SUPER●

SUPER● X7SLA-L
SUPER● X7SLA-H

USER'S MANUAL

Revision 1.0a

Preface

About This Manual

This manual is written for system integrators, PC technicians and knowledgeable PC users. It provides information for the installation and use of the SUPER● X7SLA-L/X7SLA-H motherboard.

About This Motherboard

The X7SLA-L comes integrated with the Intel® ATOM™ 230 (512K cache, 4W) processor while the X7SLA-H features the Intel ATOM 330 (Dual Core, 1MB cache, 8W) processor. Both support a system bus speed of 533 MHz. With memory support for up to 2 GB of non-ECC, unbuffered 533/400 MHz DDR2 in 2 sockets, 4 SATA ports, an IDE controller, on-board VGA, and up to 8 USB 2.0 ports (X7SLA-H), the X7SLA-L/X7SLA-H delivers cost-effective performance in a small form factor.

This product is intended to be professionally installed and serviced by a technician.

Manual Organization

Chapter 1 describes the features, specifications and performance of the mainboard and provides detailed information about the chipset.

Chapter 2 provides hardware installation instructions. Read this chapter when installing the processor, memory modules and other hardware components into the system. If you encounter any problems, see **Chapter 3**, which describes troubleshooting procedures for video, memory and system setup stored in the CMOS.

Chapter 4 includes an introduction to the BIOS and provides detailed information on running the CMOS Setup utility.

Appendix A provides BIOS Error Beep Codes.

Appendix B lists the Windows OS Installation Instructions.

Appendix C and Appendix D lists Other Software Program Installation and BIOS Recovery Instructions.

Conventions Used in the Manual:

Special attention should be given to the following symbols for proper installation and to prevent damage done to the components or injury to yourself:

Danger/Caution: Instructions to be strictly followed to prevent catastrophic system failure or to avoid bodily injury

Warning: Critical information to prevent damage to the components or data loss.

Important: Important information given to ensure proper system installation or to relay safety precautions.

Note: Additional Information given to differentiate various models or provides information for correct system setup.

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Appendix B Installing the Microsoft® Windows® OS

Appendix C Software Installation Instructions

Appendix D - BIOS Recovery

Chapter 1

Introduction

1-1   Overview

Checklist

Congratulations on purchasing your computer motherboard from an acknowledged leader in the industry. Supermicro boards are designed with the utmost attention to detail to provide you with the highest standards in quality and performance.

Please check that the following items have all been included with your motherboard. If anything listed here is damaged or missing, contact your retailer.

All the following items are included in the retail box only.

- One (1) Supermicro Mainboard

- Two (2) SATA cables (CBL-0044L)

- One (1) IDE hard drive cable (CBL-0036L-03)

- One (1) I/O shield (CSE-PT7L for X7SLA-H, CSE-PT2L for X7SLA-L)

- One (1) Supermicro CD containing drivers and utilities (CDR-X7-UP)

- One (1) User's/BIOS Manual (MNL-1097)

- Two (2) Plastic Mounting Hole Stand-offs (FST-SCRW-0010)

SUPER● X7SLA-L / X7SLA-H Image
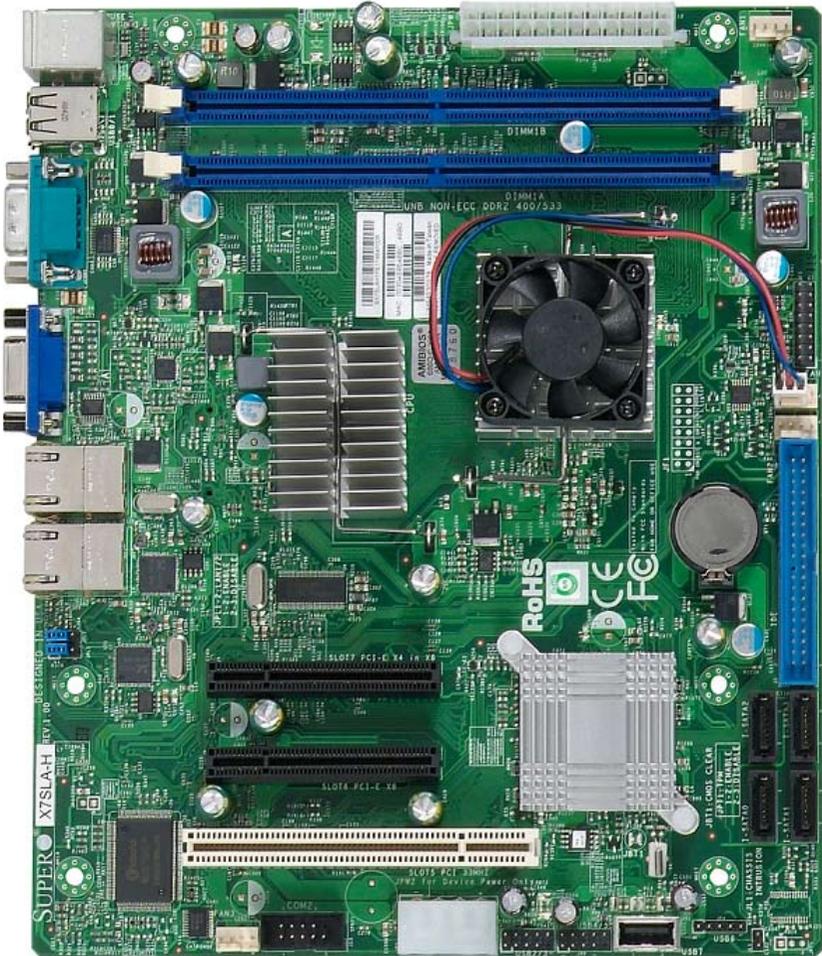
> **Note**: All graphics shown in this manual were based upon the latest PCB Revision available at the time of publishing of the manual. The motherboard you've received may or may not look exactly the same as the graphics shown in this manual.

Motherboard Layout

Important Notes to the User

• Jumpers not indicated are for testing only.

• See Chapter 2 for detailed information on jumpers, I/O ports and JF1 front panel connections.

• "■" indicates the location of "Pin 1".

X7SLA-L / X7SLA-H Quick Reference
(not drawn to scale, X7SLA-H shown)
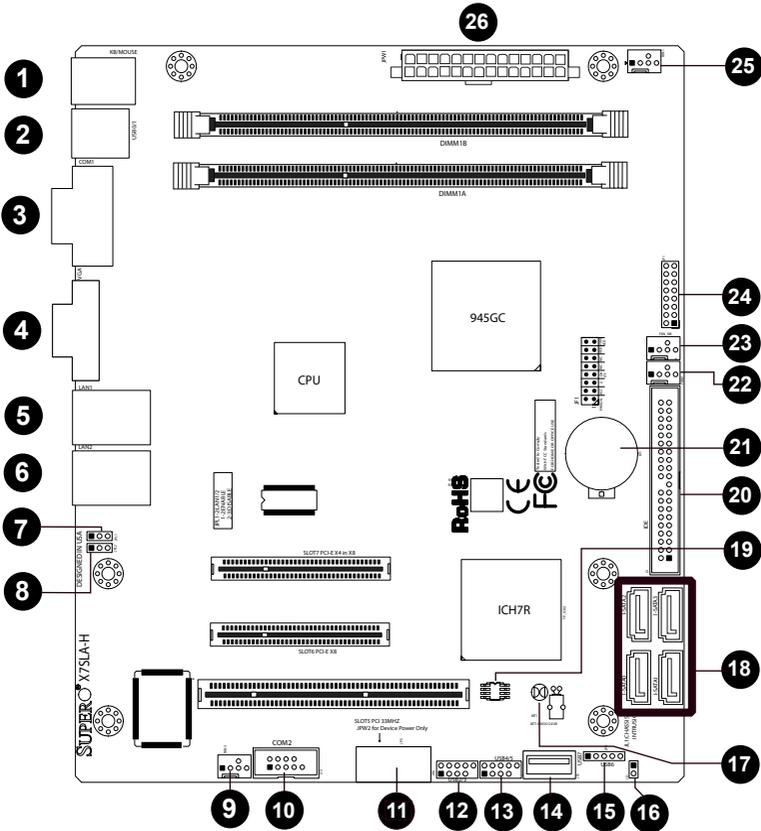
Note 1: USB 7, COM2 and LAN2 are available on the X7SLA-H only.

Note 2: Jumpers that are not indicated are used for factory testing only.

X7SLA-L / X7SLA-H Quick Reference

Jumpers	Label	Description	Default Setting
JBT1	#17	CMOS Clear	See Chapter 2
JPL2	#8	GLAN 2 Enable (X7SLA-H only)	Pins 1-2 (Enabled)
JPL1	#7	GLAN 1 Enable	Pins 1-2 (Enabled)

Connectors	Label	Description	
Battery	#21	Onboard Battery	
BIOS	#19	SPI BIOS Chip	
COM1	#3	Serial Port 1, Back Panel	
COM2	#10	Serial Port 2 internal header (X7SLA-H only)	
Fans 1~3	#9, 22, 25	System Cooling Fans 1~3	
MCH FAN	#23	Chipset Fan (MCH FAN)	
IDE	#20	IDE Hard Drive Connector	
I-SATA 0~3	#18	Internal SATA Connectors	
JF1	#24	FP Control Panel Header	
JPW1	#26	ATX 24-pin Power Connector (Required)	
JPW2	#11	4-pin Power Connector (for device power only)	
LAN1	#5	Ethernet RJ45 (GB LAN) Connector 1	
LAN2	#6	Ethernet RJ45 (GB LAN) Connector 2 (X7SLA-H only)	
KB/Mouse	#1	PS/2 Keyboard/Mouse	
JL1	#16	Chassis Intrusion Header	
USB 0/1	#2	Back Panel Universal Serial Bus Ports 0/1	
USB 2/3, 4/5, 6	#12, 13, 15	Internal USB Ports	
USB 7	#14	Internal "Type A" USB Connector (X7SLA-H only)	
VGA	#4	Video Graphics Port	

Motherboard Features

Processor
X7SLA-L: Single Integrated Intel® ATOM™ 230 processor

- 1.6 GHz, 533 MHz System Bus
- 512K Cache
- 4 Watts

X7SLA-H: Single Integrated Dual Core Intel ATOM 330 processor

- 1.6 GHz, 533 MHz System Bus
- 1 MB Cache
- 8 Watts

Memory
- Supports unbuffered Non-ECC DDR2 up to 2 GB (DDR2 533/400)

Chipset
- Intel® 945GC GMCH (North Bridge), ICH7R (South Bridge)
- Intel Graphics Media Accelerator (GMA) 950

Expansion Slots
- One (1) PCI-Express x8 slot
- One (1) PCI-Express x4 (in x8 physical) slot
- One (1) 32-bit PCI 33MHz slots

BIOS
- 8 Mb AMI BIOS®, SPI Flash BIOS
- DMI 2.3, PCI 2.2, ACPI 1.0/2.0/3.0, USB Keyboard support, SMBIOS 2.5, and Plug and Play (PnP)

PC Health Monitoring
- Onboard voltage monitors for CPU Cores, Chipset Voltage, Memory Voltage +1.8V, +3.3V, +3.3V standby, VBat, 12V, 5V
- Fan status monitor with firmware 4-pin (Pulse Width Modulation)
- Low noise fan speed control
- CPU 1-Phase-switching voltage regulator
- SuperoDoctor III, Watch Dog/NMI
- Power-up mode control for recovery from AC power loss
- CPU Thermal Trip support
- Thermal Monitor 2 (TM2) support

ACPI Features

• Slow blinking LED for suspend state indicator

• Main switch override mechanism

Onboard I/O

• Built-in ICH7R SATA Controller, 4 connectors for 4 devices (with support for RAID 0, RAID 1, RAID 10 and RAID 5 in the Windows OS environment)

• One PS/2 mouse and one PS/2 keyboard ports

• One IDE controller that supports up to two IDE devices

• One onboard VGA port

• Winbond Super I/O controller 83627DHG-P

X7SLA-H Only

• Two Fast UART 16550-compatible serial ports (one on back panel, one internal header)

• Dual Realtek RTL8111C-GR Gigabit Ethernet Controllers

• Eight USB 2.0 ports & headers (USB0~USB7): Two ports on the backpanel, one Type A internal USB header, and five USB headers for front panel access

X7SLA-L Only

• One Fast UART 16550-compatible serial port (on back panel)

• Single Realtek RTL8111C-GR Gigabit Ethernet Controller

• Seven USB 2.0 ports & headers (USB0~USB6): Two ports on the backpanel, and five USB headers for front panel access

Other

• Chassis Intrusion Header and Detection

• Lead free

CD Utilities

• BIOS flash upgrade utility

• Drivers and software for Intel® 945GC chipset utilities

Dimensions

• Flex ATX form factor, 9.0" x 7.5" (228.6 x 190.5 mm)

ISL6314 | VRM V11 | Atom 230/330 (Diamondvilla) | ICS/9LPRS511JGLF

ADDR | CTRL | DATA

FSB:533MHz

ADDR | CTRL | DATA

INTEGRATED GRAPHICS

LAKEPORT GMCH/MCH 945GC

DDR2 533/400 | DIMM_CHA
DIMM_CHB

PCIE_X8 Slot 6 — PCIE_x8

DMI 5 ~ 7

PCIE_x1 (Link 5) | RTL8111C | Gb_LAN1 RJ45

PRI_IDE — UDMA/100

ICH-7R

PCIE_x1 (Link6) | RTL8111C | Gb_LAN2 RJ45 (X7SLA-H)

4 x SATA PORTS — S-ATA/300

PCI_32_BUS | 1_PCI_x32 Slot 5

USB PORT_0~7 (X7SLA-H) PORT_0~6 (X7SLA-L) — USB 2.0/1.1

PCI-Ex4 | PCIE_X4 Slot 7

SPI | BIOS Flash (SPI)

LPC

W83627DHG-P LPC I/O

FAN SPEED CTRL

FRONT PANEL

SYSTEM POWER

Keyboard Mouse

Serial 1 (X7SLA-L) Serial 1 and 2 (X7SLA-H)

X7SLA-L / X7SLA-H Block Diagram

Note: This is a general block diagram. Please see the Motherboard Features pages for details on the features of the motherboard.

1-2   Chipset Overview

The Intel® 82945GC contains two components: GMCH (North Bridge) and ICH7R (South Bridge). The GMCH is used for the host bridge, and the ICH7R, for the I/O subsystems.

Graphics Memory Controller Hub (GMCH)

The GMCH manages the data flow between its four interfaces: the processor interface (FSB), the system memory interface (DRAM controller), the integrated graphics interface, the External Graphics interface, and the I/O Controller through DMI interface. It provides bus arbitration between the four interfaces when each initiates transactions. The GMCH supports a 32-byte Cache Line, decoding up to 4 GB (2GB for the 945GC) of the CPU's usable memory address space. The GMCH also supports one or two channels of SDRAM and the PCI Express-based graphics attached devices.

The Intel® 945GC platform supports the seventh generation I/O Controller Hub (Intel® ICH7R) to provide a multitude of I/O related features. The Direct Media Interface (DMI) provides the chip-to-chip connection between the GMCH and the ICH7R.

Intel® I/O Controller Hub 7R (ICH7R)

The I/O Controller (ICH7R) provides the data buffering and interface arbitration required for the system to operate efficiently. It also provides the bandwidth needed for the system to maintain its peak performance. The ICH7R supports PCI slots, Serial ATA ports, USB 2.0 ports and dual channel IDE devices. In addition, the ICH7R offers the Intel Matrix Storage Technology which provides various RAID options for data protection and rapid data access. It also supports the next generation of client management through the use of PROActive technology in conjunction with Intel's next generation Gigabit Ethernet controllers.

1-3   PC Health Monitoring

This section describes the PC health monitoring features of the X7SLA-L/X7SLA-H. The motherboard has an onboard System Hardware Monitor chip that supports PC health monitoring.

Recovery from AC Power Loss

BIOS provides a setting for you to determine how the system will respond when AC power is lost and then restored to the system. You can choose for the system to remain powered off (in which case you must hit the power switch to turn it back on) or for it to automatically return to a power on state. See the Power Lost Control setting in the BIOS chapter of this manual to change this setting. The default setting is **Last State**.

Onboard Voltage Monitoring

The onboard voltage monitor will scan the following voltages continuously: CPU Cores, Chipset Voltage, Memory Voltage (+1.8V), +3.3V, +3.3V standby, +5V, +12V, and Vbat. Once a voltage becomes unstable, it will give a warning or send an error message to the screen. The User can adjust the voltage thresholds to define the sensitivity of the voltage monitor by using SD III.

Fan Status Monitor with Software

The PC health monitor can check the RPM status of the cooling fans via Supero Doctor III.

CPU Overheat LED and Control

This feature is available when the user enables the CPU overheat warning function in the BIOS. This allows the user to define an overheat temperature. When this temperature reaches the pre-defined threshold, the CPU thermal trip feature will be activated and it will send a signal to the Speaker LED and, at the same time, the CPU speed will be decreased.

1-4   Power Configuration Settings

This section describes features of your motherboard that deal with power and power settings.

Slow Blinking LED for Suspend-State Indicator

When the CPU goes into a suspend state, the chassis power LED will start blinking to indicate that the CPU is in suspend mode. When the user presses any key, the CPU will wake up and the LED will automatically stop blinking and remain on.

BIOS Support for USB Keyboard

If the USB keyboard is the only keyboard in the system, it will function like a normal keyboard during system boot-up.

Main Switch Override Mechanism

When an ATX power supply is used, the power button can function as a system suspend button. When the user presses the power button, the system will enter a SoftOff state. The monitor will be suspended and the hard drive will spin down. Pressing the power button again will cause the whole system to wake up. During the SoftOff state, the ATX power supply provides power to keep the required circuitry in the system "alive." In case the system malfunctions and you want to turn off the power, just press and hold the power button for 4 seconds. The power will turn off and no power will be provided to the motherboard.

1-5   Power Supply

As with all computer products, a stable power source is necessary for proper and reliable operation. It is even more important for processors that have high CPU clock rates of 1 GHz and faster.

The SUPER● X7SLA-L/X7SLA-H accommodates 12V ATX power supplies. Although most power supplies generally meet the specifications required by the CPU, some are inadequate. A 2-Amp of current supply on a 5V Standby rail is strongly recommended.

1-6 Super I/O

The Super I/O provides two high-speed, 16550 compatible serial communication ports (UARTs). Each UART includes a 16-byte send/receive FIFO, a programmable baud rate generator, complete modem control capability and a processor interrupt system. Both UARTs provide legacy speed with baud rate of up to 115.2 Kbps as well as an advanced speed with baud rates of 250 K, 500 K, or 1 Mb/s, which support higher speed modems.

The Super I/O provides functions that comply with ACPI (Advanced Configuration and Power Interface), which includes support of legacy and ACPI power management through a SMI or SCI function pin. It also features auto power management to reduce power consumption.

Chapter 2

Installation

2-1   Static-Sensitive Devices

STOP Electrostatic-Discharge (ESD) can damage electronic components. To pre-vent damage to your system board, it is important to handle it very carefully. The following measures are generally sufficient to protect your equipment from ESD.

Precautions

- Use a grounded wrist strap designed to prevent static discharge.

- Touch a grounded metal object before removing the board from the antistatic bag.

- Handle the 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 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.

- Use only the correct type of onboard CMOS battery. Do not install the onboard upside down battery to avoid possible explosion.

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.

2-2   Motherboard Installation

All motherboards have standard mounting holes to fit different types of chassis. Make sure that the locations of all the mounting holes for both motherboard and chassis match. Although a chassis may have both plastic and metal mounting fasteners, metal ones are highly recommended because they ground the motherboard to the chassis. Make sure that the metal standoffs click in or are screwed in tightly. Then use a screwdriver to secure the motherboard onto the motherboard tray.

STOP

Caution: Some components are very close to the mounting holes. Please take precautionary measures to prevent damage to these components when installing the motherboard to the chassis.

Tools Needed
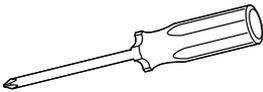
Philips Screwdriver   Pan head screws (6 pieces)   Stand Offs (6 pieces)
(Only if needed)

Note: The above items are not provided with this motherboard.

Location of Mounting Holes

There are six (6) mounting holes on this motherboard indicated by the arrows.
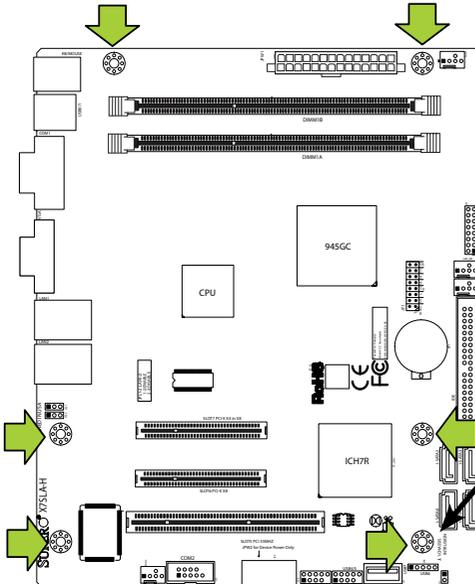
Important: If the chassis does not provide mounting support at this location, please install a plastic stand-off support, similar to the illustration below. There are two pieces provided in your package.
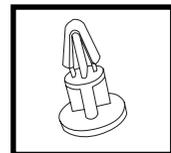
STOP **Caution:** To avoid damaging the motherboard and its components, please do not use a force greater than 8 lb/inch on each mounting screw during motherboard installation.

Installation Instructions

1 Install the I/O shield into the chassis.

I/O Shield
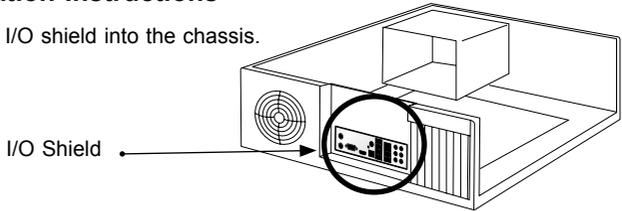
2 Locate the mounting holes on the motherboard. Refer to the layout on the previous page for mounting hole locations.

3 Locate the matching mounting holes on the chassis. Install standoffs in the chassis as needed. Align the mounting holes on the motherboard against the mounting holes on the chassis.

Stand Off
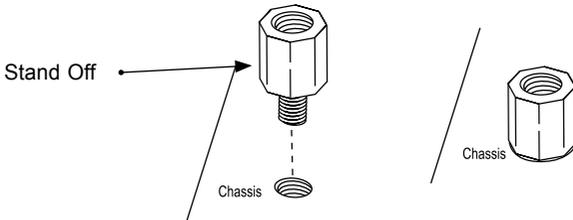
Chassis

Chassis

4 Install the motherboard into the chassis carefully to avoid damage to motherboard components.

5 Insert a Pan head #6 screw into a mounting hole on the motherboard and its matching mounting hole on the chassis, using the Philips screwdriver.

Motherboard

Motherboard
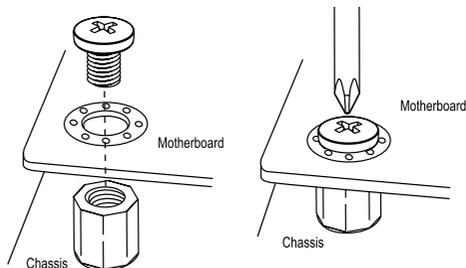
Chassis

Chassis

6 Repeat Step 4 to insert #6 screws to all mounting holes.

7 Make sure that the motherboard is securely placed on the chassis.

2-4   Installing DDR2 Memory

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

STOP

CAUTION

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

DIMM Installation

1. Insert the desired number of DIMMs into the memory slots, starting with
    DIMM1A. Insert each DIMM module vertically into its slot. Pay attention to
    the notch along the bottom of the module to prevent incorrect DIMM module
    installation.

2. Gently press down on the DIMM module until it snaps into place in the slot.
    Repeat step 1 to install DIMM1B if needed.

Memory Support

The X7SLA-L/X7SLA-H supports up to 2GB Unbuffered Non-ECC DDR2 533/400
in 2 DIMM slots. Populating these DIMM modules with a pair of memory modules
of the same type and same size will result in interleaved memory, which will im-
prove memory performance.

Installing and Removing DIMMs

Memory Bank
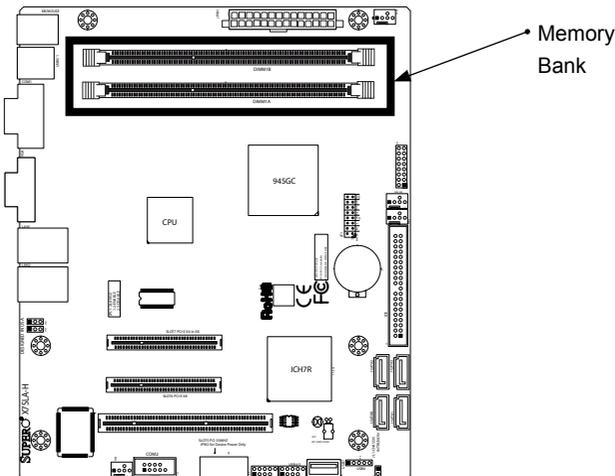
The DDR2 Slot

1 Position the DIMM module's bottom key so it aligns with the receptive point on the slot.
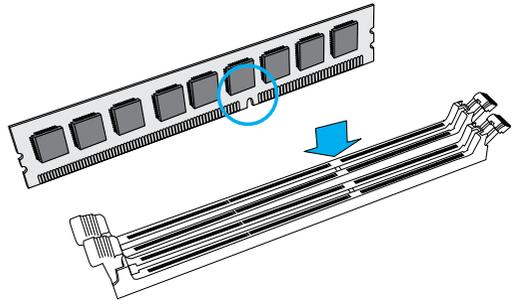
Notches

Release

2 Push the Lock/Release tabs to their Release positions. Make sure that the DIMM module's side notches align with the slot's Lock/Release tabs as it is pressed in.

Release

Release
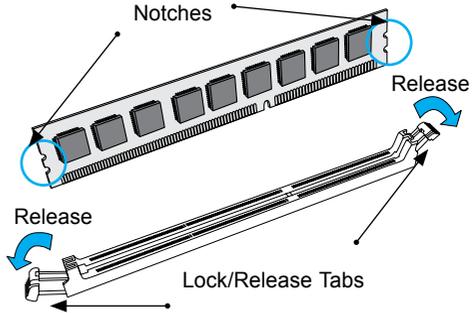
Lock/Release Tabs

3 Insert the DIMM module vertically and press down until the module snaps into place.

Press Down
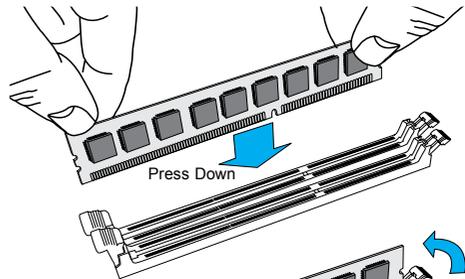
4 When the module is properlly inserted, the Lock/Release tabs will automatically secure the DIMM module, locking it into place.
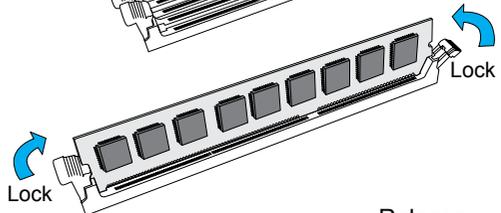
Lock

Lock

Release

5 **To Remove:**
Use your thumbs to gently push the Lock/Release tabs near both ends of the module. This should release it from the slot. Pull the DIMM module upwards.

Release
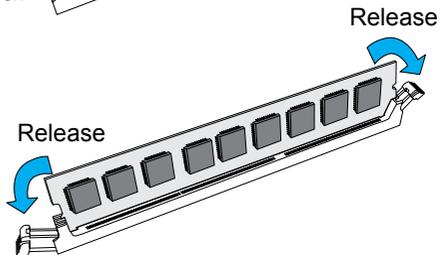
2-5   Connectors/I/O Ports

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

Back Panel Connectors and I/O Ports

I/O Port Locations and Definitions
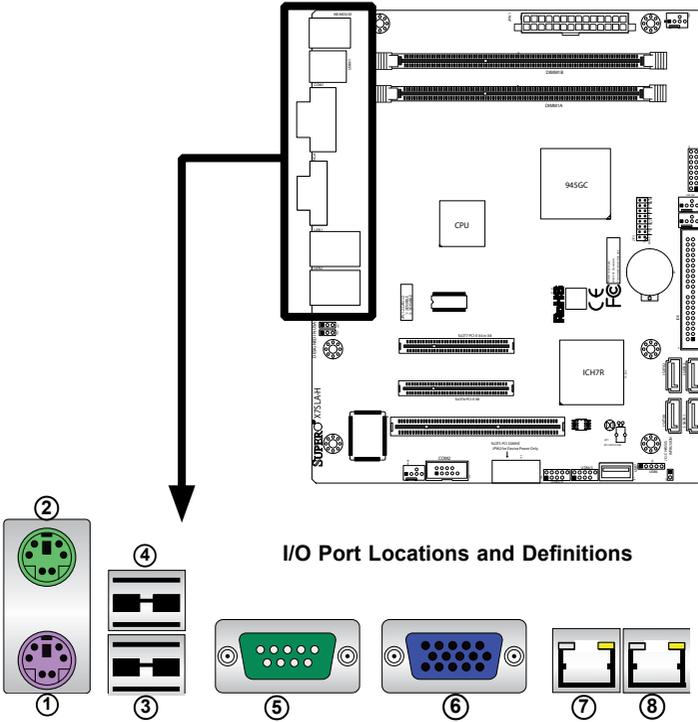
| 1. Keyboard (Purple) |
| 2. PS/2 Mouse (Green) |
| 3. USB Port 0 |
| 4. USB Port 1 |
| 5. COM 1 (Green) |
| 6. VGA (Blue) |
| 7. LAN1 |
| 8. LAN 2 (X7SLA-H only) |

Back Panel Connectors

ATX PS/2 Keyboard and PS/2 Mouse Ports

The ATX PS/2 keyboard and PS/2 mouse are located next to the Back Panel USB Ports 0/1 on the mother-board. See the table at right for pin definitions.

PS/2 Keyboard/Mouse Pin Definitions			
PS2 Keyboard		PS2 Mouse	
Pin#	Definition	Pin#	Definition
1	KB Data	1	Mouse Data
2	No Connection	2	No Connection
3	Ground	3	Ground
4	Mouse/KB VCC (+5V)	4	Mouse/KB VCC (+5V)
5	KB Clock	5	Mouse Clock
6	No Connection	6	No Connection
VCC: with 1.5A PTC (current limit)			

1 Keyboard (Purple)
2 Mouse (Green)

Back Panel Connectors
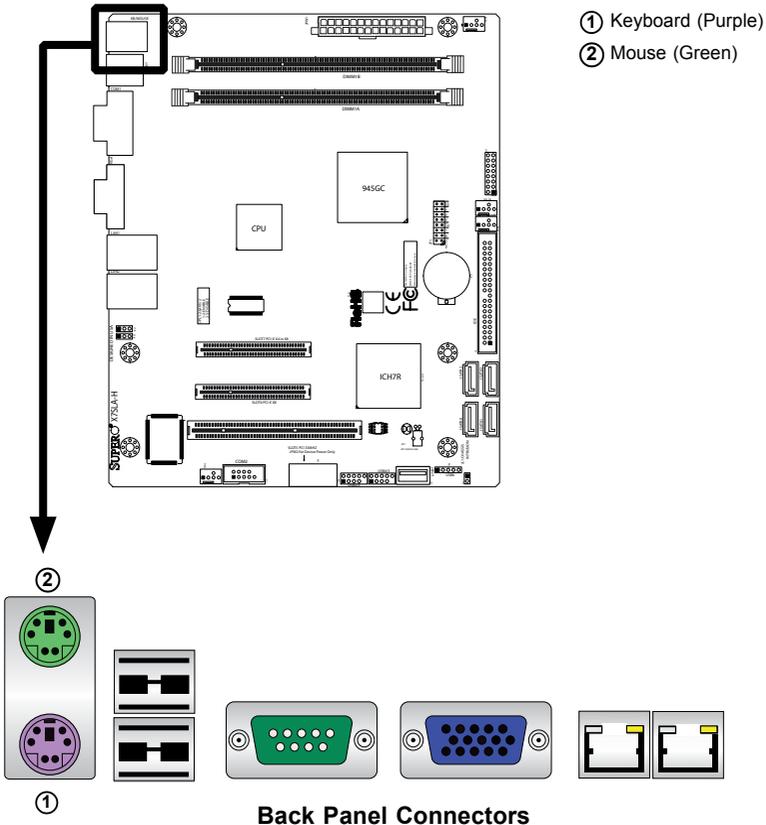
Universal Serial Bus (USB)

Two Universal Serial Bus ports (USB 0 and USB 1) are located on the I/O backplane. Additionally, one Type A Internal USB headers (USB 7) and five USB connections (USB 2/3, 4/5, 6) are also located on the mother-board to provide front chassis access. (Cables are not included). See the tables on the right for pin definitions.

Note: USB 7 (Type A) is available only on the X7SLA-H mother-board.

Back Panel USB 0/1 Pin Definitions			
Pin#	Definition	Pin#	Definition
1	+5V	5	+5V
2	USB_PN	6	USB_PN
3	USB_PP	7	USB_PP
4	Ground	8	Ground

Front Panel USB 2/3/4/5 Pin Definitions			
USB 2, 4		USB 3, 5, 6	
Pin #	Definition	Pin #	Definition
1	+5V	6	+5V
2	USB_PN2	7	USB_PN3
3	USB_PP2	8	USB_PP3
4	Ground	9	Ground
5	NA	10	Key
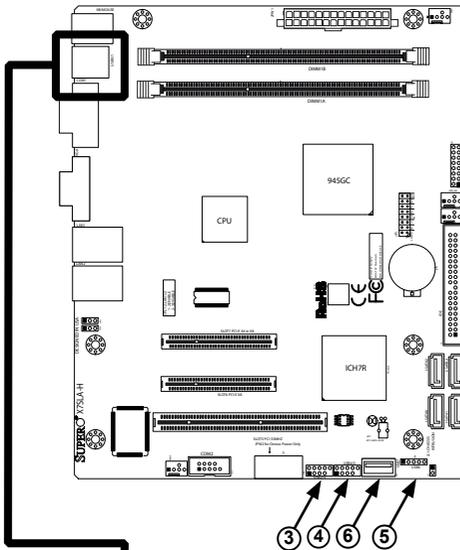
1 Backpanel USB 0
2 Backpanel USB 1
3 Internal USB 2/3
4 Internal USB 4/5
5 Front Panel USB 6
6 Internal USB 7 (Type A)

Back Panel Connectors
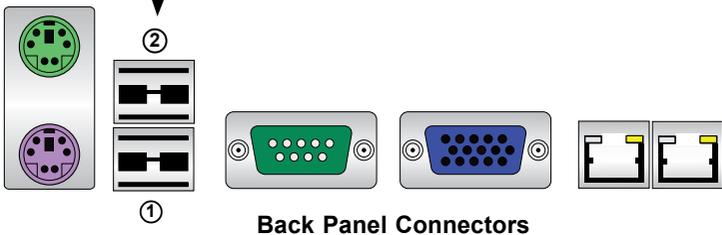
Serial Ports

Two COM connections (COM1 & COM2) are located on the motherboard. COM1 is located on the Backplane I/O panel. COM2 is located below the Super I/O chip to provide additional onboard serial connection support. See the table on the right for pin definitions.

Note: COM2 is available only on the X7SLA-H motherboard.

Serial Ports-COM1/COM2 Pin Definitions			
Pin #	Definition	Pin #	Definition
1	DCD	6	DSR
2	RXD	7	RTS
3	TXD	8	CTS
4	DTR	9	RI
5	Ground	10	N/A

① (Backpanel) COM1
② COM2 (X7SLA-H only)

Back Panel Connectors

2-9
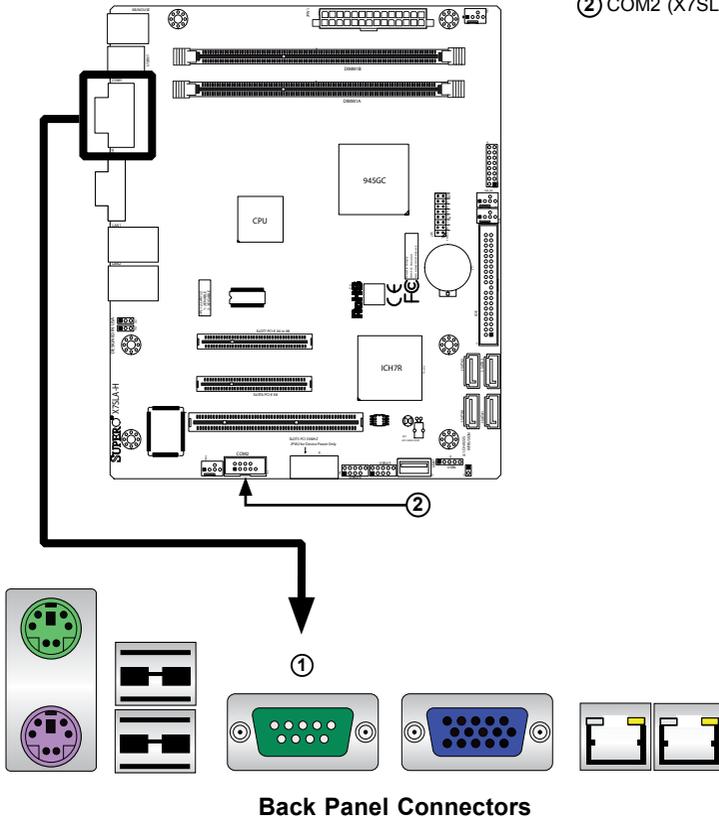
Video Connector

A Video (VGA/CRT) connector is located next to COM Port1 on the I/O backplane. This connector is used to provide video and CRT display. Refer to the board layout below for the location.
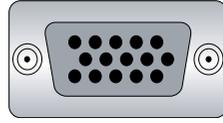
15-pin VGA Connector
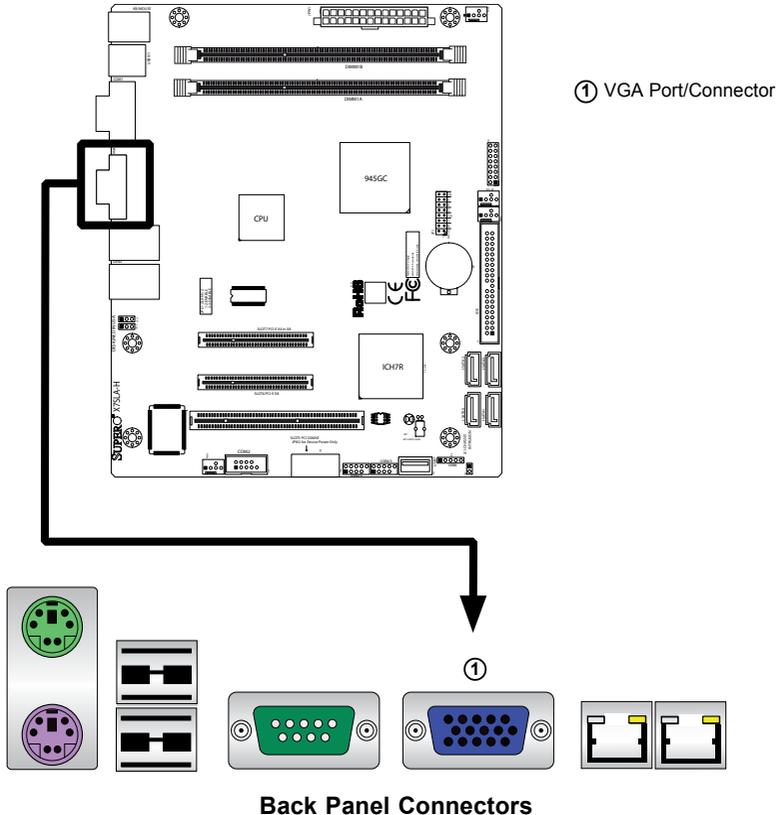
① VGA Port/Connector

Back Panel Connectors

Ethernet Ports

Ethernet ports are located on the I/O backplane. These ports accept RJ45 type cables. There are two Ethernet ports on the X7SLA-H and one on the X7SLA-L motherboard

Note: Please refer to the LED Indicator Section for LAN LED information.

① LAN1
② LAN2

Back Panel Connectors
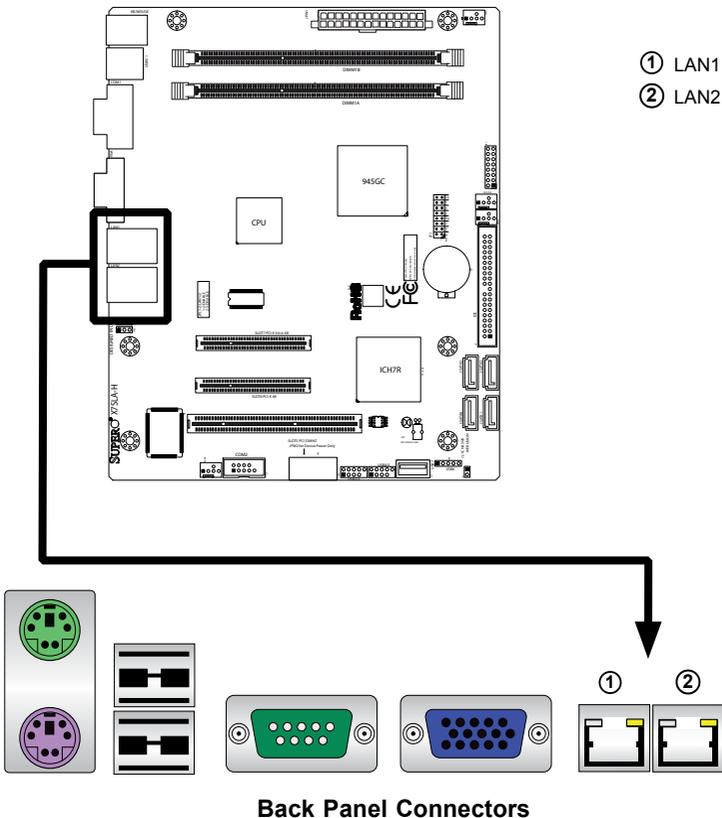
Front Control Panel

JF1 contains header pins for various buttons and indicators that are normally located on a control panel at the front of the chassis. These connectors are designed specifically for use with Supermicro server chassis. See the figure below for the descriptions of the various control panel buttons and LED indicators. Refer to the following section for descriptions and pin definitions.

JF1 Header Pins

Power LED		**LED_Anode+**
HDD LED		**LED_Anode+**
NIC1 LED		**LED_Anode+**
NIC2 LED		**LED_Anode+**
OH/Fan Fail LED		**LED_Anode+**
X		**X**
Ground		**Reset** — Reset Button
Ground		**PWR** — Power Button
	2 1	
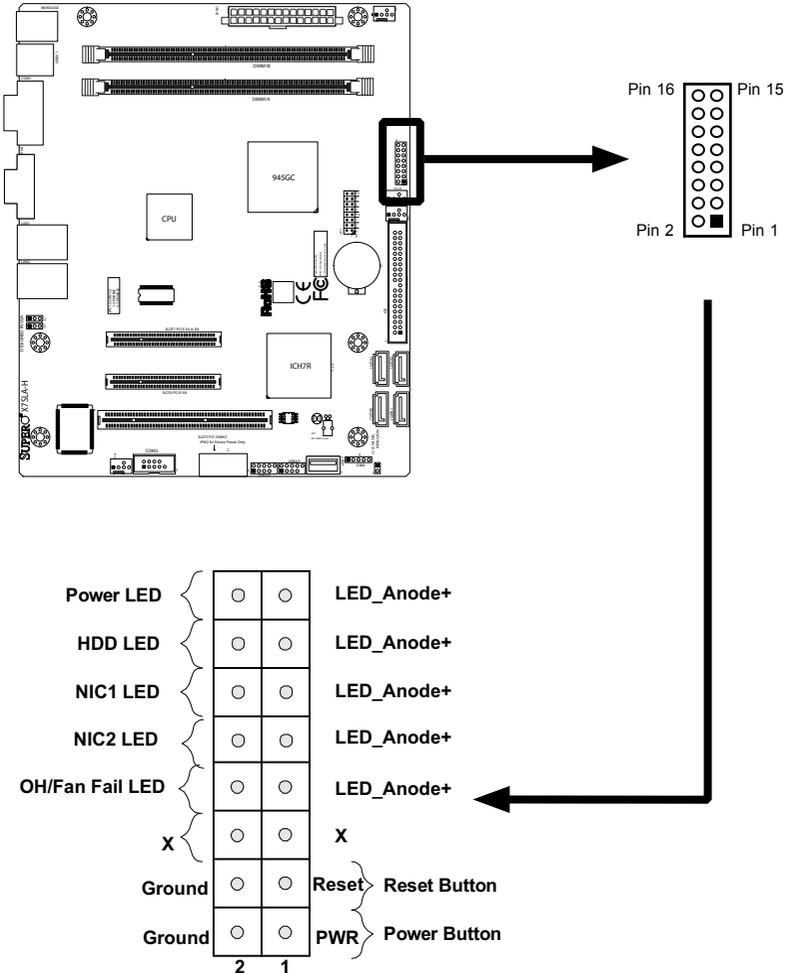
Front Control Panel Pin Definitions

Power LED

The Power LED connection is located on pins 15 and 16 of JF1. Refer to the table on the right for pin definitions.

Power LED Pin Definitions (JF1)	
Pin#	Definition
15	+3.3V
16	Ground

HDD LED

The HDD LED connection is located on pins 13 and 14 of JF1. Attach a hard drive LED cable here to display disk activity (for any hard drive ac-tivities on the system, including Serial ATA and IDE). See the table on the right for pin definitions.

HDD LED Pin Definitions (JF1)	
Pin#	Definition
13	+3.3V
14	HD Active

A POWER LED
B HDD LED

JF1 Header Pins
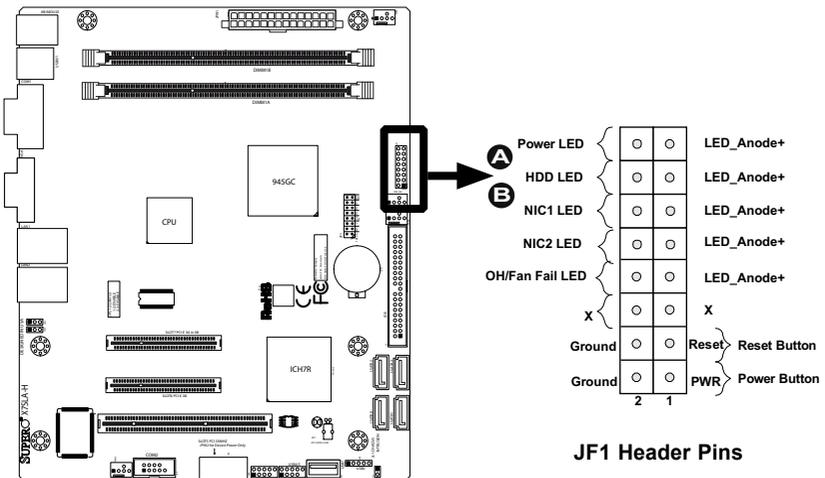
NIC1/NIC2 LED Indicators

The NIC (Network Interface Controller or Ethernet Controller) LED connection for LAN port 1 is located on pins 11 and 12 of JF1, and the LED connection for LAN Port 2 is on Pins 9 and 10. Attach the NIC LED cables to display network activity. Refer to the table on the right for pin definitions.

GLAN1/2 LED Pin Definitions (JF1)	
Pin#	Definition
9/11	Vcc
10/12	Ground

Overheat (OH)/Fan Fail LED

Connect an LED Cable to the OH/Fan Fail connection on pins 7 and 8 of JF1 to provide advanced warnings of chassis overheat or fan failure. Refer to the table on the right for pin definitions.

OH/Fan Fail LED Pin Definitions (JF1)	
Pin#	Definition
7	Vcc
8	Ground

OH/Fan Fail Indicator Status	
State	Definition
Off	Normal
On	Overheat
Flash-ing	Fan Fail

Ⓐ NIC1 LED
Ⓑ NIC2 LED
Ⓒ OH/Fan Fail LED

Power LED		LED_Anode+
HDD LED		LED_Anode+
Ⓐ NIC1 LED		LED_Anode+
Ⓑ NIC2 LED		LED_Anode+
Ⓒ OH/Fan Fail LED		LED_Anode+
X		X
Ground		Reset Reset Button
Ground		PWR Power Button
	2 1	
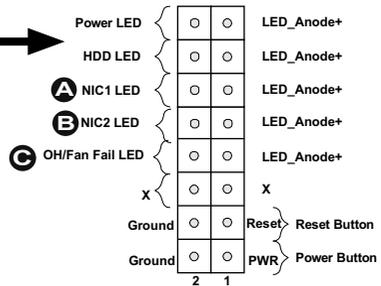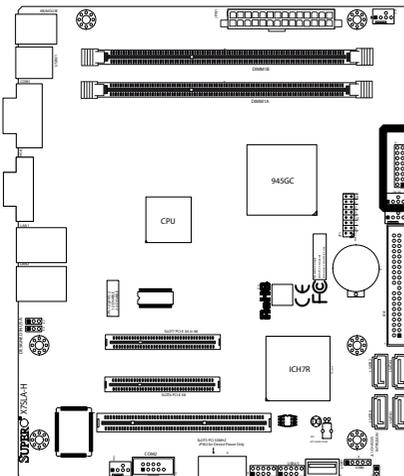
JF1 Header Pins

Reset Button

The Reset Button connection is located on pins 3 and 4 of JF1. Attach it to a hardware reset switch on the computer case. Refer to the table on the right for pin definitions.

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

Power Button

The Power Button connection is located on pins 1 and 2 of JF1. Momentarily contacting both pins will power on/off the system. To turn off the power when set to suspend mode, press the button for at least 4 seconds. Refer to the table on the right for pin definitions.

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

Ⓐ Reset Button
Ⓑ PWR Button

Power LED	○ ○	LED_Anode+
HDD LED	○ ○	LED_Anode+
NIC1 LED	○ ○	LED_Anode+
NIC2 LED	○ ○	LED_Anode+
OH/Fan Fail LED	○ ○	LED_Anode+
X	○ ○	X
Ⓐ Ground	○ ○	Reset ⟩ Reset Button
Ⓑ Ground	○ ○	PWR ⟩ Power Button
	2 1	

JF1 Header Pins
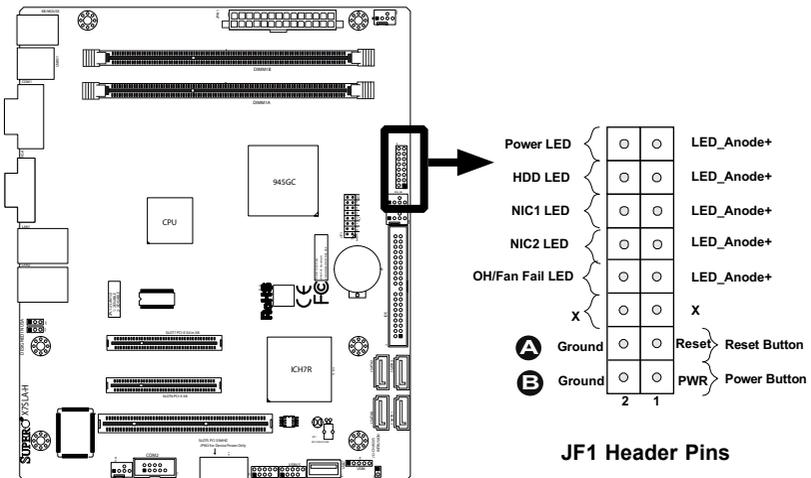
2-6   Connecting Cables

This section provides brief descriptions and pin-out definitions for onboard power connectors. Be sure to use the correct cable for each header or connector.

ATX Main PWR & CPU PWR Connectors

The 24-pin main power connector (JPW1) is used to provide power to the motherboard. The 4-pin External Power connector (JPW2) is optional for peripheral devices. These power connectors meet the SSI EPS 12V specification. See the table on the right for pin definitions of these connectors.

External Power Connector

In addition to the 24-pin main power connector, the 4-pin External Power connector at JP3 is used to provide power to external devices such as hard disks & CD-ROM drives. This power connector supports 12V and 5V devices.

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

(Required)

4-Pin External Power Connector Pin Definitions	
Pin	Definition
1	+12V
2	Ground 1
3	Ground 2
4	+5V

(Optional)
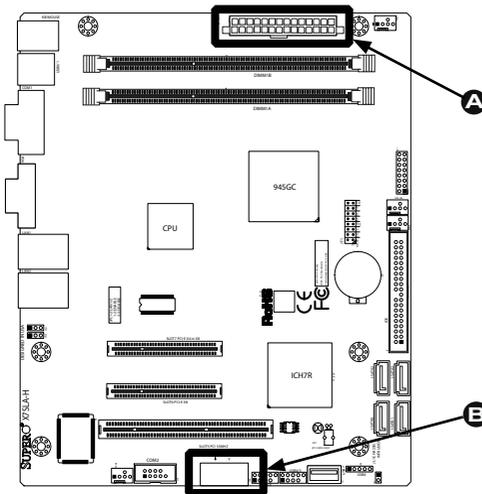
Ⓐ 24-Pin ATX Main PWR

Ⓑ 4-Pin External PWR

Side View

Fan Headers

The X7SLA-L/X7SLA-H has four fan headers. Fan1 ~ Fan3 are system cooling fans. MCH_FAN is used for the chipset fan. These fans are 4-pin fan headers. However, Pins 1~3 of the fan headers are backward compatible with the traditional 3-pin fans. (**Note**: Please use all 3-pin fans or all 4-pin fans on a motherboard. Please do not use 3-pin fans and 4-pin fans on the same board. Refer to the table on the right for pin definitions.

Note: The speeds of 4-pin (PWM) fans are controlled by Thermal Management via BIOS Hardware Monitoring in the Advanced Setting. (The default setting is **Disabled**.)

Note: MCH_FAN is used for the chipset only.

Fan Header Pin Definitions	
Pin#	Definition
1	Ground
2	+12V
3	Tachometer
4	PWM_Control

A Fan1
B Fan2
C Fan3
D MCH_FAN
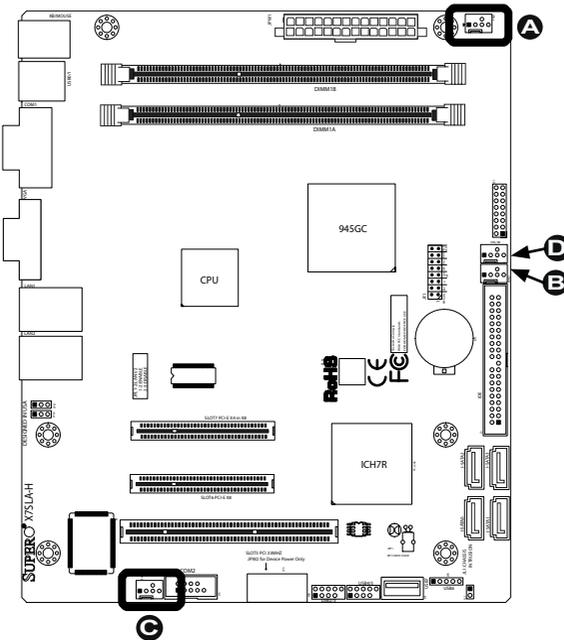
Chassis Intrusion

A Chassis Intrusion header is located at JL1 on the motherboard. Attach the 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
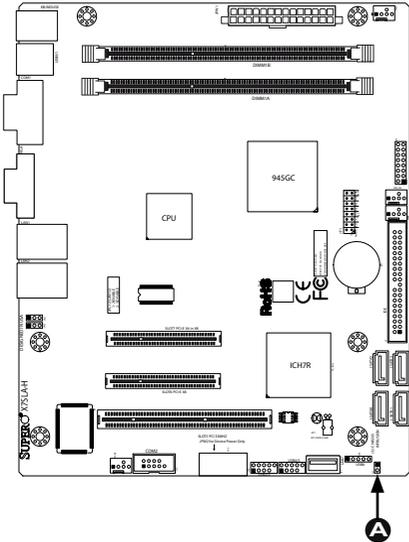
Ⓐ Chassis Intrusion

2-7   Jumper Settings

Explanation of Jumpers

To modify the operation of the motherboard, 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.

Note: On two pin jumpers, "Closed" means the jumper is on and "Open" means the jumper is off the pins.
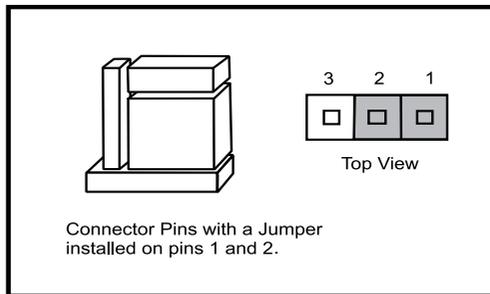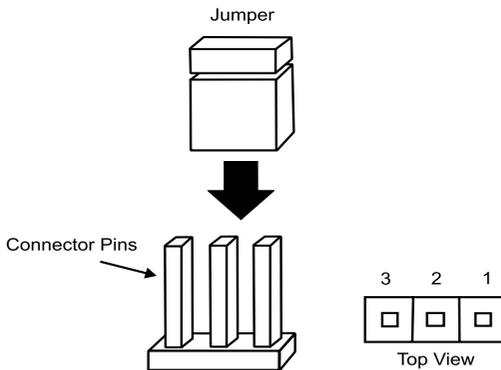
LAN Port Enable/Disable

JPL1/JPL2 enable or disable LAN Port 1/LAN Port 2 on the motherboard. See the table on the right for jumper settings. The default setting is enabled.

GLAN Enable Jumper Settings	
Pin#	Definition
1-2	Enabled (default)
2-3	Disabled

Ⓐ LAN Port 1 Enable
Ⓑ LAN Port 2 Enable
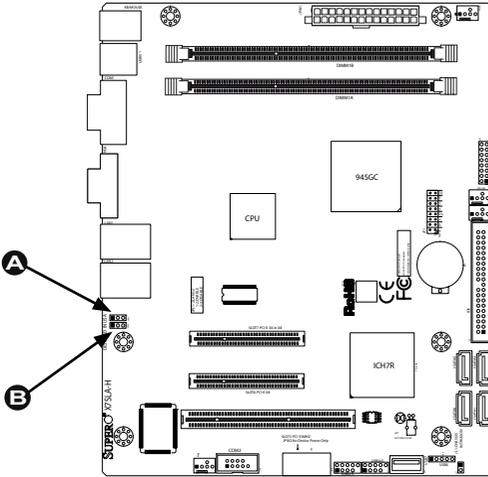
CMOS Clear

JBT1 is used to clear CMOS. Instead of pins, this "jumper" consists of contact pads to prevent accidental clearing of CMOS. To clear CMOS, use a metal object such as a small screwdriver to touch both pads at the same time to short the connection. Always remove the AC power cord from the system before clearing CMOS.

☞ **Important:** For an ATX power supply, you must completely shut down the system, remove the AC power cord and then short JBT1 to clear CMOS.
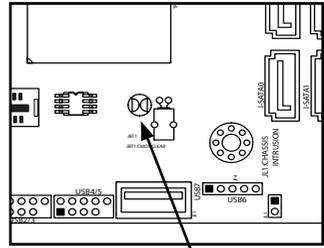
Motherboard

Metal contact pads

Ⓐ CMOS Clear
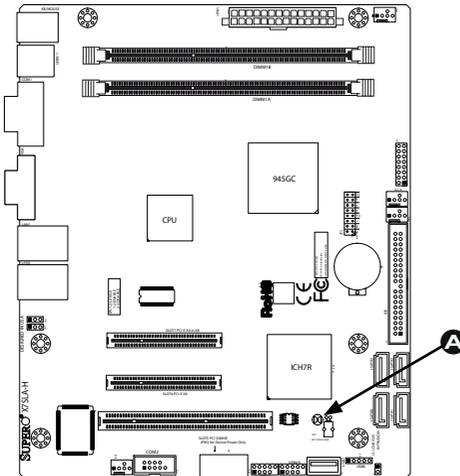
2-8   Onboard Indicators

LAN Port LEDs

Two LAN ports are located on the I/O Backplane. Each Ethernet LAN port has two LEDs. The yellow Activity LED (right, see below) indicates activity, while the Link/Speed LED (left) may be green, amber or off to indicate the speed of the connection. See the tables at right for more information.

GLAN Link/Speed LED Indicator	
LED Color	Definition
Off	No Connection or 10 Mbps
Green (On)	100 Mbps
Amber (On)	1 Gbps

GLAN Activity LED Indicator	
Color	Definition
Yellow (Flashing)	ConnectionActive

Link/Speed LED   **Activity LED**
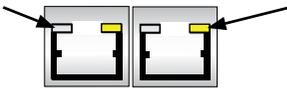
Rear View (when facing the rear side of the chassis)

Ⓐ LAN Port 1
Ⓑ LAN Port 2
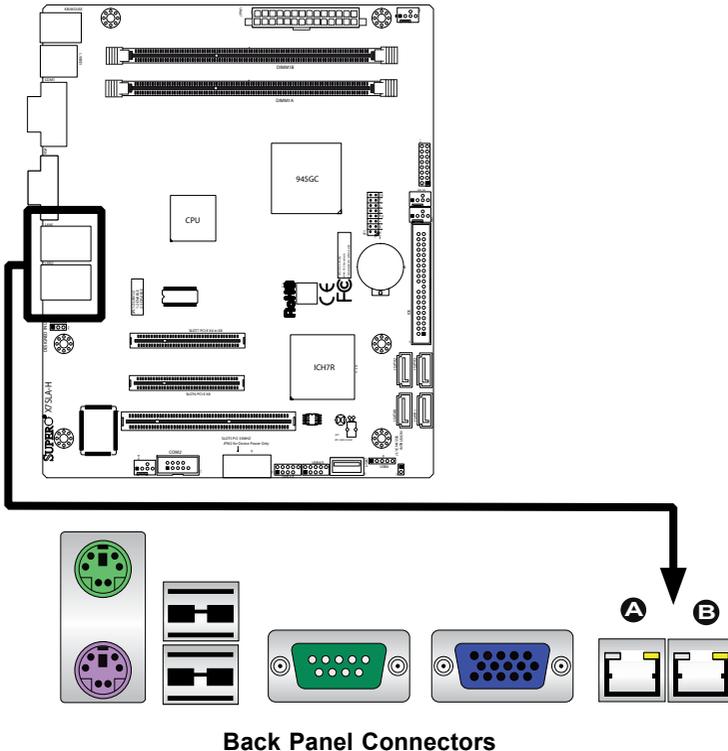
Back Panel Connectors

2-9   Serial ATA and HDD Connections

Note the following conditions when connecting the Serial ATA and hard disk drive cables:

• Be sure to use the correct cable for each connector. Refer to Page 1-1 for cables that came with your shipment.

• A red mark on a wire indicates the location of pin 1.

• The connector with twisted wires always connects to drive A, and the connector that does not have twisted wires always connects to drive B.

SATA Connectors

Four Serial ATA (SATA) connectors (I-SA-TA 0~3) are located on the motherboard to provide serial link connections. Se-rial Link connections provide faster data transmission than those of the traditional Parallel ATA. These four SATA connec-tors are supported by the Intel ICH7R South Bridge. See the table on the right for pin definitions.

SATA Connectors Pin Definitions	
Pin#	Signal
1	Ground
2	SATA_TXP
3	SATA_TXN
4	Ground
5	SATA_RXN
6	SATA_RXP
7	Ground
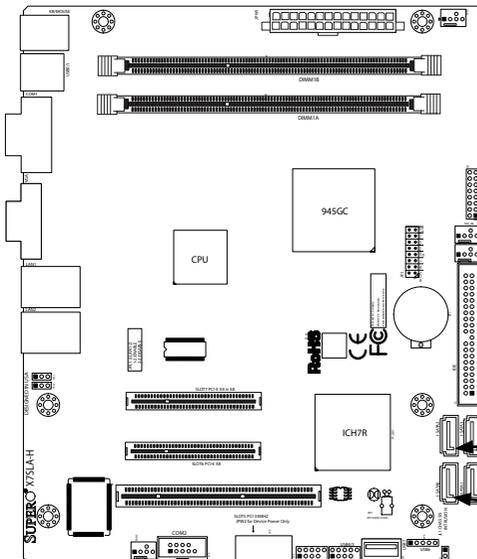
Ⓐ I-SATA0
Ⓑ I-SATA1
Ⓒ I-SATA2
Ⓓ I-SATA3

IDE Connector

An IDE Connector is located close to SATA Ports 0~3 on the motherboard. This 40-pin connector provides support for 3.5" hard drive disks. See the table on the right for pin definitions.

IDE Drive Connectors Pin Definitions			
Pin#	Definition	Pin #	Definition
1	Reset IDE	2	Ground
3	Host Data 7	4	Host Data 8
5	Host Data 6	6	Host Data 9
7	Host Data 5	8	Host Data 10
9	Host Data 4	10	Host Data 11
11	Host Data 3	12	Host Data 12
13	Host Data 2	14	Host Data 13
15	Host Data 1	16	Host Data 14
17	Host Data 0	18	Host Data 15
19	Ground	20	Key
21	DRQ3	22	Ground
23	I/O Write	24	Ground
25	I/O Read	26	Ground
27	SIORDY	28	(PD)
29	SDDACK#	30	Ground
31	IRQ15	32	(NC)
33	Addr1	34	SHDD66DET
35	Addr0	36	Addr2
37	SDCS1#	38	SDCS3#
39	SHDDLED#	40	Ground
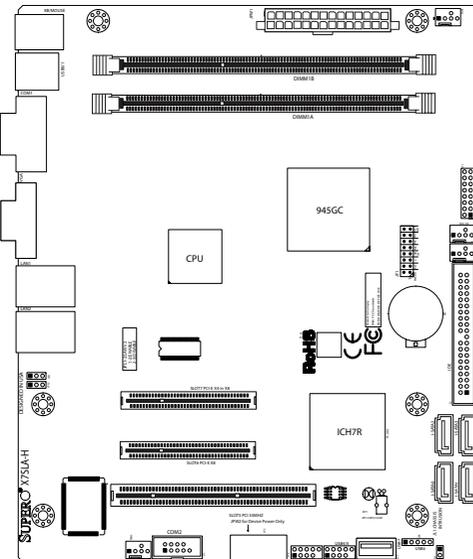
A IDE

Chapter 3

Troubleshooting

3-1   Troubleshooting Procedures

Use the following procedures to troubleshoot your system. If you have followed all of the procedures below and still need assistance, refer to the 'Technical Support Procedures' and/or 'Returning Merchandise for Service' section(s) in this chapter. Always disconnect the AC power cord before adding, changing or installing any hardware components.

Before Power On

1. Be sure to unplug the power cable before installing or removing the compo-nents.)

2. Make sure that there are no short circuits between the motherboard and chas-sis.

3. Disconnect all ribbon/wire cables from the motherboard, including those for the keyboard and mouse. Also, be sure to remove all add-on cards.

4. Connect the chassis speaker and the power LED to the motherboard. Check all jumper settings as well.

No Power

1. Make sure that there are no short circuits between the motherboard and chas-sis.

2. Make sure that all jumpers are set to their default positions.

3. Check if the 115V/230V switch on the power supply is properly set.

4. Turn the power switch on and off to test the system.

5. The battery on your motherboard may be old. Check to make sure that it still supplies ~3VDC. If it does not, replace it with a new one.

No Video

1. If the power is on, but you have no video--in this case, you will need to remove all the add-on cards and cables first.

2. Use the speaker to determine if any beep codes exist. (Refer to Appendix A for details on beep codes.)

3. Remove all memory modules and turn on the system. (If the alarm is on, check the specs of memory modules, reset the memory or try a different one.)

Memory Errors

1. Make sure that the DIMM modules are properly installed and fully seated in the slots.

2. You should be using unbuffered Non-ECC DDR2 667/533/400 memory (See the next page). Also, it is recommended that you use the memory modules of the same type and speed for all DIMMs in the system.

3. Check for bad DIMM modules or slots by swapping modules between slots to see if you can locate the faulty modules.

4. Check the power supply voltage 115V/230V switch.

Losing the System's Setup Configuration

1. Please be sure to use a high quality power supply. A poor quality power supply may cause the system to lose the CMOS setup information. Refer to Section 1-5 for details on recommended power supplies.

2. The battery on your motherboard may be old. Check to verify that it still supplies ~3VDC. If it does not, replace it with a new one.

3. If the above steps do not fix the Setup Configuration problem, contact your vendor for repairs.

3-2   Technical Support Procedures

Before contacting Technical Support, please make sure that you have followed all the steps listed below. Also, Note that as a motherboard manufacturer, Supermicro does not sell directly to end users, so it is best to first check with your distributor or reseller for troubleshooting services. They should know of any possible problem(s) with the specific system configuration that was sold to you.

1. Please go through the 'Troubleshooting Procedures' and 'Frequently Asked Question' (FAQ) sections in this chapter or see the FAQs on our website (http://www.supermicro.com/support/faqs/) before contacting Technical Support.

2. BIOS upgrades can be downloaded from our website at (http://www.supermicro.com/support/bios/).

> **Note:** Not all BIOS can be flashed. Some cannot be flashed; it depends on the modifications to the boot block code.

3. If you've followed the instructions above to troubleshoot your system, and still cannot resolve the problem, then contact Supermicro's technical support and provide them with the following information:

• Motherboard model and PCB revision number

• BIOS release date/version (this can be seen on the initial display when your system first boots up)

• System configuration

An example of a Technical Support form is on our website at (http://www.supermicro.com/support/contact.cfm).

4. Distributors: For immediate assistance, please have your account number ready when placing a call to our technical support department. We can be reached by e-mail at support@supermicro.com, by phone at: (408) 503-8000, option 2, or by fax at (408)503-8019.

3-3 Frequently Asked Questions

Question: What type of memory does my motherboard support?

Answer: The X7SLA-L/X7SLA-H supports up to 2 GB of **unbuffered** Non-ECC DDR2-533/400, two-way interleaved or non-interleaved SDRAM. See Section 2-4 for details on installing memory.

Question: Why does Microsoft Windows XP (SP2) and Windows Vista show less memory than what is physically installed?

Answer: 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.

Question: How do I update my BIOS?

Answer: It is recommended that you **do not** upgrade your BIOS if you are not experiencing any problems with your system. Updated BIOS files are located on our web site at http://www.supermicro.com/support/bios/. Please check our BIOS warning message and the information on how to update your BIOS on our web site. Select your motherboard model and download the BIOS (.rom) file to your computer. Also, check the current BIOS revision and make sure that it is

newer than your BIOS before downloading. You may choose the zip file or the .exe file. If you choose the zipped BIOS file, please unzip the BIOS file onto a bootable device or a USB pen/thumb drive. To flash the BIOS, run the batch file named "ami.bat" with the new BIOS .rom file from your bootable device or USB pen/thumb drive. Use the following format:

F:\> ami xxxxxxxx.rom <Enter>

Notes: Be sure to type in a space after "ami". The drive letter "F:\>" is used only as an example and is the drive letter of your bootable device or USB pen/thumb drive. It may be different on your system. Always use the file named "ami.bat" to update the BIOS.

When completed, your system will automatically reboot. If you choose the .exe file, please run the .exe file under Windows to create the BIOS flash floppy disk. Insert the floppy disk into the system you wish to flash the BIOS. Then, boot the system to the floppy disk. The BIOS utility will automatically flash the BIOS without any prompts. Please note that this process may take a few minutes to complete. Do not be concerned if the screen is paused for a few minutes.

Warning: Do not shut down or reset the system while updating the BIOS to prevent possible system boot failure!

When the BIOS flashing screen is completed, the system will reboot and will show "Press F1 or F2". At this point, you will need to load the BIOS defaults. Press <F1> to go to the BIOS setup screen, and press <F9> to load the default settings. Next, press <F10> to save and exit. The system will then reboot.

Note: The SPI BIOS chip installed on this motherboard is not removable. To repair or replace a damaged BIOS chip, please send your motherboard to RMA at Supermicro for service.

Question: I think my BIOS is corrupted. How can I recover my BIOS?

Answer: Please see Appendix D, BIOS Recovery for detailed instructions.

Question: What's on the CD that came with my motherboard?

Answer: The supplied compact disc has quite a few drivers and programs that will greatly enhance your system. We recommend that you review the CD and install the applications you need. Applications on the CD include chipset drivers for Windows, security and audio drivers.

Question: Where do I get drivers for PXE support?

Answer: This product supports PXE under the Microsoft Windows environment. For other platforms such as Linux, driver support depends on what version and package is used. Please contact your O/S vendor.

Question: How do I connect the ATA100/66 cable to my IDE device(s)?

Answer: The 80-wire/40-pin high-density ATA100/66 IDE cable that came with your system has two connectors to support two drives. This special cable must be used to take advantage of the speed the ATA100/66 technology offers. **Connect the blue connector to the onboard IDE header and the other connector(s) to your hard drive(s).** Consult the documentation that came with your disk drive for details on actual jumper locations and settings.

3-4   Returning Merchandise for Service

A receipt or copy of your invoice marked with the date of purchase is required before any warranty service will be rendered. You can obtain service by calling your vendor for a Returned Merchandise Authorization (RMA) number. When returning to the manufacturer, the RMA number should be prominently displayed on the outside of the shipping carton, and mailed prepaid or hand-carried. Shipping and handling charges will be applied for all orders that must be mailed when service is complete.

This warranty only covers normal consumer use and does not cover damages incurred in shipping or from failure due to the alteration, misuse, abuse or improper maintenance of products.

During the warranty period, contact your distributor first for any product problems.

Notes

Chapter 4

BIOS

4-1   Introduction

This chapter describes the AMI BIOS Setup Utility for the X7SLA-L/X7SLA-H. 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> during system boot.

Starting the Setup Utility

Normally, the only visible POST (Power On Self Test) routine is the memory test. As the memory is being tested, press the <Delete> key to enter the main menu of the AMI BIOS Setup Utility. From the main menu, you can access the other setup screens. An AMI BIOS identification string is displayed at the left bottom corner of the screen, below the copyright message.

⚠ **Warning!!** Do not shut down or reset the system while updating BIOS to prevent possible boot failure.

4-2   Main Setup

When you first enter the AMI BIOS Setup Utility, you will enter the Main setup screen. You can always return to the Main setup screen by selecting the Main tab on the top of the screen. The Main BIOS Setup screen is shown below.

```
                            BIOS SETUP UTILITY
 Main      Advanced      Security      Boot      Exit

  System Overview                                          Use [ENTER], [TAB]
                                                           or [SHIFT-TAB] to
  System Time                         [HH:MM:SS]           select a field.
  System Date                         [Tue 04/24/2009]
  Supermicro X7SLA                                         Use [+] or [-] to
  Version     : XX.XX.XX                                   configure system time.
  Build Date  : XX/XX/XX
  ID          : X7SLA000

  Processor
  Intel(R) Atom (TM) CPU 330 @ 1.60GHz
  Speed       : 1600MHz
  Physical Count / Logical Count   : 1
                                                           ↑↓←→ : Move
  System Memory                                            Enter : Select
  Available Size   : 2040MB                                +/-/ : Value
  Populated Size   : 2040MB                                F10 : Save
                                                           ESC : Exit
                                                           F1 : General Help
                                                           F8 : Fail-Safe Defaults
                                                           F9 : Optimized Defaults

           vXX.XX (C) Copyright 1985-2009, American Megatrends, Inc.
```

System Overview: The following BIOS information will be displayed:

System Time/System Date

Use this option to change the system time and date. Highlight *System Time* or *System Date* using the arrow keys. Enter new values through the keyboard. Press the <Tab> key or the arrow keys to move between fields. The date must be entered in 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.)

Supermicro X7SLA

Version   : XX.XX.XX

Build Date   : MM/DD/YY

ID   : XXXXXXXXProcessor

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

Intel (R) Atom (TM) CPU XXX @ XX.XXGHz

Speed   :XXXXMHz

Physical Count / Logical Count   :1

System Memory

Available Size displays the size of memory available in the system. Populated Size displays the total size of memory detected in the system. Both are displayed in Megabytes (MB).

Available Size   :XXXXMB

Populated Size :XXXXMB

4-3   Advanced Setup Configurations

Use the arrow keys to select Boot Setup and hit <Enter> to access the submenu items:

```
                          BIOS SETUP UTILITY
   Main      Advanced     Security      Boot      Exit

  Advanced Settings

  WARNING: Setting the wrong values in the sections below
           may cause the system to malfunction.

  ▶ BIOS Features
  ▶ Processor & Clock Options
  ▶ Advanced Chipset Control
  ▶ IDE Configuration
  ▶ PCI/PnP Configuration
  ▶ Super IO Device Configuration
  ▶ Hardware Health Configuration
  ▶ Remote Access Configuration
                                              ↑↓←→ : Move
                                              Enter : Select
                                              +/-/ : Value
                                              F10 : Save
                                              ESC : Exit
                                              F1 : General Help
                                              F8 : Fail-Safe Defaults
                                              F9 : Optimized Defaults

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```

▶BIOS Features

Quick Boot

If Enabled, this option will skip certain tests during POST to reduce the time needed for system boot. The options are **Enabled** and Disabled.

Quiet Boot

This option allows the bootup screen options to be modified between POST messages or the OEM logo. Select Disabled to display the POST messages. Select Enabled to display the OEM logo instead of the normal POST messages. The options are **Enabled** and Disabled.

Wait for 'F1' If Error

If set to Enabled, the system will wait for the user to press F1 before displaying a message when an error occurs. The options are **Enabled** and Disabled.

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 Instruc-

tion embedded in the CPU. The High Performance Event Timer is used to replace the 8254 Programmable Interval Timer. The options are Enabled and **Disabled**.

►ACPI Configuration

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

ACPI Aware OS

Select Yes to enable ACPI support for the OS. Disable this feature if ACPI is not supported by your OS. The options are **Yes** and No.

Suspend Mode

This option is used to select the ACPI State that is used for system suspend. The options are S1 (POS), S3 (STR) and **Auto**.

S1 (POS) - All processor caches are erased, and stops executing instructions.   Power to the CPU(s) and RAM is maintained, but RAM is refreshed.

S3 (STR) - The CPU has no power and the power supply goes on reduced power mode. However, main memory (RAM) is still powered.

ACPI Version Feature

This feature allows the user to select the ACPI Version for the system. The options are ACPI 1.0, **ACPI 2.0**, and ACPI 3.0.

USB Device Wakeup

Select Enable to "wake-up" the system via a USB device when the system is in S3 or S4 State. The options are Enabled and **Disabled**.

PS2 KB/MS Wake Up

Select Enable to "wake-up" the system using either the PS2 keyboard or mouse (if equipped) when the system is in S3 (Sleep) or S4 (Hibernate) state. The options are Enabled and **Disabled**.

Watch Dog Function

Select Enable to enable Watch Dog Timer and 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**.

Power Button Function

If set to **Instant Off**, the system will power off immediately as soon as the user presses the power button. If set to 4 Seconds Override, the system will power off when the user presses the power button for 4 seconds or longer. The options are **Instant Off** and 4 Seconds Override.

MPS Revision

This feature allows the user to specify the version of the Multi-Processor Specification (MPS) the motherboard is using. The options are **1.4** and 1.1.

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

Warning! When you first enter the Advanced Setup screen, the Setup Warning will be displayed. Follow the instructions given on the screen to set the correct value for each item to make sure that the system functions properly.

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.)

Hyper-Threading

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

▶Advanced Chipset Control

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

▶NorthBridge Configuration

This feature allows the user to configure the settings for the Intel 945GC North-Bridge.

DRAM Frequency

This feature allows the user to select the DRAM Frequency setting. The options are **Auto (Auto-detect)**, 400 MHz and 533 MHz.

Configure DRAM Timing by SPD

Select Enable to allow the BIOS to read the SPD (Serial Presence Detect) chip which is built in the memory module in order to get the exact memory specifications. The options are **Enabled** and Disabled.

Memory Hole

Use the feature to allocate memory resource reserved for use of PCI devices. If set to 15 MB~16MB, the reserved memory will be placed in the location around 15 MB~16 MB. The options are **Disabled** and 15 MB~ 16 MB.

Initiate Graphic Adapter

Use the feature to select the graphics controller to be used as the primary boot device. The options are IGD, PCI/IGD, PCI/PEG, PEG/IGD, and **PEG/PCI**.

Internal Graphics Device Mode Select

Use the feature to set the amount of system memory to be used by the Internal Graphics Devices. The options are Disabled, Enabled, 1 MB and **Enabled, 8 MB.**

PEG Port Configuration

PEG Port

Use the feature to configure the PEG Port. The Default setting is **Auto** to allow the PEG Port to be automatically detected and configured by the BIOS. The options are **Auto** and Disabled.

PEG Force x1

If set to Enabled, PEG will be configured to x1 setting by the BIOS. The options are Enabled, and **Disabled**.

▶Video Function Configuration

DVMT Mode Select

This option allows the user to set the DVMT mode. The options are Fixed Mode, **DVMT Mode** and the COMBO mode.

DVMT/Fixed Memory

This option allows the user to set the amount of memory to be used for operation in the DVMT/Fixed Mode. The options are 64 MB, **128 MB** and Maximum DVMT.

Boot Display Device

This option allows the user to select the boot display device. The options are **CRT on Port 0**, LFP on Port2, and CRT-Port 0 & LFP-Port 2.

USB Functions

This feature allows the user to enable or disable the onboard USB ports. The options are Disabled and **Enabled**.

USB 2.0 Controller

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

▶USB Configuration

This feature allows the user to configure USB settings for the motherboard.

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 vise versa. The settings are Disabled, Enabled and **Auto**.

USB 2.0 Controller Mode

This setting allows you to select the USB 2.0 Controller mode. The options are **Hi-Speed** (480 Mbps) and Full Speed (12 Mbps).

BIOS EHCI Hand-Off

Select Enabled to enable BIOS Enhanced Host Controller Interface support to provide a workaround solution for an operating system that does not have EHCI Hand-Off support. When enabled, the EHCI Interface will be changed from the BIOS-controlled to the OS-controlled. The options are Disabled and **Enabled**.

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. If this feature is set to Enabled, the following items will display:

▶IDE Configuration

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

ATA/IDE Configuration

This feature allows the user to configure ATA/IDE settings. The options are Disabled and **Enhanced**.

Configure SATA as

Please choose IDE if the installed hard disk(s) are to be configured as independent devices and will be used normally.

Choose RAID if you have more than one drive installed and will be used in a Redundant Array (RAID) configuration.

Note: Please use the Intel Matrix Storage Manager (option ROM) to configure your RAID by pressing and holding down <Ctrl> and pressing <I> (the "i" key) during POST. For a downloadable PDF manual, please visit Supermicro's website at: http://www.supermicro.com/support/manuals/ and click "HostRAID - Setup for Intel ICH7R / ICH9R" under RAID Installation Guides.

Select AHCI for advanced SATA features such as hot-plugging and native command queueing. Note: Take caution when using AHCI, as your operating system may need drivers to match this configuration. This feature is for technicians only.

The options are **IDE**, RAID and AHCI.

Configure SATA Channels

The options are **Before PATA** and Behind PATA.

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

These settings allow the user to set the parameters of Primary IDE Master/Slave, Secondary IDE Master/Slave and Third IDE Master/Slave 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 rate of 16.6 MBs. This setting generally works with all hard disk drives manufactured after 1999.

For other disk drives, such as IDE CD-ROM drives, check the specifications of the drive.

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**, SWDMAn, MWDMAn, and UDMAn.

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 de-tect 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**.

32-Bit Data Transfer

Select Enabled to enable 32-Bit data transfer. The options are **Enabled** and Disabled.

Hard Disk Write Protect

Select Enabled to use the feature of Hard Disk Write Protect to prevent data from being written to HDD. The options are Enabled or **Disabled**.

IDE Detect Time Out

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**.

▶PCI/PnP Configuration

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

Clear NVRAM

Select Yes to clear NVRAM during system boot. The options are Yes and **No.**

Plug & Play OS

Select Yes to allow 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.

Allocate IRQ to PCI VGA

Select Yes to allow the system to give the VGA adapter card an interrupt address. The options are **Yes** and No.

Palette Snooping

Select Enabled to inform the onboard PCI devices that an ISA graphics device is installed in the system in order for the graphics card to function properly. The options are Enabled and **Disabled**.

PCI IDE Bus Master

Select Enabled to allow the BIOS to use the PCI bus master to read from and write to the onboard IDE drives. The options are **Enabled** and Disabled.

PCI Slot 5, PCIE X8 Slot6, PCIE X4 Slot7

Select Yes to enable OPROM for a PCI slot as specified. The options are **Yes** (to enable OPROM for the slot specified) and No.

Load Onboard LAN 1 Option ROM/ Load Onboard LAN 2 Option ROM

Select Enabled to load the onboard LAN Option ROM for the LAN port as specified. The options are Enabled and **Disabled**.

▶Super IO 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**, 3E8/IRQ4, 2E8/IRQ3. The options for Serial Port2 are Disabled, **2F8/IRQ3**, 3E8/IRQ4, and 2E8/IRQ3.

Serial Port 2 Mode

Use this feature to configure Serial Port 2 mode. The options are **Normal,** IrDA and ASK IR.

▶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 Temperature

This feature displays the processor's absolute temperature (i.e., 34^{o}C).

System Temperature

This feature displays the system's absolute temperature (i.e., 34^{o}C).

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 **Disabled**, 4-Pin (Server), 4-Pin (Workstation) and 4-Pin (Super Quiet)].

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 **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^oC 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.

The Early Alarm: 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.

This screen also displays Voltage Monitoring information:

Vcore, +3.3Vcc, 12V, VDIMM, 5V, Chipset 1.5V, 3.3Vsb, and Vbatt.

> ✏ **Note:** In the Windows OS environment, the **S**UPER● Doctor III (SD III) settings take precedence over the BIOS settings. When first installed, SD III adopts the temperature threshold settings previously set in the BIOS. Any subsequent changes to these thresholds must be made within SD III, since the SD III settings override the BIOS settings. For the Windows OS to adopt the BIOS temperature threshold settings, please change the SD III settings to be the same as those set in the BIOS.

▶Remote Access Configuration

Remote Access

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

If the item 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.

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.

4-4   Security Settings

The AMI BIOS provides a Supervisor and a User password. If you use both pass-words, the Supervisor password must be set first.
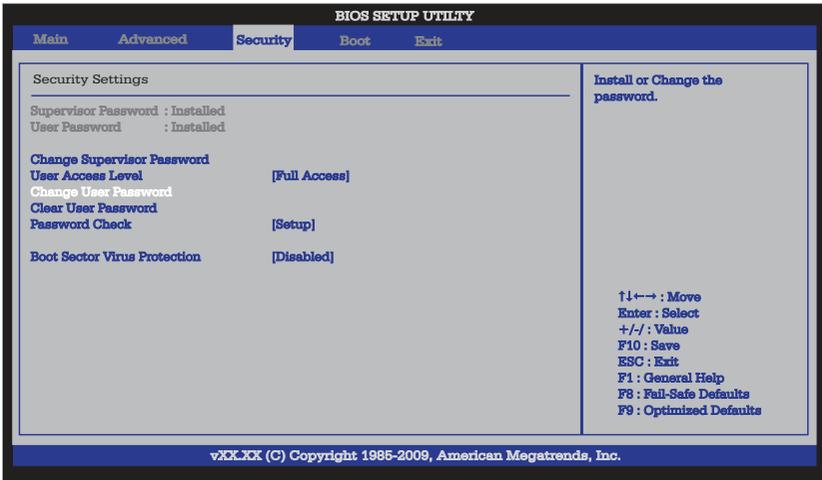
Change Supervisor Password:

Use this feature to set a supervisor password. It secures the system from unau-thorized use by restricting access to persons only with the proper supervisor-level password. Select this feature and press <Enter>, and then type in the Supervisor Password.

User Access Level

This feature appears when the Supervisor Password is set. Use this to assign an access level for a user. The options are: No Access, View Only, Limited, and **Full Access**.

Change User Password:

Use this feature to set a user password. It secures the system from unauthorized use by restricting access to persons only with the proper user-level password. Select this feature and press <Enter>, and then type in the User Password.

Clear User Password

This feature appears when the User Password is set. Select this to clear the User Password.
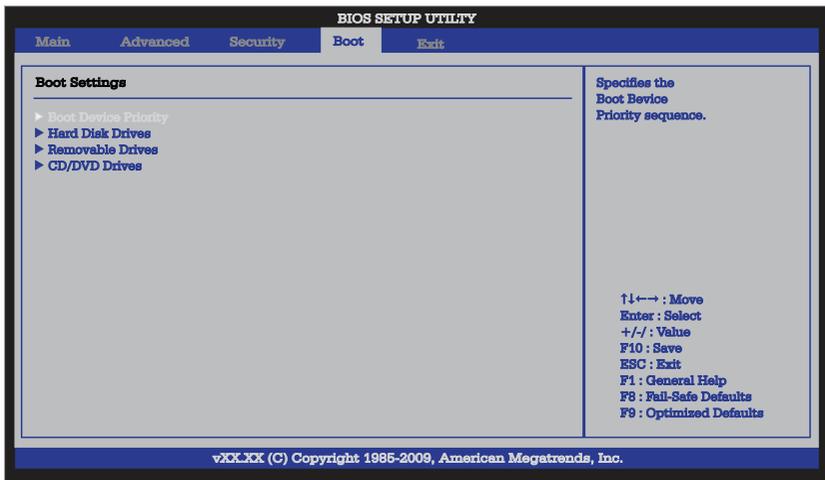
Password Check

Use this feature to set when the system prompts for a password. Choosing Setup will ask the user a password when entering the BIOS Setup, while selecting Always will prompt for a password during BIOS Setup and each system boot. The options are **Setup** and Always.

Boot Sector Virus Protection

When Enabled, the AMI BIOS displays a warning when any program (or virus) issues a Disk Format command or attempts to write to the boot sector of the hard disk drive. The options are Enabled and **Disabled**.

4-5   Boot Configuration

Use this feature to configure Boot Settings:

```
                            BIOS SETUP UTILITY
  Main      Advanced    Security     Boot      Exit

  Boot Settings                                   Specifies the
                                                  Boot Device
  ▶ Boot Device Priority                          Priority sequence.
  ▶ Hard Disk Drives
  ▶ Removable Drives
  ▶ CD/DVD Drives



                                                  ↑↓←→ : Move
                                                  Enter : Select
                                                  +/-/ : Value
                                                  F10 : Save
                                                  ESC : Exit
                                                  F1 : General Help
                                                  F8 : Fail-Safe Defaults
                                                  F9 : Optimized Defaults

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```

▶Boot Device Priority

This feature allows the user to specify the sequence of priority for the Boot Device. The settings are 1st boot device, 2nd boot device, 3rd boot device, and Disabled.

- 1st boot device - 1st Floppy Drive

- 2nd boot device - [CD/DVD: XXXXXXXXXX]

- 3rd boot device - [SATA: XXXXXXXXXX]

▶Hard Disk Drives

This feature allows the user to specify the boot sequence from available Hard Disk Drives. The options are 1st boot device, and Disabled.

- 1st Drive - [SATA: XXXXXXXXXXX]

▶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

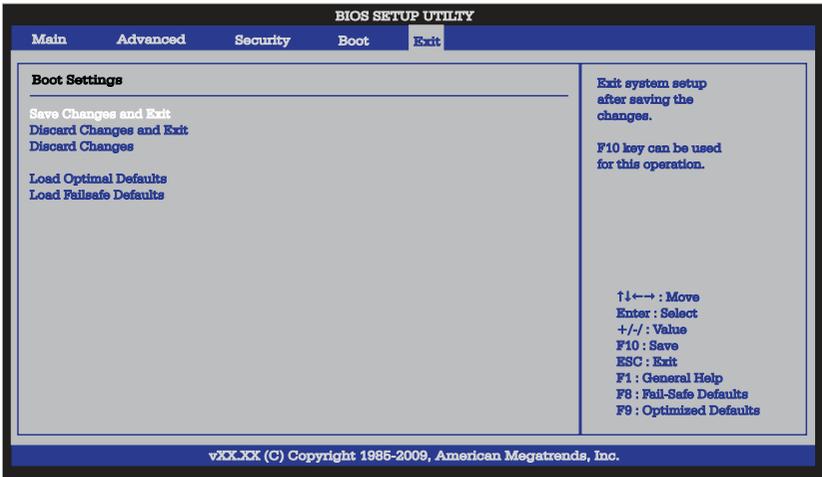- 2nd boot device - [USB: XXXXXXXXXXXX]

▶CD/DVD Drives

This feature allows the user to specify the boot sequence from available CD/DVD Drives. The settings are 1st boot device and Disabled.

- 1st Drive - [CD/DVD: XXXXXXXXXXX]

4-6   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.

Notes

Appendix A

POST Error Beep Codes

This section lists POST (Power On Self Test) error beep codes for the AMI 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

8 short beeps - display memory read/write error

Notes

Appendix B

Installing the Microsoft® Windows® OS

After all the hardware has been installed, you may now install your Operating System. The following instructions assume that you are installing a fresh copy of Windows OS into a blank partition on a disk drive.

B-1   Installing the Microsoft Windows XP/2000/2003 Operating System

1. Turn on the system and insert the Microsoft Windows XP/2000/2003 Setup CD in the CD or DVD Drive.

2. Reboot the system.

3. The system will perform POST and search for a bootable drive.

4. When prompted by the system asking whether you wish to boot from the CD, press the space bar on your keyboard.

5. The Windows OS Setup screen will display. Windows OS Setup will automatically load all Windows-supplied device drivers and then continue with the Windows XP/2000/2003 installation.

6. You will be asked to enter the disk partition where the Operating System is to be installed (please see Warning below), and to enter the date/time, and the Windows Activation Key.

7. After the Windows XP/2000/2003 OS Installation is completed, the system will automatically reboot.

8. Insert the Supermicro Setup CD that came with your motherboard into the CD Drive during system boot, and the main screen will display. Follow the on-screen instructions.

Note: To install the Linux Operating System, please refer to the OS Installation Guides posted on our web site at www.supermicro.com/support/manuals. For other Operating System platforms, please follow your software provider's instructions.

Warning: You will lose all data residing in a disk drive partition when it is deleted or reformatted.

B-1   Installing the Windows XP/2003 OS for Systems with RAID Support

After all the hardware has been installed, you must first configure Intel South Bridge RAID settings before you install the OS and other software drivers. To install the Linux OS or to configure RAID settings, please refer to the OS Installation or RAID Configuration User Guides posted on our web site at www.supermicro.com/support/manuals. Please note that the ICH7R Driver does not support the Windows 2000 OS.

Insert Microsoft's Windows XP/2003 Setup CD in the CD Driver, and the system will start booting up from CD.

1. Press the <F6> key when the message-" Press F6 if you need to install a third party SCSI or RAID driver" displays.

2. When the Windows XP/2003 Setup screen appears, press "S" to specify additional device(s).

3. Insert the driver diskette-"Intel AA RAID XP/2003 Driver for ICH7R" into Drive A: and press the <Enter> key.

4. Choose the Intel(R) ICH7R *SATA RAID Controller* from the list indicated in the XP/2003 Setup Screen, and press the <Enter> key.

5. Press the <Enter> key to continue the installation process. (If you need to specify any additional devices to be installed, do it at this time.) Once all devices are specified, press the <Enter> key to continue with the installation.

6. From the Windows XP/2003 Setup screen, press the <Enter> key. The XP/2003 Setup will automatically load all device files and then, continue the Windows XP/2003 installation.

7. After the Windows XP/2003 OS Installation is completed, the system will automatically reboot.

Appendix C

Software Installation Instructions

C-1   Installing Drivers

After you've installed the Windows Operating System, a screen as shown below will appear. You are ready to install software programs and drivers that have not yet been installed. To install these software programs and drivers, click the icons to the right of these items.
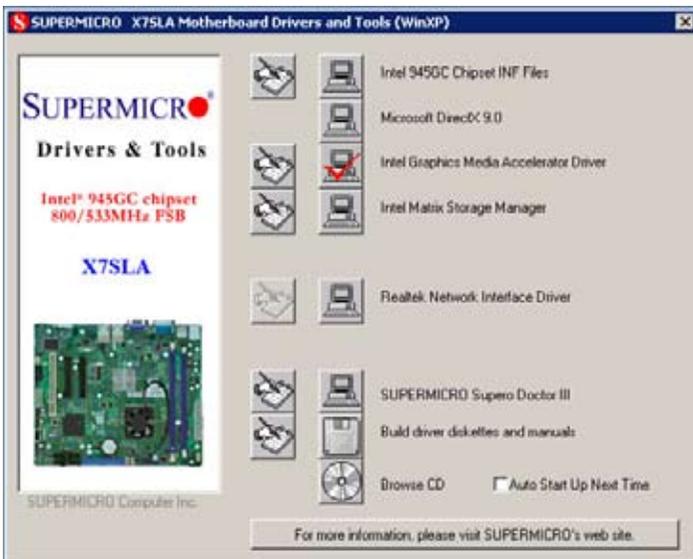
Driver/Tool Installation Display Screen

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

C-2   Configuring 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 the SD III Client. The Supero Doctor III program included on the CDROM 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 1: Both default user name and password are ADMIN.

Note 2: In the Windows OS environment, the Supero Doctor III settings take precedence over the BIOS settings. When first installed, Supero Doctor III adopts the temperature threshold settings previously set in the BIOS. Any subsequent changes to these thresholds must be made within Supero Doctor, since the SD III settings override the BIOS settings. For the Windows OS to adopt the BIOS temperature threshold settings, please change the SDIII settings to be the same as those set in the BIOS.

Supero Doctor III Interface Display Screen-I (Health Information)

Supero Doctor III Interface Display Screen-II (Remote Control)

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 SDIII User's Guide at: http://www.supermicro.com/PRODUCT/ Manuals/SDIII/UserGuide.pdf. For Linux, we will still recommend that you use Supero Doctor II.

Notes

Appendix D - BIOS Recovery

The recovery procedure described in this section is to be used only when advised by your Supermicro Technical Support representative, or in cases of emergencies where the system no longer can boot due to a corrupted BIOS. DO NOT re-program (re-flash) the BIOS if your system is running properly.

D-1 Recovery Process from a USB Device/Drive (Recommended Method)

If the BIOS file is corrupted and the system is not able to boot up, this feature will allow you to recover the BIOS image using a USB-attached device. A USB Flash Drive or a USB CD/DVD ROM/RW drive may be used for this purpose. Please note that a USB Hard Disk drive is NOT supported at this time. Also note that COM1 is the only COM port recognized by the recovery process. Below is a two-part procedure to recover the BIOS:

Part 1: Boot Sector Recovery Process

1.   Using a different system, download and copy the correct BIOS binary image into a USB flash device or a writable CD/DVD disc's Root "\" Directory. Rename the downloaded file to "super.rom", so the recovery process can recognize and read the BIOS binary file.

2.   Insert the USB device that contains the new BIOS binary image ("super.rom") and power the system down.

3.   While powering on the system, press and hold <Ctrl> and <Home> simultaneously on your keyboard until the USB device's LED indicator comes on. This will take a few seconds or up to one minute.

4.   Once the USB device's LED is on, release the <Ctrl> and <Home> keys. The system may generate beep codes to indicate that the BIOS ROM firmware is being reprogrammed. The screen will also display a message as shown below. DO NOT INTERRUPT THIS PROCESS!

5.   When the Boot Sector Recovery Process is complete, the system will reboot automatically and you will see a checksum error on your screen.

Part 2 - BIOS Reprogramming (Re-Flashing)

After completing the Boot Sector Recovery Process, you will need to reprogram ("re-flash") the proper BIOS binary file again into the BIOS ROM in order to have the correct BIOS file loaded by the system. For details on how to flash/re-flash a BIOS, please check our website for "Update your BIOS", or see the section 3-3 (FAQ) of this manual. DO NOT INTERRUPT THIS PROCESS!

When completed, the system will reboot automatically, and you will see a checksum error again.

Press "F1" to go to setup. Press "F9" to load the defaults and then press "F10" to save and exit.

D-2 Recovery Process from an IDE/SATA ATAPI Disc Drive

This process is identical to the Boot Sector Recovery Process from a USB Device/ Drive (as above), except that the BIOS image file ("super.rom") is loaded from an IDE/ATAPI CD/DVD/ROM/RW disc drive that is attached to the system. Note that loading from an IDE/SATA hard disk drive is NOT supported.

1.   Using a different system, download and copy the correct BIOS binary image into a writable CD/DVD disc's Root "\" Directory. Rename the downloaded file to "super.rom", so the recovery process can recognize and read the BIOS binary file.

Note: Record/Burn the CD/DVD-R/RW disc using the ISO 9600 standard format. Refer to your CD/DVD mastering application documentation for instructions on how to do this.

2.   Insert the newly-created disc into the IDE/SATA ATAPI CD/DVD ROM/RW drive of the system that has the corrupted BIOS and power the system down.

3.   Follow the step-by-step instructions under Part 1 - Recovery Process from a USB Device/Drive (above) starting from Step 3 and continue on to Part 2 - BIOS Reprogramming (Re-Flashing).

If your system still does not boot up after performing the above procedure, then there may be other issues with your motherboard. Please contact your customer service representative.

Disclaimer

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