



H14SRV-HLN4F

USER'S MANUAL

Revision 1.0a (MNL-2864)

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Preface

About This Manual

This manual is written for professional system integrators and PC technicians. It provides information for the installation and use of the H14SRV-HLN4F motherboard. Installation and maintenance should be performed by certified service technicians only.

Notes

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

- Supermicro product manuals: <https://www.supermicro.com/support/manuals>
- Product drivers and utilities: <https://www.supermicro.com/wdl>
- Product safety info: https://www.supermicro.com/about/policies/safety_information.cfm
- 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=/wdl/utility/Lot9_Secure_Data_Deletion_Utility
- Frequently Asked Questions: <https://www.supermicro.com/FAQ/index.php>
- If you still have questions after referring to our FAQs, contact our support team. Region-specific Technical Support email addresses can be found at: "[Contacting Supermicro](#)" on page 10
- If you have any feedback on Supermicro product manuals, contact our writing team at: Techwriterteam@supermicro.com

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

Conventions Used in the Manual

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



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



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



Warning! Indicates hazardous moving parts may be encountered while handling a fan or components near a fan.

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

Note: Additional information given to differentiate various models or to provide information for proper motherboard setup.

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Chapter 1:

Introduction

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

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1.1 Quick Reference

For details on the H14SRV-HLN4F motherboard layout, features, and other quick reference information, refer to the content below.

Checklist

In addition to the H14SRV-HLN4F motherboard, several important parts that are included in your shipment are listed below. If anything listed is damaged or missing, contact your retailer.

Main Parts List		
Description	Part Number	Quantity
Supermicro Motherboard	H14SRV-HLN4F	1
Quick Reference Guide	MNL-2864-QRG	1

Motherboard Layout

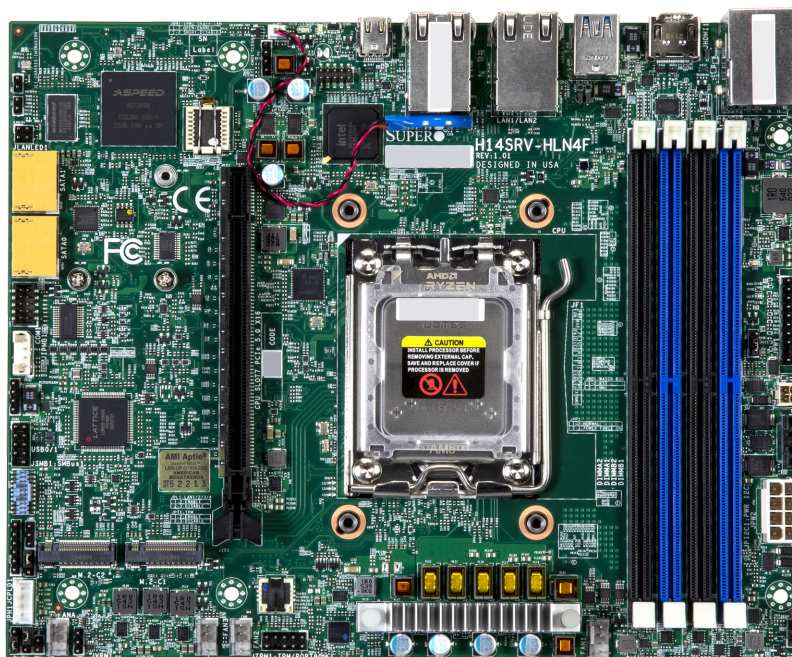


Figure 1-1. H14SRV-HLN4F Motherboard Photo

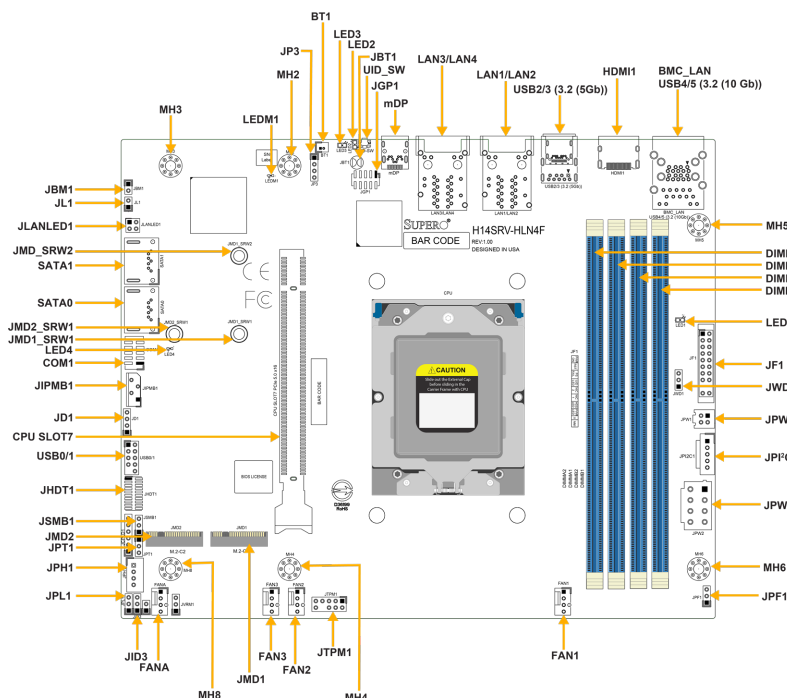


Figure 1-2. H14SRV-HLN4F Motherboard Layout

Notes:

- For detailed information on jumpers, connectors, and LED indicators, see ["Component Installation"](#) on page 22.
- "■" indicates the location of pin 1.
- "MH" indicates the location of a mounting hole.
- Components not documented are for internal testing purposes only.
- Use only the correct type of onboard CMOS battery as specified by the manufacturer. To avoid possible explosion, do not install the onboard battery upside down.

Quick Reference Table

For details on the H14SRV-HLN4F motherboard layout, features, and other quick reference information, refer to the content below.

Jumper	Description	Default Setting
JBM1	Disable IPMI Shared LAN	Open (Normal)
JBT1	CMOS Clear	Open (Normal)
JID3	POWER_LIMIT_SEL	Pins 2–3 (Disable Power Limit)

Jumper	Description	Default Setting
JPF1	Power Force On	Pins 1–2 (Normal)
JPL1	LAN1/2/3/4 Enable/Disable	Pins 1–2 (Enabled)
JPT1	Onboard TPM 2.0 Enable/Disable	Pins 1–2 (Enabled)
JWD1	Watchdog Timer	Pins 1–2 (Reset)

Connector	Description
BMC_LAN	BMC LAN Port
BT1	Onboard Battery
COM1	COM Header
FAN1–FAN3, FANA	CPU/System Fan Headers
HDMI1	High Definition Multimedia Interface
JD1	Speaker Header (Pins 1–4: Speaker)
JF1	Front Control Panel Header
JGP1	General Purpose I/O Header
JIPMB1	External BMC I ² C Header
JLANLED1	LAN Activity LED Header
JMD1	M.2 M-Key PCIe 5.0 x4 (2280) Slot
JMD2	M.2 M-Key PCIe 5.0 x4 (22110) Slot
JPH1	4-pin HDD Power Connector
JPI ² C1	Power System Management Bus (SMB) I ² C Header
JPW1	4-pin +12 V Power Source
JPW2	8-pin +12 V CPU Power Connector (Required)
JSMB1	System Management Bus Header
JTPM1	Trusted Platform Module/Port 80 Connector
LAN1–LAN4	1 GbE (RJ45) LAN Ports
mDP	Mini DisplayPort
SATA0, SATA1	SATA 3.0 Ports

Connector	Description
UID_SW	Unit Identifier Button
USB0/1	USB 2.0 Header
USB2	USB 3.2 Port (5 Gb)
USB3, USB4/5	USB 3.2 Ports (10 Gb)

LED	Description	Status
LED1	Power LED	Solid Green: Power On
LED2	Unit Identifier (UID) LED	Solid Blue: Unit Identified
LED3	Power Fail/Fan Fail	Solid Red: Power Fail or Fan Fail
LED4	CPLD Heartbeat	Blinking Green: CPLD Normal
LEDM1	BMC Heartbeat	Blinking Green: BMC Normal

Note: Jumpers, connectors, switches, and LED indicators that are not described in these tables are for manufacturing testing purposes only, and are not covered in this manual.

Motherboard Features

Motherboard Features
CPU
Supports the AMD® EPYC™ 4005 series processor with up to 16 cores and a Thermal Design Power (TDP) of 65 W in an AM5 Socket 1718
Memory
Supports up to 192 GB of ECC DDR5 UDIMM memory with speeds of up to 5600 MT/s in four slots
DIMM Size
16 GB, 32 GB, 48 GB
Expansion Slots
Two M.2 PCIe 5.0 x4 slots

Motherboard Features	
I/O Devices	
• One COM header • One Mini DisplayPort • One HDMI Port	
Peripheral Devices	
• One USB 2.0 Header • One USB 3.2 Port (5 Gb) • Two USB 3.2 Ports (10 Gb) • One USB 3.2 Port Alt Mode	
BIOS	
• 512 Mb AMI SPI BIOS • ACPI 6.0, Plug and Plug (PnP), SPI dual/quad support, Riser card auto detection support, Real Time Clock (RTC) wake-up	
Power Management	
• ACPI Power Management (S5) • Power Button Override Mechanism • Wake-On-LAN (JWOL) • Power-on Mode for AC Power Recovery	
System Health Monitoring	
• +3.3 V, +5 V, +12 V, +3.3 V_{stb}, V_{core}, V_{mem}, CPU, PCH, System, DIMM, and Peripheral temperature • CPU Thermal Trip support • Platform Environment Control Interface (PECI)/TSI	
Fan Control	
• Four 4-pin fan headers • Low noise fan speed control	
System Management	
• Trusted Platform Module (TPM) 2.0 • SAA	

Motherboard Features	
LED Indicators	
• CPU/System Overheat LED • Power LED • Fan Failed LED • UID Remote LED • HDD Activity LED • LAN Activity LED	
Dimensions	
• 9" x 7.25" (228.6 mm x 184.15 mm) (W x L)	

Motherboard Block Diagram

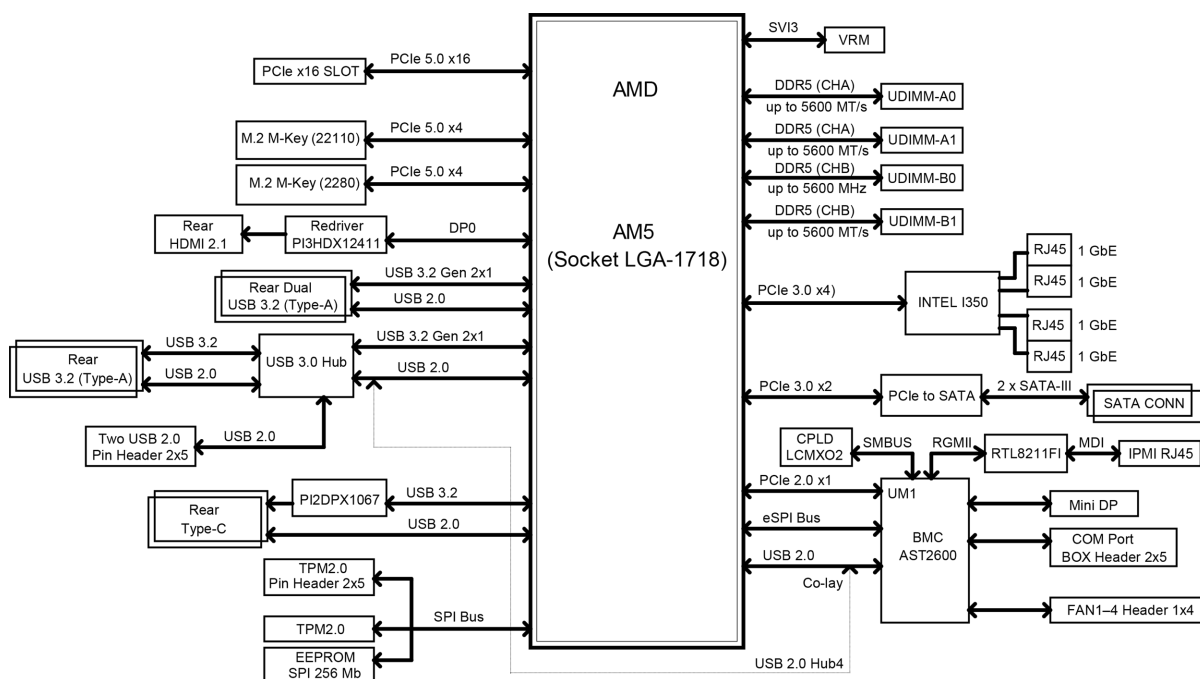


Figure 1-3. Motherboard Block Diagram

1.2 Platform Overview

Built upon the functionality and capability of the AMD EPYC 4005 Series Processor in the Socket 1718, the H14SRV-HLN4F motherboard offers maximum I/O expandability, energy efficiency, and data reliability in a 3 nm process architecture, and is optimized for embedded storage solutions, networking applications, or cloud-computing platforms.

With the support of new micro-architecture 3 nm process technology, it increases system performance for a multitude of server applications.

The following features are supported by the AMD EPYC 4005 Series Processor:

- ACPI Power Management Logic Support Rev. 6.5
- Adaptive Thermal Management/Monitoring
- PCIe 5.0 with a transfer rate up to 32 GT/s and SATA 3.0 with a transfer rate of up to 6.0 Gb/s
- System Management Bus (SMBus) Specification Version 3.1.1

1.3 Special Features

Recovery from AC Power Loss

The Basic I/O System (BIOS) provides a setting that determines how the system will respond when AC power is lost and then restored to the system. You can choose for the system to remain powered off (in which case you must press the power switch to turn it back on), or for it to automatically return to the power-on state. See Advanced Setup Configurations under "[UEFI BIOS](#)" on [page 64](#) for this setting. The default setting is **Last State**.

1.4 System Health Monitoring

Onboard Voltage Monitors

An onboard voltage monitor will continuously scan the voltages of the onboard chipset, memory, processor, and battery. Once a voltage becomes unstable, a warning is given or an error message is sent to the screen. You can adjust the voltage thresholds to define the sensitivity of the voltage monitor. Real time voltage levels are displayed in IPMI.

Fan Status Monitor with Firmware Control

The system health monitor embedded in the BMC chip can check the RPM status of the cooling fans. The processor and chassis fans are controlled via IPMI.

Environmental Temperature Control

System Health sensors in the BMC monitor the temperatures and voltage settings of onboard processors and the system in real time via the IPMI interface. Whenever the temperature of the processor or the system exceeds a user-defined threshold, system/processor cooling fans will be turned on to prevent the processor or the system from overheating.

Note: To avoid possible system overheating, be sure to provide adequate airflow to your system.

1.5 ACPI Features

ACPI stands for Advanced Configuration and Power Interface. The ACPI specification defines a flexible and abstract hardware interface that provides a standard way to integrate power management features throughout a computer system, including its hardware, operating system, and application software. This enables the system to automatically turn on and off peripherals such as network cards, hard disk drives, and printers.

In addition to enabling operating system-directed power management, ACPI also provides a generic system event mechanism for Plug and Play and an operating system-independent interface for configuration control. ACPI leverages the Plug and Play BIOS data structures while providing a processor architecture-independent implementation that is compatible with operating systems such as Microsoft Windows, Red Hat Linux, and Ubuntu Linux. For detailed information about our certified operating systems, refer to [OS Compatibility](#).

Chapter 2:

Component Installation

This chapter provides instructions on installing and replacing main system components for the H14SRV-HLN4F motherboard. 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. Follow the procedures given in each section.

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2.1 Static-Sensitive Devices

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

Precautions

- Use a grounded wrist strap designed to prevent static discharge.
- Touch a grounded metal object before removing the board from the antistatic bag.
- Handle the motherboard only by its edges. Do not touch its components, peripheral chips, memory modules, or gold contacts.
- When handling chips or modules, avoid touching their pins.
- Put the motherboard and peripherals back into their antistatic bags when not in use.
- For grounding purposes, make sure that your computer chassis provides excellent conductivity between the power supply, the case, the mounting fasteners, and the motherboard.
- Use only the correct type of onboard CMOS battery. To avoid possible explosion, do not install the onboard battery upside down.

Unpacking

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

Motherboard Installation

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

Tools Needed

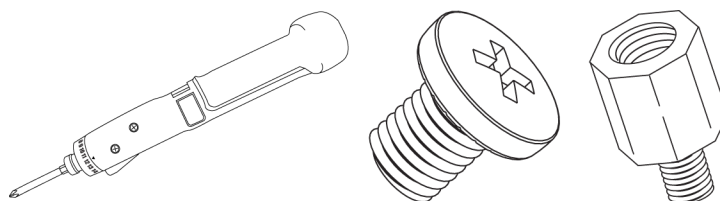


Figure 2-1. Torque Driver (1), Phillips Screw (6), Standoffs (6, only if needed)

Notes:

- To avoid damaging the motherboard and its components, do not use a force greater than 8 lbf-in on each mounting screw during motherboard installation.
- Some components are very close to the mounting holes. Take precautionary measures to avoid damaging these components when installing the motherboard to the chassis.

Installing the Motherboard

1. Install the I/O shield into the back of the chassis, if applicable.

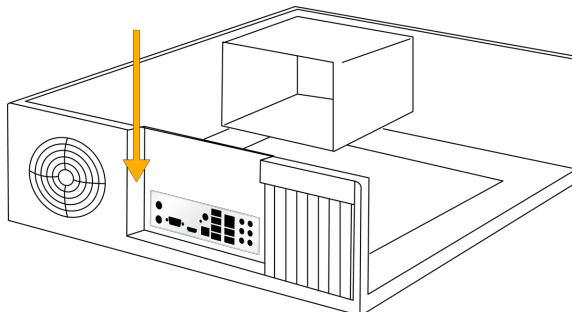


Figure 2-2. Installing the I/O Shield

Note: Images displayed are for illustration purposes only. The components installed in your system may or may not look exactly the same as the graphics shown in the manual.

2. Locate the mounting holes on the motherboard. See Motherboard Installation for the location.

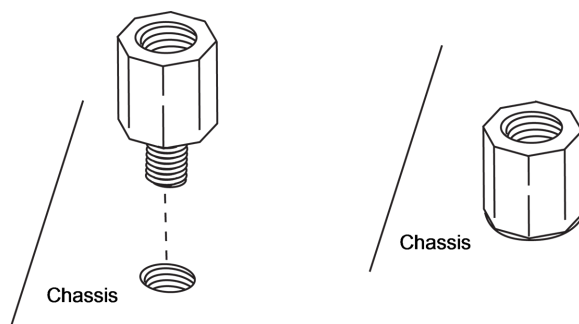


Figure 2-3. Locating the Mounting Holes

3. Locate the matching mounting holes on the chassis. Align the mounting holes on the motherboard against the mounting holes on the chassis.

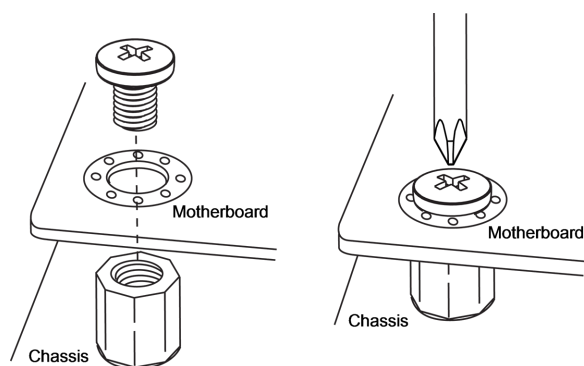


Figure 2-4. Aligning the Mounting Holes

4. Install standoffs in the chassis as needed.
5. Install the motherboard into the chassis carefully to avoid damaging other motherboard components.
6. Insert pan head #6 screws into the mounting holes on the motherboard and the matching mounting holes on the chassis.
7. Make sure that the motherboard is securely placed in the chassis.

2.2 Processor and Heatsink Installation

This section provides procedures to install the processor(s) and heatsink(s).

Notes:

- Take industry standard precautions to avoid ESD damage. For details, see ["Static-Sensitive Devices" on page 24](#).
- Before starting, make sure that the plastic socket cap is in place and none of the socket pins are bent. If any damage is noted, contact your retailer.
- Do not connect the system power cord before the processor and heatsink installation is complete.
- When handling the processor, avoid touching or placing direct pressure on the LGA lands (gold contacts). Improper installation or socket misalignment can cause serious damage to the processor or processor socket.
- Install the processor in the socket and the motherboard into the chassis before installing the heatsink.
- When buying a processor separately, use only a Supermicro certified heatsink.
- Refer to the Supermicro website for the most recent processor support.
- When installing the heatsink, ensure a torque driver set to the correct force is used for each screw.
- Thermal grease is pre-applied on a new heatsink. No additional thermal grease is needed.

The AMD EPYC™ 4004 and 4005 Series Desktop Processor

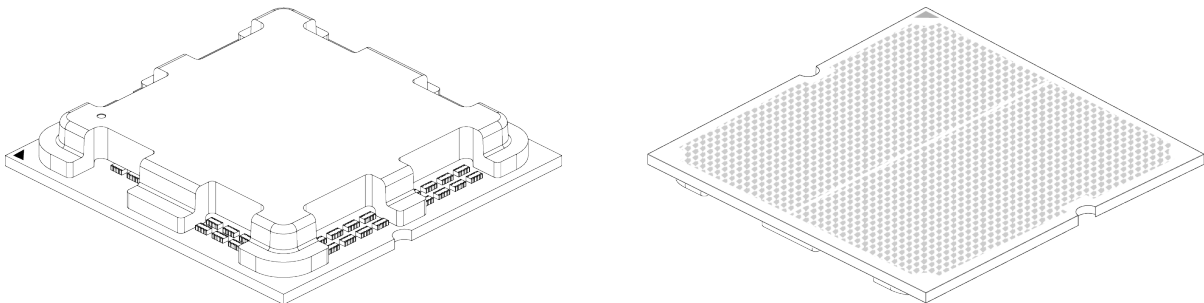


Figure 2-5. Processor

Overview of the Processor Socket

The processor socket is protected by an outer plastic protective cover.

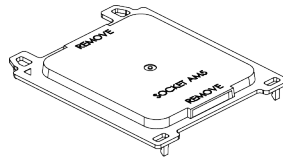


Figure 2-6. Outer Plastic Cover

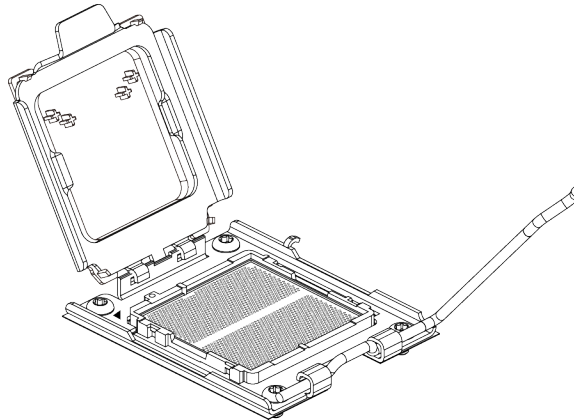


Figure 2-7. AM5 Socket

Overview of the Heatsink

The heatsink is attached to the socket with Phillips #1 screws after the processor is secured. If this is a new heatsink, thermal grease is pre-applied.

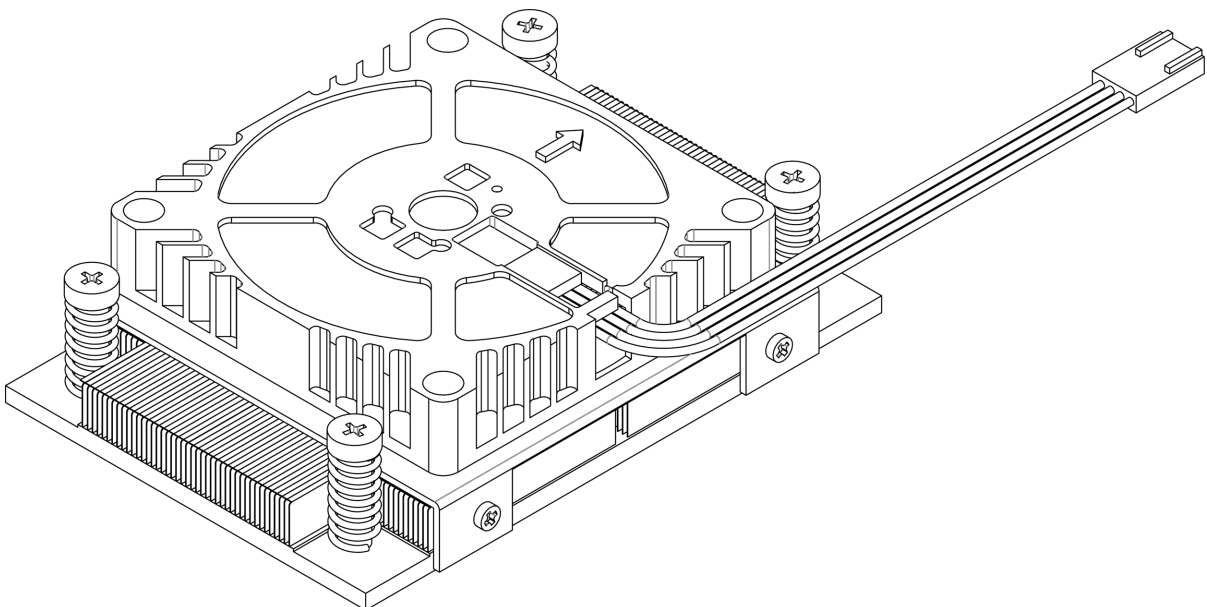


Figure 2-8. 1U Heatsink

Installing the Processor

Note: Do not remove the plastic cover covering the outside of the socket. This cover will pop out during the installation of the processor

1. Use a finger to push down the lever, then move the lever rightward. Pull the lever until it passes over the processor socket.

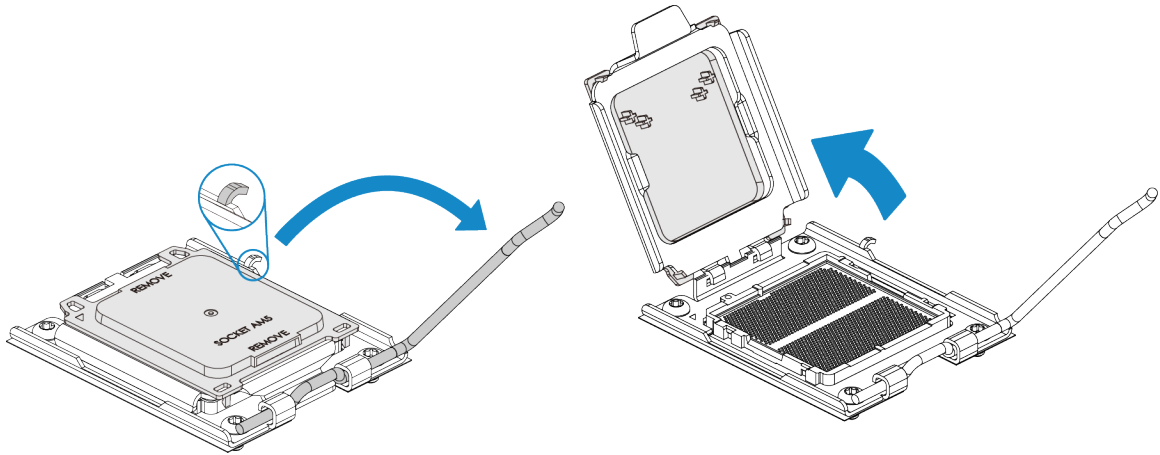


Figure 2-9. Open Load Plate

2. Pick up the processor on its left and right edges. Hold the processor over the socket and align the arrow on the top-left corner of the processor with the arrow on the top-left corner of the socket. Gently lower it onto the AM5 socket pins.

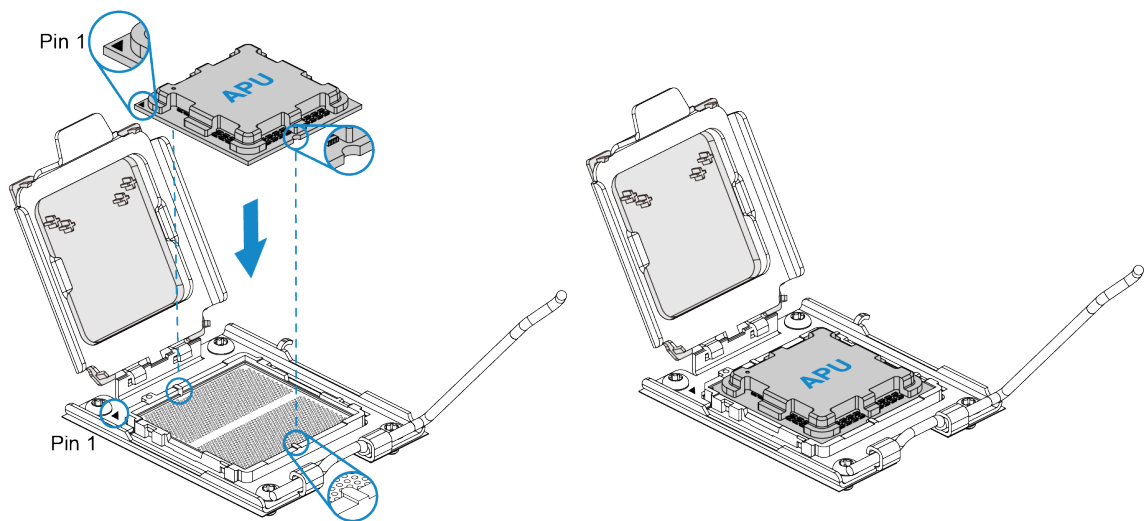


Figure 2-10. Processor in the Socket

3. With the processor in the socket, lower the socket force frame.

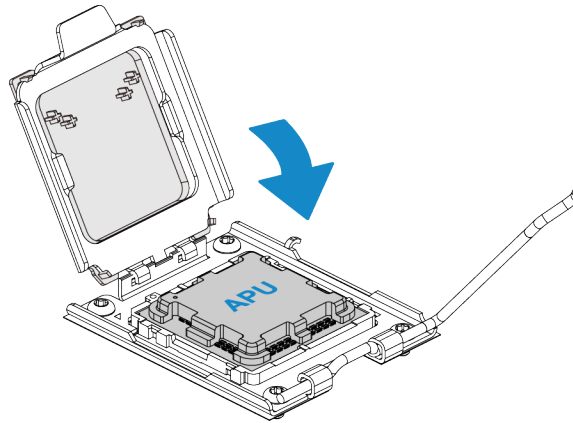


Figure 2-11. Lower the Socket Frame

4. Reattach the lever arm onto the right side of the socket. The outer plastic cover will pop out when the lever arm is reattached.

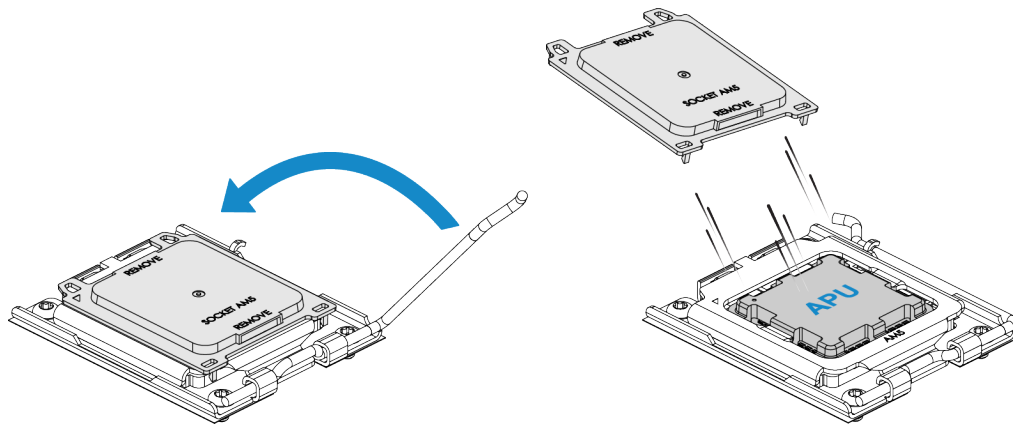


Figure 2-12. Reattach Lever

5. When finished, the socket force frame will secure the processor.

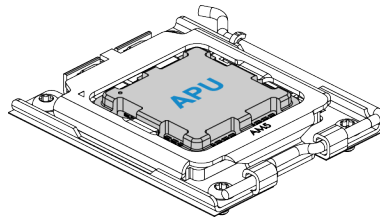


Figure 2-13. Processor in the Socket

Installing the Heatsink

1. After the processor is secured, now you must install the heatsink to the socket frame. Lower the heatsink down until the four screws on the heatsink align with the four screw holes on the socket frame.
2. Using a diagonal pattern, tighten the four screws down on the heatsink. The heatsink will now be secured and you have finished installing the processor and heatsink onto the motherboard. When finished, the heatsink will be secured over the socket and processor.

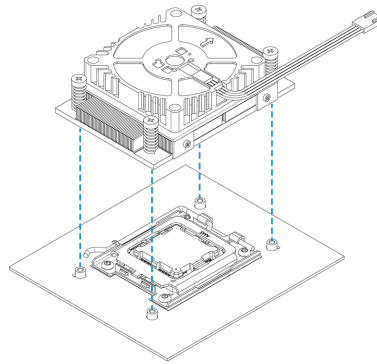


Figure 2-14. Processor with 1U Heatsink

3. Connect the cooling fan connector to the fan header labeled for CPU on the motherboard.

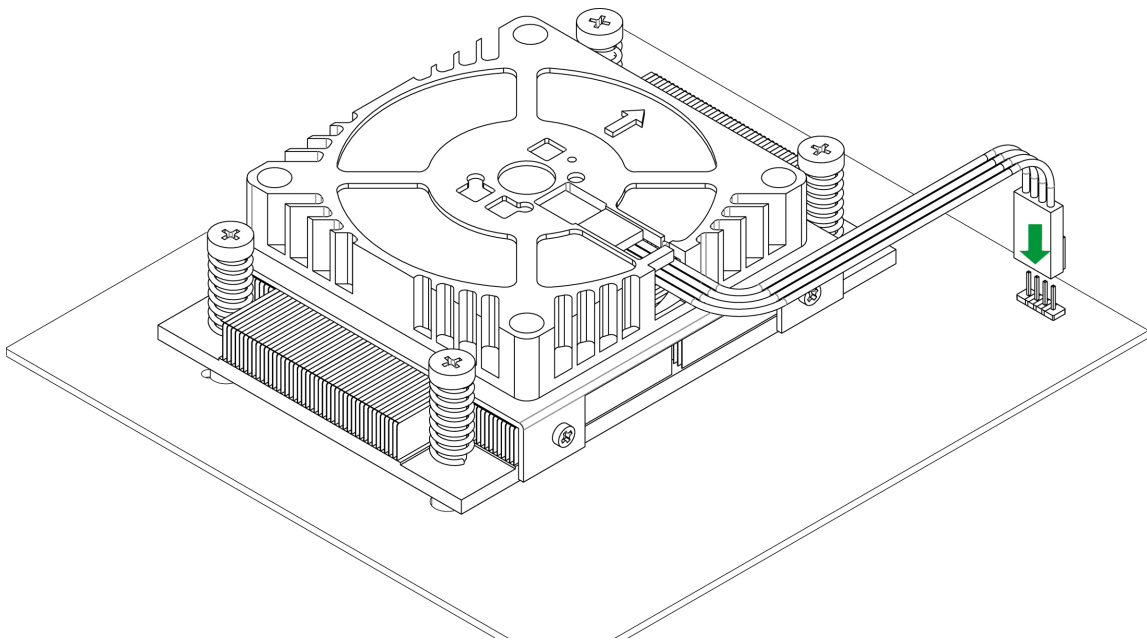


Figure 2-15. Heatsink

2.3 Memory Support and Installation

Important: To prevent any damage, exercise extreme care when installing or removing memory modules.

Note: Check the Supermicro website for recommended memory modules.

Memory Support

The H14SRV-HLN4F motherboard supports up to 192 GB of ECC DDR5 UDIMM memory with speeds of up to 5600 MT/s in four slots.

DIMM Population Guide				
Type	Channel			
	A1	A2	B1	B2
1 DIMM			V	
2 DIMMs	V		V	
4 DIMMs	V	V	V	V

General Guidelines for Optimizing Memory Performance

- It is recommended to use DDR5 memory of the same type, size, and speed.
- Mixed DIMM speeds can be installed. However, all DIMMs will run at the speed of the slowest DIMM.
- The motherboard will support an odd number amount of memory modules. However, to achieve the best memory performance, a balanced memory population is recommended.

DIMM Installation

Important: To avoid causing any damage to the memory module or the DIMM socket, do not use excessive force when pressing the release tabs on the ends of the DIMM socket. Handle memory modules with care. To avoid ESD-related damage to your memory modules or components, carefully follow all the instructions given in ["Static-Sensitive Devices"](#) on [page 24](#).

1. Insert the desired number of DIMMs into the memory slots based on the recommended DIMM population table earlier in this section.
2. Push the release tabs outwards on both ends of the DIMM slot to unlock it.

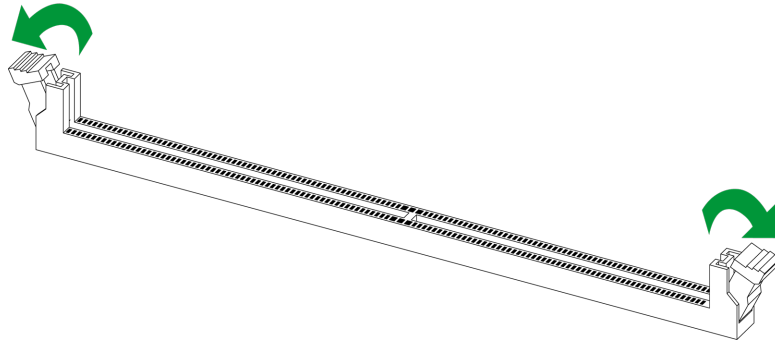


Figure 2-16. Unlocking the DIMM Slot

3. Align the key of the DIMM with the receptive point on the memory slot.

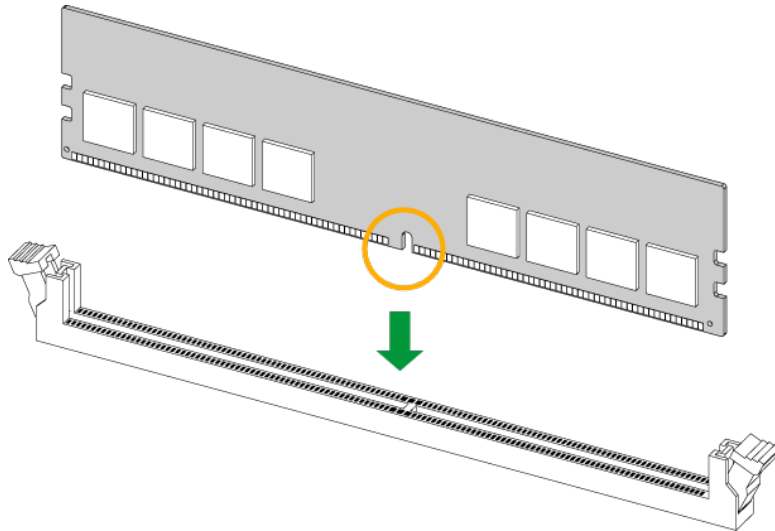


Figure 2-17. Aligning the DIMM Slot with the Receptive Point

4. Align the notches on both ends of the module against the receptive points on the ends of the slot.

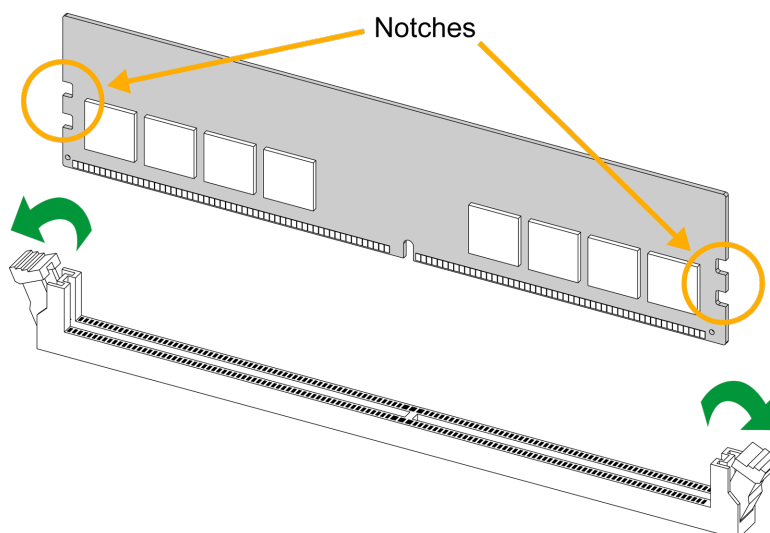


Figure 2-18. Aligning the Notches

5. Press both ends of the module straight down into the slot until the module snaps into place.
6. Press the release tabs to the lock positions to secure the DIMM into the slot.

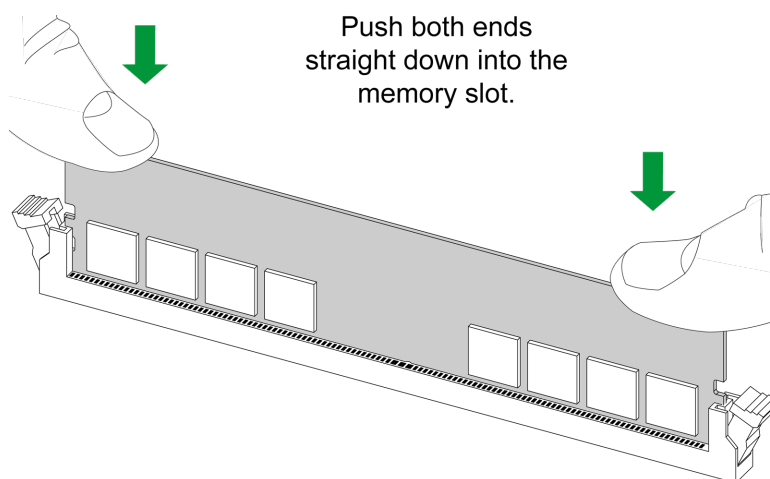


Figure 2-19. Securing the DIMM

For a detailed diagram of the H14SRV-HLN4F motherboard, see the layout under ["Quick Reference"](#) on page 12.

DIMM Removal

Important: To avoid causing any damage to the memory module or the DIMM socket, do not use excessive force when pressing the release tabs on the ends of the DIMM socket. Handle memory modules with care. To avoid ESD-related damage to your memory modules or components, carefully follow all the instructions given in ["Static-Sensitive Devices"](#) on [page 24](#).

Press both release tabs on the ends of the DIMM socket to unlock it. Once the DIMM is loosened, remove it from the memory slot.

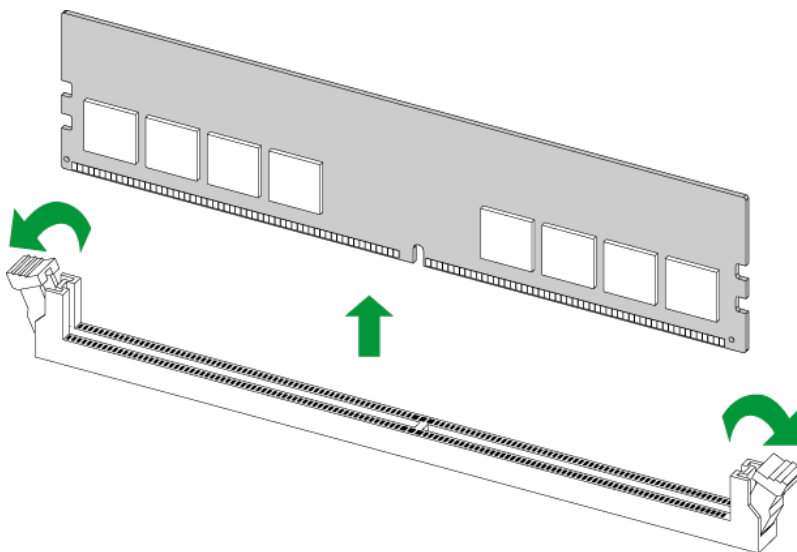


Figure 2-20. Unlocking the DIMM Slot

For a detailed diagram of the H14SRV-HLN4F motherboard, see the layout under ["Quick Reference"](#) on [page 12](#).

2.4 Battery Removal and Installation

Battery Removal

To remove the onboard battery, follow the steps below:

1. Power off your system and unplug your power cable.
2. Remove the battery cable at the BT1 connector on the board.
3. Remove the battery.

Proper Battery Disposal

Important: 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. Comply with the regulations set up by your local hazardous waste management agency to dispose of your used battery properly.

Battery Installation

To install an onboard battery, follow the steps below:

Important: When replacing a battery, be sure to only replace it with the same type.

1. Connect the battery cable into the battery connector (BT1) and push it down until you hear a click to ensure that the cable is securely locked.
2. Use the foam tape on the back side of the battery to secure it to a flat surface on the bottom of the motherboard or a proper location in the system. Do not place the battery on the heatsink.

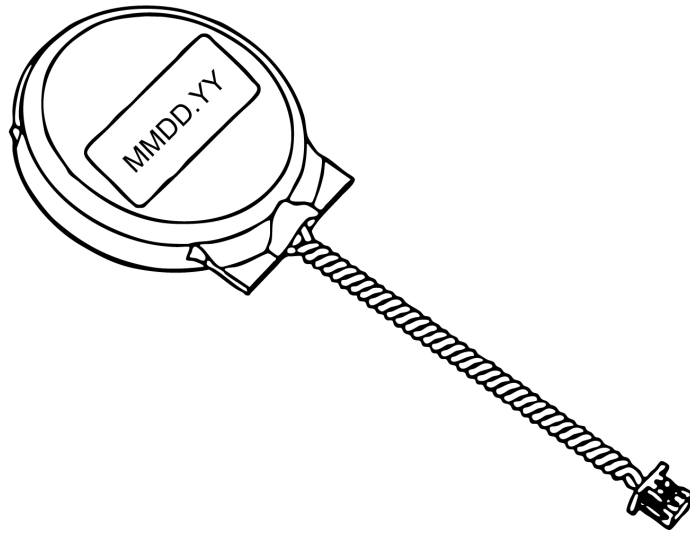


Figure 2-21. Battery

2.5 Connections, Jumpers, and LEDs

Refer to the following sections for information about connections, jumpers, and LEDs for the H14SRV-HLN4F motherboard.

Power Supply and Power Connections

For information about the power supply and power connections of the H14SRV-HLN4F motherboard, refer to the following content.

Power Supply

As with all computer products, a stable power source is necessary for proper and reliable operation. It is even more important for processors that have high CPU clock rates where noisy power transmission is present.

It is strongly recommended that you use a high quality power supply that meets ATX power supply Specification 2.02 or above. It must also be SSI compliant. For more information, refer to the website at <http://www.ssiforum.org/>. Additionally, in areas where noisy power transmission is present, you may choose to install a line filter to shield the computer from noise. It is recommended that you also install a power surge protector to help avoid problems caused by power surges.

Power Connectors

The H14SRV-HLN4F motherboard has one 8-pin +12 V CPU power connector at JPW2, one 4-pin HDD power connector JPH1, and one 4-pin +12 V power source at JPW1.

8-pin CPU Power Pin Definitions: Eight Total		4-pin Power Connector Pin Definitions: Four Total	
Pin#	Definition	Pin#	Definition
1–4	GND	1	PWR_OK
5–8	+12 V (12 V Power)	2	GND
		3	5VSB
		4	PS_ON

Headers and Connections

For information about the headers on the H14SRV-HLN4F motherboard, refer to the following content.

Chassis Intrusion

A Chassis Intrusion header is located at JL1 on the H14SRV-HLN4F motherboard. Attach the appropriate cable from the chassis to inform you when the chassis is opened.

For a detailed diagram of the H14SRV-HLN4F motherboard, see the layout under ["Quick Reference" on page 12](#).

Chassis Intrusion	
Pin Definitions: Two Total	
Pin#	Definition
1	Intrusion Input
2	GND

COM Header

There is one COM header on the H14SRV-HLN4F motherboard. Use a cable with the COM header to access the COM1 COM port. COM ports provide serial communication support.

For a detailed diagram of the H14SRV-HLN4F motherboard, see the layout under ["Quick Reference" on page 12](#).

COM Header			
Pin Definitions: Nine Total			
Pin#	Definition	Pin#	Definition
1	SP_DCD0	2	SP_DSR0
3	SP_RXD0	4	SP_RTS0
5	SP_TXD0	6	SP_CTS0
7	SP_DTR0	8	SP_RI0
9	GND		

External BMC I²C Header

A System Management Bus header for the BMC is located at JIPMB1 on the H14SRV-HLN4F motherboard. Connect the appropriate cable here to use the IPMB I²C connection on your system.

For a detailed diagram of the H14SRV-HLN4F motherboard, see the layout under ["Quick Reference" on page 12](#).

Fan Headers

There are four 4-pin fan headers (FAN1–FAN3, FANA) on the H14SRV-HLN4F motherboard. All the 4-pin fan headers are backwards compatible with the traditional 3-pin fans. Fan speed control is available for all fans by Thermal Management via the IPMI 2.0 interface.

For a detailed diagram of the H14SRV-HLN4F motherboard, see the layout under ["Quick Reference" on page 12](#).

4-pin Fan Header	
Pin Definitions: Four Total	
Pin#	Definition
1	GND (Black)
2	+12 V (Red)
3	Tachometer
4	PWM Control

General Purpose I/O Header

JGP1 is a general purpose I/O expander on a pin header via the SMBus. Each pin can be configured to be an input pin or output pin in 2 mm pitch.

For a detailed diagram of the H14SRV-HLN4F motherboard, see the layout under ["Quick Reference" on page 12](#).

General Purpose Header			
Pin Definitions: 10 Total			
Pin#	Definition	Pin#	Definition
1	+3.3 V	2	GND
3	GP0	4	GP4
5	GP1	6	GP5
7	GP2	8	GP6
9	GP3	10	GP7

LAN Activity LED Header

JLANLED1 is the activity LED header for LAN1/2/3/4.

For a detailed diagram of the H14SRV-HLN4F motherboard, see the layout under ["Quick Reference" on page 12](#).

LAN Activity LED	
Pin Definitions	
Pin#	Definition
1	3V3 Stby
2	LAN_ACT_N
3	3V3 Stby
4	LAN_ACT_N

M.2 M-Key PCIe 5.0 x4 Slots

Two M.2 M-Key slots are located at JMD1 and JMD2 on the H14SRV-HLN4F motherboard. The M.2 M-Key slots on the motherboard support PCIe 5.0 x4 devices in a 2280/22110 form factor.

For a detailed diagram of the H14SRV-HLN4F motherboard, see the layout under ["Quick Reference" on page 12](#).

Power SMB (I²C) Header

The Power System Management Bus (I²C) connector located at JPI²C1 on the H14SRV-HLN4F motherboard monitors the power supply, fan, and system temperatures.

For a detailed diagram of the H14SRV-HLN4F motherboard, see the layout under ["Quick Reference" on page 12](#).

Power SMBus Header	
Pin Definitions: Five Total	
Pin#	Definition
1	Clock
2	Data
3	PMBUS_Alert
4	GND
5	No Connection

SATA 3.0 Ports

Two SATA 3.0 ports are located at SATA0 and SATA1 on the H14SRV-HLN4F motherboard.

For a detailed diagram of the H14SRV-HLN4F motherboard, see the layout under ["Quick Reference" on page 12](#).

Speaker Header

If you wish to use an external speaker, close pins 1–4 with a cable.

For a detailed diagram of the H14SRV-HLN4F motherboard, see the layout under "[Quick Reference](#)" on page 12.

Speaker Header	
Pin Definitions: Four Total	
Pin#	Definition
1	+5 V
2	No Connection
3	No Connection
4	Speaker

System Management Bus Header

JSMB1 is the System Management Bus Header for additional slave devices or sensors.

For a detailed diagram of the H14SRV-HLN4F motherboard, see the layout under "[Quick Reference](#)" on page 12.

SMBus Header	
Pin Definitions: Three Total	
Pin#	Definition
1	Data
2	GND
3	Clock

TPM/Port 80 Header

The JTPM1 header on the H14SRV-HLN4F motherboard is used to connect a Trusted Platform Module (TPM)/Port 80, which is available from Supermicro (optional). A TPM/Port 80 connector is a security device that supports encryption and authentication in storage drives. It allows the motherboard to deny access if the TPM associated with the storage drive is not installed in the system. Information on the TPM is available at the following page:

https://www.supermicro.com/manuals/other/AOM-TPM-9670V_9670H_X12_H12.pdf

For a detailed diagram of the H14SRV-HLN4F motherboard, see the layout under "[Quick Reference](#)" on page 12.

Trusted Platform Module Header			
Pin Definitions: 10 Total			
Pin#	Definition	Pin#	Definition
1	+3.3 V	2	SPI_CS#
3	RESET#	4	SPI_MISO
5	SPI_CLK	6	GND
7	SPI_MOSI	8	No Connection
9	+1.8 V Standby	10	SPI_IRQ#

USB 2.0 Header

A USB 2.0 header is located at USB0/1 on the H14SRV-HLN4F motherboard.

For a detailed diagram of the H14SRV-HLN4F motherboard, see the layout under ["Quick Reference"](#) on page 12.

(USB 2.0) Header			
Pin Definitions: 10 Total			
Pin#	Definition	Pin#	Definition
1	+5 V	2	+5 V
3	USB_N	4	USB_N
5	USB_P	6	USB_P
7	GND	8	GND
9	Key	10	No Connection

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 a Supermicro chassis.

For a detailed diagram of the H14SRV-HLN4F motherboard, see the layout under ["Quick Reference"](#) on page 12.

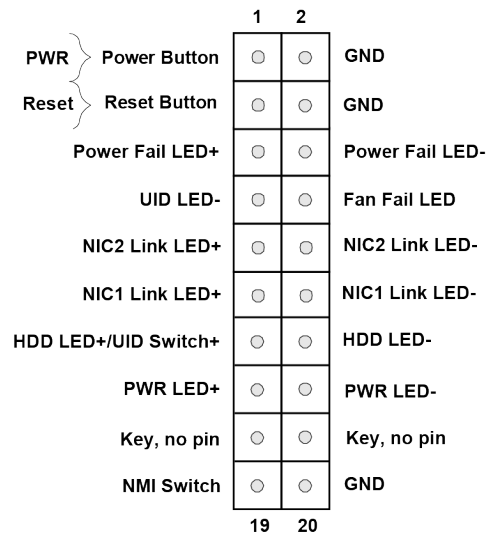


Figure 2-22. JF1 Pin Definitions

Power Button

The Power Button connection is located on pins 1 and 2 of JF1 on the H14SRV-HLN4F motherboard. 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). To turn off the power when the system is in suspend mode, press the button for four seconds or longer.

For a detailed diagram of the H14SRV-HLN4F motherboard, see the layout under ["Quick Reference"](#) on page 12.

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

Reset Button

The Reset Button connection is located on pins 3 and 4 of JF1 on the H14SRV-HLN4F motherboard. Attach it to a hardware reset switch on the computer case to reset the system.

For a detailed diagram of the H14SRV-HLN4F motherboard, see the layout under ["Quick Reference"](#) on page 12.

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

Power Fail LED

Power Failure LED Indicators are located on pins 5 and 6 of JF1 on the H14SRV-HLN4F motherboard.

For a detailed diagram of the H14SRV-HLN4F motherboard, see the layout under ["Quick Reference" on page 12.](#)

Power Fail LED	
Pin Definitions (JF1)	
Pin#	Definition
5	PWR Failure LED-Positive
6	PWR Failure LED-Negative

UID LED

The unit identifier LED connection is located on pin 7 of JF1 on the H14SRV-HLN4F motherboard.

For a detailed diagram of the H14SRV-HLN4F motherboard, see the layout under ["Quick Reference" on page 12.](#)

NIC1/NIC2 (LAN1/LAN2)

The Network Interface Controller (NIC) LED connection for LAN port 1 is located on pins 11 and 12 of JF1 on the H14SRV-HLN4F motherboard, and LAN port 2 is on pins 9 and 10. Attach the NIC LED cables here to display network activity.

For a detailed diagram of the H14SRV-HLN4F motherboard, see the layout under ["Quick Reference" on page 12.](#)

LAN1/LAN2 LED	
Pin Definitions (JF1)	
Pin#	Definition
9	VCC

LAN1/LAN2 LED	
Pin Definitions (JF1)	
Pin#	Definition
10	NIC2 Link/Active LED
11	VCC
12	NIC1 Link/Active LED

HDD LED and UID Switch

The HDD LED and UID Switch connections are located on pins 13 and 14 of JF1 on the H14SRV-HLN4F motherboard. Attach a cable to pin 13 to use the UID button. Attach a cable to pin 14 to show storage drive activity status.

For a detailed diagram of the H14SRV-HLN4F motherboard, see the layout under ["Quick Reference"](#) on page 12.

HDD LED/UID Switch	
Pin Definitions (JF1)	
Pin#	Definition
13	HDD LED+/UID Switch+
14	HDD LED-

Power LED

The Power LED connection is located on pins 15 and 16 of JF1 on the H14SRV-HLN4F motherboard.

For a detailed diagram of the H14SRV-HLN4F motherboard, see the layout under ["Quick Reference"](#) on page 12.

Power LED	
Pin Definitions (JF1)	
Pin#	Definition
15	PWR LED+
16	PWR LED-

NMI Switch

The non-maskable interrupt (NMI) switch header is located on pins 19 and 20 of JF1 on the H14SRV-HLN4F motherboard.

For a detailed diagram of the H14SRV-HLN4F motherboard, see the layout under ["Quick Reference" on page 12](#).

NMI Switch	
Pin Definitions (JF1)	
Pin#	Definition
19	NMI Switch
20	GND

Input/Output Ports

For information about input/output ports on the H14SRV-HLN4F motherboard, refer to the following content.

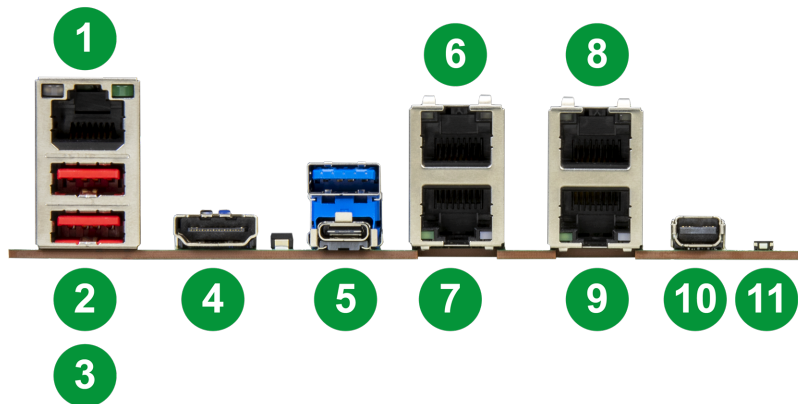


Figure 2-23. H14SRV-HLN4F I/O Ports

H14SRV-HLN4F I/O Ports					
#	Description	#	Description	#	Description
1	BMC_LAN	5	USB2 (3.2 Gen1)	9	LAN4
2	USB4 (3.2)	6	USB 3.2 Gen2 Alt Mode	10	LAN3
3	USB5 (3.2)	7	LAN2	11	mDP (BMC video display)
4	HDMI Port	8	LAN1	12	UID Button

BMC LAN Port

One dedicated BMC LAN port is located at BMC_LAN on the I/O panel of the H14SRV-HLN4F motherboard.

For a detailed diagram of the H14SRV-HLN4F motherboard, see the layout under ["Quick Reference" on page 12](#).

HDMI Port

One High-Definition Multimedia Interface (HDMI) 2.1 port is located on the I/O panel of the H14SRV-HLN4F motherboard. This port is used to display both high definition video and digital sound through an HDMI display, using a single HDMI cable (not included).

For a detailed diagram of the H14SRV-HLN4F motherboard, see the layout under ["Quick Reference" on page 12](#).

LAN Ports

There are four 1G LAN ports located on the I/O panel of the H14SRV-HLN4F motherboard. These ports accept RJ45 cables.

For a detailed diagram of the H14SRV-HLN4F motherboard, see the layout under ["Quick Reference" on page 12](#).

Mini DisplayPort

One Mini Displayport is located on the I/O panel of the H14SRV-HLN4F motherboard.

For a detailed diagram of the H14SRV-HLN4F motherboard, see the layout under ["Quick Reference" on page 12](#).

Unit Identifier Button

A Unit Identifier (UID) button and two LED indicators are located on the motherboard. The UID button is located near the I/O ports of the H14SRV-HLN4F motherboard.

Note: After pushing and holding the UID button for 12 seconds, all BMC settings including username and password will revert back to the factory default. Only the network settings and FRU are retained.

For a detailed diagram of the H14SRV-HLN4F motherboard, see the layout under ["Quick Reference" on page 12](#).

Function	User Input	Behavior	LED Activity
UID LED Indicator	Push once Push again	Turns on the UID LED Turns off the UID LED	UID LED turns solid blue UID LED turns off
BMC Reset	Push and hold for 6 seconds Push and hold for 12 seconds	BMC will do a cold boot BMC will reset to factory default	BMC Heartbeat LED turns solid green BMC Heartbeat LED turns solid green

UID Button Pin Definitions: Four Total		UID LED Pin Definitions: Four Total	
Pin#	Definition	Color	Status
1	Button In	1	Button In
2	GND	2	GND
G1	GND	G1	GND
G2	GND	G2	GND

USB 3.2 Ports

One USB 3.2 port (5 Gb) is located at USB2 and three USB 3.2 ports (10 Gb) are located at USB3 and USB4/5 on the H14SRV-HLN4F motherboard.

For a detailed diagram of the H14SRV-HLN4F motherboard, see the layout under ["Quick Reference"](#) on page 12.

(USB 3.2) Type-C Port Pin Definitions: 24 Total			
Pin#	Definition	Pin#	Definition
A1	GND	B12	GND
A2	USB32_TX+	B11	USB32_RX+
A3	USB32_TX-	B10	USB32_RX-
A4	+5 V	B9	+5 V
A5	CC1	B8	SBU2
A6	USB2_TOP+	B7	USB2_BOT-
A7	USB2_TOP-	B6	USB2_BOT+
A8	SBU1	B5	CC2
A9	+5 V	B4	+5 V
A10	USB32_RX-	B3	USB32_TX-
A11	USB32_RX+	B2	USB32_TX+
A12	GND	B1	GND

Jumper Settings

To modify the operation of the motherboard, jumpers can be used to choose between optional settings. Jumpers create shorts between two pins to change the function of the connector. Pin 1 is identified with a square solder pad on the printed circuit board. See the diagram below for an example of jumping pins 1 and 2. Refer to the motherboard layout page for jumper locations.

Note: On two-pin jumpers, "Closed" means the jumper is on and "Open" means the jumper is off the pins.

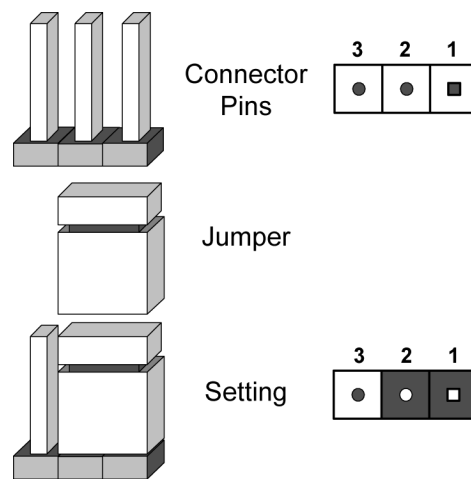


Figure 2-24. Jumping Connector Pins

CMOS Clear

JBT1 on the H14SRV-HLN4F motherboard 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.

For a detailed diagram of the H14SRV-HLN4F motherboard, see the layout under ["Quick Reference" on page 12](#).



JBT1 contact pads

1. First power down the system and unplug the power cord(s).
2. Remove the cover of the chassis to access the motherboard.
3. Remove the onboard battery from the motherboard.
4. Short the CMOS pads, JBT1, with a metal object such as a small screwdriver for at least four seconds.

Note: Clearing CMOS will also clear all passwords.

5. Remove the screwdriver (or shorting device).
6. Replace the cover, reconnect the power cord(s), and power on the system.

Disable IPMI Share LAN

Set the JBM1 jumper to Enabled to share LAN1 with IPMI.

For a detailed diagram of the H14SRV-HLN4F motherboard, see the layout under ["Quick Reference" on page 12](#).

Disable IPMI Share LAN Enable/Disable	
Jumper Settings	
Jumper Setting	Definition
Pins 1–2 (Open)	Enable Share LAN (Default)
Pins 2–3 (Close)	Disable Share LAN

LAN Enable/Disable

Use JPL1 to enable or disable LAN1/2/3/4 on the H14SRV-HLN4F motherboard. The default setting is Enabled.

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

Onboard TPM Enable/Disable

Use JPT1 to enable or disable the onboard TPM.

For a detailed diagram of the H14SRV-HLN4F motherboard, see the layout under ["Quick Reference" on page 12](#).

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

Power Force On

Use JPF1 to disable or enable the Power Force On function. If this function is enabled, the power will always stay on automatically. If disabled, press the power button to power on the system.

For a detailed diagram of the H14SRV-HLN4F motherboard, see the layout under ["Quick Reference"](#) on page 12.

Power Force On Enable/Disable	
Jumper Settings	
Jumper Setting	Definition
Pins 1–2	Normal
Pins 2–3	Force On

Power Limit Select

JID3 is the Power Limit Select function.

For a detailed diagram of the H14SRV-HLN4F motherboard, see the layout under ["Quick Reference"](#) on page 12.

Power Limit Select	
Jumper Settings	
Jumper Setting	Definition
Pins 1–2	Enable Power Limit
Pins 2–3	Disable Power Limit

Watchdog Timer

Watchdog (JWD1) is a system monitor that can reboot the system when a software application hangs. Close pins 1–2 to reset the system if an application hangs. Close pins 2–3 to generate a non-maskable interrupt (NMI) signal for the application that hangs. The watchdog must also be enabled in the BIOS.

For a detailed diagram of the H14SRV-HLN4F motherboard, see the layout under ["Quick Reference"](#) on page 12.

Watchdog Timer Jumper Settings	
Jumper Setting	Definition
Pins 1–2	Reset (Default)
Pins 2–3	NMI
Open	Disabled

LED Indicators

For information about the LED indicators on the H14SRV-HLN4F motherboard, refer to the following content.

BMC Heartbeat LED

A BMC Heartbeat LED is located at LEDM1 on the H14SRV-HLN4F motherboard. When this LED is blinking, the BMC is functioning normally.

For a detailed diagram of the H14SRV-HLN4F motherboard, see the layout under ["Quick Reference" on page 12](#).

BMC Heartbeat LED Indicator	
LED Color	Definition
Green: Blinking	BMC Normal

CPLD Heartbeat LED

The CPLD Heartbeat LED is located at LED4 on the H14SRV-HLN4F motherboard.

For a detailed diagram of the H14SRV-HLN4F motherboard, see the layout under ["Quick Reference" on page 12](#).

CPLD Heartbeat LED Indicator	
LED Color	Definition
Blinking Green	CPLD Normal

Onboard Power LED

The Onboard Power LED is located at LED1 on the H14SRV-HLN4F motherboard. When this LED is on, the system is on. Be sure to turn off the system and unplug the power cord before removing or installing components.

For a detailed diagram of the H14SRV-HLN4F motherboard, see the layout under ["Quick Reference" on page 12](#).

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

Power Fail/Fan Fail LED

A Power Fail/Fan Fail LED is located at LED3 on the H14SRV-HLN4F motherboard.

Overheat (OH)/Power fail/ Fan Fail	
LED State	
LED Color	Status
Solid Red	Power Fail or Fan Fail

Unit ID (UID) LED

The UID LED indicator is located at LED2 on the H14SRV-HLN4F motherboard. This UID indicator provides easy identification of a system that may need to be serviced.

For a detailed diagram of the H14SRV-HLN4F motherboard, see the layout under ["Quick Reference" on page 12](#).

UID LED	
LED Indicator	
LED Color	Definitions
Blue: On	System Identified

Chapter 3:

Troubleshooting

The following content contains information on common issues and how to resolve them.

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3.1 Troubleshooting Procedures

Use the following procedures to troubleshoot your system. If you have followed all of the procedures below and still need assistance, refer to the ["Technical Support Procedures" on page 59](#) or ["Returning Merchandise for Service" on page 62](#) section(s) in this chapter. Always disconnect the AC power cord before adding, changing or installing any non hot-swappable hardware components. If the below steps do not fix the setup configuration problem, contact your vendor for repairs.

Before Power On

1. Make sure that there are no short circuits between the motherboard and chassis.
2. Disconnect all ribbon/wire cables from the motherboard, including those for the keyboard and mouse.
3. Remove all add-on cards.
4. Install the processor (making sure it is fully seated) and connect the front panel connectors to the motherboard.

No Power

1. Make sure that there are no short circuits between the motherboard and the chassis.
2. Make sure that the power connectors are properly connected.
3. Check that the 115 V/230 V switch, if available, on the power supply is properly set.
4. Turn the power switch on and off to test the system, if applicable.
5. Check the processor socket for bent pins and make sure the processor is fully seated.
6. The battery on your motherboard may be old. Check to verify that it still supplies approximately 3 VDC. If it does not, replace it with a new one.

No Video

1. If the power is on, but you do not have video, remove all add-on cards and cables.
2. Remove all memory modules and turn on the system (if the alarm is on, check the specs of memory modules, reset the memory, or try a different one).

System Boot Failure

If the system does not display Power-On-Self-Test (POST) or does not respond after the power is turned on, do the following:

1. Check the screen for an error message.
2. Clear the CMOS settings by unplugging the power cord and contacting both pads on the CMOS clear jumper. Restart the system. Refer to ["CMOS Clear" on page 50](#).
3. Remove all components from the motherboard and turn on the system with only one DIMM installed. If the system boots, turn off the system and repopulate the components back into the system to retest. Add one component at a time to isolate which one may have caused the system boot issue.

Memory Errors

When suspecting faulty memory is causing the system issue, check the following:

1. Make sure that the memory modules are compatible with the system and are properly installed. See ["Component Installation" on page 22](#) for installation instructions. (For memory compatibility, refer to the "Tested Memory List" link on the motherboard's product page to see a list of supported memory.)
2. Check if different speeds of DIMMs have been installed. It is strongly recommended that you use the same RAM type and speed for all DIMMs in the system.
3. Make sure that you are using the correct type of DIMMs recommended by the manufacturer.
4. Check for bad DIMMs or slots by swapping a single module among all memory slots and check the results.

Losing the System's Setup Configuration

1. Make sure that you are using a high-quality power supply. A poor-quality power supply may cause the system to lose the CMOS setup information. Refer to ["Introduction" on page 11](#) for details on recommended power supplies.
2. The battery on your motherboard may be old. Check to verify that it still supplies approximately 3 VDC. If it does not, replace it with a new one.

If the System Becomes Unstable

If the system becomes unstable during or after OS installation, check the following:

1. Processor/BIOS support: Make sure that your processor is supported and that you have the latest BIOS installed in your system.

2. Memory support: Make sure that the memory modules are supported. Refer to the product page on our website at <https://www.supermicro.com>. Test the modules using memtest86 or a similar utility.

Note: Click on the "Tested Memory List" link on the motherboard's product page to see a list of supported memory.

3. Storage Drive support: Make sure that all storage drives work properly. Replace the failed storage drives with good ones.
4. System cooling: Check the system cooling to make sure that all processor/system fans, etc., work properly. Check the hardware monitoring settings in the IPMI to make sure that the processor and system temperatures are within the normal range. Also, check the front panel Overheat LED and make sure that it is not on.
5. Adequate power supply: Make sure that the power supply provides adequate power to the system. Make sure that all power connectors are connected. Refer to our website for more information on the minimum power requirements.
6. Proper software support: Make sure that the correct drivers are used.

If the system becomes unstable before or during OS installation, check the following:

1. Source of installation: Make sure that the devices used for installation are working properly, including boot devices such as a USB flash or media device.
2. Cable connection: Check to make sure that all cables are connected and working properly.
3. Use the minimum configuration for troubleshooting: Remove all unnecessary components (starting with add-on cards first), and use the minimum configuration (but with the processor and a memory module installed) to identify the trouble areas. Refer to the steps listed above in this section for proper troubleshooting procedures.
4. Identify bad components by isolating them: If necessary, remove a component in question from the chassis, and test it in isolation to make sure that it works properly. Replace a bad component with a good one.
5. Check and change one component at a time instead of changing several items at the same time. This will help isolate and identify the problem.
6. To find out if a component is good, swap this component with a new one to see if the system will work properly. If so, then the old component is bad. You can also install the component in question in another system. If the new system works, the component is good and the old system has problems.

3.2 Technical Support Procedures

Before contacting Technical Support, take the following steps. Also, note that as a motherboard manufacturer, Supermicro also sells motherboards through its channels, so it is best to first check with your distributor or reseller for troubleshooting services. They should know of any possible problems with the specific system configuration that was sold to you.

1. Refer to "Troubleshooting Procedures" on page 56 or see the FAQs on our website (<https://www.supermicro.com/FAQ/index.php>) before contacting Technical Support.
2. BIOS upgrades can be downloaded from our website (https://www.supermicro.com/support/resources/bios_ipmi.php).
3. If you still cannot resolve the problem, include the following information when contacting Supermicro for technical support:
 - Motherboard model and PCB revision number
 - BIOS release date/version (This can be seen on the initial display when your system first boots up.)
 - System configuration
4. An example of a Technical Support form is on our website at <https://webpr3.supermicro.com/SupportPortal>.
5. Distributors: For immediate assistance, have your account number ready when placing a call to our Technical Support department. For Supermicro contact information, refer to "Contacting Supermicro" on page 10.

3.3 Motherboard Battery

For information on removing, disposing of, and replacing the motherboard battery of your system, refer to [Motherboard Battery Removal and Installation](#).

3.4 Where to Get Replacement Components

If you need replacement parts for your H14SRV-HLN4F motherboard, to ensure the highest level of professional service and technical support, purchase exclusively from our Supermicro Authorized Distributors/System Integrators/Resellers. A list can be found on the Supermicro website:

<https://www.supermicro.com>

Under the "Buy" menu, click the "Where to Buy" link.

3.5 Returning Merchandise for Service

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

For faster service, RMA authorizations can be requested online at the following page:

<https://www.supermicro.com/RmaForm>

Whenever possible, repack the motherboard in the original Supermicro carton, using the original packaging material. If these are no longer available, be sure to pack the motherboard securely, using packaging material to surround the motherboard so that it does not shift within the carton and become damaged during shipping.

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

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

3.6 Feedback

Supermicro values your feedback as we strive to improve our customer experience in all facets of our business. Email us at Techwriterteam@supermicro.com to provide feedback on our manuals.

Chapter 4:

UEFI BIOS

The following content contains information on BIOS configuration with the H14SRV-HLN4F motherboard.

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4.1 Introduction

This chapter describes the AMIBIOS™ Setup utility for the motherboard. The BIOS is stored on a chip and can be easily upgraded using the UEFI script (flash.nsh), the BMC WebUI, or the SuperServer Automation Assistant (SAA) utility.

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

Updating BIOS

It is recommended that you do not upgrade your BIOS if you are not experiencing any problems with your system. Updated BIOS files are located on our website at the following page:

https://www.supermicro.com/support/resources/bios_ipmi.php

Check our BIOS warning message and the information on how to update your BIOS on our website. Select your motherboard model and download the BIOS file to your computer. Also, check the current BIOS revision to make sure that it is newer than your BIOS before downloading.

Important: Do not shut down or reset the system while updating the BIOS to prevent possible system boot failure! Read the motherboard README file carefully before you perform the BIOS update.

To update the BIOS under the UEFI Shell, unzip the BIOS file onto a bootable USB device and then boot into the built-in UEFI Shell. For motherboards with BMC support, type "flash.nsh <BIOS filename><BMC Username><BMC Password>" to start the BIOS update. The flash.nsh script will invoke the SAA (EFI) tool automatically to perform the BIOS update, beginning with uploading the BIOS image to BMC. After uploading the BIOS image, the system will reboot to continue the process. The BMC will take over and continue the BIOS update in the background. The process will take 3–5 minutes. Refer to the README file for more information.

Starting the Setup Utility

To enter the BIOS Setup utility, press 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 hot 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 a BIOS submenu or item 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 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>, <F2>, <F3>, <F4>, <F5>, <F6>, <Enter>, <ESC>, the arrow keys, etc.) can be used at any time during the setup navigation process.

4.2 Main Setup

The Main setup screen appears when the AMI BIOS Setup utility is first entered. To return to the Main setup screen, select the Main tab at the top of the screen. The Main BIOS setup screen is shown below.

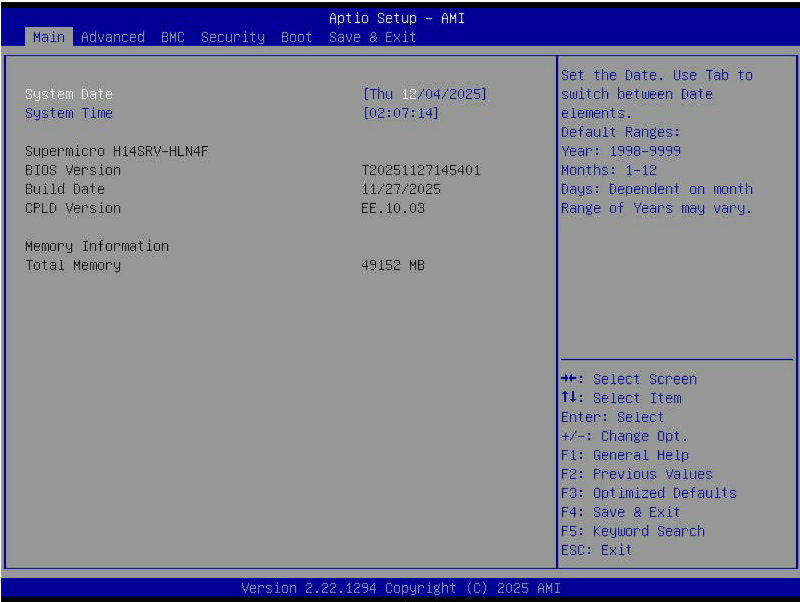


Figure 4-1. UEFI BIOS Main Screen

System Date/System Time

Use the two features 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.

Supermicro H14SRV-HLN4F

BIOS Version

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

Build Date

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

CPLD Version

This feature displays the version of the Complex-Programmable Logical Device (CPLD) used in the system.

Memory Information

Total Memory

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

4.3 Advanced Setup Configurations

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

Important: Use caution when changing the Advanced settings. An incorrect value, an improper DRAM frequency, or a wrong BIOS timing setting may cause the system to malfunction. When this occurs, revert the settings to the default manufacturing settings.

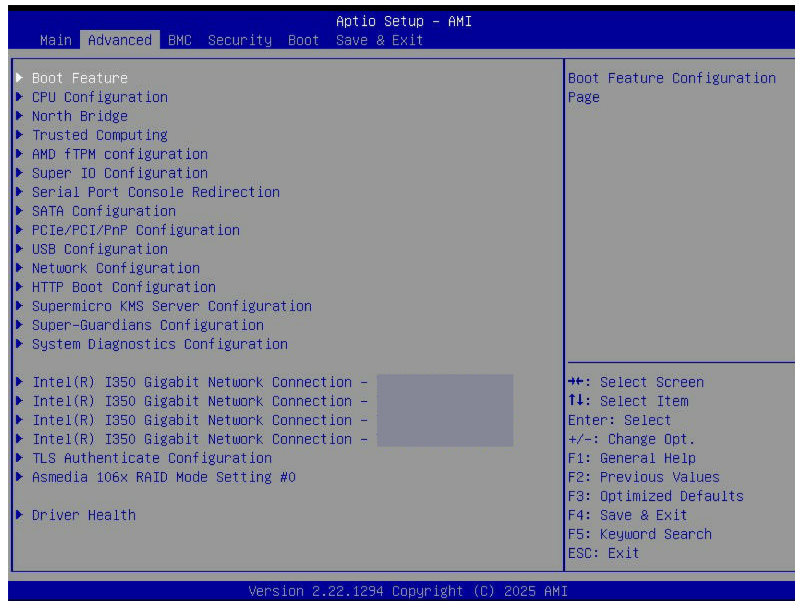


Figure 4-2. Advanced BIOS Screen

Boot Feature Menu

► Boot Feature

Quiet Boot

Use this feature to select the screen between displaying the Power-on Self Test (POST) messages or the OEM logo upon 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**.

Note: BIOS POST messages are always displayed regardless of the setting of this feature.

Option ROM Messages

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

Bootup NumLock State

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

Wait For "F1" If Error

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

INT19 Trap Response

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

Re-try Boot

If this feature is set to Enabled, the system BIOS will automatically reboot the system from an Extensible Firmware Interface (EFI) boot device after an initial boot failure. The options are **Disabled** and EFI Boot.

Power Configuration

Watch Dog Function

Select Enabled to allow the Watch Dog timer to reboot the system when it is inactive for more than five minutes. The options are **Disabled** and Enabled.

Watch Dog Action (This feature is not available when "Watch Dog Function" is set to Enabled)

Use this feature to configure the Watch Dog Time_out setting. The options are **Reset** and NMI.

Restore on AC Power Loss

Use this feature to set the power state after a power outage. Select Stay 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**.

Power Button Function

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

CPU Configuration Menu

CPU Configuration

Module Version: ComboAm5Cpu 06

Global C-state Control

Controls IO based C-state generation and DF C-states. The options are **Disabled**, Enabled, and Auto.

PSS Support

PSS is Performance Supported States. When this feature is enabled, the BIOS generates ACPI objects _PPC, _PPS, and _PCT so the operating system can determine which performance and power states are available. The options are Disabled and **Enabled**.

NX Mode

No execute (NX) mode is a CPU-based security feature that protects from malicious attacks. The options are Disabled and **Enabled**.

PPC Adjustment

Use this feature to select the Processor State. PState0 is the highest performance state and uses the most power. PState1 is the lower frequency and voltage state for increased power saving. The options are **PState 0** and PState 1.

SVM Mode

This setting enables or disables CPU Virtualization. The options are Disabled and **Enabled**.

SMT Control

This setting is used to disable symmetric multithreading. To re-enable SMT, a power cycle is needed after selecting the Enable option. Select Auto based on BIOS PCD default setting. The options are Disabled and **Auto**.

Core Performance Boost

Use this setting to configure Core Performance Boost. The options are Disabled and **Auto**.

► CPU Information

CPU information listed

Processor Family:

Processor Model:

CPUID:

Max Speed:

Min Speed:

Microcode Patch Level:

----- Cache per core -----

L1 Instruction Cache:

L1 Data Cache:

L2 Cache:

Total L3 Cache per Socket:

North Bridge Configuration

North Bridge Configuration

Above 4G MMIO Limit

Use this setting to reserve how much physical address space is reserved for MMIO for PCIe devices. The options are **40bit (1TB)**, 41bit (2TB), 42bit (4TB), 43bit (8TB), 44bit (16TB), 45bit (32TB), 46bit (64TB), 47bit (128TB), and 48bit (256TB).

IOMMU

Use this setting to enable or disable IOMMU. The options are Disabled, Enabled, and **Auto**.

PPT Control

Use this feature to specify the Package Power Tracking (PPT) for the processor. The options are Manual and **Auto**.

PPT

Use this feature is available for configuration if PPT Control is set to Manual. Specify the PPT for the processor.

► Memory Configuration

Memory Information

Ending Address:

DIMMA1:

DIMMA2:

DIMMB1:

DIMMB2:

Trusted Computing Menu

► Trusted Computing

When the TPM 2.0 (either onboard or external) is detected by your system, the following information is displayed.

- TPM 2.0 Device Found
- Firmware Version:
- Vendor:

Note: This submenu is available when the TPM 2.0 (either onboard or external) is detected by the BIOS.

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 Trusted Platform Module (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 Disabled and **Enabled**.

When "Security Device Support" is set to Enabled and a TPM 2.0 device is detected by the BIOS, the following information is displayed.

- Active PCR banks
- Available PCR banks

Note: The following features are available when a TPM 2.0 device is detected by the BIOS.

SHA256 PCR Bank

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

SHA384 PCR Bank (Available when "Security Device Support" is set to Enabled)

Select Enabled to enable SHA384 PCR Bank support to enhance system integrity and data security. The options are **Disabled** and Enabled.

Pending Operation

Use this feature to schedule a TPM-related operation to be performed by a security device for system data integrity. The options are **None** and TPM Clear.

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

Platform Hierarchy

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

Storage Hierarchy

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

Endorsement Hierarchy

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

PH Randomization

Use this feature to disable or enable Platform Hierarchy (PH) Randomization. The options are **Disabled** and Enabled.

AMD fTPM Configuration

AMD fTPM Switch

Use this feature to enable the use of a firmware-based Trusted Platform Module integrated into the processor. The options are **Route to SPI TPM** and AMD CPU fTPM.

Erase fTPM NV For Factory Reset

Use this feature to clear the security keys stored in the firmware-based Trusted Platform Module. The options are Disabled and **Enabled**.

Super IO Configuration Menu

► Super IO Configuration

Note: This submenu is available when your system supports this feature.

The following information is displayed.

- Super IO Chip

Serial Port 1 Configuration Menu

Serial Port 1 Configuration

Serial Port 1

Select Enabled to enable serial port 1. The options are Disabled and **Enabled**.

Device Settings (Available when "Serial Port 1" above is set to Enabled)

This feature displays the base I/O port address and the Interrupt Request address of serial port 1.

Change Settings (Available when "Serial Port 1" above is set to Enabled)

Use this feature to specify 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 serial port 1. The options are **Auto**, (IO=3F8h; IRQ=4;), (IO=2F8h; IRQ=4;), (IO=3E8h; IRQ=4;), and (IO=2E8h; IRQ=4;).

Serial Port 2 Configuration Menu

Serial Port 2 Configuration

Serial Port 2/SOL ("Serial Port 2" or "SOL" based on your system support)

Select Enabled to enable serial port 2 (or SOL). The options are Disabled and **Enabled**.

Device Settings (Available when "Serial Port 2/SOL" above is set to Enabled)

This feature displays the base I/O port address and the Interrupt Request address of serial port 2 (or SOL).

Change Settings (Available when "Serial Port 2/SOL" above is set to Enabled)

Use this feature to specify the base I/O port address and the Interrupt Request address of serial port 2 (or SOL). Select Auto for the BIOS to automatically assign the base I/O and IRQ address to serial port 2 (or SOL).

The options are **Auto**, (IO=2F8h; IRQ=3;), (IO=3F8h; IRQ=3;), (IO=3E8h; IRQ=3;), and (IO=2E8h; IRQ=3;).

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

Select SOL to use serial port 2 as a Serial Over LAN (SOL) port for console redirection. The options are **SOL** and COM.

Serial Port Console Redirection Menu

COM1 (Available when your system supports the serial port of COM1)

Console Redirection

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

Note: This feature will be set to Enabled if there is no BMC support.

SOL/COM2

Console Redirection

Select Enabled to use the COM port 2 for Console Redirection. The options are Disabled and Enabled.

► Console Redirection Settings

Note: This submenu is available when "Console Redirection" for SOL/COM2 is set to Enabled.

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

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).

Parity

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

Stop Bits

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

Flow Control

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

VT-UTF8 Combo Key Support

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

Recorder Mode

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

Resolution 100x31

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

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.

Redirection After BIOS Post

When bootloader is selected, then legacy console redirection is disabled before booting to legacy OS. When always is select, then legacy console redirection is enabled for legacy OS. The options are **Always Enable** and BootLoader.

► Console Redirection Settings

Note: This submenu is available when "Console Redirection EMS" is set to Enabled.

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. Please note that the option of SOL/COM2 indicates a shared serial port. SOL is available with BMC support.

Terminal Type EMS

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 EMS

This feature 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 EMS

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.

The following information is displayed.

- **Data Bits EMS**
- **Parity EMS**
- **Stop Bits EMS**

SATA Configuration

SATA Configuration

SATA Mode

Use this feature to select the SATA mode. The options are **AHCI Mode** and RAID Mode.

PCIe/PCI/PnP Configuration Menu

PCI Bus Driver Version

PCI Devices Common Settings:

CPU SLOT1 PCIe Bifurcation

Use this feature to configure the PCIe bifurcation for SLOT1. The options are **Auto**, x16, x8x8, x4x4x8, x8x4x4x, and x4x4x4x4.

Above 4G Decoding

This setting enables 64-bit PCI device access to memory beyond 4 GB for improved memory utilization and performance. The options are Disabled and **Enabled**.

Re-Size BAR Support

This setting enables or disables the Re-Size Base Address Register feature for compatible PCIe devices, which allows the system to allocate more memory to the device. The options are Disabled and **Enabled**.

SR-IOV Support

This setting enables or disables Single Root I/O Virtualization support for the system's PCIe devices. The options are **Disabled** and Enabled.

BME DMA Mitigation

This setting enables or disables Bus Mastering Error (BME) Direct Memory Access (DMA) mitigation for protection during the pre-boot process. The options are **Disabled** and Enabled.

ASPM Support

Configure the Active State Power Management (ASPM) level for PCIe links to optimize power consumption and performance. The options are **Disabled**, Auto, and Force L0s.

Relaxed Ordering

This setting determines whether PCI Express devices are permitted to bypass strict transaction ordering, which can lead to potential performance improvements. The options are Disabled and **Enabled**.

No Snoop

This setting configures the No Snoop option for PCI Express devices, determining whether memory accesses bypass the cache. The options are Disabled and **Enabled**.

NVMe Firmware Source

This setting determines the source of firmware for NVMe devices, allowing you to select between native support or vendor-specific firmware. The options are Vendor Defined Firmware and **AMI Native Support**.

NVMe RAID Mode

Use this feature to enable or disable the NVMe RAID mode. The options are **Disabled** and Enabled.

CPU SLOT7 PCIe 5.0 X16 OPROM

This setting enables or disables the Option ROM for the SLOT7 PCIe 5.0 x16 interface. The options are Disabled and **EFI**.

Onboard LAN 1 Option ROM

Select which firmware function to be loaded for onboard LAN1. The options are Disabled and **EFI**.

Onboard M.2-C1 Option ROM

This setting enables or disables the Option ROM for the M.2-C1 slot. The options are Disabled and **EFI**.

Onboard M.2-C2 Option ROM

This setting enables or disables the Option ROM for the M.2-C2 slot. The options are Disabled and **EFI**.

USB Configuration

USB Devices: 1 Keyboard, 1 Mouse, 3 Hubs

XHCI Hand-off

This setting provides a workaround for operating systems that do not support XHCI hand-off. The XHCI ownership change must be claimed by the XHCI driver. The options are **Enabled** and Disabled.

Port 60/64 Emulation

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

Network Configuration Menu

Network Stack

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

IPv4 PXE Support (Available when "Network Stack" is set to Enabled)

Select Enabled 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**.

IPv4 HTTP Support (Available when "Network Stack" is set to Enabled)

Select Enabled to enable IPv4 HTTP boot support. If this feature is disabled, it will not create the IPv4 HTTP boot option. The options are **Disabled** and Enabled.

IPv6 PXE Support (Available when "Network Stack" is set to Enabled)

Select Enabled 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**.

IPv6 HTTP Support (Available when "Network Stack" is set to Enabled)

Select Enabled to enable IPv6 HTTP boot support. If this feature is disabled, it will not create the IPv6 HTTP boot option. The options are **Disabled** and Enabled.

PXE Boot Wait Time (Available when "Network Stack" is set to Enabled)

Use this feature to set the wait time (in seconds) upon which the system BIOS will wait for you to press the <ESC> key to abort PXE boot instead of proceeding with PXE boot by connecting to a network server immediately. Press the <+> or <-> key on your keyboard to change the value. The default value is **0**.

Media Detect Count (Available when "Network Stack" is set to Enabled)

Use this feature to set the wait time (in seconds) for the BIOS ROM to detect the presence of a LAN media either via the Internet connection or via a LAN port. Press the <+> or <-> key on your keyboard to change the value. The default value is **1**.

► IPv4 Network Configuration**Configured**

This setting indicates whether the network address configured successfully. The options are **Disabled** and Enabled.

Enable DHCP

The options are **Disabled** and Enabled.

Local IP Address

Enter and IP address.

Local NetMask

Enter the Netmask address.

Local Gateway

Enter the Gateway IP address.

Local DNS Servers

Enter the DNS servers IP addresses.

Save Changes and Exit

The options are **Yes** and no.

► IPv6 Network Configuration

Set IPv6 Network parameters.

► Enter Configuration Menu

Interface Name

Interface Type

MAC address

Host addresses

Route Table

Gateway addresses

DNS addresses

Interface ID

DAD Transmit Count

The number of consecutive Neighbor Solicitation messages sent while performing Duplicate Address Detection on a tentative address. A value of zero indicates that Duplicate Address Detection is not performed. The default value is **1**.

Policy

Use this feature to select how the policy is to be configured. The options are **automatic** and **manual**.

► Advanced Configuration

Note: This submenu is available when "Policy" is set to Manual.

New IPv6 address

Use this to set a new manual IP address. It can only be configured under manual policy.

New Gateway addresses

Use this to set new gateway addresses. Gateway IP addresses can only be configured under manual policy.

New DNS addresses

Use this to set new DNS addresses. DNS addresses can only be configured under manual policy.

Commit Changes and Exit

Discard Changes and Exit

Policy

Use this feature to select how the policy is to be configured. The options are **automatic** and manual.

Save Changes and Exit

The options are **Yes** and No.

HTTP Boot Configuration Menu

HTTP Boot Configuration

HTTP Boot Policy

Use this feature to set the HTTP boot policy. The options are Apply to all LANs, **Apply to each LAN**, and Boot Priority #1 instantly.

HTTPS Boot Checks Hostname

Important: Disabling "HTTPS Boot Checks Hostname" is a violation of RFC 6125 and may expose you to Man-in-the-Middle Attacks. Supermicro is not responsible for any and all security risks incurred by you disabling this feature.

This setting determines whether HTTPS Boot verifies that the hostname in the server's TLS certificate matches the hostname of the remote server. The options are **Enabled** and Disabled (WARNING: Security Risk!!).

Priority of HTTP Boot

Instance of Priority 1: (Available when your motherboard supports this feature)

This feature sets the rank target port. The default setting is **1**.

Select IPv4 or IPv6

This feature specifies which connection the target LAN port should boot from. The options are **IPv4** and IPv6.

Boot Description

Use this feature to enter a boot description, which cannot be longer than 75 characters. Please be sure to enter a boot description; otherwise, the boot option for the URI cannot be created.

Boot URI

Enter a Boot Uniform Research Identifier (URI) with 128 characters or shorter. This Boot URI determines how IPv4 Boot Option and IPv6 Boot Option will be created. This feature is only supported on Dual or EFI Boot Mode.

Instance of Priority 2: (Available when "HTTP Boot Policy" is set to Apply to each LAN or Boot Priority #1 instantly)

This feature sets the rank target port. The default setting is **0**.

Instance of Priority 3: (Available when "HTTP Boot Policy" is set to Apply to each LAN or Boot Priority #1 instantly)

This feature sets the rank target port. The default setting is **0**.

Instance of Priority 4: (Available when "HTTP Boot Policy" is set to Apply to each LAN or Boot Priority #1 instantly)

This feature sets the rank target port. The default setting is **0**.

Supermicro KMS Server Configuration Menu

► Supermicro KMS Server Configuration

Note: Be sure to configure all the features in the submenu of Supermicro KMS Server Configuration and the feature of "KMS Security Policy" in the submenu of Super-Guardians Configuration so that your system can communicate with the KMS server.

Supermicro KMS Server IP address

Use this feature to set the Supermicro Key Management Service (KMS) server IPv4 address in dotted-decimal notation.

Second Supermicro KMS Server IP address

Use this feature to set the second Supermicro KMS server IPv4 address in dotted-decimal notation.

Supermicro KMS TCP Port number

Use this feature to set the TCP port number used in Supermicro KMS Server. The valid range is 100–9999. The default setting is **5696**. Do not change the default setting unless a different TCP port number has been specified and used in the Supermicro KMS Server.

KMS Time Out

Use this feature to enter the KMS server connecting time-out (in seconds). The default setting is **5** (seconds).

TimeZone

Use this feature to set the correct time zone. The default setting is **0** (not specified).

Client UserName

Press <Enter> to set the client identity (UserName). The username can be between 0 and 63 characters in length.

Client Password

Press <Enter> to set the client identity (Password). The password can be between 0 and 31 characters in length.

► CA Certificate

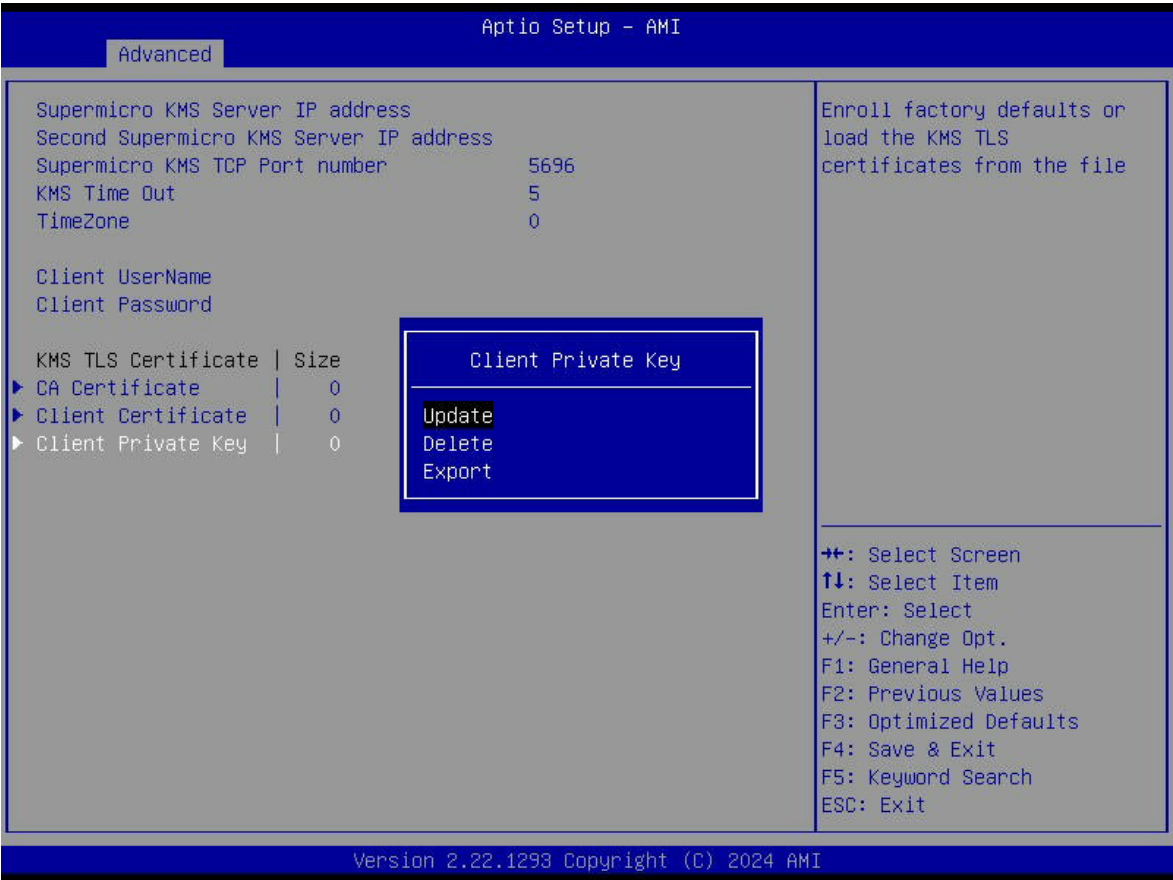
This setting provides options for managing the Certificate Authority (CA) certificate. The options are **Update**, Delete, and Export.

► Client Certificate

This setting provides options for managing the client certificate. The options are **Update**, Delete, and Export.

► Client Private Key

Use the three features to enroll factory defaults or load the KMS Transport Layer Security (TLS) certificates, which are generated by the KMS Server, from the file stored in the USB flash drive as shown below.



Private Key Password (Available when "Client Private Key" above has been set)

Use this feature to change the password for the client private key.

Super-Guardians Configuration Menu**► Super-Guardians Configuration****Super-Guardians Protection Policy**

Use this feature to enable the Super-Guardians Protection Policy. The options are **Storage**, **System**, and **System and Storage**. Set this feature to **Storage** to protect and have secure access to Trusted Computing Group (TCG) NVMe devices with the Authentication-Key (AK). Set this feature to **System** to protect and have secure access to your system/motherboard with the AK. Set this feature to **System and Storage** to protect and have secure access to your system/motherboard/storage devices with the AK.

KMS Security Policy (Available when "TPM Security Policy" and "USB Security Policy" are set to Disabled)

Set this feature to **Enabled** to enable the KMS Security Policy. When this feature has not previously been set to **Enabled**, the options are **Disabled** and **Enabled**. Changes take effect after you save settings and reboot the system.

When this feature has previously been set to **Enabled**, the options are **Enabled**, **Reset**, and **Key Rotation**. Set this feature to **Key Rotation** to obtain an existing AK from the KMS server and create a new AK. To disable the KMS Security Policy, set this feature to **Reset**. When this feature is set to **Reset**, the system and TCG NVMe devices chosen in "Super-Guardians Protection Policy" will be in the unprotected mode.

Notes:

- Be sure that the KMS server is ready before configuring this feature.
- Use the professional KMS server solutions (e.g., Thales Server) or the Supermicro PyKMIP Software Package to establish the KMS server.

KMS Server Retry Count (Available when "TPM Security Policy" and "USB Security Policy" are set to Disabled)

Use this feature to specify how many times the system will attempt reconnecting to the KMS server. The valid range is 0–10. Press the <+> or <-> key on your keyboard to change the value. The default setting is **5**. If the value is 0, the system will retry infinitely.

TPM Security Policy (Available when "KMS Security Policy" and "USB Security Policy" are set to Disabled)

Set this feature to Enabled to enable the TPM Security Policy. When this feature has not previously been set to Enabled, the options are **Disabled** and Enabled. Changes take effect after you save settings and reboot the system.

When this feature has previously been set to Enabled, the options are **Enabled** and Reset. To disable the TPM Security Policy, set this feature to Reset. When this feature is set to reset, the system and TCG NVMe devices chosen in "Super-Guardians Protection Policy" will be in the unprotected mode.

Note: Be sure to install a TPM 2.0 device to your system before configuring this feature.

Load Authentication-Key (Available when "KMS Security Policy," "TPM Security Policy," and "USB Security Policy" are set to Disabled)

The options are **Disabled** and Enabled. Set this feature to Enabled. Changes take effect after you save settings and reboot the system. While booting, the BIOS will automatically load the Authentication-Key (filename: TPMAuth.bin) from the USB flash drive. Afterwards, the default setting will be set to Disabled by the BIOS.

Notes:

- Be sure to connect a USB flash drive with the Authentication-Key (filename: TPMAuth.bin) to your system before the system reboots.
- Be sure to save the Authentication-Key (filename: TPMAuth.bin) to the USB flash drive and have a backup. Please load the Authentication-Key (filename: TPMAuth.bin) after installing a TPM device. Otherwise, the TPM function can not work properly.

USB Security Policy (Available when "KMS Security Policy" and "TPM Security Policy" are set to Disabled)

Use this feature to enable the USB Security Policy. The options are **Disabled** and Enabled. Set this feature to Enabled. Changes take effect after you save settings and reboot the system. Connect a USB flash drive to your system before the system reboot. While booting, the BIOS will automatically create the USB Authentication-Key (filename: USBAuth.bin) and save it to the USB flash drive.

When this feature has been previously set to Enabled, the options are **Enabled** and Reset. To disable the USB Security Policy, set this feature to Reset. When this feature is set to Reset, the system and TCG NVMe devices chosen in "Super-Guardians Protection Policy" will be in the unprotected mode.

Note: Be sure to connect a USB flash drive to your system before configuring this feature. Save the USB Authentication-Key (filename: USBAuth.bin) to the USB flash drive and keep a backup.

System Diagnostics Configuration

Launch System Diagnostics

Use this feature to run hardware tests that check the health of system components and help identify any issues. The options are **Disabled** and Launch Once.

Intel(R) I350 Gigabit Network Controller

► Intel(R) Ethernet Connection (Ethernet controller) - (MAC address)

Notes:

- The Ethernet controller and MAC address shown above are based on your system features.
- This submenu is available when "Onboard LAN1 Option ROM" is set to EFI.

► Firmware Image Properties

Option ROM version

Unique NVM/EEPROM ID

NVM Version

► NIC Configuration

Legacy Boot Protocol

This feature allows the system to boot using traditional BIOS methods (non-UEFI) instead of UEFI, supporting older operating systems and devices. The options are **PXE** and NONE.

Legacy Virtual LAN ID

This feature specifies the VLAN number (1–4094) used to tag and separate network traffic.

Link Speed

Use this feature displays the connection speed of a selected LAN port.

Wake On LAN

Set this feature to support system wake-up via the selected LAN port. If this feature is set to Enabled, the LAN port selected will be enabled when the system is powered on. The options are Disabled and **Enabled**.

Blink LEDs

Use this feature to identify the physical network port by blinking the associated LED. The default setting is **0** (up to 15 seconds).

The following information is displayed.

- UEFI Driver
- Adapter PBA
- Device Name
- Chip Type
- PCI Device ID
- PCI Address
- Link Status
- Link Speed Status
- MAC Address
- Virtual MAC Address

Intel(R) I350 Gigabit Network Controller

► Intel(R) Ethernet Connection (Ethernet controller) - (MAC address)

Notes:

- The Ethernet controller and MAC address shown above are based on your system features.
- This submenu is available when "Onboard LAN1 Option ROM" is set to EFI.

► Firmware Image Properties

Option ROM version

Unique NVM/EEPROM ID

NVM Version

► NIC Configuration

Legacy Boot Protocol

This feature allows the system to boot using traditional BIOS methods (non-UEFI) instead of UEFI, supporting older operating systems and devices. The options are **PXE** and **NONE**.

Legacy Virtual LAN ID

This feature specifies the VLAN number (1–4094) used to tag and separate network traffic.

Link Speed

Use this feature displays the connection speed of a selected LAN port.

Wake On LAN

Set this feature to support system wake-up via the selected LAN port. If this feature is set to **Enabled**, the LAN port selected will be enabled when the system is powered on. The options are **Disabled** and **Enabled**.

Blink LEDs

Use this feature to identify the physical network port by blinking the associated LED. The default setting is **0** (up to 15 seconds).

The following information is displayed.

- UEFI Driver
- Adapter PBA
- Device Name
- Chip Type
- PCI Device ID
- PCI Address
- Link Status
- Link Speed Status
- MAC Address
- Virtual MAC Address

Intel(R) I350 Gigabit Network Controller

► Intel(R) Ethernet Connection (Ethernet controller) - (MAC address)

Notes:

- The Ethernet controller and MAC address shown above are based on your system features.
- This submenu is available when "Onboard LAN1 Option ROM" is set to EFI.

► Firmware Image Properties

Option ROM version

Unique NVM/EEPROM ID

NVM Version

► NIC Configuration

Legacy Boot Protocol

This feature allows the system to boot using traditional BIOS methods (non-UEFI) instead of UEFI, supporting older operating systems and devices. The options are **PXE** and **NONE**.

Legacy Virtual LAN ID

This feature specifies the VLAN number (1–4094) used to tag and separate network traffic.

Link Speed

Use this feature displays the connection speed of a selected LAN port.

Wake On LAN

Set this feature to support system wake-up via the selected LAN port. If this feature is set to Enabled, the LAN port selected will be enabled when the system is powered on. The options are Disabled and **Enabled**.

Blink LEDs

Use this feature to identify the physical network port by blinking the associated LED. The default setting is **0** (up to 15 seconds).

The following information is displayed.

- UEFI Driver
- Adapter PBA

- Device Name
- Chip Type
- PCI Device ID
- PCI Address
- Link Status
- Link Speed Status
- MAC Address
- Virtual MAC Address

Intel(R) I350 Gigabit Network Controller

► Intel(R) Ethernet Connection (Ethernet controller) - (MAC address)

Notes:

- The Ethernet controller and MAC address shown above are based on your system features.
- This submenu is available when "Onboard LAN1 Option ROM" is set to EFI.

► Firmware Image Properties

Option ROM version

Unique NVM/EEPROM ID

NVM Version

► NIC Configuration

Legacy Boot Protocol

This feature allows the system to boot using traditional BIOS methods (non-UEFI) instead of UEFI, supporting older operating systems and devices. The options are **PXE** and **NONE**.

Legacy Virtual LAN ID

This feature specifies the VLAN number (1–4094) used to tag and separate network traffic.

Link Speed

Use this feature displays the connection speed of a selected LAN port.

Wake On LAN

Set this feature to support system wake-up via the selected LAN port. If this feature is set to Enabled, the LAN port selected will be enabled when the system is powered on. The options are Disabled and **Enabled**.

Blink LEDs

Use this feature to identify the physical network port by blinking the associated LED. The default setting is **0** (up to 15 seconds).

The following information is displayed.

- UEFI Driver
- Adapter PBA
- Device Name
- Chip Type
- PCI Device ID
- PCI Address
- Link Status
- Link Speed Status
- MAC Address
- Virtual MAC Address

TLS Authenticate Configuration Menu

► Server CA Configuration

This feature allows you to configure the client certificate that is to be used by the server.

► Enroll Certification

This feature allows you to enroll the certificate in the system.

► Enroll Certification Using File

This feature allows you to enroll the security certificate in the system by using a file.

► Commit Changes and Exit

Use this feature to save all changes and exit TLS settings.

► Discard Changes and Exit

Use this feature to discard all changes and exit TLS settings.

► Delete Certification

This feature is used to remove the selected TLS certificates that are no longer needed or valid.

► Client Certification Configuration

Use this feature to manage the TLS certificates used to authenticate remote clients connecting to your system. Add, view, or delete client certificates as needed.

Asmedia 106x RAID Mode Setting #0

The following information is displayed.

- RAID Mode Setting Revision 0.26
- Current Mode:
- Status:
- RAID Sizes:
- P0:
- P1:

Controller #0: RAID Mode Setting

Use this feature to select the RAID mode.

Controller #0: RAID Mode Change for next Reset

Use this feature to reset the RAID mode.

Driver Health Menu

► Driver Health

This feature displays the health information of the drivers installed in your system, including LAN controllers, as detected by the BIOS. Select one and press <Enter> to see the details.

Note: This section is provided for reference only, for the driver health status will differ depending on the drivers installed in your system. It's also based on your system configuration and the environment that your system is operating in.

4.4 BMC

Use this menu to configure Baseboard Management Console (BMC) settings.



Figure 4-3. BMC BIOS Screen

BMC Firmware Revision

This feature indicates the BMC firmware revision used in this system.

BMC STATUS

This feature indicates the status of the BMC firmware installed in this system.

System Event Log Menu

► System Event Log

Note: All values changed in this submenu do not take effect until computer is restarted.

SEL Components

Select Enabled to enable all system event logging upon system boot. The options are Disabled and **Enabled**.

Erasing Settings

Erase SEL (Available when "SEL Components" is set to Enabled)

Select (Yes, On next reset) to erase all system event logs upon next system boot. 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 (Available when "SEL Components" is set to Enabled)

This feature defines 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.

BMC Network Configuration Menu

► BMC Network Configuration

Update BMC LAN Configuration

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

Configure IPv4 Support

BMC LAN Selection

This feature displays the type of the BMC LAN.

BMC Network Link Status:

This feature displays the status of the BMC network link for this system.

Configuration Address Source

Use this feature to select the source of the IPv4 connection. If Static is selected, note the IP address of the IPv4 connection and enter it to the system manually in the field. If DHCP is selected, the BIOS will search for a Dynamic Host Configuration Protocol (DHCP) server in the network that is attached to and request the next available IP address for this computer. The options are Static and **DHCP**. It is available for configuration when "Update BMC LAN Configuration" is set to Yes.

Station IP Address

This feature displays the Station IP address in decimal and in dotted quad form (i.e., 172.29.176.131). It is available for configuration when "Update BMC LAN Configuration" is set to Yes and "Configuration Address Source" above is set to Static.

Subnet Mask

This feature displays the sub-network that this computer belongs to. It is available for configuration when "Update BMC LAN Configuration" is set to Yes and "Configuration Address Source" above is set to Static.

Station MAC Address

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

Gateway IP Address

This feature displays the IPv4 gateway IP address for this computer. This should be in decimal and in dotted quad form (i.e., 172.29.0.1). It is available for configuration when "Update BMC LAN Configuration" is set to Yes and "Configuration Address Source" above is set to Static.

Configure IPv6 Support

IPv6 Address Status

This feature displays the status of the IPv6 address.

IPv6 Support

Use this feature to enable IPv6 support. The options are **Enabled** and Disabled. It is available for configuration when "Update BMC LAN Configuration" is set to Yes.

Configuration Address Source

Use this feature to select the source of the IPv6 connection. If Static Configuration is selected, note the IP address of IPv6 connection and enter it to the system manually in the field. If the other two options are selected, the BIOS will search for a DHCP server in the network that is attached to and request the next available IP address for this computer. The options are Static Configuration, **DHCPv6 Stateless**, and DHCPv6 Stateful. It is available for configuration when "Update BMC LAN Configuration" is set to Yes.

IPv6 Address ("Static" or "DHCPv6 Stateless" depending on the option you selected for "Configuration Address Source" above)

This feature displays the station IPv6 address.

Prefix Length

This feature displays the prefix length. It is available for configuration when "Update BMC LAN Configuration" is set to Yes and "Configuration Address Source" above is set to Static Configuration.

Gateway IP

This feature displays the IPv6 gateway IP address. It is available for configuration when "Update BMC LAN Configuration" is set to Yes and "Configuration Address Source" above is set to Static Configuration.

Advanced Settings

Use this feature to set the DNS server IP. The default setting allows this system to obtain the DNS server IP automatically. The options are **Auto obtain DNS server IP** and Manually obtain DNS server IP. It is available for configuration when "Update BMC LAN Configuration" is set to Yes and "Configuration Address Source" above is set to DHCPv6 Stateless.

Preferred DNS server IP (Available when "Advanced Settings" above is set to Manually obtain DNS server IP)

This feature displays the preferred DNS server IP. It can be configured via Redfish.

Alternative DNS server IP (Available when "Advanced Settings" above is set to Manually obtain DNS server IP)

This feature displays the alternative DNS server IP. It can be configured via Redfish.

Configure VLAN Support

Lan Channel 1

VLAN Support

Use this feature to enable the virtual LAN (VLAN) support. The options are Enabled and Disabled.

VLAN ID (Available when "VLAN Support" is set to Enabled)

Use this feature to create a new VLAN ID. The valid range is 1–4094. The default setting is 1.

4.5 Security

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

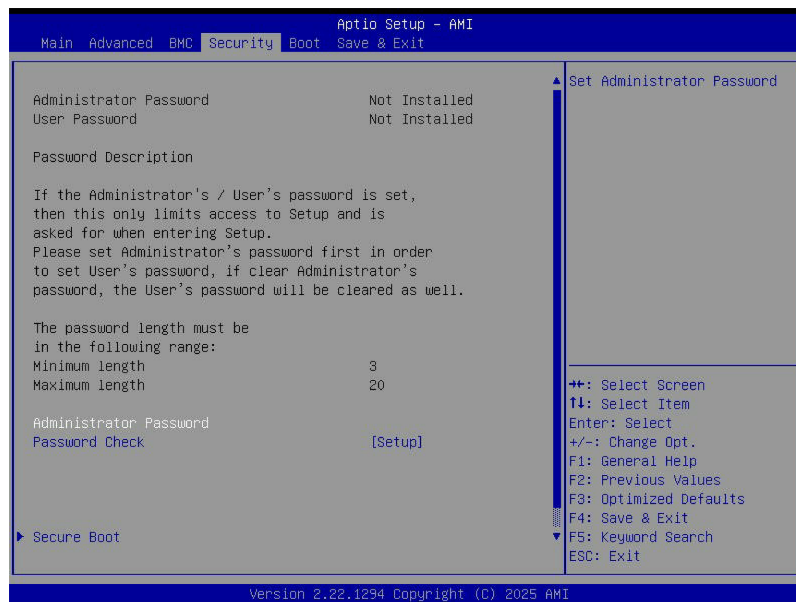


Figure 4-4. Security BIOS Screen

Disable Block Sid (Available when your storage devices support TCG)

Select Enabled to allow SID authentication to be performed in TCG storage devices. The options are **Disabled** and Enabled.

The following information is displayed:

- Administrator Password
- User Password
- Password Description

Administrator Password

This feature indicates if an administrator password has been installed. Use this feature to set the administrator password, which is required to enter the BIOS Setup utility. The length of the password can be between three and 20 characters long.

User Password (Available when "Administrator Password" has been set)

This feature indicates if a user password has been installed. Use this feature to set the user password which is required to enter the BIOS Setup utility. The length of the password can be between three and 20 characters long.

Password Check

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

Hard Drive Security Frozen

Select Enabled to freeze the Lock Security feature for HDD to protect key data in hard drives from being altered. The options are **Disabled** and Enabled.

Lockdown Mode (Available when the DCMS key is activated)

Select Enabled to support the Lockdown Mode, which prevents the existing data or keys stored in the system from being altered or changed in an effort to preserve system integrity and security. The options are **Disabled** and Enabled.

Secure Boot Menu

► Secure Boot

The following information is displayed:

- System Mode
- Secure Boot

Note: For detailed instructions on configuring Security Boot settings, refer to the Security Boot Configuration User's Guide at <https://www.supermicro.com/support/manuals>.

Secure Boot

Select Enabled to configure Secure Boot settings. The options are **Disabled** and Enabled.

Secure Boot Mode

Use this feature to select the desired secure boot mode for the system. The options are Standard and **Custom**.

► Enter Audit Mode

Select Ok to enter the Audit Mode workflow. It will result in erasing the Platform Key (PK) variables and resetting the system to the Setup/Audit Mode.

Note: This submenu is available when "Secure Boot Mode" is set to Custom.

► Enter Deployed Mode / Exit Deployed Mode

Select Ok to reset system to the User Mode or to the Deployed Mode.

Note: This submenu is available when "Secure Boot Mode" is set to Custom.

► Key Management

The following information is displayed:

- Vendor Keys

Note: This submenu is available when "Secure Boot Mode" is set to Custom.

Provision Factory Defaults

Select Enabled to install the default secure boot keys when the system is in the Setup Mode. Changes take effect after you save settings and reboot the system. The options are **Disabled** and Enabled.

► Restore Factory Keys

Select Yes to restore manufacturer default keys to ensure system security. The options are **Yes** and No. Selecting Yes will reset the system to the User Mode.

Note: This submenu is available when any secure keys have been installed.

► Reset To Setup Mode

This feature resets the system to the Setup Mode. The options are **Yes** and No.

Note: This submenu is available when any secure keys have been installed.

► Enroll Efi Image

This feature allows the Efi image to run in the secure boot mode and enroll the SHA256 Hash certificate of a PE image into the Authorized Signature Database (DB).

► Export Secure Boot Variables

This feature exports the NVRAM contents of secure boot variables to a storage device. The options are **Yes** and No.

Note: This submenu is available when any secure keys have been installed.

Secure Boot variable / Size / Keys / Key Source**► Platform Key (PK)**

Use this feature to enter and configure a set of values to be used as platform firmware keys for the system. These values also indicate the sizes, key numbers, and the sources of the authorized signatures. Select Update to update the platform key.

► Key Exchange Keys (KEK)

Use this feature to enter and configure a set of values to be used as Key Exchange Keys for the system. These values also indicate the sizes, key numbers, and the sources of the authorized signatures. Select Update to update the Key Exchange Keys. Select Append to append the Key Exchange Keys.

► Authorized Signatures (db)

Use this feature to enter and configure a set of values to be used as Authorized Signatures for the system. These values also indicate the sizes, key numbers, and sources of the authorized signatures. Select Update to update the Authorized Signatures. Select Append to append the new Authorized Signatures.

► Forbidden Signatures (dbx)

Use this feature to enter and configure a set of values to be used as Forbidden Signatures for the system. These values also indicate sizes, key numbers, and key sources of the forbidden signatures. Select Update to update the Forbidden Signatures. Select Append to append the Forbidden Signature.

► Authorized TimeStamps (dbt)

Use this feature to set and save the timestamps for the Authorized Signatures, which will indicate the time when these signatures are entered into the system. These values also indicate sizes, keys, and key sources of the authorized timestamps. Select Update to update the Authorized TimeStamps. Select Append to append the Authorized TimeStamps.

► OsRecovery Signatures (dbr)

Use this feature to set and save the Authorized Signatures used for OS recovery. Select Update to update the OsRecovery Signatures. These values also indicate sizes, keys, and key sources of the OsRecovery Signatures. Select Append to append the OsRecovery Signatures.

Supermicro Security Erase Configuration Menu

► Supermicro Security Erase Configuration

Use this submenu to configure the Supermicro-proprietary Security Erase settings. When this submenu is selected, the following information is displayed. Please note that the order of the following information may differ based on the storage devices being detected.

- **HDD Name:** This feature displays the model name of the storage device that is detected by the BIOS.
- **HDD Serial Number:** This feature displays the serial number of the storage device that is detected by the BIOS.
- **Security Mode:** This feature displays the security mode of the storage device that is detected by the BIOS.
- **Estimated Time:** This feature displays the estimate time needed to perform the selected Security Erase features.
- **TCG Device Type:** This feature displays the TCG device type detected by the system.
- **Admin Pwd Status:** This feature indicates if a password has been set as a storage device administrator password, which enables configuring Supermicro Security Erase settings on this storage device.

Note: This submenu is available when any storage device is detected by the BIOS. For more information about this feature, refer to our website.

Security Function

Select **Set Password** to set a storage device user password to enable configuring the security settings on the storage device. Select **Security Erase - Password** to enter a storage device user password to enable erasing the password and the contents previously stored in the storage device. Select **Security Erase - Without Password** to use the manufacturer default password "1111111111" as the storage device user password and enable erasing the contents of the storage device by using this default password. The options are **Disabled**, **Set Password**, **Change Password**, **Clear Password**, **Security Erase - Password**, **Security Erase - PSID**, and **Security Erase - Without Password**.

Notes:

- The option of Security Erase - PSID is based on the storage device support. PSID is the abbreviation for Physical Security Identification.
- The options of Change Password and Clear Password are available when "Password" below has been set.
- The option of Set Password is NOT available when "Password" below has been set.

Password

Use this feature to set the storage device user password, which enables configuring the Supermicro Security Erase settings by using this user password.

New Password (Available when "Password" above has been set)

Use this feature to set the new user password for the storage device, which enables configuring the Supermicro Security Erase settings by using this new user password.

4.6 Boot

Use this menu to configure Boot settings.

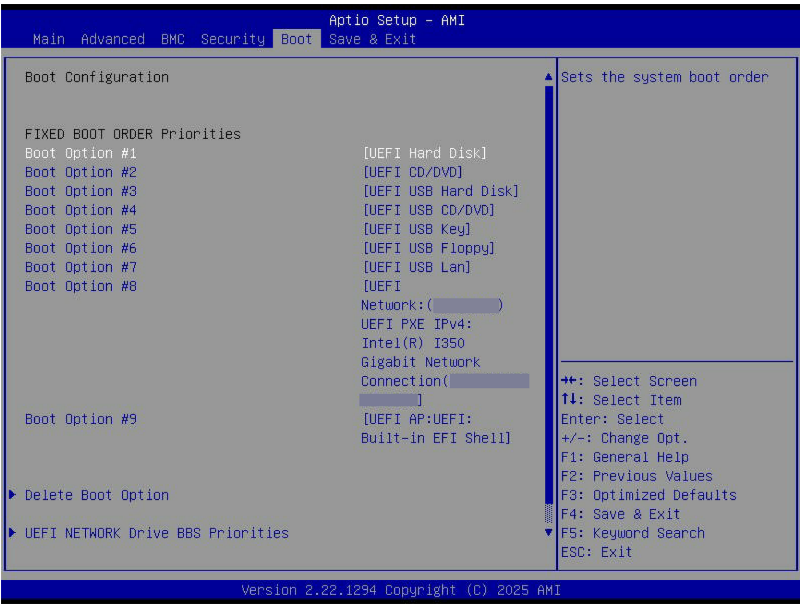


Figure 4-5. Boot Screen

FIXED BOOT ORDER Priorities

Use this feature to prioritize the order of a bootable device from which the system will boot. Press <Enter> on each item sequentially to select the device.

- Boot Option #1 – Boot Option #9

► Add New Boot Option

Use this feature to add a new boot option to the boot priority features for system boot.

Note: This submenu is available when any storage device is detected by the BIOS.

Add boot option

Use this feature to specify the name for the new boot option.

Path for boot option

Use this feature to enter the path for the new boot option in the format fsx:\path\filename.efi.

Boot option File Path

Use this feature to specify the file path for the new boot option.

Create

After setting the name and the file path for the boot option, press <Enter> to create the new boot option in the boot priority list.

► Delete Boot Option

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

Delete Boot Option

Use this feature to remove an EFI boot option from the boot priority list.

► UEFI NETWORK Drive BBS Priorities

Use this feature to set the system boot order of detected devices.

► UEFI Application Boot Priorities

Use this feature to set the system boot order of detected devices.

4.7 Save & Exit

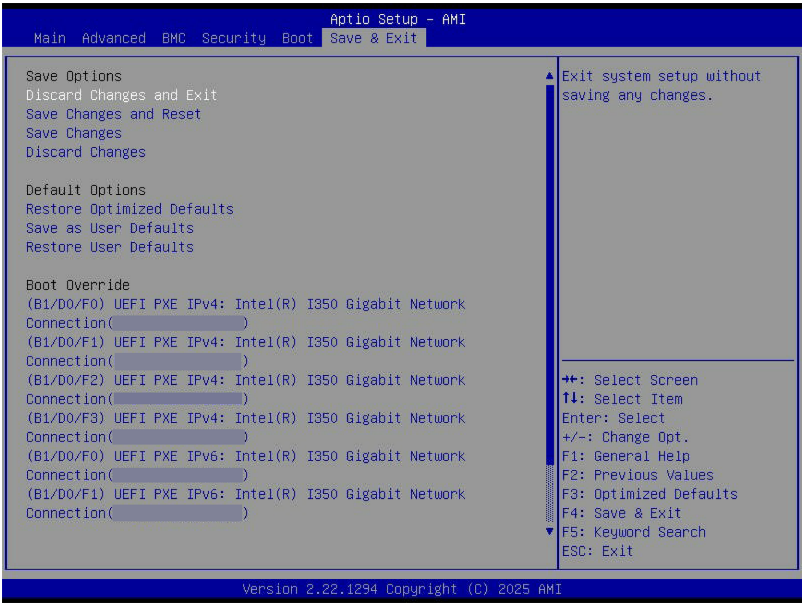


Figure 4-6. Save & Exit BIOS Screen

Save Options

Discard Changes and Exit

Use this feature to exit from the BIOS Setup utility without making any permanent changes to the system configuration and reboot the computer.

Save Changes and Reset

On completing the system configuration changes, use this feature to exit the BIOS Setup utility and reboot the computer for the new system configuration parameters to take effect.

Save Changes

On completing the system configuration changes, use this feature to save all changes made. This will not reset (reboot) the system.

Discard Changes

Select this feature and press <Enter> to discard all changes made and return to the BIOS Setup utility.

Default Options

Restore Optimized Defaults

Select this feature and press <Enter> to load manufacturer optimized default settings, which are intended for maximum system performance but not for maximum stability.

Note: Reboot the system for the changes to take effect to ensure that the system has the optimized default settings.

Save as User Defaults

Select this feature and press <Enter> to save all changes as the default values specified to the BIOS Setup utility for future use.

Restore User Defaults

Select this feature and press <Enter> to retrieve user-defined default settings that have been saved previously.

Boot Override

Note: Use this section to override the Boot priorities sequence in the Boot menu, and immediately boot the system with a device specified here instead of the one specified in the boot list. This is a one-time boot override.

Appendix A:

BIOS Codes

For information about BIOS codes for the H14SRV-HLN4F motherboard, refer to the following content.

BIOS Error POST (Beep) Codes

During the Power-On Self-Test (POST) routines, which are performed each time the system is powered on, errors may occur.

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

Fatal errors are those which will not allow the system to continue the boot up process. 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 that can be heard on an external buzzer connected to JD1. The table shown 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 short, 2 long	Display memory read/write error	Video adapter missing or with faulty memory
1 long continuous	System OH	System overheat condition

Additional BIOS POST Codes

The AMI BIOS supplies additional checkpoint codes, which are documented online at <https://www.supermicro.com/support/manuals> ("AMI BIOS POST Codes User's Guide").

For information on AMI updates, refer to <https://www.ami.com/products>.

Appendix B:

Software

After the H14SRV-HLN4F motherboard has been installed, you can install the Operating System (OS), configure RAID settings, and install the drivers.

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 <https://www.supermicro.com/support/manuals>.

Installing the OS

1. Create a method to access the Microsoft Windows installation ISO file. That can be a USB flash or media drive, or the BMC KVM console.
2. Retrieve the proper drivers. 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 bootup.

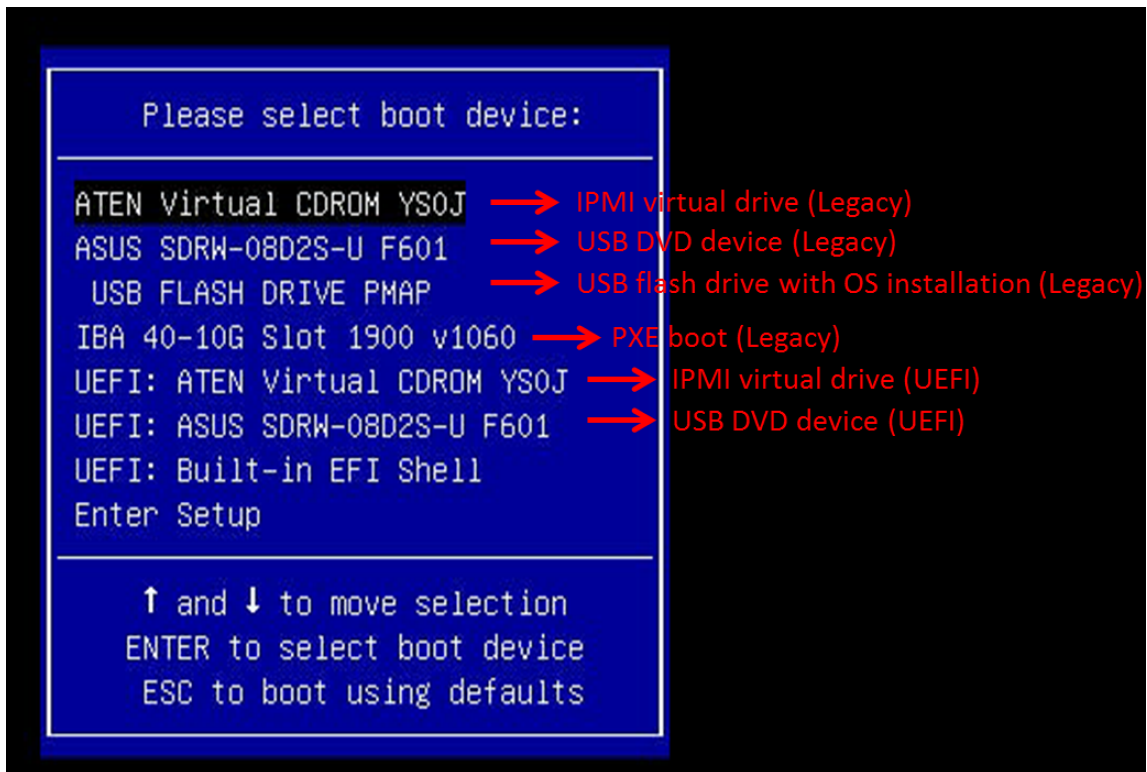


Figure B-1. Selecting the Boot Device

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

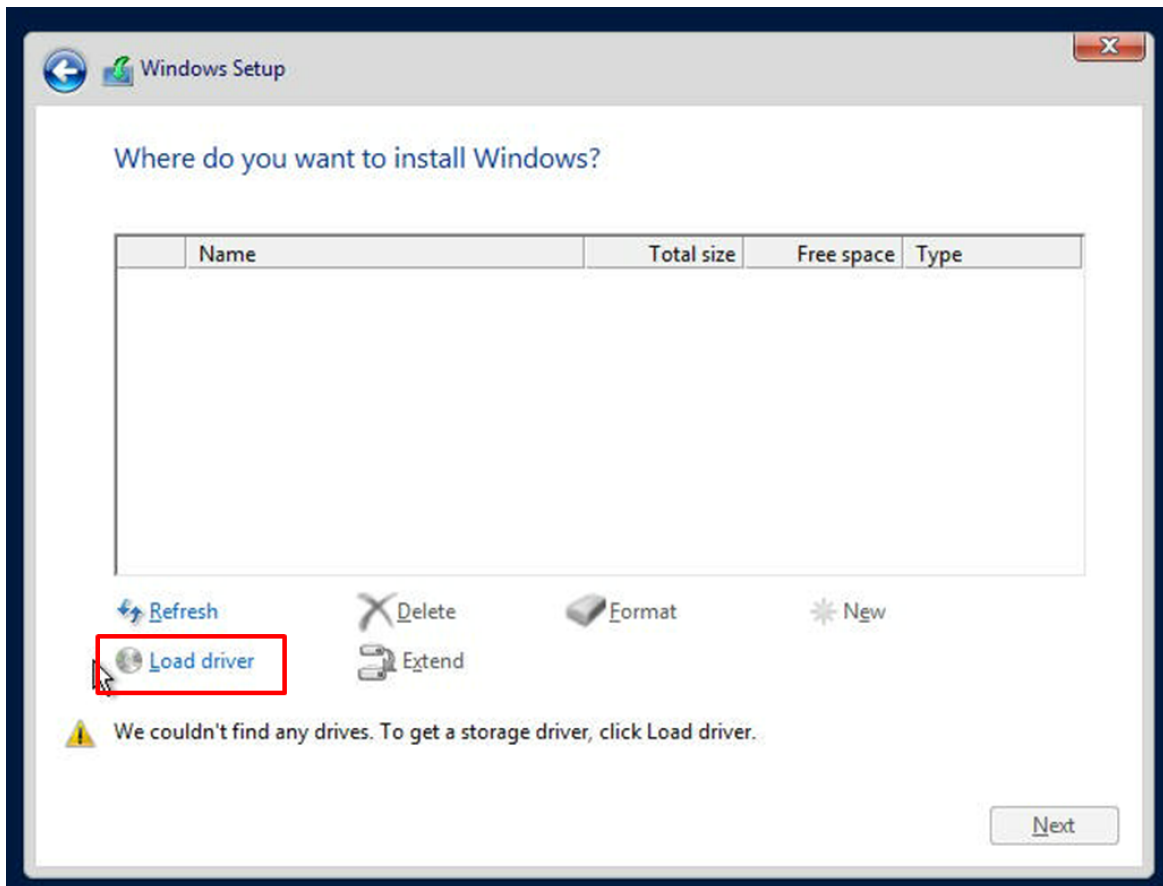


Figure B-2. Loading the Driver Link

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

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 for system updates.

Driver Installation

The Supermicro website contains drivers and utilities for your system at the following page:

<https://www.supermicro.com/wdl>.

Some of these drivers and utilities 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 or media drive. You may also use a utility to extract the ISO file if preferred.

Another option is to go to the Supermicro website at <https://www.supermicro.com>. 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.

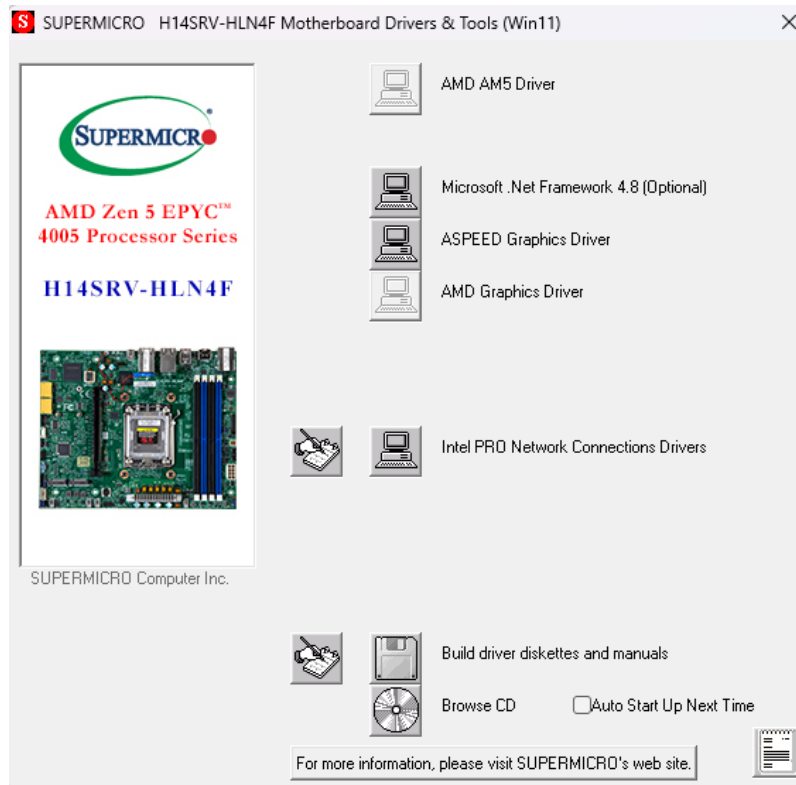


Figure B-3. Driver & Tools Installation Screenshot

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 bottom) one at a time. After installing each item, you must reboot 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.

BMC

The H14SRV-HLN4F motherboard provides remote access, monitoring, and management through the baseboard management controller (BMC) and other management controllers distributed among different system modules. There are several BIOS settings that are related to BMC. For general documentation and information on BMC, visit our website at the following page:

<https://www.supermicro.com/en/solutions/management-software/bmc-resources>

BMC ADMIN User Password

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

password can be reset using the Supermicro IPMICFG tool.



Figure B-4. BMC Password Label

Appendix C:

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 section in its entirety before installing or configuring components in the Supermicro H14SRV-HLN4F motherboard.

These warnings may also be found on our website at the following page:

https://www.supermicro.com/about/policies/safety_information.cfm

Battery Handling



Warning! There is risk of explosion if the battery is replaced by an incorrect type. Replace the battery only with the same or equivalent type recommended by the manufacturer. Dispose of used batteries according to the manufacturer's instructions.

تحذير! يوجد خطر حدوث انفجار إذا تم استبدال البطارية بنوع غير صحيح. استبدل البطارية بنفس النوع أو نوع مكافئ موصى به من قبل الشركة المصنعة فقط. يجب التخلص من البطاريات المستخدمة وفقاً لإرشادات الجهة المصنعة.

警告！如果更换的电池类型不正确，有爆炸危险。更换电池时，请使用制造商推荐的相同或同等型号的电池。请按制造商的说明处理废旧电池。

警告！如果更換的電池類型不正確。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。

Advarsel! Der er risiko for eksplosion, hvis batteriet skiftes med et batteri af den forkerte type. Batteriet må kun skiftes med et batteri af samme eller tilsvarende type, der anbefales af producenten. Opbrugte batterier skal bortskaffes i henhold til vejledningerne fra producenten.

Waarschuwing! Er bestaat een explosiegevaar als de batterij wordt vervangen door een onjuist type. Vervang de batterij alleen door hetzelfde type of een soortgelijk type aanbevolen door de fabrikant. Verwijder gebruikte batterijen overeenkomstig de instructies van de fabrikant.

Varoitus! Väärän tyyppisen akun käyttö voi aiheuttaa räjähdysvaaran. Vaihda akku vain valmistajan suosittelemaan samaan tai vastaavaan tyyppiseen akkuun. Hävitä käytetyt paristot valmistajan ohjeiden mukaisesti.

Attention! Il y a un risque d'explosion si la batterie est remplacée par une d'un type incorrect. Remplacez la batterie uniquement par une d'un type identique ou équivalent recommandé par le fabricant. Éliminez les batteries usagées conformément aux instructions du fabricant.

Warnung! Es besteht Explosionsgefahr, wenn die Batterie durch einen falschen Typ ersetzt wird. Ersetzen Sie die Batterie ausschließlich durch denselben oder einen vom Hersteller empfohlenen gleichwertigen Typ. Entsorgen Sie gebrauchte Batterien gemäß den Anweisungen des Herstellers.

אזהרה! קיימת סכנת פיצוץ אם הסוללה תוחלף בסוללה מסוג שגוי. החלף את הסוללה רק בסוללה מאותו סוג או בסוללה מקבילה המומלצת על ידי היצרן. השלך סוללות משומשות בהתאם להוראות היצרן.

चेतावनी! यदि बैटरी को गलत प्रकार से बदला जाता है तो विस्फोट का जोखिम है। बैटरी को केवल निर्माता द्वारा अनुशंसित समान या समकक्ष प्रकार से ही बदलें। इस्तेमाल की गई बैटरियों का निपटान निर्माता के निर्देशों के अनुसार करें।

警告! 電池を間違ったタイプに交換すると爆発する危険があります。交換する電池はメーカーが推奨するタイプ、または同等のものを使用してください。使用済み電池は、メーカーの指示に従って廃棄してください。

경고! 배터리를 잘못된 종류로 교체하면 폭발의 위험이 있습니다. 기존 배터리와 동일하거나 제조사에서 권장하는 동등한 종류의 배터리로만 교체해야 합니다. 제조사의 안내에 따라 사용된 배터리를 처리하여 주십시오.

Advarsel! Det er fare for eksplosjon hvis batteriet byttes ut med et av feil type. Batterier skal kun byttes ut med et av lik eller tilsvarende type, som anbefalt av produsenten. Kast brukte batterier i henhold til produsentens instruksjoner.

¡Advertencia! Existe riesgo de explosión si se sustituye la batería por una de tipo incorrecto. Reemplace la batería únicamente con el mismo tipo o uno equivalente recomendado por el fabricante. Deseche las baterías usadas de acuerdo con las instrucciones del fabricante.

Varning! Det finns risk för explosion om batteriet byts ut mot en felaktig typ. Byt endast ut batteriet mot ett batteri av samma eller likvärdig typ som rekommenderas av tillverkaren. Kassera förbrukade batterier i enlighet med tillverkarens anvisningar.

Connection to Earth



Warning! Equipment shall be connected to an Earth mains socket-outlet.

تحذير! يجب توصيل الأجهزة بمقبس كهربائي أرضي.

警告！设备应连接到接地电源插座。

警告！應將設備連接至接地電源插座。

Advarsel! Dette udstyr skal sluttes til en jordforbundet stikkontakt.

Waarschuwing! De apparatuur moet worden aangesloten op een geaard netstopcontact.

Varoitus! Laitteet on kytkettävä maadoitettuun pistorasiaan.

Attention! L'équipement doit être connecté à une prise de courant avec mise à la terre.

Warnung! Das Gerät muss an eine geerdete Netzsteckdose angeschlossen werden.

אזהרה! יש לחבר את הציוד לשקע חשמל עם הארקה.

चेतावनी! उपकरण को एक अर्थ में सॉकेट-आउटलेट से जोड़ा जाना चाहिए।

警告！機器は、接地主電源コンセントに接続するものとします。

경고! 장비는 접지된 전원 콘센트에 연결해야 합니다.

Advarsel! Utstyret skal kobles til en jordet stikkontakt.

¡Advertencia! El equipo deberá conectarse a una toma de corriente con conexión a tierra.

Varning! Utrustningen ska vara ansluten till ett jordat eluttag.

Product Disposal



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

تحذير! يجب التخلص النهائي من هذا المنتج وفقاً لجميع القوانين واللوائح الوطنية.

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。

Advarsel! Dette produkt skal bortskaffes i henhold til alle nationale love og regler.

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

Varoitus! Tämän tuotteen lopullinen hävittäminen on suoritettava kaikkien kansallisten lakien ja määräysten mukaisesti.

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.

Warnung! Die endgültige Entsorgung dieses Produkts muss gemäß allen nationalen Gesetzen und Vorschriften erfolgen.

אזהרה! סילוק סופי של מוצר זה חייב להתבצע בהתאם לכלל החוקים והתקנות הלאומיים.

चेतावनी! इस उत्पाद का अंतिम निपटान सभी राष्ट्रीय कानूनों और नियमों के अनुसार किया जाना चाहिए।

警告! 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。

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

Advarsel! Når produktet til slutt skal kasseres, må det håndteres i henhold til alle nasjonale lover og forskrifter.

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

Varning! Slutgiltigt bortskaffande av denna produkt ska ske i enlighet med alla nationella lagar och förordningar.