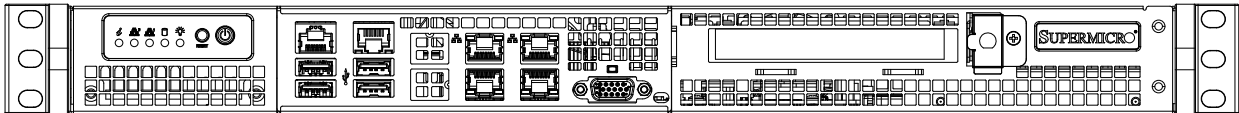




SuperServer[®] 5019A-FN5T



USER'S MANUAL

Revision 1.0

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Manual Revision 1.0

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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 this server. Installation and maintenance should be performed by experienced technicians only.

Please refer to the 5019A-FN5T 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>
- 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.

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/Lot9_Secure_Data_Deletion_Utility/

Warnings

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



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 chapter provides a brief outline of the functions and features of the SuperServer 5019A-FN5T. This server is based on the A2SDV-16C-TLN5F motherboard and the CSE-505-203B chassis.

In addition to the motherboard and chassis, several important parts that are included with the system are listed below.

Main Parts List		
Description	Part Number	Quantity
4-cm Cooling Fans	FAN-065L4	3
Air Shroud	MCP-310-50501-0B	1
Riser Card	RSC-RR1U-E8	1
Power Supply	PWS-203-1H	1
I/O Shield	MCP-260-00085-0B	1

1.2 System Features

The table below is an overview of the main features of the SuperServer 5019A-FN5T.

System Features
Processor
Intel® Atom Processor C3958 in a FCBGA1310 type socket
Motherboards
A2SDV-16C-TLN5F
Chassis
CSE-505-203B
Memory
Supports up to 256GB Registered ECC RDIMM and DDR4-2400MHz or up to 64GB Unbuffered ECC/non-ECC UDIMM, DDR4-2400MHz in four DIMM slots
Chipset
System on Chip
Expansion Slots
One PCIe 3.0 x8 slot
M.2: one M-Key and one B-Key: M-Key Form Factor: 2242/2280 Interface: PCIe 3.0 x2 SATA B-Key Form Factor 3042/2280 Interface: PCIe 3.0 x2 SATA/USB3
Drive Bays
1x 3.5" or 2x 2.5" internal hard drive bays (no add-on card support while a 3.5" drive is populated)
Power
200W AC 80Plus Gold Level power supply
Cooling
Three (plus one optional) internal fixed 40 x 28 mm fans
Dimensions
(WxHxD) 17.2 x 1.7 x 9.8 in (437 x 43 x 249mm) 1U short-depth chassis

1.3 Chassis Features

Control Panel

The switches and LEDs located on the control panel are described below. See Chapter 4 for details on the control panel connections.

The main power switch is used to apply or remove power from the power supply to the server. Turning off system power with this button removes the main power, but maintains standby power.

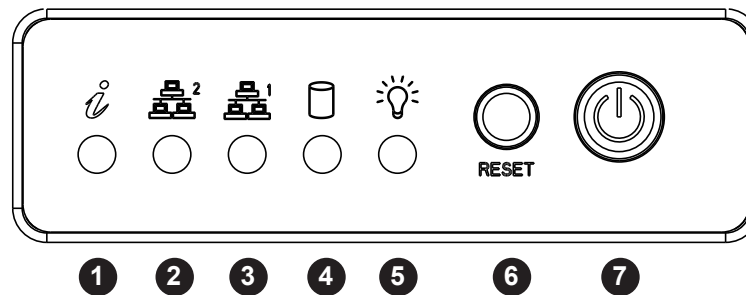


Figure 1-1. Control Panel View

Control Panel Features		
Item	Features	Description
1	Informational LED	Alerts operator to several states, as noted in the table below.
2	NIC2 LED	Indicates network activity on LAN port 2 when flashing.
3	NIC1 LED	Indicates network activity on LAN port 1 when flashing.
4	HDD LED	Indicates hard drive activity when flashing.
5	Power LED	Indicates power is being supplied to the system power supply. This LED should normally be illuminated when the system is operating.
6	Reset Button	The reset button is used to reboot the system. Press the button with a slender device such the tip of a pen.
7	Power Button	The main power button is used to apply or remove power from the power supply to the server. Turning off system power with this button removes the main power but maintains system power. To perform maintenance tasks, you must also unplug the system before servicing.

Information LED	
Status	Description
Continuously on and red	An overheat condition has occurred. (This may be caused by cable congestion.)
Blinking red (1Hz)	Fan failure, check for an inoperative fan.
Blinking red (0.25Hz)	Power failure, check for a non-operational power supply.
Solid blue	UID has been activated locally to locate the server in a rack environment.
Blinking blue	UID has been activated using IPMI to locate the server in a rack environment.

Front Features

The CSE-505-203B is a 1U short-depth chassis. See the illustration below for the features included on the front of the chassis.

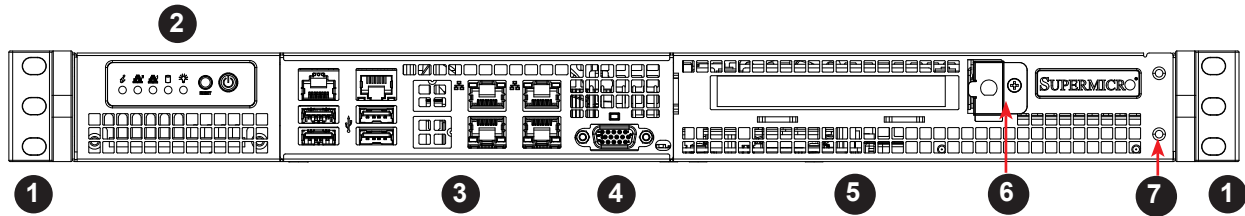


Figure 1-2. Server Front View

Server Front Features		
Item	Feature	Description
1	Bracket Ear	Secures the chassis into the rack
2	Control Panel	Front control panel with LEDs and buttons (see the previous page)
3	I/O Ports	Input/output ports (see details in Chapter 4)
4	VGA Port	Video port
5	PCIe	Location for expansion cards
6	Expansion Card Clip	Secures the expansion card to the chassis front
7	BMC Label Location	Unique BMC password label location

Rear Features

The illustrations below show the features included on the rear of the chassis.

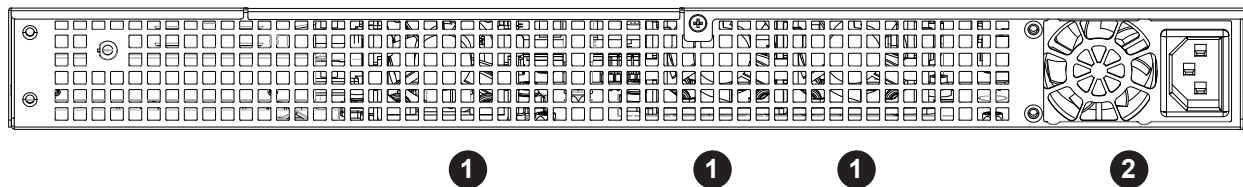


Figure 1-3. Server Rear View

Server Rear Features		
Item	Feature	Description
1	Fan	Internal fans
2	Power Supply	200W AC Gold power supply

Quick Reference Table

Jumper	Description	Default Setting
JBR1	BIOS Recovery	Pins 1-2 (Normal)
JBT1	CMOS Clear	Open (Normal)
JI ² C1/JI ² C2	SMB to PCIe Slots Enable/Disable	Pins 1-2 (Enabled)
JNCS1	IPMI Shared LAN Port Selection	ON (short): LAN1, OFF (open): LAN2
JPG1	Onboard VGA Enable/Disable	Pins 1-2 (Enabled)
JPL1	LAN1 GbE Enable/Disable	Pins 1-2 (Enabled)
JPME2	ME Manufacturing Mode	Pins 1-2 (Normal)
JPTG1	LAN2/3/4/5 10GbE Enable/Disable	Pins 1-2 (Enabled)
JSEL1	PCIe Slot Selection	Pins 1-2: Slot 7, Pins 2-3: Slot 6
JWD1	Watch Dog Timer	Pins 1-2 (Reset)
LED	Description	Status
LED1	Power LED	Solid Green: Power On
LEDBMC	BMC Heartbeat	Blinking Green: BMC Normal
UIDLED1	UID LED	Solid Blue: Unit Identified
Connector	Description	
BT1	Onboard Battery	
COM1	COM Port (on the I/O back panel)	
COM2	COM Header	
FAN1 - FAN4, FANA, FANB	System Fan Headers	
IPMI_LAN	Shared IPMI LAN Port (Default: shared with LAN1)	
I-SATA0-1	Intel® PCH SATA 3.0 Ports (I-SATA0: SuperDOM)	
JD1	Speaker Header (Pins 1-4: Speaker)	
JF1	Front Control Panel Header	
JGP1	General Purpose I/O Header	
JIPMB1	System Management Bus Header (for IPMI only)	
JL1	Chassis Intrusion Header	
JMD1	M.2 B-Key PCIE3/SATA3/USB3 Connector	
JMD2	M.2 M-Key PCIE3/SATA3 Connector	
JPI ² C1	Power Supply SMBus I ² C Header	
JPH1	4-pin Power Connector for HDD use	
JPW1	24-pin ATX Power Connector	
JPV1	4-pin 12V DC Power Connector (To provide alternative power for a special enclosure when the 24-pin ATX power is not in use.)	
JRT3	Thermal Diode 1	
JRT4	Thermal Diode 2	

Connector	Description
JSD1	SATA Disk On Module (DOM) Power Connector
JSMB1	External BMC I ² C Header
JTGLED1	LAN4 - LAN5 Activity LED Header
JTPM1	Trusted Platform Module (TPM)/Port 80 Connector
JUIDB1	Unit ID Button
LAN1 - LAN5	LAN1: Gigabit Ethernet (RJ45) Port LAN2 - LAN5: 10Gigabit Ethernet (RJ45) Ports
SLOT6, SLOT7	PCIe 3.0 x8 Slots (use SLOT 6 or SLOT 7 only, selectable with JSEL1)
SRW1 - SRW4	M.2 Holding Screws (Standoffs)
USB0/1, USB2/3	Back Panel USB 3.0 Ports
USB4/5	Front Accessible USB 2.0 Header
USB6	USB 3.0 Type A Header
VGA	VGA Port

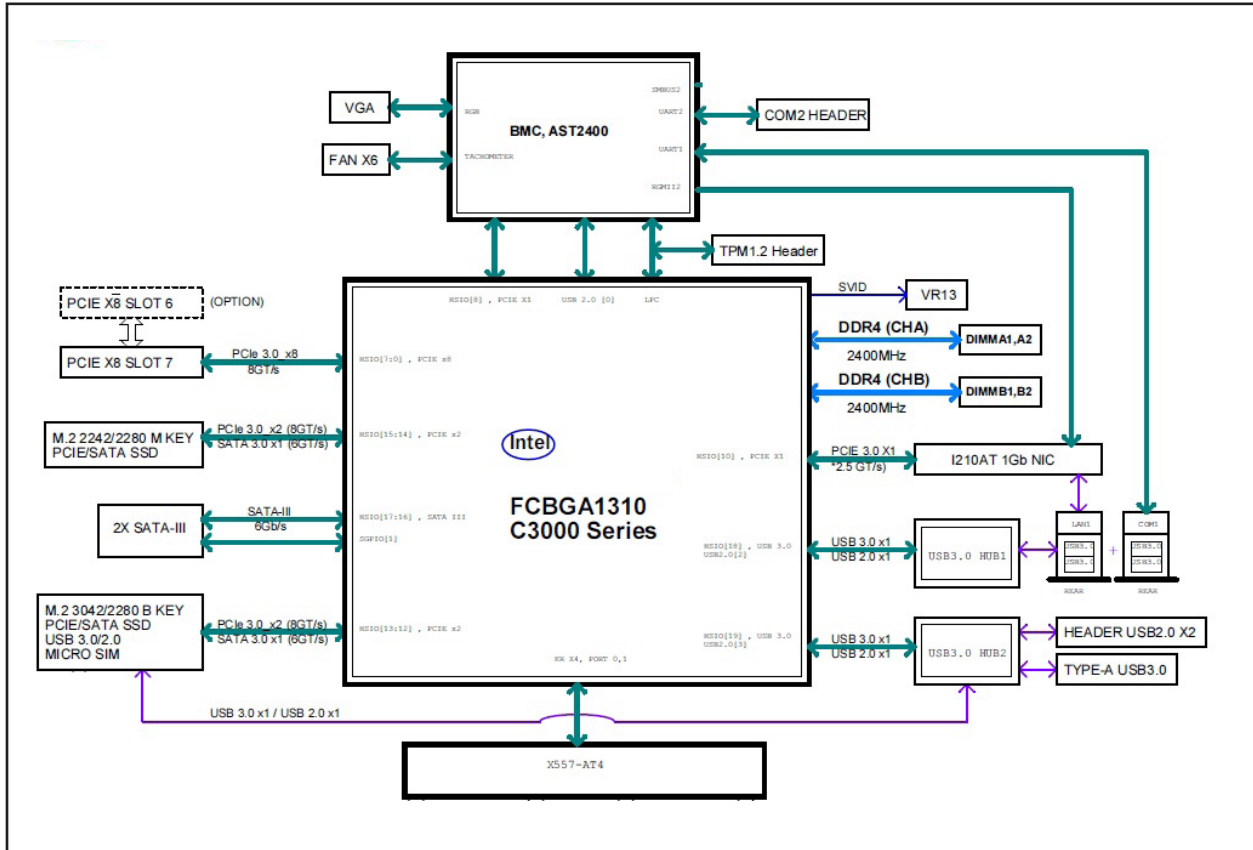


Figure 1-5. Chipset System Block Diagram

Note: This is a general block diagram and may not exactly represent the features on your motherboard. See the System Specifications appendix for the actual specifications of your motherboard.

1.5 Server Installation and Setup

The server is shipped with the processor and the motherboard installed in the chassis. Several steps are necessary to begin using your server. You must add memory, install the hard drives, and mount the system in place.

Unpacking the System

Inspect the box in which the system was shipped and note if it was damaged. If the server itself shows damage, file a damage claim with the carrier.

Warnings and Precautions

- Use a regulating uninterruptible power supply (UPS) to protect the server from power surges, voltage spikes and to keep your system operating in case of a power failure.
- Review the electrical and general safety precautions in Appendix B.

Adding Components to your System

- **Memory:** If your system is not already fully integrated with system memory, refer to Chapter 3 for details on compatible types of memory and the installation procedure.
- **Drives and Storage:** To add storage capabilities to your server, see Chapter 3.
- **Input/Output:** See Chapter 4 for I/O ports and connect them as needed.
- **Software:** See Chapter 5 for description and procedures for installing software, including drivers and monitoring programs.

Chapter 2

Server Installation

2.1 Overview

This chapter provides advice and instructions for mounting your system in a server rack. If your system is not already fully integrated with system memory etc., refer to Chapter 3 for details on installing those specific components.

Caution: Electrostatic Discharge (ESD) can damage electronic components. To prevent such damage to PCBs (printed circuit boards), it is important to use a grounded wrist strap, handle all PCBs by their edges, and keep them in anti-static bags when not in use.

2.2 Preparing for Setup

The box in which the system was shipped should include the rackmount hardware needed to install it into the rack. Please read this section in its entirety before you begin the installation.

Choosing a Setup Location

- The system should be situated in a clean, dust-free area that is well ventilated. Avoid areas where heat, electrical noise, and electromagnetic fields are generated.
- Leave enough clearance in front of the rack so that you can open the front door completely (~25 inches) and approximately 30 inches of clearance in the back of the rack to allow sufficient space for airflow and access when servicing.
- This product should be installed only in a Restricted Access Location (dedicated equipment rooms, service closets, etc.).
- This product is not suitable for use with visual display workplace devices according to §2 of the German Ordinance for Work with Visual Display Units.

Rack Precautions

- Ensure that the leveling jacks on the bottom of the rack are extended to the floor so that the full weight of the rack rests on them.
- In single rack installations, stabilizers should be attached to the rack. In multiple rack installations, the racks should be coupled together.

- Always make sure the rack is stable before extending a server or other component from the rack.
- You should extend only one server or component at a time - extending two or more simultaneously may cause the rack to become unstable.

Server Precautions

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

Rack Mounting Considerations

Ambient Operating Temperature

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

Airflow

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

Mechanical Loading

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

Circuit Overloading

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

Reliable Ground

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

All power cords must be plugged into sockets that have an earth ground.



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

- This unit should be mounted at the bottom of the rack if it is the only unit in the rack.
- When mounting this unit in a partially filled rack, load the rack from the bottom to the top with the heaviest component at the bottom of the rack.
- If the rack is provided with stabilizing devices, install the stabilizers before mounting or servicing the unit in the rack.
- Slide rail mounted equipment is not to be used as a shelf or a work space.

2.3 Installing the Chassis into the Rack

This section provides information on installing the CSE-505-203B chassis into a rack unit. Due to the variety of rack units on the market, the assembly procedure might differ slightly. Also refer to the installation instructions that came with the rack unit you are using.

1. Gather the four mounting screws shipped with the system.
2. Align the mounting holes of the chassis with the thru-holes of the rack.
3. Insert the mounting screws into the thru-holes in the front of the chassis and tighten the screws until the chassis is secured to the rack.

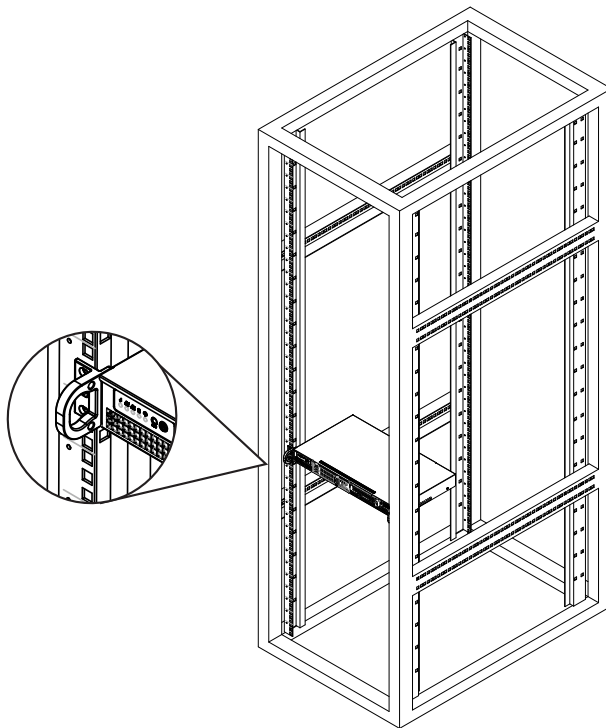


Figure 2-1. Installing the Server into a Rack

Note: Figures are for illustrative purposes only. Always install servers to the bottom of a rack first.



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



Stability hazard. The rack stabilizing mechanism must be in place, or the rack must be bolted to the floor before you slide the unit out for servicing. Failure to stabilize the rack can cause the rack to tip over, which may cause serious personal injury or death.

Installing to a Telco Rack

The 5019A-FN5T supports Telco Rack installation. The compact design allows it to be installed into a Telco rack without the use of rails.

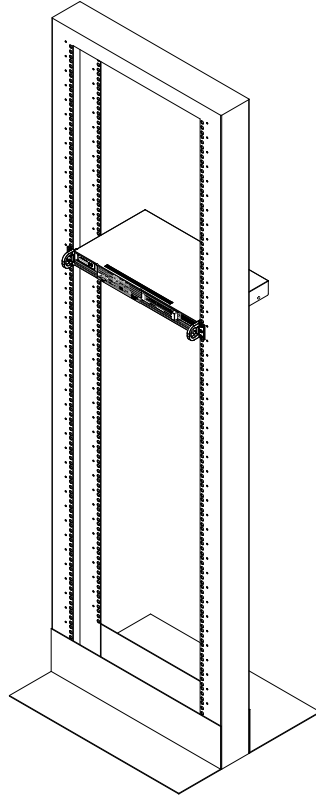


Figure 2-2. Installing the Server into a Rack

Note: Figures are for illustrative purposes only. Servers should always be installed in racks from the bottom up.

Installing the System into a Telco (Two-Post Style) Rack

To install the system into a Telco style two-post rack, use two L-shaped brackets on either side of the chassis (four total).

1. Determine how far the server will extend out the front of the rack. Larger chassis should be positioned to balance the weight between front and back.
2. If a bezel is included on your chassis, remove it.
3. Attach the two front brackets to each side of the chassis.
4. Attach the two rear brackets positioned with just enough space to accommodate the width of the Telco rack.
5. Slide the chassis into the rack and tighten the brackets to the rack.

Chapter 3

Maintenance and Component Installation

This chapter provides instructions on installing and replacing main system components. To prevent compatibility issues, only use components that match the specifications and/or part numbers given.

Installation or replacement of most components require that power first be removed from the system. Please follow the procedures given in each section.

3.1 Removing Power

Use the following procedure to ensure that power has been removed from the system.

1. Use the operating system to power down the system.
2. After the system has completely shut down, disconnect the AC power cords from the power strip or outlet.
3. Disconnect the AC power cords from the power supply module.

3.2 Accessing the System

Removing the Chassis Cover

1. Power down the system as described in Section 3.1.
2. Remove one screw from the chassis rear and two screws from each chassis side.
3. Lift the cover up and off the chassis.



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

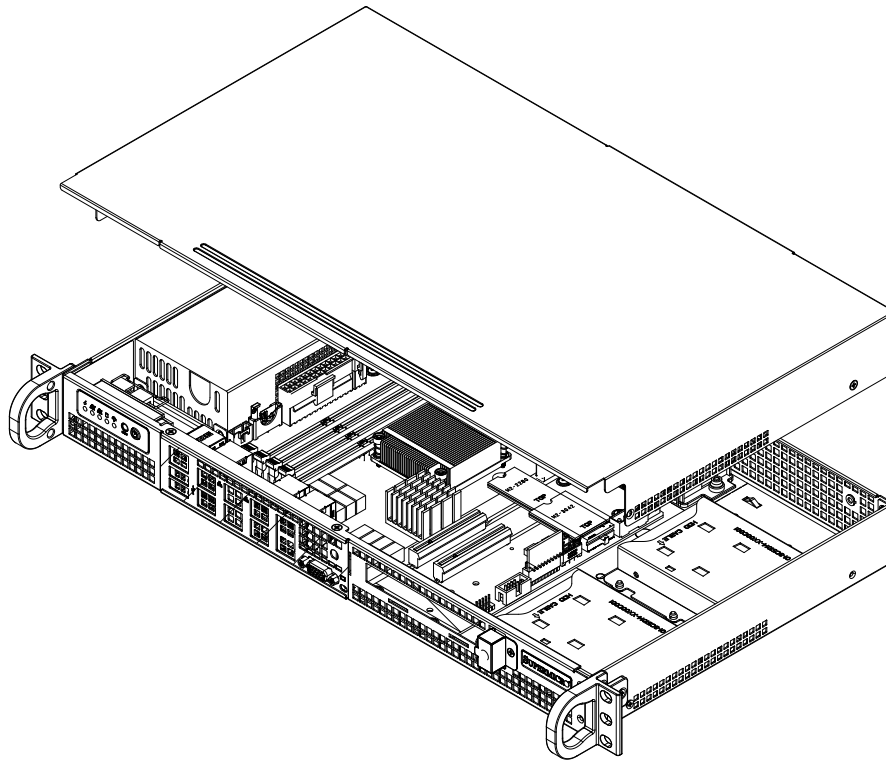


Figure 3-1. Removing the Chassis Cover

3.3 Motherboard Components

Memory

Memory Support

The A2SDV-16C-TLN5F supports up to 256GB Registered ECC RDIMM and DDR4-2400MHz or up to 64GB Unbuffered ECC/non-ECC UDIMM, DDR4-2400MHz in four DIMM slots. Populating these DIMM slots with memory modules of the same type and size will result in interleaved memory, which will improve memory performance.

Refer to the table on the next page for the recommended DIMM population order.

ESD Precautions

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

- 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.
- Check the Supermicro website for recommended memory modules.

DIMM Module Population Configuration

For optimal memory performance, follow the table below when populating memory.

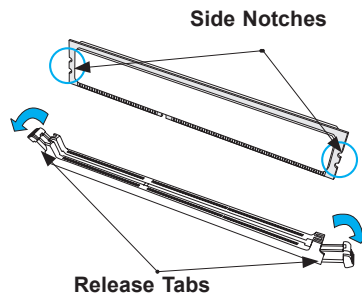
Memory Population (Balanced)				
DIMMA1	DIMMB1	DIMMA2	DIMMB2	Total System Memory
4GB	4GB			8GB
4GB	4GB	4GB	4GB	16GB
8GB	8GB			16GB
8GB	8GB	8GB	8GB	32GB
16GB	16GB			32GB
16GB	16GB	16GB	16GB	64GB
32GB	32GB			64GB
32GB	32GB	32GB	32GB	128GB
64GB	64GB			128GB
64GB	64GB	64GB	64GB	256GB

DIMM Installation

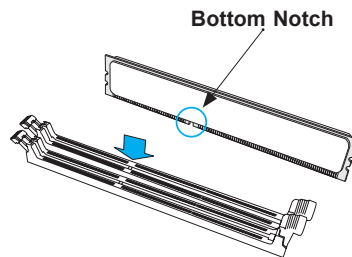
Caution: Exercise extreme caution when installing or removing memory modules to prevent any possible damage to the DIMMs or slots.

Begin by removing power from the system as described in Section 3.1.

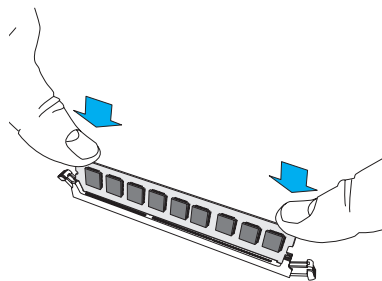
1. Decide on the number of DIMMs to install and follow the DIMM population sequence table shown previously.
2. Push the release tabs outwards on both ends of the DIMM slot to unlock it.



3. Identify the notches on the side and bottom of the DIMM module.



4. Align the bottom notch on DIMM module with the receptive point in the memory slot. Align the side notches with the receptive points on the release tabs.



5. With your thumbs on both ends of the DIMM module, press it straight down into the slot until the module snaps into place.
6. Press the release tabs to the locked position to secure the DIMM module into the slot.

DIMM Removal

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

M.2 Card Installation

The A2SDV-16C-TLN5F supports two M.2 connectors: one M-Key 2242/2280 PCIe 3.0 x2 SATA connector and one B-Key 3042/2280 PCIe 3.0 x2 SATA/USB3 connector. To install an M.2 card, first locate the connector and the standoff on the motherboard.

1. Remove the screw from the standoff and set aside.
2. Remove the old M.2 card.
3. Insert a new M.2 card into the slot.
4. Align the cutoff circle with the standoff.
5. Reinstall the screw on the standoff.

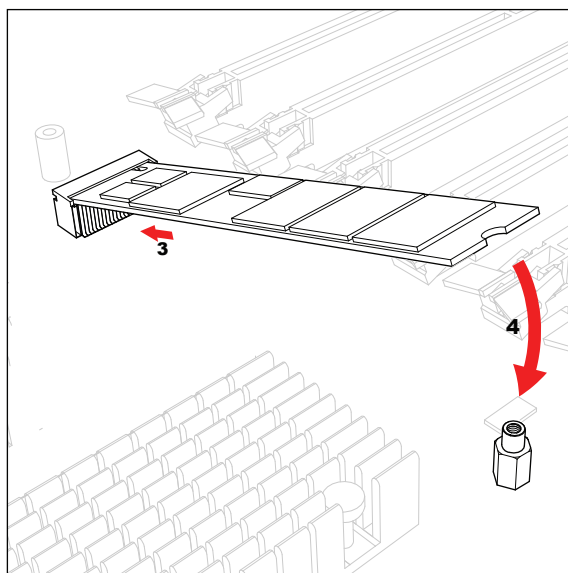


Figure 3-3. Installing an M.2 Card

Note: The illustration shows an M.2 22110 card. Follow the same procedure to install any M.2 card in its respective slots.

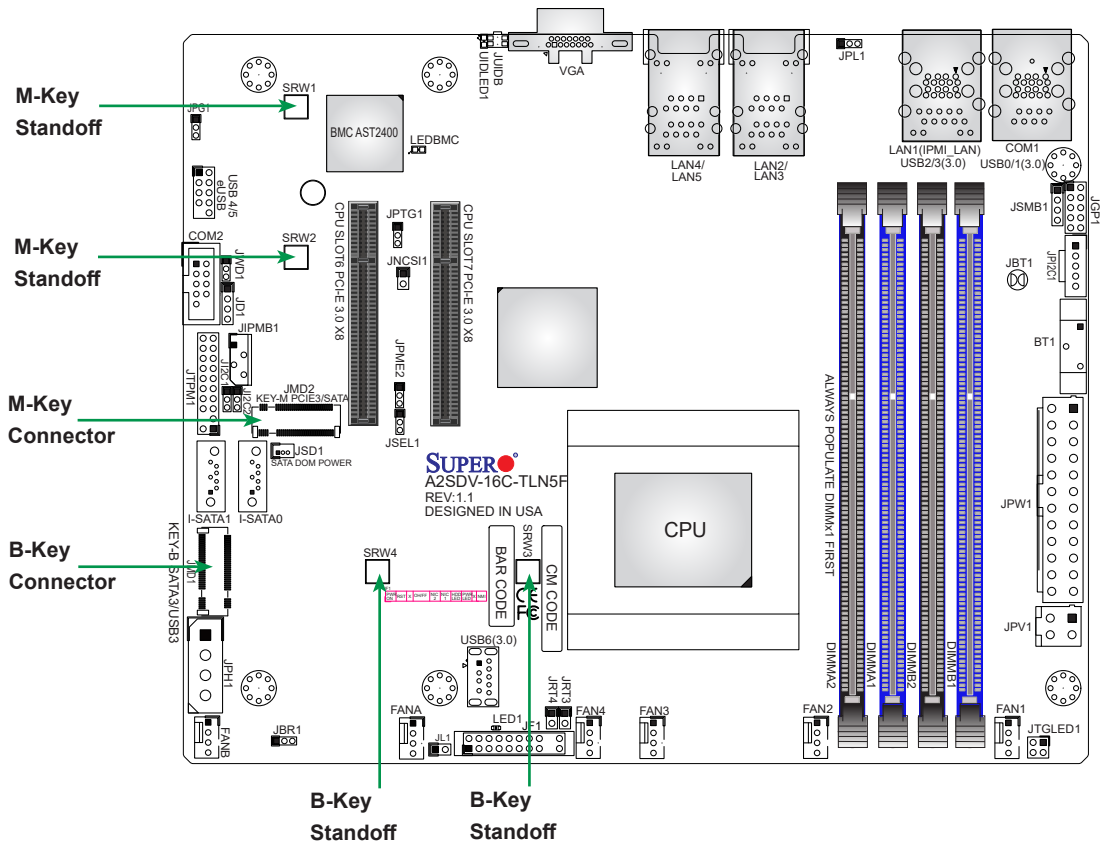


Figure 3-4. M.2 Connectors and Standoffs

Motherboard Battery



Caution: There is a danger of explosion if the onboard battery is installed in the wrong orientation with reversed polarities. This battery must be replaced only with the same or an equivalent type recommended by the manufacturer (CR2032). Dispose of used batteries according to the manufacturer's instructions.

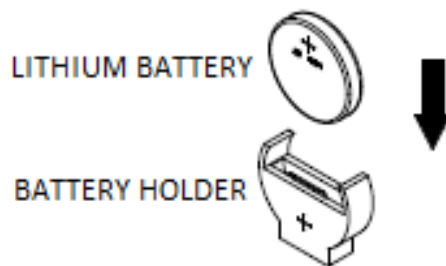


Figure 3-6. Installing the Onboard Battery

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

3.4 Chassis Components

This section provides instructions on installing and replacing system components. To assure compatibility, only use components that match the specifications or part numbers given.

PCI Expansion Cards

The system supports an optional riser card to allow a full-height, half-length expansion card to fit inside the chassis. Use the RSC-RR1U-E8 to install a PCIe x8 card.

Note: Install the expansion card after installing the 2.5" disk drives.

Assemble the PCIe Expansion Card, Riser Card, and Brackets

1. Remove power as described in Section 3.1 and remove the chassis cover.
2. Remove the expansion card clip and the PCI slot shield.

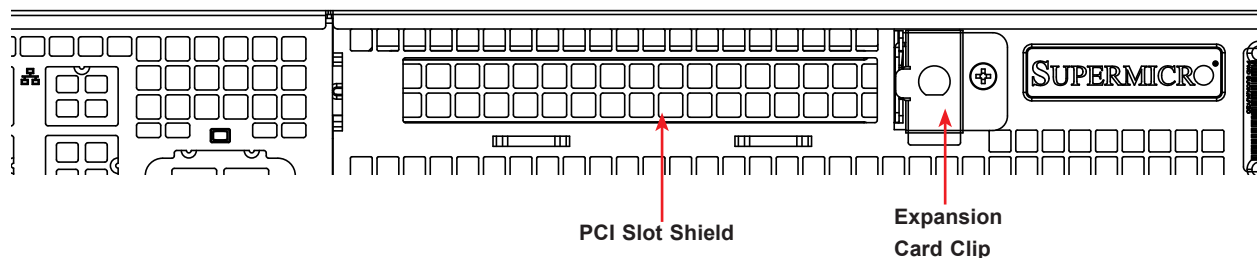


Figure 3-7. Expansion Card Clip Location

3. Outside of the chassis, create a riser card assembly by installing the riser card to the riser card bracket.
4. Create a PCI card assembly by installing a PCI slot bracket to the expansion card.
5. Insert the PCI card assembly into the riser card assembly.

Installing the Expansion Card Assembly

1. Insert the expansion card into the riser card.
2. Insert the riser card and PCI card assembly into the motherboard.
3. Secure the PCI slot bracket to the chassis with the clip.

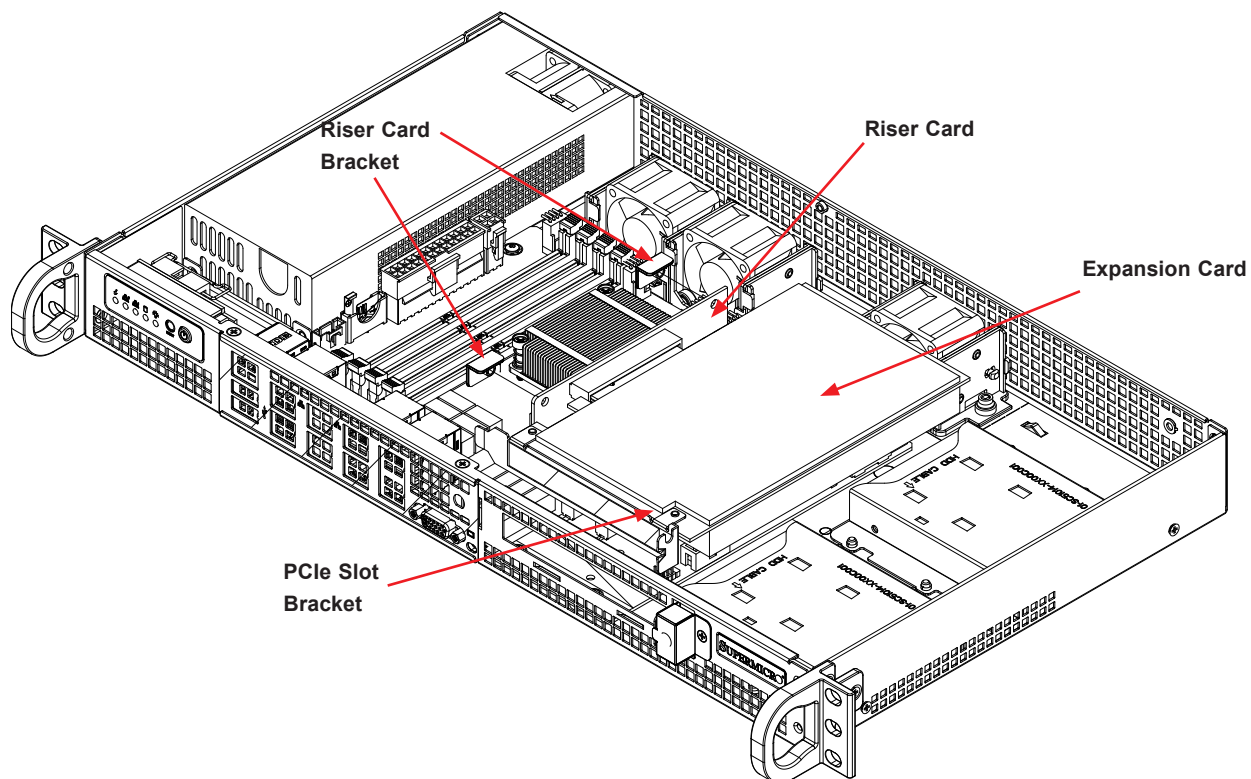


Figure 3-8. Assemble the PCIe Expansion Card, Riser Card, and Brackets

Storage Drives

The system supports two internal 2.5" SSD drives.

Note: Enterprise level drives are recommended for use in Supermicro servers. For information on recommended HDDs, visit the Supermicro website product pages at <https://www.supermicro.com/products/nfo>.

Installing Fixed Internal Drives

Installing 2.5" Drives to the Chassis Floor

1. Remove power as described in Section 3.1 and remove the chassis cover.
2. If necessary, remove the PCI expansion card from the chassis.
3. Remove the drive brackets from the chassis.
4. Insert the SSDs into the drive brackets and secure the drive to the bracket with screws.
5. Secure each drive bracket to the chassis floor using four screws.
6. Connect the drive cables to the motherboard and the power supply.
7. If necessary, reinstall the PCI expansion card.
8. Reinstall the chassis cover, reconnect the power cord, and power up the system.

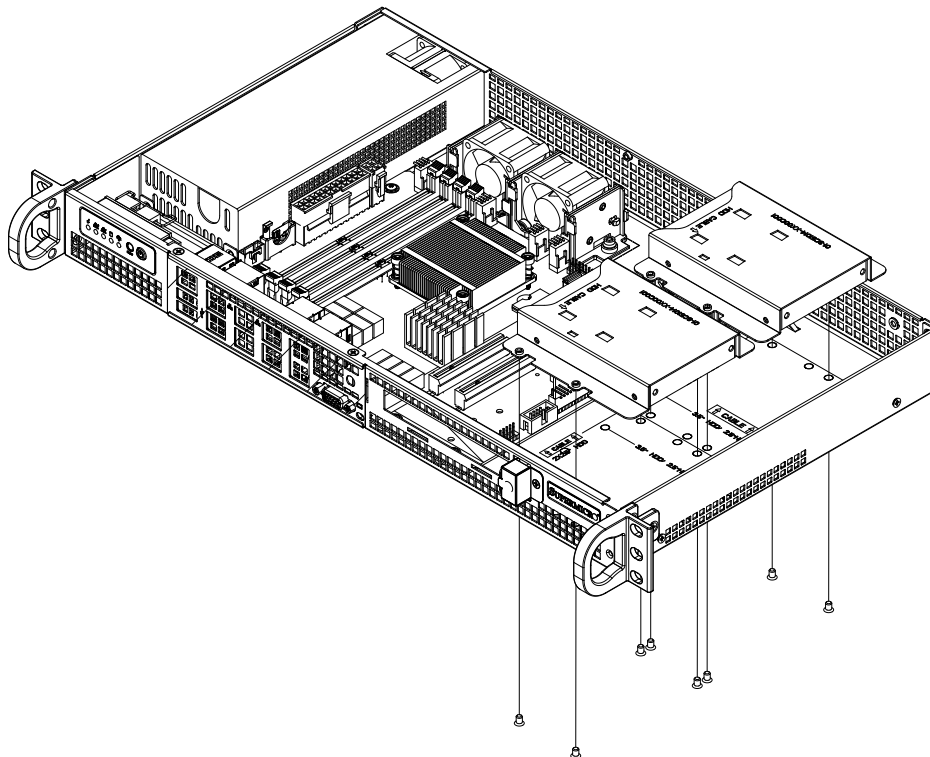


Figure 3-9. Securing the Mounting Brackets to the Chassis Floor

System Fans

The SuperServer 5019A-FN5T comes with three fans.

The fans can adjust their speed according to the heat level sensed in the system, which results in more efficient and quieter fan operation. Fan speed is controlled by IPMI. Each fan has its own separate tachometer.

If a fan fails, the remaining fans will ramp up to full speed, the overheat/fan fail LED on the control panel will blink on and off. Replace any failed fan at your earliest convenience with the same type and model.

Replacing a System Fan

1. Determine which fan has failed using remote management.
2. Once the failed fan has been identified, remove power from the system as described in Section 3.1.
3. Remove the chassis cover as described in Section 3.2.
4. Disconnect the failed fan from the motherboard.
5. Remove the failed fan from the fan tray.

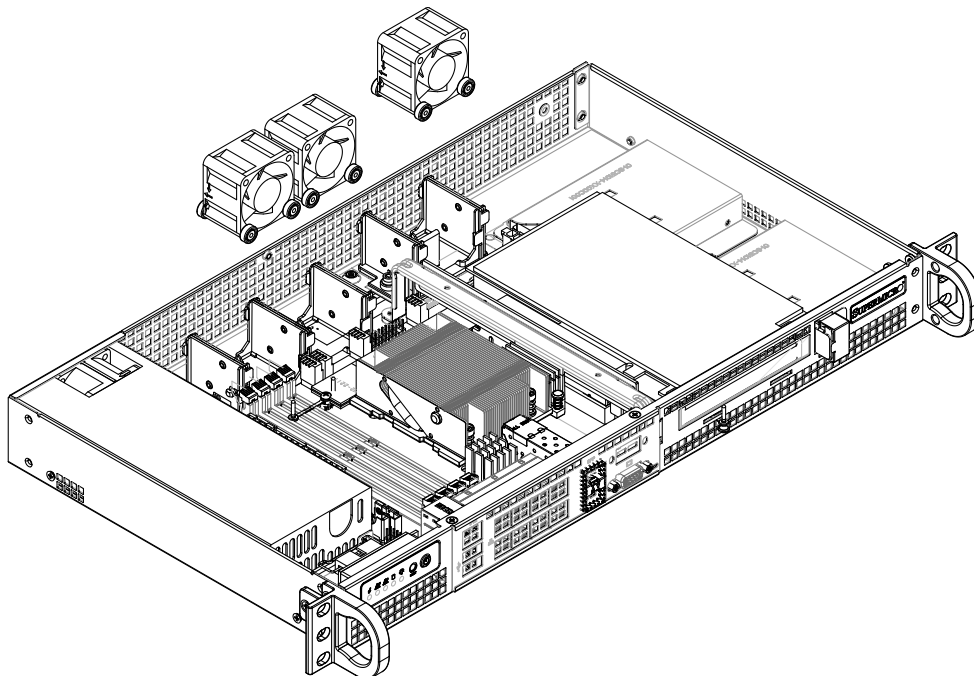


Figure 3-10. Removing Fan from the Fan Tray

6. Install a new fan into the drive tray.
7. Connect the fan to the motherboard.
8. Reinstall the chassis cover.
9. Reconnect the power cord and power up the system.
10. Check that the overheat/fan fail LED on the control panel is off.

Checking the Server Air Flow

- Make sure there are no objects to obstruct airflow in and out of the server.
- Use only recommended server parts.
- Make sure no wires or foreign objects obstruct air flow through the chassis. Pull all excess cabling out of the airflow path or use shorter cables.

The control panel LEDs display system heat status. See “Control Panel” in Chapter 1 for details.

Overheating

There are several possible responses if the system overheats.

If the server overheats:

1. Use the overheat/fan fail LED to determine the nature of the overheating condition.
2. Confirm that the chassis covers are installed properly.
3. Make sure all fans are present and operating normally.
4. Check the routing of the cables.
5. Verify that the air shroud is installed properly.

Caution: If the operating temperature exceeds 30° C and the system fans are not active, a LAN component may become overheated.

Power Supply

The 5019A-FN5T supports one 200 W AC Gold power supply. The power supply is auto-switching capable. The 200 W AC power supply can operate at a 100V to 240V input range. New units can be ordered directly from Supermicro or authorized distributors.

Replacing Power Supply

1. Remove power as described in Section 3.1 and remove the chassis cover as described in Section 3.2
2. Disconnect all wiring from the power supply.
3. Remove two screws holding the power supply to the chassis rear. From the underside of the chassis, remove two screws holding the power supply mounting bracket to the chassis floor. Set these four screws aside.
4. Remove the power supply from the chassis.
5. Align a new power supply with the thru holes at the chassis rear and on the chassis floor.
6. Reinstall the four screws.
7. Reconnect all wiring to the power supply, reinstall the chassis cover, reconnect the power cord, and power up the system.

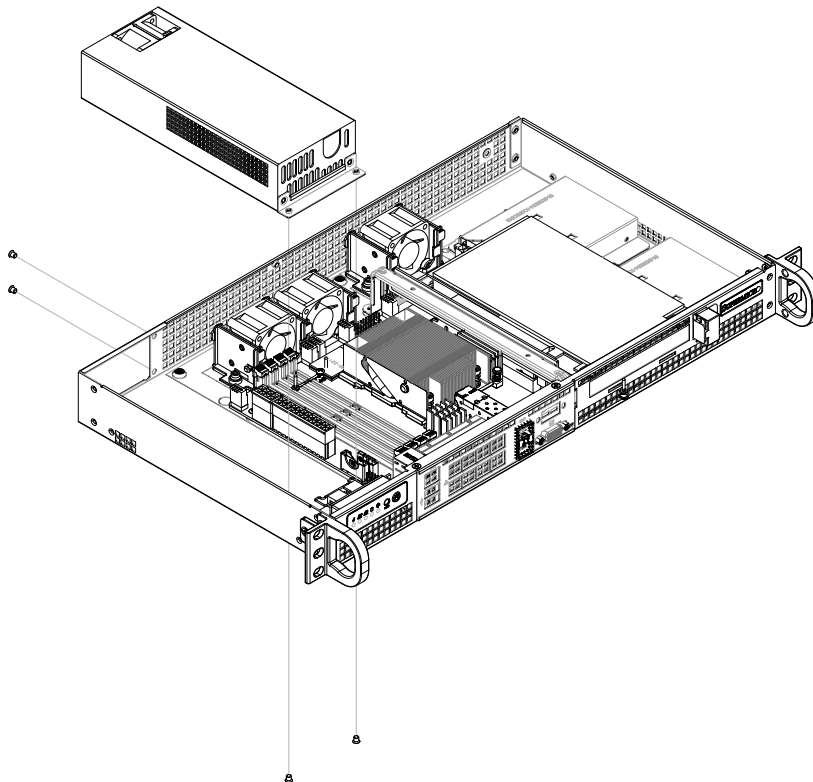


Figure 3-11. Replacing the Power Supply

Connecting Cables

The 5019A-FN5T system comes with cables to connect chassis components such as SATA cables, fans, and expansion cards to the motherboard and the power supply. The cables are pre-installed in the system and are routed to optimize cooling in the chassis. If disconnecting a cable, reconnect it in the same configuration.

Power Supply Cables

An ATX 24-pin power cable (JPW1) supplies 12V power to the motherboard.

SATA Cables

Two Y-split SATA power cables connect the SATA drives to the power supply. Two data cables connect each SATA drive separately to the motherboard.

Fan Cables

The motherboard supports five 4-pin fan headers, FAN1~FAN3 and FANA/FANB. Connect the fan cables from the fans to the motherboard.

Front Control Panel Cables

Connect the front control panel cable to the header on the motherboard and the connector on the chassis.

Chapter 4

Motherboard Connections

This section describes the connections on the motherboard and provides pinout definitions. Note that depending on how the system is configured, not all connections are required.

Please review the Safety Precautions in Appendix B before installing or removing components. Be sure to remove power from the system before performing any operation within the system.

4.1 Power Connections

Main ATX Power Supply Connector

The primary power supply connector (JPW1) meets the ATX SSI EPS 12V specification.

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

12V DC Power Connector

The 4-pin JPV1 connector is used to provide alternative power for a special enclosure when the 24-pin ATX power is not in use.

+12V 4-pin Power Pin Definitions	
Pin#	Definition
1 - 2	Ground
3 - 4	+12V

HDD Power Connector

JPH1 is a 4-pin power connector for HDD use. It provides power from the motherboard to the onboard HDD.

4-pin HDD Power Pin Definitions	
Pin#	Definition
1	12V
2-3	GND
4	5V

4.2 Headers and Connectors

Fan Headers

The A2SDV-16C-TLN5F has six 4-pin fan headers (FAN1 ~ FAN4, FANA, FANB). These headers are backwards-compatible with the traditional 3-pin fans. However, fan speed control is available for 4-pin fans only by Thermal Management via the IPMI 2.0 interface. Refer to the table below for pin definitions.

Fan Header Pin Definitions	
Pin#	Definition
1	Ground (Black)
2	2.5A/+12V (Red)
3	Tachometer
4	PWM_Control

Speaker Header

JD1 is the speaker header. Connect the cable of the external speaker to pins 1-4.

Speaker Connector Pin Definitions	
Pin Setting	Definition
Pins 1-4	Speaker

Chassis Intrusion

A Chassis Intrusion header is located at JL1 on the motherboard. Attach the appropriate cable from the chassis to inform you of a chassis intrusion when the chassis is opened. Refer to the table below for pin definitions.

Chassis Intrusion Pin Definitions	
Pin#	Definition
1	Intrusion Input
2	Ground

General Purpose I/O Header

JGP1 is a 10-pin general purpose I/O header. Each pin can be configured to be an input or output pin. The GPIO is controlled via the PCA9554 8-bit GPIO expansion. The base address is 0xF040(D31:F4).

JGP1 Header Pin Definitions		
Pin#	Definition	
1	+5V	+5V
2	Ground	Ground
3	GP0	GPP_E0
4	GP1	GPP_F1
5	GP2	GPP_E1
6	GP3	GPP_F2
7	GP4	GPP_E2
8	GP5	GPP_F3
9	GP6	GPP_F0
10	GP7	GPP_F4

Disk On Module Power Connector

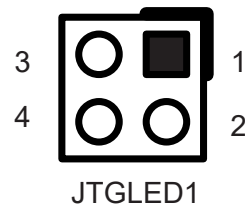
The Disk-On-Module (DOM) power connector at JSD1 provides 5V power to a solid-state DOM storage device connected to one of the SATA ports. Refer the table below for pin definitions.

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

LAN Activity LED Headers

JTGLED1 is the activity LED header for LAN4 and LAN5. Attach an LED to this header for LAN activity LED.

LAN Activity LED Pin Definitions	
Pin#	Definition
1	LAN4_LED
2	LAN4_ACT_N
3	LAN5_LED
4	LAN5_ACT_N



BMC External I2C Header

A System Management Bus header for IPMI 2.0 is located at JIPMB1. Connect the appropriate cable here to use the IPMB I²C connection on your system. Refer to the table below for pin definitions.

External I ² C Header Pin Definitions	
Pin#	Definition
1	Data
2	GND
3	Clock
4	NC

Power SMB (I²C) Header

The Power System Management Bus (I²C) connector (JPI²C1) monitors the power supply, fan, and system temperatures. Refer to the table below for pin definitions.

Power SMB Header Pin Definitions	
Pin#	Definition
1	Clock
2	Data
3	PMBUS_Alert
4	Ground
5	+3.3V

TPM/Port 80 Header

The JTPM1 header is used to connect a Trusted Platform Module (TPM)/Port 80, which is available from Supermicro. A TPM/Port 80 connector is a security device that supports encryption and authentication in hard drives. It allows the motherboard to deny access if the TPM associated with the storage drive is not installed in the system.

Trusted Platform Module Header Pin Definitions			
Pin#	Definition	Pin#	Definition
1	LCLK	2	GND
3	LFRAME#	4	No Pin
5	LRESET#	6	+5V (X)
7	LAD3	8	LAD2
9	3.3V	10	LAD1
11	LAD0	12	GND
13	SMB_CLK (X)	14	SMB_DAT (X)
15	P3V3_STBY	16	SERIRQ
17	GND	18	LPC_CLKRUN (X)
19	SUS_STAT_N	20	LDRQ# (X)

External BMC I²C Header

A System Management Bus header for additional slave devices or sensors is located at JSMB1. See the table below for pin definitions.

External I ² C Header Pin Definitions	
Pin#	Definition
1	Data
2	Ground
3	Clock
4	NC

SATA Ports

Two SATA 3.0 connectors, supported by the Intel SoC, are located on the A2SDV-16C-TLN5F motherboard. Two additional SATA connections are available via the M.2 connector. Refer to the tables below for pin definitions.

SATA 3.0 Port Pin Definitions	
Pin#	Signal
1	Ground
2	SATA_TXP
3	SATA_TXN
4	Ground
5	SATA_RXN
6	SATA_RXP
7	Ground

M.2 Connection

The A2SDV-16C-TLN5F has two M.2 connectors at JMD1 and JMD2. JMD1 is an M.2 B-Key supporting a PCIe 3.0 x2/SATA/USB device. JMD2 is an M.2 M-Key supporting a PCIe 3.0 x2/SATA device.

Thermal Diode Headers

JRT3 is the thermal diode 1 header, and JRT4 is the thermal diode 2 header. They are thermal sensor headers that provide additional system temperature monitoring.

Thermal Diode 1 Pin Definitions	
Pin#	Definition
1	TD1_P
2	TD1_N

Thermal Diode 2 Pin Definitions	
Pin#	Definition
1	TD1_P
2	TD1_N

4.3 Front Control Panel

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

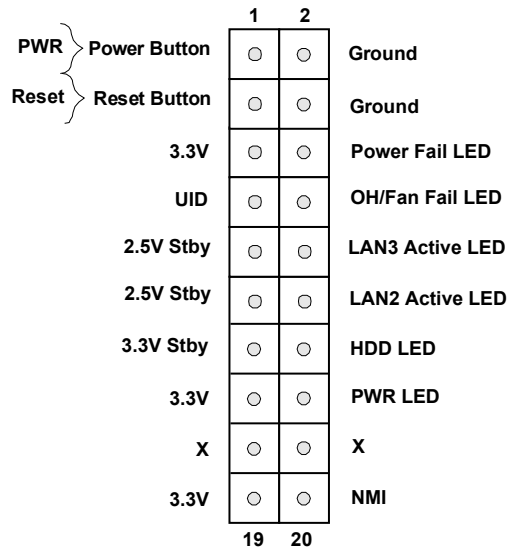


Figure 4-1. JF1 Header Pins

Power Button

The Power Button connection is located on pins 1 and 2 of JF1. Momentarily contacting both pins will power on/off the system. This button can also be configured to function as a suspend button (with a setting in the BIOS - see Chapter 4). To turn off the power when the system is in suspend mode, press the button for 4 seconds or longer. Refer to the table below for pin definitions.

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

Reset Button

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

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

Overheat (OH)/Fan Fail

Connect an LED cable to pins 7 and 8 of the Front Control Panel to use the Overheat/Fan Fail LED connections. The LED on pin 8 provides warnings of overheat or fan failure. Refer to the tables below for pin definitions.

OH/Fan Fail Indicator Status	
State	Definition
Off	Normal
On	Overheat
Flashing	Fan Fail

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

LAN2/LAN3 Activity LED

The LAN LED connection for LAN port 2 is located on pins 11 and 12 of JF1, and the LED connection for LAN port 3 is on pins 9 and 10. Attach the NIC LED cables here to display network activity. Refer to the table below for pin definitions.

LAN1/LAN2 LED Pin Definitions (JF1)	
Pin#	Definition
9	2.5V Stby
10	LAN3 Activity LED
11	2.5V Stby
12	LAN2 Activity LED

HDD LED

The HDD LED connection is located on pins 13 and 14 of JF1. Attach a cable to to show hard drive activity status. Refer to the table below for pin definitions.

HDD LED Pin Definitions (JF1)	
Pin#	Definition
13	3.3V Stdby
14	HDD LED

Power LED

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

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

NMI Button

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

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

Power Fail LED

Connect an LED cable to Power Fail connections on pins 5 and 6 of JF1 to provide warnings for a power failure. Refer to the table below for pin definitions.

OH/Fan Fail Indicator Status	
Pin #	Definition
5	3.3V
6	PWR Fail LED

4.4 Ports

Front I/O Ports

See Figure 4-1 below for the locations and descriptions of the various I/O ports on the front of the motherboard.

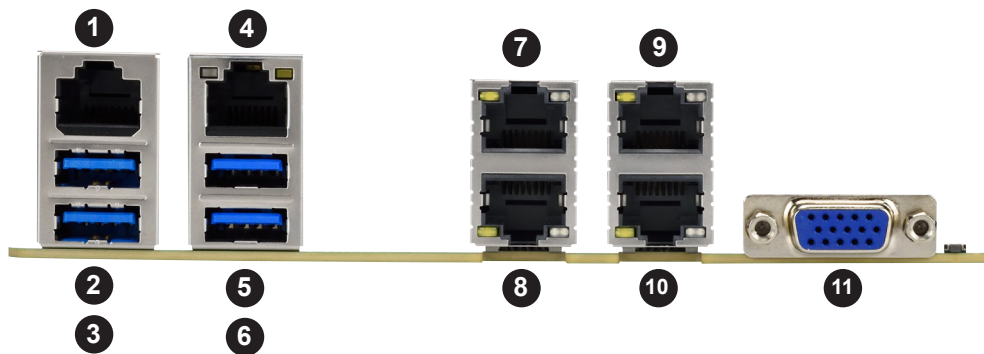


Figure 4-1. Rear I/O Port Locations and Definitions

Rear I/O Ports					
#	Description	#	Description	#	Description
1.	COM1	5	USB3	9.	LAN5
2.	USB1	6.	USB2	10.	LAN4
3.	USB0	7.	LAN3	11.	VGA
4.	LAN1/IPMI	8	LAN2	.	

VGA Port

A VGA video port is located near LAN ports 4/5 on the I/O back panel. Use this connection for a VGA display.

COM Port and Header

The motherboard has one COM RJ45 port on the I/O back panel and one COM header for front access to provide a serial connection.

COM RJ45 Port Pin Definitions			
Pin#	Definition	Pin#	Definition
1	RTS	5	GND
2	DTR	6	RXD
3	TXD	7	DSR
4	GND	8	CTS

COM Header Pin Definitions			
Pin#	Definition	Pin#	Definition
1	DCD	6	DSR
2	RXD	7	RTS
3	TXD	8	CTS
4	DTR	9	RI
5	Ground	10	N/A

LAN Ports

There are five LAN ports located on the I/O back panel of the motherboard. LAN1 is a 1GbE RJ45 Ethernet port while LAN2 - 5 are 10GbE RJ45 Ethernet ports. The motherboard also offers one IPMI LAN port, which is shared with the LAN1 port by default.

Caution: If the operating temperature exceeds 30° C and the system fans are not active, a LAN component may become overheated.

Universal Serial Bus (USB) Ports

There are four USB 3.0 ports (USB0/1/2/3) located on the I/O back panel. The motherboard also has one USB2.0 header offering two USB ports and one USB 3.0 Type A header (USB6). The onboard headers can be used to provide front side USB access with a cable (not included).

Type A USB 3.0 Pin Definitions	
Pin#	Definition
1	VBUS
2	D-
3	D+
4	Ground
5	StdA_SSRX-
6	StdA_SSRX+
7	GND_DRAIN
8	StdA_SSTX-
9	StdA_SSTX+

Front Panel USB4/5 Pin Definitions			
Pin#	Definition	Pin#	Definition
1	+5V	2	+5V
3	USB_N	4	USB_N
5	USB_P	6	USB_P
7	Ground	8	Ground
9	Key	10	NC

Unit Identifier Button/UID LED Indicator

A Unit Identifier (UID) button and an UIDLED1 Indicator are located on the I/O back panel of the motherboard. The UID Button is located at UID, which is next to the VGA port on the back panel. The UID LED is located next to the UID switch. When you press the UID switch, the UID LED will be turned on. Press the UID switch again to turn off the LED indicator. The UID Indicator provides easy identification of a system unit that may be in need of service.

Note: UID can also be triggered via IPMI on the motherboard. For more information on IPMI, please refer to the IPMI User's Guide posted on our website at <https://www.supermicro.com/support/manuals/>.

UID Switch Pin Definitions	
Pin#	Definition
1	Ground
2	Ground
3	Button In
4	Button In

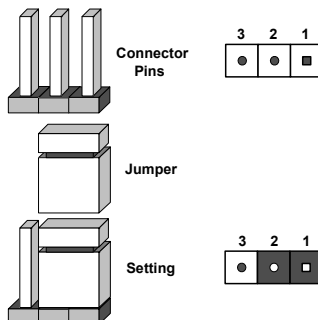
UID LED Pin Definitions	
Color	Status
Blue: On	Unit Identified

4.5 Jumpers

Explanation of Jumpers

To modify the operation of the motherboard, jumpers are used to choose between optional settings. Jumpers create shorts between two pins to change the function associated with it. Pin 1 is identified with a square solder pad on the printed circuit board. See the motherboard layout page for jumper locations.

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



CMOS Clear

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

To Clear CMOS

1. First power down the system and unplug the power cords.
2. Remove the cover of the chassis to access the motherboard.
3. Remove the onboard battery from the motherboard.
4. Short the CMOS pads with a metal object such as a small screwdriver for at least four seconds.
5. Remove the screwdriver (or shorting device).
6. Replace the cover, reconnect the power cord(s) and power on the system.

Note: Clearing CMOS will also clear all passwords.

Do not use the PW_ON connector to clear CMOS.



LAN1 Port Enable/Disable

Use jumper JPL1 to enable or disable LAN1. Refer to the table below for jumper settings.

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

Manufacturing Mode Select

Close pins 2-3 of jumper JPME2 to bypass SPI flash security and force the system to operate in the manufacturing mode, which will allow the user to flash the system firmware from a host server for system setting modifications. Refer to the table below for jumper settings.

Manufacturing Mode Jumper Settings	
Jumper Setting	Definition
Pins 1-2	Normal (Default)
Pins 2-3	Manufacturing Mode

VGA Enable/Disable

Use jumper JPG1 to enable or disable the onboard VGA connector. Refer to the table below for jumper settings.

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

10Gb LAN Enable/Disable

Use jumper JPTG1 to enable or disable 10G LAN2/3/4/5. Refer to the table below for jumper settings.

10Gb LAN Enable/Disable Jumper Settings	
Jumper Setting	Definition
Pins 1-2	Enabled (Default)
Pins 2-3	Disabled

SMBus to PCI Slots

Jumpers JI²C1 and JI²C2 allow you to connect the System Management Bus (I²C) to the PCIe slots. Both jumpers must be set to the same setting (JI²C1 controls the clock and JI²C2 controls the data). The default setting is Disabled.

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

BIOS Recovery

Close pins 2-3 of jumper JBR1 for BIOS recovery. The default setting is on pins 1 and 2 for normal operation. Refer to the table below for jumper settings. The default setting is Normal.

BIOS Recovery Jumper Settings	
Jumper Setting	Definition
Pins 1-2	Normal
Pins 2-3	BIOS Recovery

PCIe Slot Selection

Use jumper JSEL1 to select between PCIe x8 slot 6 or slot 7. Only one PCIe slot can be used at a time.

PCIe Slot Selection Jumper Settings	
Jumper Setting	Definition
Pins 1-2	Slot 7 (Default)
Pins 2-3	Slot 6

Watch Dog

JWD1 controls the Watch Dog function. Watch Dog is a monitor that can reboot the system when a software application hangs. Jumping pins 1-2 will cause Watch Dog to reset the system if an application hangs. Jumping pins 2-3 will generate a non-maskable interrupt signal for the application that hangs. Watch Dog must also be enabled in BIOS. The default setting is Reset.

Note: When Watch Dog is enabled, users need to write their own application software to disable it.

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

IPMI Shared LAN Port Selection

JNCSI1 is used to set a specific LAN port for shared IPMI access. Only a single port can be used for IPMI access at a time. Short the jumper to set LAN1 to operate as both the IPMI access port and 1GbE Ethernet port. Open the jumper to set LAN2 to operate as both the IPMI access port and 10GbE Ethernet port. Ethernet functionality remains enabled on both LAN1 and LAN2 regardless of which setting is used.

NCSI Port Selection Jumper Settings	
Jumper Setting	Definition
Short (ON)	IPMI Access on LAN1 (Default)
Open (OFF)	IPMI Access on LAN2

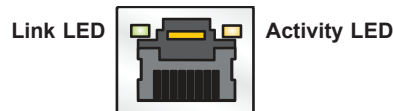
4.6 LED Indicators

LAN LEDs

Five LAN ports (LAN1 - LAN5) are located on the I/O back panel. Each Ethernet LAN port has two LEDs. One LED indicates activity, while the other Link LED may be green, amber, or off to indicate the speed of the connection. Refer to the tables below for more information.

1G Link LED (LAN1)	
LED Color	Definition
Off	No Connection or 10 Mb/s
Green	100 Mb/s
Amber	1 Gb/s

Activity Indicator		
Color	Status	Definition
Off	No Connection	
Yellow	Flashing	Active



10G Link LED (LAN2/3/4/5)	
LED Color	Definition
Off	No Connection/10 Mbps/100 Mbps
Amber	1 Gbps
Green	10 Gbps

Power LED

LED1 is an onboard power LED. When this LED is lit, it means power is present on the motherboard. In suspend mode, this LED will blink on and off. Be sure to turn off the system and unplug the power cord(s) before removing or installing components.

Onboard Power LED Indicator	
LED Color	Definition
Off	System Off (power cable not connected)
Green	System On

BMC Heartbeat LED

LEDBMC is the BMC heartbeat LED. When the LED is blinking green, BMC is working. Refer to the table below for the LED status.

Onboard Power LED Indicator	
LED Color	Definition
Blinking Green	BMC Normal

Chapter 5

Software

After the hardware has been installed, you can install the Operating System (OS), configure RAID settings and install the drivers.

5.1 Microsoft Windows OS Installation

If you will be using RAID, you must configure RAID settings before installing the Windows OS and the RAID driver. Refer to the RAID Configuration User Guides posted on our website at www.supernmicro.com/support/manuals.

Installing the OS

1. Create a method to access the MS Windows installation ISO file. That might be a DVD, perhaps using an external USB/SATA DVD drive, or a USB flash drive, or the IPMI KVM console.
2. Go to the Supermicro web page for your motherboard and click on "Download the Latest Drivers and Utilities", select the proper driver, and copy it to a USB flash drive.
3. Boot from a bootable device with Windows OS installation. You can see a bootable device list by pressing **F11** during the system startup.

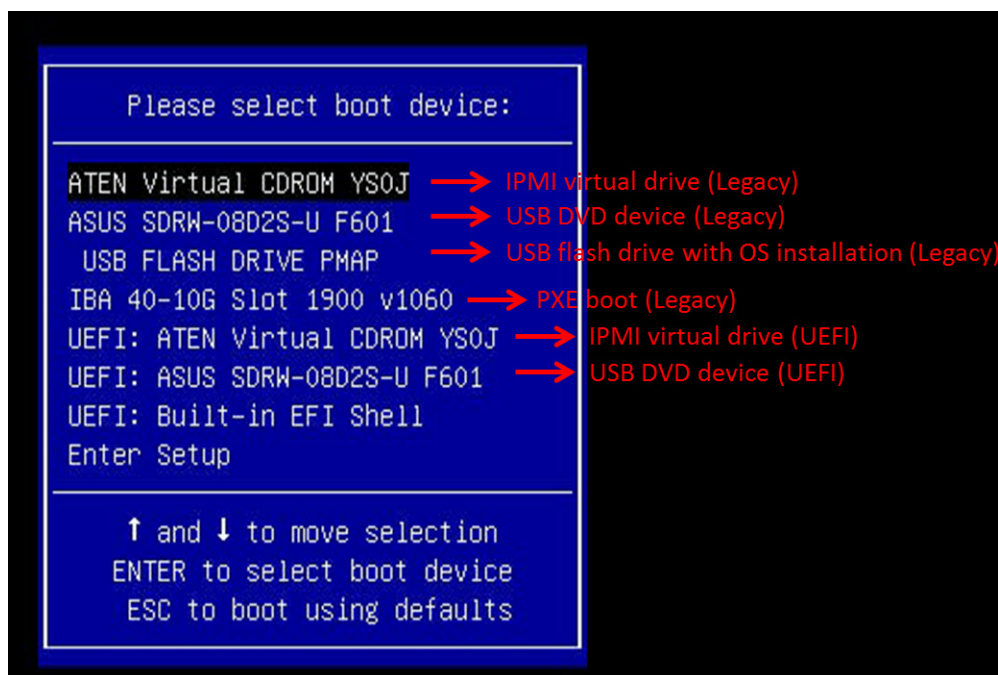


Figure 5-1. Select Boot Device

4. During Windows Setup, continue to the dialog where you select the drives on which to install Windows. If the disk you want to use is not listed, click on “Load driver” link at the bottom left corner.

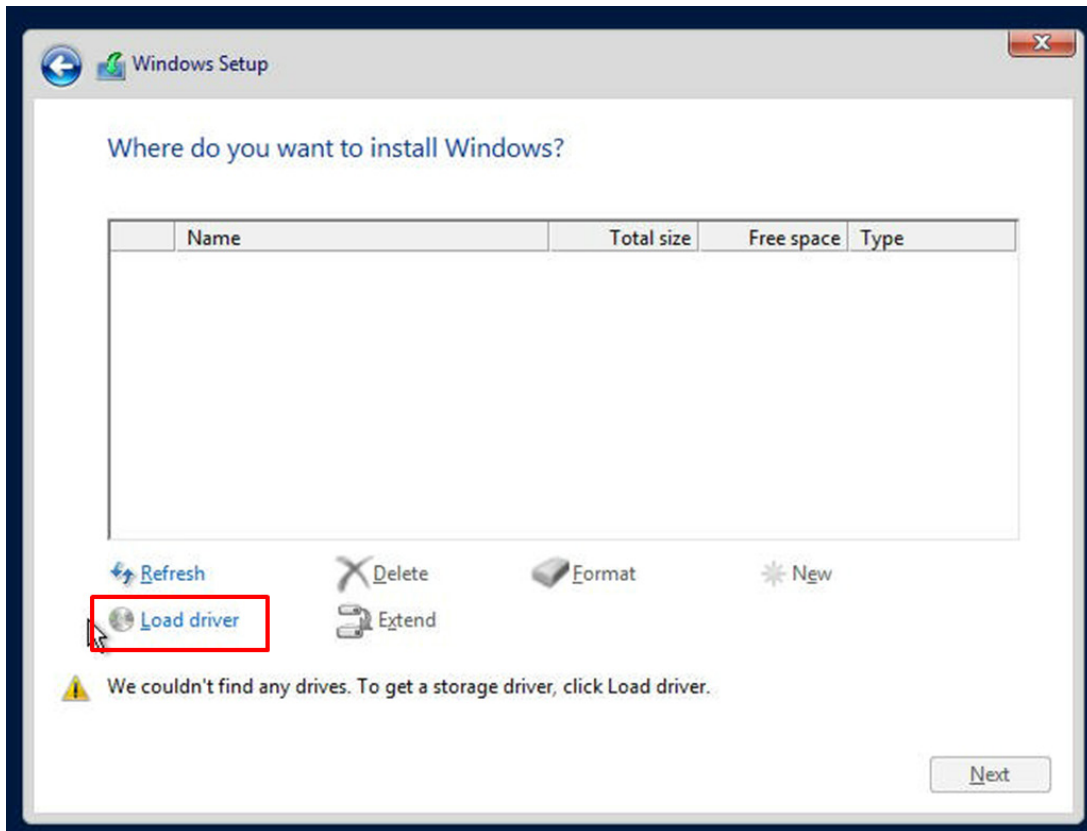


Figure 5-2. Load Driver Link

To load the driver, browse the USB flash drive for the proper driver files.

- For RAID, choose the SATA/sSATA RAID driver indicated then choose the storage drive on which you want to install it.
 - For non-RAID, choose the SATA/sSATA AHCI driver indicated then choose the storage drive on which you want to install it.
5. Once all devices are specified, continue with the installation.
 6. After the Windows OS installation has completed, the system will automatically reboot multiple times.

5.2 Driver Installation

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

After accessing the website, go into the CDR_Images (in the parent directory of the above link) and locate the ISO file for your motherboard. Download this file to a USB flash drive or a DVD. (You may also use a utility to extract the ISO file if preferred.)

Another option is to go to the Supermicro website at <http://www.supermicro.com/products/>. Find the product page for your motherboard, and "Download the Latest Drivers and Utilities". Insert the flash drive or disk and the screenshot shown below should appear.



Figure 5-3. Driver & Tool Installation Screen

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

5.3 SuperDoctor® 5

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

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

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

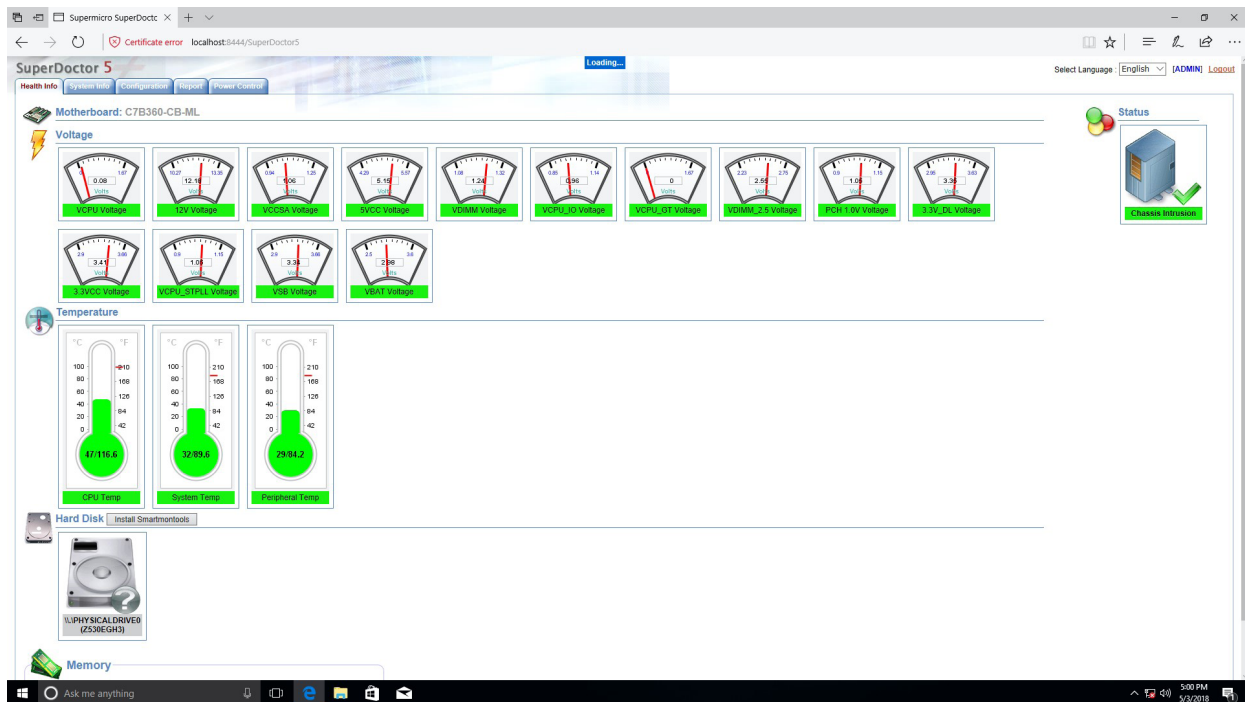


Figure 5-4. SuperDoctor 5 Interface Display Screen (Health Information)

5.4 IPMI

The A2SDV-16C-TLN5F supports the Intelligent Platform Management Interface (IPMI). IPMI is used to provide remote access, monitoring and management. There are several BIOS settings that are related to IPMI.

For general documentation and information on IPMI, please visit our website at: <http://www.supermicro.com/products/nfo/IPMI.cfm>.

BMC ADMIN User Password

For security, each system is assigned a unique default BMC password for the ADMIN user. This can be found on a sticker on the chassis and a sticker on the motherboard. The sticker also displays the BMC MAC address.



Figure 5-5. BMC Password Label

See Chapter 1 for the location of the label.

Chapter 6

BIOS

6.1 Introduction

This chapter describes the AMIBIOS™ Setup utility for the A2SDV-TLN5F series motherboard. The BIOS is stored on a chip and can be easily upgraded using a flash program.

Note: 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 Manual Download area of our website for any changes to the BIOS that may not be reflected in this manual.

Starting the Setup Utility

To enter the BIOS Setup Utility, hit the <Delete> key while the system is booting-up. (In most cases, the <Delete> key is used to invoke the BIOS setup screen. There are a few cases when other keys are used, such as <F1>, <F2>, etc.) Each main BIOS menu option is described in this manual.

The Main BIOS screen has two main frames. The left frame displays all the options that can be configured. "Grayed-out" options cannot be configured. The right frame displays the key legend. Above the key legend is an area reserved for a text message. When an option is selected in the left frame, it is highlighted in white. Often a text message will accompany it. (Note that BIOS has default text messages built in. We retain the option to include, omit, or change any of these text messages.) Settings printed in **Bold** are the default values.

A " ►" indicates a submenu. Highlighting such an item and pressing the <Enter> key will open the list of settings within that submenu.

The BIOS setup utility uses a key-based navigation system called hot keys. Most of these hot keys (<F1>, <Enter>, <ESC>, <Arrow> keys, etc.) can be used at any time during the setup navigation process.

6.2 Main Setup

When you first enter the AMI BIOS setup utility, you will enter the Main setup screen. You can always return to the Main setup screen by selecting the Main tab on the top of the screen. The Main BIOS setup screen is shown below and the following items will be displayed:



System Date/System Time

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

Note: The time is in the 24-hour format. For example, 5:30 P.M. appears as 17:30:00. The date's default value is the BIOS build date after RTC reset.

Supermicro A2SDV-16C-TLN5F

BIOS Version

This item displays the version of the BIOS ROM used in the system.

Build Date

This item displays the date when the version of the BIOS ROM used in the system was built.

Memory Information

Total Memory

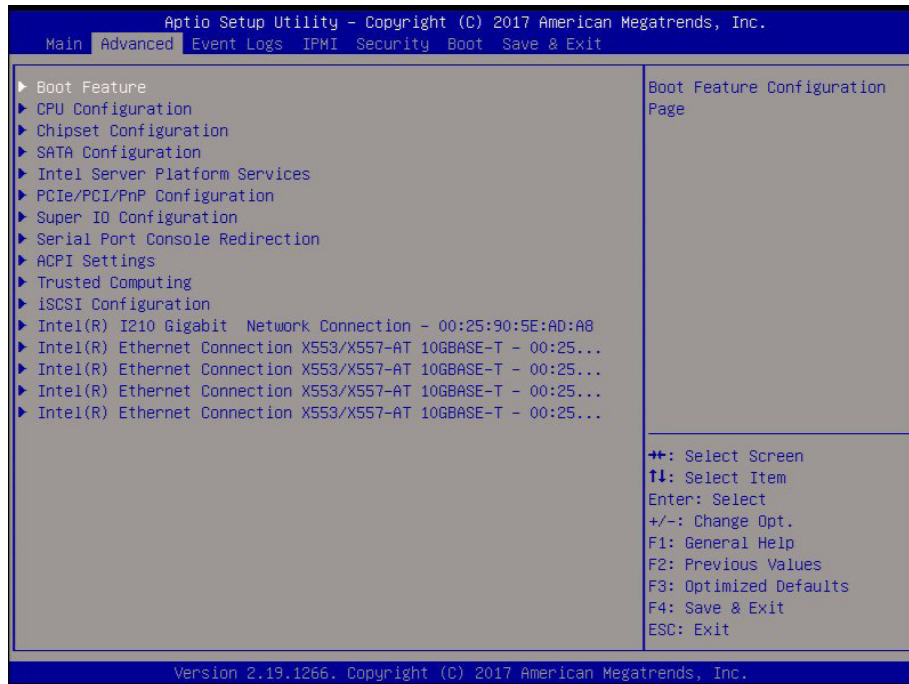
This item displays the total size of memory available in the system.

Memory Speed

This item displays the default speed of the memory modules installed in the system.

6.3 Advanced

Use this menu to configure Advanced settings.



Warning: Take caution when changing the Advanced settings. An incorrect value, a very high DRAM frequency or an incorrect BIOS timing setting may cause the system to malfunction. When this occurs, restore to default manufacturer settings.

► Boot Feature

Quiet Boot

Use this feature to select the screen display between POST messages or the OEM logo at bootup. Select Disabled to display the POST messages. Select Enabled to display the OEM logo instead of the normal POST messages. The options are Disabled and **Enabled**.

Bootup NumLock State

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

Wait For "F1" If Error

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

Power Configuration

Watch Dog Function

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

Power Button Function

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

Restore on AC Power Loss

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

► CPU Configuration

The following CPU information will display:

- Displays the CPU model
- Processor ID
- Microcode Revision
- Processor Frequency
- CPU BCLK Frequency
- L1 Cache RAM
- L2 Cache RAM

EIST (GV3)

EIST (Enhanced Intel SpeedStep Technology) allows the system to automatically adjust processor voltage and core frequency to reduce power consumption and heat dissipation. The options are Disable and **Enable**.

BIOS Request Frequency

Use this feature to instruct how much frequency will be delivered to the processor. The options are Disable and **Enable**.

TM1

Select Enable to activate TM1 support for system thermal monitoring. TM1 allows the CPU to regulate its power consumption based upon the modulation of the CPU Internal clock when the CPU temperature reaches a pre-defined overheating threshold. The options are Disable and **Enable**.

TM2 Mode

Use this feature to select the throttling mode for TM2. The options are LFM Throttling and **Adaptive Throttling**.

**The feature above is not available when EIST (GV3) or TM1 is disabled.*

Dynamic Self Refresh

Select Enable to support Dynamic Self-Refreshing for the onboard memory controller. The options are **Disable** and Enable.

CPU C State

Select Enabled to enhance the Cx state of the CPU. Reboot the system for this feature to take effect. The options are Disable and **Enable**.

Package C State limit

Use this item to set the limit on the C-State package register. The options are No Pkg C-State, No S0Ix, and **No Limit**.

**The feature above is not available when CPU C State is disabled.*

Max Core C-State

Use this feature to select the CPU C-state. The options are C1 and **C6**.

**The feature above is not available when CPU C State is disabled.*

Enhanced Halt State (C1E)

Select Enable to enable "Enhanced Halt State" support, which will significantly reduce the CPU's power consumption by minimizing its clock cycles and voltage use during a Halt State. The options are Disable and **Enable**.

**The feature above is not available when CPU C State is disabled.*

Monitor/Mwait

Select Enable to enable the Monitor/Mwait instructions. The Monitor instructions monitors a region of memory for writes, and MWait instructions instruct the CPU to stop until the monitored region begins to write. The options are Disable and **Enable**.

**The feature above is not available when CPU C State is disabled.*

L1 Prefetcher

If enabled, the hardware prefetcher will prefetch streams of data and instructions from the main memory to the L1 cache to improve CPU performance. The options are **Enable** and Disable.

L2 Prefetcher

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

ACPI 3.0 T-States

Select Enable to support ACPI (Advanced Configuration and Power Interface) 3.0 T-States to determine how the processor will report to the operating system during CPU-Throttling states. The options are **Disable** and Enable.

****If the feature above is enabled, T-State Throttle will be available for configuration:***

T-State Throttle

Use this feature to select the On-Die thermal throttling. The options are **default**, 12.5%, 25.0%, 37.5%, 50.0%, 62.5%, 75.0%, and 87.5%.

Max CPUID Value Limit

Use this feature to set the maximum CPU ID value. Enable this feature to boot the legacy operating systems that cannot support processors with extended CPUID functions. The options are **Disable** and Enable.

Execute Disable Bit

Set to Enable for Execute Disable Bit support, which will allow the processor to designate areas in the system memory where an application code can execute and where it cannot, thus preventing a worm or a virus from flooding illegal codes to overwhelm the processor or damaging the system during a virus attack. The options are Disable and **Enable**. (Refer to the Intel and Microsoft websites for more information.)

Virtualization Technology

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

Extended APIC (Advanced Programmable Interrupt Controller)

Based on the Intel Hyper-Threading technology, each logical processor (thread) is assigned 256 APIC IDs (APIDs) in 8-bit bandwidth. When this item is set to Enable, the APIC ID will be expanded from 8 bits to 16 bits to provide 512 APIDs to each thread to enhance CPU performance. The options are Disable and **Enable**.

AES-NI

Select Enable to use the Intel Advanced Encryption Standard (AES) New Instructions (NI) to ensure data security. The options are Disable and **Enable**.

Lock PACKAGE_RAPL_LIMIT

Use this feature to lock the MSR 0x610 bit. The options are **Disable** and Enable.

****If the feature above is set to Disable, the next three features will be available for configuration:***

PL1 Time Window

Use this feature to define the Running Average Power Limit (RAPL) time window 1 in milliseconds. The default setting is **45**. Use the "+" or "-" keys to define the setting.

PL1 Power Level

Use this feature to define the Running Average Power Limit (RAPL) power limit 1 in Watts. The default setting is **31**. Use the "+" or "-" keys to define the setting.

PL2 Power Level

Use this feature to define the Running Average Power Limit (RAPL) power limit 2 in Watts. The default setting is **37**. Use the "+" or "-" keys to define the setting.

Active Processor Cores

Use this feature to set the number of processor cores that will be activated for each CPU. Select **0** to activate all processor cores.

► Chipset Configuration

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

► North Bridge Configuration

North Bridge Configuration

Memory Information

- MRC Version
- Total Memory
- Memory Frequency

VT-d

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

Interrupt Remapping

Use this feature to enable Interrupt Remapping support, which detects and controls external interrupt requests. The options are Disabled and **Enabled**.

Fast Boot

Use this feature to enable or disable fast path through the memory reference code. The options are Disabled and **Enabled**.

Command Address Parity

Use this feature to address the DDR4 command parity. The options are **Disabled** and Enabled.

Memory Frequency

Use this feature to set the maximum memory frequency for onboard memory modules. The options are DDR-1600, DDR-1867, DDR-2133, and **DDR-2400**.

MMIO Size / BMBOUND Base

Use this feature to select the memory mapped IO size and BMBOUND base setting. The low for the two settings will always be 4GB. The options are **Auto**, 1024M/3072M, and 3072M/1024M.

TCL performance

Use this feature to enable the CAS Latency (tCL) to increase memory performance. The options are Disabled and **Enabled**.

Memory Preservation

Enable this feature for the memory content to be preserved through a warm reset. The options are **Disabled** and Enabled.

Patrol Scrub Enable

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

Patrol Scrub Period

Use this feature to select the Patrol Scrub period. The options are **24 hours**, 10 hours, 4 hours, and 1 hour.

Demand Scrub Enable

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

Write Data Early Enable

Use this feature to enable or disable write data early. The options are **Disabled** and Enabled.

Select Refresh Rate

Use this feature to select the memory refresh rate. The options are **1x/2x** and 1x/2x/4x.

CKE Power Down

Clock enable (CKE) Power Down controls the low power down for the memory. The options are **Disabled**, Active Power Down, and Precharge Power Down.

Memory Thermal Throttling

Memory thermal throttling is a power management feature that monitors read and write activities to control power consumption. The options are Auto and **Disabled**.

****If the feature above is set to Auto, CLTT Mode and MEMTRIP will be available for configuration:***

CLTT Mode

Use this feature to select the Closed Loop Thermal Throttling (CLTT) mode. The options are **Normal** and Passthru.

MEMTRIP

Use this feature to enable or disable MEMTRIP. The options are **Disabled** and Enabled.

Scrambler

This feature scrambles data in the memory and makes it inaccessible. The options are Disabled and **Enabled**.

Slow Power Down Exit

Use this feature to enable or disable the slow power down exit from pre-charge. The options are Disabled and **Enabled**.

► South Bridge Configuration

South Bridge Configuration

- USB Module Version
- USB Controllers
- USB Devices

Legacy USB Support

Select Enabled to support onboard legacy USB devices. Select Auto to disable legacy support if there are no legacy USB devices present. Select Disable to have all USB devices available for EFI applications only. The options are **Enabled**, Disabled, and Auto.

XHCI Hand-Off

This is a work-around solution for operating systems that do not support XHCI (Extensible Host Controller Interface) hand-off. The XHCI ownership change should be claimed by the XHCI driver. The settings are **Enabled** and Disabled.

Port 60/64 Emulation

Select Enabled for I/O port 60h/64h emulation support, which in turn, will provide complete legacy USB keyboard support for the operating systems that do not support legacy USB devices. The options are Disabled and **Enabled**.

► IQAT Configuration

IQAT

Select Enabled to hide IQAT devices from the operating system. The options are Disabled and **Enabled**.

Set 64B MRR/MPL

Use this feature to enable setting for the 64B MRR/MPL in IQAT DevCTL register. The options are Disabled and **Enabled**.

**The following feature is displayed if an M.2 device is detected by the system:*

M.2 (B-Key) I/O Selection

Use this feature to select the type of M.2 interface. The options are **SATA**, PCIe, PCIe/USB and SATA/USB.

► SATA Configuration

► SATA1

SATA 1 Enable controller

This item enables or disables the onboard SATA controller supported by the processor. The options are **Enabled** and Disabled.

SATA 1 LPM (Link Power Management)

When this item is set to Enabled, the SATA AHCI controller manages the power usage of the SATA link. The controller will put the link in a low power mode during extended periods of I/O inactivity and will return the link to an active state when I/O activity resumes. The options are Enabled and **Disabled**.

****If the feature above is set to Enabled, SATA 0 ALPM will be available for configuration:***

SATA 1 ALPM

Use this feature to enable or disable Aggressive Link Power Management. The options are **Enabled** and Disabled.

SATA 1 SGPIO/LED

Use this feature to select SATA SGPIO or SATA LED. The options are SATA SGPIO and **SATA LED**.

► I-SATA0 ~ I-SATA1

This following information is displayed for each SATA drive entry:

- Device Information
- Device Size

Enable/disable port

Use this feature to disable or enable the SATA port number. The options are **Enabled** and Disabled.

Spin up

When the value of an edge detect or the value of an image binary (pixel) of a device is from 0 to 1, select Enabled to allow the PCH to start a COMRESET initialization sequence on this device. The options are Enabled and **Disabled**.

► I-SATA (M.2 - B Key) ~ I-SATA (M.2 M Key)

This following information is displayed for each M.2 drive entry:

- Device Information
- Device Size

Enable/disable port

Use this feature to disable or enable the SATA port number. The options are **Enabled** and Disabled.

Spin up

When the value of an edge detect or the value of an image binary (pixel) of a device is from 0 to 1, select Enabled to allow the PCH to start a COMRESET initialization sequence on this device. The options are Enabled and **Disabled**.

► Intel Server Platform Services

This feature displays the following ME information:

- General ME Configuration
- Operational Firmware Version
- ME Firmware Type
- Backup Firmware Version
- Recovery Firmware Version
- ME Firmware Features
- ME Firmware Status #1
- ME Firmware Status #2
 - Current State
 - Error Code

► PCIe/PCI/PnP Configuration

The following PCI information will be displayed:

- PCI Bus Driver Version
- PCI Devices Common Settings:

Above 4G Decoding (Available if the system supports 64-bit PCI decoding)

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

SR-IOV Support (Available if the system supports Single-Root Virtualization)

Select Enabled for Single-Root IO Virtualization (SR-IOV) support. SR-IOV is an extension of the PCI Express interface and consists of two functions: physical functions (PF) and virtual functions (VF). PF is the primary function and is used to control and configure PCI Express devices, whereas VF is the lightweight function that offers limited configuration. The options are **Disabled** and Enabled.

Maximum Payload

Select Auto for the system BIOS to automatically set the maximum payload value for a PCI-E device to enhance system performance. The options are **Auto**, 128 Bytes, 256 Bytes, 512 Bytes, 1024 Bytes, 2048 Bytes, and 4096 Bytes.

Maximum Read Request

Select Auto for the system BIOS to automatically set the maximum size for a read request for a PCI-E device to enhance system performance. The options are **Auto**, 128 Bytes, 256 Bytes, 512 Bytes, 1024 Bytes, 2048 Bytes, and 4096 Bytes.

ASPM Support

Use this item to set the Active State Power Management (ASPM) level for a PCI-E device. Select Auto for the system BIOS to automatically set the ASPM level based on the system configuration. Select Disabled to disable ASPM support. Select Force L0s to force all links to L0s state. The options are **Disabled**, Auto, and Force L0s.

Warning: Enabling ASPM support may cause some PCI-E devices to fail!

ARI Forwarding

Select Enabled to lift a traditional Device Number restriction when turning a Type1 Configuration request into a Type0 Configuration request to permit access to extended functions in an ARI Device immediately below the port. The options are **Disabled** and Enabled.

CPU SLOT PCI-E 3.0 X8 OPROM

Use this item to select the firmware type for the add-on card for this slot. The options are Disabled, Legacy, and **EFI**.

KEY-B SATA3/USB3 OPROM

Use this item to select the firmware type for the add-on card for this slot. The options are Disabled, Legacy, and **EFI**.

KEY-M PCIE3/SATA3 OPROM

Use this item to select the firmware type for the add-on card for this slot. The options are Disabled, Legacy, and **EFI**.

Onboard LAN ROM Type

Use this feature to select the Onboard LAN Option ROM type. The options are Disabled, Legacy, and **EFI**.

Onboard Video Option ROM

Use this feature to select the Onboard Video Option ROM type. The options are Disabled, Legacy, and **EFI**.

VGA Priority

Use this feature to select the active video type. The options are **Onboard** and Offboard.

Network Stack

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

****If "Network Stack" is set to Enabled, the next four features will be available for configuration:***

Ipv4 PXE Support

Use this feature to enable Ipv4 PXE Boot Support. If this feature is disabled, it will not create the Ipv4 PXE Boot option. The options are Disabled and **Enabled**.

Ipv6 PXE Support

Use this feature to enable Ipv6 PXE Boot Support. If this feature is disabled, it will not create the Ipv6 PXE Boot option. The options are **Disabled** and Enabled.

PXE Boot Wait Time

Use this feature to select the wait time to press the ESC key to abort the PXE boot. The default is **0**.

Media Detect Count

Use this feature to select the wait time in seconds to detect LAN media. The default is **1**.

► Super IO Configuration

Super IO Chip AST2400

► Serial Port 1 Configuration

COM1

Serial Port 1

Select Enabled to enable the onboard serial port specified by the user. The options are Disabled and **Enabled**.

Device Settings

This feature displays the base I/O port address and the Interrupt Request address of a serial port specified by the user. This feature is hidden when Serial Port 1 is disabled.

Serial Port 1 Change Settings

This feature specifies the base I/O port address and the Interrupt Request address of Serial Port 1. Select **Auto** for the BIOS to automatically assign the base I/O and IRQ address to a serial port specified. The options are **Auto**, (IO=3F8h; IRQ=4), (IO=3F8h; IRQ=3, 4, 5, 6, 7, 9, 10, 11, 12), (IO=2F8h; IRQ=3, 4, 5, 6, 7, 9, 10, 11, 12); (IO=3E8h; IRQ=3, 4, 5, 6, 7, 9, 10, 11, 12), and (IO=2E8h; IRQ=3, 4, 5, 6, 7, 9, 10, 11, 12).

► Serial Port 2 Configuration

COM2

Serial Port 2

Select Enabled to enable the onboard serial port specified by the user. The options are Disabled and **Enabled**.

Device Settings

This feature displays the base I/O port address and the Interrupt Request address of a serial port specified by the user. This feature is hidden when Serial Port 2 is disabled.

Serial Port 2 Change Settings

This feature specifies the base I/O port address and the Interrupt Request address of Serial Port 1. Select **Auto** for the BIOS to automatically assign the base I/O and IRQ address to a serial port specified. The options are **Auto**, (IO=3F8h; IRQ=4), (IO=3F8h; IRQ=3, 4, 5, 6, 7, 9, 10, 11, 12), (IO=2F8h; IRQ=3, 4, 5, 6, 7, 9, 10, 11, 12); (IO=3E8h; IRQ=3, 4, 5, 6, 7, 9, 10, 11, 12), and (IO=2E8h; IRQ=3, 4, 5, 6, 7, 9, 10, 11, 12).

Serial Port 2 Attribute

Use this feature to select the mode for serial port 2. The options are **SOL** and **COM**.

►Serial Port Console Redirection

COM 1 Console Redirection

Select Enabled to enable COM Port 1 for Console Redirection, which will allow a client machine to be connected to a host machine at a remote site for networking. The options are Enabled and **Disabled**.

**If the feature above is set to Enabled, the following items will become available for configuration:*

►COM1 Console Redirection Settings

COM1 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 VT100, **VT100+**, VT-UTF8, and ANSI.

COM1 Bits Per second

Use this item 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).

COM1 Data Bits

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

COM1 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.

COM1 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**.

COM1 Flow Control

Use this item 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.

COM1 VT-UTF8 Combo Key Support

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

COM1 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.

COM1 Resolution 100x31

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

COM1 Putty KeyPad

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

SOL/COM2**SOL/COM2 Console Redirection**

Select Enabled to use the SOL port for Console Redirection. The options are Disabled and **Enabled**.

****If the feature above is set to Enabled, the following items will become available for configuration:***

► SOL Console Redirection Settings

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

SOL/COM2 Terminal Type

Use this feature 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 VT100, **VT100+**, VT-UTF8, and ANSI.

SOL/COM2 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).

SOL/COM2 Data Bits

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

SOL/COM2 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.

SOL/COM2 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**.

SOL/COM2 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.

SOL/COM2 VT-UTF8 Combo Key Support

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

SOL/COM2 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.

SOL/COM2 Resolution 100x31

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

SOL/COM2 Putty KeyPad

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

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

The submenu allows the user to configure Console Redirection settings to support Out-of-Band Serial Port management.

EMS (Emergency Management Services) Console Redirection

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

****If the item above is set to Enabled, the following items will become available for configuration:***

►EMS 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.

Out-of-Band Mgmt Port

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

Terminal Type

Use this feature 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 VT100, VT100+, **VT-UTF8**, and ANSI.

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

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**, Hardware RTS/CTS, and Software Xon/Xoff.

Data Bits

Parity

Stop Bits

►ACPI Settings

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

ACPI Settings

WHEA Support

Select Enabled to support the Windows Hardware Error Architecture (WHEA) platform and provide a common infrastructure for the system to handle hardware errors within the Windows OS environment to reduce system crashes and to enhance system recovery and health monitoring. The options are Disabled and **Enabled**.

►Trusted Computing (Available when a TPM device is installed and detected by the BIOS)

**The features from here to Current Status Information are displayed if a TPM 1.2 module is detected:*

Security Device Support

If this feature and the TPM jumper on the motherboard are both set to Enabled, onboard security devices will be enabled for TPM support to enhance data integrity and network security. Please reboot the system for a change on this setting to take effect. The options are Disable and **Enable**.

TPM State

Select Enabled to use TPM (Trusted Platform Module) settings to enhance system data security. Please reboot your system for any change on the TPM state to take effect. The options are **Disable** and Enable.

Pending operation

Use this item to schedule a TPM-related operation to be performed by a security device for system data integrity. Your system will reboot to carry out a pending TPM operation. The options are **None** and TPM Clear.

Note: Your system will reboot to carry out a pending TPM operation.

Device Select

Use this feature to select the TPM version. TPM 1.2 will restrict support to TPM 1.2 devices. TPM 2.0 will restrict support for TPM 2.0 devices. Select Auto to enable support for both versions. The default setting is **Auto**.

Current Status Information

This item displays the status of the TPM support on this motherboard.

- TPM Enabled Status
- TPM Active Status
- TPM Owner Status

**The features from here to Device Select on the next page are displayed if a TPM 2.0 module is detected:*

TPM20 Device Found

Vendor: IFX

Firmware Version: 5.51

Configuration

Security Device Support

If this feature and the TPM jumper on the motherboard are both set to Enabled, onboard security devices will be enabled for TPM support to enhance data integrity and network security. Please reboot the system for a change on this setting to take effect. The options are Disable and **Enable**.

The following TPM information will be displayed:

- Active PCR banks
- Available PCR banks

**If the feature "Security Device Support" is set to Enable, the following features will become available for configuration:*

SHA-1 PCR Bank

Use this item to disable or enable the SHA-1 Platform Configuration Register (PCR) bank for the installed TPM device. The options are Disabled and **Enabled**.

SHA256 PCR Bank

Use this item to disable or enable the SHA256 Platform Configuration Register (PCR) bank for the installed TPM device. The options are Disabled and **Enabled**.

Pending operation

Use this item to schedule a TPM-related operation to be performed by a security device for system data integrity. Your system will reboot to carry out a pending TPM operation. The options are **None** and TPM Clear.

Platform Hierarchy

Use this item to disable or enable platform hierarchy for platform protection. The options are Disabled and **Enabled**.

Storage Hierarchy

Use this item to disable or enable storage hierarchy for cryptographic protection. The options are Disabled and **Enabled**.

Endorsement Hierarchy

Use this item to disable or enable endorsement hierarchy for privacy control. The options are Disabled and **Enabled**.

TPM2.0 UEFI Spec Version

Use this feature to specify the TPM UEFI spec version. TCG 1.2 has support for Windows® 2012, Windows 8, and Windows 10. TCG 2 has support for Windows 10 or later. The options are TCG_1_2 and **TCG_2**.

Physical Presence Spec Version

Use this feature to select the PPI spec version. The options are **1.2** and 1.3.

Device Select

Use this feature to select the TPM version. TPM 1.2 will restrict support to TPM 1.2 devices. TPM 2.0 will restrict support for TPM 2.0 devices. Select Auto to enable support for both versions. The default setting is **Auto**.

► iSCSI Configuration

iSCSI Initiator Name

This feature allows the user to enter the unique name of the iSCSI Initiator in IQN format. Once the name of the iSCSI Initiator is entered into the system, configure the proper settings for the following items.

► Add an Attempt

► Delete Attempts

► Change Attempt Order

- Intel® I210 Gigabit Network Connection - 00:25:90:5E:AD:A8
- Intel® Ethernet Connection X553/X557-AT 10GBASE-T - 00:25...
- Intel® Ethernet Connection X553/X557-AT 10GBASE-T - 00:25...
- Intel® Ethernet Connection X553/X557-AT 10GBASE-T - 00:25...
- Intel® Ethernet Connection X553/X557-AT 10GBASE-T - 00:25...

These features display the following information :

► NIC Configuration

Link Speed

Use this feature to change the link speed and duplex for the current port. The options are **Auto Negotiated**, 10Mbps Half, 10Mbps Full, 100Mbps Half, and 100Mbps full.

Wake On LAN

Select enabled to wake the system with a magic packet. The options are **Enabled** and Disabled.

Blink LEDs

This feature allows the user to specify the duration for LEDs to blink. The range is from 0 ~ 15 seconds. The default setting is **0**.

UEFI Driver

This item displays the UEFI driver version.

Adapter PBA

This item displays the Processor Bus Adapter (PBA) model number. The PBA number is a nine digit number (i.e., 010B00-000) located near the serial number.

Device Name

This item displays the adapter device name.

Chip Type

This item displays the network adapter chipset name.

PCI Device ID

This item displays the device ID number.

PCI Address

This item displays the PCI address for this computer. PCI addresses are three two-digit hexadecimal numbers.

Link Status

This item displays the connection status.

MAC Address

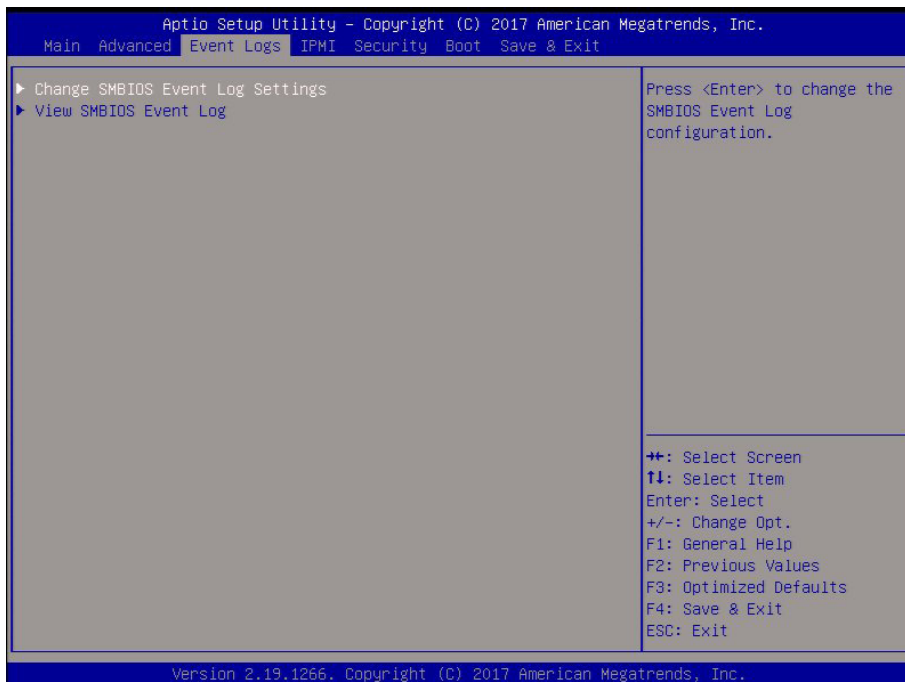
This item displays the MAC address for this computer. Mac addresses are six two-digit hexadecimal numbers.

Virtual MAC Address

This item displays the Virtual MAC address for this computer. Mac addresses are six two-digit hexadecimal numbers.

6.4 Event Logs

Use this menu to configure Event Log settings.



► Change SMBIOS Event Log Settings

Enabling/Disabling Options

PCIe ELog Support

Use this feature to enable or disable PCIe error logging support. The options are Disabled and **Enabled**.

Memory ELog Support

Use this feature to enable or disable memory error logging support. The options are Disabled and **Enabled**.

SMBIOS Event Log

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

Erasing Settings

Erase Event Log

Select Enabled to erase all error events in the SMBIOS (System Management BIOS) log before an event logging is initialized at bootup. The options are **No**, Yes, Next reset, and Yes, Every reset.

When Log is Full

Select Erase Immediately to immediately erase all errors in the SMBIOS event log when the event log is full. Select Do Nothing for the system to do nothing when the SMBIOS event log is full. The options are **Do Nothing** and Erase Immediately.

SMBIOS Event Log Standard Settings

Log System Boot Event

Select Enabled to log system boot events. The options are Enabled and **Disabled**.

MECI (Multiple Event Count Increment)

Enter the increment value for the multiple event counter. Enter a number between 1 to 255. The default setting is **1**.

METW (Multiple Event Count Time Window)

This feature is used to determine how long (in minutes) should the multiple event counter wait before generating a new event log. Enter a number between 0 to 99. The default setting is **60**.

Note: Please reboot the system for the changes to take effect.

►View SMBIOS Event Log

This item allows the user to view the event in the SMBIOS event log. The following categories are displayed:

DATE/TIME/ERROR CODE/SEVERITY

6.5 IPMI

Use this menu to configure Intelligent Platform Management Interface (IPMI) settings.



BMC Firmware Revision

This feature indicates the IPMI firmware revision used in your system.

IPMI Status

This feature indicates the status of the IPMI firmware installed in your system.

▶ System Event Log

Enabling/Disabling Options

SEL Components

Select Enabled for all system event logging at bootup. The options are Disabled and Enabled.

Erasing Settings

Erase SEL

Select Yes, On next reset to erase all system event logs upon next system reboot. Select Yes, On every reset to erase all system event logs upon each system reboot. Select No to keep all system event logs after each system reboot. The options are **No**, Yes, On next reset, and Yes, On every reset.

When SEL is Full

This feature allows the user to determine what the BIOS should do when the system event log is full. Select Erase Immediately to erase all events in the log when the system event log is full. The options are **Do Nothing** and Erase Immediately.

Note: After making changes on a setting, reboot the system for the changes to take effect.

► BMC Network Configuration

The following items will be displayed:

IPMI LAN Selection

This feature displays the IPMI LAN setting. The default setting is **Failover**.

IPMI Network Link Status

This feature displays the IPMI Network Link status. The default setting is **Shared LAN**.

Update IPMI LAN Configuration

Select Yes for the BIOS to implement all IP/MAC address changes at the next system boot. The options are **No** and Yes.

****If the feature above is set to Yes, Configuration Address Source and VLAN will become available for configuration:***

Configuration Address Source

Use this feature to select the source of the IP address for this computer. If Static is selected, you will need to know the IP address of this computer and enter it to the system manually in the field. If DHCP is selected, the BIOS will search for a DHCP (Dynamic Host Configuration Protocol) server in the network that is attached to and request the next available IP address for this computer. The options are **DHCP** and Static.

The following items are assigned IP addresses automatically if DHCP is selected, or they can be configured manually if Static is selected.

Station IP Address

This feature displays the Station IP address for this computer. This should be in decimal and in dotted quad form (i.e., 192.168.10.253).

Subnet Mask

This feature displays the sub-network that this computer belongs to. The value of each three-digit number separated by dots should not exceed 255.

Station MAC Address

This feature displays the Station MAC address for this computer. Mac addresses are 6 two-digit hexadecimal numbers.

Gateway IP Address

This feature displays the Gateway IP address for this computer. This should be in decimal and in dotted quad form (i.e., 192.168.10.253).

VLAN

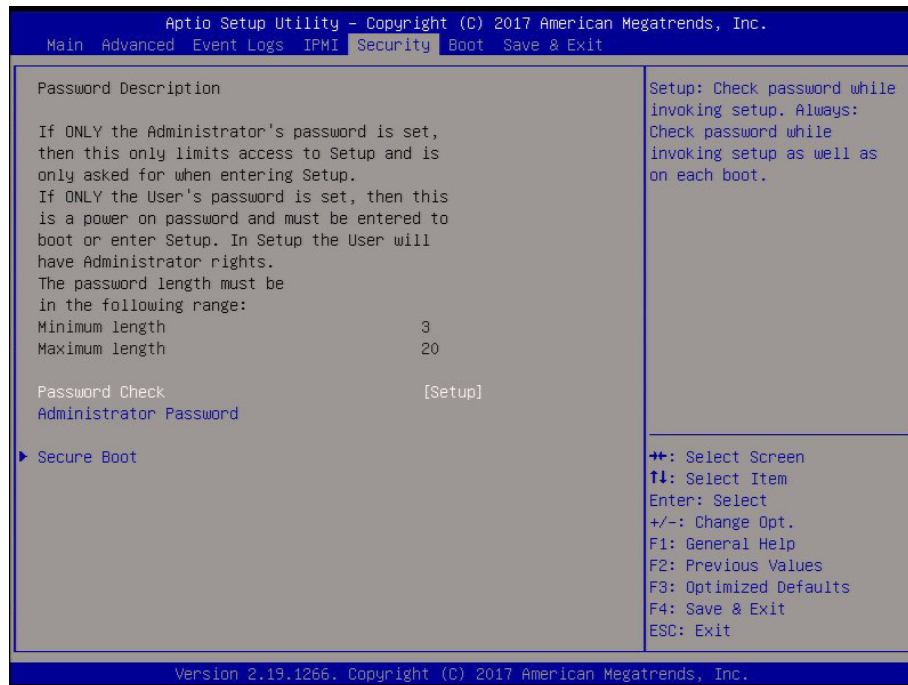
This feature is configurable if the Update IPMI LAN Configuration feature is set to Yes. Use this feature to enable or disable the IPMI VLAN function. The options are **Disable** and **Enable**.

IPMI Function Support

Use this feature to enable IPMI support. The options are Disabled and **Enabled**. When this feature is disabled, the system powers on quicker by removing BIOS support for extended IPMI features. The Disable option is for applications that require faster power on time without using Supermicro Update Manager (SUM) or extended IPMI features. The BMC network configuration in the BIOS setup is also invalid when IPMI Function Support is disabled. The general BMC function and motherboard health monitor such as fan control are still functioning even when this option is disabled.

6.6 Security

Use this menu to configure Security settings.



Password Check

Select Setup for the system to check for a password at Setup. Select Always for the system to check for a password at bootup or upon entering the BIOS Setup utility. The options are **Setup** and **Always**.

Administrator Password

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

****The feature below is displayed if an Administrator Password is set:***

User Password

Use this feature to set a user password.

► Secure Boot

Platform Mode - Setup

Secure Boot - Not Active

Vendor Keys - Not Active

Enable Secure Boot

Select Enable for secure boot support to ensure system security at bootup. The options are **Disabled** and Enabled.

Secure Boot Mode

This feature allows the user to select the desired secure boot mode for the system. The options are Standard and **Custom**.

**If Secure Boot Mode is set to Custom, Key Management features will be available for configuration:*

CSM Support

This feature is for manufacturing debug purposes.

▶Reset to Setup Mode

Select Yes to delete all Secure Boot key databases and force the system to Setup Mode. The options are Yes and No.

▶Restore Factory Keys

Select Yes to restore all factory keys to the default settings. The options are Yes and No.

▶Key Management

This submenu allows the user to configure the following Key Management settings.

Provision Factory Defaults

Select Enabled to install the default Secure Boot keys set by the manufacturer. The options are **Disabled** and Enabled.

▶Enroll Efi Image

This feature allows the image to run in Secure Boot mode.

▶Save All Secure Boot Variables

This feature allows the user to decide if all secure boot variables should be saved.

▶Platform Key (PK)

This feature allows the user to configure the settings of the platform keys.

Set New

Select Yes to load the new platform keys (PK) from the manufacturer's defaults. Select No to load the platform keys from a file. The options are **Yes** and No.

► **Key Exchange Key (KEK)**

Set New

Select Yes to load the KEK from the manufacturer's defaults. Select No to load the KEK from a file. The options are Yes and No.

Append

Select Yes to add the KEK from the manufacturer's defaults list to the existing KEK. Select No to load the KEK from a file. The options are Yes and No.

► **Authorized Signatures**

Set New

Select Yes to load the database from the manufacturer's defaults. Select No to load the DB from a file. The options are Yes and No.

Append

Select Yes to add the database from the manufacturer's defaults to the existing DB. Select No to load the DB from a file. The options are Yes and No.

► **Forbidden Signatures**

Set New

Select Yes to load the DBX from the manufacturer's defaults. Select No to load the DBX from a file. The options are Yes and No.

Append

Select Yes to add the DBX from the manufacturer's defaults to the existing DBX. Select No to load the DBX from a file. The options are Yes and No.

► **Authorized TimeStamps**

Set New

Select Yes to load the DBT from the manufacturer's defaults. Select No to load the DBT from a file. The options are Yes and No.

Append

Select Yes to add the DBT from the manufacturer's defaults list to the existing DBT. Select No to load the DBT from a file. The options are Yes and No.

► OsRecovery Signature

This item uploads and installs an OSRecovery Signature. You may insert a factory default key or load from a file. The file formats accepted are:

- 1) Public Key Certificate
 - a. EFI Signature List
 - b. EFI CERT X509 (DER Encoded)
 - c. EFI CERT RSA2048 (bin)
 - d. EFI SERT SHA256 (bin)
- 2) EFI Time Based Authenticated Variable

Set New

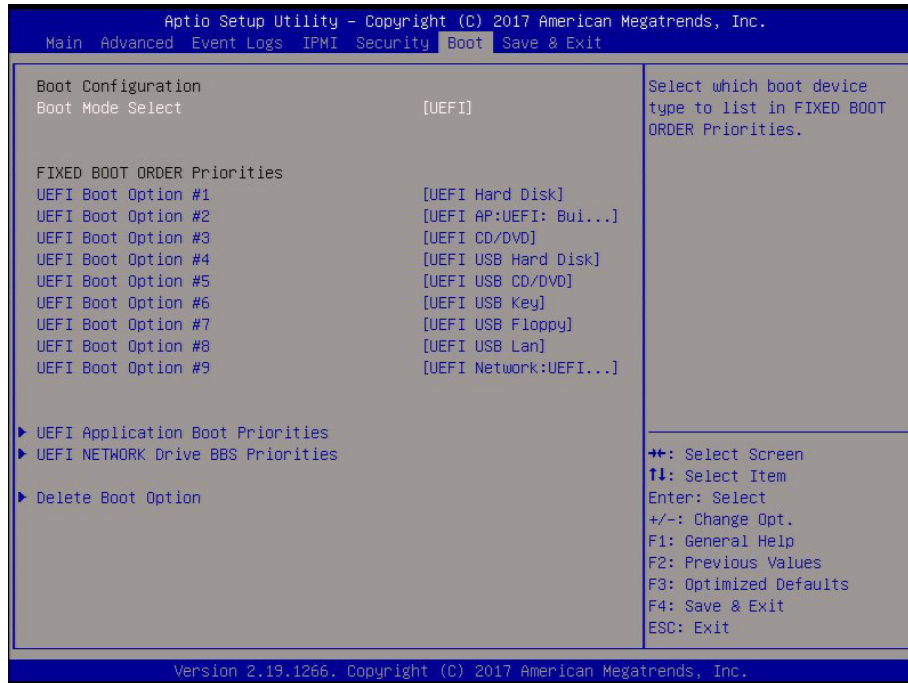
Select Yes to load the OSRecovery Signature from the manufacturer's defaults. Select No to load the OSRecovery Signature from a file. The options are Yes and No.

Append

Select Yes to add the OSRecovery Signature from the manufacturer's defaults list to the existing OSRecovery Signature. Select No to load the OSRecovery Signature from a file. The options are Yes and No.

6.7 Boot

Use this menu to configure Boot settings:



Boot mode select

Use this feature to select the boot mode for bootable devices in the system. The options are LEGACY, **UEFI**, and DUAL.

Fixed Boot Order Priorities

This option prioritizes the order of bootable devices that the system boots from. Press <Enter> on each entry from top to bottom to select devices.

- UEFI Boot Option #1
- UEFI Boot Option #2
- UEFI Boot Option #3
- UEFI Boot Option #4
- UEFI Boot Option #5
- UEFI Boot Option #6
- UEFI Boot Option #7

- UEFI Boot Option #8
- UEFI Boot Option #9

▶ **UEFI Application Boot Priorities**

- Boot Option # - This feature sets the system boot order of detected devices. The options are **[the list of detected boot device(s)]** and Disable.

▶ **UEFI Network Drive BBS Priorities**

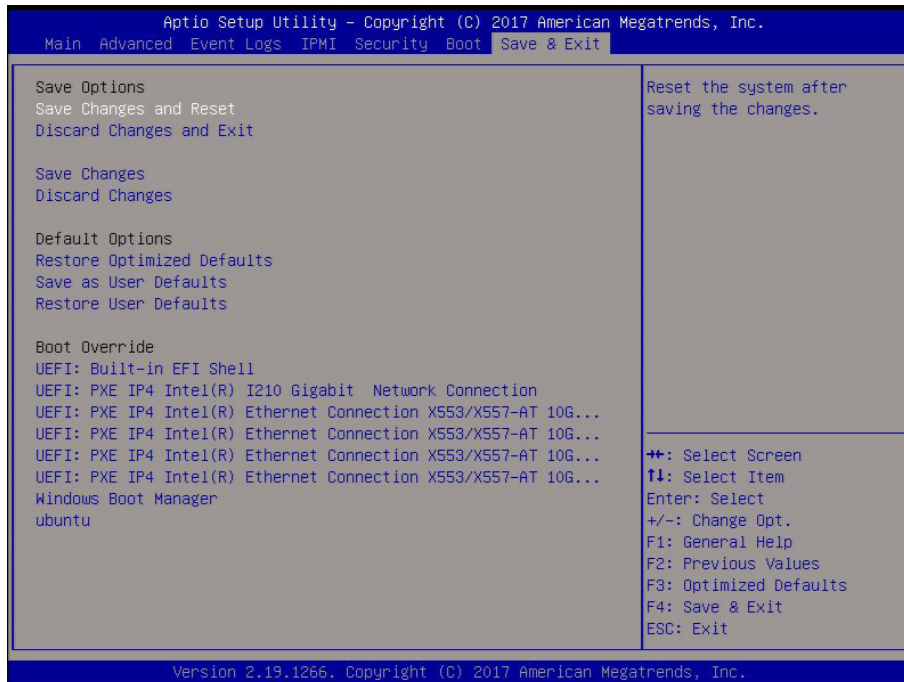
- Boot Option # - This feature sets the system boot order of detected devices. The options are **[the list of detected boot device(s)]** and Disable.

▶ **Delete Boot Option**

Use this feature to select a boot device to delete from the boot priority list.

6.8 Save & Exit

Use this menu to save settings and exit the BIOS.



Save Options

Save Changes and Reset

When you have completed the system configuration changes, select this option to save all changes made and reset the system.

Discard Changes and Exit

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

Save Changes

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

Discard Changes

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

Default Options

Restore Optimized Defaults

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

Save as User Defaults

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

Restore User Defaults

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

Boot Override

This feature allows the user to override the Boot Option Priorities sequence in the Boot menu and immediately boot the system with another device specified by the user. This is a one-time override.

UEFI: Built-in EFI Shell

UEFI: PXE IP4 Intel® I210 Gigabit Network Connection

UEFI: PXE IP4 Intel® Ethernet Connection X553/X557-AT 10G...

UEFI: PXE IP4 Intel® Ethernet Connection X553/X557-AT 10G...

UEFI: PXE IP4 Intel® Ethernet Connection X553/X557-AT 10G...

UEFI: PXE IP4 Intel® Ethernet Connection X553/X557-AT 10G...

Windows Boot Manager

Appendix A

BIOS Codes

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

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

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

These fatal errors are usually communicated through a series of audible beeps. The table below lists some common errors and their corresponding beep codes encountered by users.

BIOS Beep (POST) Codes		
Beep Code	Error Message	Description
1 beep	Refresh	Circuits have been reset (Ready to power up)
5 short, 1 long	Memory error	No memory detected in system
5 long, 2 short	Display memory read/write error	Video adapter missing or with faulty memory
1 long continuous	System OH	System overheat condition

Note: A speaker is required to hear the beep codes (optional part).

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 ف حالة وُكِي اَي تتسبب ف اصابة جسدهُ هذا الزهز عُ خطر! تحذُرُ .
 قبل اَي تعول على اَي هعدات، كي على علن بالوخاطز ال اُجوة عي الذوائر
 الكهزبائِة
 وكي على دراةُ بالووارسات النقااِة لو عُ وقع اَي حادث
 استخدم رقن الب اِى الو صُص ف هاةُ كل تحذُرُ للعشر تزجوتها

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-20A, 60VDC.

هذا المنتج يعتمد على معدات الحماية من الدوائر القصيرة التي تم تثبيتها في المبنى
تأكد من أن تقييم الجهاز الوقائي ليس أكثر من : 20A, 250V

경고!

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

Waarschuwing

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

電源切断の警告

システムコンポーネントの取り付けまたは取り外しのために、シャーシ内部にアクセスするには、システムの電源はすべてのソースから切断され、電源コードは電源モジュールから取り外す必要があります。

警告

在你打开机箱并安装或移除内部器件前,必须将系统完全断电,并移除电源线。

警告

在您打開機殼安裝或移除內部元件前，必須將系統完全斷電，並移除電源線。

Warnung

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

¡Advertencia!

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

Attention

Le système doit être débranché de toutes les sources de puissance ainsi que de son cordon d'alimentation secteur avant d'accéder à l'intérieur du chasis 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 قيم
انصل إلى امناطق انداخهيت نههيكم نتشيج أو إزانت مكناث 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せん。

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

אזור עם גישה מוגבלת

אזהרה!

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

تخصيص هذه انحدة نترك بها ف مناطق محظورة تم .

،ممكن اننصل إن منطقت محظورة فقط من خلال استخذاو أداة خاصت أو أ وس هُت أخري نلالأمما 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薦的功能相當的電池更換原有電池。請按製造商的說明處理廢舊電池。

警告

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

Warnung

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

Attention

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

¡Advertencia!

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

אזהרה!

קיימת סכנת פיצוץ של הסוללה במידה והוחלפה בדרך לא תקינה. יש להחליף את הסוללה בסוג התואם מחברת יצרן מומלצת. סילוק הסוללות המשומשות יש לבצע לפי הוראות היצרן.

هناك خطر من انفجار في حالة اسبدال البطارية بطريقة غير صحيحة فعلى
اسبدال البطارية
فقط بنفس النوع أو ما يعادلها مما أوصت به الشركة المصنعة
جخلص من البطاريات المسحومة 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

此装置连接的电源可能不只一个，必须切断所有电源才能停止对该装置的供电。

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

当系统正在进行时，背板上有很危险的电压或能量，进行维修时务必小心。

警告

當系統正在進行時，背板上危險的電壓或能量，進行維修時務必小心。

Warnung

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

¡Advertencia!

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

Attention

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

מתח בפנל האחורי

אזהרה!

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

هناك خطر من التيار الكهربائي أو الطاقة المتجددة على اللوحة
عندما يكون 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 يمتثل للقوايه المحلية والبطية 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! 危險的可移動性零件。請務必與轉動的风扇叶片保持距離。當您從機架移除風扇裝置，風扇可能仍在轉動。小心不要將手指、螺絲起子和其他物品太靠近風扇

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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/CSA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

עند 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 المعينة 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 Supermicro 가 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

System Specifications

Processors

Intel® Atom Processor C3958

BIOS

AMI® UEFI BIOS

Memory

Supports up to 256GB Registered ECC RDIMM and DDR4-2400MHz or up to 64GB Unbuffered ECC/non-ECC UDIMM, DDR4-2400MHz in four DIMM slots

Drive Bays

Up to two internal SATA3 2.5" SSD drive bays or one SATA3 3.5" drive bay

Expansion Slots

One PCIe 3.0 x8 slot

M.2: one M-Key and one B-Key:

M-Key Form Factor: 2242/2280

Interface: PCIe 3.0 x2, SATA

B-Key Form Factor 3042/2280

Interface: PCIe 3.0 x2, SATA/USB3

Input/Output

Two SATA 3.0 ports

Two onboard COM connections (one via header)

Five USB 3.0 ports (four in front, one Type-A onboard)

Two USB 2.0 header

Network

Quad LAN with 10GBase-T with Intel® X557

Single LAN with Intel® i210 Gigabit Ethernet Controller

Motherboards

A2SDV-16C-TLN5F

Dimensions: 9" x 7.25" (229mm x 184mm)

Chassis

CSE-505-203B: (WxHxD) 17.2 x 1.7 x 9.8 in (437 x 43 x 249mm)

System Cooling

Three (plus one optional) internal fixed 40 x 28 mm fans

Power Supply

Model: PWS-203-1H, 200 W AC 80Plus Gold Level Certified

Output Voltage:

200 W: 100 to 240 Vac

Input Current:

200 W: 100 to 240 Vac, 50-60 Hz, 2.6 A max

+3.3 V: 8 A max

+5 V: 8 A max

+5 V standby: 2 A max

+12 V: 16 A max

-12 V: 0.5 A max

Operating Environment

Operating Temperature: 0 °C to 40 °C (32 °F to 104 °F)
Non-operating Temperature: -40 °C to 70 °C (-104 °F 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, NRTL, CB

Applied Directives, Standards

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

FCC Part 15

ICES-003

VCCI 32-1

AS/NZS CISPR 32

EN55032

EN55035

CISPR 24

EN 61000-3-2

EN 61000-3-3

EN 61000-4-2

EN 61000-4-3

EN 61000-4-4

EN 61000-4-5

EN 61000-4-6

EN 61000-4-8

EN 61000-4-11

Green Environment:

2011/65/EU (RoHS Directive)

EC 1907/2006 (REACH)

2012/19/EU (WEEE Directive)

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

UL/CSA 60950-1, 62368-1 (USA and Canada)

IEC/EN 60950-1, 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"

Appendix D

IPMI Crash Dump

In the event of a processor internal error (IERR) that crashes your system, you may want to provide information to support staff. You can download a crash dump of status information using IPMI. The IPMI manual is available at <https://www.supermicro.com/solutions/IPMI.cfm>.

Check IPMI Error Log

1. Access the IPMI web interface.
2. Click the **Server Health** tab, then **Event Log** to verify an IERR error.

The screenshot shows the IPMI web interface. At the top right, there is a 'Host Identification' box containing 'Server: 172.031.040.125' and 'User: ADMIN (Administrator)'. Below this is a navigation menu with tabs: System, Server Health, Configuration, Remote Control, Virtual Media, Maintenance, Miscellaneous, and Help. The 'Server Health' tab is active, and the 'Event Log' sub-tab is selected. On the left, there is a sidebar with 'Server Health', 'Sensor Readings', and 'Event Log' (selected). The main content area shows the 'Event Log' page. It includes a link for special settings, a description of the event log, and buttons for 'Clear Event Log' and 'Save'. Below this is a dropdown menu for 'Select an event log category:' set to 'All Events'. A table displays the event log entries:

Event ID	Time Stamp	Sensor Name	Sensor Type	Description
1	2017/10/19 15:38:37		Processor	IERR - Assertion
2	2017/10/19 15:59:20		Processor	IERR - Assertion

Figure D-1. IPMI Event Log

In the event of an IERR, the BMC executes a crash dump. You must download the crash dump and save it.

Downloading the Crash Dump File

1. In the IPMI interface, click the **Miscellaneous** tab, then the **Trouble Shooting** option.
2. Click the **Dump** button and wait five minutes for the file to be created. (No confirmation message will appear.)
3. Click the **Download** button and a Save As dialog appears.
4. Save the zipped dump file, noting the name and location.

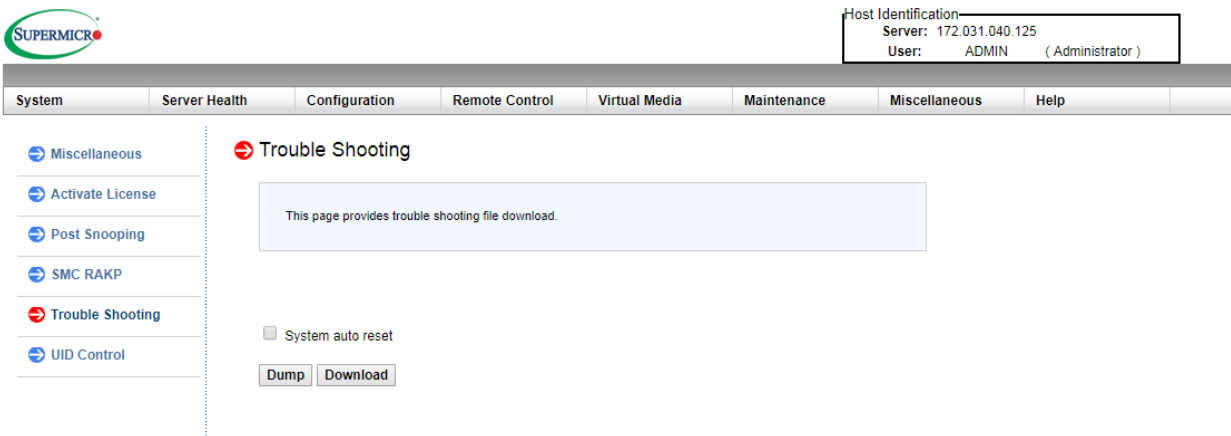


Figure D-2. IPMI Crash Dump Download

Note: The **System auto reset** check box dictates behavior after an IERR. If checked, the system will restart automatically, and the dump file will be erased. If not, the system remains in a failed state. Do not check this box until after the dump file has been sent to Support.

Appendix E

Dual Boot Block

E.1 Introduction

The motherboard in this system supports the Dual Boot Block feature, which is the last-ditch mechanism to recover the BIOS boot block. This section provides an introduction to the feature.

BIOS Boot Block

A BIOS boot block is the minimum BIOS loader required to enable necessary hardware components for the BIOS crisis recovery flash that will update the main BIOS block. An on-call BIOS boot-block corruption may occur due to a software tool issue (see image below) or an unexpected power outage during BIOS updates.

```

-----
                AMI Firmware Update Utility vX.XX.XX
                Copyright (C)XXXX American Megatrends Inc. All Rights Reserved.
-----

Reading flash . . . . . done
-- ME Data Size checking . ok
-- FFS checksums . . . . . ok
Erasing Boot Block . . . . . done
__ Updating Boot Block . . . . . 0x00A91000 (13%)

```

BIOS Boot Block Corruption Occurrence

When a BIOS boot block is corrupted due to an unexpected power outage or a software tool malfunctioning during BIOS updates, you can still reboot the system by closing pins 2 and 3 using a cap on jumper JBR1. When JBR1 is set to pins 2 and 3, the system will boot from a backup boot block pre-loaded in the BIOS by the manufacturer.

E.2 Steps to Reboot the System by Using Jumper JBR1

1. Power down the system.
2. Close pins 2-3 on jumper JBR1 and power on the system.
3. Follow the BIOS recovery SOP listed in the previous chapter (Appendix D).
4. After completing the steps above, power down the system.
5. Close pins 1-2 on jumper JBR1 and power on the system.