

Intel® Entry Server Board SE7210TP1-E User Guide

Order Number: C49109-002

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Preface

About this Manual

Thank you for purchasing and using the Intel® Entry Server Board SE7210TP1-E.

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 Entry Server Board SE7210TP1-E. For the latest version of this manual, refer to <http://www.support.intel.com/support/motherboards/server/SE7210TP1-E>.

Manual Organization

Chapter 1 provides a brief overview of the Server Board SE7210TP1-E. 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, the battery, and 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 navigate through the BIOS Setup screens, 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 Technical Product Specification. See “[Additional Information and Software](#)” for a link to the 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:

- SC5200 BRP
- SC5250-E

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

Processor, memory DIMMs, hard drive, floppy drive, CDRROM or DVDROM drive, RAID controller, operating system.

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://www.support.intel.com/support/motherboards/server/SE7210TP1-E/compat.htm>.

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, go to this link to find the information below:

<http://www.support.intel.com/support/motherboards/server/SE7210TP1-E/index.htm>

- In-depth technical information about this product, including BIOS settings and chipset information in the *Intel® Server Board SE7210TP1-E Technical Product Specification*.
- The latest product information
- Accessories or other Intel® server products
- Hardware (peripheral boards, adapter cards) and operating systems that have been tested with this product
- Chassis that have been tested with this product
- Processors that have been tested with this product
- DIMMs that have been tested with this product
- Power budget for this product
- Software to manage your Intel Server
- Diagnostics testing software
- Firmware and BIOS updates
- System drivers

Safety Information

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.

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 “**Error! Hyperlink reference not valid.**” for product Safety 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 for use in servers that will be installed in offices, computer rooms, and similar locations. Other uses 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

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://www.support.intel.com/support/motherboards/server/SE7210TP1-E>.

Wichtige Sicherheitshinweise

Lesen Sie zunächst sämtliche Warn- und Sicherheitshinweise in diesem Dokument, bevor Sie eine der Anweisungen ausführen. Beachten Sie hierzu auch die Sicherheitshinweise zu Intel-Serverplatten und -Servergehäusen auf der Ressourcen-CD oder unter <http://www.support.intel.com/support/motherboards/server/SE7210TP1-E>.

重要安全指导

在执行任何指令之前，请阅读本文档中的所有注意事项及安全声明。参见 Resource CD（资源光盘）和/或 <http://www.support.intel.com/support/motherboards/server/SE7210TP1-E> 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

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://www.support.intel.com/support/motherboards/server/SE7210TP1-E>.

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://www.support.intel.com/support/motherboards/server/SE7210TP1-E>.

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Contents

1 Server Board Features

This chapter briefly describes the main features of Intel® Server Board SE7210TP1-E. 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. This server board is available in two options:

- The server board SE7210TP1 includes dual-channel Serial ATA, and dual-channel Parallel ATA support. RAID 0 and 1 support is provided for Serial ATA drives.
- The server board SE7210TP1SCSI includes a single channel, Ultra320 SCSI controller: Adaptec* AIC-7901.

The Server Board SE7210TP1-E is shown in the following picture.



Figure 1. Intel® Server Board SE7210TP1-E

Table 1 summarizes the major features of the server board.

Table 1. Server Board Features

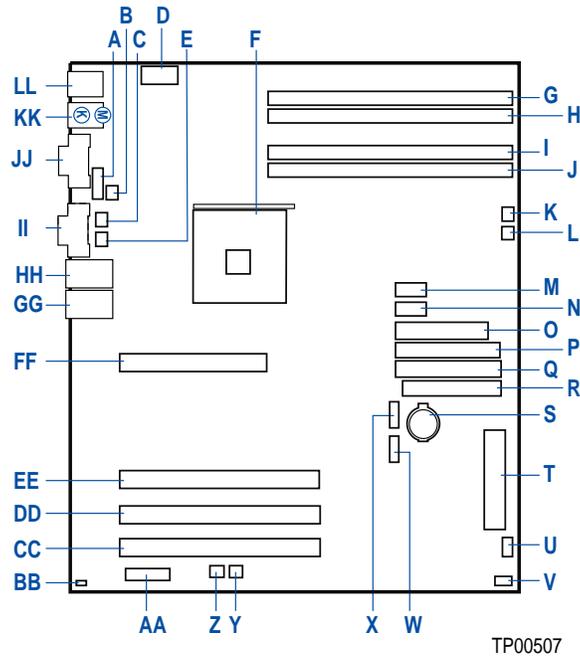
| Feature | Description |
|-------------------------|---|
| Processors | Support for an Intel® Pentium® 4 processor in an mPGA478 package with a 800/533/400 MHz system bus |
| Memory | <ul style="list-style-type: none"> ▪ Four 184-pin DDR SDRAM Dual Inline Memory Module (DIMM) sockets ▪ Support for up to 4 GB Unbuffered ECC system memory ▪ Support for single-sided or double-sided DIMMs (DDR266/333/400) <ul style="list-style-type: none"> - To run DDR400 memory at full speed requires an Intel Pentium 4 processor with 800 MHz system bus frequency. - To run DDR333 memory at full speed requires an Intel Pentium 4 processor with 533 MHz system bus frequency. DDR333 memory will run at 320 MHz frequency when using an Intel Pentium 4 processor with system bus frequency of 800 MHz. - DDR266 memory may only be used with an Intel Pentium 4 processor with 400 MHz or 533 MHz system bus frequency. |
| Chipset | Intel® 827210 chipset, consisting of: <ul style="list-style-type: none"> ▪ Intel® 827210 Memory Controller Hub (MCH) ▪ Intel® 6300ESB I/O Controller Hub ▪ Intel® 82802AC 8 Megabit Firmware Hub (FWH) |
| I/O Control | Winbond* W83627HF-AW LPC Bus I/O controller chip |
| Peripheral Interfaces | <ul style="list-style-type: none"> ▪ Three external USB 2.0 ports on the back panel with an additional internal header, which provides support for one additional USB port for front panel support (four total possible USB 2.0 ports) ▪ One serial port and one serial header ▪ Two IDE interfaces with Ultra 33, 66 and 100 DMA mode ▪ Two Serial ATA connectors with support for RAID 0 and 1 ▪ One floppy drive interface with support for one drive ▪ PS/2* keyboard and mouse ports |
| LAN | <ul style="list-style-type: none"> ▪ One Intel® 82547EI Platform LAN Connect (PLC) device for 10/100/1000 Mbits/second Ethernet LAN connectivity ▪ One Intel® 82551QM device for 10/100 Mbits/second Ethernet LAN connectivity |
| Expansion Capabilities | Two independent PCI buses (one 32-bit, 33 MHz, 5 V; one 64-bit, 66 MHz, 5V) with four bus connectors: <ul style="list-style-type: none"> ▪ Three PCI-X 64-bit PCI slots ▪ One 32-bit PCI slot |
| Integrated Capabilities | <ul style="list-style-type: none"> ▪ Integrated 2D/3D graphics controller: ATI* Rage* XL Video Controller with 8 MB of SDRAM ▪ Single channel, Ultra 320 SCSI controller (only available on server board SE7210TP1SCSI): Adaptec* AIC-7901 |
| Fans | Support for up to six system fans and one processor fan |
| BIOS | Intel/AMI BIOS with support for: <ul style="list-style-type: none"> ▪ Advanced Configuration and Power Interface (ACPI) ▪ 8 megabit symmetrical flash memory ▪ Support for SMBIOS |

continued

Server Board Features (continued)

| | |
|-------------------|--|
| Power Management | Support for ACPI: <ul style="list-style-type: none"> ▪ Suspend to RAM (STR) ▪ Wake on USB, PCI, RS-232, PS/2, LAN, and front panel |
| Server Management | Intel® Server Management 5.8 support via mini Baseboard Management Controller (mBMC) |

Server Board Connector and Component Locations



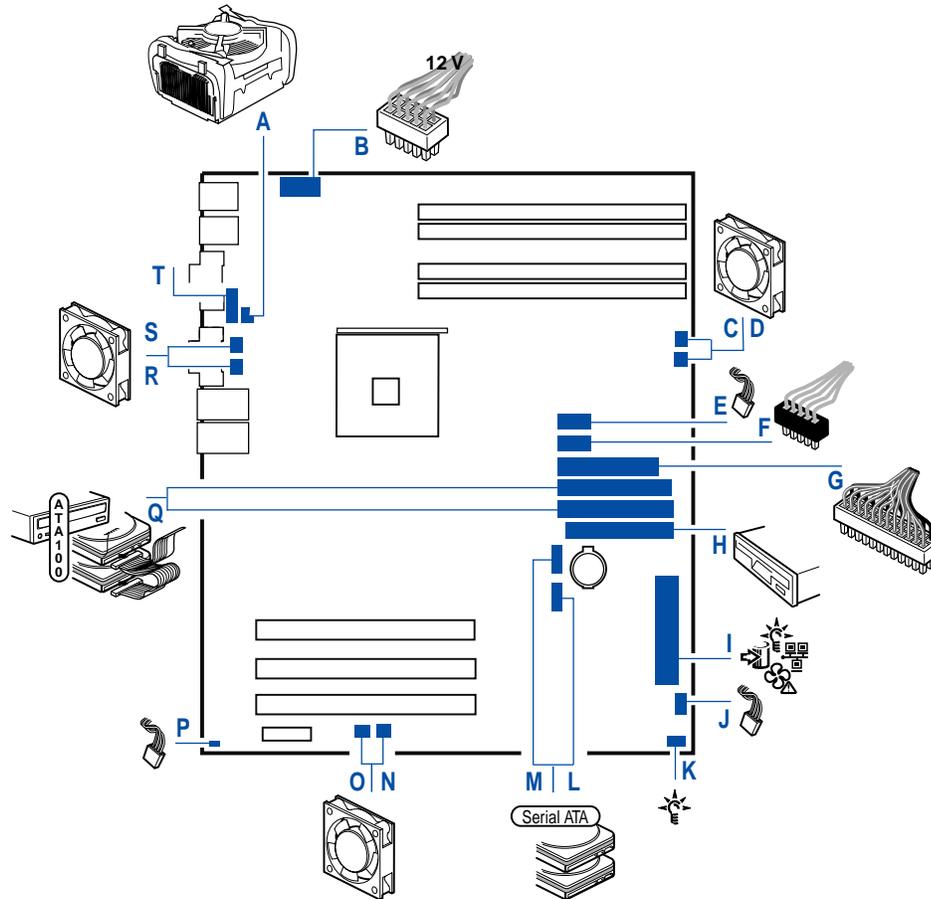
- | | |
|--|---|
| <p>A: Serial B Header B: CPU Fan Header C: Sys Fan Header 3 D: +12 V CPU Power Connector E: Sys Fan Header 4 F: Processor Socket G: DIMM 2B Socket H: DIMM 2A Socket I: DIMM 1B Socket J: DIMM 1A Socket K: Sys Fan Header 1 L: Sys Fan Header 2 M: Front Panel USB Header N: Aux Power Connector O: Main Power Connector P: Secondary IDE Connector Q: Primary IDE Connector R: Floppy Connector S: Battery</p> | <p>T: Front Panel Connector U: Hot Swap Backplane Header V: SCSI LED Header W: SATA-A1 Connector X: SATA-A2 Connector Y: Sys Fan Header 6 Z: Sys Fan Header 5 AA: Jumper Block BB: Chassis Intrusion Header CC: PCI-X Slot 1, 64/66 RAIDIOS DD: PCI-X Slot 2, 64/66 EE: PCI-X Slot 3, 64/66 FF: PCI Slot 6, 32/33 GG: NIC 2 (10/100 Mbit) HH: NIC 1 (1 Gbit) II: Video Connector JJ: Serial A Connector KK: Keyboard and Mouse LL: USB Connectors</p> |
|--|---|

Figure 2. Intel Server Board SE7210TP1-E Layout

Internal Component Connections

The connections you make depend on the chassis you are installing the board into and the components you are installing. You may not need to make all of the connections shown in Figure 3.

If your Server Board SE7210TP1-E is installed into the Server Chassis SC5250-E, make sure the hard drive cage is installed before making your connections. This is necessary because the hard drive cage contains one of the front system fans.

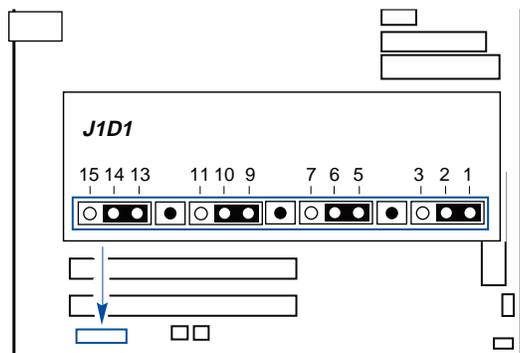


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Figure 3. Making Connections to the Server Board

- | | |
|-------------------------------|-----------------------------|
| A: CPU1 Fan Connector | K: HDD LED |
| B: +12V CPU Power Connector | L: SATA Port A1 |
| C: System Fan Header 2 | M: SATA Port A2 |
| D: System Fan Header 1 | N: System Fan Header 6 |
| E: Front USB Header | O: System Fan Header 5 |
| F: Auxiliary Power Connector | P: Chassis Intrusion Header |
| G: Main Power Connector | Q: IDE Connectors |
| H: Floppy Connector | R: System Fan Header 4 |
| I: Front Panel Connector | S: System Fan Header 3 |
| J: Hot-swap Backplane Headers | T: Serial B Header |

Configuration Jumpers



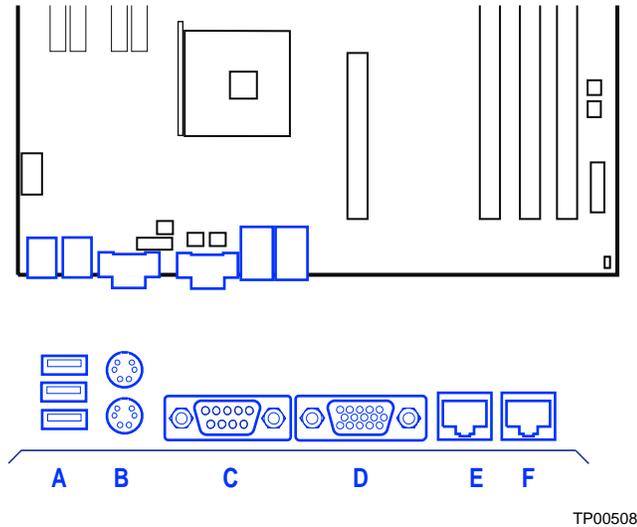
TP00630

Figure 4. Configuration Jumper Location

Table 2. Configuration Jumper [J1D1]

| Jumper Name | Pins | What happens at system reset... |
|--------------------------|-------|---|
| CMOS clear | 2-3 | If these pins are jumpered, the CMOS settings will be cleared on the next reset. These pins should be jumpered on 1-2 for normal operation. |
| Password Clear | 6-7 | If these pins are jumpered, administrator and user passwords will be cleared on the next reset. These pins should be jumpered on 5-6 for normal operation. |
| BIOS Flash Write Protect | 11-12 | If these pins are jumpered, it is possible to update the BIOS Boot Block code. These pins should be jumpered on 10-11 for normal operation and for normal BIOS operational updates. |
| BIOS Recovery | 14-15 | If these pins are jumpered, the system will attempt to recover the BIOS by loading the BIOS code into the flash device from a floppy disk. This jumper is typically only used when the BIOS has become corrupted. These pins should be jumpered on 13-14 for normal operation. |

Back Panel Connectors



- A. USB 1, 2, 3
- B. Keyboard/mouse
- C. Serial port A
- D. Video
- E. NIC1 (1Gbit)
- F. NIC2 (10/100 Mbit)

Figure 5. Back Panel Connectors

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

Table 3. NIC LEDs

| NIC | LED Color | LED State | Description |
|--------------------|-----------|----------------|--|
| NIC2 (10/100 Mbit) | Left LED | Off | 10 Mbps connection (if right LED is on) |
| | | Solid Green | 100 Mbps connection |
| | Right LED | On | Network connection in place |
| | | Blinking Green | Transmit/receive activity |
| NIC1 (Gigabit) | Left LED | Off | No network connection |
| | | Solid Amber | Network connection in place |
| | | Blinking Amber | Transmit/receive activity |
| | Right LED | Off | 10 Mbps connection (if left LED is on or blinking) |
| | | Solid Amber | 100 Mbps connection |
| | | Solid Green | 1000 Mbps connection |

Hardware Requirements

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

Processor

A minimum of one 2.0 GHz Intel Pentium 4 processor with 512KB cache support is required. For a complete list of supported processors, see the links under “[Additional Information and Software.](#)”

Memory

A minimum of one 128 MB Unbuffered, ECC or non-ECC, DDR266-, DDR333- or DDR400-compliant, 184-pin DIMMs.

All memory components and DIMMs used with the server board SE7210TP1-E must comply with the DDR specifications.

For best performance and dual-channel interleave operation, a minimum of two DIMMs must be installed and the DIMMs must be populated as follows:

- DIMM1A and DIMM 1B: Populate these two sockets together first
- DIMM 2A and DIMM 2B: Populate these sockets in addition to DIMM 1A and DIMM 2A if four DIMMs are to be used
- When four DIMMs are installed, the system will use dual-channel interleave. For single-channel memory, a single DIMM can be installed in socket DIMM 1A.

For a complete list of supported memory DIMMs, see the links under “[Additional Information and Software.](#)”

⇒ NOTES

Although the server board architecture allows the user to mix various sizes of DIMMs between channels, DIMMs must be identical within each bank.

To be fully compliant with all applicable DDR SDRAM memory specifications, the board should be populated with DIMMs that support the Serial Presence Detect (SPD) data structure. This allows the BIOS to read the SPD data and program the chipset to accurately configure memory settings for optimum performance. If non-SPD memory is installed, the BIOS will attempt to correctly configure the memory settings, but performance and reliability may be impacted or the DIMMs may not function under the determined frequency.

For ECC functionality, all installed DIMMs must be ECC. If both ECC and non-ECC DIMMs are used, ECC will be disabled and will not function.

Power Supply

A minimum of 450 Watts is required. Your supply must provide a minimum of 1.2 A of 5 V standby current or the board will not boot.

Server Board Features

2 Server Board 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
- Antistatic wrist strap and conductive foam pad (recommended)

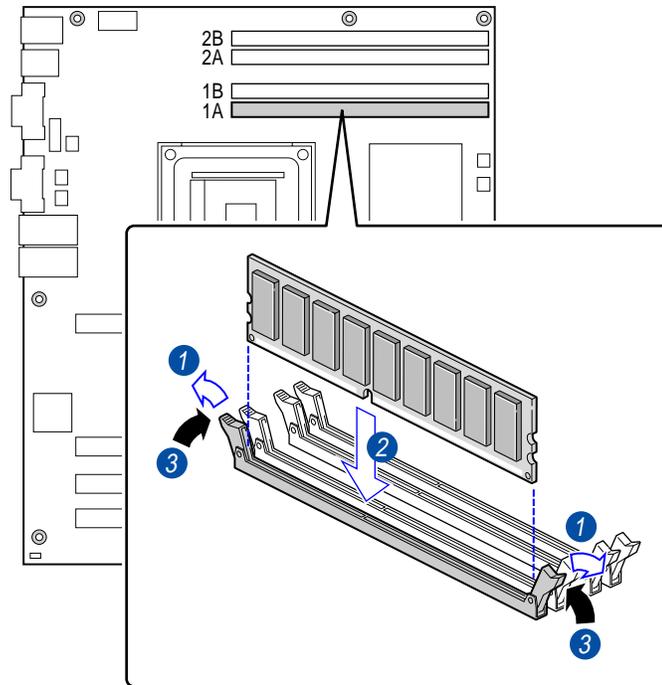
Installing and Removing Memory

The silkscreen on the board for the DIMMs displays DIMM1A, DIMM2A, DIMM1B, and DIMM2B, starting from the inside of the board. DIMM1A is the socket closest to the processor socket.

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.
4. Remove the chassis cover and locate the DIMM sockets (see Figure 6).



TP00518

Figure 6. Installing Memory

5. Make sure the clips at either 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 keys in the socket (see inset in Figure 6).
8. Insert the bottom edge of the DIMM into the socket.
9. When the DIMM is inserted, push 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 chapter.
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. Gently spread the retaining clips at each end of the socket. The DIMM pops out of the socket.
6. Hold the DIMM by the edges, lift it away 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

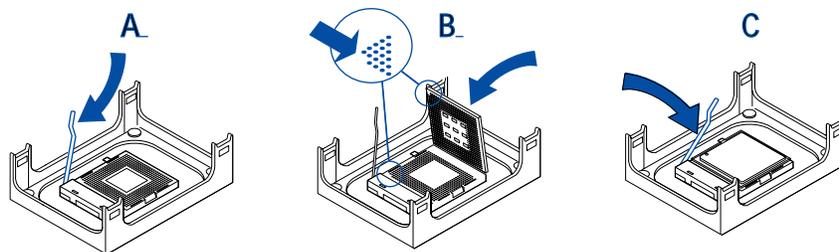
Processor must be appropriate: You may damage the server board if you install a processor that is inappropriate for your server. See “[Additional Information and Software](#)” for a link to the list of compatible processors.

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 document.
2. Locate the processor socket and raise the socket handle completely. See Figure 7, letter A.
3. Aligning the pins of the processor with the socket, insert the processor into the socket. See letter B in the figure below
4. Close the handle completely. See letter C.



TP00519

Figure 7. Installing the Processor in the Processor Socket

NOTE

The bottom of the heat sink may have thermal interface material (TIM) already applied. Be careful not to damage the thermal interface material.

5. If there is no thermal interface material on the bottom of the heat sink, use the enclosed syringe and apply the thermal interface material to the top of the processor.
6. Place the fan heat sink on top of the processor.

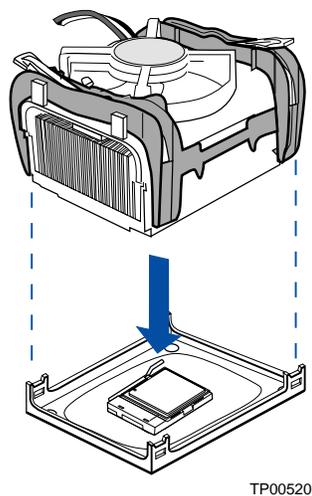


Figure 8. Attaching the Heat Sink to the Processor

7. Fully open the levers at the top of the heat sink, as shown by letter “A” in Figure 9.
8. With the levers in their fully opened position, push down firmly to secure the retention mechanism clips, represented by letter “B” in Figure 9.

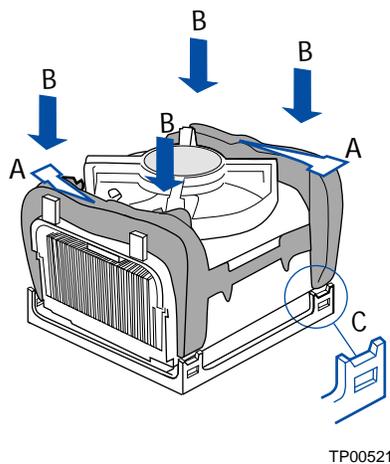
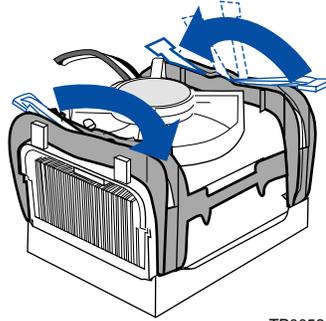


Figure 9. Attaching the Fan Heat Sink Clips to the Processor Socket

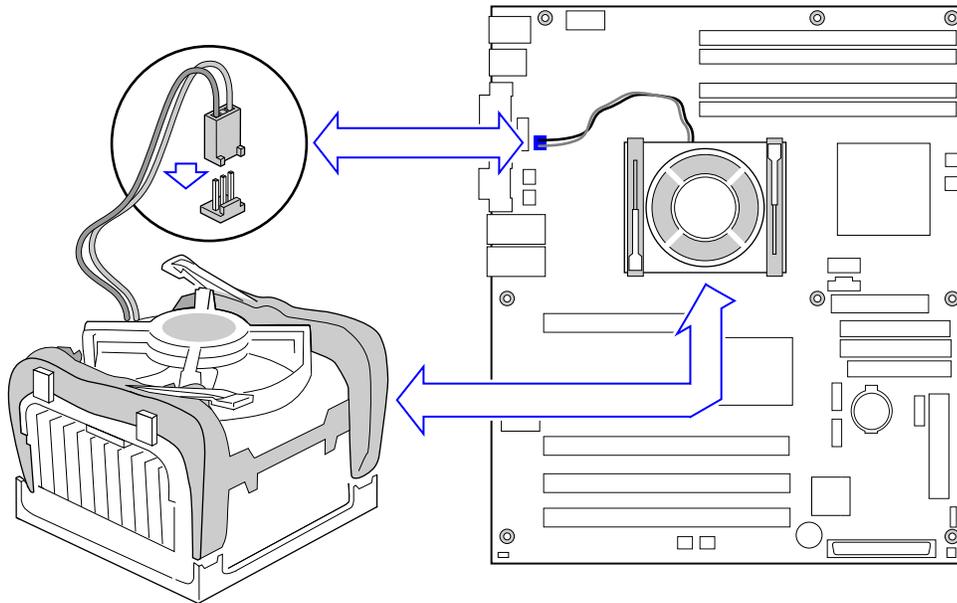
9. Firmly push the levers closed. It may be necessary to exert pressure to close the levers. See Figure 10.



TP00522

Figure 10. Attaching the Fan Heat Sink Clips to the Processor Socket

10. Connect the processor fan cable to the processor fan connector. See Figure 11.



TP00523

Figure 11. Connecting the Processor Fan Cable to the Processor Fan Connector

Removing the Processor

To remove the processor, follow these instructions:

1. Observe the safety and ESD precautions at the beginning of this document.
2. Disconnect the processor fan cable.
3. Open the levers on the heat sink.
4. Disengage the retention mechanism hooks at the bottom of the heat sink.
5. Lift the heat sink from the processor.
6. Lift the processor lever.
7. Remove the processor.

Installing a PCI Card

Peripherals and add-in cards are not included in your system and must be purchased separately. The PCI slots support full-height add-in cards or low profile PCI add-in cards. If a low profile card is installed in the standard full-height riser card, it must be equipped with a standard full-height PCI mounting bracket.

1. Remove the screw that attaches the PCI bracket shield to the rear of the chassis to remove the shield. Retain the screw.
2. Insert the PCI card into the PCI slot. Tipping it in the slot while installing it may damage the PCI card or slot.
3. Use the screw removed in step 1 to secure the PCI card to the chassis.

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 - Eksplosionsfare ved fejlagtig 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.

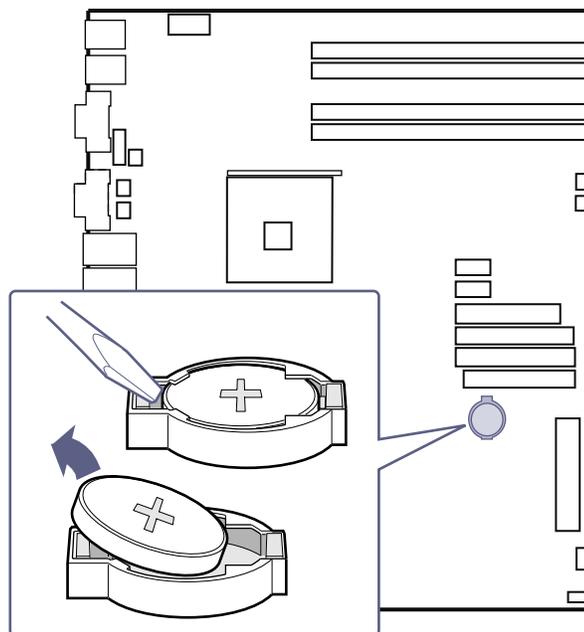
⚠ VARNING

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 suosittelemaan tyyppiin. 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's cover and locate the battery.
5. Insert the tip of a small flat bladed screwdriver, or an equivalent, under the tab in the plastic retainer. Gently push down on the screwdriver to lift the battery.
6. Remove the battery from its socket.



TP00511

Figure 12. Replacing the 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.
9. Close the chassis.
10. Run Setup to restore the configuration settings to the RTC.

3 Server Utilities

BIOS Setup

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> | <p>Setup Defaults - Pressing F9 causes the following to appear:</p> <div style="border: 1px solid black; padding: 10px; margin: 10px auto; width: fit-content;"> <p style="text-align: center;">Setup Confirmation</p> <p style="text-align: center;">Load default configuration now?</p> <p style="text-align: center;">[Yes] [No]</p> </div> <p>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.</p> |
| <F10> | <p>Save and Exit - Pressing F10 causes the following message to appear:</p> <div style="border: 1px solid black; padding: 10px; margin: 10px auto; width: fit-content;"> <p style="text-align: center;">Setup Confirmation</p> <p style="text-align: center;">Save Configuration changes and exit now?</p> <p style="text-align: center;">[Yes] [NO]</p> </div> <p>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.</p> |

Upgrading the BIOS

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 BIOS, ATA-100 RAID BIOS, and PXE option ROMs for the devices that are embedded on the system board
- The Setup Utility
- The System BIOS

Preparing for the Upgrade

The steps below explain how to prepare to upgrade the BIOS, including how to:

- Record the current BIOS settings
- Obtain the upgrade utility
- Prepare a bootable diskette for the utility

In the unlikely event that a BIOS error occurs during the BIOS update process, see “[Recovering the BIOS](#)” for instructions on performing a BIOS recovery.

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 “[Additional Information and Software](#)” for a link to the update software.

⇒ NOTE

Review the instructions distributed with the upgrade utility before attempting a BIOS upgrade. Review also any release notes in the release notes file that accompanies the new version of the BIOS. The release notes may contain critical information regarding jumper settings, specific fixes, or other information to complete the upgrade.

Creating a Bootable Diskette

Use a DOS system to create the diskette as follows:

1. Insert a diskette in diskette drive A.
2. At the C:\ prompt, for an unformatted diskette, type:

```
format a:/s
```

or, for a diskette that is already formatted, type:

```
sys a:
```

4. Press <Enter>.

Creating the BIOS Upgrade Diskette

The BIOS upgrade file is a compressed self-extracting archive that contains the files you need to upgrade the BIOS.

1. Insert the bootable diskette into the diskette drive.
2. While in the directory into which you downloaded the upgrade file(s), type `[filename] a:` where “[filename]” is the name of the file that you downloaded. This command extracts the update files and places them onto the bootable diskette

Upgrading the BIOS

1. Place the bootable diskette containing the BIOS update files into the diskette drive of your system. Boot the system with the diskette in the drive.
2. A menu will appear with two options. Use option 1 to automatically update the system BIOS. Use option 2 to manually update the system BIOS and the User Binary.
3. If you selected option 1, to automatically update the system BIOS:
The system will execute the AfuDOS update utility to update the BIOS. When the update is complete, the utility will display a green box with a message that says “Completed Successfully.” The system will then reboot.
4. If you selected option 2, to manually update the BIOS or to update the flash memory, you can either select “Update Flash Memory From a File” or “Update System BIOS”:
 - Update Flash Memory From a File: When prompted for a file name, type BIOS.wph and press Enter.
 - Update System BIOS: The system will warn you that the BIOS will be updated. Verify the BIOS version is correct and press Enter to continue. When the update is complete, the utility will display a green box with a message that says “Completed Successfully.” The system will then reboot.
5. Wait while the BIOS files are updated. **Do not power down the system during the BIOS update process!** The system will reset automatically when the BIOS update process is completed. Remove the diskette from the diskette drive.
6. Check to make sure the BIOS version displayed during POST is the new version as the system reboots.
7. Enter Setup by pressing the F2 key during boot.
8. In Setup, press the F9 and <Enter> to set the parameters back to default values.
9. Re-enter the values you wrote down at the beginning of this process. Press F10 and <Enter> to exit BIOS Setup and Save Changes.

10. If you do not set the CMOS values back to defaults using the F9 key, the system may function erratically.

⇒ NOTE

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.

Changing the BIOS Language

You can use the BIOS upgrade utility to change the language the BIOS uses for messages and the Setup program. Use a bootable diskette containing the Intel flash utility and language files.

1. Boot the computer with the bootable diskette in drive A. The BIOS upgrade utility screen appears.
2. Select `Update Flash Memory From a File`.
3. Select `Update Language Set`. Press `<Enter>`.
4. Select drive A and use the arrow keys to select the correct `.lng` file. Press `<Enter>`.
5. When the utility asks for confirmation that you want to flash the new language into memory, select `Continue with Programming`. Press `<Enter>`.
6. When the utility displays the message `upgrade is complete`, remove the diskette. Press `<Enter>`.
7. The computer will reboot and the changes will take effect.

Recovering the BIOS

In the rare event that the BIOS becomes damaged, a recovery process needs to be followed to return the system to service. Two methods are available to recover the BIOS: automatically with the crisis recovery diskette, and manually by moving a jumper on the system board. These methods are described below.

⇒ NOTE

BIOS recovery is the mode of last resort, used only when the main system BIOS will not come up.

Manually Recovering the BIOS

A BIOS recovery can be manually initiated. This option would be used only when the BIOS is corrupt, but the ROM checksum error does not occur during POST. To manually initiate a BIOS recovery, use the following steps:

1. Power down and unplug the system from the AC power source.
2. Move the recovery jumper at J1D1 from pins 13 and 14 to cover pins 14 and 15.
3. Insert a bootable diskette containing the file `AMIBOOT.ROM` into the A: diskette drive.
4. Plug the system into the AC power source and power it on.

5. A blue screen will be displayed and the recovery process will automatically run. The system will continue to beep throughout the recovery process. The recovery process is complete when the beeping stops.
6. Remove the diskette.
7. Power down and unplug the system from the AC power source.
8. Move the BIOS recovery jumper at J1D1 back to the original position, covering pins 13 and 14.
9. Plug the system into the AC power source and power it up to confirm that the recovery was successful.

Clearing the Password

If the user or administrator password(s) is lost or forgotten, moving the password clear jumper into the “clear” position clears 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 Clear Password position, covering pins 6 and 7.
4. Reconnect the AC power, power up the system.
5. Power down the system and disconnect the AC power.
6. Return the Password Clear jumper to the spare 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 CMOS Clear jumper will need to be used to reset the configuration RAM. The CMOS Clear 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 Clear CMOS position, covering pins 2 and 3.
4. Reconnect the AC power, 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 the original location, covering pins 1 and 2.
7. Close the server chassis, reconnect the AC power and power up the system.

4 Troubleshooting

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 mini baseboard management controller (mBMC), and the hot-swap controller (HSC). See “[Additional Information and Software](#)” for a link to the 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. See “[Additional Information and Software](#)” for a link to this software.

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 first to perform reset your system using one of the methods below.

| 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 comes 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 “[Additional Information and Software](#)” for links to the tested component lists.

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 of 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 as 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 the 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 speeded up 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 the 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 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 SE7210TP1-E includes LEDs that can aid in troubleshooting your system. A table of these LEDs with a description of their use is listed below.

| LED Name | Function | Location | Color | Correction |
|--------------------------------------|--|--|--|--|
| ID | Aid in server identification from the back panel | Front Panel and board rear left corner | Blue | Press ID LED button or user Server Management software to turn off the LED. |
| System fault | Visible fault warning | Front panel and board rear left corner | Green or Amber | <ul style="list-style-type: none"> ▪ On = No Fault ▪ Green Blink = degraded ▪ Amber = critical error or non-recoverable ▪ Amber blink = non-critical |
| IDE activity | Front panel | Front panel and board left side | Green | Blinking = Activity. No action required. |
| Memory fault 1–6 | Identify failing memory module | DIMM end front of board | 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"> ▪ Off = Power is off (off or S5) ▪ On = Power on or S0) ▪ Slow Blink = Low power state (S1 – S3) |

BIOS Error Messages

When a recoverable error occurs during the POST, the BIOS displays an error message describing the problem (see Table 5).

Table 5. BIOS Error Messages

| Error Message | Explanation |
|--|---|
| GA20 Error | An error occurred with Gate A20 when switching to protected mode during the memory test. |
| Pri Master HDD Error Pri Slave HDD Error Sec Master HDD Error Sec Slave HDD Error | Could not read sector from corresponding drive. |
| Pri Master Drive - ATAPI Incompatible Pri Slave Drive - ATAPI Incompatible Sec Master Drive - ATAPI Incompatible Sec Slave Drive - ATAPI Incompatible | Corresponding drive is not an ATAPI device. Run Setup to make sure device is selected correctly. |
| A: Drive Error | No response from diskette drive. |
| CMOS Battery Low | The battery may be losing power. Replace the battery soon. |
| CMOS Display Type Wrong | The display type is different than what has been stored in CMOS. Check Setup to make sure type is correct. |
| CMOS Checksum Bad | The CMOS checksum is incorrect. CMOS memory may have been corrupted. Run Setup to reset values. |
| CMOS Settings Wrong | CMOS values are not the same as the last boot. These values have either been corrupted or the battery has failed. |
| CMOS Date/Time Not Set | The time and/or date values stored in CMOS are invalid. Run Setup to set correct values. |
| DMA Error | Error during read/write test of DMA controller. |
| FDC Failure | Error occurred trying to access diskette drive controller. |
| HDC Failure | Error occurred trying to access hard disk controller. |
| Checking NVRAM..... | NVRAM is being checked to see if it is valid. |
| Update OK! | NVRAM was invalid and has been updated. |
| Updated Failed | NVRAM was invalid but was unable to be updated. |
| Keyboard Error | Error in the keyboard connection. Make sure keyboard is connected properly. |
| KB/Interface Error | Keyboard interface test failed. |
| Memory Size Decreased | Memory size has decreased since the last boot. If no memory was removed, then memory may be bad. |
| Memory Size Increased | Memory size has increased since the last boot. If no memory was added, there may be a problem with the system. |
| Memory Size Changed | Memory size has changed since the last boot. If no memory was added or removed, then memory may be bad. |
| No Boot Device Available | System did not find a device to boot. |
| Off Board Parity Error | A parity error occurred on an off-board card. This error is followed by an address. |

continued

BIOS Error Messages (continued)

| Error Message | Explanation |
|---|---|
| On Board Parity Error | A parity error occurred in onboard memory. This error is followed by an address. |
| Parity Error | A parity error occurred in onboard memory at an unknown address. |
| NVRAM / CMOS / PASSWORD cleared by Jumper | NVRAM, CMOS, and passwords have been cleared. The system should be powered down and the jumper removed. |
| <CTRL_N> Pressed | CMOS is ignored and NVRAM is cleared. User must enter Setup. |

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.

Table 6. Beep Codes

| Number of Beeps | Description |
|------------------------|--|
| 1 | Refresh failure |
| 2 | Parity cannot be reset |
| 3 | First 64 Kb memory failure |
| 4 | Timer not operational |
| 5 | Processor failure (Reserved; not used) |
| 6 | 8042 GateA20 cannot be toggled (memory failure or not present) |
| 7 | Exception interrupt error |
| 8 | Display memory R/W error |
| 9 | (Reserved; not used) |
| 10 | CMOS Shutdown register test error |
| 11 | Invalid BIOS (such as, POST module not found) |

BIOS Recovery Beep Codes

Table 7. BIOS Recovery Beep Codes

| Number of Beeps | Reason |
|------------------------|---|
| 1 | One long beep – video is active. |
| 1-2 | One long beep and two short beeps: Insert the BIOS recovery diskette. |

An error or warning condition at boot can result in a series of beeps being issued known as "beep codes. These beeps have a code that identifies system or PCI card events. For example, some Intel® RAID cards have beep codes. Before checking for a system beep code error make sure the PCI card is not causing the beeping.

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 SE7210TP1-E Technical Product Specification*.

Regulatory and Compliance Information

Product Regulatory Compliance

Product Safety Compliance

The Server Board SE7210TP1-E complies with the following safety requirements:

- UL 1950 - CSA 950 (US/Canada)
- EN 60 950 (European Union)
- IEC60 950 (International)
- CE – Low Voltage Directive (73/23/EEC) (European Union)
- EMKO-TSE (74-SEC) 207/94 (Nordics)
- GOST R 50377-92 (Russia)

Product EMC Compliance

The Server Board SE7210TP1-E has been tested and verified to comply with the following electromagnetic compatibility (EMC) regulations when installed a compatible Intel® host system. For information on compatible host system(s) refer to Intel's Server Builder Web site or contact your local Intel representative.

- FCC (Class A Verification) – Radiated & Conducted Emissions (USA)
- ICES-003 (Class A) – Radiated & Conducted Emissions (Canada)
- CISPR 22, 3rd Edition (Class A) – Radiated & Conducted Emissions (International)
- EN55022 (Class A) – Radiated & Conducted Emissions (European Union)
- EN55024 (Immunity) (European Union)
- CE – EMC Directive (89/336/EEC) (European Union)
- VCCI (Class A) – Radiated & Conducted Emissions (Japan)
- AS/NZS 3548 (Class A) – Radiated & Conducted Emissions (Australia / New Zealand)
- RRL (Class A) Radiated & Conducted Emissions (Korea)
- BSMI CNS13438 (Class A) Radiated & Conducted Emissions (Taiwan)
- GOST R 29216-91 (Class A) Radiated & Conducted Emissions (Russia)
- GOST R 50628-95 (Immunity) (Russia)

Product Regulatory Compliance Markings

This product is marked with the following Product Certification Markings:

Table 8. Product Certification Markings

| | |
|------------------------|--|
| UL Recognition Mark |  |
| CE Mark |  |
| Russian GOST Mark |  |
| Australian C-Tick Mark |  |
| BSMI DOC Marking |  |
| BSMI EMC Warning | 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 MIC Mark |  |

Electromagnetic Compatibility Notices

FCC (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.

For questions related to the EMC performance of this product, contact:

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

This equipment has been tested and found to comply with the limits for a Class A 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 to an outlet on a circuit other than the one 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.

Only peripherals (computer input/output devices, terminals, printers, etc.) that comply with FCC Class A or B limits may be attached to this computer product. Operation with noncompliant peripherals is likely to result in interference to radio and TV reception.

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.

Industry Canada (ICES-003)

This digital apparatus does not exceed the Class A 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.

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

Taiwan Declaration of Conformity

This product has been tested and complies with CNS13438. The product has been marked with the BSMI DOC mark to illustrate compliance.

Korean RRL Compliance

This product has been tested and complies with MIC Notices No. 1997-41 and 1997-42. The product has been marked with the MIC logo to illustrate compliance.



The English translation for the above is as follows:

1. Type of Equipment (Model Name): SE7210TP1-E
2. Certification No.: Contact Intel Representative
3. Name of Certification Recipient: Intel
4. Date of Manufacturer: Marked on Product
5. Manufacturer / Nation : Intel

Australia / New Zealand

This product has been tested and complies with AS/NZS 3548. The product has been marked with the C-Tick mark to illustrate compliance.

Getting Help

World Wide Web

<http://www.support.intel.com/support/motherboards/server/SE7210TP1-E>

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 |
| In Asia-Pacific region | | | |
| Australia | 1800 649931 | Indonesian | 001-803 65 7249 |
| Hong Kong | 852 2 844 4456 | Malaysia | 1-800 80 1390 |
| Korea | 822 767 2595 | New Zealand | 0800 444 365 |
| PRC | 800 820 1100 | Pakistan | 632 6368415 (IDD via Philippines) |
| Singapore | 65 213-1311 | Philippines | 1-800 1 651 0117 |
| Taiwan | 2 2545-1640 | Thailand | 1-800 6310003 |
| India | 0006517-830 3634 | Vietnam | 632 6368416 (IDD via Philippines) |
| In Japan | | | |
| 0120-868686 (Domestic) | | 81-298-47-0800 (outside country) | |
| In Latin America | | | |
| Brazil | 0021-0811-408-5540 | Ecuador | 999-119, 800-628-8686 (via AT&T) |
| Mexico | 001-800-628-8686 | Guatemala | 99-99-190, 800-628-8686 (via AT&T) |
| Colombia | 980-9-122-118 | Venezuela | 800-11-120, 800-628-8686 (via AT&T) |
| Costa Rica | 0-800-011-0395 | Argentina | 001-800-222-1001, 800-628-8686 (via AT&T) |
| Panama | 001-800-628-8686 | Paraguay | 008-11, 800-628-8686 (via AT&T) |
| Chile | 800-532-992 | Peru | 0-800-50000, 800-628-8686 (via AT&T) |
| Miami | 1-800-621-8423 | Uruguay | 000-410, 800-628-8686 (via AT&T) |

For an updated support contact list, see <http://www.support.intel.com/support/motherboards/server/SE7210TP1-E>

Intel® Server Issue Report Form

⇒ **NOTE**

An on-line / automatic submission version of this form is available at <http://www.support.intel.com/support/motherboards/server/SE7210TP1-E> . 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.

Board / Chassis Information

| Baseboard Revision – PBA#: | DIMM Configuration |
|--|----------------------------|
| Baseboard Serial Number: | DIMM1A MB: |
| CPU1 Speed/Stepping/Spec: | DIMM1A Vendor/part number: |
| System BIOS Version: | DIMM1B MB: |
| HSC Firmware Version: | DIMM1B Vendor/part number: |
| Chassis Model | DIMM2A MB: |
| <input type="checkbox"/> Intel SC5200 Base Redundant Power | DIMM2A Vendor/part number: |
| <input type="checkbox"/> Intel SC5250-E | DIMM2B MB: |
| <input type="checkbox"/> Other (Vendor / Model): | DIMM2B Vendor/part number: |

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# |
|------------------------------------|--------------------------------|-----------------|-------|------------------|---------|
| P64 Segment B (PCI-X 64/66) | | | | | |
| <input type="checkbox"/> | PCI Slot 1 | | | | |
| <input type="checkbox"/> | PCI Slot 2 | | | | |
| <input type="checkbox"/> | PCI Slot 3 | | | | |
| P32 Segment A (PCI 32/33) | | | | | |
| <input type="checkbox"/> | PCI Slot 6 | | | | |
| Video | | | | | |
| <input type="checkbox"/> | On-Board Video | | | | |
| <input type="checkbox"/> | Add-in Video | | | | |
| NIC | | | | | |
| <input type="checkbox"/> | On-Board NIC1 (1.0 Gb) | | | | |
| <input type="checkbox"/> | On-Board NIC2 (10/100 Mb) | | | | |

Hard Drive Information:

IDE # of drives installed: _____
Make/Model/Firmware Revision _____

SCSI # of drives installed: _____
Make/Model/Firmware Revision _____

SATA # of drives installed: _____
Make/Model/Firmware Revision _____

