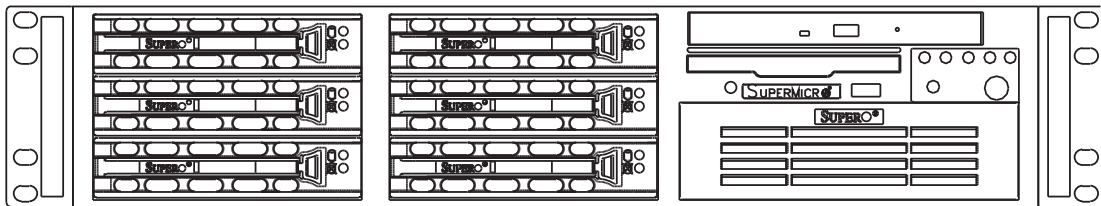


SUPERO®

SUPERSERVER 5026T-3F
SUPERSERVER 5026T-T



USER'S MANUAL

1.0b

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Preface

About This Manual

This manual is written for professional system integrators and PC technicians. It provides information for the installation and use of the SuperServer 5026T-3-F/5026T-T. Installation and maintenance should be performed by experienced technicians only.

The SuperServer 5026T-3F/5026T-T is a high-end, single processor server based on the SC822TQ-400LPB 2U rackmount server chassis and the X8ST3-F/X8STE motherboard, which supports single Intel® Core™ i7 and Xeon® or future Intel Nehalem processor families (next generation Intel Xeon® processor). Refer to the motherboard specifications pages on our web site for updates on supported processors.

Manual Organization

Chapter 1: Introduction

The first chapter provides a checklist of the main components included with the server system and describes the main features of the X8ST3-F/X8STE motherboard and the SC822TQ-400LPB chassis, which make up the SuperServer 5026T-3-F/5026T-T.

Chapter 2: Server Installation

This chapter describes the steps necessary to install the SuperServer 5026T-3-F/5026T-T into a rack and check out the server configuration prior to powering up the system. If your server was ordered without processor and memory components, this chapter will refer you to the appropriate sections of the manual for their installation.

Chapter 3: System Interface

Refer here for details on the system interface, which includes the functions and information provided by the control panel on the chassis as well as other LEDs located throughout the system.

Chapter 4: System Safety

You should thoroughly familiarize yourself with this chapter for a general overview of safety precautions that should be followed when installing and servicing the SuperServer 5026T-3F/5026T-T.

Chapter 5: Advanced Motherboard Setup

Chapter 5 provides detailed information on the X8ST3-F/X8STE motherboard, including the locations and functions of connectors, headers and jumpers. Refer to this chapter when adding or removing processors or main memory and when reconfiguring the motherboard.

Chapter 6: Advanced Chassis Setup

Refer to Chapter 6 for detailed information on the SC822TQ-400LPB 2U server chassis. You should follow the procedures given in this chapter when installing, removing or reconfiguring SAS/SATA or peripheral drives and when replacing the system power supply unit and cooling fans.

Chapter 7: BIOS

The BIOS chapter includes an introduction to BIOS and provides detailed information on running the CMOS Setup Utility.

Appendix A: POST Beep Code Messages

Appendix B: System Specifications

Notes

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Appendix A POST Error Beep Codes

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Chapter 1

Introduction

1-1 Overview

The SuperServer 5026T-3F/5026T-T is a high-end, 2U rackmount server. The SuperServer 5026T-3F/5026T-T is comprised of two main subsystems: the SC-822TQ-400LPB 2U chassis and the X8ST3-F/X8STE motherboard. Please refer to our web site for information on operating systems that have been certified for use with the SuperServer 5026T-3F/5026T-T. (www.supermicro.com).

Note: a complete list of safety warnings is provided on the Supermicro web site at http://www.supermicro.com/about/policies/safety_information.cfm

In addition to the motherboard and chassis, various hardware components may have been included with your SuperServer 5026T-3F/5026T-T, as listed below:

- Four (4) PWM chassis cooling fans (FAN-0044L4)
- One internal USB cable for DVD-ROM drive (CBL-0341L)
- One slim DVD-ROM drive (DVM-TEAC-DVD-SBT)
- One SATA to USB adapter for DVD-ROM drive (CDM-USATA-G)
- SAS/SATA Accessories:
 - Six (6) SAS/SATA hard drive carriers (CSE-PT17B)
 - One (1) SAS/SATA backplane (BPN-SAS-823TQ-O-P)
 - Two (2) SGPIO cables (CBL-0157L)
 - Three (3) SATA data cables (CBL-0061L)
 - Three (3) SATA data cables (CBL-0178L)
- One (1) active heatsink, optional (SNK-P0036A4)
- One (1) rackmount kit (CSE-PT25)
- One (1) CD containing drivers and utilities
- SuperServer 5026T-3F/5026T-T User's Manual
- A "B" at the end of the server name indicates the color black.

1-2 Motherboard Features

At the heart of the SuperServer 5026T-3F/5026T-T lies the X8ST3-F/X8STE, a single Intel® Core™ i7 or Xeon processor motherboard designed to provide maximum performance. Below are the main features of the X8ST3-F/X8STE. (See Figure 1-1 for a block diagram of the chipset.)

Processors

The X8ST3-F/X8STE supports a single Intel Core i7 or future Intel Nehalem processor families (next generation Intel Xeon® processor). Please refer to the motherboard specifications pages on our web site for updates on supported processors.

Memory

The X8ST3-F/X8STE has six 240-pin DIMM slots that can support up to 24 GB of unbuffered ECC or non-ECC DDR3-1333/1066/800 SDRAM. A three-channel memory bus provides memory optimization when three DIMMs at a time are installed.

Onboard SAS (5026T-3F only)

Onboard SAS is provided with an LSI 1068E SAS controller chip, which supports an 8-port SAS subsystem that supports RAID 0, 1 and 10. The SAS drives are hot-swappable units. **Note:** The operating system you use must have RAID support to enable the hot-swap capability and RAID function of the SAS drives.

Onboard SATA

A SATA controller is built in to the ICH10R portion of the chipset to provide support for a six port, 3 Gb/sec Serial ATA subsystem, which is RAID 0, 1, 5 and 10 supported. The SATA drives are hot-swappable units. **Note:** The operating system you use must have RAID support to enable the hot-swap capability and RAID function of the SATA drives.

PCI Expansion Slots

The X8ST3-F/X8STE has three PCI-Express 2.0 x8 slot, one PCI-Express x4 slot and two 32-bit PCI slots. An IPMI slot is also included on the board.

ATI Graphics Controller

The X8ST3-F/X8STE features an onboard integrated Winbond® video controller.

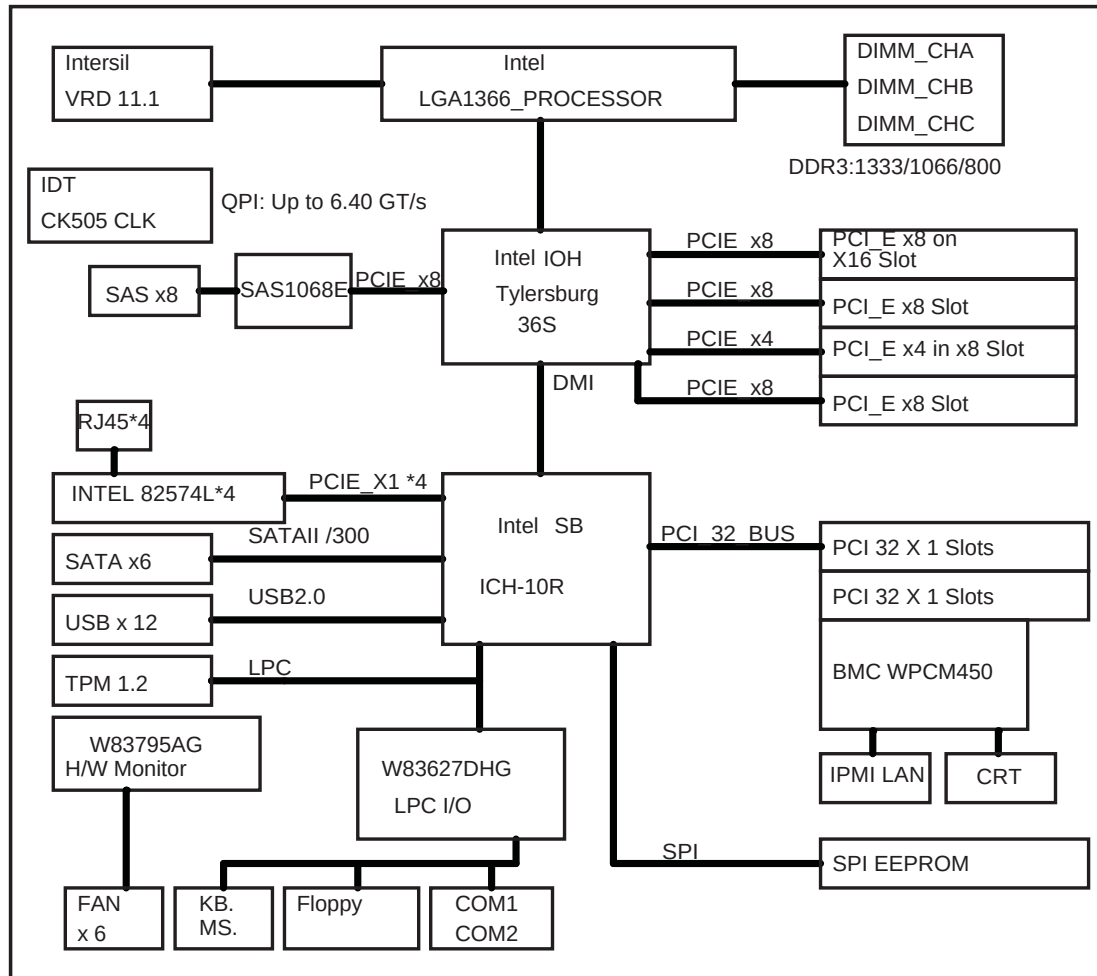
Onboard Controllers/Ports

The X8ST3-F/X8STE includes a floppy drive controller and backpanel I/O ports that include one COM port, two USB ports, PS/2 mouse and keyboard ports, a video (monitor) port and dual Gigabit Ethernet LAN ports and a dedicated IPMI LAN port. A second COM port is available as an onboard header.

Other Features

Other onboard features are included to promote system health. These include various voltage monitors, a CPU temperature sensor, fan speed sensors, a chassis intrusion header, auto-switching voltage regulators, chassis and CPU overheat sensors, virus protection and BIOS rescue.

**Figure 1-1. Intel X58 Chipset:
System Block Diagram**



Note: This is a general block diagram. Please see Chapter 5 for details. (SAS is included on the X8ST3-F only.)

1-3 Server Chassis Features

The following is a general outline of the main features of the SC822TQ-400LPB chassis.

System Power

When configured as the 5026T-3F/5026T-T, the SC822TQ-400LPB chassis includes a single 400W power supply.

SAS Subsystem (5026T-3F only)

The SAS subsystem supports six hot-swap SAS hard drives. The SAS drives are connected to a backplane that provides power, bus termination and configuration settings.

SATA Subsystem

The SATA subsystem supports six hot-swap SATA 2 (3 Gbps SATA) hard drives. The SATA drives are connected to a backplane that provides power, bus termination and configuration settings.

Control Panel

The chassis control panel provides important system monitoring and control information. LEDs indicate power on, network activity, hard disk drive activity and system overheat conditions. Also present are a main power button and a system reset button.

I/O Backplane

The backplane of the chassis supports the use of up to seven low-profile expansion cards and provides one COM port, one VGA port, two USB ports, PS/2 mouse and keyboard ports, two Gb Ethernet (LAN) ports and a dedicated IPMI LAN port.

Cooling System

The SC822TQ-400LPB chassis has a revolutionary cooling design that includes four 8-cm system cooling fans. The fans plug into chassis fan connectors that are located behind the drive bays. A "Fan Speed Control Mode" setting in BIOS allows the user to set the chassis fan speed (recommended setting is "3-pin Server"). If any fan fails and the ambient air temperature inside the chassis becomes too high, an overheat LED and alarm will be activated.

1-4 Contacting Supermicro

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Web Site: www.supermicro.com.tw

Technical Support:

Email: support@supermicro.com.tw

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Chapter 2

Server Installation

2-1 Overview

This chapter provides a quick setup checklist to get your SuperServer 5026T-3F/5026T-T up and running. Following these steps in the order given should enable you to have the system operational within a minimum amount of time. This quick setup assumes that your SuperServer 5026T-3F/5026T-T system has come to you with the processors and memory preinstalled. If your system is not already fully integrated with a motherboard, processors, system memory etc., please turn to the chapter or section noted in each step for details on installing specific components.

2-2 Unpacking the System

You should inspect the box the SuperServer 5026T-3F/5026T-T was shipped in and note if it was damaged in any way. If the server itself shows damage you should file a damage claim with the carrier who delivered it.

Decide on a suitable location for the rack unit that will hold the SuperServer 5026T-3F/5026T-T. It should be situated in a clean, dust-free area that is well ventilated. Avoid areas where heat, electrical noise and electromagnetic fields are generated. You will also need it placed near a grounded power outlet. Read the Rack and Server Precautions in the next section.

2-3 Preparing for Setup

The box the SuperServer 5026T-3F/5026T-T was shipped in should include two sets of rail assemblies, two rail mounting brackets and the mounting screws you will need to install the system into the rack. Follow the steps in the order given to complete the installation process in a minimum amount of time. Please read this section in its entirety before you begin the installation procedure outlined in the sections that follow.

Choosing a Setup Location

- Leave enough clearance in front of the rack to enable you to open the front door completely (~25 inches) and approximately 30 inches of clearance in the back of the rack to allow for sufficient airflow and ease in servicing.
- This product is for installation only in a Restricted Access Location (dedicated equipment rooms, service closets and the like).
- This product is not suitable for use with visual display work place devices according to §2 of the the German Ordinance for Work with Visual Display Units.

2-4 Warnings and Precautions

Rack Precautions

- Ensure that the leveling jacks on the bottom of the rack are fully extended to the floor with the full weight of the rack resting on them.
- In single rack installation, stabilizers should be attached to the rack. In multiple rack installations, the racks should be coupled together.
- Always make sure the rack is stable before extending a component from the rack.
- You should extend only one component at a time - extending two or more simultaneously may cause the rack to become unstable.

Server Precautions

- Review the electrical and general safety precautions in Chapter 4.
- Determine the placement of each component in the rack *before* you install the rails.
- Install the heaviest server components on the bottom of the rack first, and then work up.
- Use a regulating uninterruptible power supply (UPS) to protect the server from power surges, voltage spikes and to keep your system operating in case of a power failure.

- Allow the hot plug SATA drives and power supply modules to cool before touching them.
- Always keep the rack's front door and all panels and components on the servers closed when not servicing to maintain proper cooling.

Rack Mounting Considerations

Ambient Operating Temperature

If installed in a closed or multi-unit rack assembly, the ambient operating temperature of the rack environment may be greater than the ambient temperature of the room. Therefore, consideration should be given to installing the equipment in an environment compatible with the manufacturer's maximum rated ambient temperature (Tmra).

Reduced Airflow

Equipment should be mounted into a rack so that the amount of airflow required for safe operation is not compromised.

Mechanical Loading

Equipment should be mounted into a rack so that a hazardous condition does not arise due to uneven mechanical loading.

Circuit Overloading

Consideration should be given to the connection of the equipment to the power supply circuitry and the effect that any possible overloading of circuits might have on overcurrent protection and power supply wiring. Appropriate consideration of equipment nameplate ratings should be used when addressing this concern.

Reliable Ground

A reliable ground must be maintained at all times. To ensure this, the rack itself should be grounded. Particular attention should be given to power supply connections other than the direct connections to the branch circuit (i.e. the use of power strips, etc.).

2-4 Installing the System into a Rack

This section provides information on installing the SuperServer 5026T-3F/5026T-T into a rack unit. If the 5026T-3F/5026T-T has already been mounted into a rack, you can skip ahead to Sections 2-5 and 2-6.

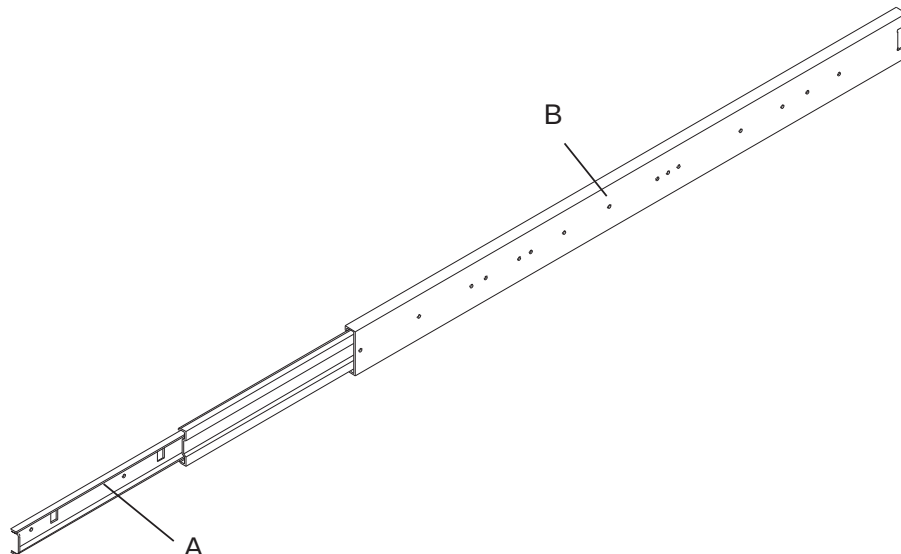
There are a variety of rack units on the market, which may mean the assembly procedure will differ slightly. The following is a guideline for installing the 5026T-3F/5026T-T into a rack with the rack rails provided. You should also refer to the installation instructions that came with the rack unit you are using.

Identifying the Sections of the Rack Rails

You should have received two rack rail assemblies with the SuperServer 5026T-3F/5026T-T. Each of these assemblies consist of three sections: an inner fixed chassis rail that secures to the 5026T-3F/5026T-T (A) and an outer fixed rack rail that secures directly to the rack itself (B). A sliding rail guide sandwiched between the two should remain attached to the fixed rack rail (see Figure 2-1). The A and B rails must be detached from each other to install.

To remove the fixed chassis rail (A), pull it out as far as possible - you should hear a "click" sound as a locking tab emerges from inside the rail assembly and locks the inner rail. Then depress the locking tab to pull the inner rail completely out. Do this for both the left and right side rack rail assemblies.

Figure 2-1. Identifying the Sections of the Rack Rails



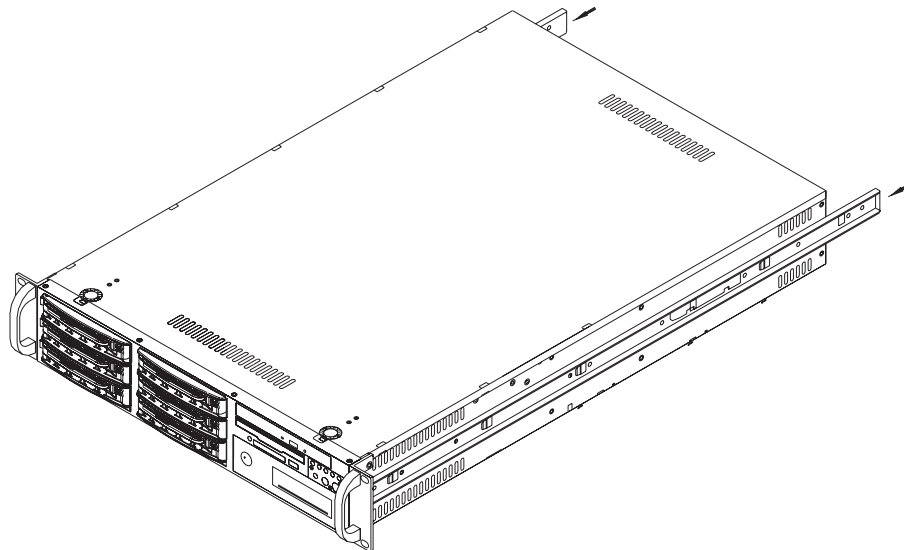
Installing the Chassis Rails

Position one of the fixed chassis rail sections you just removed along the side of the 5026T-3F/5026T-T. Note that these two rails are left/right specific. Slide the rail toward the front of the chassis (see arrows in Figure 2-2) until you hear them click into place with the retention hooks on the chassis. The screw holes should now be aligned - screw the rail securely to the side of the chassis (see Figure 2-2).

Repeat this procedure for the other rail on the other side of the chassis. You will also need to attach the rail brackets when installing into a telco rack.

Locking Tabs: As you have seen, both chassis rails have a locking tab, which serves two functions. The first is to lock the server into place when installed and pushed fully into the rack, which is its normal position. Secondly, these tabs also lock the server in place when fully extended from the rack. This prevents the server from coming completely out of the rack when you pull it out for servicing.

Figure 2-2. Installing Chassis Rails



Installing the Rack Rails

Determine where you want to place the SuperServer 5026T-3F/5026T-T in the rack. (See Rack and Server Precautions in Section 2-3.) Position the fixed rack rail/sliding rail guide assemblies at the desired location in the rack, keeping the sliding rail guide facing the inside of the rack. Screw the assembly securely to the rack using the brackets provided. Attach the other assembly to the other side of the rack, making sure both are at the exact same height and with the rail guides facing inward.

Installing the Server into the Rack

You should now have rails attached to both the chassis and the rack unit. The next step is to install the server into the rack. Do this by lining up the rear of the chassis rails with the front of the rack rails. Slide the chassis rails into the rack rails, keeping the pressure even on both sides (you may have to depress the locking tabs when inserting). See Figure 2-3.

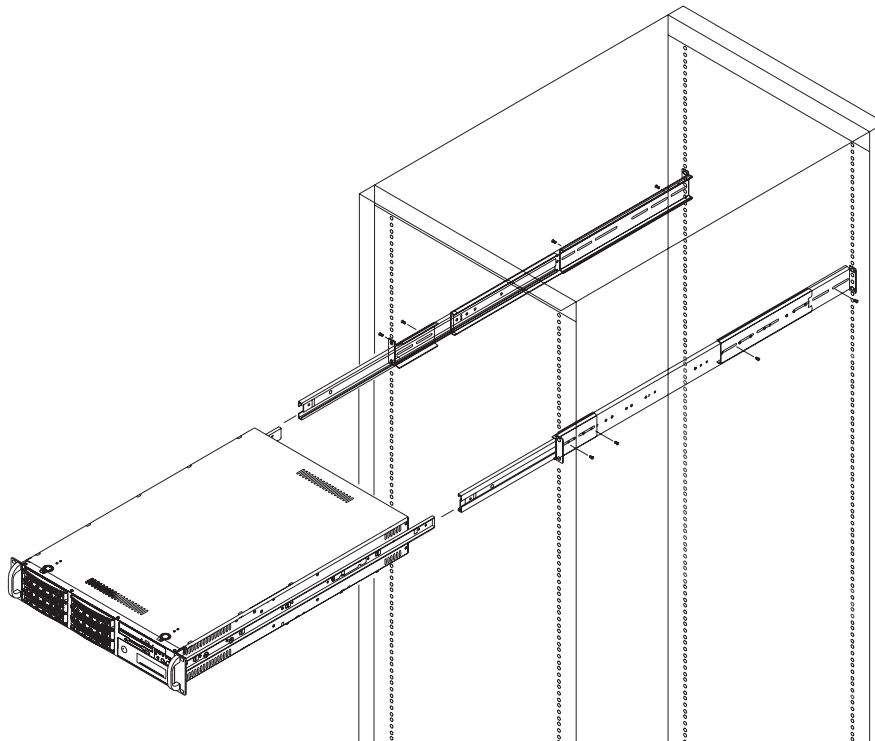
When the server has been pushed completely into the rack, you should hear the locking tabs "click". Finish by inserting and tightening the thumbscrews that hold the front of the server to the rack.



Warning! To prevent bodily injury when mounting or servicing this unit in a rack, you must take special precautions to ensure that the system remains stable. The following guidelines are provided to ensure your safety:

- This unit should be mounted at the bottom of the rack if it is the only unit in the rack.
- When mounting this unit in a partially filled rack, load the rack from the bottom to the top with the heaviest component at the bottom of the rack.
- If the rack is provided with stabilizing devices, install the stabilizers before mounting or servicing the unit in the rack.

Figure 2-3. Installing the Server into a Rack



Installing the Server into a Telco Rack

If you are installing the SuperServer 5026T-3F/5026T-T into a Telco type rack, follow the directions given on the previous pages for rack installation. The only difference in the installation procedure will be the positioning of the rack brackets to the rack. They should be spaced apart just enough to accommodate the width of the telco rack.

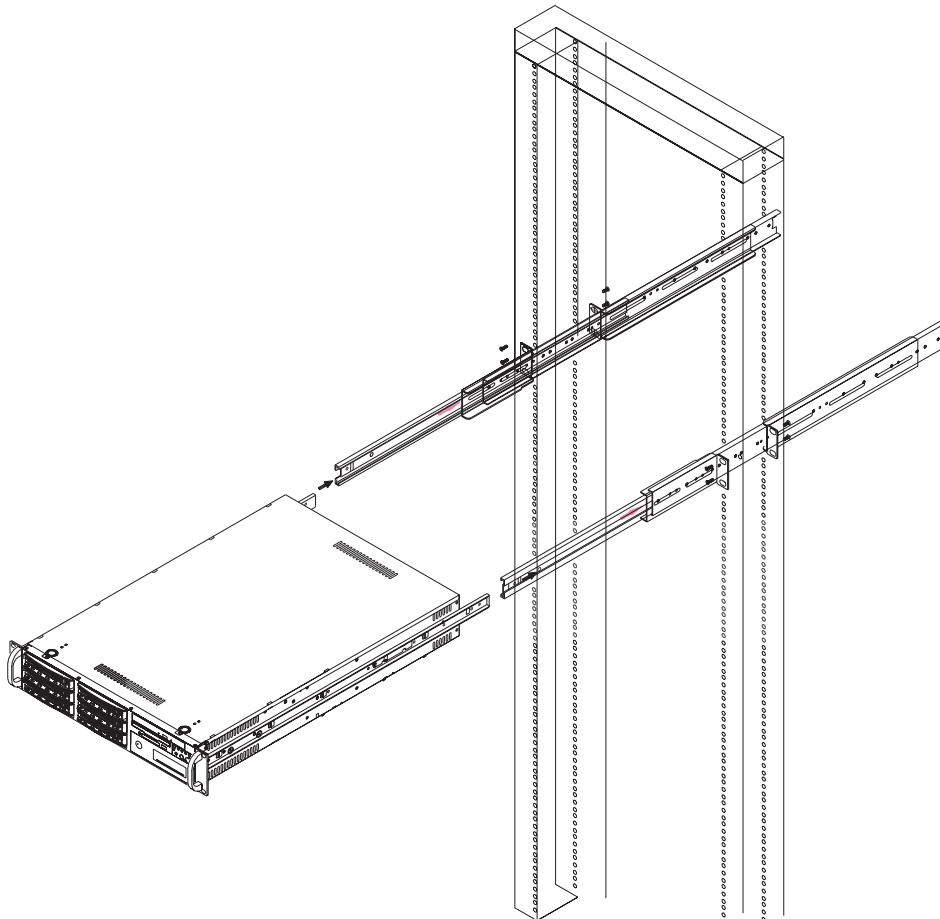


Warning: do not pick up the server with the front handles. They are designed to pull the system from a rack only.



Warning! Stability hazard. The rack stabilizing mechanism must be in place, or the rack must be bolted to the floor before you slide the unit out for servicing. Failure to stabilize the rack can cause the rack to tip over.

Figure 2-4. Installing the Server into a Telco Rack



Note: Figures are for illustrative purposes only. Always install servers into a rack starting from the bottom.

2-5 Checking the Motherboard Setup

After you install the 5026T-3F/5026T-T in the rack, you will need to open the unit to make sure the motherboard is properly installed and all the connections have been made.

Accessing the Inside of the System

1. Release the retention screws that secure the unit to the rack.
2. Grasp the two handles on either side and pull the unit straight out until it locks (you will hear a "click").
3. Depress the two buttons on the top of the chassis to release the top cover.
4. There is a large rectangular recess in the middle front of the top cover to help you push the cover away from you until it stops. You can then lift the top cover from the chassis to gain full access to the inside of the server. See Figure 2-5.

Checking the Components and Setup

1. You should have one processor already installed into the motherboard. The processor needs a heatsink installed. See Chapter 5 for instructions on processor and heatsink installation.
2. Your 5026T-3F/5026T-T server system may have come with system memory already installed. Make sure all DIMMs are fully seated in their slots. For details on adding system memory, refer to Chapter 5.
3. If desired, you can install add-on cards to the system. See Chapter 5 for details on installing PCI add-on cards.
4. Make sure all power and data cables are properly connected and not blocking the chassis airflow. Also make sure that no cables are positioned in front of the fans. See Chapter 5 for details on cable connections.

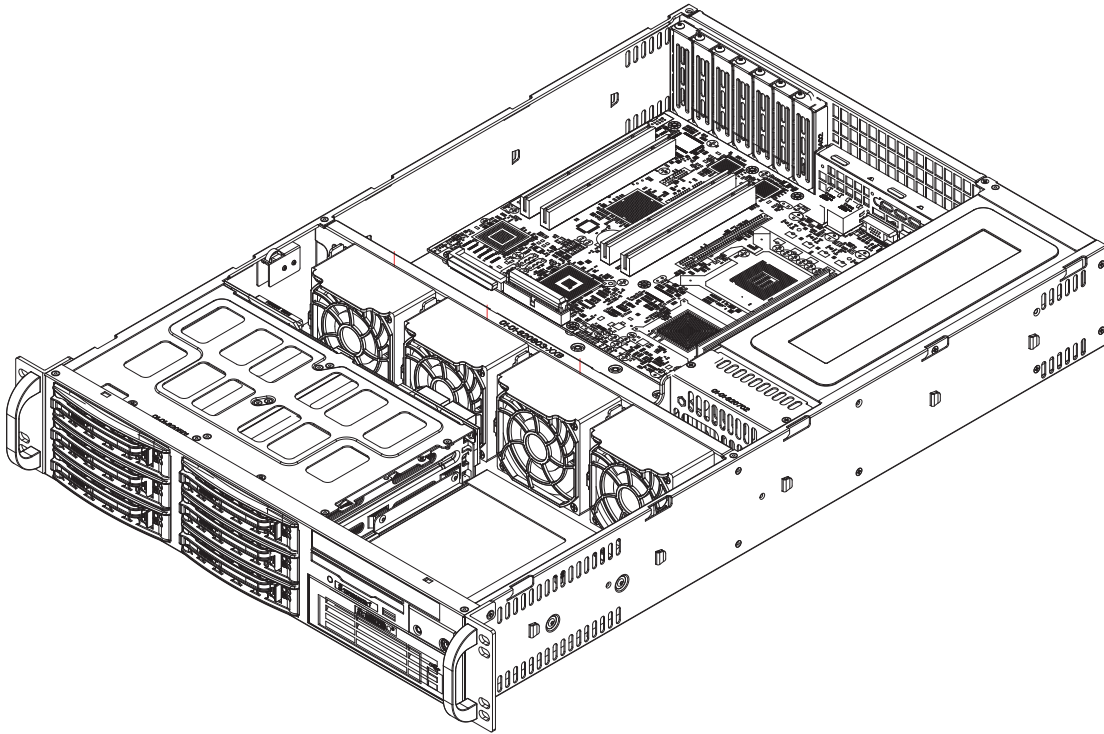


Figure 2-5. Accessing the Inside of the System

2-6 Checking the Drive Bay Setup

Next, you should check to make sure the peripheral drives and the SAS/SATA drives and backplanes have been properly installed and all connections have been made.

Checking the Drives

1. All drives are accessible from the front of the server. For servicing the CD-ROM and floppy drives, you will need to remove the top chassis cover. The SAS/SATA disk drives can be installed and removed from the front of the chassis without removing the top chassis cover.
2. A slim CD-ROM and a floppy drive should be preinstalled in your server. Refer to Chapter 6 if you need to reinstall a CD-ROM and/or floppy disk drive to the system.
3. Depending upon your system's configuration, your system may have one or more drives already installed. If you need to install SAS/SATA drives, please refer to Chapter 6.

Checking the Airflow

1. Airflow is provided by four 8-cm fans. The system component layout was carefully designed to direct sufficient cooling airflow to the components that generate the most heat.
2. Note that all power and data cables have been routed in such a way that they do not block the airflow generated by the fans.

Supplying Power to the System

1. The last thing you must do is to provide input power to the system. Plug the power cord from the power supply unit into a high-quality power strip that offers protection from electrical noise and power surges.
2. It is recommended that you use an uninterruptible power supply (UPS).

Chapter 3

System Interface

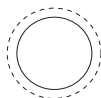
3-1 Overview

There are several LEDs on the control panel as well as others on the SAS/SATA drive carriers and the motherboard to keep you constantly informed of the overall status of the system as well as the activity and health of specific components. There are also two buttons on the chassis control panel.

3-2 Control Panel Buttons

There are two push-buttons located on the front of the chassis. These are (in order from left to right) a reset button and a power on/off button.

RESET



Reset

Use the reset button to reboot the system.



Power

This is the main power button, which is used to apply or turn off the main system power. Turning off system power with this button removes the main power but keeps standby power supplied to the system.

3-3 Control Panel LEDs

The control panel located on the front of the SC822TQ-400LPB chassis has five LEDs. These LEDs provide you with critical information related to different parts of the system. This section explains what each LED indicates when illuminated and any corrective action you may need to take.



Overheat/Fan Fail

When this LED flashes it indicates a fan failure. When on continuously (on and not flashing) it indicates an overheat condition, which may be caused by cables obstructing the airflow in the system or the ambient room temperature being too warm. Check the routing of the cables and make sure all fans are present and operating normally. You should also check to make sure that the chassis covers are installed. Finally, verify that the heatsinks are installed properly (see Chapter 5). This LED will remain flashing or on as long as the overheat condition exists.



NIC2

NIC2

Indicates network activity on LAN2 when flashing.



NIC1

NIC1

Indicates network activity on LAN1 when flashing.



HDD

This LED indicates CD-ROM drive activity when flashing.



Power

Indicates power is being supplied to the system's power supply units. This LED should normally be illuminated when the system is operating.

3-4 Drive Carrier LEDs

SAS Drives (5026T-3F)

- **Green:** When illuminated, the green LED on the front of the SAS drive carrier indicates drive activity. A connection to the backplane enables this LED to blink on and off when that particular drive is being accessed.
- **Red:** The SES2 compliant backplane activates the red LED to indicate a drive failure. If one of the SAS drives fail, you should be notified by your system management software. Please refer to Chapter 6 for instructions on replacing failed SAS drives.

SATA Drives (5026T-T)

- **Green:** When illuminated, the green LED on the front of the SATA drive carrier indicates drive activity. A connection to the SATA backplane enables this LED to blink on and off when that particular drive is being accessed.
- **Red:** The red LED indicates two states. When blinking, it indicates the drive is rebuilding. When solid, it indicates a drive failure. If a SATA drive fails, you should be notified by your system management software. Please refer to Chapter 6 for instructions on replacing failed SATA drives.

Notes

Chapter 4

Standardized Warning Statements for AC Systems

4-1 About Standardized Warning Statements

The following statements are industry standard warnings, provided to warn the user of situations which have the potential for bodily injury. Should you have questions or experience difficulty, contact Supermicro's Technical Support department for assistance. Only certified technicians should attempt to install or configure components.

Read this appendix in its entirety before installing or configuring components in the Supermicro chassis.

These warnings may also be found on our web site at http://www.supermicro.com/about/policies/safety_information.cfm.

Warning Definition



Warning!

This warning symbol means danger. You are in a situation that could cause bodily injury. Before you work on any equipment, be aware of the hazards involved with electrical circuitry and be familiar with standard practices for preventing accidents.

警告の定義

この警告サインは危険を意味します。

人身事故につながる可能性がありますので、いずれの機器でも動作させる前に、電気回路に含まれる危険性に注意して、標準的な事故防止策に精通して下さい。

此警告符号代表危險。

您正处于可能受到严重伤害的工作环境中。在您使用设备开始工作之前，必须充分意识到触电的危险，并熟练掌握防止事故发生的标准工作程序。请根据每项警告结尾的声明号码找到此设备的安全性警告说明的翻译文本。

此警告符號代表危險。

您正處於可能身體可能會受損傷的工作環境中。在您使用任何設備之前，請注意觸電的危險，並且要熟悉預防事故發生的標準工作程序。請依照每一注意事項後的號碼找到相關的翻譯說明內容。

Warnung

WICHTIGE SICHERHEITSHINWEISE

Dieses Warnsymbol bedeutet Gefahr. Sie befinden sich in einer Situation, die zu Verletzungen führen kann. Machen Sie sich vor der Arbeit mit Geräten mit den Gefahren elektrischer Schaltungen und den üblichen Verfahren zur Vorbeugung vor Unfällen vertraut. Suchen Sie mit der am Ende jeder Warnung angegebenen Anweisungsnummer nach der jeweiligen Übersetzung in den übersetzten Sicherheitshinweisen, die zusammen mit diesem Gerät ausgeliefert wurden.

BEWAHREN SIE DIESE HINWEISE GUT AUF.

INSTRUCCIONES IMPORTANTES DE SEGURIDAD

Este símbolo de aviso indica peligro. Existe riesgo para su integridad física. Antes de manipular cualquier equipo, considere los riesgos de la corriente eléctrica y familiarícese con los procedimientos estándar de prevención de accidentes. Al final de cada advertencia encontrará el número que le ayudará a encontrar el texto traducido en el apartado de traducciones que acompaña a este dispositivo.

GUARDE ESTAS INSTRUCCIONES.

IMPORTANTES INFORMATIONS DE SÉCURITÉ

Ce symbole d'avertissement indique un danger. Vous vous trouvez dans une situation pouvant entraîner des blessures ou des dommages corporels. Avant de travailler sur un équipement, soyez conscient des dangers liés aux circuits électriques et familiarisez-vous avec les procédures couramment utilisées pour éviter les accidents. Pour prendre connaissance des traductions des avertissements figurant dans les consignes de sécurité traduites qui accompagnent cet appareil, référez-vous au numéro de l'instruction situé à la fin de chaque avertissement.

CONSERVEZ CES INFORMATIONS.

תקנון הזהרות אזהרה

הזהרות הבאות הן אזהרות על פי תקני התעשייה, על מנת להזהיר את המשתמש מפני חבלה פיזית אפשרית. במידה ויש שאלות או היתקלות בבעיה כלשהי, יש ליצור קשר עם מחלקת תמיכה טכנית של סופרמיקרו. טכנאים מוסמכים בלבד רשאים להתקין או להגדיר את הרכיבים.

יש לקרוא את הנספח במלואו לפני התקנת או הגדרת הרכיבים במארזי סופרמיקרו.

تحذير! هذا الرمز يعني خطر انك في حالة يمكن أن تتسبب في اصابة جسدية .
قبل أن تعمل على أي معدات، كن على علم بالمخاطر الناجمة عن الدوائر
الكهربائية
وكن على دراية بالممارسات الوقائية لمنع وقوع أي حوادث
استخدم رقم البيان المنصوص في نهاية كل تحذير للعثور ترجمتها

안전을 위한 주의사항

경고!

이 경고 기호는 위험이 있음을 알려 줍니다. 작업자의 신체에 부상을 야기 할 수 있는 상태에 있게 됩니다. 모든 장비에 대한 작업을 수행하기 전에 전기회로와 관련된 위험요소들을 확인하시고 사전에 사고를 방지할 수 있도록 표준 작업절차를 준수해 주시기 바랍니다.

해당 번역문을 찾기 위해 각 경고의 마지막 부분에 제공된 경고문 번호를 참조하십시오

BELANGRIJKE VEILIGHEIDSINSTRUCTIES

Dit waarschuwings symbool betekent gevaar. U verkeert in een situatie die lichamelijk letsel kan veroorzaken. Voordat u aan enige apparatuur gaat werken, dient u zich bewust te zijn van de bij een elektrische installatie betrokken risico's en dient u op de hoogte te zijn van de standaard procedures om ongelukken te voorkomen. Gebruik de nummers aan het eind van elke waarschuwing om deze te herleiden naar de desbetreffende locatie.

BEWAAR DEZE INSTRUCTIES

Installation Instructions



Warning!

Read the installation instructions before connecting the system to the power source.

設置手順書

システムを電源に接続する前に、設置手順書をお読み下さい。

警告

将此系统连接电源前, 请先阅读安装说明。

警告

將系統與電源連接前，請先閱讀安裝說明。

Warnung

Vor dem Anschließen des Systems an die Stromquelle die Installationsanweisungen lesen.

¡Advertencia!

Lea las instrucciones de instalación antes de conectar el sistema a la red de alimentación.

Attention

Avant de brancher le système sur la source d'alimentation, consulter les directives d'installation.

יש לקרוא את הוראות התקנה לפני חיבור המערכת למקור מתח.

اقر إرشادات التركيب قبل توصيل النظام إلى مصدر للطاقة

시스템을 전원에 연결하기 전에 설치 안내를 읽어주십시오.

Waarschuwing

Raadpleeg de installatie-instructies voordat u het systeem op de voedingsbron aansluit.

Circuit Breaker



Warning!

This product relies on the building's installation for short-circuit (overcurrent) protection. Ensure that the protective device is rated not greater than: 250 V, 20 A.

サーキット・ブレーカー

この製品は、短絡(過電流)保護装置がある建物での設置を前提としています。

保護装置の定格が250 V、20 Aを超えないことを確認下さい。

警告

此产品的短路(过载电流)保护由建筑物的供电系统提供,确保短路保护设备的额定电流不大于250V,20A。

警告

此產品的短路(過載電流)保護由建築物的供電系統提供,確保短路保護設備的額定電流不大於250V,20A。

Warnung

Dieses Produkt ist darauf angewiesen, dass im Gebäude ein Kurzschluss- bzw. Überstromschutz installiert ist. Stellen Sie sicher, dass der Nennwert der Schutzvorrichtung nicht mehr als: 250 V, 20 A beträgt.

¡Advertencia!

Este equipo utiliza el sistema de protección contra cortocircuitos (o sobrecorrientes) del edificio. Asegúrese de que el dispositivo de protección no sea superior a: 250 V, 20 A.

Attention

Pour ce qui est de la protection contre les courts-circuits (surtension), ce produit dépend de l'installation électrique du local. Vérifiez que le courant nominal du dispositif de protection n'est pas supérieur à :250 V, 20 A.

מוצר זה מסתמך על הגנה המותקנת במבנים למניעת קצר חשמלי. יש לוודא כי המכשיר המגן מפני הקצר החשמלי הוא לא יותר מ-250 V, 20 A

هذا المنتج يعتمد على معدات الحماية من الدوائر القصيرة التي تم تثبيتها في المبنى

تأكد من أن تقييم الجهاز الوقائي ليس أكثر من: 250V, 20A

경고!

이 제품은 전원의 단락(과전류)방지에 대해서 전적으로 건물의 관련 설비에 의존합니다. 보호장치의 정격이 반드시 250V(볼트), 20A(암페어)를 초과하지 않도록 해야 합니다.

Waarschuwing

Dit product is afhankelijk van de kortsluitbeveiliging (overspanning) van uw elektrische installatie. Controleer of het beveiligde apparaat niet groter gedimensioneerd is dan 220V, 20A.

Power Disconnection Warning



Warning!

The system must be disconnected from all sources of power and the power cord removed from the power supply module(s) before accessing the chassis interior to install or remove system components.

電源切断の警告

システムコンポーネントの取り付けまたは取り外しのために、シャーシ内部にアクセスするには、

システムの電源はすべてのソースから切断され、電源コードは電源モジュールから取り外す必要があります。

警告

在你打开机箱并安装或移除内部器件前,必须将系统完全断电,并移除电源线。

警告

在您打開機殼安裝或移除內部元件前，必須將系統完全斷電，並移除電源線。

Warnung

Das System muss von allen Quellen der Energie und vom Netzanschlusskabel getrennt sein, das von den Spg.Versorgungsteilmodulen entfernt wird, bevor es auf den Chassisinnenraum zurückgreift, um Systemsbestandteile anzubringen oder zu entfernen.

¡Advertencia!

El sistema debe ser disconnected de todas las fuentes de energía y del cable eléctrico quitado de los módulos de fuente de alimentación antes de tener acceso el interior del chasis para instalar o para quitar componentes de sistema.

Attention

Le système doit être débranché de toutes les sources de puissance ainsi que de son cordon d'alimentation secteur avant d'accéder à l'intérieur du châssis pour installer ou enlever des composants de système.

אזהרה !

יש לנתק את המערכת מכל מקורות החשמל ויש להסיר את כבל החשמלי מהספק לפני גישה לחלק הפנימי של המארז לצורך התקנת או הסרת רכיבים.

يجب فصل النظام من جميع مصادر الطاقة وإزالة سلك الكهرباء من وحدة امداد الطاقة قبل الوصول إلى المناطق الداخلية للهيكल لتثبيت أو إزالة مكونات الجهاز

경고!

시스템에 부품들을 장착하거나 제거하기 위해서는 새시 내부에 접근하기 전에 반드시 전원 공급장치로부터 연결되어있는 모든 전원과 전기코드를 분리해주어야 합니다.

Waarschuwing

Voordat u toegang neemt tot het binnenwerk van de behuizing voor het installeren of verwijderen van systeem onderdelen, dient u alle spanningsbronnen en alle stroomkabels aangesloten op de voeding(en) van de behuizing te verwijderen

Equipment Installation



Warning!

Only trained and qualified personnel should be allowed to install, replace, or service this equipment.

機器の設置

トレーニングを受け認定された人だけがこの装置の設置、交換、またはサービスを許可されています。

警告

只有经过培训且具有资格的人员才能进行此设备的安装、更换和维修。

警告

只有經過受訓且具資格人員才可安裝、更換與維修此設備。

Warnung

Das Installieren, Ersetzen oder Bedienen dieser Ausrüstung sollte nur geschultem, qualifiziertem Personal gestattet werden.

¡Advertencia!

Solamente el personal calificado debe instalar, reemplazar o utilizar este equipo.

Attention

Il est vivement recommandé de confier l'installation, le remplacement et la maintenance de ces équipements à des personnels qualifiés et expérimentés.

אזהרה !

צוות מוסמך בלבד רשאי להתקין, להחליף את הציוד או לתת שירות עבור הציוד.

يجب أن يسمح فقط للموظفين المؤهلين والمدربين لت تركيب واستبدال أو خدمة هذا الجهاز

경고!

훈련을 받고 공인된 기술자만이 이 장비의 설치, 교체 또는 서비스를 수행할 수 있습니다.

Waarschuwing

Deze apparatuur mag alleen worden geïnstalleerd, vervangen of hersteld door geschoold en gekwalificeerd personeel.

Restricted Area



Warning!

This unit is intended for installation in restricted access areas. A restricted access area can be accessed only through the use of a special tool, lock and key, or other means of security. (This warning does not apply to workstations).

アクセス制限区域

このユニットは、アクセス制限区域に設置されることを想定しています。

アクセス制限区域は、特別なツール、鍵と錠前、その他のセキュリティの手段を用いてのみ出入りが可能です。

警告

此部件应安装在限制进出的场所，限制进出的场所指只能通过使用特殊工具、锁和钥匙或其它安全手段进出的场所。

警告

此裝置僅限安裝於進出管制區域，進出管制區域係指僅能以特殊工具、鎖頭及鑰匙或其他安全方式才能進入的區域。

Warnung

Diese Einheit ist zur Installation in Bereichen mit beschränktem Zutritt vorgesehen. Der Zutritt zu derartigen Bereichen ist nur mit einem Spezialwerkzeug, Schloss und Schlüssel oder einer sonstigen Sicherheitsvorkehrung möglich.

¡Advertencia!

Esta unidad ha sido diseñada para instalación en áreas de acceso restringido. Sólo puede obtenerse acceso a una de estas áreas mediante la utilización de una herramienta especial, cerradura con llave u otro medio de seguridad.

Attention

Cet appareil doit être installée dans des zones d'accès réservés. L'accès à une zone d'accès réservé n'est possible qu'en utilisant un outil spécial, un mécanisme de verrouillage et une clé, ou tout autre moyen de sécurité.

אזור עם גישה מוגבלת

אזהרה !

יש להתקין את היחידה באזורים שיש בהם הגבלת גישה. הגישה ניתנת בעזרת כלי אבטחה בלבד (מפתח, מנעול וכד').

تم تخصيص هذه الوحدة لتركيبها في مناطق محظورة .
يمكن الوصول إلى منطقة محظورة فقط من خلال استخدام أداة خاصة،
قفل ومفتاح أو أي وسيلة أخرى للأمان

경고!

이 장치는 접근이 제한된 구역에 설치하도록 되어있습니다. 특수도구, 잠금 장치 및 키, 또는 기타 보안 수단을 통해서만 접근 제한 구역에 들어갈 수 있습니다.

Waarschuwing

Dit apparaat is bedoeld voor installatie in gebieden met een beperkte toegang. Toegang tot dergelijke gebieden kunnen alleen verkregen worden door gebruik te maken van speciaal gereedschap, slot en sleutel of andere veiligheidsmaatregelen.

Battery Handling



Warning!

There is the danger of explosion if the battery is replaced incorrectly. Replace the battery only with the same or equivalent type recommended by the manufacturer. Dispose of used batteries according to the manufacturer's instructions

電池の取り扱い

電池交換が正しく行われなかった場合、破裂の危険性があります。交換する電池はメーカーが推奨する型、または同等のものを使用下さい。使用済電池は製造元の指示に従って処分して下さい。

警告

電池更換不當會有爆炸危險。請只使用同類電池或製造商推薦的功能相當的電池更換原有電池。請按製造商的說明處理廢舊電池。

警告

電池更換不當會有爆炸危險。請使用製造商建議之相同或功能相當的電池更換原有電池。請按照製造商的說明指示處理廢棄舊電池。

Warnung

Bei Einsetzen einer falschen Batterie besteht Explosionsgefahr. Ersetzen Sie die Batterie nur durch den gleichen oder vom Hersteller empfohlenen Batterietyp. Entsorgen Sie die benutzten Batterien nach den Anweisungen des Herstellers.

Attention

Danger d'explosion si la pile n'est pas remplacée correctement. Ne la remplacer que par une pile de type semblable ou équivalent, recommandée par le fabricant. Jeter les piles usagées conformément aux instructions du fabricant.

¡Advertencia!

Existe peligro de explosión si la batería se reemplaza de manera incorrecta. Reemplazar la batería exclusivamente con el mismo tipo o el equivalente recomendado por el fabricante. Desechar las baterías gastadas según las instrucciones del fabricante.

אזהרה !

קיימת סכנת פיצוץ של הסוללה במידה והוחלפה בדרך לא תקינה. יש להחליף את הסוללה בסוג התואם מחברת יצרן מומלצת.

סילוק הסוללות המשומשות יש לבצע לפי הוראות היצרן.

هناك خطر من انفجار في حالة استبدال البطارية بطريقة غير صحيحة فعليك استبدال البطارية فقط بنفس النوع أو ما يعادلها كما أوصت به الشركة المصنعة تخلص من البطاريات المستعملة وفقا لتعليمات الشركة الصانعة

경고!

배터리가 올바르게 교체되지 않으면 폭발의 위험이 있습니다. 기존 배터리와 동일하거나 제조사에서 권장하는 동등한 종류의 배터리로만 교체해야 합니다. 제조사의 안내에 따라 사용된 배터리를 처리하여 주십시오.

Waarschuwing

Er is ontplofingsgevaar indien de batterij verkeerd vervangen wordt. Vervang de batterij slechts met hetzelfde of een equivalent type die door de fabrikant aanbevolen wordt. Gebruikte batterijen dienen overeenkomstig fabrieksvoorschriften afgevoerd te worden.

Redundant Power Supplies



Warning!

This unit might have more than one power supply connection. All connections must be removed to de-energize the unit.

冗長電源装置

このユニットは複数の電源装置が接続されている場合があります。
ユニットの電源を切るためには、すべての接続を取り外さなければなりません。

警告

此部件连接的电源可能不止一个，必须将所有电源断开才能停止给该部件供电。

警告

此裝置連接的電源可能不只一個，必須切斷所有電源才能停止對該裝置的供電。

Warnung

Dieses Gerät kann mehr als eine Stromzufuhr haben. Um sicherzustellen, dass der Einheit kein Strom zugeführt wird, müssen alle Verbindungen entfernt werden.

¡Advertencia!

Puede que esta unidad tenga más de una conexión para fuentes de alimentación. Para cortar por completo el suministro de energía, deben desconectarse todas las conexiones.

Attention

Cette unité peut avoir plus d'une connexion d'alimentation. Pour supprimer toute tension et tout courant électrique de l'unité, toutes les connexions d'alimentation doivent être débranchées.

אם קיים יותר מספק אחד

אזהרה!

ליחידה יש יותר מחיבור אחד של ספק. יש להסיר את כל החיבורים על מנת לרוקן את היחידה.

قد يكون لهذا الجهاز عدة اتصالات بوحدات امداد الطاقة.
يجب إزالة كافة الاتصالات لعزل الوحدة عن الكهرباء

경고!

이 장치에는 한 개 이상의 전원 공급 단자가 연결되어 있을 수 있습니다. 이 장치에 전원을 차단하기 위해서는 모든 연결 단자를 제거해야만 합니다.

Waarschuwing

Deze eenheid kan meer dan één stroomtoevoeraansluiting bevatten. Alle aansluitingen dienen verwijderd te worden om het apparaat stroomloos te maken.

Backplane Voltage



Warning!

Hazardous voltage or energy is present on the backplane when the system is operating. Use caution when servicing.

バックプレーンの電圧

システム稼働中は危険な電圧または電力が、バックプレーン上にかかっています。

修理する際にはご注意ください。

警告

当系统正在进行时，背板上有很危险的电压或能量，进行维修时务必小心。

警告

當系統正在進行時，背板上有危險的電壓或能量，進行維修時務必小心。

Warnung

Wenn das System in Betrieb ist, treten auf der Rückwandplatine gefährliche Spannungen oder Energien auf. Vorsicht bei der Wartung.

¡Advertencia!

Cuando el sistema está en funcionamiento, el voltaje del plano trasero es peligroso. Tenga cuidado cuando lo revise.

Attention

Lorsque le système est en fonctionnement, des tensions électriques circulent sur le fond de panier. Prendre des précautions lors de la maintenance.

מתח בפנל האחורי

אזהרה !

קיימת סכנת מתח בפנל האחורי בזמן תפעול המערכת. יש להיזהר במהלך העבודה.

هناك خطر من التيار الكهربائي أو الطاقة الموجودة على اللوحة
عندما يكون النظام يعمل كن حذرا عند خدمة هذا الجهاز

경고!

시스템이 동작 중일 때 후면판 (Backplane)에는 위험한 전압이나 에너지가 발생합니다. 서비스 작업 시 주의하십시오.

Waarschuwing

Een gevaarlijke spanning of energie is aanwezig op de backplane wanneer het systeem in gebruik is. Voorzichtigheid is geboden tijdens het onderhoud.

Comply with Local and National Electrical Codes



Warning!

Installation of the equipment must comply with local and national electrical codes.

地方および国の電気規格に準拠

機器の取り付けはその地方および国の電気規格に準拠する必要があります。

警告

设备安装必须符合本地与本国电气法规。

警告

設備安裝必須符合本地與本國電氣法規。

Warnung

Die Installation der Geräte muss den Sicherheitsstandards entsprechen.

¡Advertencia!

La instalacion del equipo debe cumplir con las normas de electricidad locales y nacionales.

Attention

L'équipement doit être installé conformément aux normes électriques nationales et locales.

תאום חוקי החשמל הארצי

אזהרה !

התקנת הציוד חייבת להיות תואמת לחוקי החשמל המקומיים והארציים.

تركيب المعدات الكهربائية يجب أن يمتثل للقوانين المحلية والوطنية المتعلقة بالكهرباء

경고!

현 지역 및 국가의 전기 규정에 따라 장비를 설치해야 합니다.

Waarschuwing

Bij installatie van de apparatuur moet worden voldaan aan de lokale en nationale elektriciteitsvoorschriften.

Product Disposal



Warning!

Ultimate disposal of this product should be handled according to all national laws and regulations.

製品の廃棄

この製品を廃棄処分する場合、国の関係する全ての法律・条例に従い処理する必要があります。

警告

本产品的废弃处理应根据所有国家的法律和规章进行。

警告

本產品的廢棄處理應根據所有國家的法律和規章進行。

Warnung

Die Entsorgung dieses Produkts sollte gemäß allen Bestimmungen und Gesetzen des Landes erfolgen.

¡Advertencia!

Al deshacerse por completo de este producto debe seguir todas las leyes y reglamentos nacionales.

Attention

La mise au rebut ou le recyclage de ce produit sont généralement soumis à des lois et/ou directives de respect de l'environnement. Renseignez-vous auprès de l'organisme compétent.

סילוק המוצר

אזהרה !

סילוק סופי של מוצר זה חייב להיות בהתאם להנחיות וחוקי המדינה.

عند التخلص النهائي من هذا المنتج ينبغي التعامل معه وفقا لجميع القوانين واللوائح الوطنية

경고!

이 제품은 해당 국가의 관련 법규 및 규정에 따라 폐기되어야 합니다.

Waarschuwing

De uiteindelijke verwijdering van dit product dient te geschieden in overeenstemming met alle nationale wetten en reglementen.

Hot Swap Fan Warning



Warning!

The fans might still be turning when you remove the fan assembly from the chassis. Keep fingers, screwdrivers, and other objects away from the openings in the fan assembly's housing.

ファン・ホットスワップの警告

シャーシから冷却ファン装置を取り外した際、ファンがまだ回転している可能性があります。ファンの開口部に、指、ドライバー、およびその他のものを近づけないで下さい。

警告

当您从机架移除风扇装置，风扇可能仍在转动。小心不要将手指、螺丝起子和其他物品太靠近风扇

警告

當您從機架移除風扇裝置，風扇可能仍在轉動。小心不要將手指、螺絲起子和其他物品太靠近風扇。

Warnung

Die Lüfter drehen sich u. U. noch, wenn die Lüfterbaugruppe aus dem Chassis genommen wird. Halten Sie Finger, Schraubendreher und andere Gegenstände von den Öffnungen des Lüftergehäuses entfernt.

¡Advertencia!

Los ventiladores podran dar vuelta cuando usted quite el montaje del ventilador del chasis. Mantenga los dedos, los destornilladores y todos los objetos lejos de las aberturas del ventilador

Attention

Il est possible que les ventilateurs soient toujours en rotation lorsque vous retirerez le bloc ventilateur du châssis. Prenez garde à ce que doigts, tournevis et autres objets soient éloignés du logement du bloc ventilateur.

אזהרה !

כאשר מסירים את חלקי המאוורר מהמארז, יתכן והמאווררים עדיין עובדים. יש להרחיק למרחק בטוח את האצבעות וכלי עבודה שונים מהפתחים בתוך המאוורר

من الممكن أن المراوح لا تزال تدور عند إزالة كتلة المروحة من الهيكل يجب إبقاء الأصابع ومفكات البراغي وغيرها من الأشياء بعيدا عن الفتحات في كتلة المروحة.

경고!

새시로부터 팬 조립품을 제거할 때 팬은 여전히 회전하고 있을 수 있습니다. 팬 조립품 외관의 열려있는 부분들로부터 손가락 및 스크류드라이버, 다른 물체들이 가까이 하지 않도록 배치해 주십시오.

Waarschuwing

Het is mogelijk dat de ventilator nog draait tijdens het verwijderen van het ventilatorsamenstel uit het chassis. Houd uw vingers, schroevendraaiers en eventuele andere voorwerpen uit de buurt van de openingen in de ventilatorbehuizing.

Power Cable and AC Adapter



Warning!

When installing the product, use the provided or designated connection cables, power cables and AC adaptors. Using any other cables and adaptors could cause a malfunction or a fire. Electrical Appliance and Material Safety Law prohibits the use of UL or CSA -certified cables (that have UL/CSA shown on the code) for any other electrical devices than products designated by Supermicro only.

電源コードとACアダプター

製品を設置する場合、提供または指定された接続ケーブル、電源コードとACアダプターを使用下さい。他のケーブルやアダプタを使用すると故障や火災の原因になることがあります。電気用品安全法は、ULまたはCSA認定のケーブル(UL/CSEマークがコードに表記)を Supermicroが指定する製品以外に使用することを禁止しています。

警告

安裝此產品時，請使用本身提供的或指定的連接線，電源線和電源適配器。使用其它線材或適配器可能會引起故障或火災。除了Supermicro所指定的產品，電氣用品和材料安全法律規定禁止使用未經UL或CSA認證的線材。（線材上會顯示UL/CSA符號）。

警告

安裝此產品時，請使用本身提供的或指定的連接線，電源線和電源適配器。使用其它線材或適配器可能會引起故障或火災。除了Supermicro所指定的產品，電氣用品和材料安全法律規定禁止使用未經UL或CSA認證的線材。（線材上會顯示UL/CSA符號）。

Warnung

Bei der Installation des Produkts, die zur Verfügung gestellten oder benannt Anschlusskabel, Stromkabel und Netzteile. Verwendung anderer Kabel und Adapter kann zu einer Fehlfunktion oder ein Brand entstehen. Elektrische Geräte und Material Safety Law verbietet die Verwendung von UL-oder CSA-zertifizierte Kabel, UL oder CSA auf der Code für alle anderen elektrischen Geräte als Produkte von Supermicro nur bezeichnet gezeigt haben.

¡Advertencia!

Al instalar el producto, utilice los cables de conexión previstos o designados, los cables y adaptadores de CA. La utilización de otros cables y adaptadores podría ocasionar un mal funcionamiento o un incendio. Aparatos Eléctricos y la Ley de Seguridad del Material prohíbe el uso de UL o CSA cables certificados que tienen UL o CSA se muestra en el código de otros dispositivos eléctricos que los productos designados por Supermicro solamente.

Attention

Lors de l'installation du produit, utilisez les bables de connection fournis ou désigné. L'utilisation d'autres cables et adaptateurs peut provoquer un dysfonctionnement ou un incendie. Appareils électroménagers et de loi sur la sécurité Matériel interdit l'utilisation de UL ou CSA câbles certifiés qui ont UL ou CSA indiqué sur le code pour tous les autres appareils électriques que les produits désignés par Supermicro seulement.

חשמליים ומתאמי AC

אזהרה !

כאשר מתקינים את המוצר, יש להשתמש בכבלים, ספקים ומתאמים AC אשר נועדו וסופקו לשם כך. שימוש בכל כבל או מתאם אחר יכול לגרום לתקלה או קצר חשמלי. על פי חוקי שימוש במכשירי חשמל וחוקי בטיחות, קיים איסור להשתמש בכבלים המוסמכים ב- UL או ב- CSA (כשאר מופיע עליהם קוד של UL/CSA) עבור כל מוצר חשמלי אחר שלא צוין על ידי סופרמיקרו בלבד.

عند تركيب الجهاز يجب استخدام كابلات التوصيل، والكابلات الكهربائية ومحولات التيار المتردد التي . أن استخدام أي كابلات ومحولات أخرى يتسبب في حدوث عطل أو حريق. تم توفيرها لك مع المنتج الأجهزة الكهربائية ومواد قانون السلامة يحظر استخدام الكابلات UL أو CSA معتمدة من قبل لأي أجهزة كهربائية أخرى غير المنتجات المعينة من قبل Supermicro (التي تحمل علامة UL/CSA)

경고!

제품을 설치할 때에는 제공되거나 지정된 연결케이블과 전원케이블, AC어댑터를 사용해야 합니다. 그 밖의 다른 케이블들이나 어댑터들은 고장 또는 화재의 원인이 될 수 있습니다. 전기용품안전법 (Electrical Appliance and Material Safety Law)은 슈퍼마이크로에서 지정한 제품들 외에는 그 밖의 다른 전기 장치들을 위한 UL또는 CSA에서 인증한 케이블(전선 위에 UL/CSA가 표시)들의 사용을 금지합니다.

Waarschuwing

Bij het installeren van het product, gebruik de meegeleverde of aangewezen kabels, stroomkabels en adapters. Het gebruik van andere kabels en adapters kan leiden tot een storing of een brand. Elektrisch apparaat en veiligheidsinformatiebladen wet verbiedt het gebruik van UL of CSA gecertificeerde kabels die UL of CSA die op de code voor andere elektrische apparaten dan de producten die door Supermicro alleen.

Notes

Chapter 5

Advanced Serverboard Setup

This chapter covers the steps required to install the X8ST3-F/X8STE serverboard into the chassis, connect the data and power cables and install add-on cards. All serverboard jumpers and connections are also described. A layout and quick reference chart are included in this chapter for your reference. Remember to completely close the chassis when you have finished working with the serverboard to better cool and protect the system.

5-1 Handling the Serverboard

Electrostatic discharge (ESD) can damage electronic components. To prevent damage to any printed circuit boards (PCBs), it is important to handle them very carefully (see previous chapter). To prevent the serverboard from bending, keep one hand under the center of the board to support it when handling. The following measures are generally sufficient to protect your equipment from electric static discharge.

Precautions

- Use a grounded wrist strap designed to prevent Electrostatic Discharge (ESD).
- Touch a grounded metal object before removing any board from its antistatic bag.
- Handle a board by its edges only; do not touch its components, peripheral chips, memory modules or gold contacts.
- When handling chips or modules, avoid touching their pins.
- Put the serverboard, add-on cards and peripherals back into their antistatic bags when not in use.
- For grounding purposes, make sure your computer chassis provides excellent conductivity between the power supply, the case, the mounting fasteners and the serverboard.

Unpacking

The serverboard is shipped in antistatic packaging to avoid electrical static discharge. When unpacking the board, make sure the person handling it is static protected.

5-2 Serverboard Installation

This section explains the first step of physically mounting the X8ST3-F/X8STE into the SC822TQ-400LPB chassis. Following the steps in the order given will eliminate the most common problems encountered in such an installation. To remove the serverboard, follow the procedure in reverse order.

Installing to the Chassis

1. Access the inside of the system by removing the screws from the back lip of the top cover of the chassis, then pull the cover off.
2. The X8ST3-F/X8STE requires a chassis big enough to support a 12" x 10" serverboard, such as Supermicro's SC822TQ-400LPB.
3. Make sure that the I/O ports on the serverboard align properly with their respective holes in the I/O shield at the back of the chassis.
4. Carefully mount the serverboard to the serverboard tray by aligning the board holes with the raised metal standoffs that are visible in the chassis.
5. Insert screws into all the mounting holes on your serverboard that line up with the standoffs and tighten until snug (if you screw them in too tight, you might strip the threads). Metal screws provide an electrical contact to the serverboard ground to provide a continuous ground for the system.
6. Finish by replacing the top cover of the chassis.

5-3 Connecting Cables

Now that the serverboard is installed, the next step is to connect the cables to the board. These include the data cables for the peripherals and control panel and the power cables.

Connecting Data Cables

The cables used to transfer data from the peripheral devices have been carefully routed to prevent them from blocking the flow of cooling air that moves through the system from front to back. If you need to disconnect any of these cables, you should take care to keep them routed as they were originally after reconnecting them (make sure the red wires connect to the pin 1 locations). The following data cables (with their locations noted) should be connected. (See the layout on page 5-12 for connector locations.)

- Control Panel cable (JF1)
- Floppy drive cable (Floppy) (optional)
- 5026T-3F: SAS drive data cables (SAS1 ~ SAS6)
- 5026T-T: SATA drive data cables (I-SATA1 ~ I-SATA6)

Important! Make sure the the cables do not come into contact with the fans.

Connecting Power Cables

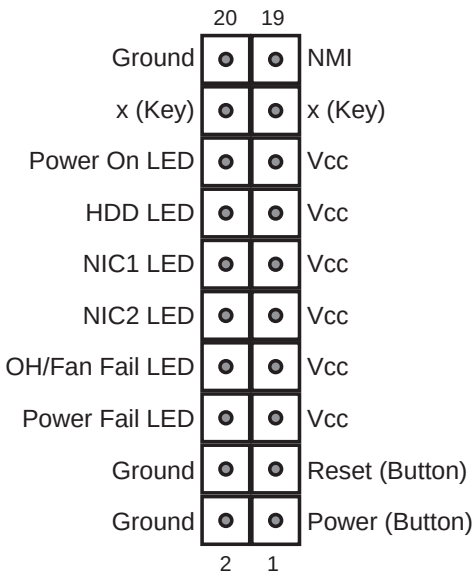
The X8ST3-F/X8STE has a 24-pin primary power supply connector (JPW1) for connection to the ATX power supply. In addition, there is an 8-pin processor power connector (JPW2) that must be connected to your power supply. See Section 5-9 for power connector pin definitions.

Connecting the Control Panel

JF1 contains header pins for various front control panel connectors. See Figure 5-1 for the pin locations of the various front control panel buttons and LED indicators.

All JF1 wires have been bundled into a single cable to simplify this connection. Make sure the red wire plugs into pin 1 as marked on the board. The other end connects to the Control Panel PCB board, located just behind the system status LEDs on the chassis. See Chapter 5 for details and pin descriptions.

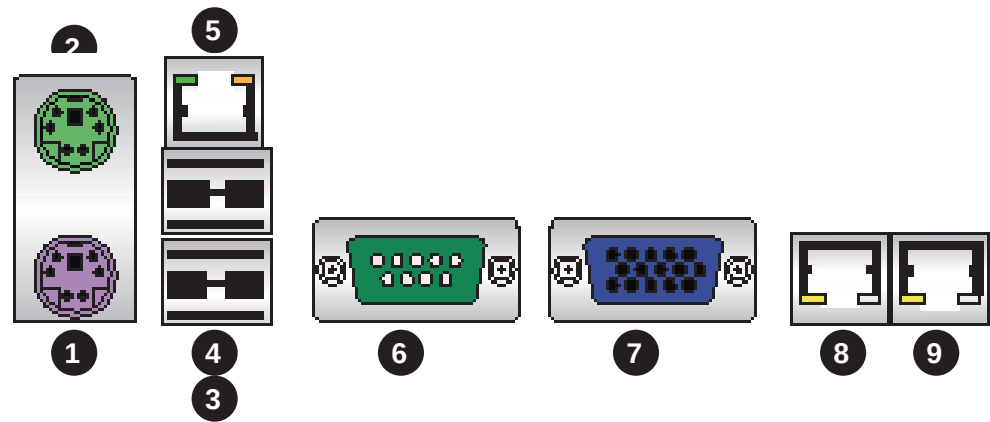
Figure 5-1. Control Panel Header Pins



5-4 I/O Ports

The I/O ports are color coded in conformance with the PC 99 specification. See Figure 5-2 below for the colors and locations of the various I/O ports.

Figure 5-2. I/O Ports



I/O Port Descriptions			
Pin#	Definition	Pin #	Definition
1	Keyboard	2	PS/2 Mouse
3	USB0 Port	4	USB1 Port
5	IPMI LAN (X8ST3-F only)	6	COM1 Port
7	VGA Port	8	LAN1 Port
9	LAN2 Port		

5-5 Installing the Processor and Heatsink

Warning! When handling the processor package, avoid placing direct pressure on the label area of the fan.

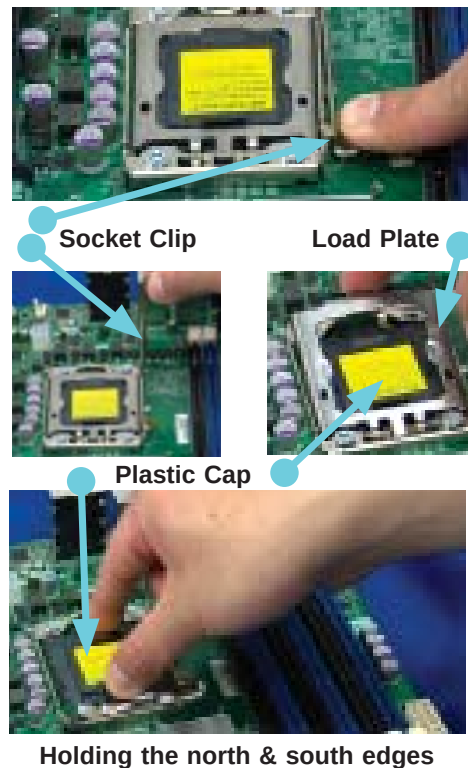
Notes:

1. Always connect the power cord last and always remove it before adding, removing or changing any hardware components. Make sure that you install the processor into the CPU socket before you install the CPU heatsink.
2. Intel's boxed processor package contains the CPU fan and heatsink assembly. If you buy a CPU separately, make sure that you use an Intel-certified multi-directional heatsink and fan only.
3. Make sure to install the motherboard into the chassis before you install the CPU heatsink and heatsink fan.
4. When purchasing an LGA1366 processor or when receiving a motherboard with an LGA1366 processor pre-installed, make sure that the plastic CPU cap is in place and none of the CPU pins are bent; otherwise, contact your retailer immediately.
5. Refer to the Supermicro web site for more details on CPU support.

Installing an LGA1366 Processor

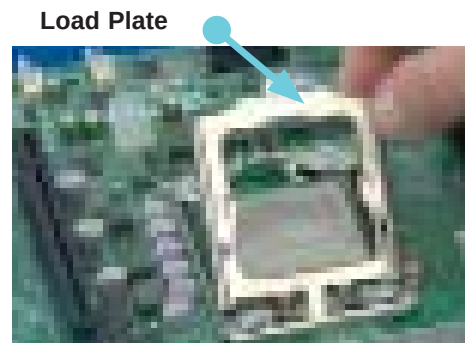
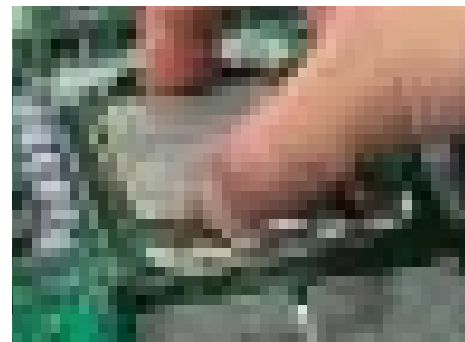
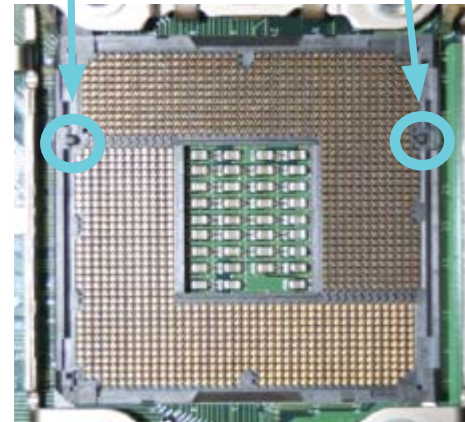
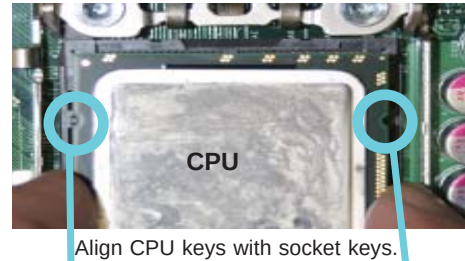
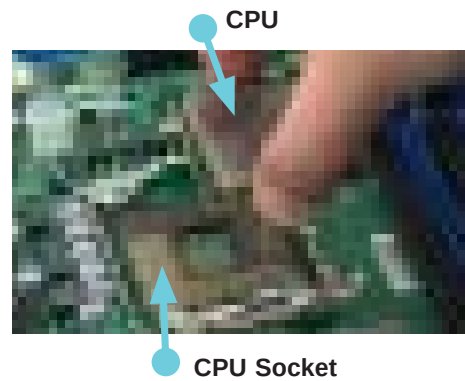
1. Press the socket clip to release the load plate, which covers the CPU socket, from its locked position.
2. Gently lift the socket clip to open the load plate.
3. Hold the plastic cap at its north and south center edges to remove it from the CPU socket.

Note: The photos on this page and succeeding pages are for illustration purposes only. They do not necessarily reflect the exact product(s) described in this manual.



1. After removing the plastic cap, use your thumb and the index finger to hold the CPU at the north and south center edges.
2. Align the CPU key (the semi-circle cutout) with the socket key (the notch below the gold color dot on the side of the socket).
3. Once the CPU and the socket are aligned, carefully lower the CPU straight down into the socket. Do not rub the CPU against the surface of the socket or its pins to avoid damaging the CPU or the socket.
4. With the CPU in the socket, inspect the four corners of the CPU to make sure that it sits level and is properly installed.
5. Once the CPU is securely seated in the socket, lower the CPU load plate to the socket.
6. Use your thumb to gently push the socket clip down to the clip lock.

Important! Please save the plastic cap. The motherboard must be shipped with the plastic cap properly installed to protect the CPU socket pins. Shipment without the plastic cap properly installed may cause damage to the socket pins.

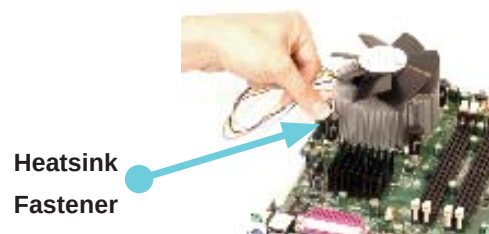
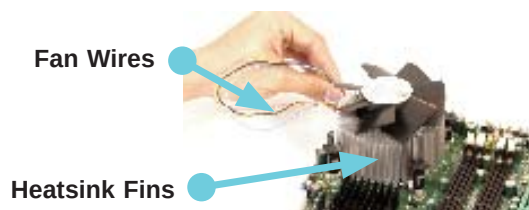
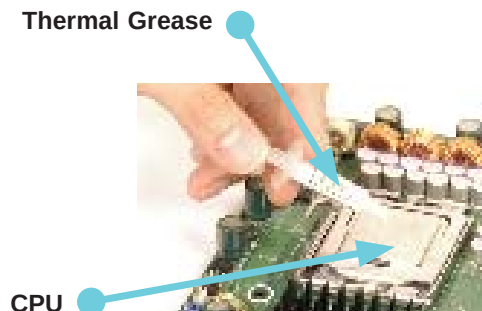


Installing an Active Heatsink

1. Locate the CPU fan connector on the motherboard. (Refer to the motherboard layout for the location.)
2. Position the heatsink so that the heatsink fan wires are closest to the CPU fan connector and do not interfere with other components.
3. Route the CPU fan wires through the bottom of the heatsink.
4. Remove the thin layer of protective film from the copper core of the heatsink.

Warning: The CPU may overheat if the protective film is not removed from the heatsink.

5. Apply the proper amount of thermal grease on the CPU. If your heatsink came with a thermal pad, please ignore this step.
6. If necessary, rearrange the wires to make sure that they are not pinched between the heatsink and the CPU. Also make sure to maintain clearance between the fan wires and the fins of the heatsink.
7. Align the four heatsink fasteners with the mounting holes on the motherboard. Gently push the pairs of diagonal fasteners (#1 & #2, and #3 & #4) into the mounting holes until you hear a click.



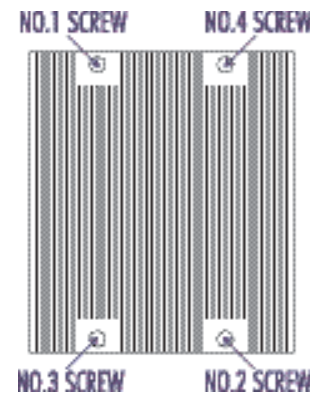
Note: Make sure to orient each fastener so that the narrow end of the groove is pointing outward.)

8. Repeat Step 6 to insert all four heatsink fasteners into the mounting holes.
9. Once all four fasteners are securely inserted into the mounting holes and the heatsink is properly installed on the motherboard, connect the heatsink fan wires to the CPU fan connector.

For third-party heatsinks, please follow the manufacturer's instructions.



Narrow end of the groove should point outward



Removing an Active Heatsink

Warning: We do not recommend removing the CPU or the heatsink. If you do need to remove the heatsink, please follow the instructions below to prevent damage to the CPU or other components.

1. Unplug the power cord from the power supply.
2. Disconnect the heatsink fan wires from the CPU fan header.
3. Use your fingertips to gently press on the fastener cap. Then turn it counterclockwise for a 1/4 (90°) turn and then pull the fastener upward to loosen it.
4. Repeat Step 3 to loosen all fasteners from the mounting holes.
5. With all fasteners loosened, remove the heatsink from the CPU.



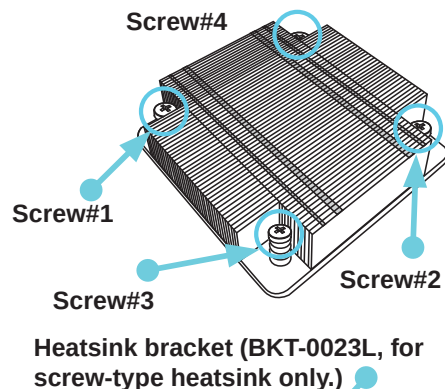
Installing a Passive Heatsink

Note: A heatsink bracket (BKT-0023L) is required for a screw-type heatsink (which is a non-pushpin heatsink as shown on the right.) The required heatsink bracket (BKT-0023L) can be purchased from Supermicro.

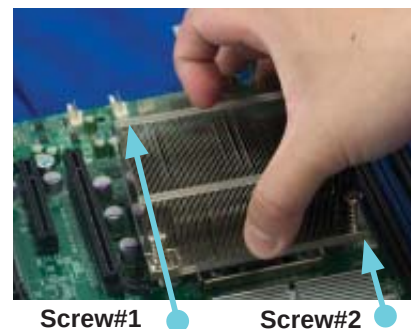
Note: Do not apply any thermal grease to the heatsink or the CPU die because the required amount has already been applied.

1. If you use a screw-type heatsink, please install a heatsink bracket (BKT-0023L) on the reverse side of the motherboard before installing the heatsink. (To install the heatsink bracket, please insert four screws to the mounting holes to secure the bracket on the motherboard.) If you do not use a screw-type heatsink, please skip this step.
2. Place the heatsink on top of the CPU so that the four mounting holes are aligned with those on the bracket now located underneath.
3. Install two diagonal screws (i.e., the #1 and the #2 screws) until secure. However, leave each loosely tightened until all four screws are in place.

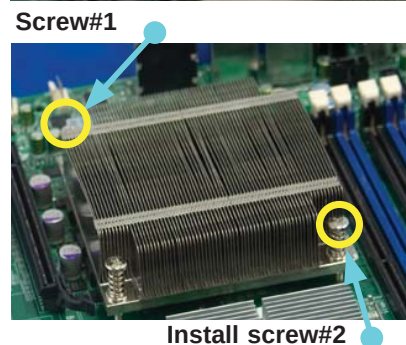
For third-party heatsinks, please follow the manufacturer's instructions.



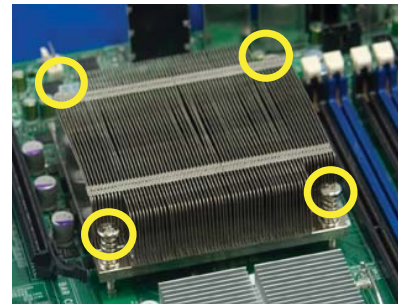
Install the heatsink bracket on the reverse side of the board.



Install screw#1

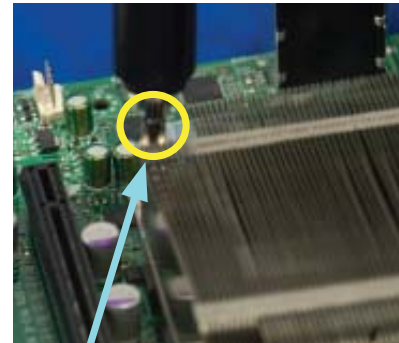


4. Finish the installation by fully tightening all four screws. Do not over-tighten to avoid possible damage to the CPU.

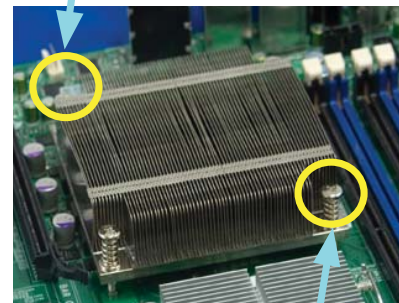


Removing a Passive Heatsink

1. Unplug the power cord from the power supply.
2. Using a screwdriver, loosen and remove the heatsink screws from the motherboard in the sequence as shown in the picture on the right.
3. Hold the heatsink as shown and gently loosen it from the CPU by moving it from side to side. (Do not use excessive force)
4. Once it is loosened, remove the heatsink from the CPU socket.
5. To reinstall the CPU and the heatsink, clean the surface of the CPU and the heatsink to remove the old thermal grease. Reapply the proper amount of thermal grease on the surface before reinstalling them on the motherboard.



Using a screwdriver to
remove screw#1



Remove screw#2



5-6 Installing Memory Modules

Note: Check the Supermicro web site for recommended memory modules.

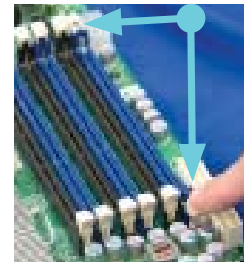
CAUTION

Exercise extreme care when installing or removing DIMM modules to prevent any possible damage.

Installing & Removing DIMMs

1. Insert the desired number of DIMMs into the memory slots, starting with DIMM #1A. For best performance, please use the memory modules of the same type and same speed in the same bank. See the DIMM Installation Chart on the following page.
2. Press down the release tabs on the ends of a memory slot. Insert each DIMM module vertically into its slot. Pay attention to the notch along the bottom of the module to prevent inserting the DIMM module incorrectly.
3. Gently press down on the DIMM module until it snaps into place in the slot. Repeat for all modules.
4. Reverse the steps above to remove the DIMM modules from the motherboard.

Press down the release tabs



Insert & press down a DIMM module into the slot

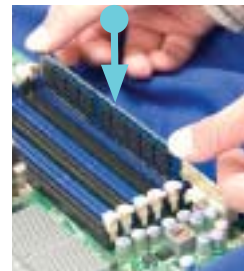
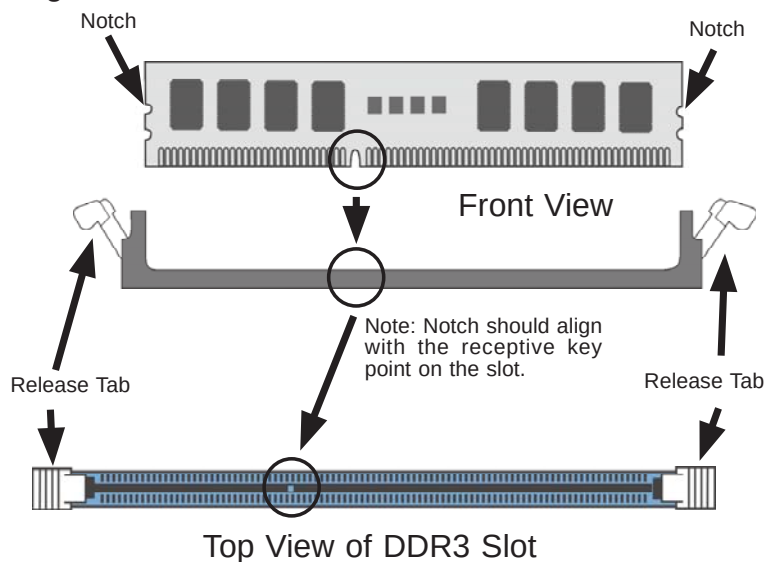


Figure 5-3. DIMM Installation

To Install: Insert module vertically and press down until it snaps into place. Pay attention to the alignment notch at the bottom.

To Remove: Use your thumbs to gently push the release tabs near both ends of the module. This should release it from the slot.



Memory Support

The X8ST3-F/X8STE supports up to 24 GB Unbuffered ECC or Non ECC DDR3 1333/1066/800 in 6 DIMM slots.

DIMM Module Population Configuration

For memory to work properly, follow the table below for memory installation:

Memory Population (UDIMM Only Routing)				
DIMM Slots per Channel	DIMMs Populated per Channel	DIMM Type	POR Speeds (in MHz)	Ranks per DIMM (any combination; SR=Single Rank, DR=Dual Rank)
2	1	Unbuffered DDR3 (with or without ECC)	800,1066,1333	SR, DR
2	2	Unbuffered DDR3 (with or without ECC)	800,1066,	SR, DR
Population Rules: Any combination of x8 and x16 UDIMMs, with 1GB or 2GB DRAM density.				

Memory Population (UDIMM 3 DIMMs per Channel Routing)				
DIMM Slots per Channel	DIMMs Populated per Channel	DIMM Type	POR Speeds (in MHz)	Ranks per DIMM (any combination; SR=Single Rank, DR=Dual Rank)
3	1	Unbuffered DDR3 (with or without ECC)	800,1066,1333	SR, DR
3	2	Unbuffered DDR3 (with or without ECC)	800,1066,	SR, DR
Population Rules: Any combination of x8 UDIMMs, with 1GB or 2GB DRAM density.				

Maximum Memory Possible

Single Rank UDIMMs - 12GB (6x 2GB DIMMs), Dual Rank UDIMMs - 24GB (6x 4GB DIMMs)

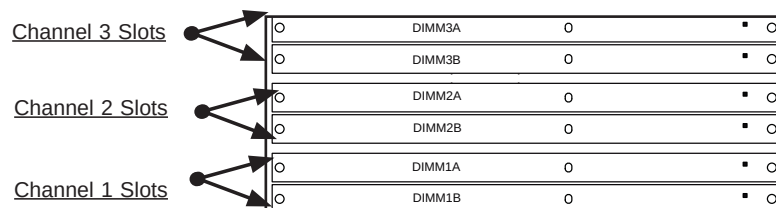
Note 1: Both Unbuffered ECC and Non-ECC DIMM modules are supported by the motherboard. Using ECC or Non-ECC memory on your motherboard depends on the CPU installed.

Note 2: Due to OS limitations, some operating systems may not show more than 4 GB of memory.

Note 3: Due to memory allocation to system devices, the amount of memory that remains available for operational use will be reduced when 4 GB of RAM is used. The reduction in memory availability is disproportional. Refer to the table on the next page. For Microsoft Windows users: Microsoft implemented a design change in Windows XP with Service Pack 2 (SP2) and Windows Vista. This change is specific to the Physical Address Extension (PAE) mode behavior which improves driver compatibility. For more information, please read the following article at Microsoft's Knowledge Base website at: <http://support.microsoft.com/kb/888137>.

Possible System Memory Allocation & Availability		
System Device	Size	Physical Memory Remaining (-Available) (4 GB Total System Memory)
Firmware Hub flash memory (System BIOS)	1 MB	3.99 GB
Local APIC	4 KB	3.99 GB
Area Reserved for the chipset	2 MB	3.99 GB
I/O APIC (4 Kbytes)	4 KB	3.99 GB
PCI Enumeration Area 1	256 MB	3.76 GB
PCI Express (256 MB)	256 MB	3.51 GB
PCI Enumeration Area 2 (if needed) -Aligned on 256-MB boundary-	512 MB	3.01 GB
VGA Memory	16 MB	2.85 GB
TSEG	1 MB	2.84 GB
Memory available for the OS & other applications		2.84 GB

Note : The motherboard will NOT boot if DIMMs are installed in any of the Bank2 slots but none of the Bank1 slots. The first DIMM module must be installed in DIMM1A, and all Bank1 slots must be filled before populating any Bank2 slot(s).



5-7 Adding PCI Add-On Cards

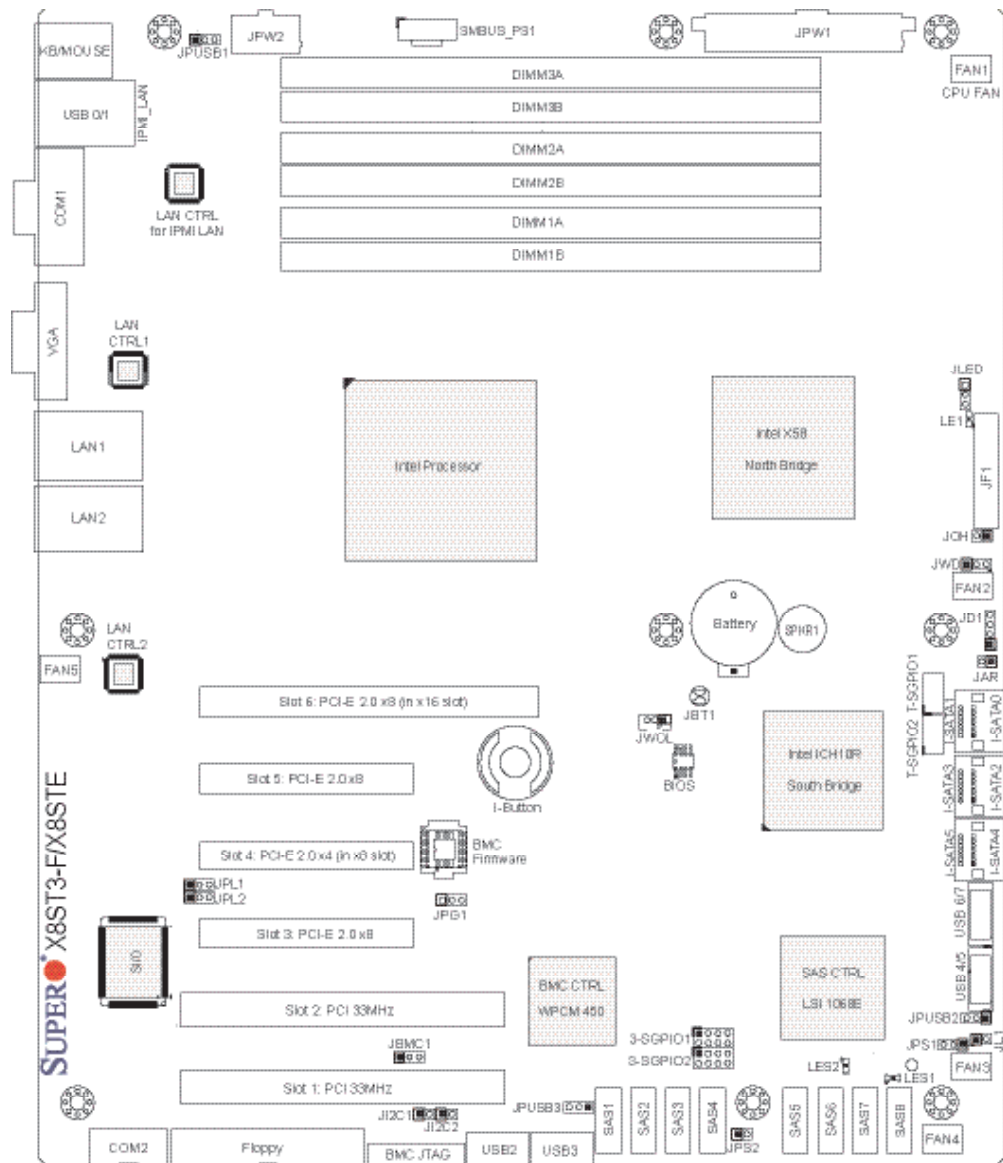
The SC822TQ-400LPB chassis can accommodate all PCI expansion slots on the X8ST3-F/X8STE being populated with low-profile cards.

Installing an Add-on Card

1. Begin by removing the shield for the PCI slot you wish to populate.
2. Fully seat the card into the slot, pushing down with your thumbs evenly on both sides of the card.
3. Finish by using a screw to secure the top of the card shield to the chassis.
The PCI slot shields protect the serverboard and its components from EMI and aid in proper ventilation, so make sure there is always a shield covering each unused slot.

5-8 Serverboard Details

**Figure 5-4. X8ST3-F/X8STE Layout
(not drawn to scale)**



LED	Description
LE1	Onboard Standby Power LED
LES1*	SAS Activity (Blinking: SAS Active)
LES2*	SAS Heartbeat (Blinking: SAS Normal)

Notes

Jumpers not indicated are for testing purposes only.

*Available on X8ST3-F only.

X8ST3-F/X8STE Quick Reference

Jumper	Description	Default Setting
JBMC1	BMC Enable	Pins 1-2 (Enabled)
JBT1	CMOS Clear	See Section 5-10
JI ² C1/JI ² C2	SMB to PCI Slots	See Section 5-10
JPG1	VGA Enable	Pins 1-2 (Enabled)
JPL1/JPL2	LAN 1/2 Enable	Pins 1-2 (Enabled)
JPS1*	SAS Enable	Pins 1-2 (Enabled)
JPS2*	SAS RAID Mode	On (Software RAID)
JPUSB1	USB0/1 Wake-up	Pins 1-2 (Enabled)
JPUSB2	USB4/5, USB6/7 Wake-up	Pins 2-3 (Disabled)
JPUSB3	USB 2/3 Wake-up	Pins 2-3 (Disabled)
JWD	Watch Dog Timer Enable	Pins 1-2 (Reset)

Connector	Description
COM1/COM2	COM1/2 Serial Port/Header
Fans 1~5	System/CPU Fan Headers (Fan 1: CPU fan)
Floppy	Floppy Disk Drive Connector
I-Button	I-Button for BMC RAID
I-SATA 0~5	SATA Ports
JAR	Alarm Reset
JD1	Speaker Header (Pins 3/4: Internal, 1~4: External)
JF1	Front Panel Control Header
JL1	Chassis Intrusion Header
JLED	Power LED Indicator Header
JOH	Overheat LED Header
JPW1	24-pin ATX Main Power Connector
JPW2	+12V 8-pin CPU Power Connector
JWOL	Wake-On-LAN Header
LAN1/LAN2	Gigabit Ethernet (RJ45) Ports
(IPMI) LAN*	IPMI Dedicated LAN
SAS 0~3, 4~7*	Serial Attached SCSI Ports
SMB_PS1	PWR supply (I ² C) System Management Bus
3-SGPIO-0/1*	Serial Link I/O Headers for SAS
T-SGPIO-0/1	Serial General Purpose IO Headers (for SATA)
USB 0~1	Universal Serial Bus (USB) Ports
USB 2, 3, 4/5, 6/7	Front Panel Accessible USB Headers

5-9 Connector Definitions

Main ATX Power Supply Connector

The primary power supply connector (JPW1) meets the SSI (Superset ATX) 24-pin specification. Refer to the table on the right for the pin definitions of the ATX 24-pin power connector. You must also connect the 8-pin (JPW2/JPW3) processor power connectors to your power supply (see below).

ATX Power 24-pin Connector Pin Definitions (JPW1)			
Pin#	Definition	Pin #	Definition
13	+3.3V	1	+3.3V
14	-12V	2	+3.3V
15	COM	3	COM
16	PS_ON	4	+5V
17	COM	5	COM
18	COM	6	+5V
19	COM	7	COM
20	Res (NC)	8	PWR_OK
21	+5V	9	5VSB
22	+5V	10	+12V
23	+5V	11	+12V
24	COM	12	+3.3V

Secondary Power Connector

JPW2 must also be connected to the power supply. See the table on the right for pin definitions.

+12V 4-pin Power Pin Definitions (JPW2)	
Pins	Definition
1 - 2	Ground
3 - 4	+12V

Required Connection

PW_ON Connector

The PW_ON connector is on pins 1 and 2 of JF1. This header should be connected to the chassis power button. See the table on the right for pin definitions.

Power Button Pin Definitions (JF1)	
Pin#	Definition
1	PW_ON
2	Ground

Reset Connector

The reset connector is located on pins 3 and 4 of JF1 and attaches to the reset switch on the computer chassis. See the table on the right for pin definitions.

Reset Button Pin Definitions (JF1)	
Pin#	Definition
3	Reset
4	Ground

Power Fail LED

The Power Fail LED connection is located on pins 5 and 6 of JF1. Refer to the table on the right for pin definitions.

PWR Fail LED Pin Definitions (JF1)	
Pin#	Definition
5	Vcc
6	Ground

Overheat/Fan Fail LED (OH)

Connect an LED to the OH connection on pins 7 and 8 of JF1 to provide advanced warning of chassis overheating. Refer to the table on the right for pin definitions.

OH/Fan Fail LED Pin Definitions (JF1)		OH/Fan Fail Indicator Status	
Pin#	Definition	State	Definition
7	Vcc	Off	Normal
8	Ground	On	Overheat
		Flash- ing	Fan Fail

NIC2 (JLAN2) LED

The LED connections for JLAN2 are on pins 9 and 10 of JF1. Attach an LED cable to display network activity. See the table on the right for pin definitions.

NIC2 LED Pin Definitions (JF1)	
Pin#	Definition
9	Vcc
10	Ground

NIC1 (JLAN1) LED

The LED connections for JLAN1 are on pins 11 and 12 of JF1. Attach an LED cable to display network activity. See the table on the right for pin definitions.

NIC1 LED Pin Definitions (JF1)	
Pin#	Definition
11	Vcc
12	Ground

HDD LED

The HDD LED connection is located on pins 13 and 14 of JF1. This LED is used to display all IDE and SATA activity. See the table on the right for pin definitions.

HDD LED Pin Definitions (JF1)	
Pin#	Definition
13	Vcc
14	HD Active

Power On LED

The Power On LED connector is located on pins 15 and 16 of JF1 (use JLED for a 3-pin connector). This connection is used to provide LED indication of power being supplied to the system. See the table on the right for pin definitions.

Power LED Pin Definitions (JF1)	
Pin#	Definition
15	5V Stby
16	Control

NMI Button

The non-maskable interrupt button header is located on pins 19 and 20 of JF1. Refer to the table on the right for pin definitions.

NMI Button Pin Definitions (JF1)	
Pin#	Definition
19	Control
20	Ground

Fan Headers

There are five 4-pin fan headers on the serverboard. Pins 1-3 of the fan headers are backward compatible with traditional 3-pin fans. See the table on the right for pin definitions. The onboard fan speeds are controlled by Thermal Management (via Hardware Monitoring) under the Advanced Section in the BIOS. The default is disabled. When using Thermal Management setting, please use all 3-pin fans or all 4-pin fans.

Fan Header Pin Definitions (FAN1-5)	
Pin#	Definition
1	Ground (Black)
2	+12V (Red)
3	Tachometer
4	PWM Control

Note: Fan 6 is for the CPU heat sink.

ATX PS/2 Keyboard and PS/2 Mouse Ports

The ATX PS/2 keyboard and the PS/2 mouse are located beside the USB0/1 ports. The mouse port is above the keyboard port. See the table on the right for pin definitions.

PS/2 Keyboard and Mouse Port Pin Definitions	
Pin#	Definition
1	Data
2	NC
3	Ground
4	VCC
5	Clock
6	NC

Serial Ports

Two serial ports are included on the serverboard. COM1 is a backpanel port and COM2 is a header located behind the floppy connector. See the table on the right for pin definitions.

Serial Port Pin Definitions (COM1/COM2)			
Pin #	Definition	Pin #	Definition
1	DCD	6	DSR
2	RXD	7	RTS
3	TXD	8	CTS
4	DTR	9	RI
5	Ground	10	NC

Chassis Intrusion

The Chassis Intrusion header is designated JL1. Attach an appropriate cable from the chassis to inform you of a chassis intrusion when the chassis is opened

Chassis Intrusion Pin Definitions (JL1)	
Pin#	Definition
1	Intrusion Input
2	Ground

Wake-On-LAN

The Wake-On-LAN header is designated JWOL on the serverboard. See the table on the right for pin definitions. You must also have a LAN card with a Wake-On-LAN connector and cable to use this feature.

Wake-On-LAN Pin Definitions (JWOL)	
Pin#	Definition
1	+5V Standby
2	Ground
3	Wake-up

Wake-On-Ring

The Wake-On-Ring header is designated JWOR. This function allows your computer to receive and be "awakened" by an incoming call when in the suspend state. See the table on the right for pin definitions. You must also have a WOR card and cable to use this feature.

Wake-On-Ring Pin Definitions (JWOR)	
Pin#	Definition
1	Ground (Black)
2	Wake-up

LAN1/2 (Ethernet Ports)

Two Ethernet ports (designated LAN1 and LAN2) are located beside the VGA port on the I/O backplane. These ports accept RJ45 type cables.

In addition to LAN1 and LAN 2, a dedicated IPMI LAN port is also located on the I/O backplane of the X8ST3-F.



External Speaker/Internal Buzzer

On the JD1 header, pins 1-4 are for an external speaker and pins 3-4 are for the internal speaker. If you wish to use an external speaker, connect it to pins 1-4 to. If you wish to use the onboard speaker, you should close pins 3-4 with a jumper.

Speaker Connector (JD1)	
Pin Setting	Definition
Pins 3-4	Internal Speaker
Pins 1-4	External Speaker

Universal Serial Bus (USB)

There are two Universal Serial Bus ports located on the I/O panel and four additional USB headers located on the serverboard. The headers can be used to provide front side USB access (cables not included). See the table on the right for pin definitions.

Universal Serial Bus Pin Definitions (USB)			
USB0/1		USB2/3/4/5	
Pin #	Definition	Pin #	Definition
1	+5V	1	+5V
2	PO-	2	PO-
3	PO+	3	PO+
4	Ground	4	Ground
5	N/A	5	Key

SGPIO Headers

Two T-SGPIO (Serial General Purpose Input/Output) headers are located next to the I-SATA Port 1 on the motherboard. Two additional 3-SGPIO ports are located next to SAS Port 3 on the X8ST3-F motherboard. These headers are used to communicate with the enclosure management chip in the system. See the table on the right for pin definitions.

SGPIO Header Pin Definitions (T-SGPIO-0/1, 3-SGPIO-0/1)			
Pin#	Definition	Pin	Definition
1	NC	2	NC
3	Ground	4	DATA Out
5	Load	6	Ground
7	Clock	8	NC

NC = No Connection

Alarm Reset

If three power supplies are installed, the system can notify you when any of the three power modules fail. Connect JAR to a micro-switch to enable you to turn off the alarm that is activated when a power module fails. See the table on the right for pin definitions.

Alarm Reset Header Pin Definitions (JAR)	
Pin Setting	Definition
Pin 1	Ground
Pin 2	+5V

SMBUS Connector

The SMBus (I²C) connector can be used to monitor the status of the power supply, fan and system temperature. See the table on the right for pin definitions.

SMBUS Connector Pin Definitions (SMBUS)	
Pin#	Definition
1	Clock
2	Data
3	PWR Fail (Input from PS to MB)
4	Ground
5	+3.3V

SMB Power Supply Connector

The SMB Power Supply (I²C) connector is designated SMB_PS1. Connect the appropriate cable here to utilize SMB on your system. See the table on the right for pin definitions.

Power SMB Header Pin Definitions (SMB_PS1)	
Pin#	Definition
1	Clock
2	Data
3	PWR Fail
4	Ground
5	+3.3V

Overheat LED/Fan Fail (JOH1)

The JOH1 header is used to connect an LED to provide warning of chassis overheating. This LED will blink to indicate a fan failure. Refer to the table on right for pin definitions.

OH/Fan Fail LED States		Overheat LED Pin Definitions (JOH1)	
State	Message	Pin#	Definition
Solid	Overheat	1	5vDC
Blinking	Fan Fail	2	OH Active

I-Button

An onboard I-Button, located next to USB Ports 2~3, is a 1-wire computer chip enclosed in a durable stainless steel can. The I-Button stores instructions, provides electronic interface and allows HostRAID to operate with Mega-RAID firmware.



Onboard Power LED

An onboard Power LED header is located at JLED1. This Power LED header is connected to Front Control Panel located at JF1 to indicate the status of system power. See the table on the right for pin definitions.

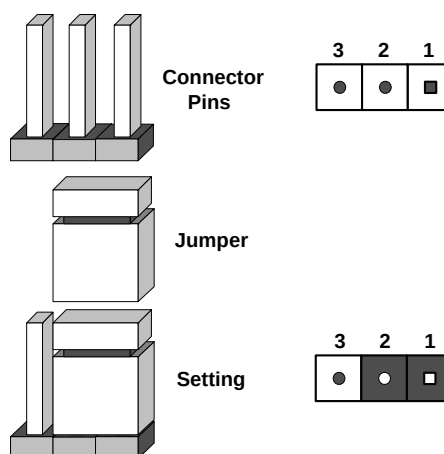
Onboard PWR LED Pin Definitions	
Pin#	Definition
1	VCC
2	No Connection
3	Connection to PWR LED in JF1

5-10 Jumper Settings

Explanation of Jumpers

To modify the operation of the serverboard, jumpers can be used to choose between optional settings. Jumpers create shorts between two pins to change the function of the connector. Pin 1 is identified with a square solder pad on the printed circuit board. See the serverboard layout pages for jumper locations.

Note: On a two-pin jumper, "Closed" means the jumper is on both pins and "Open" means the jumper is either on only one pin or completely removed.



CMOS Clear

JBT1 is used to clear CMOS (which will also clear any passwords). Instead of pins, this jumper consists of contact pads to prevent accidentally clearing the contents of CMOS.

To clear CMOS,

1. First power down the system and unplug the power cord(s).
2. With the power disconnected, short the CMOS pads with a metal object such as a small screwdriver.
3. Remove the screwdriver (or shorting device).
4. Reconnect the power cord(s) and power on the system.

Note: Do not use the PW ON connector to clear CMOS.

VGA Enable/Disable

JPG1 allows you to enable or disable the VGA port. The default position is on pins 1 and 2 to enable VGA. See the table on the right for jumper settings.

VGA Enable/Disable Jumper Settings (JPG1)	
Jumper Setting	Definition
Pins 1-2	Enabled
Pins 2-3	Disabled

LAN1/2 Enable/Disable

Change the setting of jumper JPL1 and JPL2 to enable or disable the LAN1 and LAN2 Ethernet ports, respectively. See the table on the right for jumper settings. The default setting is enabled.

LAN1/2 Enable/Disable Jumper Settings (JPL1/JPL2)	
Jumper Setting	Definition
Pins 1-2	Enabled
Pins 2-3	Disabled

SMB to PCI Slots

Use jumper JI²C1 and jumper JI²C2 to connect the System Management Bus to the PCI slots and the PCI-Exp. slots, respectively, to improve the power management for the PCI-X and PCI-E slots. The default setting is to close pins 2-3 to disable the function. See the table on the right for jumper settings.

SMBus to PCI Slots Jumper Settings (JI ² C1/JI ² C2)	
Jumper Setting	Definition
Pins 1-2	Enabled
Pins 2-3 (Default)	Disabled

USB Wake-Up

Use JPUSB jumpers to "wake-up" your system by pressing a key on a USB keyboard or clicking the USB mouse of your system. The JPUSB jumpers are used together with the USB Wake-Up feature in the BIOS. Enable both USB jumpers and the USB feature in the BIOS to wake-up your system via USB devices. See the table on the right for jumper settings and jumper connections.

Note: JPUSB1 is used for USB0/1, JPUSB2 is for USB4/5 and 6/7. JPUSB3 is used for USB2 and 3. When the USB function is Enabled in the BIOS and the USB Wake-up jumper is Disabled, be sure to remove the USB devices from the disabled USB ports before the system goes into the standby mode.

USB Wake-Up (JPUSB1/JPUSB2/JPUSB3)	
Pin#	Definition
1-2	Enabled (Default)
2-3	Disabled

Watch Dog Enable/Disable

JWD controls the Watch Dog function. Watch Dog is a system monitor that can reboot the system when a software application hangs. Jumping pins 1-2 will cause WD to reset the system if an application hangs. Jumping pins 2-3 will generate a non-maskable interrupt signal for the application that hangs. See the table on the right for jumper settings. Watch Dog must also be enabled in BIOS.

Note: When enabled, the user needs to write their own application software in order to disable the Watch Dog Timer.

Watch Dog Jumper Settings (JWD)	
Jumper Setting	Definition
Pins 1-2	Reset
Pins 2-3	NMI
Open	Disabled

SAS Enable/Disable (X8ST3-F Only)

JPS1 allows you to enable or disable SAS Connectors. The default position is on pins 1 and 2 to enable SAS. See the table on the right for jumper settings.

SAS Enable/Disable Jumper Settings (JPS1)	
Jumper Settings	Definition
Pins 1-2	Enabled (Default)
Pins 2-3	Disabled

SAS RAID Mode (X8ST3-F Only)

JPS2 allows you to select the SAS RAID mode. You can use either Software RAID or IT Mode. Close this jumper to use Software RAID (Default). Set this jumper to open to use the IT Mode.

Software RAID Jumper Settings (JPS2)	
Settings	Definition
Close	Software RAID Enabled (Default)
Open	IT Mode Enabled

BMC IPMI Enable (X7ST3-F only)

JBMC1 allows the user to enable or disable the BMC (Baseboard Management Control) chip and the onboard IPMI connections. This jumper is to be used together with the IPMI settings in BIOS. If set to Enabled, please enable the IPMI settings in the BIOS as well and vice versa. See the table on the right for jumper settings.

BMC IPMI Enable/Disable Jumper Settings (JBMC1)	
Settings	Definition
Pins 1-2	Enabled (Default)
Pins 2-3	Disabled

5-11 Onboard Indicators

LAN1/2 LEDs

The Ethernet ports (located beside the VGA port) have two LEDs. On each port, one LED indicates activity while the other LED may be green, amber or off to indicate the speed of the connection. See the table on the right for the functions associated with the connection speed LED.

LAN LEDs (Connection Speed Indicator)	
LED Color	Definition
Off	No Connection or 10 MHz
Green	100 MHz
Amber	1 GHz

Onboard Power LED (LE1)

An Onboard Power LED is located at LE1. This LED Indicator is lit when the system is on. Be sure to unplug the power cable before removing or adding any components. See the table on the right for more details.

Onboard Power LED Indicator (LE1)	
LED Color	Definition
Off	System Off
Green	System on

SAS Activity LED

A SAS Activity LED is located at LES1. When LES1 blinks, SAS is active. Refer to the table on the right for details. Also see the layout below for the LED location.

SAS Activity LED (LES1)	
LED Color	Definition
Blinking Green	SAS is Active

SAS Heartbeat LED

A SAS Heartbeat LED is located at LES2. When LES2 blinks, SAS connectors are ready for use. Refer to the table on the right for details. Also see the layout below for the LED location.

SAS Heartbeat LED (LES2)	
LED Color	Definition
Blinking Yellow	SAS Ready for Use

5-12 Floppy, SAS and SATA Ports

Floppy Drive Connector

The floppy connector is located behind the mouse/keyboard ports. See the table at right for pin definitions.

Floppy Drive Connector Pin Definitions (Floppy)			
Pin#	Definition	Pin #	Definition
1	Ground	2	FDHDIN
3	Ground	4	Reserved
5	Key	6	FDEDIN
7	Ground	8	Index
9	Ground	10	Motor Enable
11	Ground	12	Drive Select B
13	Ground	14	Drive Select B
15	Ground	16	Motor Enable
17	Ground	18	DIR
19	Ground	20	STEP
21	Ground	22	Write Data
23	Ground	24	Write Gate
25	Ground	26	Track 00
27	Ground	28	Write Protect
29	Ground	30	Read Data
31	Ground	32	Side 1 Select
33	Ground	34	Diskette

SATA Ports

Six Serial ATA (SATA) ports (I-SATA 0~5) are included on the motherboard. These SATA connectors are supported by the Intel ICH10R Chip (South Bridge). See the table on the right for pin definitions.

SATA Port Pin Definitions (I-SATA0~I-SATA5)	
Pin #	Definition
1	Ground
2	TXP
3	TXN
4	Ground
5	RXN
6	RXP
7	Ground

SAS Ports

There are eight SAS ports included on the motherboard. See the table on the right for pin definitions.

Note: JPS1 must be set correctly to enable the SAS controller.

SAS Port Pin Definitions (SAS0 ~ SAS7)	
Pin #	Definition
1	Ground
2	TXP
3	TXN
4	Ground
5	RXN
6	RXP
7	Ground

5-13 Installing Software

After the hardware has been installed, you should first install the operating system and then the drivers. The necessary drivers are all included on the Supermicro CDs that came packaged with your motherboard.

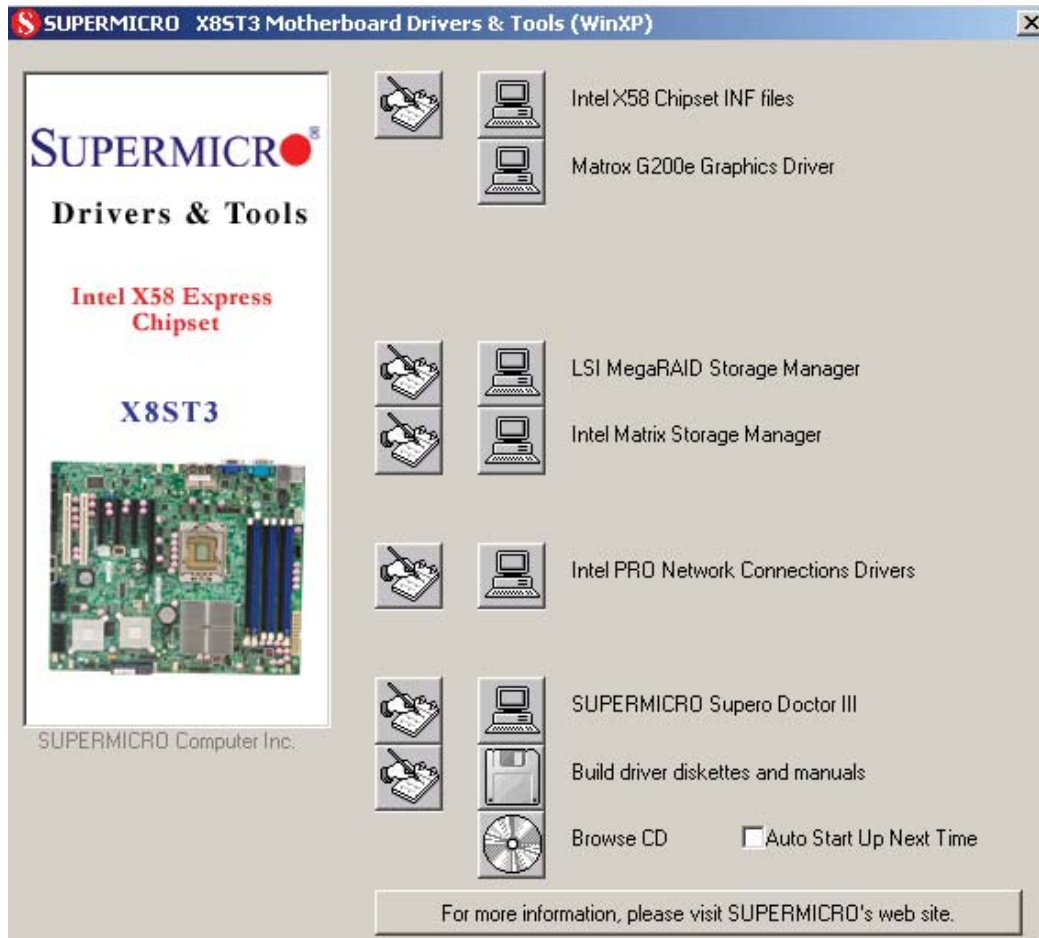


Figure 5-5. Driver/Tool Installation Display Screen

Note: Click the icons showing a hand writing on paper to view the readme files for each item. Click the computer icons to the right of these items to install each item (from top to the bottom) one at a time. **After installing each item, you must re-boot the system before moving on to the next item on the list.** The bottom icon with a CD on it allows you to view the entire contents of the CD.

Supero Doctor III

The Supero Doctor III program is a Web base management tool that supports remote management capability. It includes Remote and Local Management tools. The local management is called SD III Client. The Supero Doctor III program included on the CD-ROM that came with your motherboard allows you to monitor the environment and operations of your system. Supero Doctor III displays crucial system information such as CPU temperature, system voltages and fan status. See the Figure below for a display of the Supero Doctor III interface.

Note: The default User Name and Password for SuperDoctor III is ADMIN / ADMIN.

Note: When SuperDoctor III is first installed, it adopts the temperature threshold settings that have been set in BIOS. Any subsequent changes to these thresholds must be made within Super Doctor, as the Super Doctor settings override the BIOS settings. To set the BIOS temperature threshold settings again, you would first need to uninstall SuperDoctor III.

Figure 5-6. Supero Doctor III Interface Display Screen (Health Information)

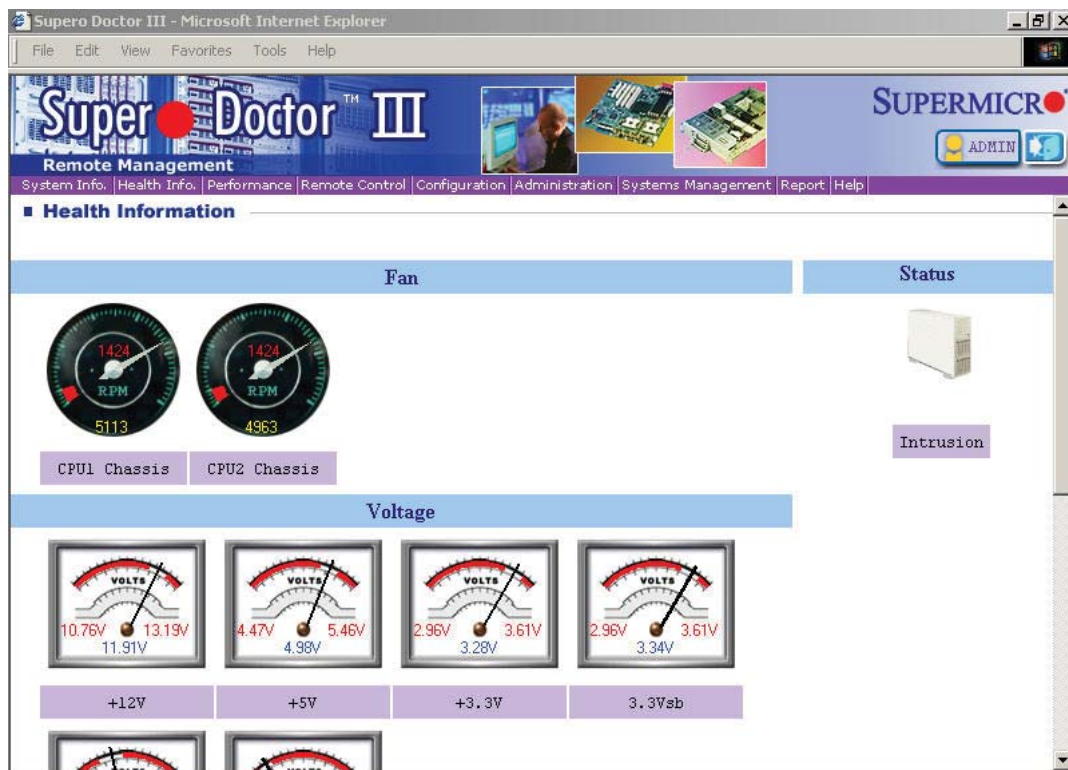


Figure 5-7. Supero Doctor III Remote Control Screen

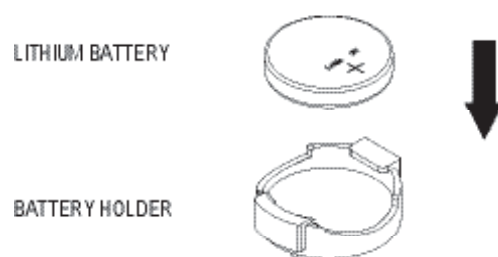


Note: SD III Software Revision 1.0 can be downloaded from our Web Site at: ftp://ftp.supermicro.com/utility/Supero_Doctor_III/. You can also download the SDIII User's Guide at: <http://www.supermicro.com/PRODUCT/Manuals/SDIII/UserGuide.pdf>. For Linux, we will recommend using Supero Doctor II.

5-14 Onboard Battery

Please handle used batteries carefully. Do not damage the battery in any way; a damaged battery may release hazardous materials into the environment. Do not discard a used battery in the garbage or a public landfill. Please comply with the regulations set up by your local hazardous waste management agency to dispose of your used battery properly.

Figure 5-8. Installing the Onboard Battery



Notes

Chapter 6

Advanced Chassis Setup

This chapter covers the steps required to install components and perform maintenance on the SC822TQ-400LPB chassis. For component installation, follow the steps in the order given to eliminate the most common problems encountered. If some steps are unnecessary, skip ahead to the step that follows.

Tools Required: The only tool you will need to install components and perform maintenance is a Philips screwdriver.

6-1 Static-Sensitive Devices

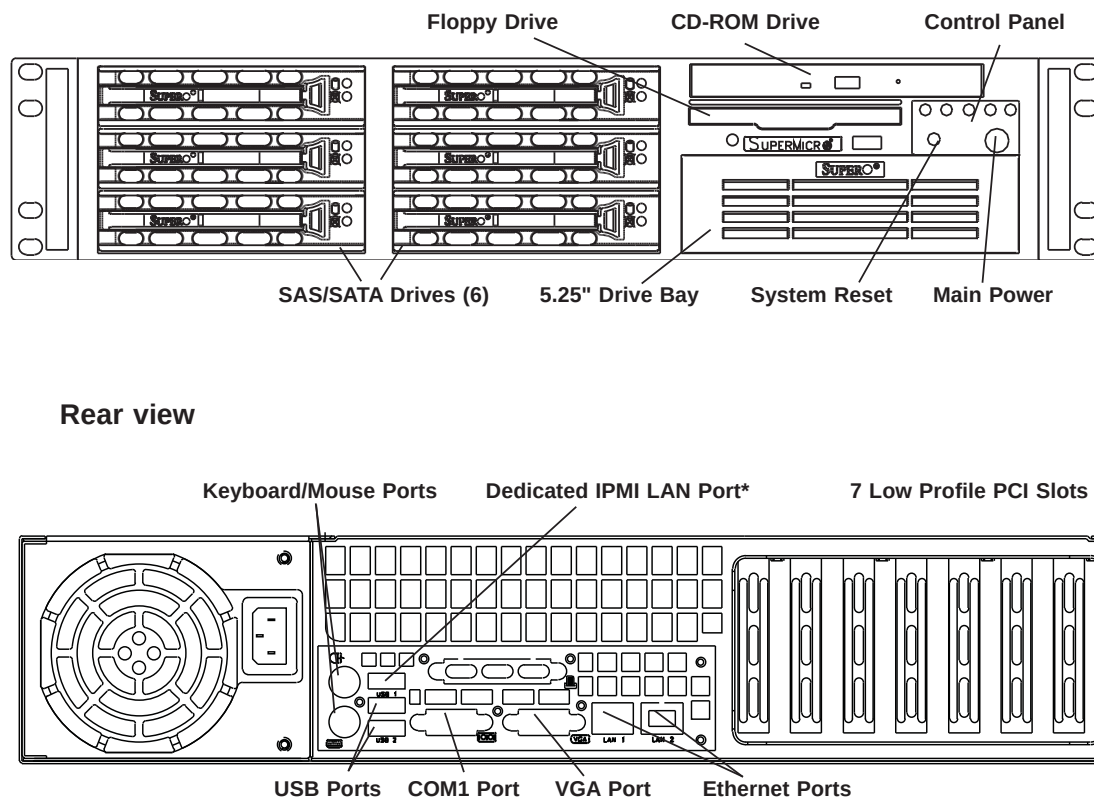
Electrostatic discharge (ESD) can damage electronic components. To prevent damage to any printed circuit boards (PCBs), it is important to handle them very carefully. The following measures are generally sufficient to protect your equipment from ESD damage.

Precautions

- Use a grounded wrist strap designed to prevent static discharge.
- Touch a grounded metal object before removing any board from its antistatic bag.
- Handle a board by its edges only; do not touch its components, peripheral chips, memory modules or gold contacts.
- When handling chips or modules, avoid touching their pins.
- Put the motherboard, add-on cards and peripherals back into their antistatic bags when not in use.
- For grounding purposes, make sure your computer chassis provides excellent conductivity between the power supply, the case, the mounting fasteners and the motherboard.

Unpacking

The motherboard is shipped in antistatic packaging to avoid static damage. When unpacking the board, make sure the person handling it is static protected.

Figure 6-1. Chassis: Front and Rear Views

*5026T-3F only.

6-2 Control Panel

The control panel (located on the front of the chassis) must be connected to the JF1 connector on the motherboard to provide you with system status indications. A ribbon cable has bundled these wires together to simplify the connection. Connect the cable from JF1 on the motherboard to the Control Panel PCB (printed circuit board). Make sure the red wire plugs into pin 1 on both connectors. Pull all excess cabling out of the airflow path.

The LEDs inform you of system status. See "Chapter 3: System Interface" for details on the LEDs and the control panel buttons. Details on JF2 can be found in the "Chapter 5: Advanced Motherboard Installation."

6-3 System Fans

Three 8-cm fans provide all the cooling needed for the SuperServer 5026T-3-F/5026T-T. It is very important that the chassis top cover is properly installed and making a good seal for the cooling air to circulate properly through the chassis and cool the components. See Figure 6-2.

System Fan Failure

Fan speed is controlled by system temperature via a BIOS setting. If a fan fails, the remaining fan will ramp up to full speed and the overheat/fan fail LED on the control panel will turn on. Replace the failed fan at your earliest convenience with the same type and model (the system can continue to run with a failed fan). Remove the top chassis cover while the system is still running to determine which of the four fans has failed.

Replacing System Cooling Fans

Removing a Fan

1. Remove the chassis cover to locate the failed fan.
2. Press the tab on the top of the fan housing of the failed fan and remove the entire housing unit. The system power need not be shut down since the fans are all hot-pluggable.

Installing a New Fan

1. Replace the failed fan with an identical 8-cm, 12 volt fan (available from Supermicro).
2. Position the new fan at its proper place in the chassis by fitting the fan with its housing onto the fan mounts in the chassis.
3. A "click" can be heard if the fan (in its housing) is properly installed. If the system is already powered on, the fan will activate immediately upon being connected to its header on the motherboard.

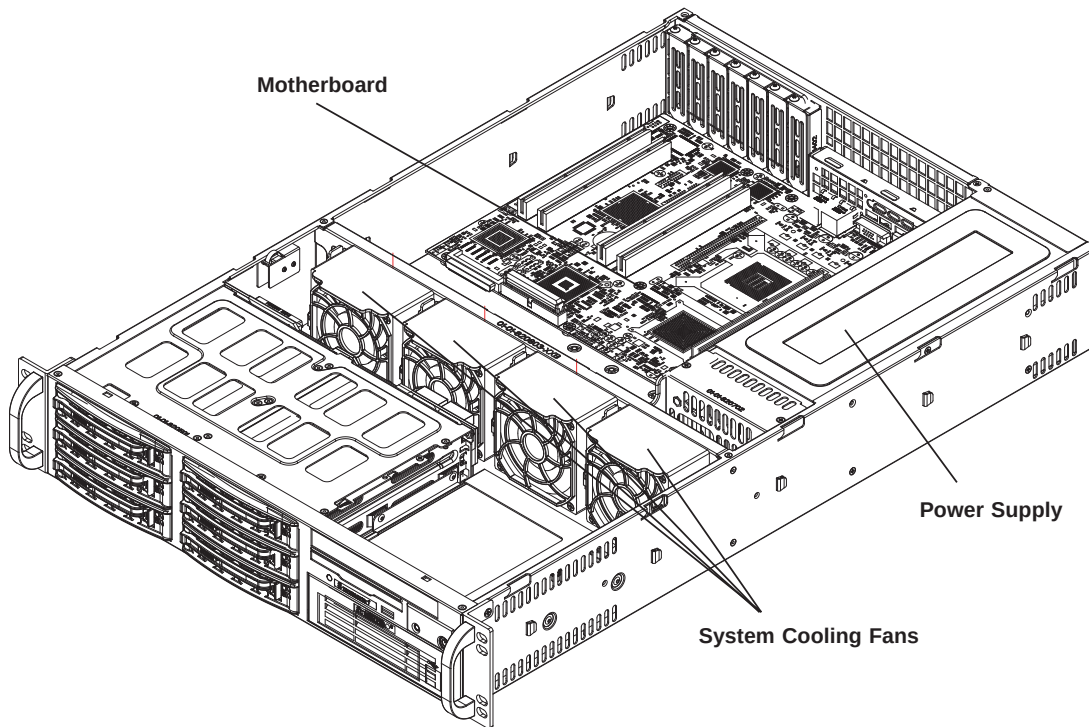


Figure 6-2. System Cooling Fans

6-4 Drive Bay Installation/Removal

Accessing the Drive Bays

SAS Drives: You do not need to access the inside of the chassis to replace or swap SAS drives. Proceed to the next step for instructions.

CD-ROM/Floppy Disk Drive: For installing/removing the CD-ROM or floppy disk drive, you will need to gain access to the inside of the server by removing the top cover of the chassis. Proceed to the "CD-ROM and Floppy Drive Installation" section later in this chapter for instructions.

5.25" Drive Bay: For installing/removing a component in the 5.25" drive bay, proceed to the "5.25" Drive Bay Installation" section later in this chapter for instructions.

Warning! Use caution when working around the SAS/SATA backplane. Do not touch the backplane with any metal objects and make sure no ribbon cables touch the backplane or obstruct the holes, which aid in proper airflow.

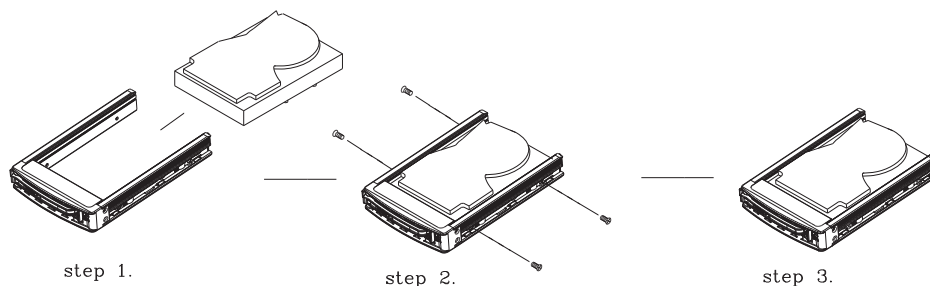
SAS/SATA Drive Installation

Mounting a SAS/SATA Drive in a Drive Carrier

The SAS/SATA drives are mounted in drive carriers to simplify their installation and removal from the chassis. Since these carriers also help promote proper airflow for the SAS drive bays, even empty carriers without SAS drives installed must remain in the chassis.

1. To add a new SAS drive, install a drive into the carrier with the printed circuit board side toward the carrier so that the mounting holes align with those in the carrier.
2. Secure the drive to the carrier with four screws, as shown in Figure 6-3.

Figure 6-3. Mounting a SAS/SATA Drive in a Carrier



Warning! Enterprise level hard disk drives are recommended for use in Supermicro chassis and servers. For information on recommended HDDs, visit the Supermicro Web site at <http://www.supermicro.com/products/nfo/files/storage/SAS-1-CompList-110909.pdf>

Warning! Regardless of how many SAS/SATA hard drives are installed, all drive carriers must remain in the drive bays for proper airflow.

Installing/Removing SAS/SATA Drives

The SAS/SATA drive bays are located in the front of the chassis and are hot-swap units, meaning that they can be installed and removed while the system is running.

1. To remove a SAS/SATA drive, first push the colored release button located beside the drive's LEDs.
2. Swing the handle fully out and use it to pull the drive carrier straight out (see Figure 6-4).

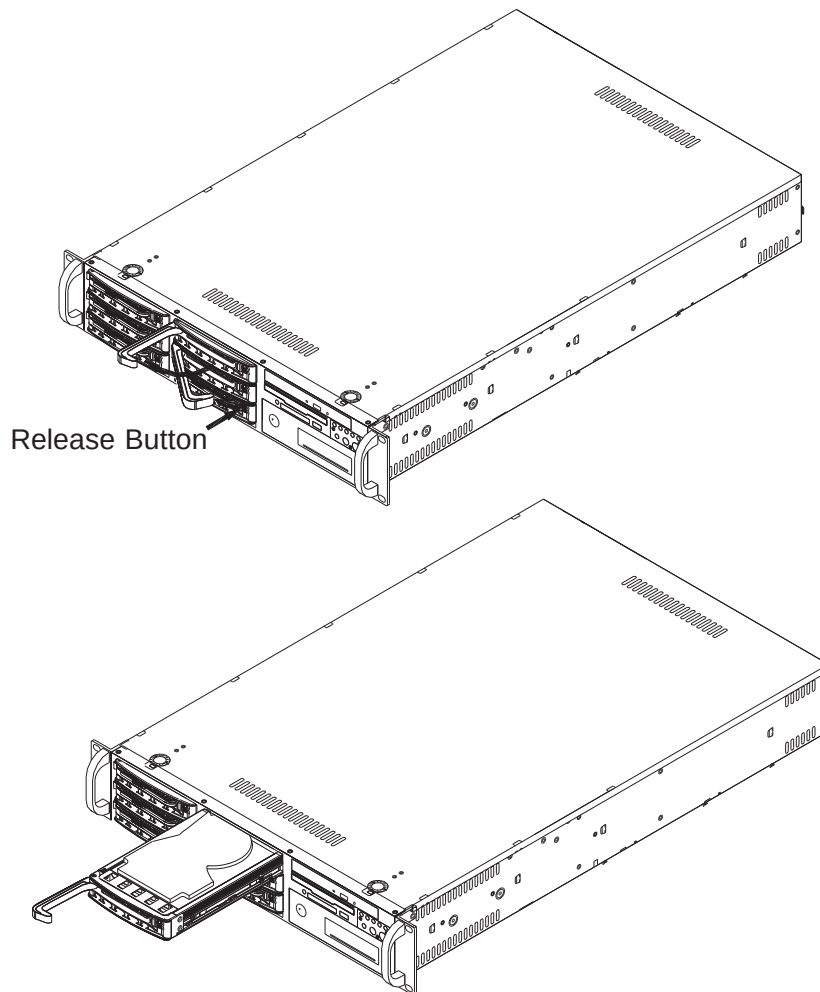


Figure 6-4. Removing SAS/SATA Drives

Important: All of the SAS/SATA drive carriers must remain in the drive bay to maintain proper cooling airflow.

Installing Components in the 5.25" Drive Bays

The SC822TQ-400LPB chassis has two 5.25" drive bays. Components such as an extra floppy drive or CD-ROM drives can be installed into these 5.25" drive bays.

Removing the Empty Drive Bay

1. First power down the system.
2. Remove the top/left chassis cover to access the drive components.
3. With the cover off, remove the screws that secure the drive carrier to the chassis (one side only) then push the entire empty drive carrier out from the back.

Adding a Slim CD-ROM Drive

5026T-3F

1. Remove the guide plates (one on each side) from the empty drive carrier and screw them into both sides of the CD-ROM drive using the holes provided.
2. Slide the CD-ROM into the bay and secure it to the chassis with the drive carrier screws you first removed.
3. Attach the power and data cables to the drive.
4. Replace the top/left chassis cover and restore power to the system.

5026T-T

Because the motherboard does not have an IDE port, adding a CD-ROM drive to the 5026T-T will occupy one of the SATA ports on the backplane.

1. Add the IDE to SATA adapter (CDM-PSATA) to any one of the SATA ports on the backplane to accommodate the CD-ROM drive.
2. Follow the procedure above to install the CD-ROM drive into the same SATA drive bay that you added the adapter to.
3. Attach the power and data cables to the drive.
4. Replace the top/left chassis cover and restore power to the system.

6-5 Power Supply

The SuperServer 5026T-3F/5026T-T has a single 400 watt power supply. This power supply module has an auto-switching capability, which enables it to automatically sense and operate at a 100V to 220V input voltage.

Power Supply Failure

If the power supply fails, the system will shut down and you will need to replace the power supply unit. Replacement units can be ordered directly from Supermicro. See contact information in Chapter 1.

Replacing the Power Supply

1. First shut down the system, then unplug the power cord.
2. Remove the chassis cover by pressing the two release buttons on the top of the chassis (near the front) then push the chassis top rearward about one inch and lift it off.
3. To remove the failed power supply, remove the screws at the back that secure it to the chassis and pull the unit straight out with the rounded handle.
4. Replace the failed hot-swap unit with another PWS-401-2H power supply unit. Push the new power supply unit into the power bay until you hear a *click*.
5. Secure the power supply with the screws you removed previously and finish by plugging in the AC power cord.
6. Push the power button to restart the system.

Chapter 7

BIOS

7-1 Introduction

This chapter describes the AMI BIOS Setup Utility for the X8ST3-F/X8STE. The AMI ROM BIOS is stored in a Flash EEPROM and can be easily updated. This chapter describes the basic navigation of the AMI BIOS Setup Utility setup screens.

Starting BIOS Setup Utility

To enter the AMI BIOS Setup Utility screens, press the <Delete> key while the system is booting up.



Note: In most cases, the <Delete> key is used to invoke the AMI BIOS setup screen. There are a few cases when other keys are used, such as <F1>, <F2>, etc.

Each main BIOS menu option is described in this manual. The Main BIOS setup menu screen has two main frames. The left frame displays all the options that can be configured. Grayed-out options cannot be configured. Options in blue can be configured by the user. The right frame displays the key legend. Above the key legend is an area reserved for a text message. When an option is selected in the left frame, it is highlighted in white. Often a text message will accompany it. (**Note:** the AMI BIOS has default text messages built in. Supermicro retains the option to include, omit, or change any of these text messages.)

The AMI BIOS Setup Utility uses a key-based navigation system called "hot keys". Most of the AMI BIOS setup utility "hot keys" can be used at any time during the setup navigation process. These keys include <F1>, <F10>, <Enter>, <ESC>, arrow keys, etc.



Note: Options printed in **Bold** are default settings.

How To Change the Configuration Data

The configuration data that determines the system parameters may be changed by entering the AMI BIOS Setup utility. This Setup utility can be accessed by pressing <Del> at the appropriate time during system boot.



Day MM/DD/YY format. The time is entered in HH:MM:SS format. (**Note:** The time is in the 24-hour format. For example, 5:30 P.M. appears as 17:30:00.)

AMIBIOS

Version

Build Date

Processor

The AMI BIOS will automatically display the status of processor as shown below:

Speed

Physical Count

Logical Count

System Memory

This displays the size of memory available in the system:

Populated Size

Available Size

Wait For 'F1' If Error

This forces the system to wait until the 'F1' key is pressed if an error occurs. The options are Disabled and **Enabled**.

Hit 'Del' Message Display

This feature displays "Press DEL to run Setup" during POST. The options are **Enabled** and Disabled.

Watch Dog Function

If enabled, the Watch Dog Timer will allow the system to reboot when it is inactive for more than 5 minutes. The options are Enabled and **Disabled**.

Restore on AC Power Loss

Use this feature to set the power state after a power outage. Select Power-Off for the system power to remain off after a power loss. Select Power-On for the system power to be turned on after a power loss. Select Last State to allow the system to resume its last state before a power loss. The options are Power-On, Power-Off and **Last State**.

Interrupt 19 Capture

Interrupt 19 is the software interrupt that handles the boot disk function. When this item is set to Enabled, the ROM BIOS of the host adaptors will "capture" Interrupt 19 at boot and allow the drives that are attached to these host adaptors to function as bootable disks. If this item is set to Disabled, the ROM BIOS of the host adaptors will not capture Interrupt 19, and the drives attached to these adaptors will not function as bootable devices. The options are **Enabled** and Disabled.

►Processor & Clock Options

When you first enter the Processor and Clock Options, the current processor and clock configuration is displayed. Below it are the different options that can be modified:

CPU Ratio

If set to Manual, it enables the CPU clock ratio to be manually configured. The options are **Auto** and Manual.

Ratio CMOS Setting (This option appears if CPU Ratio above is set to Manual)

This option allows the user to set the ratio between the CPU Core Clock and the FSB Frequency. (**Note:** if an invalid ratio is entered, the AMI BIOS will restore the setting to the previous state.) The default setting depends on what type of CPU

is installed. For example, the default setting for the Intel® Core i7™ 965 is **[24]**. Press "+" or "-" on your keyboard to change this value.

Clock Spread Spectrum

Select Enable to use the feature of Clock Spectrum, which will allow the BIOS to monitor and attempt to reduce the level of Electromagnetic Interference caused by the components whenever needed. The options are **Disabled** and **Enabled**.

Hardware Prefetcher (Available when supported by the CPU)

If set to Enabled, the hardware pre fetcher will pre fetch streams of data and instructions from the main memory to the L2 cache in the forward or backward manner to improve CPU performance. The options are Disabled and **Enabled**.

Adjacent Cache Line Prefetch (Available when supported by the CPU)

The CPU fetches the cache line for 64 bytes if this option is set to Disabled. The CPU fetches both cache lines for 128 bytes as comprised if **Enabled**.

Intel® Virtualization Technology (Available when supported by the CPU)

Select Enabled to use the feature of Virtualization Technology to allow one platform to run multiple operating systems and applications in independent partitions, creating multiple "virtual" systems in one physical computer. The options are Enabled and **Disabled**. **Note:** If there is any change to this setting, you will need to power off and restart the system for the change to take effect. Please refer to Intel's web site for detailed information.

Execute-Disable Bit Capability (Available when supported by the OS and the CPU)

Set to Enabled to enable the Execute Disable Bit which will allow the processor to designate areas in the system memory where an application code can execute and where it cannot, thus preventing a worm or a virus from flooding illegal codes to overwhelm the processor or damage the system during an attack. The default is **Enabled**. (Refer to Intel and Microsoft Web Sites for more information.)

Simultaneous Multi-Threading (Available when supported by the CPU)

Set to Enabled to use the Hyper-Threading Technology, which will result in increased CPU performance. The options are Disabled and **Enabled**.

Active Processor Cores

Set to Enabled to use a processor's Second Core and beyond. (Please refer to Intel's web site for more information.) The options are **All**, 1 and 2.

Intel® EIST Technology

EIST (Enhanced Intel SpeedStep Technology) allows the system to automatically adjust processor voltage and core frequency in an effort to reduce power consumption and heat dissipation. **Please refer to Intel's web site for detailed information.** The options are **Disable: Disable GV3** and **Enable: Enable GV3**.

Intel® TurboMode Tech (Available if Intel® EIST technology is Enabled)

This feature allows processor cores to run faster than marked frequency in specific conditions. The options are **Disabled** and **Enabled**.

Intel Turbo Boost Configuration

Turbo Ratio Limit Program

Select **Enabled** to set the processor's clock ratio in relation to the bus speed. The options are **Enabled** and **Disabled**. The default value depends on the type of CPU installed. (For example, the values shown below indicate that an Intel® Core™ i7 processor 965 Extreme Edition is installed.)

1 - Core Ratio Limit

This increases (multiplies) the processor's core 1 clock speed in relation to the bus speed. The default setting is **26**. Press "+" or "-" on your keyboard to change this value.

2 ~ 3 - Core Ratio Limit

This increases the processor's core 2~3 clock speeds in relation to the bus speed. The default setting is **25**. Press "+" or "-" on your keyboard to change this value.

TDC Limit Override

This option will override the system's default electrical current setting for the processor. The options are **Enabled** and **Disabled**.

TDC Limit Value

This option sets the processor's electrical current value. The default setting is **880**. Press "+" or "-" on your keyboard to change this value.

TDP Limit Override

Select **Enabled** to override the default power setting for the processor. The options are **Enabled** and **Disabled**.

TDP Limit Value

Use this option to set the processor's power value. The default setting is **1040**. Press "+" or "-" on your keyboard to change this value.



Intel® C-STATE Architecture

C-State, a processor power management architecture developed by Intel, can further reduce power consumption from the basic C1 (Halt State) state, which blocks clock cycles to the CPU. C-State is an idle state, and instructions are not processed by the CPU. A brief explanation of all the C-States are as follows:

C0 - Active. The CPU is processing instructions.

C1 - Auto Halt. The core clock (CPU) is off. This is the most basic idle state. Some CPUs support C1E (C1 Enhanced) for lower power consumption.

C2 - Stop Clock. Both the core clock (CPU) and bus clocks (I/O) are off.

C3 - Deep Sleep. The clock generator is off.

C4 - Deeper Deep Sleep. Reduced VCC (Voltage supply).

C6 - Cache Power Off. Power is turned off to all caches.

C7 - Processor Specific. Leaves the initialized application processor in a processor-specific low C-State. For Intel Core i7 processors, this is the lowest C-State supported.

C1E Support

Select Enabled to use the "Enhanced Halt State" feature. C1E significantly reduces the CPU's power consumption by reducing the CPU's clock cycle and voltage during a "Halt State." The options are Disabled and **Enabled**.

C-STATE Tech

If enabled, C-State is set by the system automatically to either C2, C3 or C4 state. The options are Disabled and **Enabled**.

C-State package limit setting

If set to Auto, the AMI BIOS will automatically set the limit on the C-State package register. The options are **Auto**, C1, C3, C6 and C7.

C1 Auto Demotion

When enabled, the CPU will conditionally demote C3, C6 or C7 requests to C1 based on un-core auto-demote information. The options are Disabled and **Enabled**.

C3 Auto Demotion

When enabled, the CPU will conditionally demote C6 or C7 requests to C3 based on un-core auto-demote information. The options are Disabled and **Enabled**.

DCA Technology

This feature accelerates the performance of TOE devices. **Note:** A TOE device is a specialized, dedicated processor that is installed on an add-on card or a network

card to handle some or all packet processing of this add-on card. For this motherboard, the TOE device is built inside the ESB 2 South Bridge chip. This feature is supported only by some types of processors (i.e., Intel Nehalem-WS 1S). The options are **Enabled** and Disabled.

DCA Prefetch Delay

A DCA Prefetch is used with TOE components to prefetch data in order to shorten execution cycles and maximize data processing efficiency. Prefetching too frequently can saturate the cache directory and delay necessary cache accesses. This feature reduces or increases the frequency the system prefetches data. The options are [8], [16], **[32]**, [40], [48], [56], [64], [72], [80], [88], [96], [104], [112], [120]

► Advanced Chipset Control

The items included in the Advanced Settings submenu are listed below:

QPI and IMC Configuration

QuickPath Interconnect (QPI) is the connection between the CPU and the motherboard's I/O hub. Use this feature to modify speed and power management settings.

QPI Links Speed

Use this feature to select QPI data transfer speed. The options are Slow-mode, and **Full Speed**.

QPI Frequency

Use this option to set the QPI frequency. The options are **Auto**, 4.800 GT, 5.866 GT, and 6.400 GT.

QPI L0s and L1

Select Enabled to lower the QPI power state. L0s and L1 are automatically selected by the motherboard. The options are **Disabled** and Enabled.

Memory Frequency

Use this option to force the system memory to run at a different frequency than the default frequency. The available options are **Auto**, Force DDR-800, Force DDR-1066, and Force DDR-1333.

Memory Mode

The options are **Independent**, Channel Mirror, Lockstep and Sparing.

Independent - All DIMMs are available to the operating system.

Channel Mirror - The motherboard maintains two identical copies of all data in memory for redundancy.

Lockstep - The motherboard uses two areas of memory to run the same set of operations in parallel.

Sparing - A preset threshold of correctable errors is used to trigger fail-over. The spare memory is put online and used as active memory in place of the failed memory.

Demand Scrubbing

Demand Scrubbing is a process that allows the North Bridge to correct correctable memory errors found on a memory module. When the CPU or I/O issues a demand-read command, and the read data from memory turns out to be a correctable error, the error is corrected and sent to the requestor (the original source). Memory is updated as well. Select Enabled to use Demand Scrubbing for ECC memory correction. The options are Enabled and **Disabled**.

Patrol Scrubbing

Patrol Scrubbing is a process that allows the North Bridge to correct correctable memory errors detected on a memory module and send the correction to the requestor (the original source). When this item is set to Enabled, the North Bridge will read and write back one cache line every 16K cycles, if there is no delay caused by internal processing. By using this method, roughly 64 GB of memory behind the North Bridge will be scrubbed every day. The options are Enabled and **Disabled**.

Throttling - Open Loop

If set to Enabled, Throttling - Open Loop will be activated when the projected memory temperature exceeds a predefined trip-point. This process can effectively improve memory thermal performance. The options are **Disabled** and Enabled.

Inlet Temperature

This is the temperature detected at the chassis inlet. Each step is in 0.5°C increment. The default is **[070]**. Press "+" or "-" on your keyboard to change this value.

Temperature Rise

This item allows the user to define the temperature rise parameter of a memory module to be used to improve memory power management. Each setting is in 0.5°C increments. The default setting is **[020]**. Press "+" or "-" on your keyboard to change this value.

Air Flow

This item allows the user to set the desired speed of air flow to the DIMM modules. Each increment is one mm/sec. The default is **[1500]**. Press "+" or "-" on your keyboard to change this value.

Altitude

This item allows the user to specify the altitude of the location where the computer is used. For Tylersburg-EP platforms, system memory thermal solution is derated up to 900m. To comply with CPU specifications, BIOS will attempt to adjust and correct DIMM velocity based on the altitude where the system is located in order to improve DIMM thermal performance. Altitude is defined as the number of feet above the sea level where the computer is located. The options are **Sea Level or Below**, 1~300 (above-), 301~600 (above-), 601~900 (above-), 901~1200 (above-), 1201~1500 (above-), 1501~1800 (above-), 1801~2100 (above-), 2101~2400 (above-), 2401~2700 (above-), and 2701~3000 (above-) the sea level.

DIMM Pitch

Use this feature to specify the distance of physical space between each DIMM module. Each step is in 1/1000 of an inch. The default is **[400]**. Press "+" or "-" on your keyboard to change this value.

Performance Tuning Mode (Available when both XMP memory and an Extreme Edition CPU are installed.)

This item allows the user to choose the Intel Extreme Memory Profile (XMP) Specification which enables DDR3 memory to operate beyond the standard JEDEC SPD specification. Select XMP for 1600 MHz XMP memory operation and better system performance. Otherwise, leave this setting at **Auto**.

High Performance Event Timer

Select Enabled to activate the High Performance Event Timer (HPET) that produces periodic interrupts at a much higher frequency than a Real-time Clock (RTC) does in synchronizing multimedia streams, providing smooth playback and reducing the dependency on other timestamp calculation devices, such as an x86 RDTSC Instruction embedded in the CPU. The High Performance Event Timer is used to replace the 8254 Programmable Interval Timer. The options are Enabled and **Disabled**.

Intel VT-d

Select Enabled to enable Intel's Virtualization Technology support for Direct I/O VT-d by reporting the I/O device assignments to VMM through the DMAR ACPI Tables. This feature offers fully-protected I/O resource-sharing across the Intel platforms,

providing the user with greater reliability, security and availability in networking and data-sharing. The settings are Enabled and **Disabled**.

Intel I/OAT

The Intel I/OAT (I/O Acceleration Technology) significantly reduces CPU overhead by leveraging CPU architectural improvements, freeing resources for more other tasks. Available options are Disabled and **Enabled**.

Active State Power Management

Select Enabled to start Active-State Power Management for signal transactions between L0 and L1 Links on the PCI Express Bus. This maximizes power-saving and transaction speed. The options are Enabled and **Disabled**.

USB Functions

This feature allows the user to decide the number of onboard USB ports to be enabled. The Options are: Disabled, 2 USB ports, 4 USB ports, 6 USB ports, and **8 USB ports**.

USB 2.0 Controller

Select Enabled to activate the onboard USB 2.0 controller. The options are **Enabled** and Disabled.

Legacy USB Support

Select Enabled to use Legacy USB devices. If this item is set to Auto, Legacy USB support will be automatically enabled if a legacy USB device is installed on the motherboard, and vice versa. The settings are Disabled, Enabled and **Auto**.

►IDE / Floppy Configuration

When this submenu is selected, the AMI BIOS automatically detects the presence of the IDE Devices and displays the following items:

Floppy A

This feature allows the user to select the type of floppy drive connected to the system. The options are Disabled, 360KB 5 1/4", 1.2MB 5 1/4", 720KB 3 1/2", **1.44MB 3 1/2"** and 2.88MB 3 1/2".

SATA#1 Configuration

If Compatible is selected, it sets SATA#1 to legacy compatibility mode, while selecting Enhanced sets SATA#1 to native SATA mode. The options are Disabled, Compatible, **Enhanced**.

Configure SATA#1 as

This feature allows the user to select the drive type for SATA#1. The options are **IDE**, RAID and AHCI.

ICH RAID CodeBase (Available if RAID is selected above)

Select Intel to enable the Intel SATA Host RAID Utility. Select Adaptec to use the Adaptec Host RAID Utility. The options are **Intel** and Adaptec.

Max Ports on SATA#1 (Available if either RAID or AHCI is enabled under "Configure SATA#1 as" above)

This feature specifies how many ports are active on SATA #1. The options are 4 Ports and **6 Ports**.

SATA#2 Configuration

Selecting Enhanced will set SATA#2 to native SATA mode. The options are Disabled, **Enhanced**

IDE Detect Timeout (sec)

Use this feature to set the time-out value for the BIOS to detect the ATA, ATAPI devices installed in the system. The options are 0 (sec), 5, 10, 15, 20, 25, 30, and **35**.

AHCI CD/DVD Boot Timeout

Use this feature to set the time-out value for the BIOS to detect the AHCI CD/DVD boot devices installed in the system. The options are 0 (sec), 5, 10, 15, 20, 25, 30, and **35**.

Primary IDE Master/Slave, Secondary IDE Master/Slave, Third IDE Master, and Fourth IDE Master

These settings allow the user to set the parameters of Primary IDE Master/Slave, Secondary IDE Master/Slave, Third and Fourth IDE Master slots. Hit <Enter> to activate the following submenu screen for detailed options of these items. Set the correct configurations accordingly. The items included in the submenu are:

Type

Select the type of device connected to the system. The options are Not Installed, **Auto**, CD/DVD and ARMD.

LBA/Large Mode

LBA (Logical Block Addressing) is a method of addressing data on a disk drive. In the LBA mode, the maximum drive capacity is 137 GB. For drive capacities over 137 GB, your system must be equipped with a 48-bit LBA mode addressing. If not, contact your manufacturer or install an ATA/133 IDE controller card that supports 48-bit LBA mode. The options are Disabled and **Auto**.

Block (Multi-Sector Transfer)

Block Mode boosts the IDE drive performance by increasing the amount of data transferred. Only 512 bytes of data can be transferred per interrupt if Block Mode is not used. Block Mode allows transfers of up to 64 KB per interrupt. Select Disabled to allow data to be transferred from and to the device one sector at a time. Select Auto to allow data transfer from and to the device occur multiple sectors at a time if the device supports it. The options are **Auto** and Disabled.

PIO Mode

The IDE PIO (Programmable I/O) Mode programs timing cycles between the IDE drive and the programmable IDE controller. As the PIO mode increases, the cycle time decreases. The options are **Auto**, 0, 1, 2, 3, and 4.

Select Auto to allow the AMI BIOS to automatically detect the PIO mode. Use this value if the IDE disk drive support cannot be determined.

Select 0 to allow the AMI BIOS to use PIO mode 0. It has a data transfer rate of 3.3 MBs.

Select 1 to allow the AMI BIOS to use PIO mode 1. It has a data transfer rate of 5.2 MBs.

Select 2 to allow the AMI BIOS to use PIO mode 2. It has a data transfer rate of 8.3 MBs.

Select 3 to allow the AMI BIOS to use PIO mode 3. It has a data transfer rate of 11.1 MBs.

Select 4 to allow the AMI BIOS to use PIO mode 4. It has a data transfer bandwidth of 32-Bits. Select Enabled to enable 32-Bit data transfer.

DMA Mode

Select Auto to allow the BIOS to automatically detect IDE DMA mode when the IDE disk drive support cannot be determined.

Select SWDMA0 to allow the BIOS to use Single Word DMA mode 0. It has a data transfer rate of 2.1 MBs.

Select SWDMA1 to allow the BIOS to use Single Word DMA mode 1. It has a data transfer rate of 4.2 MBs.

Select SWDMA2 to allow the BIOS to use Single Word DMA mode 2. It has a data transfer rate of 8.3 MBs.

Select MWDMA0 to allow the BIOS to use Multi Word DMA mode 0. It has a data transfer rate of 4.2 MBs.

Select MWDMA1 to allow the BIOS to use Multi Word DMA mode 1. It has a data transfer rate of 13.3 MBs.

Select MWDMA2 to allow the BIOS to use Multi-Word DMA mode 2. It has a data transfer rate of 16.6 MBs.

Select UDMA0 to allow the BIOS to use Ultra DMA mode 0. It has a data transfer rate of 16.6 MBs. It has the same transfer rate as PIO mode 4 and Multi Word DMA mode 2.

Select UDMA1 to allow the BIOS to use Ultra DMA mode 1. It has a data transfer rate of 25 MBs.

Select UDMA2 to allow the BIOS to use Ultra DMA mode 2. It has a data transfer rate of 33.3 MBs.

Select UDMA3 to allow the BIOS to use Ultra DMA mode 3. It has a data transfer rate of 66.6 MBs.

Select UDMA4 to allow the BIOS to use Ultra DMA mode 4 . It has a data transfer rate of 100 MBs.

The options are **Auto**, SWDMA_n, MWDMA_n, and UDMA_n.

S.M.A.R.T. For Hard disk drives

Self-Monitoring Analysis and Reporting Technology (SMART) can help predict impending drive failures. Select Auto to allow the AMI BIOS to automatically detect hard disk drive support. Select Disabled to prevent the AMI BIOS from using the S.M.A.R.T. Select Enabled to allow the AMI BIOS to use the S.M.A.R.T. to support hard drive disk. The options are Disabled, Enabled, and **Auto**.

32Bit Data Transfer

Select Enable to enable the function of 32-bit IDE data transfer. The options are **Enabled** and Disabled.

►PCI/PnP Configuration

This feature allows the user to set the PCI/PnP configurations for the following items:

Clear NVRAM

This feature clears the NVRAM during system boot. The options are **No** and Yes.

Plug & Play OS

Selecting Yes allows the OS to configure Plug & Play devices. (This is not required for system boot if your system has an OS that supports Plug & Play.) Select **No** to allow the AMI BIOS to configure all devices in the system.

PCI Latency Timer

This feature sets the latency Timer of each PCI device installed on a PCI bus. Select 64 to set the PCI latency to 64 PCI clock cycles. The options are 32, **64**, 96, 128, 160, 192, 224 and 248.

PCI IDE Bus Master

When enabled, the BIOS uses PCI bus mastering for reading/writing to IDE drives. The options are Disabled and **Enabled**.

PCI Slot 1 ~ PCI Slot 6

Use this setting to disable any of the PCI slots. The options are Disabled and **Enabled**.

Load Onboard LAN1 Option ROM, Load Onboard LAN2 Option ROM

This feature is to enable LAN OPROM for PXE. This is to boot computers using a network interface. The options are **Disabled** and Enabled.

Load SAS Option ROM (X8ST3-F Only)

This feature is to load the Serial Attached SCSI (SAS) option ROM, if available. The options are **Disabled** and Enabled.

► Super IO Device Configuration

Serial Port1 Address/ Serial Port2 Address

This option specifies the base I/O port address and the Interrupt Request address of Serial Port 1 and Serial Port 2. Select Disabled to prevent the serial port from accessing any system resources. When this option is set to Disabled, the serial port physically becomes unavailable. Select 3F8/IRQ4 to allow the serial port to use 3F8 as its I/O port address and IRQ 4 for the interrupt address. The options for Serial Port1 are Disabled, **3F8/IRQ4**, 2E8/IRQ3. The options for Serial Port2 are Disabled, **2F8/IRQ3**, and 2E8/IRQ3.

Serial Port 2 Mode

Use this feature to configure Serial Port 2 mode. The options are **Normal**, IrDA and ASK IR. IrDA (Infra-Red Data) is an industry standard for remote control devices. ASK IR (Amplitude Shifted Keying Infra-Red) is a protocol compatible with Sharp® branded PDAs and other infra-red devices.

Floppy Controller

Select Enabled to enable the onboard Floppy Controller. The options are **Enabled** and Disabled.

► Remote Access Configuration

Remote Access

This allows the user to enable the Remote Access feature. The options are **Disabled** and Enabled.

If Remote Access is set to Enabled, the following items will display:

Serial Port Number

This feature allows the user decide which serial port to be used for Console Redirection. The options are **COM 1** and COM 2. An additional option, **Onboard IPMI** is featured on the X8ST3-F motherboard only and becomes the default.

Serial Port Mode

This feature allows the user to set the serial port mode for Console Redirection. The options are **115200 8, n 1**; 57600 8, n, 1; 38400 8, n, 1; 19200 8, n, 1; and 9600 8, n, 1.

Flow Control

This feature allows the user to set the flow control for Console Redirection. The options are **None**, Hardware, and Software.

Redirection After BIOS POST

Select Disabled to turn off Console Redirection after Power-On Self-Test (POST). Select Always to keep Console Redirection active all the time after POST. (Note: This setting may not be supported by some operating systems.) Select Boot Loader to keep Console Redirection active during POST and Boot Loader. The options are Disabled, Boot Loader, and **Always**.

Terminal Type

This feature allows the user to select the target terminal type for Console Redirection. The options are ANSI, **VT100**, and VT-UTF8.

VT-UTF8 Combo Key Support

A terminal keyboard definition that provides a way to send commands from a remote console. Available options are **Enabled** and Disabled.

Sredir Memory Display Delay

This feature defines the length of time in seconds to display memory information. The options are **No Delay**, Delay 1 Sec, Delay 2 Sec, and Delay 4 Sec.

►Hardware Health Configuration

This feature allows the user to monitor Hardware Health of the system and review the status of each item when displayed.

CPU Overheat Alarm

This option allows the user to select the CPU Overheat Alarm setting which determines when the CPU OH alarm will be activated to provide warning of possible CPU overheat.

Warning: Any temperature that exceeds the CPU threshold temperature predefined by the CPU manufacturer may result in CPU overheat or system instability. When the CPU temperature reaches this predefined threshold, the CPU and system cooling fans will run at full speed.

The options are:

The Early Alarm Setting: Select this setting if you want the CPU overheat alarm (including the LED and the buzzer) to be triggered as soon as the CPU temperature reaches the CPU overheat threshold as predefined by the CPU manufacturer.

The Default Alarm: Select this setting if you want the CPU overheat alarm (including the LED and the buzzer) to be triggered when the CPU temperature reaches about 5°C above the threshold temperature as predefined by the CPU

manufacturer to give the CPU and system fans additional time needed for CPU and system cooling.

Fan Speed Control Modes

This feature allows the user to decide how the system controls the speeds of the onboard fans. The CPU temperature and the fan speed are correlative. When the CPU on-die temperature increases, the fan speed will also increase, and vice versa. Select Workstation if your system is used as a Workstation. Select Server if your system is used as a Server. Select “Disabled, (Full Speed @12V)” to disable the fan speed control function and allow the onboard fans to constantly run at the full speed (12V). The Options are: 1. **Disabled**, 2. 4-pin (Super Quiet), and 3. 4-pin (Workstation).

Fan1 ~ Fan 5 Reading

This feature displays the fan speed readings from fan interfaces Fan1 through Fan5.

Vcore, 3.3Vcc, 12V, V_DIMM, 5V, -12V, 3.3VSB, and VBAT

►ACPI Configuration

Use this feature to configure Advanced Configuration and Power Interface (ACPI) power management settings for your system.

USB Device Wake-Up

This feature is used to awaken from Standby mode by a Universal Serial Bus (USB) device (such as, a USB mouse or USB keyboard). The options are Enabled and **Disabled**.

PS/2 KB/MS Wake-Up

This feature is used to awaken from Standby mode by a PS/2 mouse or PS/2 keyboard. The options are Enabled and **Disabled**.

ACPI Aware O/S

Enable ACPI support if it is supported by the OS to control ACPI through the Operating System. Otherwise, disable this feature. The options are **Yes** and No.

Headless Mode

This feature is used to enable system to function without a keyboard, monitor or mouse attached. The options are Enabled and **Disabled**.

ACPI Version Features

The options are ACPI v1.0, **ACPI v2.0** and ACPI v3.0. Please refer to ACPI's website for further explanation: <http://www.acpi.info/>

►IPMI Configuration (X8ST3-F Only)

Intelligent Platform Management Interface (IPMI) is a set of common interfaces that IT administrators can use to monitor system health and to manage the system as a whole. For more information on the IPMI specifications, please visit Intel's website at www.intel.com.

Status of BMC

Baseboard Management Controller (BMC) manages the interface between system management software and platform hardware. This is an informational feature which returns the status code of the BMC micro controller.

IPMI Function

Select Enabled to turn on this motherboard's IPMI capability. The options are **Disabled** and Enabled.

View BMC System Event Log

This feature is used to view any BMC events. It shows the total number of entries and will allow the viewing of each event by scrolling down on an Entry Number and pressing Enter.

Clear BMC System Event Log

This feature is used to clear the System Event Log. Caution: Any cleared information is unrecoverable. Make absolutely sure you no longer need any data stored in the log before clearing the BMC Event Log.

Set LAN Configuration

Set this feature to configure the IPMI LAN adapter with a network address.

Channel Number - Enter the channel number for the SET LAN Config command. This is initially set to **[1]**. Press "+" or "-" on your keyboard to change the Channel Number.

Channel Number Status - This feature returns the channel status for the Channel Number selected above: "Channel Number is OK" or "Wrong Channel Number".

IP Address - Enter the IP address for this machine. This should be in decimal and in dotted quad form (i.e., 192.168.10.253). The value of each three-digit number separated by dots should not exceed 255.

MAC Address - The BIOS will automatically enter the MAC address of this machine, however it may be over-ridden. MAC addresses are 6 two-digit hexadecimal numbers (Base 16, 0 ~ 9, A, B, C, D, E, F) separated by dots. (i.e., 00.30.48.D0.D4.60)

Subnet Mask - Subnet masks tell the network which subnet this machine belongs to. The value of each three-digit number separated by dots should not exceed 255.

Set PEF Configuration

Set this feature to configure the Platform Event Filter (PEF). PEF interprets BMC events and performs actions based on pre-determined settings or 'traps' under IPMI 1.5 specifications. For example, powering the system down or sending an alert when a triggering event is detected.

The following will appear if PEF Support is set to Enabled. The default is **Disabled**.

PEF Action Global Control - These are the different actions based on BMC events. The options are **Alert**, Power Down, Reset System, Power Cycle, OEM Action, Diagnostic Interface.

Alert Startup Delay - This feature inserts a delay during startup for PEF alerts. The options are Enabled and **Disabled**.

PEF Alert Startup Delay - This sets the pre-determined time to delay PEF alerts after system power-ups and resets. Refer to Table 24.6 of the IPMI 1.5 Specification for more information at www.intel.com. The options are **No Delay**, 30 sec, 60 sec, 1.5 min, 2.0 min.

Startup Delay - This feature enables or disables startup delay. The options are Enabled and **Disabled**.

PEF Startup Delay - This sets the pre-determined time to delay PEF after system power-ups and resets. Refer to Table 24.6 of the IPMI 1.5 Specification for more information at www.intel.com. The options are **No Delay**, 30 sec, 60 sec, 1.5 min, 2.0 min.

Event Message for PEF Action - This enables or disables Event Messages for PEF action. Refer to Table 24.6 of the IPMI 1.5 Specification for more information at www.intel.com. The options are **Disabled** and Enabled.

BMC Watch Dog Timer Action

Allows the BMC to reset or power down the system if the operating system hangs or crashes. The options are Disabled, Reset System, Power Down, Power Cycle.

BMC WatchDog TimeOut [Min:Sec]

This option appears if BMC Watch Dog Timer Action (above) is enabled. This is a timed delay in minutes or seconds, before a system power down or reset after an operating system failure is detected. The options are **[5 Min]**, [1 Min], [30 Sec], and [10 Sec].

IPMI Virtual Device

Allows the system to simulate connection to an IPMI device using a media image. The options are **Disabled** and Enabled.

►Event Log Configuration

View Event Log

Use this option to view the System Event Log.

Mark all events as read

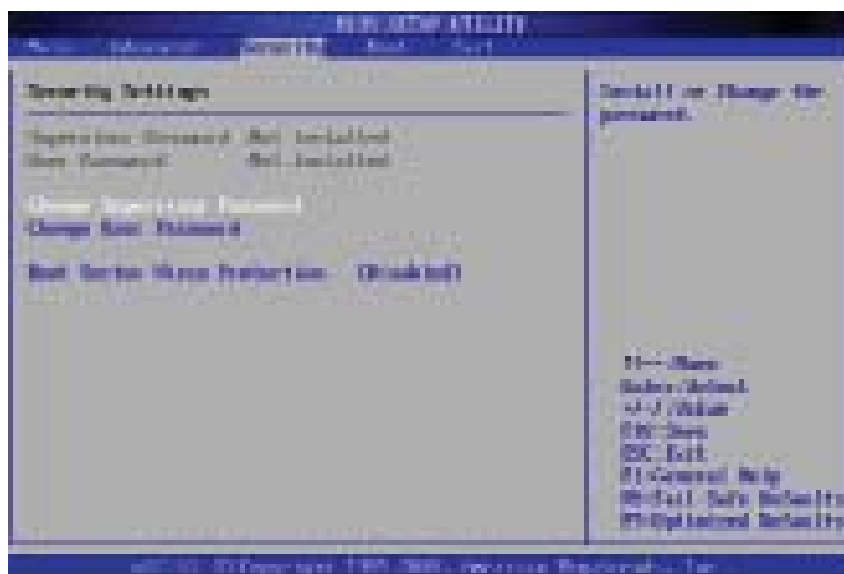
This option marks all events as read. The options are OK and Cancel.

Clear event log

This option clears the Event Log memory of all messages. The options are OK and **Cancel**.

7-4 Security Settings

The AMI BIOS provides a Supervisor and a User password. If you use both passwords, the Supervisor password must be set first.



Supervisor Password

This item indicates if a supervisor password has been entered for the system. Clear means such a password has not been used and Set means a supervisor password has been entered for the system.

User Password:

This item indicates if a user password has been entered for the system. Clear means such a password has not been used and Set means a user password has been entered for the system.

Change Supervisor Password

Select this feature and press <Enter> to access the submenu, and then type in a new Supervisor Password.

User Access Level (Available when Supervisor Password is set as above)

Available options are **Full Access**: grants full User read and write access to the Setup Utility, **View Only**: allows access to the Setup Utility but the fields cannot be changed, **Limited**: allows only limited fields to be changed such as Date and Time, **No Access**: prevents User access to the Setup Utility.

Change User Password

Select this feature and press <Enter> to access the submenu , and then type in a new User Password.

►Removable Drives

This feature allows the user to specify the boot sequence from available Removable Drives. The settings are 1st boot device, 2nd boot device, and Disabled.

- 1st Drive
- 2nd boot device - [USB: XXXXXXXXXX]

►CD/DVD Drives

This feature allows the user to specify the boot sequence from available CD/DVD Drives. The settings are **USB:AMI Virtual CDROM** and Disabled.

7-6 Exit Options



Select the Exit tab from the AMI BIOS Setup Utility screen to enter the Exit BIOS Setup screen.

Save Changes and Exit

When you have completed the system configuration changes, select this option to leave the BIOS Setup Utility and reboot the computer, so the new system configuration parameters can take effect. Select Save Changes and Exit from the Exit menu and press <Enter>.

Discard Changes and Exit

Select this option to quit the BIOS Setup without making any permanent changes to the system configuration, and reboot the computer. Select Discard Changes and Exit from the Exit menu and press <Enter>.

Discard Changes

Select this option and press <Enter> to discard all the changes and return to the AMI BIOS Utility Program.

Load Optimal Defaults

To set this feature, select Load Optimal Defaults from the Exit menu and press <Enter>. Then, select OK to allow the AMI BIOS to automatically load Optimal Defaults to the BIOS Settings. The Optimal settings are designed for maximum system performance, but may not work best for all computer applications.

Load Fail-Safe Defaults

To set this feature, select Load Fail-Safe Defaults from the Exit menu and press <Enter>. The Fail-Safe settings are designed for maximum system stability, but not for maximum performance.

Appendix A

POST Error Beep Codes

This section lists POST (Power On Self Test) error beep codes for the Phoenix BIOS. POST error beep codes are divided into two categories: recoverable and terminal. This section lists Beep Codes for recoverable POST errors.

Recoverable POST Error Beep Codes

When a recoverable type of error occurs during POST, BIOS will display a POST code that describes the problem. BIOS may also issue one of the following beep codes:

- 1 long and two short beeps - video configuration error
- 1 repetitive long beep - no memory detected
- 1 continuous beep with the front panel Overheat LED on - system overheat

Notes

Appendix B

System Specifications

Processors

Single Intel Core i7 and future Intel® Nehalem processor families (next generation Intel Xeon® processor)

Note: Please refer to the motherboard specifications pages on our web site for updates on supported processors.

Chipset

Intel X58/ICH10R chipset

BIOS

16 Mb Phoenix® Flash ROM

Memory Capacity

Six 240-pin DIMM slots to support up to 24 GB of unbuffered ECC or non-ECC DDR3-1333/1066/800 SDRAM

Note: Three-channel memory bus. See the memory section in Chapter 5 for details.

SAS Controller (5026T-3F only)

LSI 1068E controller for 8-port SAS subsystem (RAID 0, 1, 10 supported)

SATA Controller

On-chip (ICH10R) controller for 6-port SATA 2 (3 Gb/s) subsystem (RAID 0, 1, 5 10 supported)

SAS/SATA Drive Bays

Six (6) drive bays to house six SAS/SATA drives

Peripheral Drive Bays

One 3.5" floppy drive

One CD-ROM drive

Expansion Slots

Three PCI-Express 2.0 x8 slot, one PCI-Express x4 slot, two 32-bit PCI slots and one IPMI slot

Motherboard (5026T-3F/5026T-T)

Model: X8ST3-F/X8STE

Form Factor: ATX

Dimensions: 12 x 10 in (305 x 254 mm)

System Input Requirements

AC Input Voltage: 100-240V AC

Rated Input Current: 6A (115V) to 2.7A (230V)

Rated Input Frequency: 50 to 60 Hz

Power Supply

Rated Output Power: 400W (Part# PWS-401-2H)

Rated Output Voltages: +3.3V (25A), +5V (30A), +12V (32A), -12V (0.5A), +5Vsb (4A)

Chassis

Model: SC822TQ-400LPB

Form Factor: 2U rackmount

Dimensions: (WxHxD) 16.7 x 3.5 x 25.7 in. (425 x 88 x 652 mm)

Weight

Gross (Bare Bone): 50 lbs. (22.7 kg.)

Operating Environment

Operating Temperature: 10° to 35° C (50° to 95° F)

Non-operating Temperature: -40° to 70° C (-40° to 158° F)

Operating Relative Humidity: 8% to 90% (non-condensing)

Non-operating Relative Humidity: 5 to 95% (non-condensing)

Regulatory Compliance

Electromagnetic Emissions:

FCC Class A, EN 55022 Class A, EN 61000-3-2/3-3, CISPR 22 Class A

Electromagnetic Immunity:

EN 55024/CISPR 24, (EN 61000-4-2, EN 61000-4-3, EN 61000-4-4,
EN 61000-4-5, EN 61000-4-6, EN 61000-4-8, EN 61000-4-11)

Safety:

EN 60950/IEC 60950-Compliant, UL Listed (USA), CUL Listed (Canada), TUV
Certified (Germany), CE Marking (Europe)

California Best Management Practices Regulations for Perchlorate Materials:

This Perchlorate warning applies only to products containing CR (Manganese
Dioxide) Lithium coin cells. "Perchlorate Material-special handling may apply.
See www.dtsc.ca.gov/hazardouswaste/perchlorate"

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