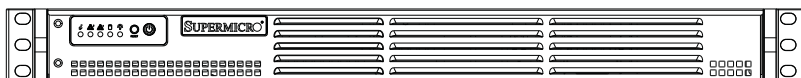


SUPERO[®]

SUPERSERVER

5017K-N6



USER'S MANUAL

1.0

The information in this User's Manual has been carefully reviewed and is believed to be accurate. The vendor assumes no responsibility for any inaccuracies that may be contained in this document, makes no commitment to update or to keep current the information in this manual, or to notify any person or organization of the updates. **Please Note: For the most up-to-date version of this manual, please see our web site at www.supermicro.com.**

Super Micro Computer, Inc. ("Supermicro") reserves the right to make changes to the product described in this manual at any time and without notice. This product, including software and documentation, is the property of Supermicro and/or its licensors, and is supplied only under a license. Any use or reproduction of this product is not allowed, except as expressly permitted by the terms of said license.

IN NO EVENT WILL SUPERMICRO BE LIABLE FOR DIRECT, INDIRECT, SPECIAL, INCIDENTAL, SPECULATIVE OR CONSEQUENTIAL DAMAGES ARISING FROM THE USE OR INABILITY TO USE THIS PRODUCT OR DOCUMENTATION, EVEN IF ADVISED OF THE POSSIBILITY OF SUCH DAMAGES. IN PARTICULAR, SUPERMICRO SHALL NOT HAVE LIABILITY FOR ANY HARDWARE, SOFTWARE, OR DATA STORED OR USED WITH THE PRODUCT, INCLUDING THE COSTS OF REPAIRING, REPLACING, INTEGRATING, INSTALLING OR RECOVERING SUCH HARDWARE, SOFTWARE, OR DATA.

Any disputes arising between manufacturer and customer shall be governed by the laws of Santa Clara County in the State of California, USA. The State of California, County of Santa Clara shall be the exclusive venue for the resolution of any such disputes. Super Micro's total liability for all claims will not exceed the price paid for the hardware product.

FCC Statement: This equipment has been tested and found to comply with the limits for a Class A digital device pursuant to Part 15 of the FCC Rules. These limits are designed to provide reasonable protection against harmful interference when the equipment is operated in a commercial environment. This equipment generates, uses, and can radiate radio frequency energy and, if not installed and used in accordance with the manufacturer's instruction manual, may cause harmful interference with radio communications. Operation of this equipment in a residential area is likely to cause harmful interference, in which case you will be required to correct the interference at your own expense.

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

WARNING: Handling of lead solder materials used in this product may expose you to lead, a chemical known to the State of California to cause birth defects and other reproductive harm.

Manual Revision 1.0
Release Date: May 8, 2014

Unless you request and receive written permission from Super Micro Computer, Inc., you may not copy any part of this document.

Information in this document is subject to change without notice. Other products and companies referred to herein are trademarks or registered trademarks of their respective companies or mark holders.

Copyright © 2014 by Super Micro Computer, Inc.
All rights reserved.
Printed in the United States of America

Preface

About This Manual

This manual is written for professional system integrators and PC technicians. It provides information for the installation and use of the SuperServer 5017K-N6. Installation and maintenance should be performed by experienced technicians only.

The SuperServer 5017K-N6 is a high-end server based on the SC504-203B rack-mountable chassis and the X9SKV-B915 single processor motherboard.

Manual Organization

Chapter 1: Introduction

The first chapter provides a checklist of the main components included with the server system and describes the main features of the X9SKV-B915 motherboard and the SC504-203B chassis.

Chapter 2: Server Installation

This chapter describes the steps necessary to install the SuperServer 5017K-N6 into a rack and check out the server configuration prior to powering up the system. If your server was ordered without processor and memory components, this chapter will refer you to the appropriate sections of the manual for their installation.

Chapter 3: System Interface

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

Chapter 4: Standardized Warning Statements

You should thoroughly familiarize yourself with this chapter for a general overview of safety precautions that should be followed when installing and servicing the SuperServer 5017K-N6.

Chapter 5: Advanced Motherboard Setup

Chapter 5 provides detailed information on the X9SKV-B915 motherboard, including the locations and functions of connections, headers and jumpers. Refer to this chapter when adding or removing processors or main memory and when reconfiguring the motherboard.

Chapter 6: Advanced Chassis Setup

Refer to Chapter 6 for detailed information on the SC504-203B server chassis. You should follow the procedures given in this chapter when installing, removing or reconfiguring SAS/SATA or peripheral drives and when replacing system power supply units and cooling fans.

Chapter 7: BIOS

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

Appendix A: BIOS Error Beep Codes

Appendix B: System Specifications

Notes

Table of Contents

Chapter 1 Introduction

1-1	Overview	1-1
1-2	Motherboard Features.....	1-2
	Processor	1-2
	Memory	1-2
	Serial ATA.....	1-2
	PCI Expansion Slots	1-2
	Rear I/O Ports	1-2
1-3	Server Chassis Features	1-3
	System Power	1-3
	Hard Drive Subsystem	1-3
	Front Control Panel.....	1-3
1-4	Contacting Supermicro.....	1-5

Chapter 2 Server Installation

2-1	Overview	2-1
2-2	Unpacking the System	2-1
2-3	Preparing for Setup.....	2-1
	Choosing a Setup Location.....	2-1
2-4	Warnings and Precautions	2-2
	Rack Precautions	2-2
	Server Precautions.....	2-2
	Rack Mounting Considerations	2-3
	Ambient Operating Temperature	2-3
	Reduced Airflow	2-3
	Mechanical Loading	2-3
	Circuit Overloading	2-3
	Reliable Ground	2-3
2-5	Installing the System into a Rack	2-4
	Installing the Chassis into a Standard Rack.....	2-4
	Telco Rack.....	2-5
	Installing the Chassis into a Telco Rack.....	2-5

Chapter 3 System Interface

3-1	Overview	3-1
3-2	Control Panel Buttons	3-1
	Reset.....	3-1
	Power	3-1

3-3	Control Panel LEDs	3-2
	Power Fail	3-2
	Information LED	3-2
	NIC1	3-2
	NIC2	3-3
	HDD.....	3-3
	Power	3-3

Chapter 4 Standardized Warning Statements for AC Systems

4-1	About Standardized Warning Statements.....	4-1
	Warning Definition	4-1
	Installation Instructions.....	4-4
	Circuit Breaker	4-5
	Power Disconnection Warning	4-6
	Equipment Installation.....	4-8
	Restricted Area.....	4-9
	Battery Handling.....	4-10
	Redundant Power Supplies	4-12
	Backplane Voltage	4-13
	Comply with Local and National Electrical Codes	4-14
	Product Disposal	4-15
	Hot Swap Fan Warning.....	4-16
	Power Cable and AC Adapter	4-18

Chapter 5 Advanced Motherboard Setup

5-1	Handling the Motherboard	5-1
	Precautions	5-1
	Unpacking	5-1
5-2	Connecting Cables.....	5-2
	Connecting Data Cables	5-2
	Connecting Power Cables	5-2
	Connecting the Control Panel.....	5-2
5-3	Rear I/O Ports	5-3
5-4	Onboard Processor and Heatsink.....	5-4
5-5	Installing Memory	5-4
	How to Install SO DIMMs	5-4
	Memory Support.....	5-4
5-6	Adding PCI Add-On Cards	5-5
5-7	Motherboard Details.....	5-6
	X9SKV-B915 Quick Reference	5-7

5-8	Connector Definitions	5-8
5-9	Jumper Settings	5-14
5-10	Onboard Indicators.....	5-16
5-11	SATA Ports	5-17
5-12	Installing Software	5-18
	SuperDoctor® 5	5-19
5-13	Onboard Battery.....	5-20

Chapter 6 Advanced Chassis Setup

6-1	Static-Sensitive Devices.....	6-1
	Precautions	6-1
	Unpacking	6-1
6-2	Control Panel	6-2
6-3	Removing the Chassis Cover	6-3
6-4	System Fans (Optional)	6-4
6-5	Installing Hard Drives.....	6-4
	Hard Drive Configuration Options.....	6-6
6-6	Installing an Expansion Card	6-7
6-7	Power Supply	6-9
	Replacing the Power Supply.....	6-9

Chapter 7 BIOS

7-1	Introduction.....	7-1
	Starting BIOS Setup Utility.....	7-1
	How To Change the Configuration Data.....	7-1
	How to Start the Setup Utility	7-2
7-2	Main Setup	7-2
7-3	Advanced Setup Configurations.....	7-4
7-4	Event Logs	7-19
7-4	Boot Settings.....	7-21
7-5	Security Settings	7-23
7-6	Save & Exit	7-24

Appendix A POST Error Beep Codes

Appendix B System Specifications

Chapter 1

Introduction

1-1 Overview

The SuperServer 5017K-N6 is a mini server comprised of two main subsystems: the SC504-203B 1U chassis and the X9SKV-B915 single processor motherboard. Please refer to our web site for information on operating systems that have been certified for use with the system (www.supermicro.com).

In addition to the motherboard and chassis, various hardware components have been included with the 5017K-N6, as listed below:

- Two 4-cm fans (FAN-0100L4)
- One riser card (RSC-RR1U-E8)
- One riser card bracket (MCP-120-00063-0N)
- One special I/O shield (MCP-260-00072-0B)

Note: For your system to work properly, please follow the links below to download all necessary drivers/utilities and the user's manual for your server.

- Supermicro product manuals: <http://www.supermicro.com/support/manuals/>
- Product drivers and utilities: <ftp://ftp.supermicro.com>
- Product safety info: http://super-dev/about/policies/safety_information.cfm

1-2 Motherboard Features

The SuperServer 5017K-N6 is built around the X9SKV-B915, a single processor motherboard based on the Intel 8903CC chipset and designed to provide maximum performance. Below are the main features of the X9SKV-B915. (See Figure 1-1 for a block diagram of the chipset).

Processor

The X9SKV-B915 supports a single Intel® Pentium B915C processor. Please refer to the motherboard description pages on our web site for a complete listing of supported processors (www.supermicro.com).

Memory

The X9SKV-B915 has four SO-DIMM slots that can support up to 32 GB of ECC DDR3-1333/1066 memory. See Chapter 5 for details.

Serial ATA

A SATA controller is also integrated into the chipset to provide two SATA 2.0 (3/Gbps) ports.

PCI Expansion Slots

The X9SKV-B915 has one PCI-E 2.0 x8 slot, which uses a riser card to support a single expansion card.

Rear I/O Ports

The I/O ports include two USB 3.0 ports, six GbE LAN ports (four support bypass mode) and one COM (serial) port.

1-3 Server Chassis Features

The SC504-203B is an mini-ITX form factor chassis designed to be used in a 1U rackmount configuration. The following is a general outline of the main features of the SC504-203B server chassis.

System Power

The SC504-203B features a single 200W power supply. Power must be removed from the system and the AC power cord removed when replacing. See Chapter 6 for details.

Hard Drive Subsystem

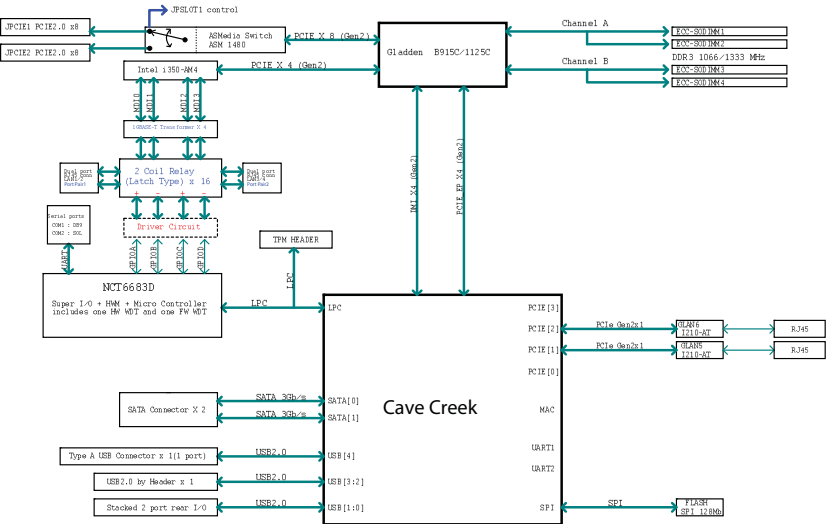
Either two 3.5" internal drive or two 2.5" internal drives (with a 2.5" HDD bracket) are supported by the system. These are not hot-swap drives.

Front Control Panel

The control panel on the SC504-203B provides you with system monitoring and control. LEDs indicate system power, HDD activity, network activity, system information and power supply failure. A main power button and a system reset button are also included.

**Figure 1-1. Intel 8903CC Chipset:
System Block Diagram**

Note: This is a general block diagram. Please see Chapter 5 for details.



1-4 Contacting Supermicro

Headquarters

Address: Super Micro Computer, Inc.
980 Rock Ave.
San Jose, CA 95131 U.S.A.

Tel: +1 (408) 503-8000

Fax: +1 (408) 503-8008

Email: marketing@supermicro.com (General Information)
support@supermicro.com (Technical Support)

Web Site: www.supermicro.com

Europe

Address: Super Micro Computer B.V.
Het Sterrenbeeld 28, 5215 ML
's-Hertogenbosch, The Netherlands

Tel: +31 (0) 73-6400390

Fax: +31 (0) 73-6416525

Email: sales@supermicro.nl (General Information)
support@supermicro.nl (Technical Support)
rma@supermicro.nl (Customer Support)

Web Site: www.supermicro.nl

Asia-Pacific

Address: Super Micro Computer, Inc.
3F, No. 150, Jian 1st Rd.
Zhonghe Dist., New Taipei City 235
Taiwan (R.O.C)

Tel: +886-(2) 8226-3990

Fax: +886-(2) 8226-3992

Email: support@supermicro.com.tw

Web Site: www.supermicro.com.tw

Notes

Chapter 2

Server Installation

2-1 Overview

This chapter provides a quick setup checklist to get your SuperServer 5017K-N6 up and running. Following these steps in the order given should enable you to have the system operational within a minimum amount of time. This quick setup assumes that your system has come to you with the processors and memory preinstalled. If your system is not already fully integrated with a motherboard, processors, system memory etc., please turn to the chapter or section noted in each step for details on installing specific components.

2-2 Unpacking the System

You should inspect the box the SuperServer 5017K-N6 was shipped in and note if it was damaged in any way. If the server itself shows damage you should file a damage claim with the carrier who delivered it.

Decide on a suitable location for the rack unit that will hold the SuperServer 5017K-N6. It should be situated in a clean, dust-free area that is well ventilated. Avoid areas where heat, electrical noise and electromagnetic fields are generated. You will also need it placed near a grounded power outlet. Read the Rack and Server Precautions in the next section.

2-3 Preparing for Setup

Follow the steps in the order given to complete the installation process in a minimum amount of time. Please read this section in its entirety before you begin the installation procedure outlined in the sections that follow.

Choosing a Setup Location

- Leave enough clearance in front of the rack to enable you to open the front door completely (~25 inches) and approximately 30 inches of clearance in the back of the rack to allow for sufficient airflow and ease in servicing.
- This product is for installation only in a Restricted Access Location (dedicated equipment rooms, service closets and the like).

- This product is not suitable for use with visual display work place devices according to §2 of the the German Ordinance for Work with Visual Display Units.

2-4 Warnings and Precautions

Rack Precautions

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

Server Precautions

- Review the electrical and general safety precautions in Chapter 4.
- Determine the placement of each component in the rack *before* you install the rails.
- Install the heaviest server components on the bottom of the rack first, and then work up.
- Use a regulating uninterruptible power supply (UPS) to protect the server from power surges, voltage spikes and to keep your system operating in case of a power failure.
- Allow any hot plug drives and power supply modules to cool before touching them.
- Always keep the rack's front door and all panels and components on the servers closed when not servicing to maintain proper cooling.

Rack Mounting Considerations

Ambient Operating Temperature

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

Reduced Airflow

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

Mechanical Loading

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

Circuit Overloading

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

Reliable Ground

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



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

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

2-5 Installing the System into a Rack

This section provides information on installing the SC504 chassis into a rack unit. There are a variety of rack units on the market, which may mean the assembly procedure will differ slightly. You should also refer to the installation instructions that came with the rack unit you are using.

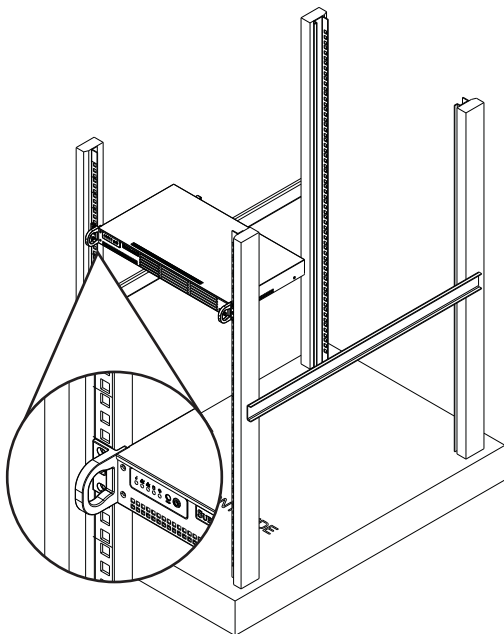


Stability Hazard. The rack stabilizing mechanism must be in place, or the rack must be bolted to the floor before you slide the unit out for servicing. Failure to stabilize the rack can cause the rack to tip over.

Installing the Chassis into a Standard Rack

1. Confirm that chassis includes the four mounting screws required to mount the chassis into a rack
2. Align the thru holes of the chassis with the thru holes of the rack.
3. Insert the mounting screws into the thru holes in the front of the chassis and through the thru holes in the rack and secure.

Figure 2-1. Installing the Chassis into a Rack



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

Telco Rack

The SC504 supports Telco Rack installation. The SC504 chassis' compact design allows it to be installed into a Telco rack without the use of rails.

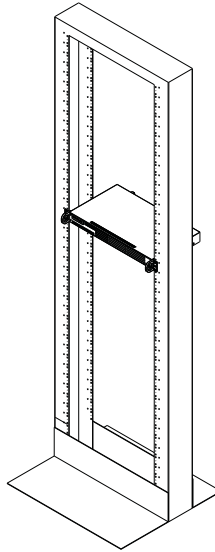


Figure 2-2. Installing the Chassis into a Telco Rack

Installing the Chassis into a Telco Rack

1. To install the chassis into a Telco style two-post rack, use two L-shaped brackets on either side of the chassis (four total).
2. First, determine how far the server will extend out the front of the rack. Larger chassis should be positioned to balance the weight between front and back.
3. If a bezel is included on your chassis, remove it. Then attach the two front brackets to each side of the chassis, then the two rear brackets positioned with just enough space to accommodate the width of the Telco rack.
4. Finish by sliding the chassis into the rack and tightening the brackets to the rack.

Note: the figures are for illustrative purposes only. Always install chassis starting from the bottom of the rack and working up.

Notes

Chapter 3

System Interface

3-1 Overview

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

3-2 Control Panel Buttons

There are two buttons located on the front of the chassis: a reset button and a power on/off button.

RESET



Reset

Use the reset button to reboot the system.



Power

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

3-3 Control Panel LEDs

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



Power Fail

Indicates a power supply module has failed. The second power supply module will take the load and keep the system running but the failed module will need to be replaced. Refer to Chapter 6 for details on replacing the power supply. This LED should be off when the system is operating normally.



Information LED

Information LED	
Status	Description
Continuously on and red	An overheat condition has occurred. (This may be caused by cable congestion.)
Blinking red (1Hz)	Fan failure, check for an inoperative fan.
Blinking red (0.25Hz)	Power failure, check for a non-operational power supply.
Solid blue	Local UID has been activated. Use this function to locate the server in a rack mount environment.
Blinking blue (300 m/s)	Remote UID is on. Use this function to identify the server from a remote location.



NIC1

Indicates network activity on the LAN5 port when flashing.

**NIC2**

Indicates network activity on the LAN6 port when flashing.

**HDD**

On the SuperServer 5017K-N6, this LED indicates SATA drive activity when flashing.

**Power**

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

Notes

Chapter 4

Standardized Warning Statements for AC Systems

4-1 About Standardized Warning Statements

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

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

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

Warning Definition



Warning!

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

警告の定義

この警告サインは危険を意味します。

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

此警告符号代表危險。

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

此警告符號代表危險。

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

Warnung

WICHTIGE SICHERHEITSHINWEISE

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

BEWAHREN SIE DIESE HINWEISE GUT AUF.

INSTRUCCIONES IMPORTANTES DE SEGURIDAD

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

GUARDE ESTAS INSTRUCCIONES.

IMPORTANTES INFORMATIONS DE SÉCURITÉ

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

CONSERVEZ CES INFORMATIONS.

תקנון הזהרות אזהרה

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

יש לקרוא את הנספח במלווא לפני התקנת או הגדרת הרכיבים במארוזי סופרמיקרו.

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

안전을 위한 주의사항

경고!

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

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

BELANGRIJKE VEILIGHEIDSINSTRUCTIES

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

BEWAAR DEZE INSTRUCTIES

Installation Instructions



Warning!

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

設置手順書

システムを電源に接続する前に、設置手順書をお読み下さい。

警告

将此系统连接电源前，请先阅读安装说明。

警告

將系統與電源連接前，請先閱讀安裝說明。

Warnung

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

¡Advertencia!

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

Attention

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

יש לקרוא את הוראות התקנה לפני חיבור המערכת למקור מתח.

اقرأ إرشادات التركيب قبل توصيل النظام إلى مصدر للطاقة

시스템을 전원에 연결하기 전에 설치 안내를 읽어주시십시오.

Waarschuwing

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

Circuit Breaker



Warning!

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

サーキット・ブレーカー

この製品は、短絡(過電流)保護装置がある建物での設置を前提としています。

保護装置の定格が250 V、20 Aを超えないことを確認下さい。

警告

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

警告

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

Warnung

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

¡Advertencia!

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

Attention

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

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

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

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

경고!

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

Waarschuwing

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

Power Disconnection Warning



Warning!

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

電源切斷の警告

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

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

警告

在你打开机箱并安装或移除内部器件前,必须将系统完全断电,并移除电源线。

警告

在您打開機殼安裝或移除內部元件前,必須將系統完全斷電,並移除電源線。

Warnung

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

¡Advertencia!

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

Attention

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

אזהרה !

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

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

경고!

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

Waarschuwing

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

Equipment Installation



Warning!

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

機器の設置

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

警告

只有经过培训且具有资格的人员才能进行此设备的安装、更换和维修。

警告

只有經過受訓且具資格人員才可安裝、更換與維修此設備。

Warnung

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

¡Advertencia!

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

Attention

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

אזהרה!

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

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

경고!

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

Waarschuwing

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

Restricted Area



Warning!

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

アクセス制限区域

このユニットは、アクセス制限区域に設置されることを想定しています。

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

警告

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

警告

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

Warnung

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

¡Advertencia!

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

Attention

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

אזור עם גישה מוגבלת

אזהרה!

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

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

경고!

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

Waarschuwing

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

Battery Handling



Warning!

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

電池の取り扱い

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

警告

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

警告

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

Warnung

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

Attention

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

¡Advertencia!

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

אזהרה !

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

סילוק הסוללות המשומשות יש לבצע לפי הוראות היצרן.

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

경고!

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

Waarschuwing

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

Redundant Power Supplies



Warning!

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

冗長電源装置

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

警告

此部件连接的电源可能不止一个，必须将所有电源断开才能停止给该部件供电。

警告

此裝置連接的電源可能不只一個，必須切斷所有電源才能停止對該裝置的供電。

Warnung

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

¡Advertencia!

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

Attention

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

אם קיים יותר מספק אחד

אזהרה !

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

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

경고!

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

Waarschuwing

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

Backplane Voltage



Warning!

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

バックプレーンの電圧

システムの稼働中は危険な電圧または電力が、バックプレーン上にかかっています。

修理する際にはご注意ください。

警告

当系统正在进行时，背板上有很危险的电压或能量，进行维修时务必小心。

警告

當系統正在進行時，背板上有危險的電壓或能量，進行維修時務必小心。

Warnung

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

¡Advertencia!

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

Attention

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

מתח בפנל האחורי

אזהרה !

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

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

경고!

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

Waarschuwing

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

Comply with Local and National Electrical Codes



Warning!

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

地方および国の電気規格に準拠

機器の取り付けはその地方および国の電気規格に準拠する必要があります。

警告

设备安装必须符合本地与本国电气法规。

警告

設備安裝必須符合本地與本國電氣法規。

Warnung

Die Installation der Geräte muss den Sicherheitsstandards entsprechen.

¡Advertencia!

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

Attention

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

תאום חוקי החשמל הארצי

אזהרה !

התקנת הציוד חייבת להיות תואמת לחוקי החשמל המקומיים והארציים.

تركيب المعدات الكهربائية يجب أن يمثل للقوانين المحلية والوطنية المتعلقة
بالكهرباء

경고!

현 지역 및 국가의 전기 규정에 따라 장비를 설치해야 합니다.

Waarschuwing

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

Product Disposal



Warning!

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

製品の廃棄

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

警告

本产品的废弃处理应根据所有国家的法律和规章进行。

警告

本產品的廢棄處理應根據所有國家的法律和規章進行。

Warnung

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

¡Advertencia!

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

Attention

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

סילוק המוצר

אזהרה !

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

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

경고!

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

Waarschuwing

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

Hot Swap Fan Warning



Warning!

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

ファン・ホットスワップの警告

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

警告

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

警告

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

Warnung

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

¡Advertencia!

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

Attention

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

אזהרה !

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

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

경고!

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

Waarschuwing

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

Power Cable and AC Adapter



Warning!

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

電源コードとACアダプター

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

警告

安装此产品时,请使用本身提供的或指定的连接线,电源线和电源适配器.使用其它线材或适配器可能会引起故障或火灾.除了Supermicro所指定的产品,电气用品和材料安全法律规定禁止使用未经UL或CSA认证的线材。(线材上会显示UL/CSA符号)。

警告

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

Warnung

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

¡Advertencia!

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

Attention

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

חשמליים ומתאמי AC

אזהרה!

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

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

경고!

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

Waarschuwing

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

Notes

Chapter 5

Advanced Motherboard Setup

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

5-1 Handling the Motherboard

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

Precautions

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

Unpacking

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

5-2 Connecting Cables

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

Connecting Data Cables

The cables used to transfer data from the peripheral devices have been carefully routed to prevent them from blocking the flow of cooling air that moves through the system from front to back. If you need to disconnect any of these cables, you should take care to keep them routed as they were originally after reconnecting them (make sure the red wires connect to the pin 1 locations). The following data cables (with their locations noted) should be connected. (See the layout on page 5-10 for connector locations.)

- SATA drive data cables (I-SATA0 ~ I-SATA1)
- Control Panel cable (JF1)

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

Connecting Power Cables

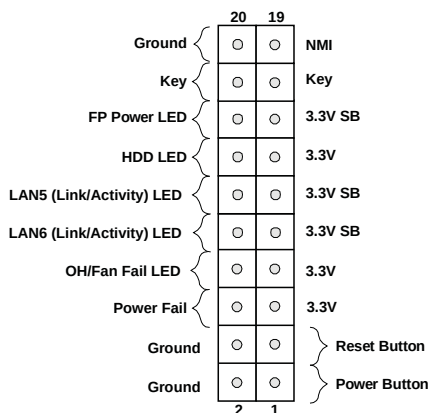
The X9SKV-B915 has a 24-pin primary power supply connector (JPW1) for connection to the ATX power supply. In addition, an 8-pin auxilliary power connector (JPW2) is provided and should be connected. See Section 5-8 for power connector pin definitions.

Connecting the Control Panel

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

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

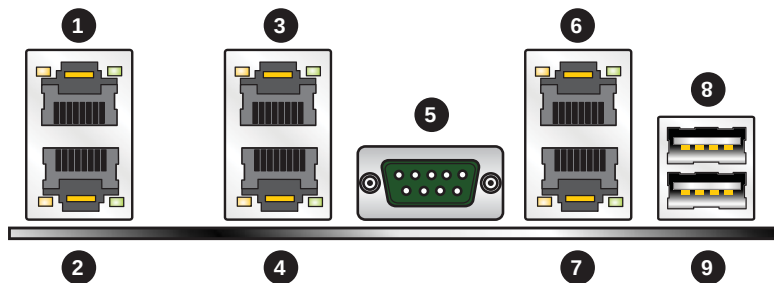
Figure 5-1. Control Panel Header Pins



5-3 Rear I/O Ports

The I/O ports are located on the backplane of the motherboard. See Figure 5-2 below for the descriptions of the various I/O ports.

Figure 5-2. Rear I/O Ports



Rear I/O Ports			
1	LAN2 (Bypass Pair 1)	6	LAN6
2	LAN1 (Bypass Pair 1)	7	LAN5
3	LAN4 (Bypass Pair 2)	8	USB1 Port (USB 2.0)
4	LAN3 (Bypass Pair 2)	9	USB0 Port (USB 2.0)
5	COM1 Port		

5-4 Onboard Processor and Heatsink

The X9SKV-B915 features an embedded Intel Pentium B915C processor.

5-5 Installing Memory

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

Note: Check the Supermicro website for a list of memory modules that have been validated with the X9SKV-B915 motherboard.

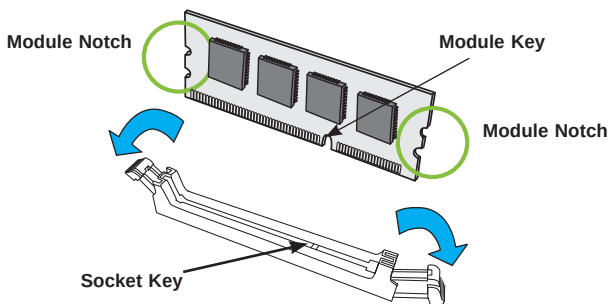
How to Install SO DIMMs

1. Insert the desired number of SO DIMMs into the memory slots, starting with DIMMA1, DIMMB1, then DIMMA2, DIMMB2. Pay attention to the notch along the bottom of the module to prevent incorrect DIMM module installation.
2. Insert each SO DIMM module vertically and snap it into place. Repeat step 1 to install DIMMB1 if needed. See instructions on the next page.

Memory Support

The X9SKV-B915 motherboard supports up to 32GB of ECC DDR3-1333/1066 SODIMMs in four SODIMM slots.

Figure 5-3. Installing Memory



5-6 Adding PCI Add-On Cards

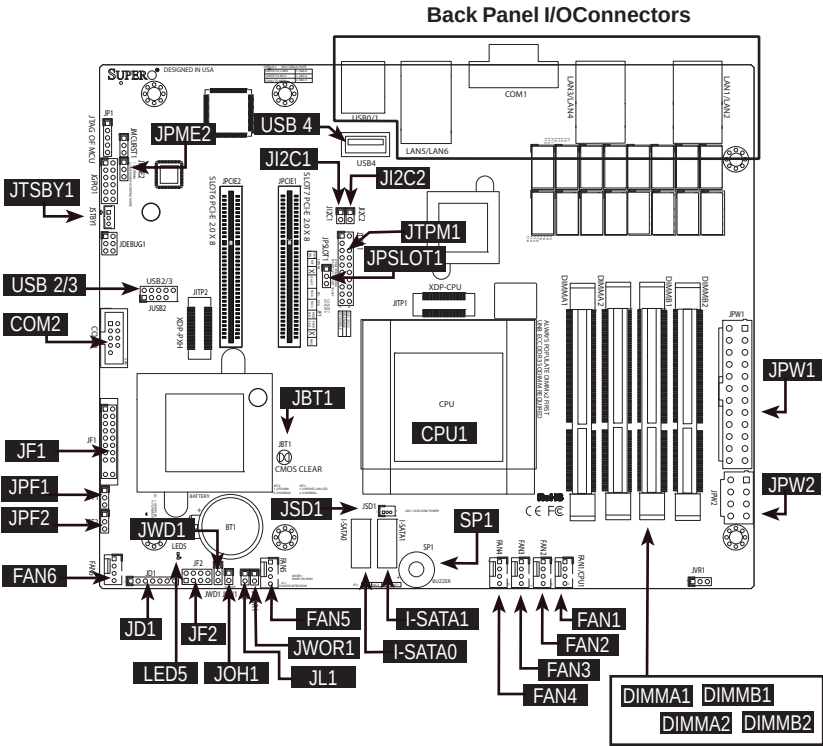
The 5017K-N6 can accommodate a single full-height, half-length add-on (expansion) card.

Installing an Add-on Card

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

5-7 Motherboard Details

Figure 5-4. X9SKV-B915 Layout



Notes

- "■" indicates the location of "Pin 1".
- Jumpers not indicated are for test purposes only.

X9SKV-B915 Quick Reference

Jumper	Description	Default
JPME2	Intel ME Manufacturing Mode	Pins 1-2 (Normal)
JPF1	Front Panel LED select	Pins 2-3 (Normal)
JPF2	Front Panel RST Button Select	Pins 2-3 (Normal)
JBT1	Clear CMOS	Short contact pads to clear CMOS
JWD1	Watch Dog Timer Reset	Pins 1-2 (Reset)
JI2C1/JI2C2	SMB to PCI-Express Slots	Both Open (Disabled)
JPSLOT1	PCI-E Slot Select	Pins 1-2 (Slot 7)

Connector	Description
Back Panel I/O	Back Panel I/O Ports
JSTBY1	Provides 5V standby power only, legacy Wake-On-LAN function
USB 2/3, USB 4	Front Panel USB 2.0 Header (USB 2/3), Type A Port for USB 4
COM2	Serial Port Header (COM2)
JF1	Front Panel Control Header
JF2	Front Panel Control Header
FAN1~FAN6	System Fan Power/Control Headers (FAN1: CPU Fan)
JD1	External Speaker/Buzzer Header
JOH1	System Overheat Header
JL1	Chassis Intrusion Header
JWOR1	Wake-On-Ring Header
I-SATA0/I-SATA1	3Gb/s SATA Ports
JSD1	SATA DOM (Disk-On-Module) Power Connector
SP1	Internal Speaker/Buzzer
JPW1	24-pin ATX Main Power Connector
JPW2	8-pin ATX Auxilliary Power Connector
JTPM1	Trusted Platform Module (TPM) Header

LED	Description	Color/State	Status
LED5	Power LED	Green/Solid	System On/Running

5-8 Connector Definitions

Power Connectors

The 24-pin main power connector (JPW1) and the 8-pin auxilliary power connector (JPW2) are used to provide power. Either one may be used to supply power to the motherboard. These connectors meet the SSI EPS 12V specification. See the table on the right for pin definitions.

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

NC = No Connection

12V 8-pin Power Connector Pin Definitions (JPW3)	
Pins	Definition
1 through 4	Ground
5 through 8	+12V

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

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

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 Indicator Pin Definitions (JF1)	
State	Definition
Off	Normal
On	Overheat
Flashing	Fan Fail

LAN5/LAN6 LED Indicators

The NIC (Network Interface Controller or LAN Ethernet Controller) LED connection for LAN port 5 is located on pins 11 and 12 of JF1, and the LED connection for LAN port 6 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.

NIC 1/2 LED Pin Definitions (JF1)	
Pin#	Definition
11/9	Vcc
12/10	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 activities 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

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

NMI Button

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

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

Fan Headers

The X9SKV-B915 Motherboard Series has six 4-pin fan headers. Pins 1~3 of the fan headers are backward compatible with the traditional 3-pin fans, however 4-pin fans must be used to provide variable fan speed control via BIOS. Refer to the table on the right for pin definitions.

Note: The variable fan speed is controlled by Thermal Management in BIOS (Advanced Settings). The default setting is Disabled.

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

Serial Ports

Two COM headers (COM1, COM2) are provided on the motherboard. COM1 is located on the back I/O panel. The COM2 header is located just next USB 2/3 to provide an additional onboard serial port. See the table on the right for pin definitions.

Serial Ports 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

Internal Speaker/Buzzer

The Internal Speaker on SP1 can be used to provide audible indications for various beep codes. See the table on the right for pin definitions. Refer to the layout below for the locations of the Internal Buzzer (SP1).

Internal Buzzer Pin Definition		
Pin#	Definitions	
1	+5V	Beep In
2	Beep In	Alarm Speaker

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

Universal Serial Bus

Two Universal Serial Bus (USB) ports on one header (USB 2/3) are located on the motherboard to provide front chassis access. There is also one USB type A port (USB 4) on the motherboard for an internal thumb drive. Additionally, two USB ports (USB0/1) are located on the I/O backpanel. See the tables on the right for pin definitions. Cables are not included.

Back Panel USB 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 2.0 Pin Definitions			
Pin #	Definition	Pin #	Definition
1	+5V	6	USB_DP
2	+5V	7	Ground
3	USB_DN	8	Ground
4	USB_DN	9	NA
5	USB_DP	10	Key

Power LED/Speaker

On the JD1 header, pins 1~3 are used for a power LED and pins 4~7 are used for an external speaker. If you wish to use the onboard speaker, you should close pins 6-7 with a jumper. See the table on the right for speaker pin definitions.

Speaker Connector Pin Definitions	
Pin Setting	Definition
Pins 6-7	Internal Speaker
Pins 4-7	External Speaker

Overheat/Fan Fail LED

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

Overheat LED Pin Definitions	
Pin#	Definition
1	+3V
2	OH Active

OH/Fan Fail LED Status Message	
State	Message
Solid	Overheat
Blinking	Fan Fail

SATA DOM Power

The SATA DOM Power on JSD1 is used to supply power to SATA Disk-on-Module (DOM) solid-state storage devices.

SATA DOM Power Pin Definitions	
Pin#	Definition
1	+5V
2	Ground
3	Ground

SATA DOM Power

The SATA DOM Power on JSD1 is used to supply power to SATA Disk-on-Module (DOM) solid-state storage devices.

SATA DOM Power Pin Definitions	
Pin#	Definition
1	+5V
2	Ground
3	Ground

TPM Header

The JTPM1 header is used to connect a Trusted Platform Module (TPM), available from a third-party vendor. A TPM is a security device that allows encryption and authentication of hard drives. It enables the motherboard to deny access if the TPM associated with the hard drive is not installed in the system. See the table on the right for pin definitions.

Trusted Platform Module Header Pin Definitions			
Pin #	Definition	Pin #	Definition
1	LCLK	2	GND
3	LFRAME	4	No Pin
5	LRESET	6	VCC5
7	LAD3	8	LAD2
9	VCC3	10	LAD1
11	LAD0	12	GND
13	RSV0	14	RSV1
15	SB3V	16	SERIRQ
17	GND	18	CLKRUN
19	LPCPD	20	RSV2

Wake-On-Ring

The Wake-On-Ring header is designated JWOR. This function allows your computer to wake up when receiving an incoming call to the modem when in the suspend state. See the table on the right for pin definitions. You must have a Wake-On-Ring card and cable to use this feature.

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

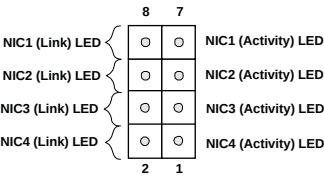
Standby Power Header

The Standby Power and legacy Wake-On-LAN header is located at JSTBY1 on the motherboard. See the table on the right for pin definitions.

Standby Power Pin Definitions	
Pin#	Definition
1	+5V Standby
2	Ground
3	Wake-up

LAN1~LAN4 LED Header

Connect the proper LED cables on header JF2 to provide status indicators for LAN1 through LAN4. See the image on the right for pin-outs.



LAN Ports

Two gigabit LAN ports are located on the I/O back panel. These ports accept RJ45 type cables. These are used to connect the motherboard to a network.

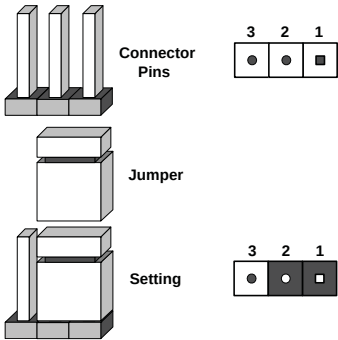
RJ45/LAN Pin Definitions			
Pin #	Definition	Pin #	Definition
1	TX_D1+	5	BI_D3-
2	TX_D1-	6	RX_D2-
3	RX_D2+	7	BI_D4+
4	BI_D3+	8	BI_D4-

5-9 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. See the motherboard layout pages for jumper locations.

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



CMOS Clear

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

To clear CMOS,

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

Note: Do not use the PW_ON connector to clear CMOS.

PCI-E Slot Select

Jumper JPSLOT1 allows the user to select which of the slots to enable, Slot7 or Slot6.

Note: This function is designed for Supermicro SC504/505 chassis, which uses Slot7 (default).

SLOT6/7 Select Jumper Settings	
Jumper Setting	Definition
Pins 1-2	Slot 7 (Default)
Pins 2-3	Slot 6

Watch Dog Reset

Watch Dog (JWD1) is a system monitor that can reboot the system when a software application hangs. Close pins 1~2 to reset the system if an application hangs. Close pins 2~3 to generate a non-maskable interrupt signal for the application that hangs. See the table on the right for jumper settings. Watch Dog must also be enabled in the BIOS.

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

Manufacture Mode

Close pins 2 and 3 of JPME2 to bypass SPI flash security and force the system to operate in the Manufacture Mode, allowing the user to flash the system firmware from a host server for system setting modifications. See the table on the right for jumper settings.

Manufacture Mode (JPME2) Jumper Settings	
Pin#	Definition
Pins 1-2	Normal (Default)
Pins 2-3	Manufacture Mode

SMB (I2C) Bus to PCI Slots

Jumpers JI2C1 and JI2C2 allow you to connect the System Management Bus (SMB) to PCI-E and PCI slots. The default setting is Disabled. See the table on the right for jumper settings.

I2C to PCI-Slots Jumper Settings	
Jumper	Definition
On	Enabled
Off	Disabled (Default)

Front Panel LED Select

Jumper JPF1 allows the user to configure the front panel LAN LED to display status indicators for either normal LAN traffic, or Bypass LAN.

Front Panel LED Select Jumper Settings	
Jumper Setting	Definition
Pins 1-2	Bypass LAN LED
Pins 2-3	Normal (Default)

Front Panel RST Button Select

Jumper JPF2 allows the user to configure the front panel reset button to either send a Non-Maskable Interrupt request or a hardware reset to the system.

Front Panel RST Select Jumper Settings	
Jumper Setting	Definition
Pins 1-2	FR/NMI
Pins 2-3	Normal (Default)

5-10 Onboard Indicators

LAN Port LEDs

Six LAN ports are located on the I/O backpanel. Each Ethernet LAN port has two LEDs. The yellow Activity LED (right) 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 Mb/s
Green (On)	100 Mb/s
Amber (On)	1 Gb/s

GLAN Activity LED Indicator	
Color	Definition
Yellow (Flashing)	ConnectionActive

Onboard Power LED

An Onboard Power LED is located at PWR on the motherboard. When PWR is on, the AC power cable is connected and the system is running.

Onboard PWR LED (PWR) LED Status	
Status	Definition
Off	System Off (Soft Switch)
On	System is Running

Suspend LED

When the Suspend LED is flashing, it indicates that the system has gone into suspend power saving mode.

Suspend LED LED Status	
Status	Definition
Off	System Running
Flashing	System is in Suspend Mode

5-11 SATA Ports

SATA Connections (SATA0, SATA1)

There are two SATA 2.0 ports located on the motherboard. These Serial Link connections provide faster data transmission than legacy Parallel ATA. See the table at right for pin definitions.

SATA 2.0 Connectors Pin Definitions	
Pin#	Signal
1	Ground
2	SATA_TXP
3	SATA_TXN
4	Ground
5	SATA_RXN
6	SATA_RXP
7	Ground

5-12 Installing Software

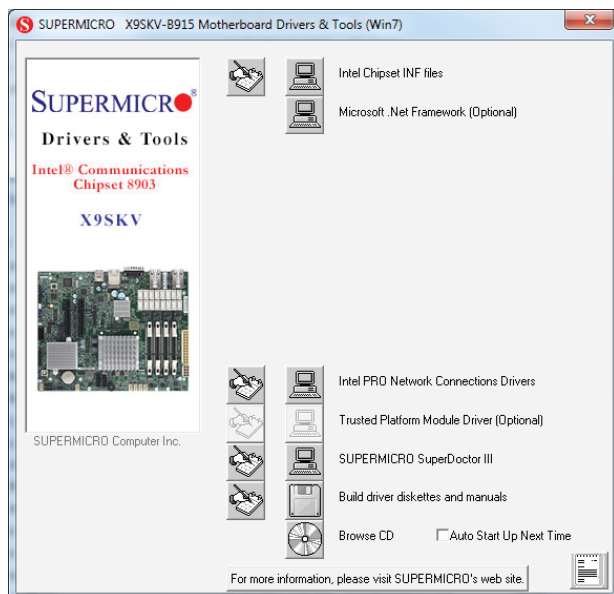
The Supermicro ftp site contains drivers and utilities for your system at <ftp://ftp.supermicro.com>. Some of these must be installed, such as the chipset driver.

After accessing the ftp site, go into the CDR_Images directory and locate the ISO file for your motherboard. Download this file to create a CD/DVD of the drivers and utilities it contains. (You may also use a utility to extract the ISO file if preferred.)

Another option is to go to the Supermicro Website at <http://www.supermicro.com/products/>. Find the product page for your motherboard here, where you may download individual drivers and utilities.

After creating a CD/DVD with the ISO files, insert the disk into the CD/DVD drive on your system and the display shown in Figure 5-5 should appear.

Figure 5-5. Driver Installation Display Screen



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

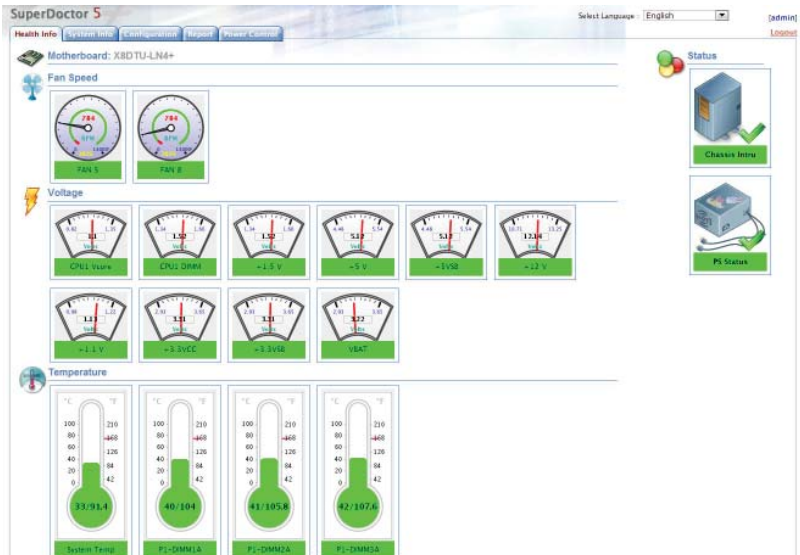
SuperDoctor® 5

The Supermicro SuperDoctor 5 is a program that functions in a command-line or web-based interface in Windows and Linux operating systems. The program monitors system health information such as CPU temperature, system voltages, system power consumption, fan speed, and provides alerts via email or Simple Network Management Protocol (SNMP).

SuperDoctor 5 comes in local and remote management versions and can be used with Nagios to maximize your system monitoring needs. With SuperDoctor 5 Management Server (SSM Server), you can remotely control power on/off and reset chassis intrusion for multiple systems with SuperDoctor 5 or IPMI. SD5 Management Server monitors HTTP, FTP, and SMTP services to optimize the efficiency of your operation.

Note: The default User Name and Password for SuperDoctor 5 is admin / admin.

Figure 5-6. SuperDoctor 5 Interface Display Screen (Health Information)

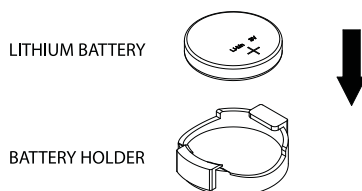


Note: The SuperDoctor 5 program and User's Manual can be downloaded from the Supermicro web site at http://www.supermicro.com/products/nfo/sms_sd5.cfm.

5-13 Onboard Battery

Care must be taken to assure that the chassis cover is in place when the system is operating to assure proper cooling. Out of warranty damage to the system can occur if this practice is not strictly followed.

Figure 5-7. Installing the Onboard Battery



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

Chapter 6

Advanced Chassis Setup

This chapter covers the steps required to install components and perform maintenance on the SC504-203B chassis. For component installation, follow the steps in the order given to eliminate the most common problems encountered. If some steps are unnecessary, skip ahead to the step that follows.

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

6-1 Static-Sensitive Devices

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

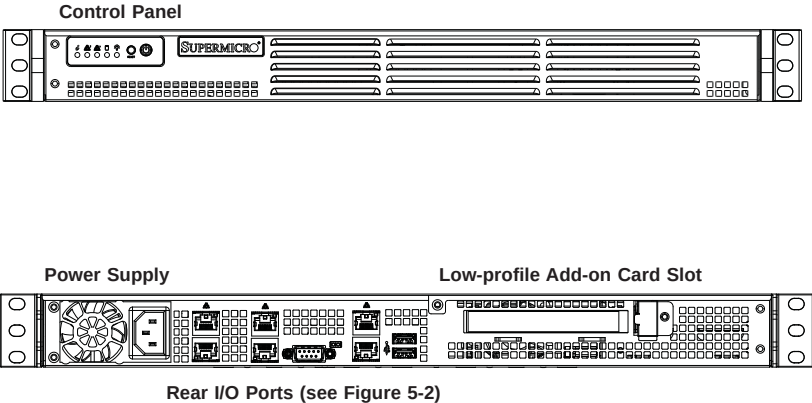
Precautions

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

Unpacking

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

Figure 6-1. Front and Rear Chassis Views



6-2 Control Panel

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

See Chapter 3 for details on the LEDs and the control panel buttons. Details on JF1 can be found in Chapter 5.

6-3 Removing the Chassis Cover

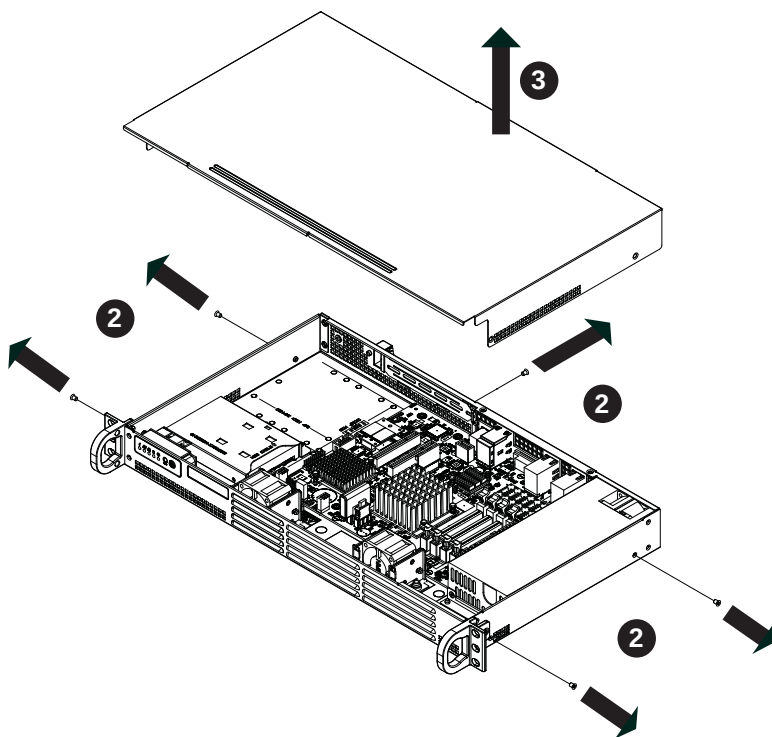


Figure 6-2. Removing the Chassis Cover

Removing the Chassis Cover

1. Power down the system and disconnect the power cord from the back of the power supply.
2. Remove the five screws that hold the chassis cover in place. There are two screws on each side of the chassis and one screw on the back.
3. Once the screws have been removed, lift the cover upward to remove it from the chassis.

Caution: Except for short periods of time, do NOT operate the server without the cover in place. The chassis cover must be in place to allow proper airflow and prevent overheating.

6-4 System Fans (Optional)

Up to three optional system fans may be installed in the SC504 chassis.

Installing Optional System Fans

1. Position the dual system fan housing in the front of the chassis, facing forward as illustrated above, in front of the motherboard.
2. Align the mounting holes in the fan housing with the holes in the floor of the chassis.
3. Secure the dual fan housing to the chassis with the screws provided.
4. Position the single system fan to the left of the dual system fans.
5. Align the mounting holes in the single fan housing with the holes in the floor of the chassis.
6. Secure the single fan housing to the floor of the chassis.
7. Connect the fan cables to the motherboard and put the cover back on the chassis.

6-5 Installing Hard Drives

Follow the instructions that follow to install either 2.5" or 3.5" hard drives.

Installing 3.5" Hard Drives

1. Power down the server, disconnect the power cord from the power supply and remove the cover.
2. Place the 3.5" hard drive into the chassis as illustrated above.
3. Secure the hard drive to the chassis floor by inserting four screws up through the underside of the chassis.
4. Connect the hard drive wiring, reinstall the chassis cover and power cord, then power up the server.

Installing 2.5" Hard Drives

Several different configurations of 2.5" hard drives may be installed in the system. Review the supported configuration options on page 6-6.

1. Power down the server, disconnect the power cord from the power supply and remove the cover.
2. Install 2.5" hard drive(s) into the hard drive bracket(s) and secure them to the bracket with the screws provided. (See page 6-6 for supported configuration options.)
3. Place the hard drive and bracket into the chassis as illustrated in Figure 6-3. If up to two 2.5" hard drives are desired, rotate the hard drive brackets ninety degrees and place them side by side before attaching them to the chassis.
4. Secure the hard drive bracket(s) to the chassis floor by inserting the screws up through the underside of the chassis.
5. Expansion cards must be installed after installing the 2.5" hard drives.
6. Connect the hard drive wiring, reinstall the chassis cover and power cord, then power up the server.

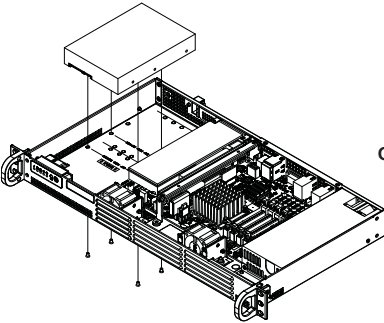
Note: Bracket part number is MCP-220-00051-0N (1x 2.5" HDD) or MCP-220-00044-0N (2x 2.5" HDD).

Note: The drive bracket may cause add-on card interference. Please check card dimensions before choosing the drive bracket type.

Hard Drive Configuration Options

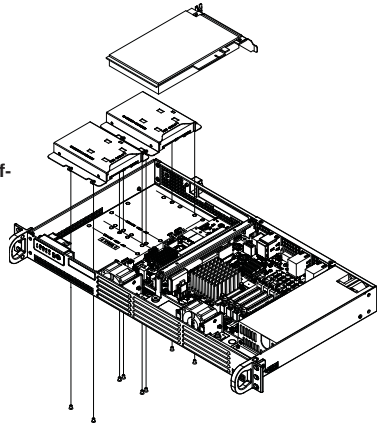
Either two 2.5" or one 3.5" hard drive is supported in the following configurations:

Figure 6-3. Installing Hard Drives



**One 3.5" Hard Drive and one Low Profile
Expansion Card**

**Two 2.5" Hard Drives and One Full-Height, Half-
Length Expansion Card**



6-6 Installing an Expansion Card

The SC504 chassis includes a PCI slot for an optional full-height, half-length expansion card. A riser card is required in order to connect the expansion card to the motherboard. For further information on expansion cards and riser cards, visit the Supermicro website at www.supermicro.com

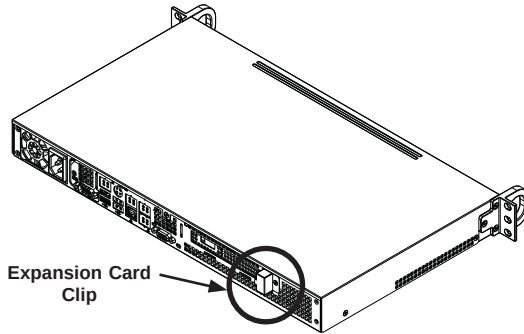


Figure 6-4. Locating the Expansion Card Clip

Installing the Expansion Card

1. Power down the server, disconnect the power cord from the power supply and remove the cover. Locate the expansion card clip on the back of the chassis
2. Remove the screws holding the expansion card clip and the PCI slot cover which covers the PCI slot opening in the back of the chassis.
3. Remove the expansion card clip and the PCI slot cover from the chassis.

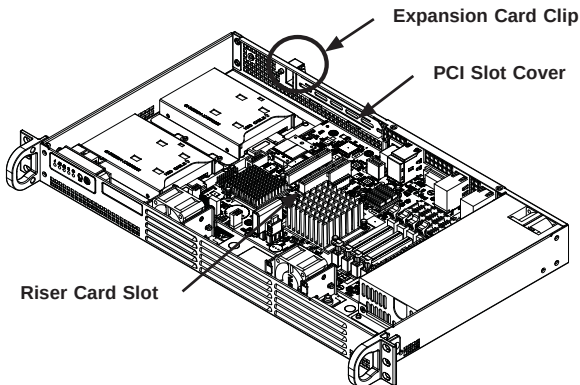


Figure 6-5. Installing the Expansion Card and Riser Card

4. Outside of the chassis, put the expansion card and the riser card together by inserting the expansion card into the riser card.
5. Simultaneously insert the PCI slot bracket of the expansion card into the open PCI slot and insert the riser card in to the riser card slot on the motherboard.

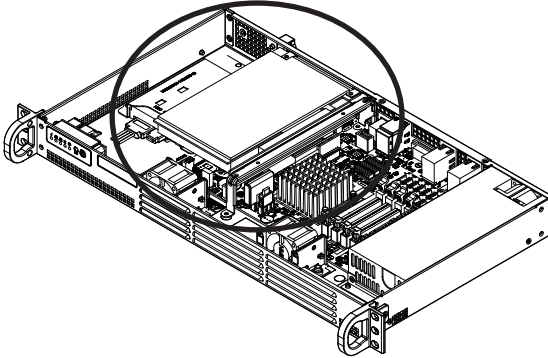


Figure 6-6. Installing the Expansion Card

6. Replace the expansion card clip and screw it onto the chassis to hold the expansion card in place.
7. Replace the cover onto the chassis, reconnect the power cord and power up the server.

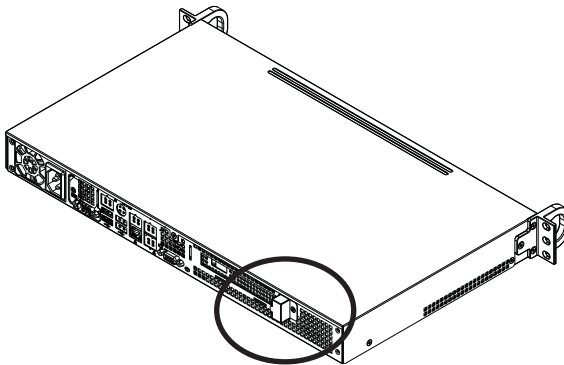


Figure 6-7. Replacing the Expansion Card Clip

6-7 Power Supply

The SC504 chassis has a 200 watt power supply. This power supply is auto-switching capable. This enables it to automatically sense and operate at a 100v to 240v input voltage. In the unlikely event that the power supply module fails, the system will shut down and you will need to replace the power supply module. New units can be ordered directly from Supermicro (see contact information in the Preface).

Replacing the Power Supply

Replacing the Power Supply

1. Power down the system, disconnect the power cord and remove the chassis cover.
2. Disconnect all wiring from the power supply.
3. Remove the four screws which hold the power supply in the chassis. Two rear mounting screws are located on the rear of the power supply. Two bottom mounting screws are accessed on the underside of the chassis and extend upwards through the mounting thru holes, to hold the power supply in place. Set the screws aside for later use.

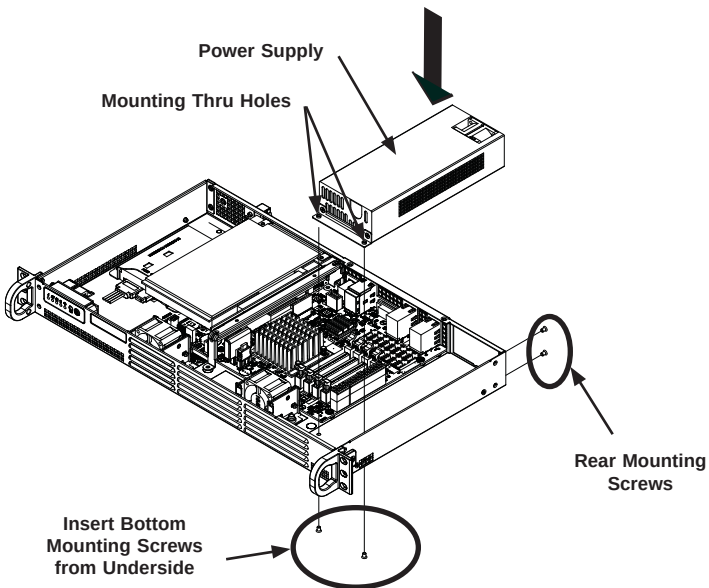


Figure 6-8. Installing the Power Supply

4. Remove the power supply from the chassis.
5. Align the mounting thru holes on the power supply with the mounting holes in the chassis and reattach the power supply to the chassis using the four screws which were previously set aside
6. Reconnect the wiring and the power cord to the power supply, replace the cover and power up the server.

Chapter 7

BIOS

7-1 Introduction

This chapter describes the AMI BIOS Setup Utility for the X9SKV motherboard. The 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.

Note: For AMI BIOS Recovery, please refer to the UEFI BIOS Recovery Instructions in Appendix C.

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>, <F4>, <Enter>, <ESC>, and arrow keys, etc.

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

How To Change the Configuration Data

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

How to Start the Setup Utility

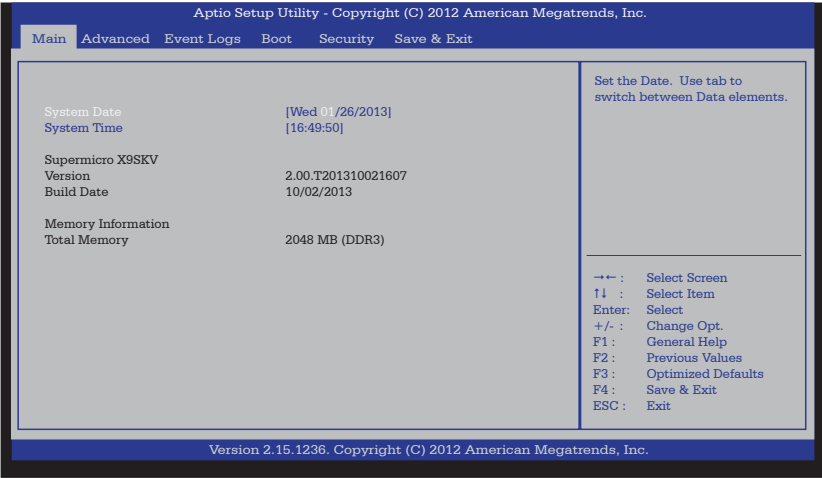
Normally, the only visible Power-On Self-Test (POST) routine is the memory test. As the memory is being tested, press the <Delete> key to enter the main menu of the AMI BIOS Setup Utility. From the main menu, you can access the other setup screens. An AMI BIOS identification string is displayed at the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

Warning: Do not upgrade the BIOS unless your system has a BIOS-related issue. Flashing the wrong BIOS can cause irreparable damage to the system. In no event shall Supermicro be liable for direct, indirect, special, incidental, or consequential damages arising from a BIOS update. If you have to update the BIOS, do not shut down or reset the system while the BIOS is updating. This is to avoid possible boot failure.

7-2 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.

The following Main menu items will be displayed:



System Date/System Time

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

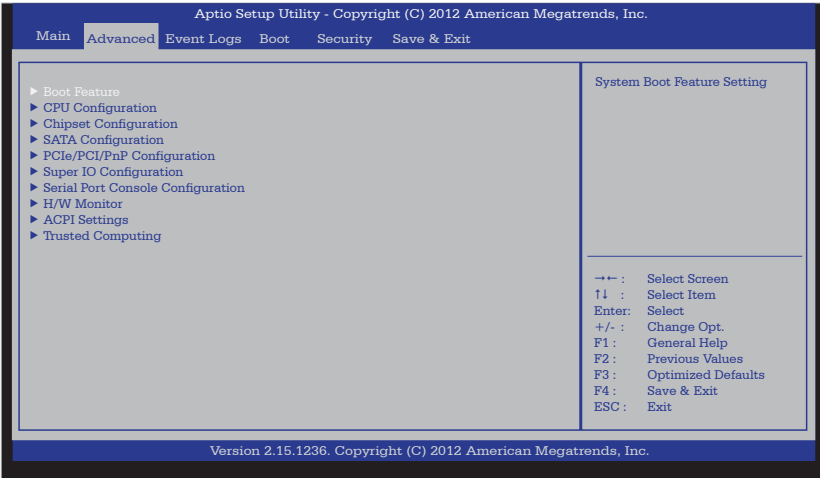
The following BIOS items will also be displayed:

Supermicro X9SKV**Version****Build Date****EC Firmware Version****Memory Information****Total Memory**

This displays the total size of memory available in the system.

7-3 Advanced Setup Configurations

Use the arrow keys to select Advanced Setup and press <Enter> to access the submenu items:



Warning: Take Caution when changing the Advanced settings. An incorrect value, a very high DRAM frequency or an incorrect DRAM timing setting may cause the system to become unstable. When this occurs, restore the setting to the manufacture default setting.

Boot Feature

Quiet Boot

Use this feature to select the screen display between POST messages or the OEM logo at bootup. 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.

AddOn ROM Display Mode

Use this feature to set the display mode for the Option ROM. Select Keep Current to use the current AddOn ROM display setting. Select Force BIOS to use the Option ROM display mode set by the system BIOS. The options are **Force BIOS** and Keep Current.

Bootup Num-Lock

Use this feature to select the Power-on state for the Numlock key. The options are Off and **On**.

Wait For 'F1' If Error

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

Interrupt 19 Capture

Interrupt 19 is the software interrupt that handles the boot disk function. When this item is set to Enabled, the BIOS ROM of the host adaptors will "capture" Interrupt 19 at bootup and allow the drives that are attached to these host adaptors to function as bootable disks. If this item is set to Disabled, the BIOS ROM 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.

Re-try Boot

If this item is enabled, the BIOS will automatically reboot the system from a specified boot device after its initial boot failure. The options are **Disabled**, Legacy Boot, and EFI Boot.

Power Configuration

Watch Dog Function

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

Power Button Function

This feature controls how the system shuts down when the power button is pressed. Select 4 Seconds Override for the user to power off the system after pressing and holding the power button for 4 seconds or longer. Select Instant Off to instantly power off the system as soon as the user presses the power button. The options are **Instant Off** and 4 Seconds Override.

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 power state before a power loss. The options are Stay-Off, Power-On, and **Last State**.

►CPU Configuration

The following CPU information will be displayed:

- CPU Speed (MHz)
- 64-bit (support)
- Type of CPU
- CPU Signature
- Microcode Patch
- Max (Maximum) CPU Speed
- Min (Minimum) CPU Speed
- Processor Cores
- Intel HT(Hyper-Threading) Technology
- Intel VT-x (Virtualization) Technology
- Intel SMX (Trusted Execution) Technology
- L1 Data Cache
- L1 Code Cache
- L2 Cache
- L3 Cache

Hyper-threading

Select Enabled to support Intel Hyper-threading Technology to enhance CPU performance. The options are **Enabled** and Disabled.

Active Processor Cores

This feature determines how many CPU cores will be activated for each CPU. When all is selected, all cores in the CPU will be activated. (Please refer to Intel's web site for more information.) The options are **All** and 1 (X9SKV-B915 only).

Limit CPUID Maximum

Select Enabled to set the maximum CPU ID value and to boot a legacy OS that cannot support processors with extended CPUID functions. The options are Enabled and **Disabled** (for the Windows OS).

Execute Disable Bit (Available if supported by the OS & the CPU)

Set to Enabled to enable the Execute Disable Bit to 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.)

Hardware Prefetcher (Available when supported by the CPU)

If set to Enabled, the hardware prefetcher will prefetch streams of data and instructions from the main memory to the L2 cache to improve CPU performance. The options are Disabled and **Enabled**.

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

Select Enabled for the CPU to prefetch both cache lines for 128 bytes as comprised. Select Disabled for the CPU to prefetch both cache lines for 64 bytes. The options are Disabled and **Enabled**.

Note: If there is any change to this setting, you will need to power off and reboot the system for the change to take effect. Please refer to Intel's web site for detailed information.

DCU Streamer Prefetcher

This feature allows the system to prefetch the next L1 line based upon the sequential load history. The options are Disabled and **Enabled**.

DCU IP Prefetcher

When enabled, A VMM can utilize additional hardware capabilities provided by the Vanderpool Technology. The options are Disabled and **Enabled**.

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

Select Enabled to use the Intel Virtualization Technology to allow one platform to run multiple operating systems and applications in independent partitions, creating multiple "virtual" systems in one physical computer. The options are **Enabled** and Disabled.

Clock Spread Spectrum

If this feature is set to Enabled, the BIOS will monitor the level of electromagnetic interference caused by the components and will attempt to reduce the interference whenever needed. The options are Enabled and **Disabled**.

►CPU Power Management Configuration**Power Technology**

Use this feature to select a power-saving scheme for the motherboard. The options are Disabled, **Energy Efficient** and Custom. If Custom is selected, the following options become available:

EIST

EIST (Enhanced Intel SpeedStep Technology) allows the system to automatically adjust processor voltage and core frequency in an effort to reduce power consumption and heat dissipation. **Please refer to Intel's web site for detailed information.** The options are Disabled and **Enabled**. The following options will appear if EIST is enabled:

P-STATE Coordination

This feature selects the type of coordination for the P-State of the processor. P-State is a processor operational state that reduces the processor's voltage and frequency. This makes the processor more energy efficient, resulting in further energy gains. The options are **HW_ALL**, SW_ALL and SW-ANY.

CPU C3 Report

Select Enabled to allow the BIOS to report the CPU C3 State (ACPI C2) to the operating system. During the CPU C3 State, the CPU clock generator is turned off. The options are **Disabled**, ACPI C-2 and ACPI C-3.

CPU C6 Report

Select Enabled to allow the BIOS to report the CPU C6 State (ACPI C3) to the operating system. During the CPU C6 State, the power to all caches is turned off. The options are **Enabled** and Disabled.

CPU C7 Report

Select Enabled to allow the BIOS to report the CPU C7 State (ACPI C3) to the operating system. CPU C7 State is a processor-specific low C-State. The options are Disabled, and **Enabled**.

Package C-State limit

Select the C-State limit or No Limit for the AMI BIOS to set C-State package register. The options are C0, C2, C6, C7, and **No Limit**.

Factory Long Duration Power Limit

This feature displays the value of the processor power consumption limit (in Watts) set by the manufacturer for a long duration time window.

Long Duration Power Limit

Use this feature to set the processor power consumption limit (in Watts) value for a long duration time window.

Factory Long Duration Maintained

This feature displays the manufacture-preset time value in milliseconds when the Long Duration Power Limit is maintained.

Long Duration Maintained

Use this feature to set the time value when the Long Duration Power Limit is maintained.

Recommended Short Duration Power Limit

The system's power consumption may exceed the processor's default power setting and the Short Duration Power Limit when operating in the turbo mode. This feature displays the Short Duration Power Limit value recommended by the manufacturer for turbo mode operation.

Short Duration Maintained

Use this feature to set the time value when the Short Duration Power Limit is maintained.

►Chipset Configuration

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

►North Bridge

The following memory information will be displayed:

Memory Information

- Total Memory
- DIMMA1
- DIMMA2
- DIMMB1
- DIMMB2

VT-d

Select Enabled to enable Intel Virtualization Technology support for Direct I/O VT-d by reporting the I/O device assignments to the Virtual Machine Manager (VMM) through the DMAR ACPI Tables. This feature offers fully-protected I/O resource-sharing across the Intel platforms, providing the user with greater reliability, security and availability in networking and data-sharing. The settings are **Enabled** and **Disabled**.

Memory ECC Support

Set this option to either Enabled or Disabled to activate or deactivate memory ECC support. The options are **Enabled** and **Disabled**.

Memory Frequency

This feature limits the frequency on which the system memory operates. The settings are **Auto**, Force DDR-1067, Force DDR-1333, and Force DDR-1600.

PCI Express Port

Set this option to either Enabled or Disabled to activate or deactivate the PCI-E port. Otherwise, leave this set to Auto. The options are Enabled, Disabled and **Auto**

PEG Force Gen1

Set this option to either Enabled or Disabled to force PCI Gen1 on the PCI-E port. The options are Enabled and **Disabled**.

Detect Non-Compliant Device

Select Enabled for the AMI BIOS to automatically detect a PCI-E device that is not compliant with the PCI-E standards. The options are Enabled and **Disabled**.

►South Bridge

SMBus Controller

Set this option to either Enabled or Disabled to activate or deactivate the SMBus controller on the motherboard. The options are **Enabled** and Disabled.

SLP_S4 Assertion Stretch Enable

Set this option to either Enabled or Disabled to activate or deactivate the SLP_S4# Assertion Stretch. The options are **Enabled** and Disabled.

SLP_S4 Assertion Width

Set this option to select a minimum assertion width for the SLP_S4# signal. The options are, 1-2 Seconds, 2-3 Seconds, 3-4 Seconds, and **4-5 Seconds**.

High Precision Timer

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

►USB Configuration

All USB Devices

Set this option to either Enabled or Disabled to activate or deactivate all USB ports on the motherboard. The options are **Enabled** and Disabled.

USB Port 0 ~ USB Port 5

Set this option to either Enabled or Disabled to activate or deactivate a particular USB port on the motherboard. The options are **Enabled** and Disabled.

USB01 Wake Up / USB23 Wake Up / USB45 Wake Up

Set this option to either Enabled or Disabled to activate or deactivate the USB wake up feature on the specified pair USB ports on the motherboard. The options are **Enabled** and Disabled.

►SATA Configuration

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

- SATA Port0
- SATA Port1

SATA Mode

This item selects the mode for the installed SATA drives. The options are IDE Mode, and **AHCI Model**, and Disabled.

If the item above -SATA Mode Selection is set to AHCI, the following items are displayed:

Serial ATA Port 0~ Port 1

This item displays the information detected on the installed SATA drives on the particular SATA port.

- Model number of drive and capacity
- Software Preserve Support

Staggered Spin Up

On an edge detect from 0 to 1, set this item to allow the PCH to start a COMRESET initialization sequence to the device. The options are Enabled and **Disabled**.

Port 0 ~ Port 1 Hot Plug

This feature designates the port specified for hot plugging. Set this item to Enabled for hot-plugging support, which will allow the user to replace a SATA disk drive without shutting down the system. The options are Enabled and **Disabled**.

►PCIe/PCI/PnP Configuration

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

Above 4G Decoding

Select Enabled for 64-bit devices to be decoded above the 4GB address space If 64bit PCI decoding is supported by the system. The options are **Disabled** and Enabled.

VGA Palette Snoop

Select Enabled to support VGA palette register snooping which will allow the PCI cards that do not contain their own VGA color palette to examine the video cards palette and mimic it for proper color display. The options are **Disabled** and Enabled.

PERR# Generation

Select Enabled to allow a PCI device to generate a PERR number for a PCI Bus Signal Error Event. The options are **Enabled** and Disabled.

SERR# Generation

Select Enabled to allow a PCI device to generate an SERR number for a PCI Bus Signal Error Event. The options are **Enabled** and Disabled.

ASPM Support

This feature configures the ASPM (Active State Power Management) settings for the graphics device installed on the PCI-E Slot. The options are **Disabled**, Auto, and Force L0s.

Onboard LAN 1, 2, 3 and 4

This setting enables or disables the onboard LAN1-LAN4 ports. The options are Disabled and **Enabled**.

Onboard LAN5 / Onboard LAN6

This setting enables or disables the designated onboard LAN port. The options are Disabled and **Enabled**.

LAN Bypass Setting

This option configures the motherboard's LAN Bypass feature setting. The options are **No Change**, Enabled, Disabled and Passive. Refer to the table below.

LAN Bypass Settings	
Mode	Description
No Change	No change from previous boot: i.e. do not program bypass; (default setting)
Enabled	Enable bypass mode
Disabled	Disable bypass mode
Passive	Passive bypass mode: when system loses power, go to bypass mode

PCI / PCIX / PCIe Slot 6/7 OPROM

Select Yes to enable OPROM for a PCI slot as specified. The options are Disabled, **Legacy** and EFI.

Launch Storage OPROM Policy

This feature controls how the system executes UEFI (Unified Extensible Firmware Interface), and legacy storage OPROM. Select Legacy Only to boot the system using a legacy device installed in a PCI slot. The options are Do not launch, UEFI only, **Legacy Only**, Legacy first and UEFI first.

Other PCI Device ROM Priority

This feature selects a PCI device Option ROM for system boot if this device is not a network, mass storage, or video device. The options are UEFI Only and **Legacy Only**.

Onboard LAN1 Option ROM ~ Onboard LAN6 Option ROM

Select PXE (Preboot Execution Environment) to boot the computer using a PXE device installed in a LAN port specified. Select Disabled to prevent system boot using a device installed in a LAN port. The options for Onboard LAN1 Option ROM are Disabled, **PXE**, and iSCSI. The options for Onboard LAN2~LAN6 Option ROM are **Disabled** and PXE.

Network Stack

Select Enabled to enable PXE (Preboot Execution Environment) or UEFI (Unified Extensible Firmware Interface) for network stack support. The options are Enabled and **Disabled**.

Ipv4 PXE Support (Available when Network Stack is set to Enabled)

Select Enabled to enable Ipv4 PXE (Preboot Execution Environment) for boot support. If this feature is set to Disabled, Ipv4 PXE boot option will not be supported. The options are **Enabled** and Disabled.

►Super IO Configuration**NCT6683D Super IO Chip****►Serial Port 0~1 Configuration****Serial Port**

Select Enabled to enable onboard serial ports. The options are **Enabled** and Disabled.

Device Settings

This feature displays the base I/O port address and the Interrupt Request address of Serial Port 0~1.

Change Port Settings

This option specifies the base I/O port address and the Interrupt Request address of the Serial Port. Select Auto to let the BIOS automatically assign the base I/O and IRQ address.

The options for Serial Port 0 are **Auto**, (IO=3F8h; IRQ=4), (IO=3F8h; IRQ=3, 4, 5, 6, 7, 10, 11, 12), (IO=2F8h; IRQ=3, 4, 5, 6, 7, 10, 11, 12), (IO=3E8h; IRQ=3, 4, 5, 6, 7, 10, 11, 12) and (IO=2E8h; IRQ=3, 4, 5, 6, 7, 10, 11, 12).

The options for Serial Port 1 are **Auto**, (IO=2F8h; IRQ=3), (IO=3F8h; IRQ=3, 4, 5, 6, 7, 10, 11, 12), (IO=2F8h; IRQ=3, 4, 5, 6, 7, 10, 11, 12), (IO=3E8h; IRQ=3, 4, 5, 6, 7, 10, 11, 12) and (IO=2E8h; IRQ=3, 4, 5, 6, 7, 10, 11, 12).

►Serial Port Console Redirection

COM1~COM2

Use this feature to enable console redirection for COM1~COM2. The options are Enabled and Disabled. The default for COM1 is Enabled, and Disabled for COM2.

►Console Redirection Settings (COM1/COM2)

Configure the following options for the Console Redirection Settings. The most common settings are set as default:

Terminal Type : Select ANSI, VT100, **VT100+**, or VT-UTF8

Bits per Second (BPS): 9600, 19200, 38400, 57600, or **115200**

Data Bits: **8** or 7

Parity: **None**, Even, Odd, Mark, or Space

Stop Bits: **1** or 2

Flow Control: **None** or Hardware RTS/CTS

VT-UTF8 Combo Key Support: **Enabled** or Disabled

Recorder Mode: **Disabled** or Enabled

Resolution 100x31: Disabled or **Enabled**

Legacy OS Redirection Resolution: **80x24** or 80x25

PuTTY Keypad: **VT100**, Linux, XTermR6, SCO, ESCN, VT400

Redirection After BIOS POST: **Always Enable**, Bootloader

Serial Port for Out-of-Band Management / Windows Emergency Management Services (EMS)

Use this feature to enable console redirection.

Console Redirection

Use this feature to enable console redirection for Serial Port Out-of-Band Management / Windows Emergency Management Services (EMS) ports. The options are Enabled and **Disabled**.

► Console Redirection Settings

Configure the following options for the Console Redirection Settings. The most common settings are set as default:

Out-of-Band Management Port: **COM1**, COM2

Terminal Type: Select ANSI, VT100, VT100+, or **VT-UTF8**

Bits per Second (BPS): 9600, 19200, 57600, or **115200**

Flow Control: **None**, Hardware RTS/CTS, Software Xon/Xoff

Data Bits: **8** or 7

Parity: **None**, Even, Odd, Mark, or Space

Stop Bits: **1** or 2

►H/W (Hardware) Monitor

PC Health Status

Fan Speed Control Mode

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 for effective system cooling. Select "Full Speed" to allow the onboard fans to run at full speed (of 100% Pulse Width Modulation Duty Cycle) for maximum cooling. This setting is recommended for special system configuration or debugging. Select "Standard" for the onboard fans to run at 50% of the Initial PWM Cycle in order to balance the needs between system cooling and power saving. This setting is recommended for regular systems with normal hardware configurations. The options are Full Speed (@100% of PWM Cycle), and **Standard** (@50% of PWM Cycle).

The following items will be displayed:

- Peripheral Temperature
- System Temperature
- CPU Temperature
- PCH Temperature
- DIMM1~DIMM4 Temperature
- Fan 1 Speed ~ Fan 6 Speed
- 12VCC
- 5VCC
- 3VCC
- PCH Voltage
- Memory VCC
- CPU Vcore
- VBAT

►ACPI Settings

Enable Hibernation

Set this option to either Enabled or Disabled to activate or deactivate hibernation support on the motherboard. The options are Enabled and **Disabled**.

ACPI Sleep State

This feature selects the ACPI Sleep State that the system will enter into when the suspend button is activated. The options are **Suspend Disabled**, S1 only (CPU Stop Clock), S3 only (Suspend to RAM), Both S1 and S3 available for OS to choose from.

►Trusted Computing (Available when a TPM Device is Detected)

Configuration

Security Device Support

Select Enable for the AMI BIOS to automatically download the drivers needed to provide Trusted Computing platform support for this machine to ensure data integrity and network security. The options are **Disable** and Enable.

TPM State

Select Enabled to use TPM (Trusted Platform Module) settings for system data security. The options are **Disabled** and Enabled.

Note: The system will reboot for the change on TPM State to take effect.

Pending Operation

Use this item to schedule a TPM-related operation to be performed by a security device for TPM support. The options are **None**, Enable Take Ownership, Disable Take Ownership, and TPM Clear.

Note: The computer will reboot to carry out a pending TPM operation and change TPM state for a TPM device.

Current Status Information

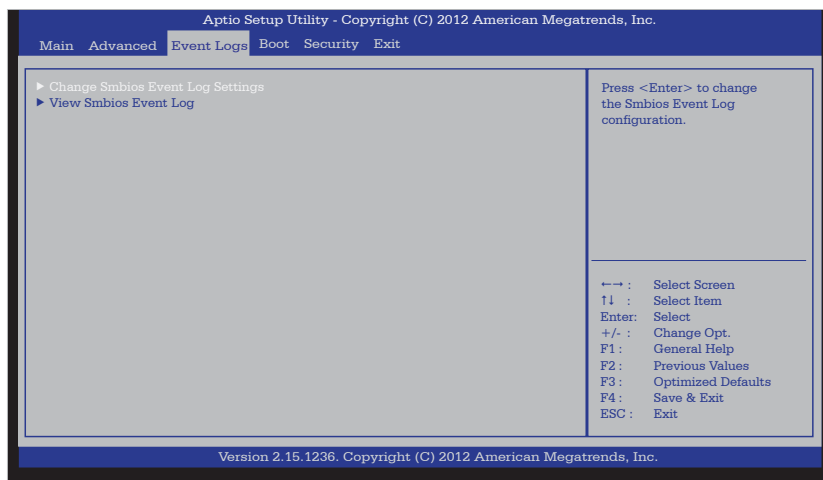
This feature indicates the status of the following TPM items:

TPM Enabled Status

TPM Active Status

TPM Owner Status

7-4 Event Logs



►Change SmbIOS Event Log Settings

Smbios Event Log

Change this item to enable or disable all features of the Smbios Event Logging during boot. The options are **Enabled** and Disabled.

PCI Error Logging Support

Change this item to enable or disable runtime error logging. The options are Enabled and **Disabled**.

Erase Event Log

This option erases all logged events. The options are **No**, Yes, Next reset and Yes, Every reset.

When Log is Full

This option automatically clears the Event Log memory of all messages when it is full. The options are **Do Nothing** and Erase Immediately.

Log System Boot Event

This option toggles the System Boot Event logging to enabled or disabled. The options are **Disabled** and Enabled.

MECI

The Multiple Event Count Increment (MECI) counter counts the number of occurrences a duplicate event must happen before the MECI counter is incremented. This is a numeric value.

METW

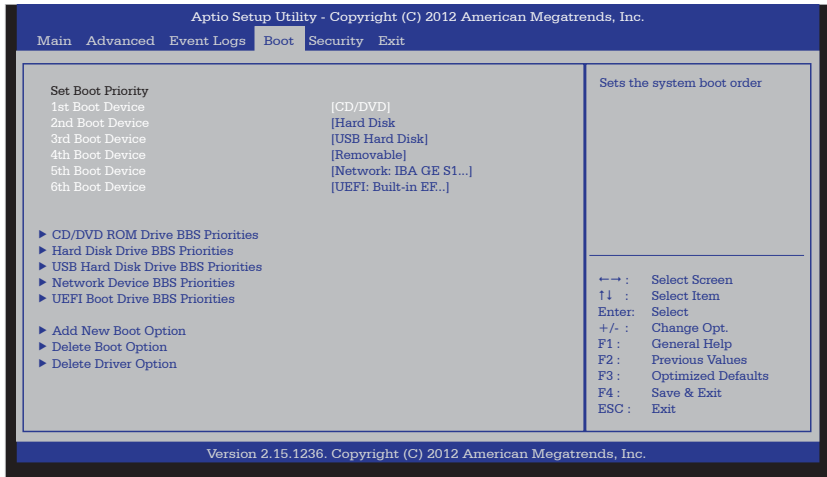
The Multiple Event Time Window (METW) defines number of minutes must pass between duplicate log events before MECI is incremented. This is in minutes, from 0 to 99.

View SmbIOS Event Log

This feature displays the contents of the smBIOS Event Log.

7-5 Boot Settings

Use this feature to configure Boot Settings:



Set Boot Priority

This option prioritizes the order of bootable devices that the system to boot from. Press [ENTER] on each entry from top to bottom to select devices.

- 1st Boot Device
- 2nd Boot Device
- 3rd Boot Device
- 4th Boot Device
- 5th Boot Device
- 6th Boot Device

▶ CD/DVD ROM Drive BBS Priorities

- 1st Device
- 2nd Device

► **Hard Disk Drive BBS Priorities**

- 1st Device
- 2nd Device

► **USB Hard Disk Drive BBS Priorities**

- 1st Device
- 2nd Device

► **Network Device BBS Priorities**

- 1st Device
- 2nd Device

► **UEFI Boot Drive BBS Priorities**

- 1st Boot Device

► **Add New Boot Option**

This feature allows the user to add a boot device from which the systems will boot after power-on.

Add Boot Option

Enter the name of the new boot option here.

Path for Boot Option

Enter the path of the new boot option here.

Create

Press Enter here to create the new boot option.

► **Delete Boot Option**

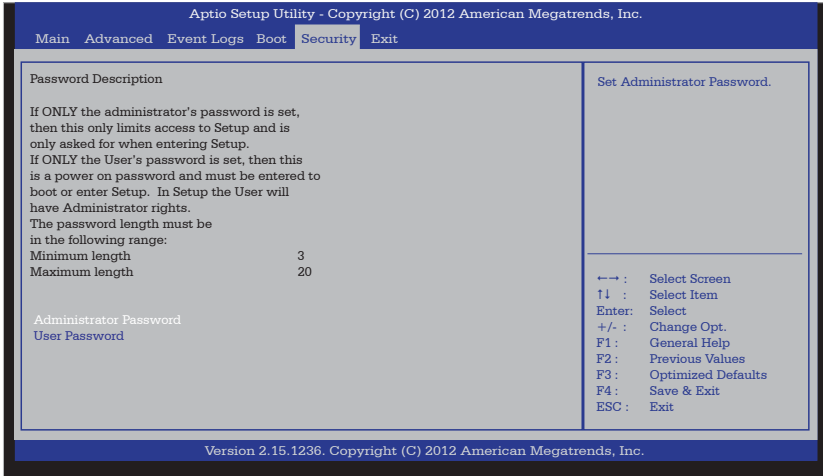
Use this feature to remove a pre-defined boot device from which the system will boot during startup. The settings are [any pre-defined boot device]

► **Delete Driver Option**

Use this feature to remove a pre-defined driver from which the system will boot during startup. The settings are [any pre-defined boot device]

7-6 Security Settings

This menu allows the user to configure the following security settings for the system.



- If the Administrator password is defined ONLY - this controls access to the BIOS setup ONLY.
- If the User's password is defined ONLY - this password will need to be entered upon each system boot, and will also have Administrator rights in the setup.
- Passwords must be at least 3 and up to 20 characters long.

Administrator Password

Use this feature to set the Administrator Password which is required to enter the BIOS setup utility. The length of the password should be from 3 characters to 20 characters long.

User Password:

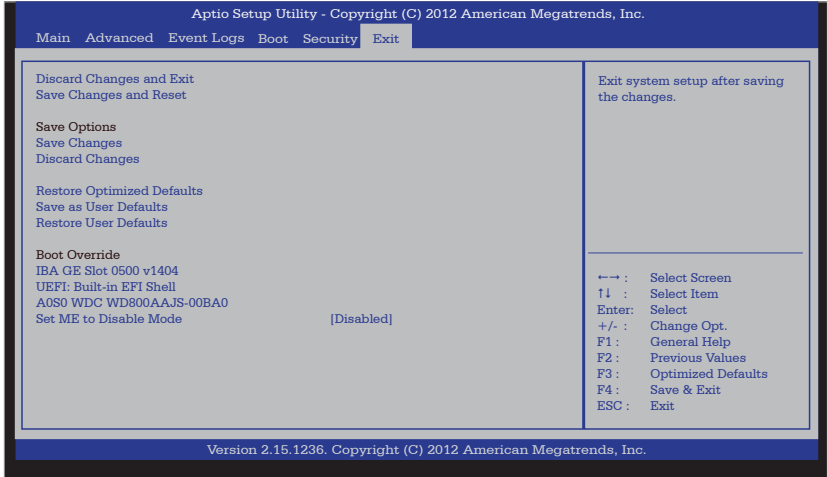
Press Enter to create a new, or change an existing User password.

HDD Security Configuration

Use this feature to set the Hard Disk Drive Password which will be required to access the selected hard disk drive. The length of the password should be from 3 characters to 20 characters long. To begin, use the cursor to highlight a detected hard disk and press <Enter>. Press <Enter> again on "Set User Password" to define the hard disk drive password. Save when finished.

7-7 Save & Exit

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



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>.

Save Changes and Reset

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

Save Options

Save Changes

When you have completed the system configuration changes, select this option to save all changes made. This will not reset (reboot) the system.

Discard Changes

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

Restore Optimized Defaults

To set this feature, select Restore Defaults from the Exit menu and press <Enter>. These are factory settings designed for maximum system performance but not for maximum stability.

Save As User Defaults

To set this feature, select Save as User Defaults from the Exit menu and press <Enter>. This enables the user to save any changes to the BIOS setup for future use.

Restore User Defaults

To set this feature, select Restore User Defaults from the Exit menu and press <Enter>. Use this feature to retrieve user-defined settings that were saved previously.

Boot Override

Listed on this section are other boot options for the system (i.e., Built-in EFI shell). Select an option and press <Enter>. Your system will boot to the selected boot option. This is a one-time override.

Set ME to Disable Mode

Enable this option to initiate ME recovery mode. The options are Enabled and **Disabled**.

Notes

Appendix A

POST Error Beep Codes

During the POST (Power-On Self-Test) routines, which are performed at each system boot, errors may occur.

Non-fatal errors are those which, in most cases, allow the system to continue to boot. The error messages normally appear on the screen.

Fatal errors will not allow the system to continue with bootup procedure. If a fatal error occurs, you should consult with your system manufacturer for possible repairs.

These fatal errors are usually communicated through a series of audible beeps. The numbers on the fatal error list correspond to the number of beeps for the corresponding error.

BIOS Error Beep Codes		
Beep Code/LED	Error Message	Description
1 beep	Refresh	Ready to boot
5 short beeps	Memory Error	No memory detected in the system
5 beeps	No con-in or no con-out devices	Con-In: USB keyboard, PCI or Serial Console Redirection, IPMI KVM or SOL Con-Out: Video Controller, PCI or Serial Console Redirection, IPMI SOL
1 beep per device	Refresh	1 beep for each USB device

Notes

Appendix B

System Specifications

Processor

Single Intel® Pentium B915C (embedded) processor

Note: Please refer to our web site for a complete listing of supported processors.

Chipset

Intel 8903CC chipset

BIOS

64Mb SPI Flash EEPROM with AMI UEF

Memory Capacity

Four SO-DIMM slots that can support up to 32GB of ECC DDR3-1333/1066 memory

Note: see Section 5-6 for details.

Drive Bays

One 3.5" internal or two 2.5" internal SATA2 drives (not hot-swappable)

Motherboard

X9SKV-B915 (Flex ATX form factor)

Dimensions: 9 x 7.2 in (228.6 x 182.9 mm)

Chassis

SC504-203B (1U rackmount)

Dimensions: (WxHxD) 17.2 x 1.7 x 9.8 in. (437 x 43 x 249 mm)

Net Weight

8 lbs. (3.62 kg.)

System Input Requirements

AC Input Voltage: 100 - 240V AC auto-range

Rated Input Current: 2.6A max

Rated Input Frequency: 50 to 60 Hz

Power Supply

Rated Output Power: 200W (Part# PWS-203-1H)

Rated Output Voltages: +5V (8A), +12V (16A), +3.3V (8A), +5Vsb (2A)

Operating Environment

Operating Temperature: 10° to 35° C (32° to 95° F)

0° to 47° C (32° to 116° F) with certain configurations/workload environments

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

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

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

Regulatory Compliance

Electromagnetic Emissions: FCC Class B, EN 55022 Class B, EN 61000-3-2/-3-3, CISPR 22 Class B, KCC KC22/24

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

Safety: CSA/EN/IEC/UL 60950-1 Compliant, UL or CSA Listed (USA and Canada), CE Marking (Europe), CCC (GB4943-2011, GB17625-2012, GB9254-2008), NOM, CU, SABS, SASO, ANATEL, BIS

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

Notes

(continued from front)

The products sold by Supermicro are not intended for and will not be used in life support systems, medical equipment, nuclear facilities or systems, aircraft, aircraft devices, aircraft/emergency communication devices or other critical systems whose failure to perform be reasonably expected to result in significant injury or loss of life or catastrophic property damage. Accordingly, Supermicro disclaims any and all liability, and should buyer use or sell such products for use in such ultra-hazardous applications, it does so entirely at its own risk. Furthermore, buyer agrees to fully indemnify, defend and hold Supermicro harmless for and against any and all claims, demands, actions, litigation, and proceedings of any kind arising out of or related to such ultra-hazardous use or sale.