. Four DIMM Memory Mirroring**



**Figure 6. Six DIMM Memory Mirroring**



**Figure 7. Eight DIMM Memory Mirroring**

For memory on-line sparing, one DIMM per channel is used as the memory spare. If a DIMM begins to fail, the content of the failing DIMM is copied to the spare DIMM in that channel. When all of the data is copied to the spare DIMM, the primary DIMM is removed from service and the spare DIMM takes its place.

When memory on-line sparing is used, the spare DIMMs must be equal to or larger than the largest in-service DIMM in that channel.

## **Power Supply**

A power supply with a minimum rating of 600 Watts is recommended. Your power supply must provide a minimum of 2A of 5V standby current or the board will not boot.

## 2 Hardware Installations and Upgrades

---

### Before You Begin

**Before working with your server product, pay close attention to the “Safety Information” at the beginning of this manual.**

### Tools and Supplies Needed

- Phillips\* (cross head) screwdriver (#1 bit and #2 bit)
- Needle nosed pliers
- A ruler
- Pen or pencil
- Antistatic wrist strap and conductive foam pad (recommended)

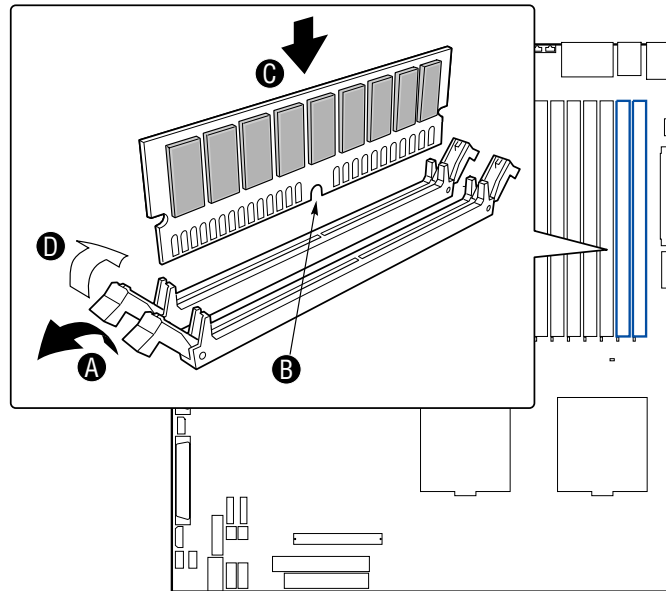
### Installing and Removing Memory

The silkscreen on the board for the DIMMs displays DIMM1B, DIMM1A, DIMM2B, DIMM2A, DIMM3B, DIMM3A, DIMM4B, DIMM4A, starting from the edge of the board. DIMM4A is the socket closest to the center of the board. See “[System Memory](#)” for a discussion of the memory requirements and options, and [Tested Memory List](#) for a list of tested DIMMs.

## Installing DIMMs

To install DIMMs, follow these steps:

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 from the server.
4. Remove the server cover and locate the DIMM sockets (see Figure 8).



TP00811

**Figure 8. Installing Memory**

5. Make sure the clips at each end of the DIMM socket(s) are pushed outward to the open position.
6. Holding the DIMM by the edges, remove it from its anti-static package.
7. Position the DIMM above the socket. Align the small notch in the bottom edge of the DIMM with the key in the socket (see inset in Figure 8).
8. Insert the bottom edge of the DIMM into the socket.
9. When the DIMM is inserted, push straight down on the top edge of the DIMM until the retaining clips snap into place. Make sure the clips are firmly in place.
10. Replace the server's cover and reconnect the AC power cord.

## Removing DIMMs

To remove a DIMM, follow these steps:

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. Remove the AC power cord from the server.
4. Remove the server's cover.
5. Open the retaining clips at each end of the socket. The DIMM lifts from the socket.
6. Holding the DIMM by the edges, lift it from the socket, and store it in an anti-static package.
7. Reinstall and reconnect any parts you removed or disconnected to reach the DIMM sockets.
8. Replace the server's cover and reconnect the AC power cord.

## Installing or Replacing the Processor



### NOTES

Use the instructions provided below to install or replace a processor instead of using the instructions that came with the processor.



### CAUTIONS

**Processor must be appropriate:** You may damage the server board if you install a processor that is inappropriate for your server. See [Supported Processors](#).

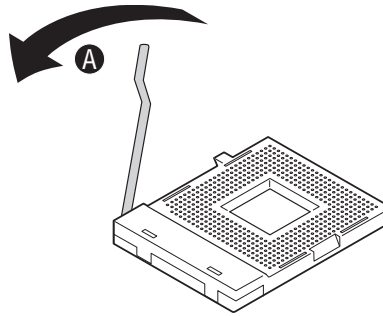
**ESD and handling processors:** Reduce the risk of electrostatic discharge (ESD) damage to the processor by doing the following: (1) Touch the metal chassis before touching the processor or server board. Keep part of your body in contact with the metal chassis to dissipate the static charge while handling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



## Installing the Processor

To install a processor, follow these instructions:

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 from the server.
4. Remove the server's cover and locate the processor sockets.
5. Locate the processor socket and raise the socket handle completely (see Figure 9).



TP00726

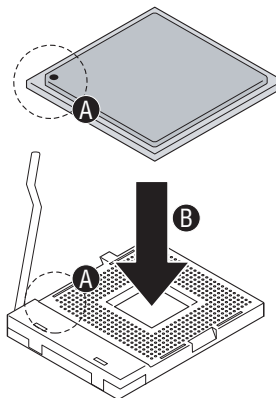
**Figure 9. Opening Socket Lever**

6. Align the pins of the processor with the socket, and insert the processor into the socket.



### NOTE

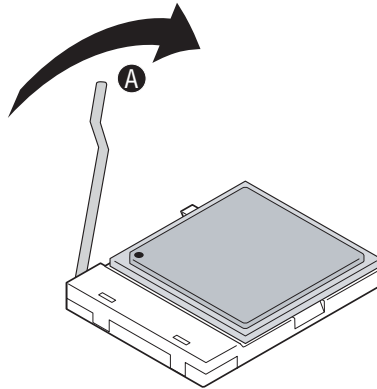
Make sure the alignment triangle mark and the alignment triangle cutout align correctly.



TP00727

**Figure 10. Inserting Processor**

7. Lower the socket lever completely.



TP00728

**Figure 11. Closing Socket Lever**

## Installing the Heat Sink(s)

- 1 The heat sink has Thermal Interface Material (TIM) located on the bottom of it. Use caution when you unpack the heat sink so you do not damage the TIM.
- 2 Set the heat sink over the processor, lining up the four captive screws with the four posts surrounding the processor.
- 3 Loosely screw in the captive screws on the heat sink corners in a diagonal manner. Do not fully tighten one screw before tightening another.
- 4 Gradually and equally tighten each captive screw until each is firmly tightened.

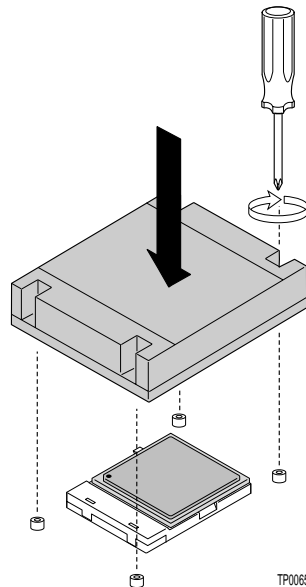


Figure 12. Installing Heat Sink

## Removing a Processor

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. Remove the AC power cord from the server.
4. Remove the server's cover.
5. Unplug the processor fan cable from the server board.
6. Loosen the four captive screws on the corners of the heat sink.
7. Twist the heat sink slightly to break the seal between the heat sink and the processor.
8. Lift the heat sink from the processor. If it does not pull up easily, twist the heat sink again. Do not force the heat sink from the processor. Doing so could damage the processor.
9. Lift the processor lever.
10. Remove the processor.
11. Close the processor lever.
12. If installing a replacement processor, see [“Installing the Processor.”](#) Otherwise, reinstall the chassis cover.

## Installing or Removing a PCI Card

Peripherals and add-in cards are not included with your system and must be purchased separately. If a low profile card is installed in the standard full-height riser card slot, it must be equipped with a standard full-height PCI mounting bracket. PCI cards can be installed into slots 1, 3, 4, 5, and 6. Do not attempt to install a PCI card into slot 2. Slot 2 is reserved for the RAID DIMM accessory.

If you have the hot-plug version of the board, you can make use of the PCI hot-plug features only if you have purchased and installed the PCI Hot Plug Upgrade Kit. With the PCI Hot Plug Upgrade Kit, you can hot swap PCI cards in PCI slots 1, 3, 4, and 5. Do not attempt to hot-plug a PCI card into slots 2 or 6. Slot 2 is reserved for the RAID DIMM accessory and Slot 6 is not hot-pluggable under any circumstances.

If you have not installed the PCI Hot Plug Upgrade kit you must power your server down and unplug it before attempting to add or remove any of the PCI cards.

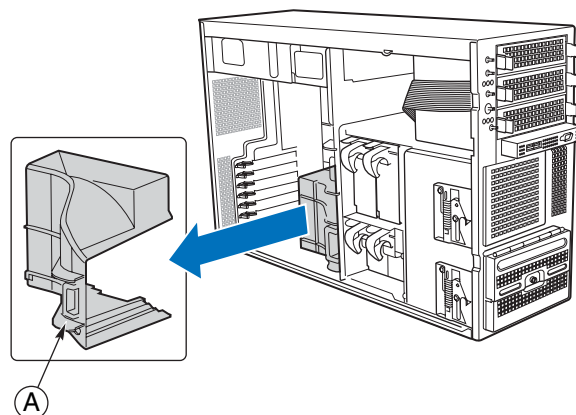


### WARNING

**Do not attempt to hot plug a PCI card without first installing the hot plug kit into a hot plug board.**

**If you have the hot-plug kit installed you must first remove the PCI slot from service before attempting to remove the card from the slot. Failure to remove the slot from service before removing the card system may result in irreversible damage to the PCI card and / or to your server board.**

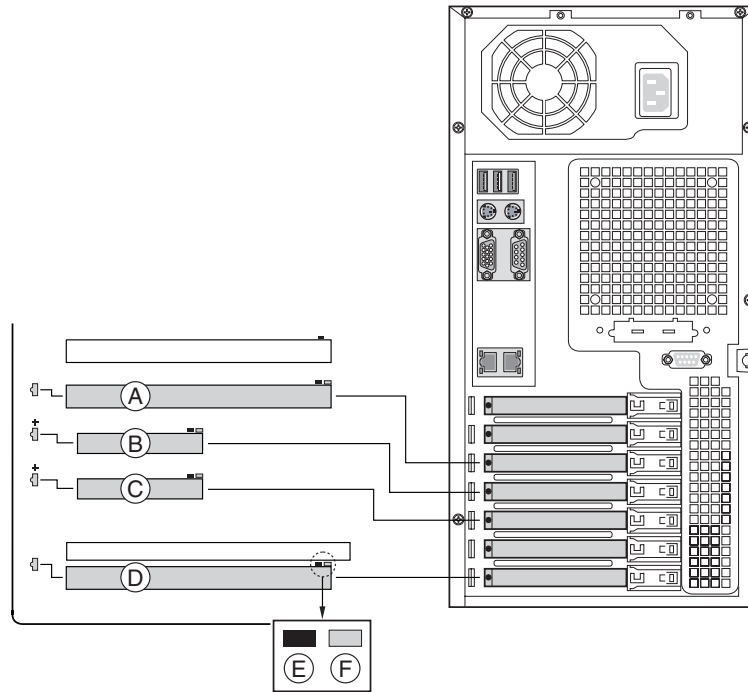
1. Remove chassis cover. See your server chassis documentation for instructions on removing the cover.
2. **Hot plug systems only:** If the server is powered on, use the hot-plug interface utility available through your operating system to remove the slot from service. Failure to remove the slot from service before attempting to remove or add a card may result in irreversible damage to the PCI card and / or to your server board.
3. Remove the PCI air duct from its position over the PCI slots and cards.



TP00858

**Figure 13. Removing the PCI Air Duct**

4. **Hot plug systems only:** Use the hot-plug power and attention LEDs at the back of your system or next to the PCI slots inside of the server chassis to ensure it is safe to remove the card. The power LED next to a slot for which a card is to be added or removed must be OFF. *If the power LED is green or blinking, do not attempt to add or remove a card in that slot.* See the labels on the PCI duct for additional LED information and for LED placement inside of the chassis.



TP00859

- |                                      |   |
|--------------------------------------|---|
| A PCI Slot 5 (PCI-X* 64-bit/133 MHz) | D PCI Slot 1 (PCI-X* 64-bit/133 MHz)            |
| B PCI Slot 4 (PCI Express* x8)       | E Power LED (one for on each PCI slot)          |
| C PCI Slot 3 (PCI Express* x4)       | F Activity LED (one for each hot-plug PCI slot) |

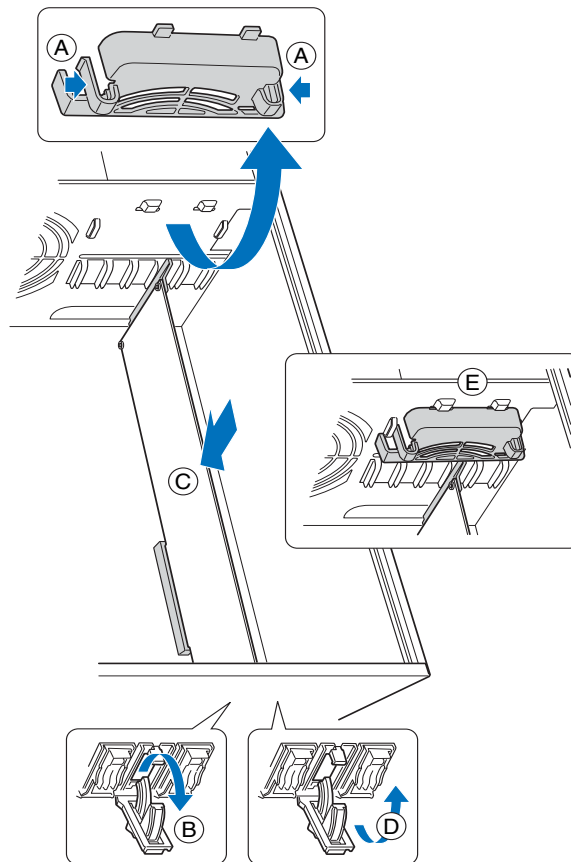
**Figure 14. PCI Hot-plug LEDs at Rear of Chassis**

5. If removing or inserting a full-length card from or into the Intel® Server Chassis SC5300, remove the PCI add-in card retainer at the front of the chassis. See letter A in Figure 15. See your server chassis documentation for additional instructions.
6. Pull back on the blue or green rocker switch that holds the PCI bracket shield to the rear of the chassis to remove the shield. See letter B in Figure 15. In a standard system, the rocker switch is blue. In a hot plug system, the switch is green for any PCI slots that can be hot plugged (slots 1, 3, 4, and 5) and it is blue for slots that are not hot pluggable under any circumstances.
7. **Hot-plug systems only:** when performing a hot removal, place the hot plug curtains on each side of the card to be removed to prevent accidental contact with adjoining “live” cards.
8. If removing a card from the system, pull up on the card to remove it.
9. Insert the PCI card into the PCI slot on the server board. See letter C in Figure 15. In a hot-plug system, stand the hot-plug curtains on each side of the card to be installed and insert the card between them to prevent accidental contact with adjoining “live” cards. Press firmly on the top edge of the riser card until it is fully seated.

**CAUTION**

Press the riser card straight down into the slot. Tipping it in the slot while installing it may damage the riser card or slot.

10. Push the rocker switch up to secure the PCI card into place. See letter D in Figure 15.
11. If you needed to remove the PCI add-in card retainer to remove or install a full-length card, reinstall it. See letter A and letter E in Figure 15. See your server chassis documentation for additional instructions on adding the PCI add-in card retainer.



TP00860

**Figure 15. Installing a PCI Card**

12. **Hot plug systems only:** Store the PCI curtains inside the chassis, along the side of the power supply for easy access.
13. **Hot plug systems only:** Use the hot-plug interface utility available through your operating system to “hot add” the card you just inserted.
14. **Hot plug systems only:** Watch for the power LED next to the PCI card or at the rear of the chassis to turn on (green). The amber LED should be off, to indicate normal operation.
15. Install the PCI air duct over the PCI slots and cards. See your server chassis documentation for instructions.
16. Install the chassis cover. See your server chassis documentation for instructions.

## Replacing the Backup Battery

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



### WARNING

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



### ADVARSEL!

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



### ADVARSEL

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



### WARNING

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

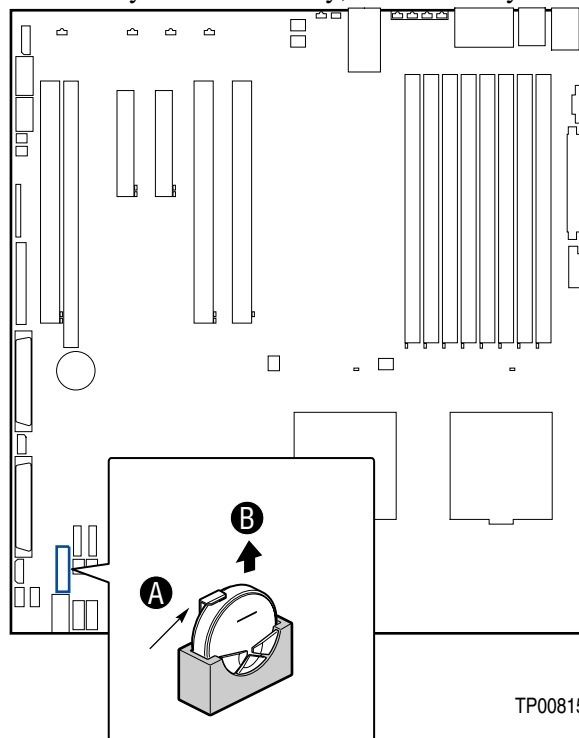


### VAROITUS

**Paristo voi räjähtää, jos se on virheellisesti asennettu. Vaihda paristo ainoastaan laitevalmistajan suositteluun tyypin. Hävitä käytetty paristo valmistajan ohjeiden mukaisesti.**

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 from the server.
4. Remove the server cover and locate the battery.
5. Push the metal lever over the top of the battery to the side to disengage it from the battery.

6. While holding the lever away from the battery, lift the battery from its socket.



TP00815

**Figure 16. Replacing the Backup Battery**

7. Dispose of the battery according to local ordinance.
8. Remove the new lithium battery from its package, and, being careful to observe the correct polarity, insert it in the battery socket. The negative side of the battery (indicated by the “-“) must face the edge of the server board.
9. Close the chassis.
10. Run Setup to restore the configuration settings to the RTC



## 3 Server Utilities

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### Using the BIOS Setup Utility

This section describes the BIOS Setup Utility, which is used to change server configuration settings. You can run BIOS Setup with or without an operating system being present. See the [Intel® Server Board SE7520AF2 Technical Product Specification](#) for details about specific BIOS setup screens.

#### Starting Setup

You can enter and start BIOS Setup under several conditions:

- When you turn on the server, after POST completes the memory test
- When you have moved the CMOS jumper on the server board to the “Clear CMOS” position (enabled)

In the two conditions listed above, after rebooting, you will see this prompt:

```
Press <F2> to enter SETUP
```

In a third condition, when CMOS/NVRAM has been corrupted, you will see other prompts but not the <F2> prompt:

```
Warning: CMOS checksum invalid  
Warning: CMOS time and date not set
```

In this condition, the BIOS will load default values for CMOS and attempt to boot.

#### If You Cannot Access Setup

If you are not able to access BIOS Setup, you might need to clear the CMOS memory. For instructions on clearing the CMOS, see [“Clearing the CMOS”](#).

#### Setup Menus

Each BIOS Setup menu page contains a number of features. Except for those features that are provided only to display automatically configured information, each feature is associated with a value field that contains user-selectable parameters. These parameters can be changed if the user has adequate security rights. If a value cannot be changed for any reason, the feature’s value field is inaccessible.

Table 4 describes the keyboard commands you can use in the BIOS Setup menus.

**Table 4. Keyboard Commands**

Press	Description
<F1>	Help - Pressing F1 on any menu invokes the general Help window.
	The left and right arrow keys are used to move between the major menu pages. The keys have no affect if a submenu or pick list is displayed.
	Select Item up - The up arrow is used to select the previous value in a menu item's option list, or a value field pick list. Pressing the Enter key activates the selected item.
	Select Item down - The down arrow is used to select the next value in a menu item's option list, or a value field pick list. Pressing the Enter key activates the selected item.
F5/-	Change Value - The minus key or the F5 function key is used to change the value of the current item to the previous value. This key scrolls through the values in the associated pick list without displaying the full list.
F6/+	Change Value - The plus key or the F6 function key is used to change the value of the current menu item to the next value. This key scrolls through the values in the associated pick list without displaying the full list. On 106-key Japanese keyboards, the plus key has a different scan code than the plus key on the other keyboard, but it has the same effect.
<Enter>	Execute Command - The Enter key is used to activate submenus when the selected feature is a submenu, or to display a pick list if a selected feature has a value field, or to select a sub-field for multi-valued features like time and date. If a pick list is displayed, the Enter key will undo the pick list, and allow another selection in the parent menu.
<Esc>	Exit - The ESC key provides a mechanism for backing out of any field. This key will undo the pressing of the Enter key. When the ESC key is pressed while editing any field or selecting features of a menu, the parent menu is re-entered. When the ESC key is pressed in any submenu, the parent menu is re-entered. When the ESC key is pressed in any major menu, the exit confirmation window is displayed and the user is asked whether changes can be discarded.
<F9>	Setup Defaults - Pressing F9 causes the following to appear: <div style="border: 1px solid black; padding: 5px; margin: 10px 0;"> Setup Confirmation  Load default configuration now?  [Yes] [No] </div> If "Yes" is selected and the Enter key is pressed, all Setup fields are set to their default values. If "No" is selected and the Enter key is pressed, or if the ESC key is pressed, the user is returned to where they were before F9 was pressed without affecting any existing field values.
<F10>	Save and Exit - Pressing F10 causes the following message to appear: <div style="border: 1px solid black; padding: 5px; margin: 10px 0;"> Setup Confirmation  Save Configuration changes and exit now?  [Yes] [NO] </div> If "Yes" is selected and the Enter key is pressed, all changes are saved and Setup is exited. If "No" is selected and the Enter key is pressed, or the ESC key is pressed, the user is returned to where they were before F10 was pressed without affecting any existing values.

## 4 Upgrading the BIOS

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The upgrade utility allows you to upgrade the BIOS in flash memory. The code and data in the upgrade file include the following:

- On-board system BIOS, including the recovery code, BIOS Setup Utility, and strings.
- On-board video BIOS, SCSI BIOS, and other option ROMs for devices embedded on the server board.
- OEM binary area
- Microcode
- A means to change the BIOS Language

### Preparing for the Upgrade

The steps below explain how to prepare to upgrade the BIOS, including how to record the current BIOS settings and how to obtain the upgrade utility.

#### **NOTE**

In the unlikely event that a BIOS error occurs during the BIOS update process, a recovery process will need to be followed to return the system to service. See “[Additional Information and Software](#)” for a link to necessary software and instructions.

### Recording the Current BIOS Settings

1. Boot the computer and press <F2> when you see the message:  
`Press <F2> Key if you want to run SETUP`
2. Write down the current settings in the BIOS Setup program.

#### **NOTE**

Do not skip step 2. You will need these settings to configure your computer at the end of the procedure.

### Obtaining the Upgrade

Download the BIOS image file to a temporary folder on your hard drive. See [Download Finder](#) for the update software.

#### **NOTE**

Review the instructions and release notes that are provided in the Readme file distributed with the BIOS image file before attempting a BIOS upgrade. The release notes contain critical information regarding jumper settings, specific fixes, or other information to complete the upgrade.

## Upgrading the BIOS

Follow the instructions in the Readme file that came with the BIOS upgrade. When the update completes, remove the bootable media from which you performed the upgrade.

### NOTES

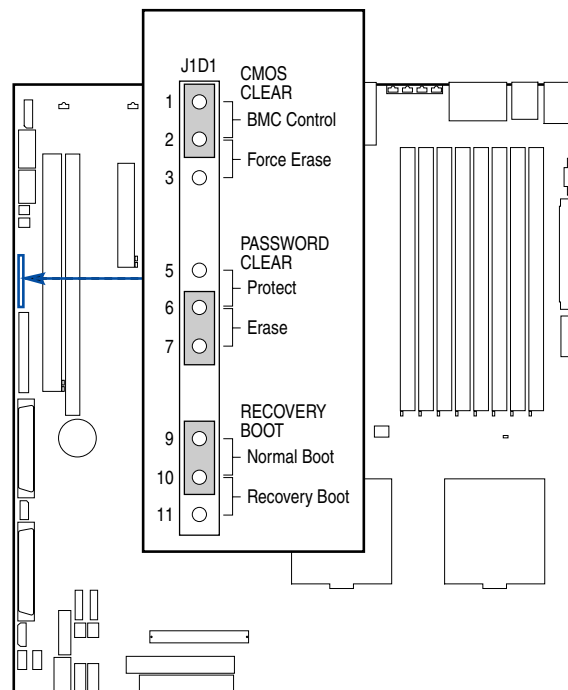
Do not power down the system during the BIOS update process! The system will reset automatically when the BIOS update process is completed.

You may encounter a CMOS Checksum error or other problem after reboot. If this happens, shut down the system and boot it again. CMOS checksum errors require that you enter Setup, check your settings, save your settings, and exit Setup.

## Clearing the Password

If the user or administrator password(s) is lost or forgotten, moving the Password Clear jumper into the “erase” position removes both passwords. The Password Clear jumper must be restored to its original position before a new password(s) can be set. The password clear jumper is located on jumper block J1D1.

1. Power down the system and disconnect the AC power.
2. Open the server chassis.
3. Move the jumper from pins 5 and 6 to the Erase position, covering pins 6 and 7 as indicated in the following diagram.



TP00817

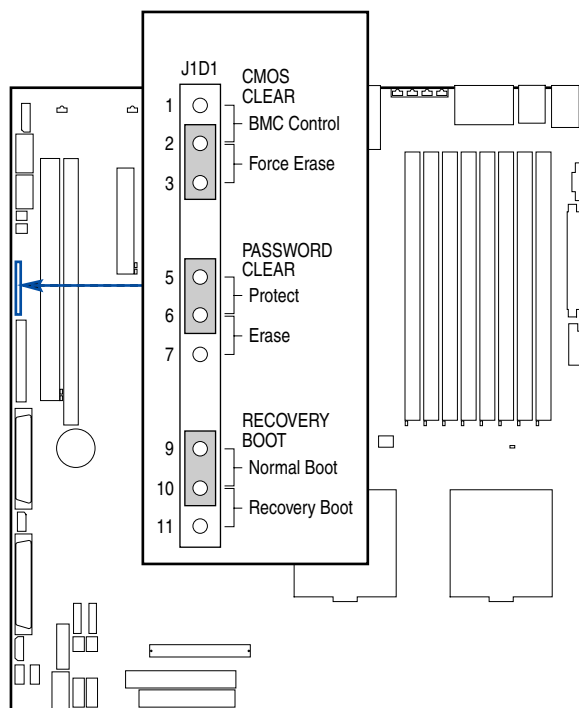
**Figure 17. Password Clear Jumper**

4. Reconnect the AC power and power up the system.
5. Power down the system and disconnect the AC power.
6. Return the Password Clear jumper to the original location, covering pins 5 and 6.
7. Close the server chassis.

## Clearing the CMOS

If you are not able to access the BIOS setup screens, the Clear CMOS jumper will need to be used to reset the configuration RAM. The Clear CMOS jumper is located on jumper block J1D1.

1. Power down the system and disconnect the AC power.
2. Open the server.
3. Move the jumper from pins 1 and 2 to the Force Erase position, covering pins 2 and 3 as indicated in the following diagram.



TP00818

**Figure 18. Clearing the CMOS Jumper**

4. Reconnect the AC power and power up the system.
5. When the system begins beeping, power it down and disconnect the AC power.
6. Return the CMOS Clear jumper to cover pins 1 and 2.
7. Close the server chassis, reconnect the AC power and power up the system.

## 5 Troubleshooting

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This chapter helps you identify and solve problems that might occur while you are using the system.

For any issue, first ensure you are using the latest firmware and files. Firmware upgrades include updates for BIOS, the baseboard management controller (BMC), the hot-swap controller (HSC), and the field replaceable unit sensor data records (FRU/SDR). See [Download Finder](#) for software updates. In addition to the server firmware and files, also update any drivers used for components you have installed in your system, such as video drivers, network drivers, and SCSI drivers.

Intel provides a package called the [Platform Confidence Test](#) that may help with your diagnostics. If you are unable to resolve your server problems on your own, see [“Getting Help”](#) for assistance.

### Resetting the System

Before going through in-depth troubleshooting, attempt to reset your system using one of the methods below.

**Table 5. Resetting the System**

To do this:	Press:
Soft boot reset to clear the system memory and reload the operating system.	<Ctrl+Alt+Del>
Clear system memory, restart POST, and reload the operating system.	Reset button
Cold boot reset. Turn the system power off and then on. This clears system memory, restarts POST, reloads the operating system, and halts power to all peripherals.	Power off/on

### Problems following Initial System Installation

Problems that occur at initial system startup are usually caused by an incorrect installation or configuration. Hardware failure is a less frequent cause. If the problem you are experiencing is with a specific software application, see [“Problems with Newly Installed Application Software.”](#)

#### First Steps Checklist

- Is AC power available at the wall outlet?
- Are the power supplies plugged in? Check the AC cable(s) on the back of the chassis and at the AC source.
- Are all cables correctly connected and secured?
- Are the processors fully seated in their sockets on the server board?
- Are all standoffs in the proper location and not touching any components, causing a potential short?
- Are all add-in PCI boards fully seated in their slots on the server board?
- Are all jumper settings on the server board correct?

- Are all jumper and switch settings on add-in boards and peripheral devices correct? To check these settings, refer to the manufacturer's documentation that came with them. If applicable, ensure that there are no conflicts—for example, two add-in boards sharing the same interrupt.
- Are all peripheral devices installed correctly?
- If the system has a hard disk drive, is it properly formatted or configured?
- Are all device drivers properly installed?
- Are the configuration settings made in Setup correct?
- Is the operating system properly loaded? Refer to the operating system documentation.
- Did you press the system power on/off switch on the front panel to turn the server on (power on light should be lit)?
- Is the system power cord properly connected to the system and plugged into a NEMA 5-15R outlet for 100-120 V or a NEMA 6-15R outlet for 200-240 V ?
- Are all integrated components from the tested components lists? Check the tested memory, and chassis lists, as well as the supported hardware and operating system list. See [Tested Component List](#).

## Hardware Diagnostic Testing

This section provides a more detailed approach to identifying a hardware problem and locating its source.



### CAUTION

**Turn off devices before disconnecting cables:** Before disconnecting any peripheral cables from the system, turn off the system and any external peripheral devices. Failure to do so can cause permanent damage to the system and/or the peripheral devices.

1. Turn off the system and all external peripheral devices. Disconnect each device from the system, except for the keyboard and the video monitor.
2. Make sure the system power cord is plugged into a properly grounded AC outlet.
3. Make sure your video display monitor and keyboard are correctly connected to the system. Turn on the video monitor. Set its brightness and contrast controls to at least two thirds of their maximum ranges (see the documentation supplied with your video display monitor).
4. If the operating system normally loads from the hard disk drive, make sure there is no diskette in drive A and no CD-ROM disk in the CD-ROM drive.
5. If the power LED does light, attempt to boot from a floppy diskette or from a CD-ROM disk.
6. Turn on the system. If the power LED does not light, see [“Power Light Does Not Light.”](#)

## Verifying Proper Operation of Key System Lights

As POST determines the system configuration, it tests for the presence of each mass storage device installed in the system. As each device is checked, its activity light should turn on briefly. Check for the following:

- Does the diskette drive activity light turn on briefly? If not, see “[Diskette Drive Activity Light Does Not Light.](#)”
- If system LEDs are illuminated, see “[LED Information](#)” for a description of the light and steps to take to correct the problem.

## Confirming Loading of the Operating System

Once the system boots up, the operating system prompt appears on the screen. The prompt varies according to the operating system. If the operating system prompt does not appear, see “[No Characters Appear on Screen.](#)”

## Specific Problems and Corrective Actions

This section provides possible solutions for these specific problems:

- Power light does not light.
- No characters appear on screen.
- Characters on the screen appear distorted or incorrect.
- System cooling fans do not rotate.
- Diskette drive activity light does not light.
- Hard disk drive activity light does not light.
- CD-ROM drive activity light does not light.
- There are problems with application software.
- The bootable CD-ROM is not detected.

Try the solutions below in the order given. If you cannot correct the problem, contact your service representative or authorized dealer for help.

### Power Light Does Not Light

Check the following:

- Did you press the power-on button?
- Is the system operating normally? If so, the power LED might be defective or the cable from the front panel to the server board might be loose.
- Have you securely plugged the server AC power cord into the power supply?
- Is the power supply correctly set to 110V or 235V, depending on your power output?
- Will other items plugged into the same power outlet function correctly?
- Some ATX power supplies have a power switch on the back of the power supply, next to the fan. If your system has one, is it turned on?



- Remove all add-in cards and see if the system boots. If successful, add the cards back in one at a time with a reboot between each addition.
- Make sure the memory DIMMs comply with the system requirements.
- Make sure the memory DIMMs have been populated according to the system requirements.
- Remove the memory DIMMs and re-seat them.
- Make sure the processor(s) comply with the system requirements.
- Make sure the processor(s) have been populated according to the system requirements.
- Remove the processor(s) and re-seat them.
- Make sure the chassis standoffs are installed only below mounting holes. Misplaced standoffs can contact the pins on the bottom of the server board and cause a short.

## No Characters Appear on Screen

Check the following:

- Is the keyboard functioning? Test it by turning the “Num Lock” function on and off to make sure the Num Lock light is functioning.
- Is the video monitor plugged in and turned on? If you are using a switch box, is it switched to the correct system?
- Are the brightness and contrast controls on the video monitor properly adjusted?
- Is the video monitor signal cable properly installed?
- Does this video monitor work correctly if plugged into a different system?
- Is the onboard video controller enabled in the BIOS?
- Remove all add-in cards and see if video returns. If successful, add the cards back in one at a time with a reboot between each addition.
- Make sure the memory DIMMs comply with the system requirements.
- Make sure the memory DIMMs have been populated according to the system requirements.
- Remove the memory DIMMs and re-seat them.
- Make sure the processor(s) comply with the system requirements.
- Make sure the processor(s) have been populated according to the system requirements.
- Remove the processor(s) and re-seat them.

If you are using an add-in video controller board, do the following:

1. Verify that the video works using the onboard video controller.
2. Verify that the video controller board is fully seated in the server board connector.
3. Reboot the system for changes to take effect.
4. If there are still no characters on the screen after you reboot the system and POST emits a beep code, write down the beep code you hear. This information is useful for your service representative.
5. If you do not receive a beep code and characters do not appear, the video display monitor or video controller may have failed. Contact your service representative or authorized dealer for help.

## Characters Are Distorted or Incorrect

Check the following:

- Are the brightness and contrast controls properly adjusted on the video monitor? See the manufacturer's documentation.
- Are the video monitor's signal and power cables properly installed?
- Does this video monitor work correctly if plugged into a different system?

## System Cooling Fans Do Not Rotate Properly

If the system cooling fans are not operating properly, it is an indication of possible system component failure.

Check the following:

- Is the power-on light lit? If not, see [“Power Light Does Not Light”](#)
- If your system has LED lights for the fans, is one or more of these LEDs lit?
- Are any other front panel LEDs lit?
- Have any of the fan motors stopped? Use the server management subsystem to check the fan status.
- Have your fans speeds increased in RPM in response to an overheating situation?
- Have your fans speeded up in response to a fan that has failed?
- Are the fan power connectors properly connected to the server board?
- Is the cable from the front panel board connected to the both the front panel board and to the server board?
- Are the power supply cables properly connected to the server board?
- Are there any shorted wires caused by pinched-cables or have power connector plugs been forced into power connector sockets the wrong way?

## Diskette Drive Activity Light Does Not Light

Check the following:

- Are the diskette drive's power and signal cables properly installed?
- Are all relevant switches and jumpers on the diskette drive set correctly?
- Is the diskette drive properly configured?
- Is the diskette drive activity light always on? If so, the signal cable may be plugged in incorrectly.

If you are using the onboard diskette controller, use the BIOS setup to make sure that “Onboard Floppy” is set to “Enabled.” If you are using an add-in diskette controller, make sure that “Onboard Floppy” is set to “Disabled.”

## CD-ROM Drive or DVD-ROM Drive Activity Light Does Not Light

Check the following:

- Are the CD-ROM/DVD-ROM drive's power and signal cables properly installed?
- Are all relevant switches and jumpers on the drive set correctly?
- Is the drive properly configured?

## Cannot Connect to a Server

- Make sure the network cable is securely attached to the correct connector at the system back panel.
- Try a different network cable.
- Make sure you are using the correct and the current drivers. See "[Additional Information and Software](#)" for a link to the current drivers.
- Make sure the driver is loaded and the protocols are bound.
- Make sure the hub port is configured for the same duplex mode as the network controller.
- Make sure the correct networking software is installed.
- If you are directly connecting two servers (without a hub), you will need a crossover cable.
- Check the network controller LEDs next to the NIC connectors.

## Problems with Network

### **The server hangs when the drivers are loaded.**

- Certain drivers may require interrupts that are not shared with other PCI drivers. For these drivers, it may be necessary to alter settings so that interrupts are not shared. See the documentation that came with your PCI card(s) for information on changing interrupts..

### **Diagnostics pass but the connection fails.**

- Make sure the network cable is securely attached.
- Make sure you specify the correct frame type in your NET.CFG file.

### **The controller stopped working when an add-in adapter was installed.**

- Make sure the cable is connected to the port from the onboard network controller.
- Make sure your BIOS is current. See "[Additional Information and Software](#)" for a link to the current version.
- Make sure the other adapter supports shared interrupts. Make sure your operating system supports shared interrupts.
- Try reseating the add-in adapter.

### **The add-in adapter stopped working without apparent cause.**

- Try reseating the adapter first; then try a different slot if necessary.
- The network driver files may be corrupt or deleted. Delete and then reinstall the drivers.

- Run the diagnostics.

## System Boots when Installing PCI Card

System Server Management features require full-time “standby” power. This means some parts of the system have power going to them whenever the power cord is plugged in, even if you have turned the system power off with the power button on the front panel. If you install a PCI card with the AC power cord plugged in, a signal may be sent to command the system to boot. Before installing a PCI card, you should always:

- Turn off the server power by using the power button on the front of the system.
- Unplug the AC power cord(s) from the server.

## Problems with Newly Installed Application Software

Problems that occur when you run new application software are usually related to the software, not the server hardware. Faulty equipment is unlikely, especially if other software runs correctly.

Check the following:

- Make sure the system meets the minimum hardware requirements for the software. See the software documentation.
- Make sure the software is properly installed and configured for the system. See the software documentation.
- Use only an authorized copy. Unauthorized copies often do not work.
- If you are running the software from a diskette, CD-ROM or DVD-ROM, try a different diskette.
- Make sure the correct device drivers are installed.

If the problems persist, contact the software vendor’s customer service representative.

## Problems with Application Software that Ran Correctly Earlier

Problems that occur after the system hardware and software have been running correctly sometimes indicate equipment failure. However, they can also be caused by file corruption or changes to the software configuration.

Check the following:

- If you are running the software from a diskette, CD-ROM or DVD-ROM, try a different diskette.
- Uninstall and reinstall the software. Make sure all necessary files are installed.
- If the problems are intermittent, there may be a loose cable, dirt in the keyboard (if keyboard input is incorrect), a marginal power supply, or other random component failures.
- If you suspect that a transient voltage spike, power outage, or brownout might have occurred, reload the software and try running it again. Symptoms of voltage spikes include a flickering video display, unexpected system reboots, and the system not responding to user commands.

**⇒ NOTE**

**Random errors in data files:** If you are getting random errors in your data files, they may be getting corrupted by voltage spikes on your power line. If you are experiencing any of the above symptoms that might indicate voltage spikes on the power line, you may want to install a surge suppressor between the power outlet and the system power cord.

## Devices are not Recognized under Device Manager (Windows\* Operating System)

The Windows\* operating systems do not include all of the drivers for the Intel® chipsets, onboard NICs, and other components. See “[Additional Information and Software](#)” for a link to the current drivers and chipset files.

## Hard Drive(s) are not Recognized

Check the following:

- Make sure the drive is not disabled in BIOS Setup.
- Make sure the drive is connected correctly and that is plugged into the power supply.
- Make sure the drive is compatible. See “[Additional Information and Software](#)” for a link to the tested drives.
- Make sure you have not exceeded the power budget for the server. See “[Additional Information and Software](#)” for a link to software to check your power budget.
- If using SCSI drives, verify that each SCSI ID number is unique on the SCSI bus. See your drive documentation for details on setting the SCSI ID for your drives.
- If using IDE drives, verify that the master/slave settings are set correctly. See your drive documentation for details on setting the master/slave settings.
- If using a RAID configuration with SCSI or SATA drives, make sure the RAID card is installed correctly.

## Bootable CD-ROM Is Not Detected

Check the following:

- Make sure the BIOS is configured to allow the CD-ROM to be the first bootable device.

## LED Information

The Intel® Server Board SE7520AF2 includes LEDs that can aid in troubleshooting your system.

**Table 6. LED Descriptions**

LED Name	Function	Location	Color	Description
ID	Aid in server identification from the back panel	Front panel and board rear left corner	Blue	On = Server identification enabled
System fault	Visible fault warning	Front panel and board rear left corner	Green or Amber	<ul style="list-style-type: none"> <li>▪ On = No Fault</li> <li>▪ Green Blink = degraded</li> <li>▪ Amber = critical error or non-recoverable</li> <li>▪ Amber blink = non-critical</li> </ul>
IDE activity	Front panel	Front panel and board left side	Green	Blinking = Activity
DIMM fault	Identify failing memory module	Inside the system, at the front of each DIMM socket	Amber	On = Fault
POST code 1–4 (LSB, bit1, bit2, MSB)	Display boot 80 POST code	Left rear of board	Each LED can be Off, Green, Amber, Red	See the POST code table
Fan Pack Fault	Warn on fan failure	Front center board	Amber	On = Fault
CPU 1 & 2 Fan Fault	Identify fan failure	Front center board	Amber	On = Fault
CPU 1 & 2 Fault	Identify processor failure	1" behind processor socket	Amber	On = Fault
5v Standby	Identify 5v standby power on state	Front left board	Amber	On = 5v standby power on
Power LED	Identify the power state of the system	Front Panel	Green	<ul style="list-style-type: none"> <li>▪ Off = Power is off (off or S5)</li> <li>▪ On = Power on or S0)</li> <li>▪ Slow Blink = Low power state (S1 – S3)</li> </ul>
Hot-plug PCI Power (hot plug PCI system only)	Identify the power state for the hot-plug PCI slot	Inside the system, at the front of PCI slots 1, 3, 4, and 5	Green	<ul style="list-style-type: none"> <li>▪ On = Power is on to the PCI slot. DO NOT REMOVE THE PCI CARD</li> <li>▪ Off = Power is off to the associated PCI slot</li> <li>▪ Blinking = Slot is transitioning between on and off. DO NOT REMOVE THE PCI CARD</li> </ul>

LED Name	Function	Location	Color	Description
Hot-plug PCI Attention (hot plug system PCI only)	Indicates a fault condition has occurred	Inside the system, at the front of PCI slots 1, 3, 4, and 5  At the rear of the chassis, visible from the exterior of the system (only if the hot plug PCI light pipe kit is installed)	Amber	<ul style="list-style-type: none"> <li>▪ Off = Slot and card are functioning without error</li> <li>▪ On = A failure has occurred</li> <li>▪ Blinking = Slot needs attention</li> </ul>

## BIOS POST Beep Codes

The table below lists the POST error beep codes. Prior to system video initialization, the BIOS uses these beep codes to inform users of error conditions. The beep code occurs only when a critical error occurs or when the BIOS fails to boot to the operating system. Please note that not all error conditions are supported by BIOS beep codes.

### Boot Block Error Beep Codes

**Table 7. Boot Block Error Beep Codes**

Number of Beeps	Description
1	Insert diskette in floppy drive A:
2	'AMIBOOT.ROM' file not found in root directory of diskette in drive A:
3	Base Memory error
4	Flash Programming successful
5	Floppy read error
6	Keyboard controller BAT command failed
7	No Flash EPROM detected
8	Floppy controller failure
9	Boot Block BIOS checksum error
10	Flash Erase error
11	Flash Program error
12	'AMIBOOT.ROM' file size error
13	BIOS ROM image mismatch (file layout does not match image present in flash device)
1 long beep	Insert diskette with AMIBOOT.001 File for Multi-Disk Recovery

## POST Error Beep Codes

The following table lists POST error beep codes. Prior to system Video initialization, BIOS uses these beep codes to inform users on error conditions.

**Table 8. POST Error Beep Codes**

Number of Beeps	Description
1	Memory refresh timer error
2	Parity error in base memory (first 64 KB block)
3	Base memory read/write test error
4	<b>Motherboard timer not operational</b>
5	Processor error
6	8042 Gate A20 test error (cannot switch to protected mode)
7	General exception error (processor exception error)
8	Display memory error (system video adapter)
9	ROM checksum error
10	CMOS shutdown register read/write error
11	Cache memory test failed

## Troubleshooting BIOS Beep Codes

**Table 9. Troubleshooting BIOS Beep Codes**

Number of Beeps	Troubleshooting Action
1, 2 or 3	Reseat the memory, or replace with known good modules.
4-7, 9-11	<p>Fatal error indicating a serious problem with the system. Consult your system manufacturer. Before declaring the motherboard beyond all hope, eliminate the possibility of interference by a malfunctioning add-in card. Remove all expansion cards except the video adapter.</p> <p>If beep codes are generated even when all other expansion cards are absent, consult your system manufacturer's technical support.</p> <p>If beep codes are not generated when all other expansion cards are absent, one of the add-in cards is causing the malfunction. Insert the cards back into the system one at a time until the problem happens again. This will reveal the malfunctioning add-in card.</p>
8	If the system video adapter is an add-in card, replace or reseat the video adapter. If the video adapter is an integrated part of the system board, the board may be faulty.

## BIOS Recovery Beep Codes

In the case of a Bootblock update, where video is not available for text messages to be displayed, speaker beeps are necessary to inform the user of errors. For beep codes associated with a Bootblock update refer to the [Intel® Server Board SE7520AF2 Technical Product Specification](#).



## Regulatory and Certification Information

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### **WARNING**

To ensure regulatory compliance, 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.

To help ensure EMC compliance with your local regional rules and regulations, before computer integration, make sure that the chassis, power supply, and other modules have passed EMC testing using a server board with a microprocessor from the same family (or higher) and operating at the same (or higher) speed as the microprocessor used on this server board. The final configuration of your end system product may require additional EMC compliance testing. For more information please contact your local Intel Representative.

This is an FCC Class A device. Integration of it into a Class B chassis does not result in a Class B device.

## Product Regulatory Compliance

**Intended Application** – This product was evaluated as Information Technology Equipment (ITE), which may be installed in offices, schools, computer rooms, and similar commercial type locations. The suitability of this product for other product categories and environments (such as: medical, industrial, telecommunications, NEBS, residential, alarm systems, test equipment, etc.), other than an ITE application, may require further evaluation. This is an FCC Class A device. Integration of it into a Class B chassis does not result in a Class B device.

### **Product Safety Compliance**

UL60950 – CSA 60950(USA / Canada)

EN60950 (Europe)

IEC60950 (International)

CB Certificate & Report, IEC60950 (report to include all country national deviations)

GOST R 50377-92 – Listed on one System License (Russia)

Belarus License – Listed on System License (Belarus)

CE - Low Voltage Directive 73/23/EEE (Europe)

IRAM Certification (Argentina)

### **Product EMC Compliance – Class A Compliance**

FCC /ICES-003 - Emissions (USA/Canada) Verification

CISPR 22 – Emissions (International)

EN55022 - Emissions (Europe)

EN55024 - Immunity (Europe)







CE – EMC Directive 89/336/EEC (Europe)  
VCCI Emissions (Japan)  
AS/NZS 3548 Emissions (Australia / New Zealand)  
BSMI CNS13438 Emissions (Taiwan)  
GOST R 29216-91 Emissions - Listed on one System License (Russia)  
GOST R 50628-95 Immunity –Listed on one System License (Russia)  
Belarus License – Listed on one System License (Belarus)  
RRL MIC Notice No. 1997-41 (EMC) & 1997-42 (EMI) (Korea)

**Certifications / Registrations / Declarations**

UL Certification or NRTL (US/Canada)  
CE Declaration of Conformity (CENELEC Europe)  
FCC/ICES-003 Class A Attestation (USA/Canada)  
C-Tick Declaration of Conformity (Australia)  
MED Declaration of Conformity (New Zealand)  
BSMI Certification (Taiwan)  
GOST – Listed on one System License (Russia)  
Belarus – Listed on one System License (Belarus)  
RRL Certification (Korea)  
Ecology Declaration (International)

## Product Regulatory Compliance Markings

The Intel Server Baseboard bears the following regulatory marks.

Regulatory Compliance	Country	Marking
UL Mark	USA/Canada	
CE Mark	Europe	
EMC Marking (Class A)	Canada	CANADA ICES-003 CLASS A CANADA NMB-003 CLASSE A
BSMI Marking (Class A)	Taiwan	 <div style="border: 1px solid black; padding: 5px; width: fit-content; margin-top: 10px;">警告使用者： 這是甲類的資訊產品，在居住的環境中使用時， 可能會造成射頻干擾，在這種情況下，使用者會 被要求採取某些適當的對策</div>
Ctick Marking	Australia / New Zealand	
RRL MIC Mark	Korea	
GOST-R Mark	Russia	

## Electromagnetic Compatibility Notices

### FCC Verification Statement (USA)

This device complies with Part 15 of the FCC Rules. Operation is subject to the following two conditions: (1) This device may not cause harmful interference, and (2) this device must accept any interference received, including interference that may cause undesired operation.

Intel Corporation  
5200 N.E. Elam Young Parkway  
Hillsboro, OR 97124-6497  
Phone: 1-800-628-8686

This equipment has been tested and found to comply with the limits for a Class B digital device, pursuant to Part 15 of the FCC Rules. These limits are designed to provide reasonable protection against harmful interference in a residential installation. This equipment generates, uses, and can radiate radio frequency energy and, if not installed and used in accordance with the instructions, may cause harmful interference to radio communications. However, there is no guarantee that interference will not occur in a particular installation. If this equipment does cause harmful interference to radio or television reception, which can be determined by turning the equipment off and on, the user is encouraged to try to correct the interference by one or more of the following measures:

- Reorient or relocate the receiving antenna.
- Increase the separation between the equipment and the receiver.
- Connect the equipment into an outlet on a circuit different from that to which the receiver is connected.
- Consult the dealer or an experienced radio/TV technician for help.

Any changes or modifications not expressly approved by the grantee of this device could void the user's authority to operate the equipment. The customer is responsible for ensuring compliance of the modified product.

All cables used to connect to peripherals must be shielded and grounded. Operation with cables, connected to peripherals that are not shielded and grounded may result in interference to radio and TV reception.

### ICES-003 (Canada)

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

#### English translation of the notice above:

This digital apparatus does not exceed the Class B limits for radio noise emissions from digital apparatus set out in the interference-causing equipment standard entitled "Digital Apparatus," ICES-003 of the Canadian Department of Communications.

### Europe (CE Declaration of Conformity)

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

### VCCI (Japan)

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

取扱説明書に従って正しい取り扱いをして下さい。

**English translation of the notice above:**

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

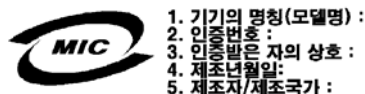
**BSMI (Taiwan)**

The BSMI Certification Marking and EMC warning is located on the outside rear area of the product.

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

**RRL (Korea)**

Following is the RRL certification information for Korea.



**English translation of the notice above:**

1. Type of Equipment (Model Name): On License and Product
2. Certification No.: On RRL certificate. Obtain certificate from local Intel representative
3. Name of Certification Recipient: Intel Corporation
4. Date of Manufacturer: Refer to date code on product
5. Manufacturer/Nation: Intel Corporation/Refer to country of origin marked on product

**CNCA (CCC-China)**

The CCC Certification Marking and EMC warning is located on the outside rear area of the product.

**声明**

此为A级产品，在生活环境中，该产品可能会造成无线电干扰。在这种情况下，可能需要用户对其干扰采取可行的措施。

# Getting Help

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## World Wide Web

<http://support.intel.com/support/motherboards/server/SE7520AF2>

## Telephone

All calls are billed US \$25.00 per incident, levied in local currency at the applicable credit card exchange rate plus applicable taxes. (Intel reserves the right to change the pricing for telephone support at any time without notice).

Before calling, fill out an “[Intel® Server Issue Report Form](#).” A sample form is provided on the following pages. However, for the fastest service, please submit your form via the Internet.

In U.S. and Canada		1-800-404-2284	
In Europe			
UK	0870 6072439	Finland	9 693 79297
France	01 41 918529	Denmark	38 487077
Germany	069 9509 6099	Norway	23 1620 50
Italy	02 696 33276	Sweden	08 445 1251
Spain	91 377 8166	Holland	020 487 4562
Belgium	02 714 3182		
In Asia-Pacific region			
Australia	1800 649931	Indonesia	803 65 7249
Hong Kong	852 2 844 4456	Malaysia	1 800 80 1390
Korea	822 767 2595	New Zealand	0800 444 365
China	800 820 1100 (toll-free) 8 621 33104691 (not toll-free)	Pakistan	632 63684 15 (IDD via Philippines)
Singapore	65 6213-1311	Philippines	1 800 1 651 0117
India	0006517 2 68303634 (manual toll-free. From India, you need an IDD- equipped telephone)	Thailand	1 800 631 0003
Taiwan	2 2545-1640	Vietnam	632 6368416 (IDD via Philippines)
		Myanmar	63 2 636 9796 (via Philippines)
		Cambodia	63 2 636 9797 (via Philippines)

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In Japan			
0120 868686 (Domestic)		81 298 47 0800 (outside country)	
In Latin America		Ecuador (Andimate)	Contact AT&T USA at 1 999 119.
Brazil	001-916 377 0180		Once connected, dial 800 843 4481
Mexico	Contact AT&T USA at 001 800 462 628 4240. Once connected, dial 800 843 4481	Ecuador (Pacifictel)	Contact AT&T USA at 1 800 225 528. Once connected, dial 800 843 4481
Colombia	Contact AT&T USA at 01 800 911 0010. Once connected, dial 800 843 4481	Guatemala	Contact AT&T USA at 99 99 190 Once connected, dial 800 843 4481
Costa Rica	Contact AT&T USA at 0 800 0 114 114. Once connected, dial 800 843 4481	Venezuela	Contact AT&T USA at 0 800 2255 288. Once connected, dial 800 843 4481
Panama	Contact AT&T USA at 00 800 001 0109. Once connected, dial 800 843 4481	Argentina	Contact AT&T USA at 0-800 222 1288. Once connected, dial 800 843 4481
Chile (Easter Island)	Contact AT&T USA at 800 800 311. Once connected, dial 800 843 4481	Paraguay	001 916 377 0114
Chile (Mainland and Juan)	Contact AT&T USA at 800 225 288. Once connected, dial 800 843 4481	Peru	001 916 377 0114
		Uruguay	001 916 377 0114

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For an updated support contact list, see <http://www.intel.com/support/9089.htm/>

# Intel® Server Issue Report Form

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## ⇒ NOTE

An on-line / automatic submission version of this form is available at  
<http://support.intel.com/support/motherboards/server/SE7520AF2>

For the fastest service, please submit your form via the Internet.

**Date Submitted:** \_\_\_\_\_

**Company Name:** \_\_\_\_\_

**Contact Name:** \_\_\_\_\_

**Email Address:** \_\_\_\_\_

**Intel Server Product:** \_\_\_\_\_

**Priority** (Critical, Hot, High, Low): \_\_\_\_\_

**Brief Problem Description.** Provide a brief description below. See the last page for space to include a detailed problem description.

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## Board / Chassis Information

<b>Baseboard Revision – PBA#:</b>	<b>DIMM Configuration</b>
<b>Baseboard Serial Number:</b>	DIMM1A MB, Vendor/part number
<b>CPU1 Speed/Stepping/Spec:</b>	DIMM1B MB, Vendor/part number
<b>CPU2 Speed/Stepping/Spec:</b>	DIMM2A MB, Vendor/part number
<b>System BIOS Version:</b>	DIMM2B MB, Vendor/part number
<b>HSC Firmware Version:</b>	DIMM3A MB, Vendor/part number
<b>Chassis Model</b>	DIMM3B MB, Vendor/part number
<input type="checkbox"/> Intel SC5300 Base	DIMM4A MB, Vendor/part number
<input type="checkbox"/> Intel SC5300LX	DIMM4B MB, Vendor/part number
<input type="checkbox"/> Other (Vendor / Model):	
<b>Board Accessories Installed</b>	
<input type="checkbox"/> PCI Hot-plug Light Pipe	
<input type="checkbox"/> RAID Enabling Accessory	
<input type="checkbox"/> RAID Battery Backup Unit	
<input type="checkbox"/> Intel Management Module, Advanced or Professional (specify)	



## Operating System Information

**Operating System** \_\_\_\_\_

**Version** \_\_\_\_\_

**Service Pack** \_\_\_\_\_

## Peripheral Information

Check each box below that is used, and provide the requested information

Peripheral	Card or Peripheral Description	Driver Revision	IRQ #	I/O Base Address	FW Rev#
<input type="checkbox"/>	PCI-X* Slot 1				
<input type="checkbox"/>	RAID DIMM Slot 2				
<input type="checkbox"/>	PCI Express* Slot 3				
<input type="checkbox"/>	PCI Express* Slot 4				
<input type="checkbox"/>	PCI-X* Slot 5				
<input type="checkbox"/>	PCI-X* Slot 6				
Video					
<input type="checkbox"/>	On-Board Video				
<input type="checkbox"/>	Add-in Video				
NIC					
<input type="checkbox"/>	On-Board NIC1 (10/100/1000 Mb)				
<input type="checkbox"/>	On-Board NIC2 (10/100/1000Mb)				

## Hard Drive Information:

IDE # of drives installed:

Make/Model/Firmware Revision

SCSI # of drives installed:

Make/Model/Firmware Revision

SATAI # of drives installed:

Make/Model/Firmware Revision

