



SuperBlade[®] SBI-4119MG-X



USER'S MANUAL

Revision 1.0a

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Preface

About this Manual

This manual is written for professional system integrators and PC technicians. It provides information for the installation and use of the SuperBlade SBI-4119MG-X. Installation and maintenance should be performed by experienced technicians only.

Please refer to the SBI-4119MG-X server specifications page on our website for updates on supported memory, processors and operating systems (<http://www.supermicro.com>).

Notes

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: <https://www.supermicro.com/wftp/driver>
- Product safety info: http://www.supermicro.com/about/policies/safety_information.cfm

If you have any questions, please contact our support team at:
support@supermicro.com

This manual may be periodically updated without notice. Please check the Supermicro website for possible updates to the manual revision level.

Warnings

Special attention should be given to the following symbols used in this manual.

Secure Data Deletion

A secure data deletion tool designed to fully erase all data from storage devices can be found on our website: https://www.supermicro.com/about/policies/disclaimer.cfm?url=/wftp/utility/Log9_Secure_Data_Deletion_Utility/



Warning! Indicates important information given to prevent equipment/property damage or personal injury.



Warning! Indicates high voltage may be encountered when performing a procedure.

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Chapter 1

Introduction

1.1 Overview

This user's manual covers the SBI-4119MG-X SuperBlade module. These blade modules are compact self-contained servers that connect into a pre-cabled enclosure that provides power, cooling, management and networking functions. One of the following SBE-820C/820J/820L enclosures (with up to eight 2200W power supplies) can hold up to 20 SBI-4119MG-X SuperBlade units.

In this manual, "blade system" refers to the entire system (including the enclosure and blades units), "blade" or "blade unit" refers to a single blade module, "Node" refers to a single node in each blade module and "blade enclosure" is the chassis that the blades, power supplies and modules are housed within.

Please refer to our website for information on operating systems that have been certified for use with the SuperBlade (www.supermicro.com/products/superblade/).

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: <https://www.supermicro.com/wftp/driver>

Product safety information: http://www.supermicro.com/about/policies/safety_information.cfm

If you have any questions, please contact our support team at:

support@supermicro.com

A complete list of safety warnings is provided on the Supermicro website at http://www.supermicro.com/about/policies/safety_information.cfm.

1.2 Product Checklist of Typical Components

Your blade module ships with its B11SCG-CTF mainboard already installed in its chassis. Memory, hard disk drives and the CPU must all be installed by the user after shipment. See Chapter 2: "Setup and Installation" for details on installation of these components.

Typical support modules for systems with the SBI-4119MG-X SuperBlade module when mounted in an 8U enclosure system include the following:

- MBM-CMM-001 or MBM-CMM-FIO CMM module (up to two)
- MBM-XEM-002 10G switch modules (up to two)

1.3 Blade Module Features

The table below lists the main features of the SBI-4119MG-X SuperBlade module. See the proceeding section for components typically included in a blade system and other optional components. Specific details for the SBI-4119MG-X blade module are found in Chapter 3: "Blade Module Features".

SBI-4119MG-X SuperBlade Modules Specification Features	
Specification	Description
Mainboard	B11SCG-CTF (proprietary form factor)
Processors	Single Intel™ Xeon® E 2100 series Socket H4 (LGA 1151) processor for each node. Please refer to our website for a complete listing of supported processors.
Chipset	One Intel C246 chip set
Graphics Controller	Integrated Aspeed AST2500 VGA graphics chip for each node
BIOS	128 Mb SPI Flash EEPROM with AMI® BIOS for each node
Memory Capacity	Supports up to 128 GB ECC UDIMM DDR4 2666/2400/2133 MHz speed memory in 32GB, 16GB, 8GB, 4GB size 288-pin DIMM sockets. See https://www.supermicro.com/support/resources/memory/X11_memory_config_guide.pdf for details.
Storage	One NVMe/SATA3 M.2 slot, one SATA DOM port
Add-on Cards	The SBI-4119MG-X blade modules can use optional add-on cards for a TPM 2.0 security module, Intel VROC RAID card or a Hardware RSTe key upgrade module.
System Weight	9.5 lbs (4.3 kg)
System Dimensions	(HxWxD): 6.5 x 1.75 x 23.5" (165.1 x 44.45 x 596.9-mm)

Processors

The SBI-4119MG-X SuperBlade module supports a single Intel Xeon E-2100, Socket H4 (LGA 1151) series processor.

Refer to the Supermicro website for a complete listing of supported processors (<http://www.supermicro.com/products/superblade>). Please note that you will need to check the detailed specifications of a particular blade module for a list of the CPUs it supports.

Details on installation of the processor into the SBI-4119MG-X SuperBlade module are found in Chapter 2: "Setup and Installation".

Memory

The SBI-4119MG-X SuperBlade module has four 288-pin DIMM sockets that can support up to 128 GB ECC UDIMM DDR4 2666/2400/2133 MHz speed, 32GB, 16GB, 8GB, 4GB size memory per node. Memory is interleaved, which requires modules of the same size and speed to be installed in groups (of two or three).

Please refer to the Supermicro website for a list of supported memory (www.supermicro.com/products/superblade). The detailed specifications for a blade module will contain a link to a list of recommended memory sizes and manufacturers.

Details on installation of memory modules into the SBI-4119MG-X SuperBlade module are found in Chapter 2: "Setup and Installation".

Storage

The SBI-4119MG-X SuperBlade module has one NVMe/SATA3 M.2 slot on the motherboard. See Chapter 2: "Setup and Installation" for storage installation details.

RAID

This blade module does not have RAID support.

Enclosure Requirements

The SBI-4119MG-X blade module requires one of the following enclosures to run in:

- SBE-820C-XXX
- SBE-820J-XXX
- SBE-820L-XXX

The SBI-4119MG-X blade module also requires a one or more power supplies in the enclosure to run the blade module. Available SuperBlade power supplies can be found on the Supermicro website at <https://www.supermicro.com/products/SuperBlade/powersupply/>.

Density

A maximum of 20 SBI-4119MG-X blade modules may be installed into a single blade enclosure. Each blade enclosure is a 8U form factor, so a standard 42U rack may accommodate up to five enclosures with 100 blade modules, or the equivalent of 100 1U servers. With the inclusion of ten CMM modules and 20 1G/10G Ethernet switches, this would occupy up to 130U space in a conventional 1U server configuration.

Unique Password

Supermicro ships standard products with a unique password for the BMC ADMIN user. This password can be found on a label on the motherboard. For more information, please refer to our website at https://www.supermicro.com/en/support/BMC_Unique_Password and https://www.supermicro.com/support/BMC_Unique_Password_Guide.pdf for further information. See the illustration below for the location of the Unique Password (UPWD) on the service tag mounted on the blade module.

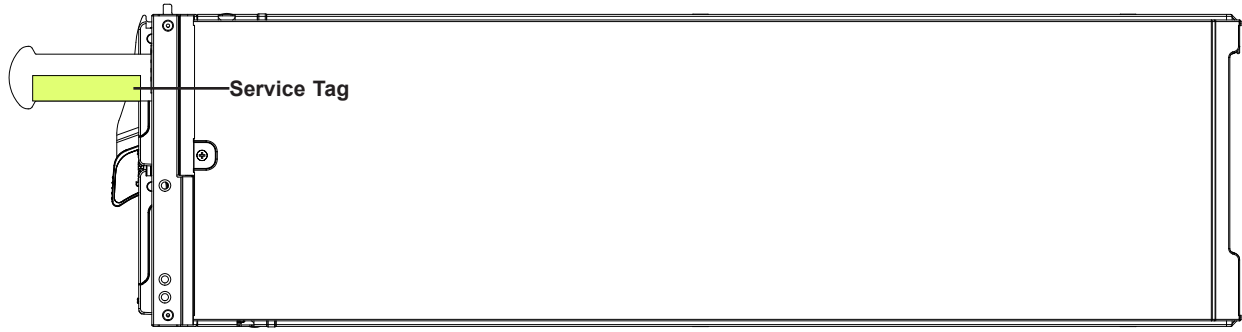


Figure 1-1. Service Tag Location on Blade Module

Chapter 2

Setup and Installation

2.1 Overview

This chapter covers the setup and installation of the blade module and its components. Please refer to Appendix B, Standardized Warning Statements for AC Systems before installing the system or components in this chapter.

2.2 Installing Blade Modules

Up to 20 SBI-4119MG-X SuperBlade modules may be installed into a single blade enclosure. Blade modules with Windows and Linux operating systems may be mixed together in the same blade or blade enclosure.

Powering Up a Blade Unit

Each blade unit node may be powered on and off independently from the rest of the blades and nodes installed in the same enclosure. A blade unit may be powered up in two ways:

- Press the power button on the blade unit.
- Use IPMIView, IPMITool or the web-browser based management utility to apply power using the CMM module (this requires Operator or Admin privileges on the CMM).

Powering Down a Blade Unit

A blade unit may be powered down in either of the following ways:

- Press the power button on the blade unit.
- Use IPMIView, IPMITool or the web-browser based management utility to power down (this requires Operator or Admin privileges on the CMM).

Removing a Blade Unit from the Enclosure

Although the blade system may continue to run, individual blades should always be powered down before removing them from the enclosure.

Removing a Blade Unit from the Enclosure

1. Power down the blade unit (see "Powering Down a Blade Unit" above).

2. Squeeze the handle to depress the red section then pull out the blade unit from the enclosure using the handle.

Note: Blade Modules can be Hot-Plugged from the enclosure.

Installing a Blade Unit into the Enclosure

Installing a Blade Unit into the Enclosure

1. Slowly push the blade unit into its bay with the handles fully pulled out (see Figure 2-1).
2. When the blade stops, push the handle back into its locked position, making sure the notches in the handle catches the lip of the enclosure.

Note: Blade modules can be hot-plugged into the enclosure.

Caution: Use extreme caution when inserting a blade module into the enclosure. If the blade's power connector becomes damaged, it can damage pins on other blade bays that it is inserted into.

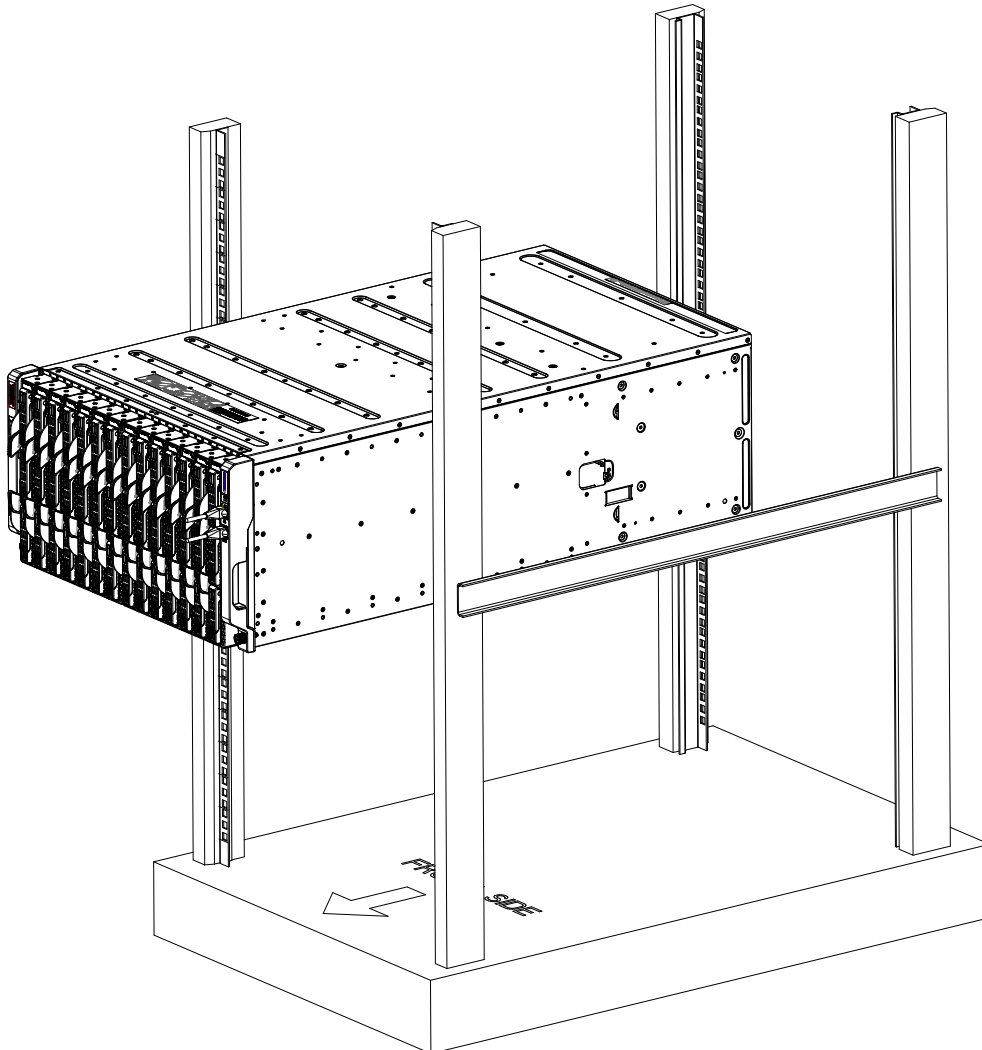


Figure 2-1. Inserting a Blade into the Enclosure

2.3 Motherboard Components

Processor and Heatsink Installation

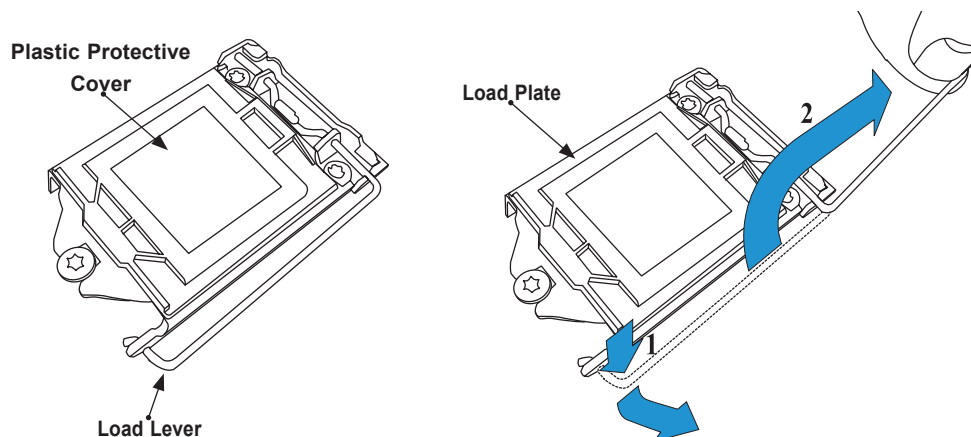
Warning: When handling the processor package, avoid placing direct pressure on the LGA lands (gold contacts) of the CPU or CPU socket. Improper installation or socket misalignment can cause serious damage to the CPU or motherboard, which may result in RMA repairs. Please read and follow all instructions thoroughly before installing your CPU and heatsink.

Important:

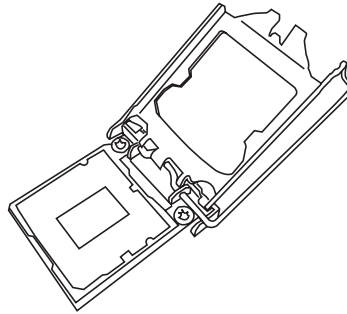
- Always connect the power cord last, and unplug it before adding, removing, or changing any hardware components. You must install the processor into the CPU socket before you install the heatsink.
- If you buy a CPU separately, make sure that you use an Intel-certified multi-directional heatsink only.
- Install the motherboard into the chassis before you install the CPU heatsink.
- When receiving a motherboard without a pre-installed processor, check that a plastic protective cover is on the CPU socket and none of the socket pins are bent. If they are, contact your retailer.
- Refer to the Supermicro website for updates on CPU support.

Installing the LGA 1151 Processor

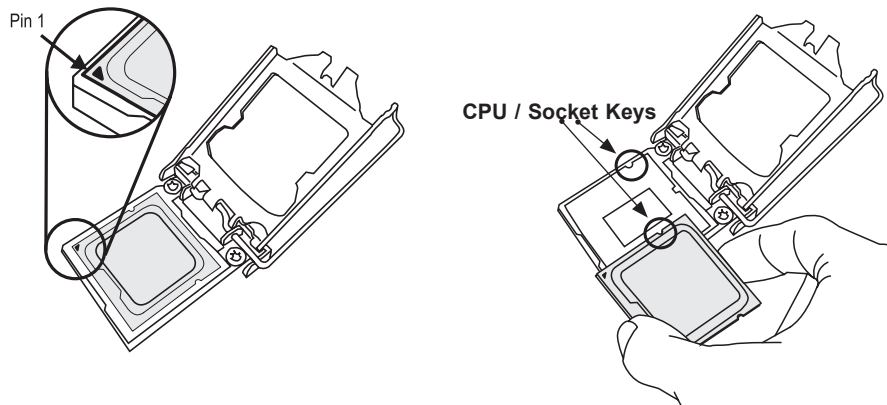
1. Press the load lever down to release the load plate from its locking position.



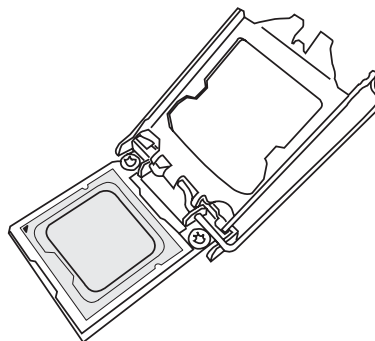
2. Gently lift the load lever to open the load plate. Remove the plastic protective cover. Do not touch the CPU socket contacts.



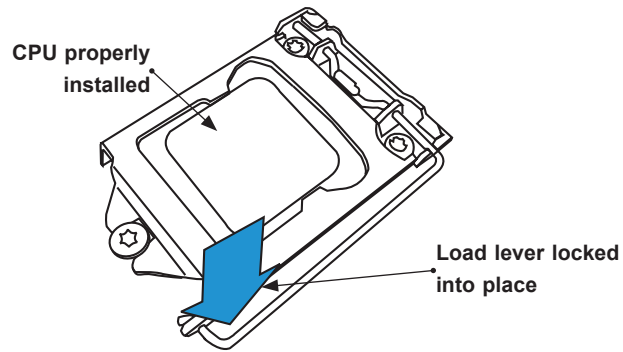
3. Locate the triangle on the CPU and CPU socket, which indicates the location of Pin 1. Holding the CPU by the edges with your thumb and index finger, align the triangle on the CPU with the triangle on the socket. The CPU keys (the semi-circle cutouts) may also be aligned against the socket keys as a guide.



4. Carefully lower the CPU straight down into the socket. Do not drop the CPU on the socket, or move it horizontally or vertically to avoid damaging the CPU or socket. Inspect the four corners of the CPU to make sure that the CPU is properly installed.



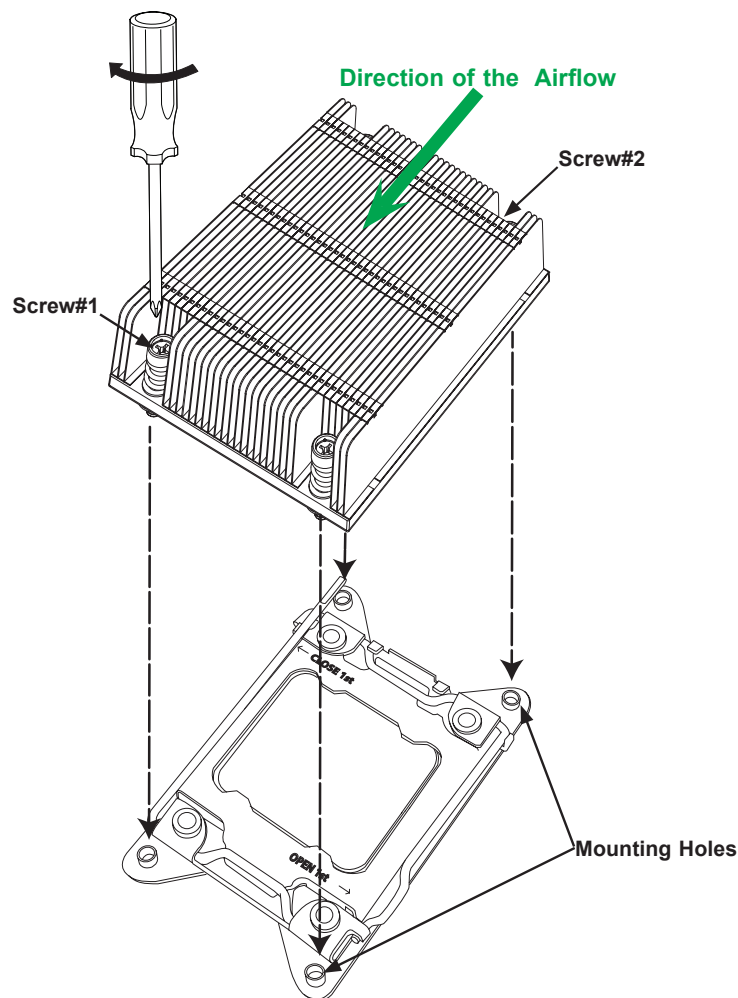
5. Close the load plate, then gently push down the load lever into its locking position.



Note: You can only install the CPU in one direction. Make sure it is properly inserted into the socket before closing the load plate. If it doesn't close properly, do not force it as it may damage your CPU. Instead, open the load plate again and double-check that the CPU is properly aligned.

Installing a Passive CPU Heatsink

1. Do not apply any thermal grease to the heatsink or the CPU die -- the required amount has already been applied.
2. Place the heatsink on top of the CPU so that the four mounting holes are aligned with those on the motherboard and the heatsink bracket underneath.
3. Screw in two diagonal screws (e.g., the #1 and the #2 screws) until just snug. Do not over-tighten the screws to avoid damaging the CPU and the motherboard.
4. Finish the installation by fully tightening all four screws.

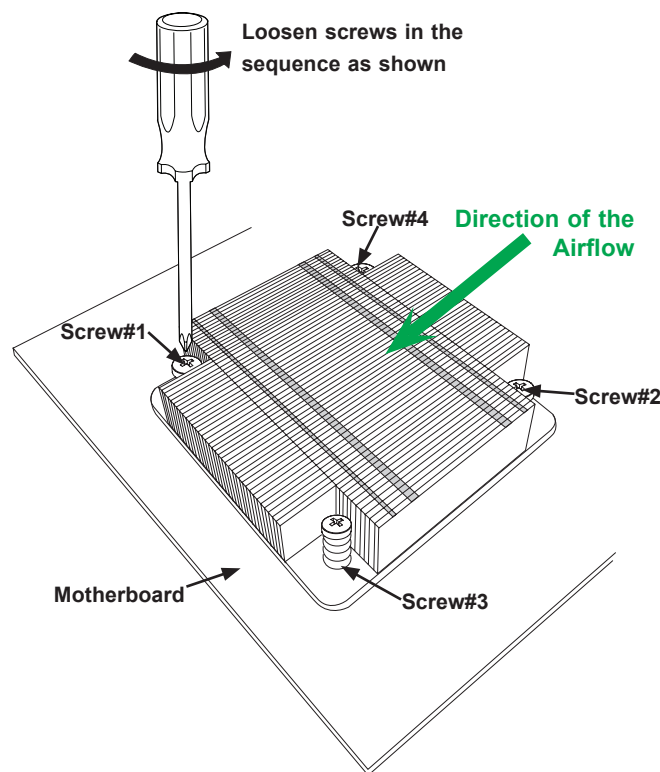


Note: For optimal airflow, please follow your chassis airflow direction to correctly install the CPU heatsink. Graphic drawings included in this manual are for reference only. They might look different from the components installed in your system.

Removing the CPU and the Heatsink

Warning: We do not recommend that the CPU or the heatsink be removed. However, if you do need to uninstall the CPU or the heatsink, please follow the instructions below to uninstall the heatsink or the CPU without damaging the CPU or the motherboard.

1. Unscrew the heatsink screws from the motherboard in the sequence as shown in the illustration below.
2. Gently wriggle the heatsink to loosen it from the CPU socket. Do not use excessive force when loosening the heatsink!
3. Once the heatsink is loosened, remove it from the socket. Once the heatsink is removed, remove the CPU from the socket as needed.
4. Remove the used thermal grease and clean the surface of the CPU and the heatsink. Reapply the proper amount of thermal grease on the surface before reinstalling the CPU and the heatsink as needed.



Note 1: To optimize airflow, please follow your chassis airflow direction to properly install the heatsink.

Note 2: Graphics shown in this manual are for reference only. They may or may not look the same as the components installed in your system.

2.4 Memory Installation

Memory Support

The B11SCG-CTF motherboard supports up to 128 GB ECC UDIMM DDR4 2666/2400/2133 MHz speed in four memory slots. Populating these DIMM slots with memory modules of the same type and size will result in interleaved memory, which will improve memory performance.

Memory Population (Balanced)				
DIMMA1	DIMMB1	DIMMA2	DIMMB2	Total System Memory
4GB	4GB			8GB
4GB	4GB	4GB	4GB	16GB
4GB	4GB	4GB	4GB	32GB
8GB	8GB	8GB	8GB	64GB
32GB	32GB	32GB	32GB	128GB

Check the Supermicro website for possible updates to memory support.

Memory Population Guidelines

- All DIMMs must be DDR4.
- Balance memory. Using unbalanced memory topology, such as populating two DIMMs in one channel while populating one DIMM in another channel, reduces performance. It is not recommended for Supermicro systems.
- In dual-CPU configurations, memory must be installed in the slots associated with the installed CPUs.

Guidelines Regarding Mixing DIMMs

- Populating slots with a pair of DIMM modules of the same type and size results in interleaved memory, which improves memory performance.
- Use memory modules of the same type and speed, as mixing is not allowed.
- x4 and x8 DIMMs can be mixed in the same channel.

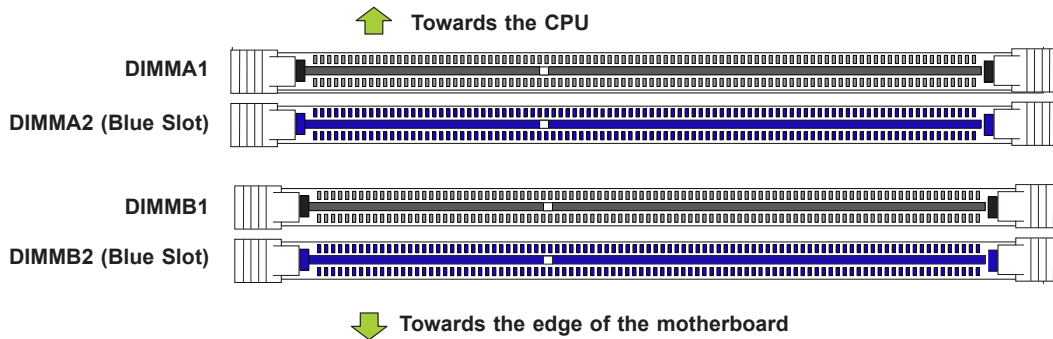
Memory Population Sequence

Blue slots versus black slots: Install the first DIMM in the blue memory slot, which is the first of a memory channel. Then, if using two DIMMs per channel, install the second DIMM in the black slot.

When installing memory modules, the DIMM slots should be populated in the following order: DIMMB2, DIMMA2, DIMMB1, DIMMA1.

- Always use DDR4 DIMM modules of the same type, size and speed.
- Mixed DIMM speeds can be installed. However, all DIMMs will run at the speed of the slowest DIMM.
- The motherboard will support odd-numbered modules (1 or 3 modules installed). However, for best memory performance, install DIMM modules in pairs to activate memory interleaving.

The following memory population diagram is for illustrative purposes; your motherboard may look different.



Installing Memory

ESD Precautions

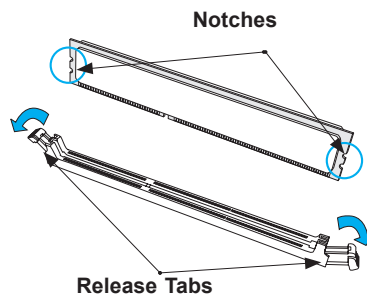
Electrostatic Discharge (ESD) can damage electronic components including memory modules. To avoid damaging DIMM modules, it is important to handle them carefully. The following measures are generally sufficient.

- Use a grounded wrist strap designed to prevent static discharge.
- Handle the memory module by its edges only.
- Put the memory modules into the antistatic bags when not in use.

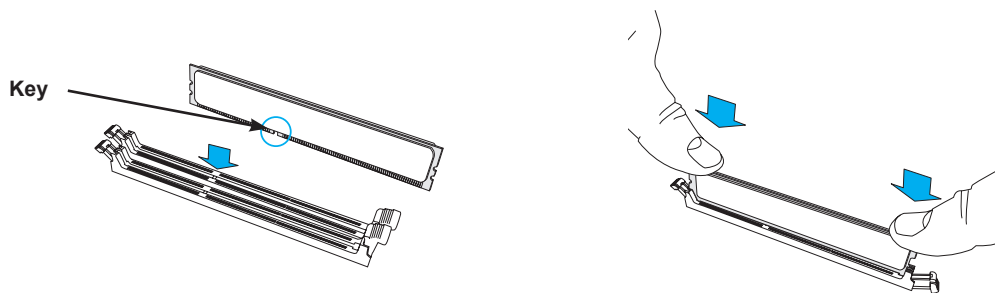
Installing Memory

Begin by removing power from the system as described in Section 2.2. Follow the memory population sequence in the table above.

1. Push the release tabs outwards on both ends of the DIMM slot to unlock it.



2. Align the key of the DIMM with the receptive point on the memory slot and with your thumbs on both ends of the module, press it straight down into the slot until the module snaps into place.



3. Press the release tabs to the locked position to secure the DIMM module into the slot.

Caution: Exercise extreme caution when installing or removing memory modules to prevent damage to the DIMMs or slots.

Removing Memory

To remove a DIMM, unlock the release tabs then pull the DIMM from the memory slot.

2.5 M.2 NVMe Installation

The SBI-4119MG-X has one NVMe/SATA3 M.2 slot that connects on the motherboard.

Installing the M.2 Module

1. Remove the securing screw that is used to secure the module to the chassis.
2. Insert the M.2 module into the the slot on the motherboard.
3. Secure the screw through the M.2 module into the chassis securing the M.2 module.

2.6 Installing the Operating System

An operating system (OS) must be installed on each blade module. Blades with Microsoft Windows OS and blades with Linux OS can both occupy and operate within the same blade enclosure. Refer to the SuperMicro website for a complete list of supported operating systems. There are several methods of installing an OS to the blade modules.

Installing via PXE Boot

PXE (Preboot Execution Environment) is used to boot a computer over a network. To install the OS via PXE, the following conditions must be met:

1. The PXE Boot option in BIOS must be enabled.
2. A PXE server has been configured (this can be another blade in the system).
3. The PXE server must be connected over a network to the blade to be booted.
4. The blade has only non-partitioned/unformatted hard drives installed and no bootable devices attached to it.

Once these conditions are met, make sure the PXE server is running. Then turn on the blade on which you wish to boot and/or install the OS. The BIOS in the blade will look at all bootable devices and finding none will connect to the PXE server to begin the boot/install.

Installing via Virtual Media (Drive Redirection)

You can install the OS via Virtual Media through either the IPMIview (Java based client utility), IPMITool or the Web-based Management Utility. With this method, the OS is installed from an ISO image that resides on another system/blade.

Refer to the manuals on your SuperBlade CD-ROM for further details on the Virtual Media (CD-ROM or Drive Redirection) sections of these two utility programs.

2.7 Management Software

System management may be performed with either of three software packages: IPMIview, IPMITool or a Web-based Management Utility. These are designed to provide an administrator with a comprehensive set of functions and monitored data to keep tabs on the system and perform management activities.

Refer to the manuals on your SuperBlade CD-ROM for further details on the various functions provided by these management programs.

Chapter 3

Blade Module Features

This chapter describes the SBI-4119MG-X blade modules. Installation and maintenance should be performed by experienced technicians only.

See Figure 3-1 for a front view of the blade units and the table below for their features.



Figure 3-1. SBI-4119MG-X Blade Unit Front Views

SBI-4119MG-X Blade Unit Features	
Feature	Description
Processors	Supports a single Intel Xeon E-2100 series Socket R4 Socket H4 (LGA 1151) processor per node
Memory	Supports up to 128 GB ECC UDIMM DDR4 2666/2400/2133 MHz speed, 8 GB, 16 GB, 32 GB, 64 GB and 128 GB size SDRAM memory in four 288-pin DIMM sockets per node. See https://www.supermicro.com/support/resources/memory/X11_memory_config_guide.pdf for details.
Storage	One NVMe/SATA3 M.2 slot
Ports	One TPM header, Intel X710-BM2 dual port 10-Gigabit Ethernet
Features	Onboard Integrated Aspeed AST2500 VGA Graphics chip, Intel® I/OAT 3, VMDq, IPMI 2.0, ATA/100, Plug and Play, APM 1.2, DMI 2.3, PCI 2.2, ACPI 1.0/2.0, SMBIOS 2.3, Real Time Clock, Watch Dog,

3.1 Control Panel

Each blade has a similar control panel (Figure 3-2) with power on/off button, a KVM connector, a KVM button and four LEDs on the top front of the unit. The numbers mentioned in Figure 3-2 are described in the table below.

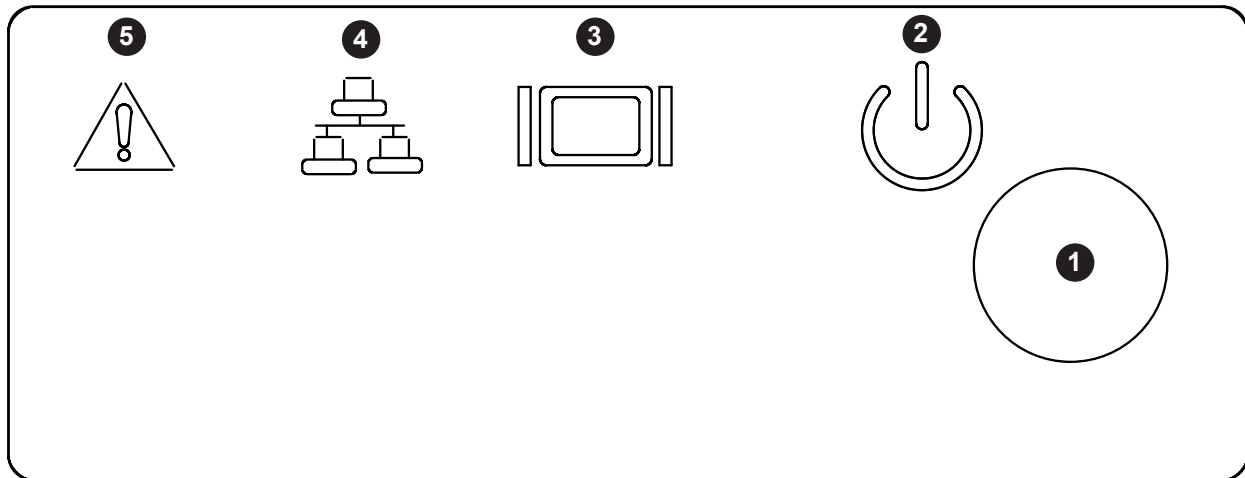


Figure 3-2. Blade Control Panel

Blade Control Panel			
Item	Function	State	Description
1	Power Button	N/A	Turns blade module on and off
2	Power LED	Green	Indicates power status "On"
		Solid Orange	Indicates power status "Off" (with power cables plugged in)
		Flashing Orange	Flashing Orange: Indicates node is not ready or not enough power to turn on
3	KVM/UID LED	Blue	Indicates KVM being utilized on blade unit
		Flashing Blue	Indicates UID activated on blade module
4	Network/IB LED	Flashing Green	Indicates network activity over LAN
		Flashing Orange	Indicates network activity
5	System Fault LED	Red	Indicates a memory error, overheat, VGA error or any error that prevents booting

Power Button

Each blade has its own power button so that individual blade units within the enclosure may be turned on or off independently of the others. Press the power button (#1) to turn on the blade server. The power LED (#2) will turn green. To turn off, press and hold the power button for >4 seconds and the power LED will turn orange.

3.2 Motherboard

The motherboard of the SBI-4119MG-X blade unit is a proprietary design, which is based on the Intel C246 chipset. See Figure 3-5 for a block diagram of this chipset. See Figure 3-6 and Figure 3-7 for exploded view diagrams of the blade unit.



Figure 3-3. SBI-4119MG-X Module

SBI-4119MG-X Module Layout	
Item	Description
1	CPU installed
2	M.2 NVMe storage module
3	DIMM slots (four)
4	Power and Logic connectors to backplane
5	GPU
6	PCI-E Module
7	SATA Port
8	9-pin TPM Connector

SUPERMICR B11SCG-ZTF/CTF REV 1.00

SYSTEM BLOCK DIAGRAM

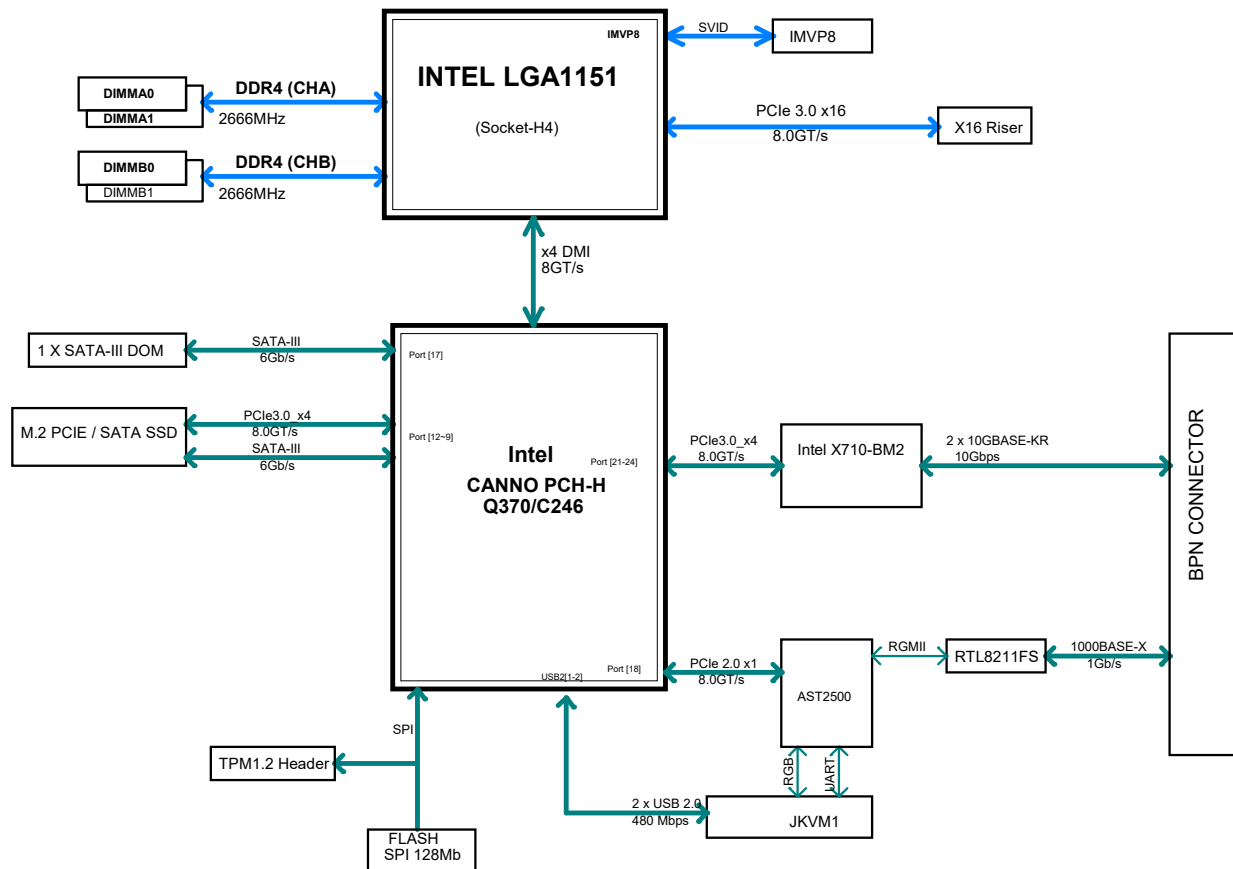


Figure 3-5. System Block Diagram

CMOS Clear

JBT1 is used to clear CMOS and will also clear any passwords. This consists of two contact pads located near the BIOS chip.

Clearing CMOS

1. First power down the blade and remove it from the enclosure.
2. Short the CMOS pads with a metal object such as a small screwdriver.
3. Replace the cover, install the blade back into the enclosure and power it on.

Jumper Settings

The following jumper settings can be used for the SBI-4119MG-X blade modules:

Jumper Settings		
Jumper	Default Setting	Notes
JWD1	Pins 1-2	Pins 1-2: Time to reset (Default); Pins 2-3: Timeout to NMI
JPME1/2	Pins 1-2	Pins 1-2: ME normal operation (Default); Pins 2-3: ME Recovery Mode
JVRM1/2	Pins 1-2	Normal Operation (Default)

3.3 Blade Unit Components

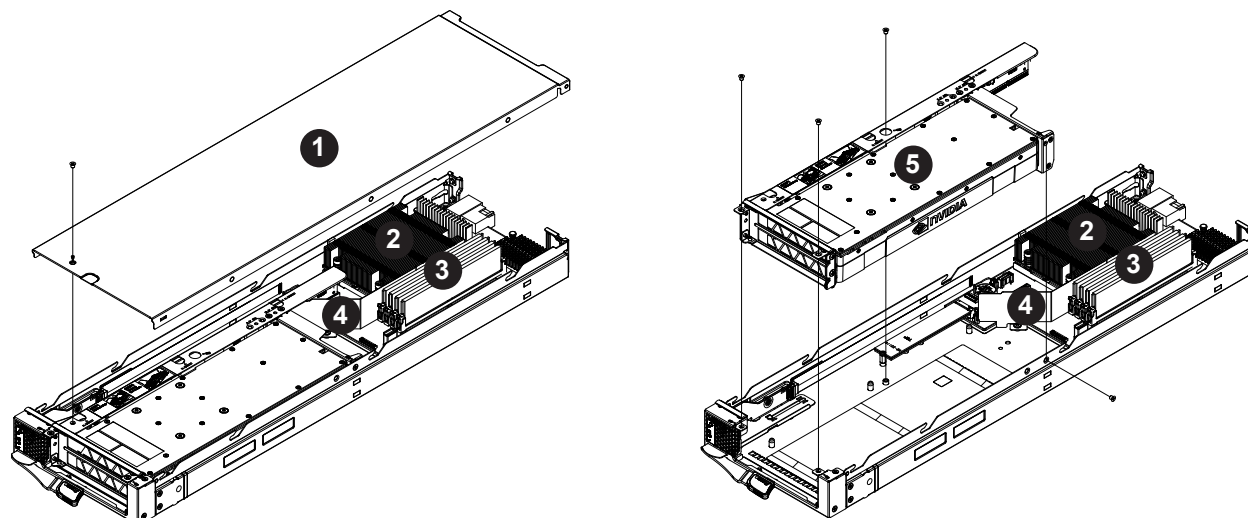


Figure 3-6 Exploded View of the SBI-4119MG-X Blade Module

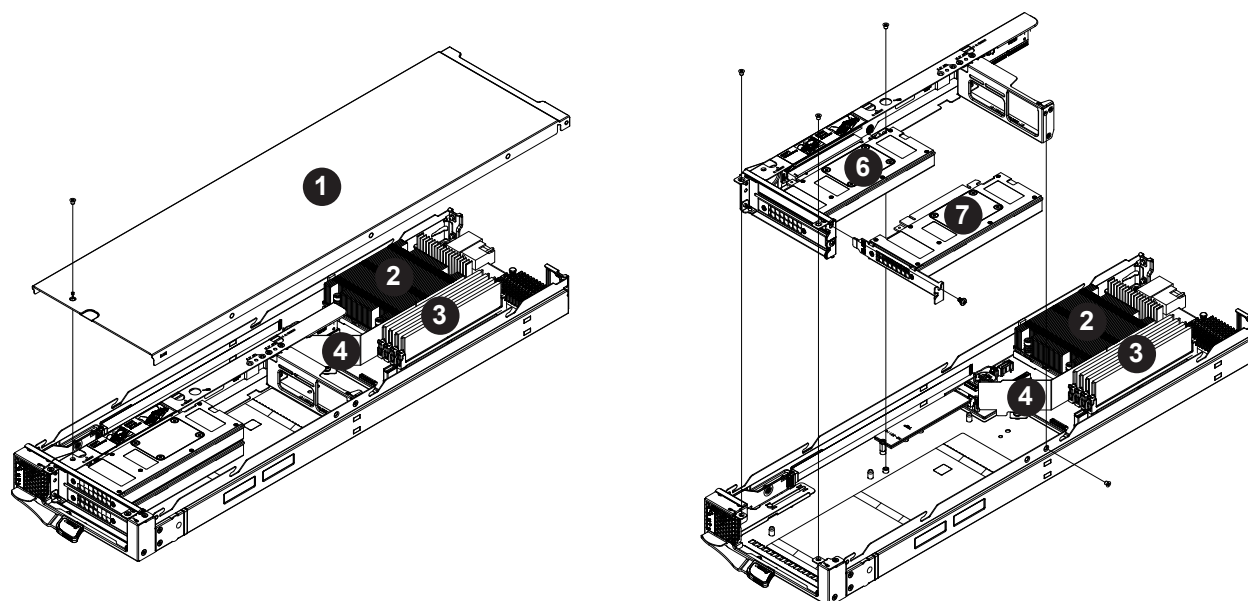


Figure 3-7. Exploded View of the SBI-4119MG-X Blade Module

Main Components of the SBI-4119MG-X Blade Modules	
Item	Description
1	Blade Module Cover
2	CPU and Heatsink
3	DIMM slots (4)
4	Air Shroud
5	PCI-E Module in PCI-E 3.0 x16 double-wide slot
6	PCI-E Module in PCI-E 3.0 x8 single-wide slot
7	PCI-E Module in PCI-E 3.0 x8 single-wide slot

Memory Support

The SBI-4119MG-X SuperBlade modules support up to 128 GB ECC UDIMM of DDR4 2666/2400/2133 MHz speed, 32GB, 16GB, 8GB, 4GB size SDRAM memory in four 288-pin DIMM sockets per node. See Section 2-4: Memory Installation for further details on motherboard memory installation.

M.2 NVMe Storage Module

One NVMe/SATA3 M.2 slot on the motherboard is available for connecting a M.2 drive.

Chapter 4

BIOS

4.1 Introduction

This chapter describes the BIOS for Intel SuperBlade modules. The Blade modules use a 32 Mb SPI Flash EEPROM with AMI® BIOS that is stored in a flash chip. This BIOS can be easily upgraded using a floppy disk-based program.

Due to periodic changes to the BIOS, some settings may have been added or deleted and might not yet be recorded in this manual. Please refer to the <http://www.supermicro.com/products/SuperBlade/module/> website for further details on BIOS setup and the BIOS menus for your SuperBlade blade module.

System BIOS

BIOS stands for Basic Input Output System. The 32 Mb SPI Flash EEPROM with AMI® BIOS flash chip stores the system parameters, types of disk drives, video displays, in the CMOS. The CMOS memory requires very little electrical power. When the blade unit is turned off, a backup battery provides power to the BIOS flash chip, enabling it to retain system parameters. Each time the blade is powered on it is configured with the values stored in the BIOS ROM by the system BIOS, which gains control at boot up.

How To Change the Configuration Data

The CMOS information that determines the system parameters may be changed by entering the BIOS Setup utility. This Setup utility can be accessed by pressing the <Delete> key at the appropriate time during system boot. (See "Starting the Setup Utility" below.)

Starting the Setup Utility

Normally, the only visible POST (Power-On Self-Test) routine is the memory test. As the memory is being tested, press the <Delete> key to enter the main menu of the BIOS Setup utility. From the main menu, you can access the other setup screens, such as the Security and Power menus.

To prevent possible boot failure, do not shut down or reset the system while updating the BIOS.

4.2 BIOS Updates

It may be necessary to update the BIOS used in the blade modules on occasion. However, it is recommended that you not update BIOS if you are not experiencing problems with a blade module.

Updated BIOS files are located on our website (www.supermicro.com/products/superblade/). Please check the current BIOS revision and make sure it is newer than your current BIOS before downloading.

There are several methods you may use to upgrade (flash) your BIOS. After downloading the appropriate BIOS file (in a zip file format), follow one of the methods described below to flash the new BIOS.

4.3 Running Setup

Default settings are in bold text unless otherwise noted.

The BIOS setup options described in this section are selected by choosing the appropriate text from the Main BIOS Setup screen. All displayed text is described in this section, although the screen display is often all you need to understand how to set the options.

When you first power on the computer, the BIOS is immediately activated.

While the BIOS is in control, the Setup program can be activated in one of two ways:

1. By pressing <Delete> immediately after turning the system on, or
2. When the message Press the <Delete> key to enter Setup appears briefly at the bottom of the screen during the POST, press the <Delete> key to activate the main Setup menu:

4.4 Main BIOS Setup

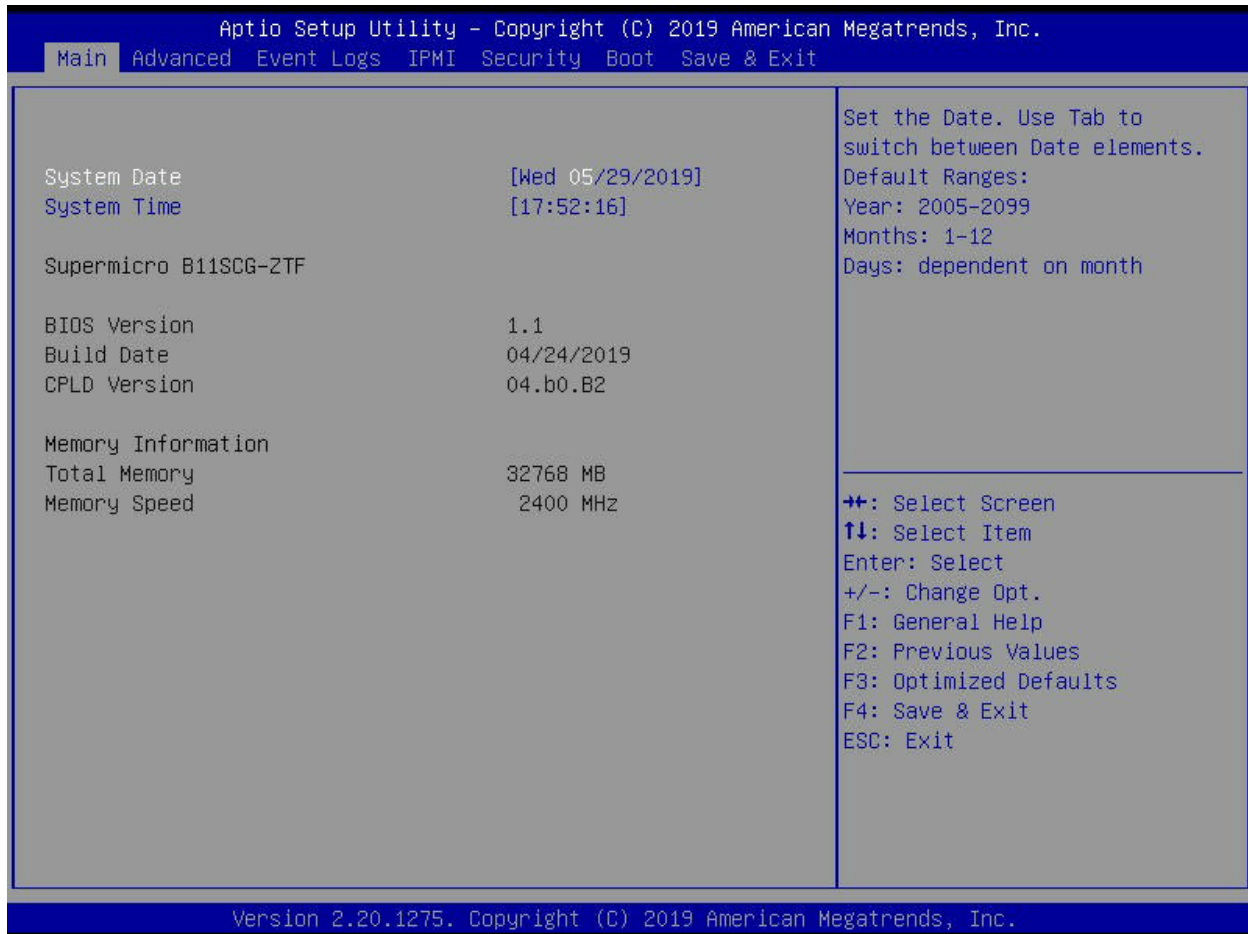


Figure 4-1. Main BIOS Setup Screen

All Main Setup options are described in this section.

Use the Up/Down arrow keys to move among the different settings in each menu. Use the Left/Right arrow keys to change the options for each setting.

Press the <Esc> key to exit the CMOS Setup menu. The next section describes in detail how to navigate through the menus.

Items that use sub-menus are indicated with the **u** icon. With the item highlighted, press the <Enter> key to access the sub-menu.

Menu options found in the Main BIOS Setup menu are described below.

System Date

Using the arrow keys, highlight the month, day and year fields, and enter the correct data for the system date. Press the <Enter> key to save the data.

System Time

To set the system date and time, key in the correct information in the appropriate fields. Then press the <Enter> key to save the data.

BIOS Information

BIOS static display information including the motherboard number, SMC version, SMC Build Date and Total Memory is also shown on the screen.

4.5 Advanced Settings Menu

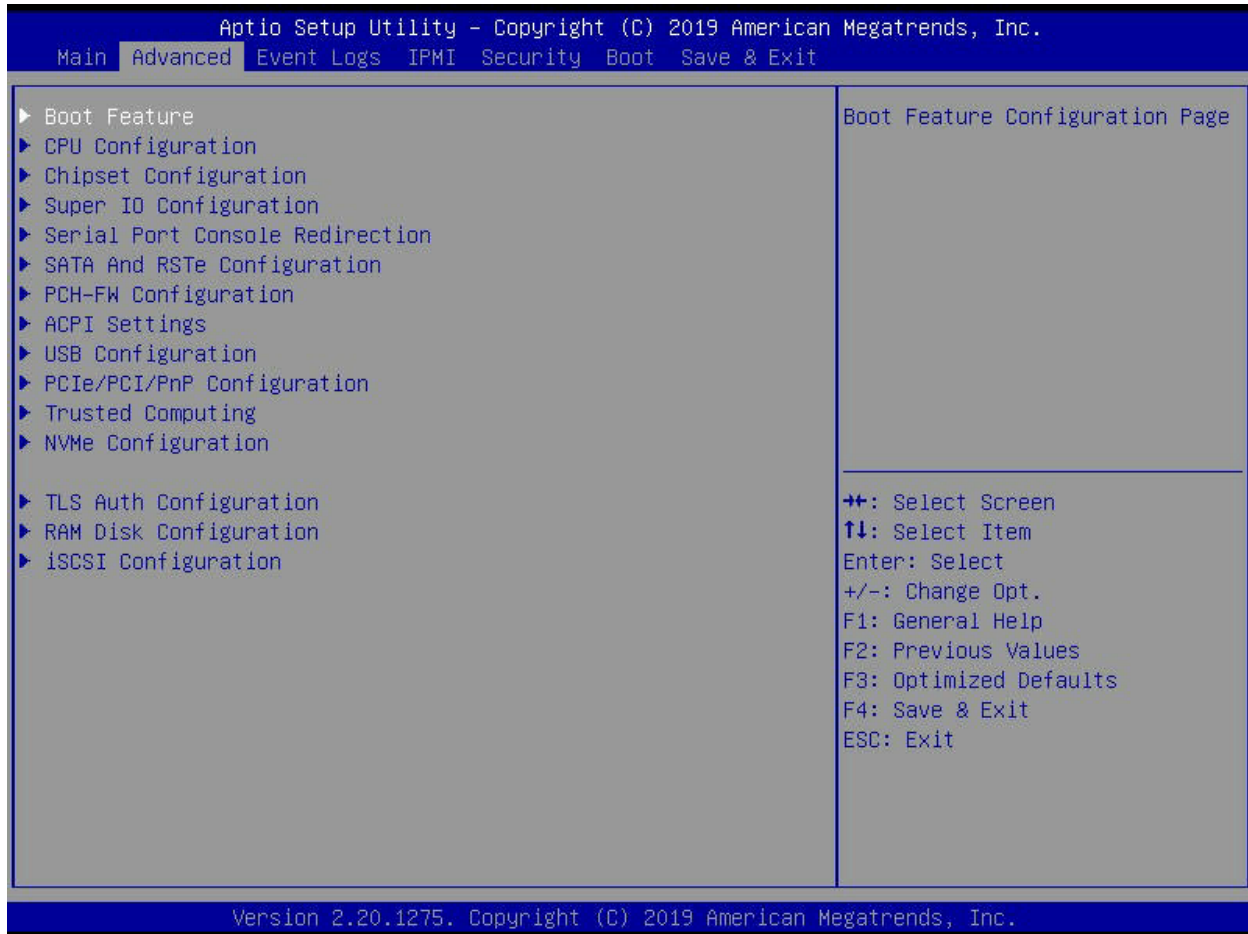


Figure 4-2. Advanced BIOS Setup Screen

Choose **Advanced** from the BIOS Setup Utility main menu with the arrow keys to display the Advanced Setup menu. The items with a triangle beside them are sub-menus that can be accessed by highlighting the item and pressing <Enter>. Options for PIR settings are displayed by highlighting the setting option using the arrow keys and pressing <Enter>.

Boot Feature Sub-menu

Quiet Boot

When Disabled the BIOS displays normal POST messages. When **Enabled** the BIOS displays an OEM Logo instead of POST messages.

Option ROM Messages

Use this setting to set the display mode for Option ROM to either **Force BIOS** or Keep Current.

Bootup NUM-Lock State

This setting selects the Power-On state for Numlock. Options include **On** or Off.

Wait for 'F1' If Error

When enabled, the system will wait for the F1 key to be pressed if an error occurs. Options are **Enabled** or Disabled.

Interrupt 19 Trap Response

This sets the BIOS reaction on INT19 trapping by the Option ROM. Options include **Immediate** to execute the trap right away, or Postponed to execute the trap during legacy boot.

Re-try Boot

Use this setting to specify the Re-try Boot option to use. Options include **Disabled**, Legacy Boot or EFI Boot.

Watch Dog Function

This setting allows the system to restart when it is not active more than 5 minutes. Option include Enabled and **Disabled**.

Power Button Function

This setting specifies the power button's function when pressed. Option include 4 Seconds Override or **Instant Off**.

DeepSX Power Policies

This setting configures the DeepSX Mode configuration. Options include **Disabled** and Enabled in S4-S5.

CPU Configuration sub-menu

Processor Configuration Information

This section shows static information on the processor configuration.

CPU Flex Ratio Override

This setting Enables/**Disables** CPU Flex Ratio Programming.

CPU Flex Ratio Settings

This value must be between Max Efficiency Ratio (LFM) and Maximum non-turbo ratio set by Hardware (HFM). Use the +/- number pad keys or enter in a number in this field to change the value. Default is **36**.

Hardware Prefetcher

This settings allows you to **Enable** or Disable the Hardware Prefetcher.

Adjacent Cache Line Prefetch

This setting allows you to **Enable** or Disable the Adjacent Cache Line Prefetch.

Intel (VMX) Virtualization Technology

When enabled, a VMM can utilize the additional hardware capabilities provide by Vanderpool Technology. Option include **Enabled** and Disabled.

Active Processor Cores

This sets the number of cores to enable in each processor package. Options include **ALL**, and numbers from 1 to 7.

Hyper-threading

This setting is **Enabled** for Windows XP and Linux (OS optimized for Hyper-threading technology), and Disabled for other OSes (any OS not optimized for Hyper-threading technology). When Disabled, only one thread per enabled core is enabled.

BIST

Use this setting to Enable/**Disable** BIST (Built-In Self Test) on reset.

AES

Use this setting to **Enable**/Disable AES support.

►CPU-Power Management Control**Boot Performance Mode**

Use this setting to select the performance state that the BIOS will set starting from the reset vector. Options include Max Battery, **Max Non-Turbo Performance** and Turbo Performance.

Intel SpeedStep™

This setting allows more than two frequency ranges to be supported. Options include Disabled or **Enabled**.

Intel Speed Shift Technology

Use this setting to Enable/**Disable** Intel Speed Shift Technology support. Enabling will expose the CPPC v2 interface to allow for hardware controlled P-states.

Turbo Mode

This setting allows you to **Enable** or Disable the processor Turbo Mode for your system. Note: This requires Intel Speed Step or Speed Shift to be enabled also.

MonitorMWait

This setting **Enables**/Disables Monitor/MWait.

C States

Use this setting to Enable/Disable CPU Power Management. Allows CPU to go to C states when it's not 100% utilized.

Enhanced C-states

Use this setting to **Enable**/Disable C1E. When enabled, the CPU will switch to minimum speed when all cores enter C-state.

C-State Auto Demotion

This setting configures C-state Auto Demotion. Options include Disabled, C1, C3 and **C1 and C3**.

C-State Un-demotion

This setting configures C-state Un-demotion. Options include Disabled, C1, C3 and **C1 and C3**.

Package C-state Demotion

This setting configures Package C-state Demotion. Options include **Disabled** and Enabled.

Package C-state Un-demotion

This setting configures Package C-state Un-demotion. Options include **Disabled** and Enabled.

CState Pre-Wake

This setting **Enables**/Disables the C-state Pre-wake. When disable is selected, it sets bit 30 of POWER_CTL MSR(0x1FC) to 1 to disable the C-state Pre-Wake.

Package C State Limit

This setting configures the Maximum Package C-state Limit Setting. Options include C0/ C1, C2, C3, C6, C7, C7S, C8, C9, C10, CPU Default, and **Auto**. Selecting CPU Default option leaves the configuration to the factory default. Selecting Auto initializes to deepest available Package C-state Limit.

ACPI T-states

This setting **Enables**/Disables ACPI T-states.

SMC Power Profile

This setting configures SMC Power Profiles. Options include Maximum, Standard, Optimal, and **Power Saving**.

Chipset Configuration Sub-menu

► System Agent (SA) Configuration

► Memory Configuration

This sub-menu displays Memory Configuration settings.

Maximum Memory Frequency

This setting sets the Maximum Memory Frequency Selections in Mhz. Valid values should match the refclk, i.e. divide by 133 or 100. Options include **Auto** and number values from 1067 to 6000.

ECC Support

Use this setting to **Enable**/Disable DDR ECC support.

Max TOLUD

This setting sets the maximum value for TOLUD. Options include **Dynamic** and values from 1 GB to 3.5 GB. The Dynamic option adjusts TOLUD automatically based upon the largest MMIO length of the installed graphic controller.

Memory Scrambler

Use this setting to **Enable**/Disable Memory Scrambler support.

Fast Boot

Use this setting to **Enable**/Disable the fast path thru the MRC.

Refresh_2X_MODE

Use this setting to set the Refresh_2X_Mode. Options include **Disabled**, 1-Enabled for WARM or HOT and 2-Enabled HOT only.

► DMI/OPI Configuration

This sub-menu allows you to control various DMI functions.

DMI Link ASPM Control

Use this setting to Enable/Disable the control of Active State Power Management on the SA side of the DMI Link. Options include Disabled, L0s, **L1** and L0sL1.

DMI Extended Sync Control

Use this setting to Enable/**Disable** DMI Extended Synchronization.

DMI De-emphasis Control

Use this setting to configure the De-Emphasis control on DMI. Options include -6dB and **-3.5 dB**.

► PEG Port Configuration

Use this sub-menu to set PEG Port options for each PEG port.

Enable Root Port

Use this setting to configure the Root Port. Options include Disabled, Enabled or **Auto**.

Max Link Speed

Use this setting to configure PEG max speed. Options include **Auto**, Gen1, Gen2 or Gen3.

Max Link Width

Use this setting to force the PEG link to retrain to X1/2/4/8. Options include **Auto**, Force X1, Force X2, Force X4 and Force X8.

ASPM

Use this setting to control ASPM support for the PEG 0. This has no effect if PEG is not the currently active device. Options include Disabled, **Auto**, ASPM L0s, ASPM L1 and ASPM L0sL1.

De-emphasis Control

Use this setting to configure the De-emphasis control on PEG. Options -6 dB and **-3.5 dB**.

PEG(#) Slot Power Limit Value

Use this setting to configure the upper limit on power supplied by the slot. The power limit (in Watts) is calculated by multiplying this value by the Slot Power Limit Scale. Values for this field are between 0 and 255. Use the keyboard's number pad controls to enter a value or use the + or - keys to change the value in the field. Default is **75**.

PEG(#) Slot Power Limit Scale

Use this setting to select the scale used for the Slot Power Limit Value. Options include **1.0x**, 0.1x, 0.01x or 0.001x.

PEG(#) Physical Slot Number

Use this setting to configure the physical slot number attached to this port. The number has to be globally unique within the chassis. Values for this field are between 0 and 8191. Use the keyboard's number pad controls to enter a value or use the + or - keys to change the value in the field.

Program PCIe ASPM after OpROM

Use this setting to Enable/**Disable** how the PCI ASPM will be programmed. When enabled, the PCIe ASPM will be programmed after OpROM. When disabled, the PCIe ASPM will be programmed before OpROM.

VT-d

Use this setting to **Enable**/Disable VT-d capability.

Software Guard Extensions

Use this setting to configure Software Guard Extensions (SGX). Options include Disabled, Enabled and **Software Controlled**.

Select Owner EPOCH Input Type

Use this setting to select the Owner EPOCH input type. There are three Owner EPOCH modes (each EPOCH is 64-bit): **No Change in Owner EPOCHs**, Change to New Random Owner EPOCHs and Manual User Defined Owner EPOCHs. After generating a new EPOCH by selecting Change to New Random Owner EPOCHs the selection reverts back to the No Change in Owner EPOCHs option to ensure the EPOCH stays the same.

SGX Launch Control Policy

Use this setting to configure Software Guard Extensions (SGX) Launch Control Policy. Options include the following:

- **Unlocked** - Enable OS/VMM configuration of launch enclave.
- Intel Locked - Select Intel's launch enclave.
- Locked - Allow owner to configure launch enclave.

GNA Device (B0:D8:F0)

Use this setting to **Enable/Disable** SA GNA device.

Internal Graphics

Use this setting to keep IGFX enabled based on the setup options. Options include **Auto**, Disabled and Enabled.

X2APIC Opt Out

Use this setting to Enable/**Disable** X2APIC_OPT_OUT bit.

►PCH-IO Configuration

►PCI Express Configuration

DMI Link ASPM Control

Use this setting to control Active State Power Management of the DMI link. Options include Disabled, L0s, L1, L0sL1 and **Auto**.

Peer Memory Write Enable

Use this setting to Enable/**Disable** Peer Memory Write.

M.2-H_1 ASM Support

Use this setting to configure M.2-H_1 Active State Power Management settings. Options include Disabled, L0s, L1, L0sL1 and **Auto**.

M.2-H_1 Substates

Use this setting to configure PCI Express L1 Substates settings. Options include Disabled, L1.1 and **L1.1 & L1.2**.

M.2-H_1 PCIe Speed

Use this setting to configure PCIe speed. Options include **Auto**, Gen1, Gen2 and Gen3.

SuperIO Device Configuration Sub-menu

Super IO Chip

This static display shows the name of the Super IO chip installed for your system.

►Serial Port 1/2 Configuration

This sub-menu allows the user the configure settings of Serial Port 1 or Serial Port 2.

Serial Port

Select Enabled to enable the a selected Onboard serial port. The options are **Enabled** and Disabled.

Device Settings

This displays a static display of the status of a serial part specified by the user.

Change Settings

This feature specifies the base I/O port address and the Interrupt Request address of a serial port specified by the user. Select Auto to allow the BIOS to automatically assign the base I/O and IRQ address.

The options for Serial Port 1 are **Auto**, IO=3F8h; IRQ=4, IO=2F8h; IRQ=4, IO=3E8h; IRQ=4 and IO=2E8h; IRQ=4

The options for Serial Port 2 are **Auto**, IO=3F8h; IRQ=3, IO=2F8h; IRQ=3, IO=3E8h; IRQ=3 and IO=2E8h; IRQ=3.

Serial Port 2 Attribute (Available for Serial Port 2 only)

This feature specifies the attribute of Serial Port 1. The options are **SOL** and COM.

Serial Port Console Redirection Sub-menu

COM1 Console Redirection, COM2/SOL Console Redirection Sub-menus

Console Redirection

Select Enabled to enable console redirection support for a serial port specified by the user. The options are Enabled and Disabled.

► Console Redirection Settings

This feature allows the user to specify how the host computer will exchange data with the client computer, which is the remote computer used by the user.

Terminal Type

This feature allows the user to select the target terminal emulation type for Console Redirection. Select VT100 to use the ASCII Character set. Select VT100+ to add color and function key support. Select ANSI to use the Extended ASCII Character Set. Select VT-UTF8 to use UTF8 encoding to map Unicode characters into one or more bytes. The options are ANSI, VT100, VT100+, and VT-UTF8.

Bits Per second

Use this feature to set the transmission speed for a serial port used in Console Redirection. Make sure that the same speed is used in the host computer and the client computer. A lower transmission speed may be required for long and busy lines. The options are 9600, 19200, 38400, 57600 and 115200 (bits per second).

Data Bits

Use this feature to set the data transmission size for Console Redirection. The options are 7 Bits and 8 Bits.

Parity

A parity bit can be sent along with regular data bits to detect data transmission errors. Select Even if the parity bit is set to 0, and the number of 1's in data bits is even. Select Odd if the parity bit is set to 0, and the number of 1's in data bits is odd. Select None if you do not want to send a parity bit with your data bits in transmission. Select Mark to add a mark as a parity bit to be sent along with the data bits. Select Space to add a Space as a parity bit to be sent with your data bits. The options are None, Even, Odd, Mark and Space.

Stop Bits

A stop bit indicates the end of a serial data packet. Select 1 Stop Bit for standard serial data communication. Select 2 Stop Bits if slower devices are used. The options are 1 and 2.

Flow Control

Use this feature to set the flow control for Console Redirection to prevent data loss caused by buffer overflow. Send a "Stop" signal to stop sending data when the receiving buffer is full. Send a "Start" signal to start sending data when the receiving buffer is empty. The options are None and Hardware RTS/CTS.

VT-UTF8 Combo Key Support

Select Enabled to enable VT-UTF8 Combination Key support for ANSI/VT100 terminals. The options are Enabled and Disabled.

Recorder Mode

Select Enabled to capture the data displayed on a terminal and send it as text messages to a remote server. The options are Disabled and Enabled.

Resolution 100x31

Select Enabled for extended-terminal resolution support. The options are Disabled and Enabled.

Redirection COM Port

Use this setting to select a COM port to display redirection of Legacy OS and Legacy OPRM messages. Option include **COM1** and COM2/SOL.

Legacy OS Redirection Resolution

Use this feature to select the number of rows and columns used in Console Redirection for legacy OS support. The options are 80x24 and 80x25.

Putty KeyPad

This feature selects the settings for Function Keys and KeyPad used for Putty, which is a terminal emulator designed for the Windows OS. The options are VT100, LINUX, XTERMR6, SC0, ESCN, and VT400.

Redirection After BIOS Post

Use this feature to enable or disable legacy console redirection after BIOS POST. When set to Bootloader, legacy console redirection is disabled before booting the OS. When set to Always Enable, legacy console redirection remains enabled when booting the OS. The options are Always Enable and Bootloader.

Legacy Console Redirection Sub-menu**Redirection COM Port**

Use this setting to select a COM port to display redirection of Legacy OS and Legacy OPRM messages. Option include **COM1** and COM2/SOL.

Legacy OS Redirection Resolution

Use this feature to select the number of rows and columns used in Console Redirection for legacy OS support. The options are 80x24 and 80x25.

Redirection After BIOS Post

Use this feature to enable or disable legacy console redirection after BIOS POST. When set to Bootloader, legacy console redirection is disabled before booting the OS. When set to Always Enable, legacy console redirection remains enabled when booting the OS. The options are Always Enable and Bootloader.

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

Console Redirection (for EMS)

Select Enabled to use a COM Port selected by the user for Console Redirection. The options are Enabled and Disabled.

► Console Redirection Settings (for EMS)

This feature allows the user to specify how the host computer will exchange data with the client computer, which is the remote computer used by the user.

Out-of-Band Management Port

The feature selects a serial port used by the Microsoft Windows Emergency Management Services (EMS) to communicate with a remote server. The options are COM1 Console Redirection and COM2/SOL Console Redirection.

Terminal Type

This feature allows the user to select the target terminal emulation type for Console Redirection. Select VT100 to use the ASCII character set. Select VT100+ to add color and function key support. Select ANSI to use the extended ASCII character set. Select VT-UTF8 to use UTF8 encoding to map Unicode characters into one or more bytes. The options are ANSI, VT100, VT100+, and VT-UTF8.

Bits Per Second

This item sets the transmission speed for a serial port used in Console Redirection. Make sure that the same speed is used in the host computer and the client computer. A lower transmission speed may be required for long and busy lines. The options are 9600, 19200, 57600, and 115200 (bits per second).

Flow Control

This feature allows the user to set the flow control for Console Redirection to prevent data loss caused by buffer overflow. Send a "Stop" signal to stop sending data when the receiving buffer is full. Send a "Start" signal to start sending data when the receiving buffer is empty. The options are None, Hardware RTS/CTS, and Software Xon/Xoff.

Data Bits, Parity, Stop Bits

The status of each item above is displayed.

SATA and RSTe Configuration Sub-menu

SATA Controller

This setting allows you to **Enable** or Disable the SATA device.

SATA Mode Selections

Use this setting to select the SATA mode you desire. Options include **AHCI** and RAID.

SATA Port 0~7 Settings

For each of the ports you may configure the settings listed below.

Port

Use this setting to **Enable** or Disable the SATA port.

Hot Plug

Use this setting to Enable or **Disable** the port as Hot Pluggable.

Spin Up Device

This setting allows you to Enable or **Disable** the Spin up Device for the system. If enabled for any ports staggered spin up will be performed and only the drives that have this option enabled will spin up at boot. Otherwise all drives spin up at boot if this setting is disabled.

SATA Device Type

This setting allows you to identify that the SATA port is connected to either a Solid State Drive or a **Hard Disk Drive**.

PCH-FW Configuration Sub-menu

This sub-menu is only an information display for the firmware used by the system. No active controls reside in this sub-menu.

ACPI Settings Sub-menu

WHEA Support

This feature Enables the Windows Hardware Error Architecture (WHEA) support for the Windows 2008 (or a later version) operating system. The options are **Enabled** and Disabled.

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 Sub-menu

Legacy USB Support

This setting enables Legacy USB support. Options include **Enabled**, Disabled and Auto. The Auto option disables legacy support if no USB devices are connected. The disable option will keep USB devices available only for EFI applications.

XHCI Hand-off

This setting is a workaround for OSES without XHCI hand-off support. The XHCI ownership change should be claimed by XHCI driver. Options include **Enabled** or Disabled.

USB Mass Storage Driver Support

Use this setting to **Enable**/Disable USB Mass Storage Driver support.

Port 60/64 Emulation

This setting **Enables**/Disables the I/O port 60h/64h emulation support. This should be enabled for the complete USB keyboard legacy support for non-USB aware OSES.

USB transfer time-out

Use this setting to configure the time-out value for Control, Bulk and Interrupt transfers. Options include 1 sec, 5 sec, 10 sec and **20 sec**.

Device reset time-out

Use this setting to configure the USB mass storage device Start Unit command time-out. Options include 10 sec, **20 sec**, 30 sec and 40 sec.

Device power-up delay

This setting allows you to configure the maximum time the device will take before it properly reports itself to the host controller. Options include **Auto** and Manual. Auto uses the default value: for a Root port it is 100 ms, for a Hub port the delay is taken from the Hub descriptor.

PCIe/PCI/PnP Configuration Sub-menu

PCI Bus Driver Version

The installed version for the PCI Bus Driver is static displayed here for your information.

PCI Devices Common Settings

PCI Latency Timer

This setting configures the value to be programmed into the PCI Latency Timer Register. Options include values for the PCI Bus Clocks between **32** and 248.

PERR# Generation

This setting Enables/**Disables** PCI Device to generate PERR#.

SERR# Generation

This setting Enables/**Disables** PCI Device to generate SERR#.

Above 4G Decoding

Select Enabled to decode a 64-bit PCI device in the space above 4G Address. The options are **Enabled** and Disabled.

SR-IOV Support

If the system has SR-IOV capable PCIe device, this option **Enables** or Disables single root I/O virtualization support.

Maximum Payload

Use this setting to set the maximum payload of the PCI Express device or allow the system BIOS to select the value. Options are **Auto** or value in Bytes between 128 and 4096.

Maximum Read Request

Use this setting to set the maximum read request size of the PCI Express device or allow the system BIOS to select the value. Options are **Auto** or value in Bytes between 128 and 4096.

PCI Devices Option ROM Setting**Onboard Video**

Use this setting to control the execution of UEFI and Legacy Video OPRM on your system. Options include Disabled, **Legacy** or UEFI.

Storage

Controls the execution of UEFI and Legacy Storage SATA/sSATA OPRM. Options include Do Not Launch, UEFI or **Legacy**.

Onboard LAN 1 OPRM

This setting enables or disables the Onboard LAN 1 OPRM option. Options include Disabled, EFI, **Legacy PXE** and Legacy iSCSI.

Onboard LAN 2 OPRM

This setting enables or disables the Onboard LAN 2 OPRM option. Options include **Disabled**, EFI, Legacy PXE and Legacy iSCSI.

Network Stack

This setting allows you to **Enable** or Disable UEFI Network Stack for your system. If disabled, the boot option for UEFI Network Stack will not be created.

Ipv4 PXE Support

This setting allows you to **Enable** or Disable Ipv4 PXE support for your system. If disabled, the boot option for Ipv4 PXE Support will not be created.

Ipv4 HTTP Support

This setting allows you to Enable or **Disable** Ipv4 HTTP support for your system. If disabled, the boot option for Ipv4 HTTP Support will not be created.

Ipv6 PXE Support

This setting allows you to **Enable** or Disable Ipv6 PXE Support for your system. If disabled, the boot option for Ipv4 PXE Support will not be created.

Ipv6 HTTP Support

This setting allows you to Enable or **Disable** Ipv6 HTTP Support for your system. If disabled, the boot option for Ipv6 HTTP Support will not be created.

IPSEC Certificate

This setting allows you **Enable** or Disable support for the IPSEC certificate for IKEv.

PXE Boot Wait Time

This sets the wait time in seconds for you to press the ESC key in order to abort the PXE boot for your system. Default is **0**, use your system's keyboard's keypad to specify the number.

Media Detect Count

This sets the number of times the presence of media will be checked for your system. Default is **1**, use your system's keyboard's keypad to specify the number.

Trusted Computing Sub-menu**Security Device Support**

This setting **Enables** or Disables the BIOS support for security device. The OS will not show the security device and the TCG EFI protocol and INT1A interface will not be available.

TLS Auth Configuration Sub-menu**►Server CA Configuration Sub-menu****►Enroll Certification Sub-menu****►Enroll Certification Using File**

Use this link to enroll certification using a file.

Certification GUID

After clicking this link input a digital character in *11111111-2222-3333-4444-1234567890ab* format in the field provided.

►Commit Changes and Exit

Use this link to commit changes and exit.

► Discard Changes and Exit

Use this link to discard changes and exit.

► Delete Certification Sub-menu

Use this link to delete a certification previously enrolled.

Ram Disk Configuration Sub-menu**Disk Memory Type:**

This setting specifies the type of memory to use from the available memory pool in the system to create a disk. Options include **Boot Service Data** or **Reserved**.

► Create Raw Sub-menu**Size (Hex)**

In the field provided enter the valid RAM disk size. This should be in multiples of the RAM disk block size.

Create & Exit

Select this option to create a new RAM disk with the given starting and ending address.

Discard & Exit

Select this option to discard the new RAM disk and exit.

► Create from File Sub-menu

Use this to creat a RAM disk from a given file.

Remove Selected RAM Disk(s)

Use this setting to remove selected RAM disk(s) that have been already created.

iSCSI Configuration Sub-menu**iSCSI Initiator Name**

Clicking on this setting will bring up a field where you can enter the worldwide unique name of the iSCSI initiator. Only IQN format is accepted with a range of 4 to 223.

► Add an Attempt

Use this link to add an attempt.

► Delete Attempts

Use this link to delete an attempt.

► **Change Attempt Order**

Use this link to delete an attempt.

4.6 Event Logs Setup

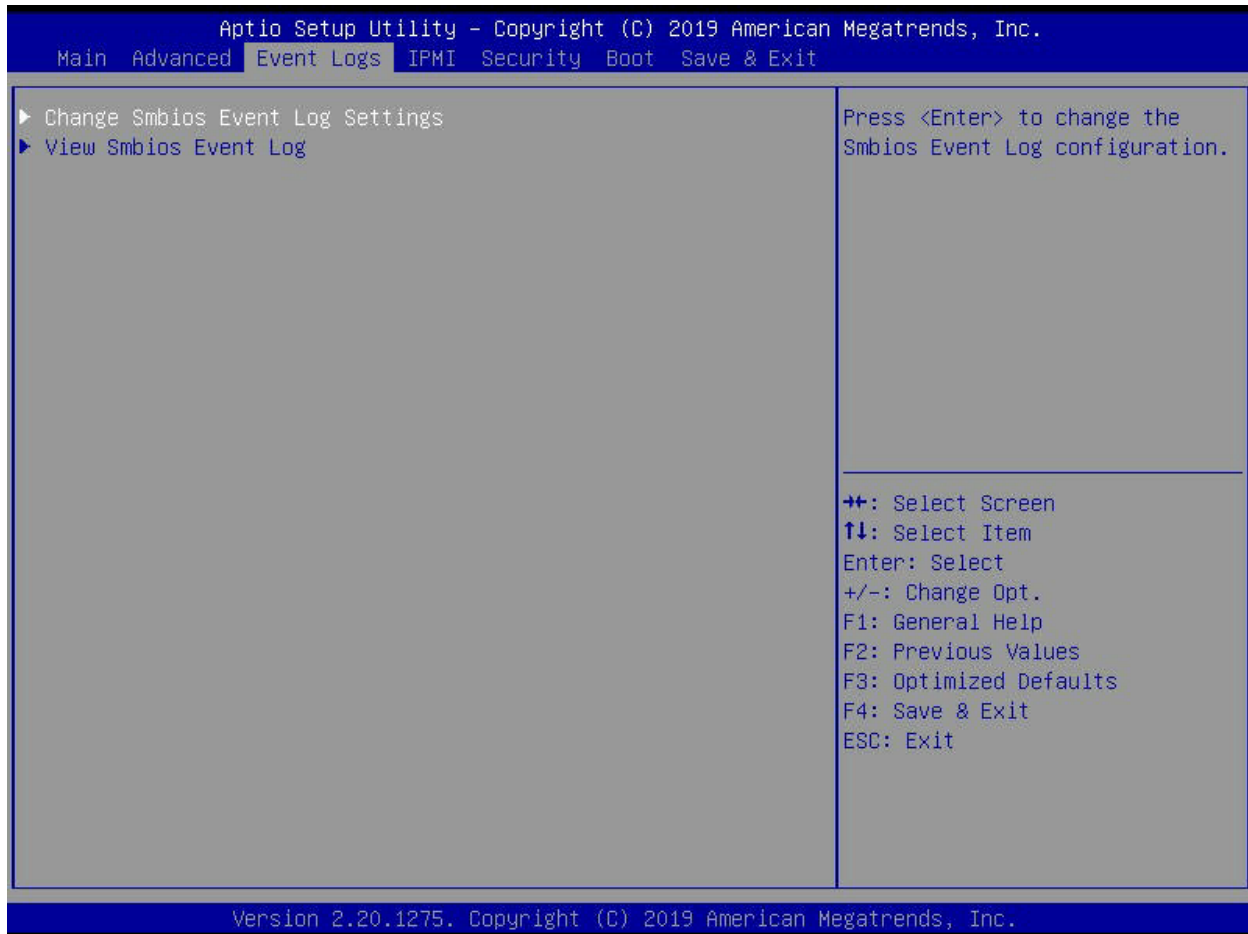


Figure 4-3. Event Logs Setup Screen

► Change SMBIOS Event Log Settings

This sub-menu allows you to change the SMBIOS Event Log configuration settings.

SMBIOS Event Log

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

Erase Event Log

If No is selected, data stored in the event log will not be erased. Select Yes, Next Reset, data in the event log will be erased upon next system reboot. Select Yes, Every Reset, data in the event log will be erased upon every system reboot. The options are **No**, Yes, Next reset, and Yes, Every reset.

When Log is Full

Select Erase Immediately for all messages to be automatically erased from the event log when the event log memory 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 that a duplicate event must happen before the MECI counter is incremented. This is a numeric value. The default value is **1**.

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. The default value is **60**.

Log EFI Status Codes

Use this setting to **Enable** or Disable the logging of EFI Status codes as OEM reserved type E0 (if not already converted to legacy).

Convert EFI Status Codes to Standard Smbios Type

Use this setting to Enable or **Disable** the converting of EFI Status Codes to Standard SMBIOS types (not all may be translated).

►View SMBIOS Event Log

This section displays the contents of the SMBIOS Event Log. It provides a date, time, error code and severity with a brief description of each event.

4.7 IPMI Setup



Figure 4-4. IPMI Setup Screen

IPMI Information

IPMI Firmware Revision and IPMI Status information are statically displayed at the top of this menu.

▶ System Event Log

Selecting this sub-menu displays settings for changing the SEL Event Log configuration. Note: all values changed here do not take effect until the system is restarted.

SEL Components

Change this setting to Enable or Disable all features of the System Event Logging during boot-up.

Erase SEL

Use this setting for erasing the SEL. Options are **No**, Yes On Next Reset and Yes On Every Reset.

When SEL is Full

Use this setting to choose options for reactions to a full SEL. Options include **Do Nothing** and Erase Immediately.

Log EFI Status Codes

Use this setting to enable or disable logging of EFI status codes, log only Disabled, **Error Code**, only Progress Code or Both.

►BMC Network Configuration

Use this sub-menu to configure BMC network parameters.

BMC Network Configuration Information

The sub-menu contains static display information for the Station IP Address, Subnet Mask, Station MAC Address and Gateway IP Address.

Update IPMI LAN Configuration

Specify Yes or **No** for the BIOS to use this setting for IPMI in the next boot-up.

4.8 Security Setup

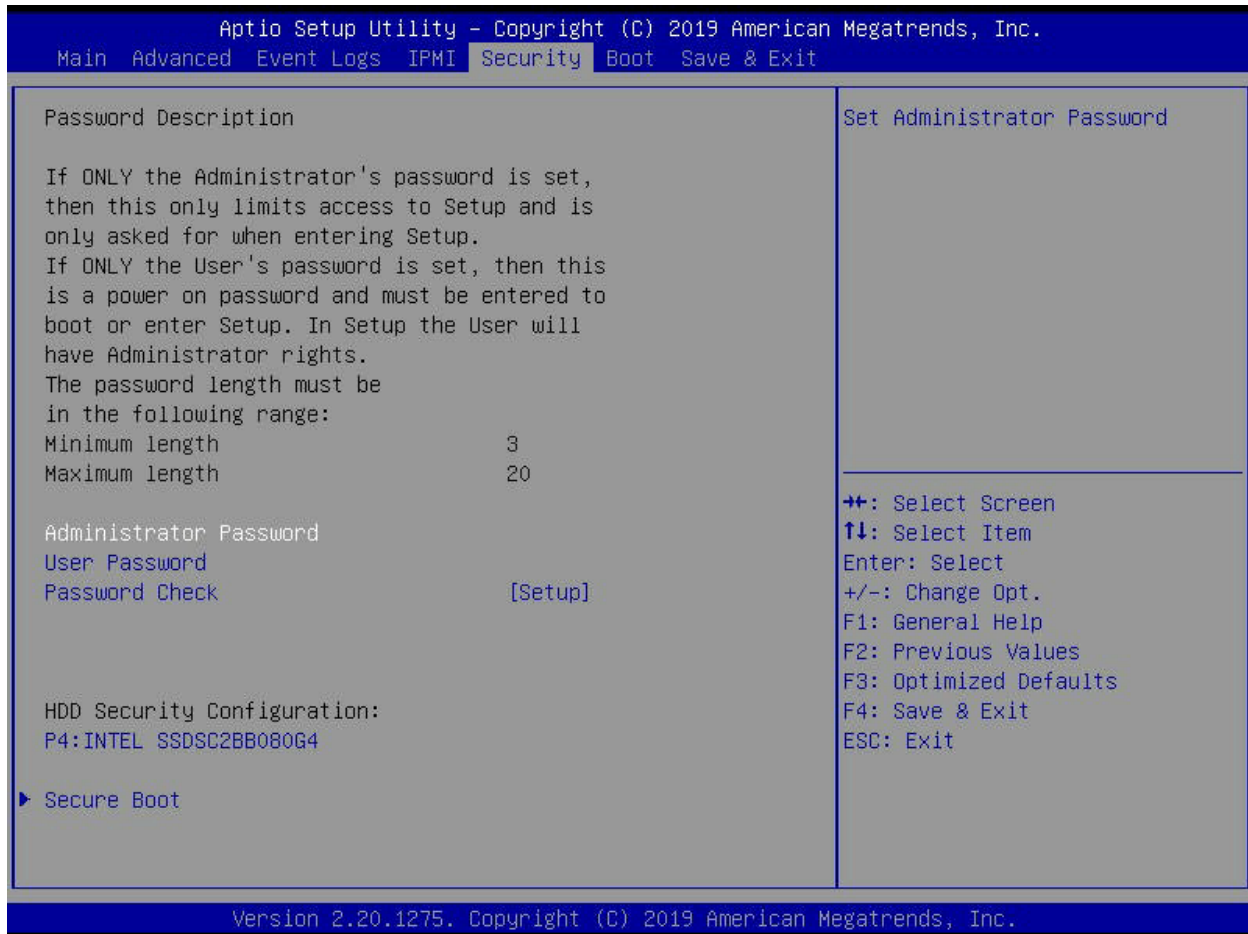


Figure 4-5. Security Setup Screen

Administrator Password

This allows you to create an administrator password for the system.

User Password

This allows you to create user password for the system.

Password Check

Use this setting to specify when to do a password check. Options include checking the password while invoking **Setup**, or Always when invoking setup as well as on each boot.

►HDD Security Configuration

Select the listed HDD security configuration to go to a sub-menu of further information and options.

HDD Password Description

Information about the HDD password is shown here for viewing.

Set User Password

Use this setting to set an HDD User Password.

Note: It is advisable to power the cycle system after setting a hard disk password. Discard or save changes in setup do not have any impact on the HDD when the password is set or removed. If the Set HDD User Password option is hidden, do not power cycle to enable the option again.

►Secure Boot

This submenu allows you to customize the Secure Boot settings.

Secure Boot

This setting allows you to Enable or Disable Secure Boot activation when the Platform Key (PK) is enrolled. System Mode is User/Deployed, and the CSM function is disabled.

Secure Boot Mode

This setting specifies the Secure Boot Customization. Options include Standard or **Custom**. In Custom mode, Secure Boot Policy variables can be configured by a physically present user without full authentication.

CSM Support

Use this setting to **Enable** or Disable CSM support.

►Restore Factory Keys

Use this setting to force the system to User Mode. Options include Yes or No. Yes, when selected, configures NVRAM to contain OEM-defined factory default secure boot keys.

►Reset to Setup Mode

Use this setting to reset the system to Setup Mode and delete all Secure Boot key database from NVRAM. Options include Yes or No.

►Key Management

Use this submenu to modify boot policy variables without full authentication.

Factory Key Provision

This allows you to Disable or Enable factory key provision. Enabling to provision factory default keys on next re-boot only when the system is in Setup Mode.

►Restore Factory Keys

Use this setting to force the system to User Mode. Options include Yes or No. Selecting Yes configures NVRAM to contain OEM-defined factory default secure boot keys.

►Reset to Setup Mode

Use this setting to delete all Secure Boot key databases from NVRAM.

►Enroll EFI Image

When selected, this setting allows the image to run in Secure Boot Mode. This enrolls the SHA256 Hash certificate of a PE image into the Authorized Signature Database (db).

►Restore DB defaults

Use this setting to restore the DB variable to factory defaults. Options include Yes or No.

►Platform Key (PK)

Use this setting to enroll factory defaults or load certificates from a file.

►Key Exchange Keys

Use this setting to enroll factory defaults or load certificates from a file.

►Authorized Signatures

Use this setting to enroll factory defaults or load certificates from a file.

►Forbidden Signatures

Use this setting to enroll factory defaults or load certificates from a file.

►Authorized Timestamps

Use this setting to enroll factory defaults or load certificates from a file.

►OsRecovery Signatures

Use this setting to enroll factory defaults or load certificates from a file.

4.9 Boot Setup

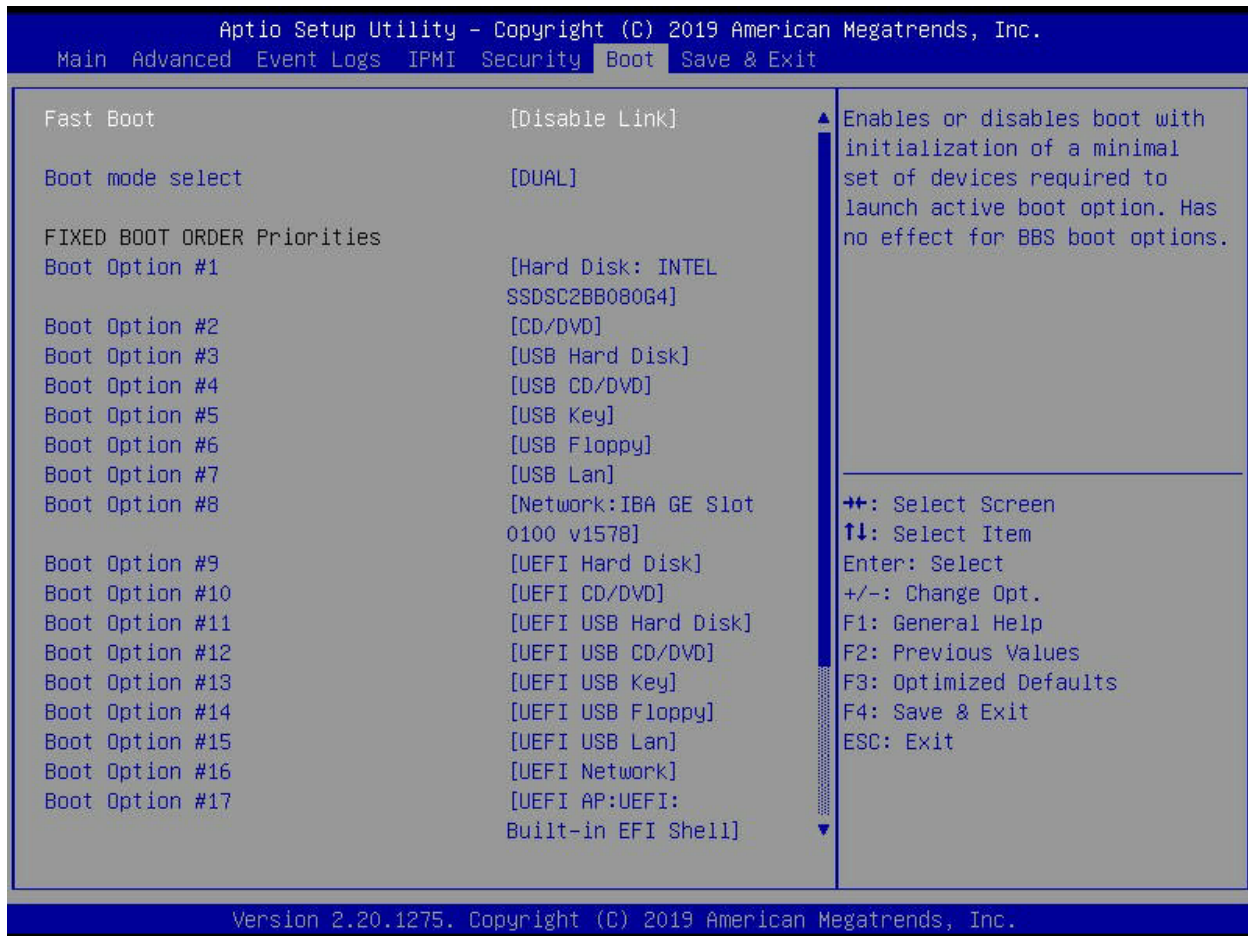


Figure 4-6. Boot Setup Screen

Fast Boot

Enables or Disables boot with an initialization of a minimal set of devices required to launch the active boot option. This has no effect for BBS boot devices. Options include **Disable Link** or Enabled.

Boot Mode Select

This setting allows you to select the boot mode to use. Options include Legacy, UEFI or **Dual**.

Boot Priority Options 1 ~ 17

This feature allows you to specify the sequence of priority for the boot device (such as hard disk drives, USB devices, CD-ROM drives, Network drives and so on). The menu options are for 1st Boot Device, 2nd Boot Device and 3rd Boot device. Each numbered boot device can be set to a specific device installed in your system or to Disabled.

A device enclosed in parenthesis has been disabled in the corresponding type menu.

►Delete Boot Option

This sub-menu allows you to remove an EFI boot option form the boot order.

►Delete Driver Option

This sub-menu allows you to remove an EFI driver option form the boot order.

►UEFI Application Boot Priorities

Use this submenu to specify the boot device priority sequence from the available UEFI Hard Disk Drives in the system.

►Hard Disk Drive BBS Priorities

Use this submenu to specify the Boot Device Priority sequence from the available Hard Disk Drives in the system.

►Network Device BBS Priorities

This sub-menu allows you to set the order of the legacy devices in this group for setting the boot order.

4.10 Save & Exit

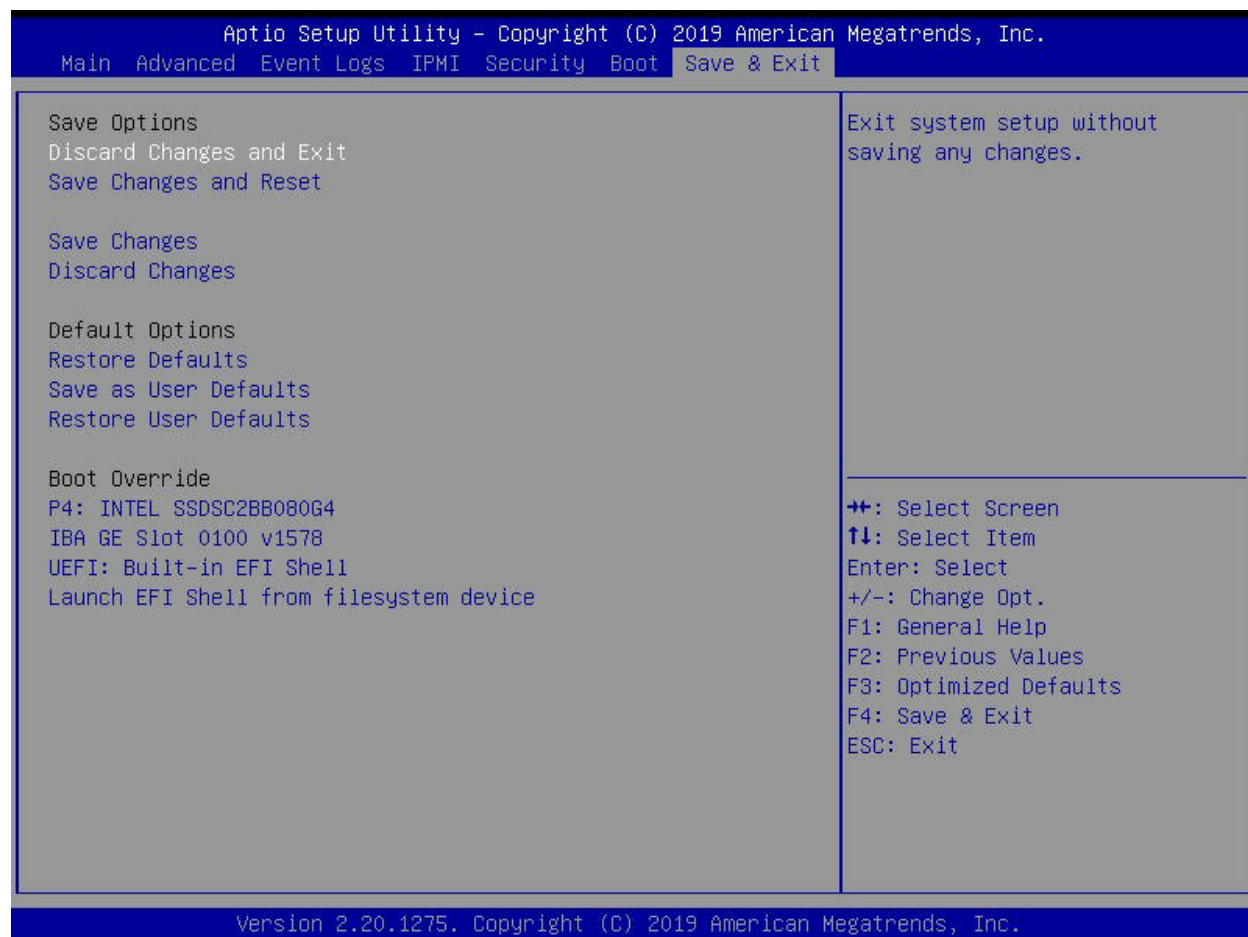


Figure 4-7. Save & Exit Setup Screen

Discard Changes and Exit

Highlight this item and hit <Enter> to exit the BIOS Setup utility without saving any changes you may have made. Any changes you have made to the BIOS Setup will not take effect upon system bootup.

Save Changes and Reset

Highlight this item and hit <Enter> to save any changes you made and to exit the BIOS Setup utility. The system will reboot and implement the changes you have made to the BIOS Setup.

Save Changes

Highlight this item and hit <Enter> to save changes done so far to any of the setup options.

Discard Changes

Highlight this item and hit <Enter> to discard (cancel) any changes you made. You will remain in the Setup utility.

Restore Defaults

Highlight this item and hit <Enter> to load the default settings for all items in the BIOS Setup. These are the safest settings to use and are designed for maximum system performance, but may not work best for all computer applications.

Save as Users Defaults

Highlight this item and hit <Enter> to save changes done so far as user defaults.

Restore User Defaults

Highlight this item and hit <Enter> to restore the user defaults to all the setup options.

Boot Override

For each boot device you have the option of saving the configuration for it and exiting.

Appendix A

Updating BIOS Using KVM Console

Use the following procedure to update a module BIOS using the KVM console software.

Updating the BIOS Using the KVM Console

1. Click on the graphic in the System -> System Information screen to launch the KVM Console window as shown in Figure A-1.

Alternately, you may go to the Configuration -> Console Redirection screen (Figure A-2) and press the Launch Console button to bring up the KVM Console window.



Figure A-1. System Information Remote Console Preview Graphic

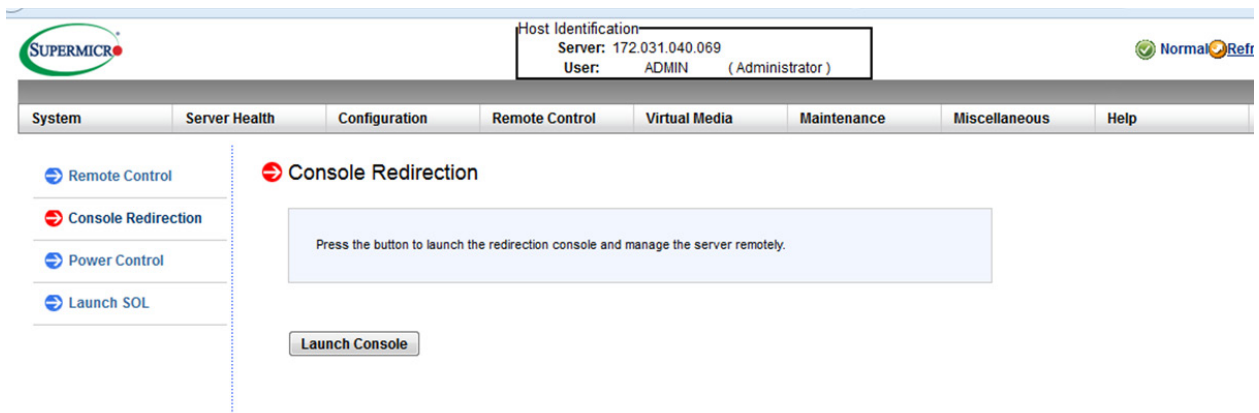


Figure A-2. Console Redirection Screen

2. In the KVM Console window, click on the Virtual Storage menu option from the Virtual Media menu (Figure A-3). The Virtual Storage window will be displayed (Figure A-4).

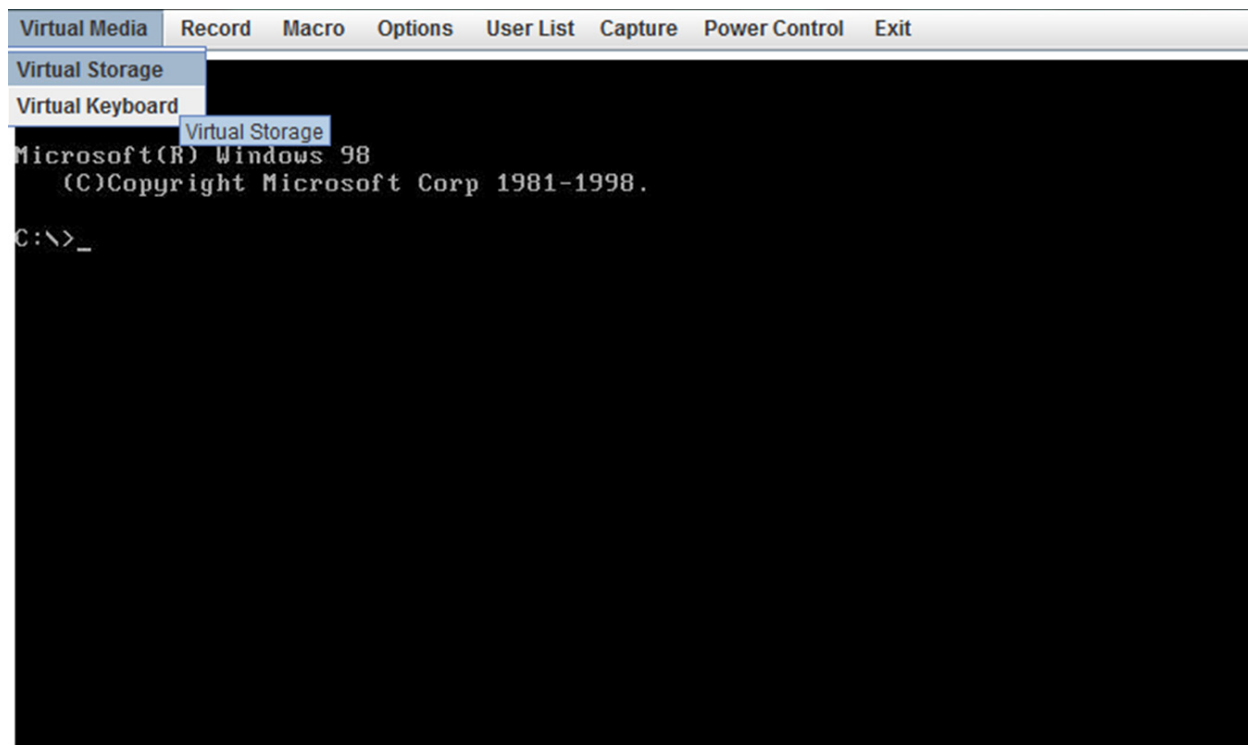


Figure A-3. KVM Console Window

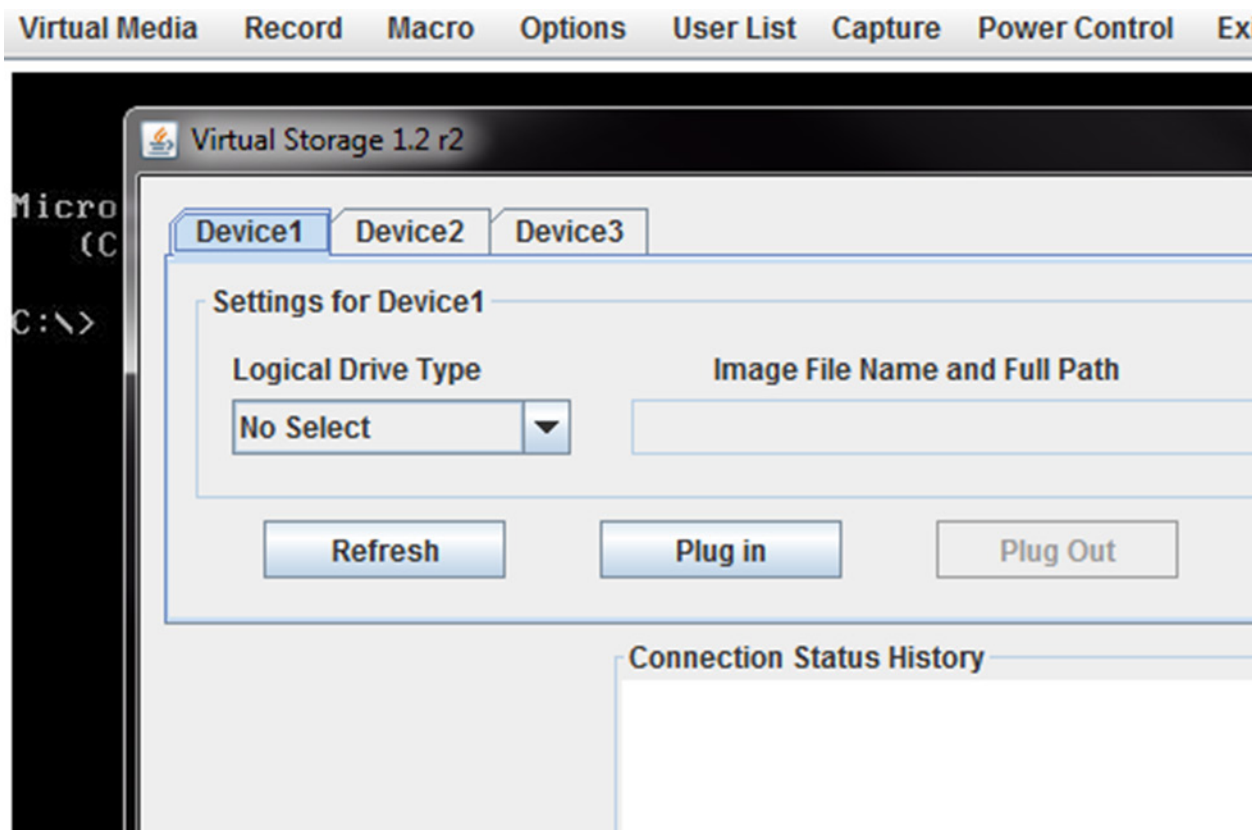


Figure A-4. Virtual Storage Window

- Under the Device 1 tab of the Virtual Storage window, select ISO File from the Logical Drive Type menu if you wish to mount an ISO file (Figure A-5).

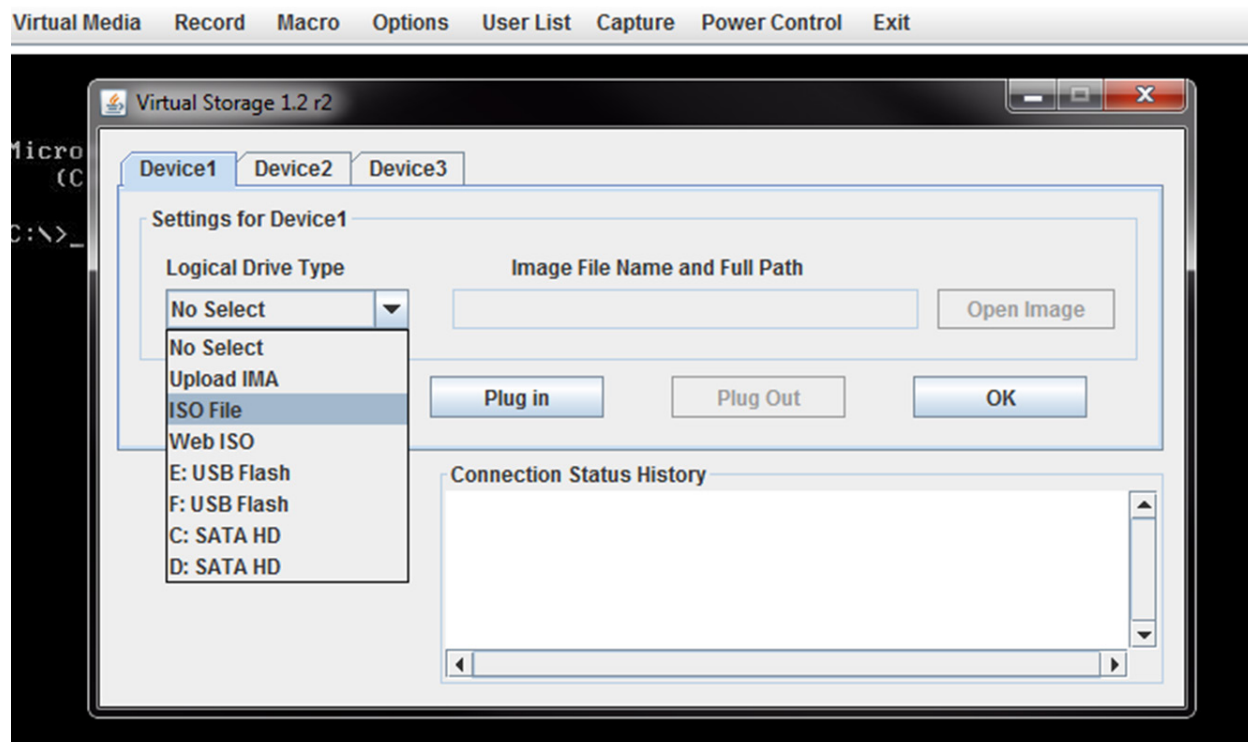


Figure A-5. Selecting ISO File to Mount an ISO File

- Browse for the ISO file on your local disk that contains the BIOS file and flash utility (Figure A-6). Press the Open button to select it.

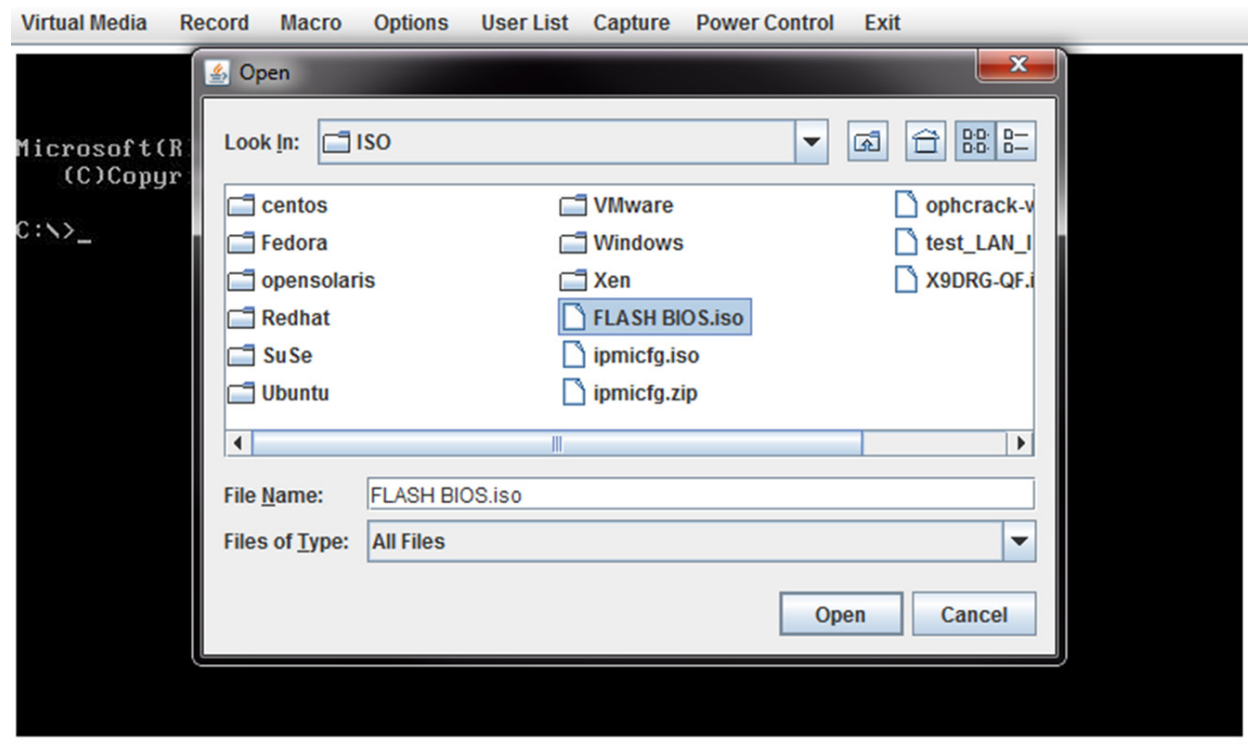


Figure A-6. Locating the ISO File

- After you have selected the ISO file, press the Plug In button, then the OK button to exit the Virtual Storage window (Figure A-7). Skip ahead to step 8.

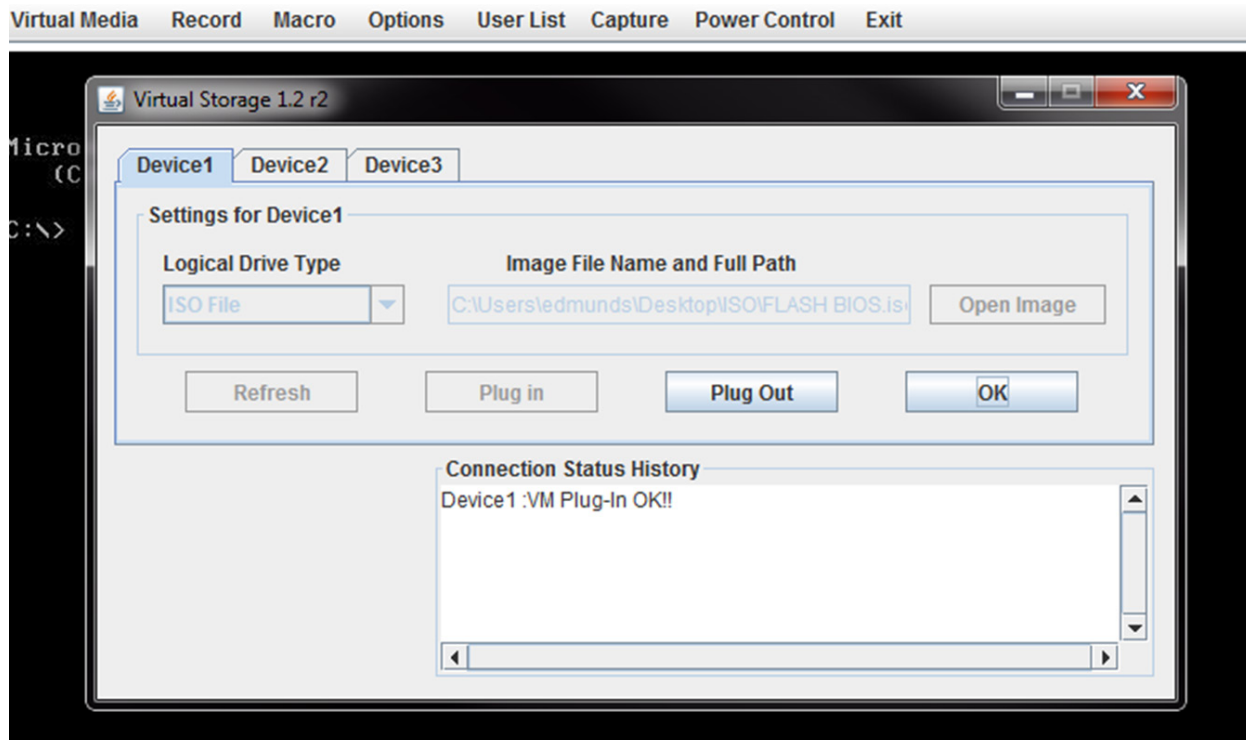


Figure A-7. Pressing the Plug in and OK Buttons for an ISO File

- If you wish instead to download the BIOS update from a USB Flash drive, then insert the flash drive into your system and select it from the Logical Drive Type menu (Figure A-8).

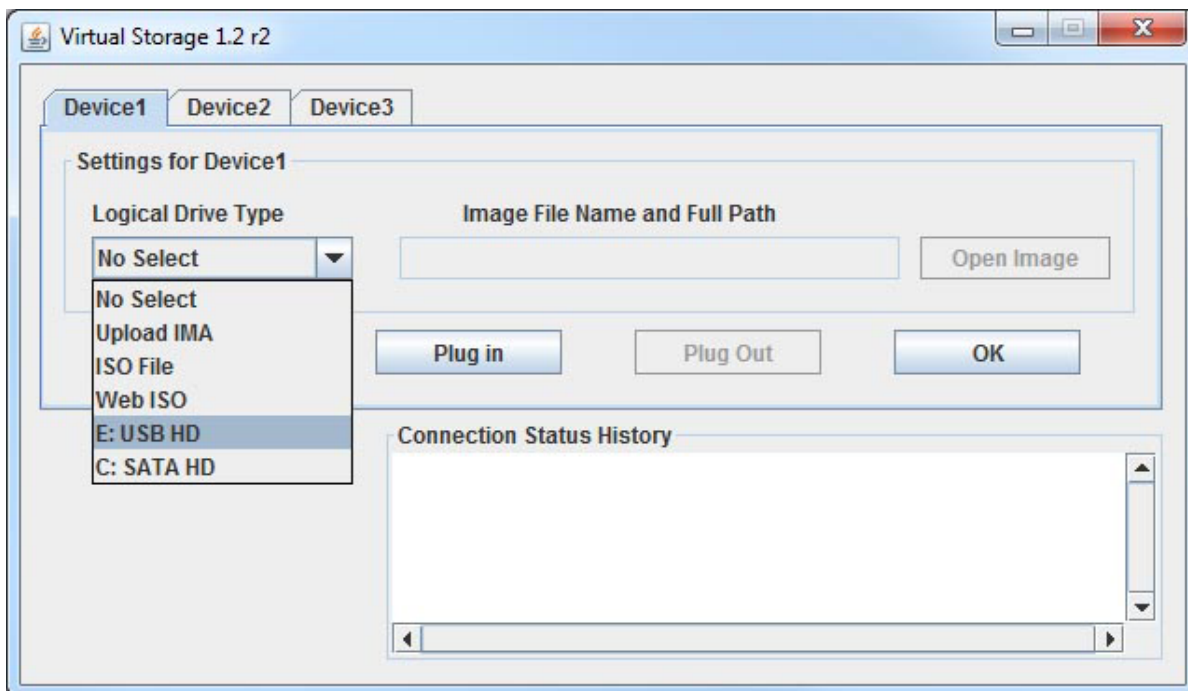


Figure A-8. Selecting a USB Flash Drive

7. After you have selected the USB flash drive file, press the Plug In button, then the OK button to exit the Virtual Storage window (Figure A-9).

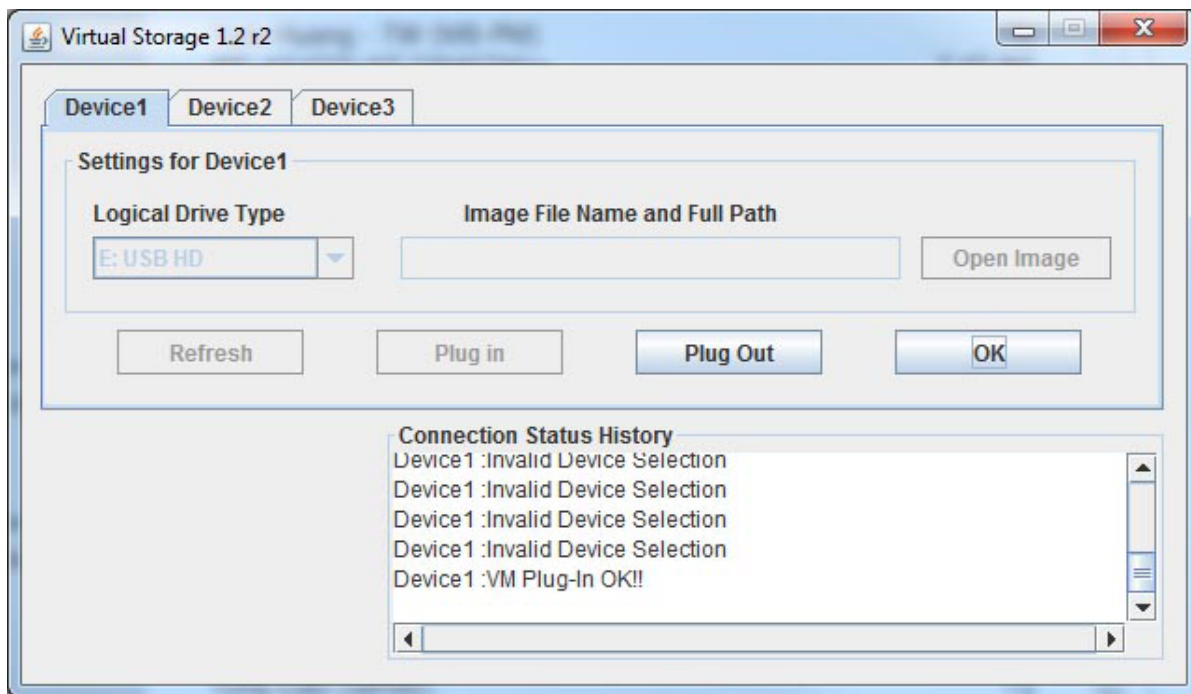


Figure A-9. Pressing the Plug In and OK Buttons for an USB Flash Drive File

8. Reboot the SuperBlade module by selecting the Power Control -> Set Power Reset menu option from the KVM Console window. If the MicroBlade is not powered on yet, please select Set Power On from the menu (Figure A-10).

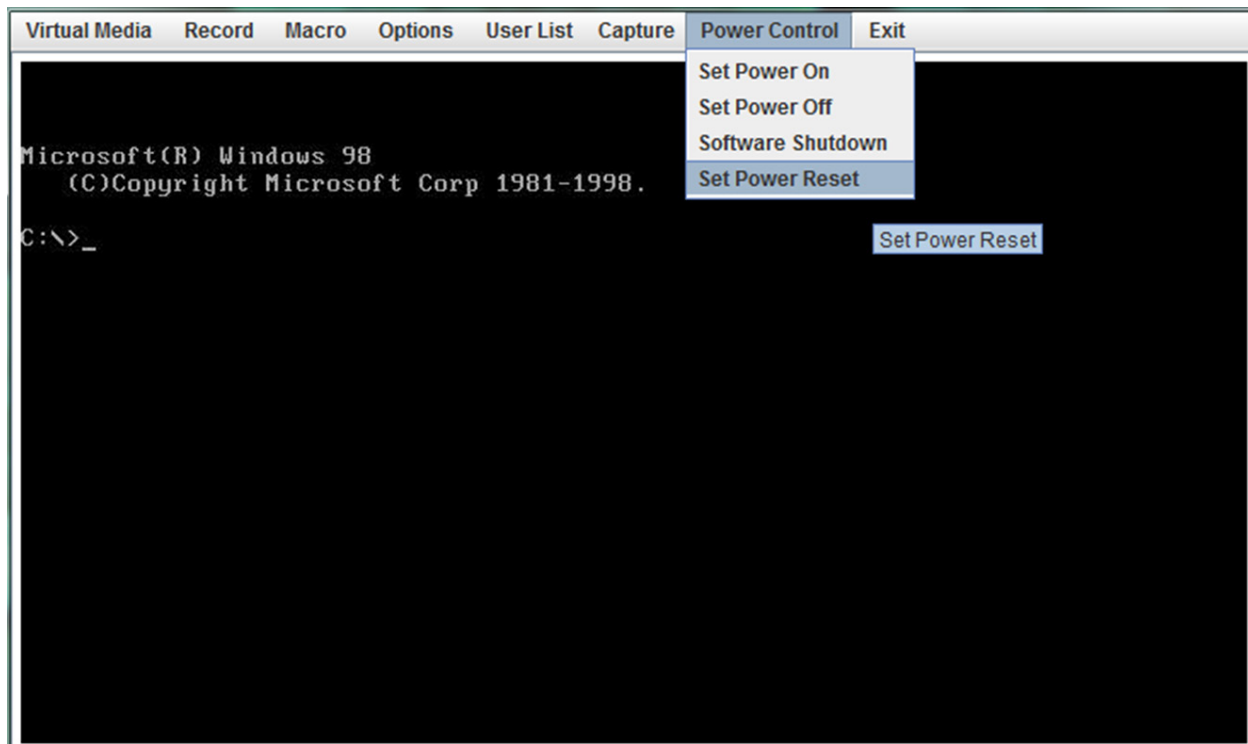


Figure A-10. Selecting Set Power Reset

When the system powers up, press your keyboard's F11 key in order to boot into the Invoke Bootable Devices List. From this list, select the ATEN Virtual CDROM YS0J command. Your MicroBlade will now boot up into mounting the ISO file which contains the new BIOS file and flash utility (Figure A-11).

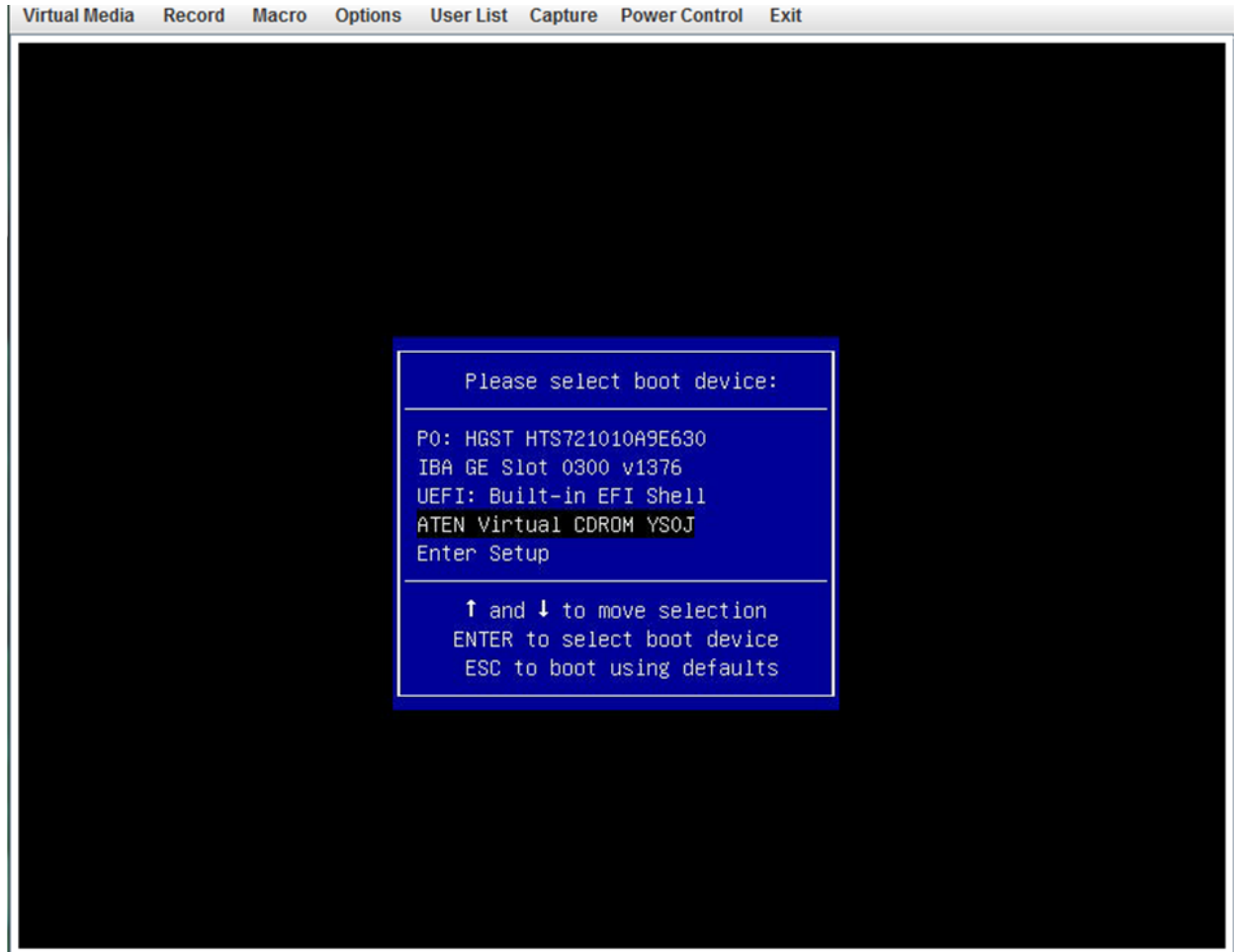


Figure A-11. Bootable Devices List

9. Close the KVM Console window, or go to the Virtual Storage window (see step 2) and click on Plug Out, this will remove mounting of the ISO file (Figure A-12).

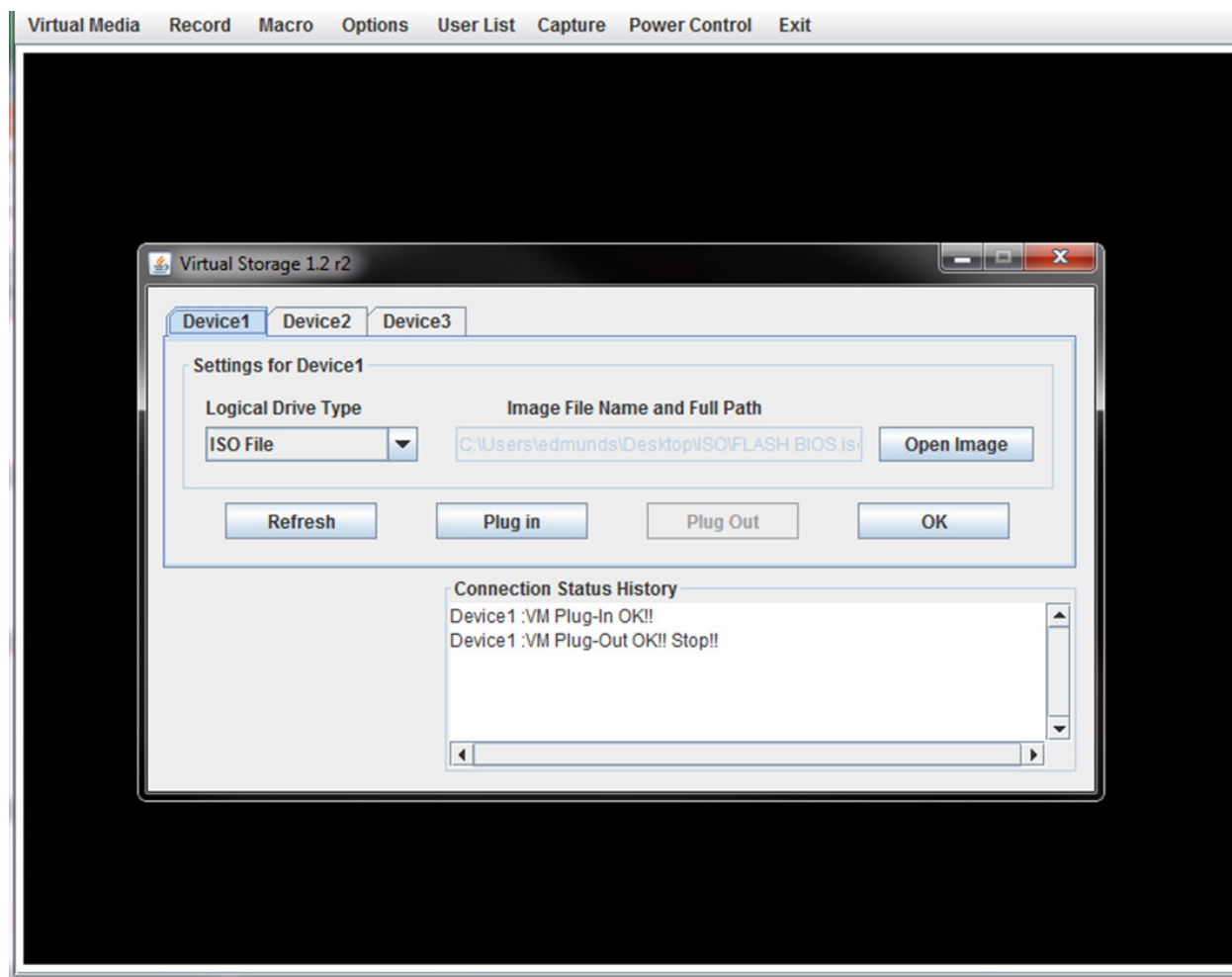


Figure A-12. Clicking Plug Out in the Virtual Storage Window

Appendix B

Standardized Warning Statements for AC Systems

B.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 website at http://www.supermicro.com/about/policies/safety_information.cfm.

Warning Definition



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

警告の定義

この警告サインは危険を意味します。

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

此警告符号代表危險。

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

此警告符號代表危險。

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

Warnung

WICHTIGE SICHERHEITSHINWEISE

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

BEWAHREN SIE DIESE HINWEISE GUT AUF.

INSTRUCCIONES IMPORTANTES DE SEGURIDAD

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

GUARDE ESTAS INSTRUCCIONES.

IMPORTANTES INFORMATIONS DE SÉCURITÉ

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

CONSERVEZ CES INFORMATIONS.

תקנון הזהרות אזהרה

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

اَكْ فِ حَالَةٍ وُكِي اَيُّ تَتَسَبَّبُ فِ اَصَابَةِ جَسَدٍ هَذَا الزَّهْرُ عُ خَطَرٌ! تَحْذَرُ .
 قَبْلَ اَيُّ تَعْوَلُ عَلَى اَيُّ هَعْدَاتٍ، كِي عَلَى عِلْنِ بِالْوَخَاطِزِ اَلْ اُجُوَّةِ عِي الذَّوَائِرِ
 الْكَهْزِبَائِيَّةِ
 وَكِي عَلَى دَرَاةٍ بِالْوَوَارِسَاتِ النِّقَائِيَّةِ لَوْ عُ وَقَعَ اَيُّ حَادَثٍ
 اسْتَخْدَمَ رَقْنِ الْبِ اِيَّ الْوَصُصِ فَ هَا هُ كُلُّ تَحْذَرُ لِلْعَشْرِ تَزْجُوْتَهَا

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 읽어주십시오.

Waarschuwing

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

Circuit Breaker

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

サーキット・ブレーカー

この製品は、短絡(過電流)保護装置がある建物での設置を前提としています。

保護装置の定格が250 V、20 Aを超えないことを確認下さい。

警告

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

警告

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

Warnung

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

¡Advertencia!

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

Attention

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

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

هذا المنتج يعتمد على معدات الحماية مه 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 250V, 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 chassis pour installer ou enlever des composants de système.

אזהרה מפני ניתוק חשמלי

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 انظاؤ من جميع مصادر انطاقت وإزانت سهك انكهرباء من وحدة امداد
انطاقت قېم
انصل إلى امناطق انداخھيت نهھيكم نتشيج أو إزانت مكنناث 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.

والمدربيه لتزكيب واستبدال أو خدمة هذا الجهاز يجب أن يسمح فقط للموظفيه المؤهليه

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 installé 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.).

تخصيص هذه انحدزة نترك بُها ف مناطق محظورة تم .
ممكن اننصل إن منطقت محظورة فقط من خلال استخذاو أداة خاصت
أو أ وس هُت أخري نلاأمما ققم ومفتاح

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制造商推荐的功能相当的電池更換原有電池。請按制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 اسحبذال البطارية بطريقة غير صحيحة فعلى
اسحبذال البطارية
فقط بنفس النوع أو ما يعادلها مما أوصت به الشركة المصنعة
جخلص من البطاريات المسحمة وفقا لعمليات 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 لعسل 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。

修理する際には注意ください。

警告

当システム正在进行时，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 مه التيار الكهربي أو الطاقة المجددة على الساحة
عندما يكن النظام يعمل كه 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 instalacion del equipo debe cumplir con las normas de electricidad locales y nacionales.

Attention

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

תיאום חוקי החשמל הארצי

אזהרה!

התקנת הציוד חייבת להיות תואמת לחוקי החשמל המקומיים והארציים.

تركيب المعدات الكهربائية يجب أن يمثل للقايه المحلية والطية 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.

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

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! Hazardous moving parts. Keep away from moving fan blades. 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

警告!回転部品に注意。運転中は回転部(羽根)に触れないでください。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!

警告! 危险的可移动性零件。请务必与转动的风扇叶片保持距离。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

危险的可移动性零件。请务必与转动的风扇叶片保持距离。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。

Warnung

Gefährlich Bewegende Teile. Von den bewegenden Lüfterblätter fern halten. 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!

Riesgo de piezas móviles. Mantener alejado de las aspas del ventilador. 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

Pieces mobiles dangereuses. Se tenir a l'écart des lames du ventilateur 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!

חלקים נעים מסוכנים. התרחק מלהבי המאוורר בפעולה כאשר מסירים את חלקי המאוורר מהמארז, יתכן והמאווררים עדיין עובדים. יש להרחיק למרחק בטוח את האצבעות וכלי עבודה שונים מהפתחים בתוך המאוורר

تحذير! أجزاء متحركة خطيرة. ابتعد عن شفرات المروحة المتحركة. 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!

움직이는 위험한 부품. 회전하는 송풍 날개에 접근하지 마세요. 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

Gevaarlijk bewegende onderdelen. Houd voldoende afstand tot de bewegende ventilatorbladen. 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、提供または指定および購入された接続ケーブル、電源コードとACアダプターを、該当する地域の条例や安全基準に適合するコードサイズやプラグと共に使用下さい。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或采购的连接线,电源线和电源适配器。包含遵照当地法规和安全要求的合规的电源线尺寸和插头。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

安裝此產品時,請使用本身提供的或指定的或採購的連接線,電源線和電源適配器。包含遵照當地法規和安全要求的合規的電源線尺寸和插頭。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

Nutzen Sie beim Installieren des Produkts ausschließlich die von uns zur Verfügung gestellten Verbindungskabeln, Stromkabeln und/oder Adapter, die Ihre örtlichen Sicherheitsstandards einhalten. Der Gebrauch von anderen Kabeln und Adapter können Fehlfunktionen oder Feuer verursachen. Die Richtlinien untersagen das Nutzen von UL oder CAS zertifizierten Kabeln (mit UL/CSA gekennzeichnet), an Geräten oder Produkten die nicht mit Supermicro gekennzeichnet sind.

¡Advertencia!

Cuando instale el producto, utilice la conexión provista o designada o procure cables, Cables de alimentación y adaptadores de CA que cumplan con los códigos locales y los requisitos de seguridad, incluyendo el tamaño adecuado del cable y el enchufe. El uso de otros cables y adaptadores podría causar un mal funcionamiento o un incendio. La Ley de Seguridad de Aparatos Eléctricos y de Materiales prohíbe El uso de cables certificados por UL o CSA (que tienen el certificado UL / CSA en el código) para cualquier otros dispositivos eléctricos que los productos designados únicamente por Supermicro.

Attention

Lors de l'installation du produit, utilisez les cables de connection fournis ou désigné ou achetez des cables, cables de puissance et adaptateurs respectant les normes locales et les conditions de securite y compris les tailles de cables et les prises electriques appropries. L'utilisation d'autres cables et adaptateurs peut provoquer un dysfonctionnement ou un incendie. Appareils électroménagers et la Loi sur la Sécurité Matériel interdit l'utilisation de câbles certifiés- UL ou CSA (qui ont UL ou CSA indiqué sur le code) pour tous les autres appareils électriques sauf les produits désignés par Supermicro seulement.

AC כבלים חשמליים ומתאמי

אזהרה!

אשר נרכשו או הותאמו לצורך ההתקנה, ואשר הותאמו לדרישות AC כאשר מתקינים את המוצר, יש להשתמש בכבלים, ספקים ומתאמים הבטיחות המקומיות, כולל מידה נכונה של הכבל והתקע. שימוש בכל כבל או מתאם מסוג אחר, עלול לגרום לתקלה או קצר חשמלי. בהתאם כאשר מופיע עליהם קוד) UL-CSA או ב UL - לחוקי השימוש במכשירי החשמל וחוקי הבטיחות, קיים איסור להשתמש בכבלים המוסמכים ב Supermicro עבור כל מוצר חשמלי אחר, אלא רק במוצר אשר הותאם ע"י (UL/CSA) של

عند تركيب المنتج، قم باستخدام التوصيلات المتوفرة أو المحددة أو قم بشراء الكابلات الكهربائية ومحوّلات التيار المتردد مع الالتزام بقوانين ومتطلبات السلامة المحلية بما في ذلك حجم الموصل والقابس السليم. استخدام أي كابلات ومحوّلات أخرى قد يتسبب في عطل أو حريق. يحظر قانون السلامة للأجهزة الكهربائية والمعدات استخدام الكابلات المعتمدة Supermicro مع أي معدات أخرى غير المنتجات المعنية والمحددة من قبل (UL/CSA) والتي تحمل علامة CSA أو UL من قبل

전원 케이블 및 AC 어댑터

경고! 제품을 설치할 때 현지 코드 및 적절한 굵기의 코드와 플러그를 포함한 안전 요구 사항을 준수하여 제공되거나 지정된 연결 혹은 구매 케이블, 전원 케이블 및 AC 어댑터를 사용하십시오.

다른 케이블이나 어댑터를 사용하면 오작동이나 화재가 발생할 수 있습니다. 전기 용품 안전법은 UL 또는 CSA 인증 케이블 (코드에 UL / CSA가 표시된 케이블)을 Supermicro가 지정한 제품 이외의 전기 장치에 사용하는 것을 금지합니다.

Stroomkabel en AC-Adapter

Waarschuwing! Bij het aansluiten van het Product uitsluitend gebruik maken van de geleverde Kabels of een andere geschikte aan te schaffen Aansluitmethode, deze moet altijd voldoen aan de lokale voorschriften en veiligheidsnormen, inclusief de juiste kabeldikte en stekker. Het gebruik van niet geschikte Kabels en/of Adapters kan een storing of brand veroorzaken. Wetgeving voor Elektrische apparatuur en Materiaalveiligheid verbied het gebruik van UL of CSA -gecertificeerde Kabels (met UL/CSA in de code) voor elke andere toepassing dan de door Supermicro hiervoor beoogde Producten.

Appendix C

Specifications and Compliance

Operating Environment

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

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

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

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

Regulatory Compliance

FCC, ICES, CE, VCCI, RCM, UKCA, NRTL, CB

Applied Directives, Standards

EMC/EMI: 2014/30/EU (EMC Directive)

Electromagnetic Compatibility Regulations 2016

FCC Part 15

ICES-003

VCCI-CISPR 32

AS/NZS CISPR 32

BS/EN55032

BS/EN55035

CISPR 32

CISPR 24/CISPR 35

BS/EN 61000-3-2

BS/EN 61000-3-3

BS/EN 61000-4-2

BS/EN 61000-4-3

BS/EN 61000-4-4

BS/EN 61000-4-5

BS/EN 61000-4-6

BS/EN 61000-4-8

BS/EN 61000-4-11

Environment:

2011/65/EU (RoHS Directive)

EC 1907/2006 (REACH)

2012/19/EU (WEEE Directive)

California Proposition 65

Product Safety: 2014/35/EU (LVD Directive)

UL/CSA 62368-1 (USA and Canada)

Electrical Equipment (Safety) Regulations 2016

IEC/BS/EN 62368-1

Perchlorate Warning

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"

General Data Center Environmental Specifications**Particulate contamination specifications**

Air filtration: Data centers must be kept clean to Class 8 of ISO 14644-1 (ISO 2015). The air entering the data center should be filtered with a MERV 11 filter or better. The air within the data center should be continuously filtered with a MERV 8 filter or better.

Conductive dust: Air should be free of conductive dust, zinc whiskers, or other conductive particles.

Corrosive dust: Air should be free of corrosive dust.

Gaseous* contamination specifications

Copper coupon corrosion rate: <300 Å/month per class G1 as defined by ANSI/ISA71.04-2013, reference by ASHRAE TC 9.9

Silver coupon corrosion rate: <200 Å/month per class G1 as defined by ANSI/ISA71.04-2013, reference by ASHRAE TC 9.9

*If testing with silver or copper coupons results in values less than 200 Å/month or 300 Å/month, respectively, then operating up to 70% relative humidity (RH) is acceptable. If the testing shows corrosion levels exceed these limits, then catalyst-type pollutants are probably present and RH should be driven to 50% or lower.