



OPEN Industry Standard, Flexible Architecture

GREEN Less Heat, Less Power Consumption

STABLE Robust Design, Quality Parts

Stable and
Reliable Solution

Server/Workstation
Motherboard

10U3N-SIENA/ORV3

User Manual

English



Version 1.00

Published Sep. 2026

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This device complies with Part 15 of the FCC Rules. Operation is subject to the following two conditions:

- (1) this device may not cause harmful interference, and
- (2) this device must accept any interference received, including interference that may cause undesired operation.

CALIFORNIA, USA ONLY

The Lithium battery adopted on this server motherboard contains Perchlorate, a toxic substance controlled in Perchlorate Best Management Practices (BMP) regulations passed by the California Legislature. When you discard the Lithium battery in California, USA, please follow the related regulations in advance.

“Perchlorate Material-special handling may apply, see www.dtsc.ca.gov/hazardouswaste/perchlorate”

ASRock Rack’s Website: www.ASRockRack.com

Setting up the Server in a Restricted Access Location/Restricted Access Area

- Access can only be gained by service persons or by users who have been instructed about the reasons for the restrictions applied to the location and about any precautions that shall be taken.
- Access is through the use of a tool or lock and key, or other means of security, and is controlled by the authority responsible for the location.
- Leave enough clearance (25 inches in the front and 30 inches in the back of the rack) to allow the front door to be opened completely and to allow for sufficient airflow.
- This product is for installation merely in a Restricted Access Location.
- This product is not suitable for use with visual display work place devices according to §2 of the the German Ordinance for Work with Visual Display Units.
- Only skilled person and Instructed person can remove the chassis covers to access the inside of the system.

Replaceable Batteries

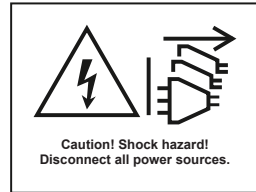
CAUTION

**RISK OF EXPLOSION IF BATTERY IS REPLACED BY AN INCORRECT TYPE.
DISPOSE OF USED BATTERIES ACCORDING TO THE INSTRUCTIONS**

Warning

When removal of the chassis lid required for servicing:

- Turn off power and disconnect the node, and
- Reinstall the chassis lid before restoring power.



Important Safety Instructions

Pay close attention to the following safety instructions before performing any of the operation. Basic safety precautions should be followed to protect yourself from harm and the product from damage:

- Operation of the product should be carried out by suitably trained, qualified, and certified personnel only to avoid risk of injury from electrical shock or energy hazard.
- Disconnect the node when installing or removing main system components, such as the server motherboard.
- Place the system on a stable and flat surface.
- Use extreme caution when working with high-voltage components.
- When handling parts, use a grounded wrist strap designed to prevent static discharge.
- Keep the area around the system clean and clutter-free.
- Keep all components and printed circuit boards (PCBs) in their antistatic bags when not in use.
- Handle a board by its edges only; do not touch its components, peripheral chips, memory modules or contacts.
- The power cord must be connected to a socket or outlet with a ground connection.

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Chapter 1 Introduction

Thank you for purchasing 10U3N-SIENA/ORV3, a reliable barebone system produced under ASRock Rack's consistently stringent quality control. It delivers excellent performance with robust design conforming to ASRock Rack's commitment to quality and endurance.

This guide provides the instructions of insertion and extraction of chassis components, such as chassis covers, system fans, power supplies, drive trays, and other main components this system supports. If the system is pre-installed a server motherboard, refer to the server motherboard user manual for the information of the server motherboard components, specifications and BIOS settings.

System	ASRock Rack Server motherboard
10U3N-SIENA/ORV3	SIENAD10HM3/SYS



Because the hardware specifications might be updated, the content of this documentation will be subject to change without notice.



The illustrations shown in this manual are for reference purposes only and may not exactly match the model purchased.



If requiring technical support related to this system, please visit the website for specific information about the using model.
<http://www.asrockrack.com/support/>

1.1 Shipping Box Contents

Item	Quantity
Server Barebone: 1OU3N-SIENA/ORV3	1
CPU Heatsink	3
Accessory Box	1
- 6 Screws for M.2 Sockets	
- 3 Mini DisplayPort to D-sub (VGA) Adapter Cables	



If any items are missing or appear damaged, contact the authorized dealer.

1.2 Specifications

10U3N-SIENA/ORV3	
System	
Form Factor	10U chassis with three-bay shelf for ORv3
Dimension	537 x 800 x 45.5 mm (21.1" x 31.5" x 1.79", shelf dimension)
Support Motherboard	SIENAD10HM3/SYS
Front Panel per Sled	
Button	Power, Reset, UID button w/ LED
LED	Power, System Fail
I/O Port	1 Mini-DisplayPort (VGA, adapter cable required)* 2 Type-A (USB 3.2 Gen1) ports <i>*The Mini Display Port provides VGA analog output. To connect to a D-Sub (VGA) display, an adapter cable is required. Please contact ASRock Rack for adapter cable.</i>
IPMI LAN	1 Dedicated IPMI
Real Panel	
Backplane Power Connector	1 OCP Open Rack V3 IT Gear Input Connector
Drive Bay / Storage per Sled	
Front Side Drive Bay	1 Hot-swap 2.5" NVMe (PCIe5.0 x4) drive bay
Internal Side	2 M-key (PCIe5.0 x4 or SATA 6Gb/s), supports 22110/2280 form factor
Power Supply	
Type	Centralized 50V busbar to 10U3N_PDB/V3
Output Watt	1600W
System Fan per Sled	
Fan	4 Dual-rotor 40 x 56 mm fans
Processor System per Sled	
CPU	Supports AMD EPYC™ 8005/8004 series processors
Socket	Single Socket SP6 (LGA 4844)
Chipset	System on Chip

System Memory per Sled	
Supported DIMM Quantity	10 DIMM slots (2DPC/1DPC)
Supported Type	Supports DDR5 288-pin RDIMM
Max. Capacity per DIMM	RDIMM: up to 96GB (2Rx4)
Max. DIMM Frequency	4800 MHz
Voltage	1.1V
TPM per Sled	
TPM Support	1 (13-pin, SPI) header
Ethernet per Sled	
OCP Slot	1 OCP NIC 3.0 (PCIe5.0 x16)
Server Management per Sled	
BMC Controller	ASPEED AST2600
Dedicated IPMI LAN	1 Realtek RTL8211F for dedicated management LAN
Graphics per Sled	
Controller	ASPEED AST2600
VRAM	DDR4 512MB
System BIOS	
BIOS Type	AMI UEFI BIOS; 256Mb SPI Flash ROM
BIOS Feature	ASRock Rack Instant Flash, ACPI 6.4 (and above) compliance wake-up events, SMBIOS 3.5.0 and above, Plug and Play (PnP)
Hardware Monitor	
Temperature	CPU, MB, Card side, TR1 temperature sensing
Fan	Fan tachometer CPU quiet fan (allows chassis fan speed auto-adjust by CPU temperature) Fan multi-speed control
Voltage	VDDCR_CPU, VDDCR_SOC, VDDIO, VDD_18_S5, VDD_33_S5, VDD_11_S3, +3V, +5V, +12V, +BAT, +1V8SB, 3VSB, 5VSB

Environment	
Temperature	Operating temperature: 10°C ~ 35°C Non-operating temperature: -40°C ~ 70°C
Humidity	Non-operating humidity: 20% ~ 90% (non-condensing)



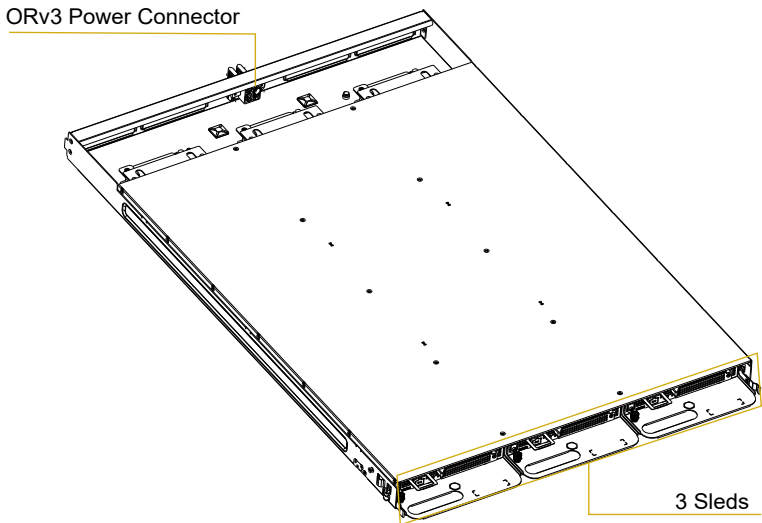
The specification is subject to change without notice in advance.

Chapter 2 Server System Overview

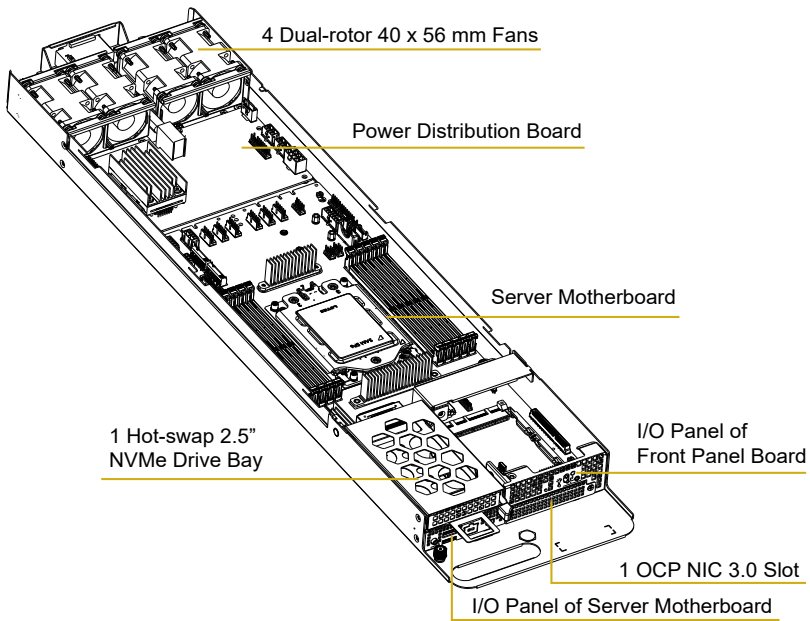
This chapter provides diagrams showing the location of important components of the server system.

2.1 System Components

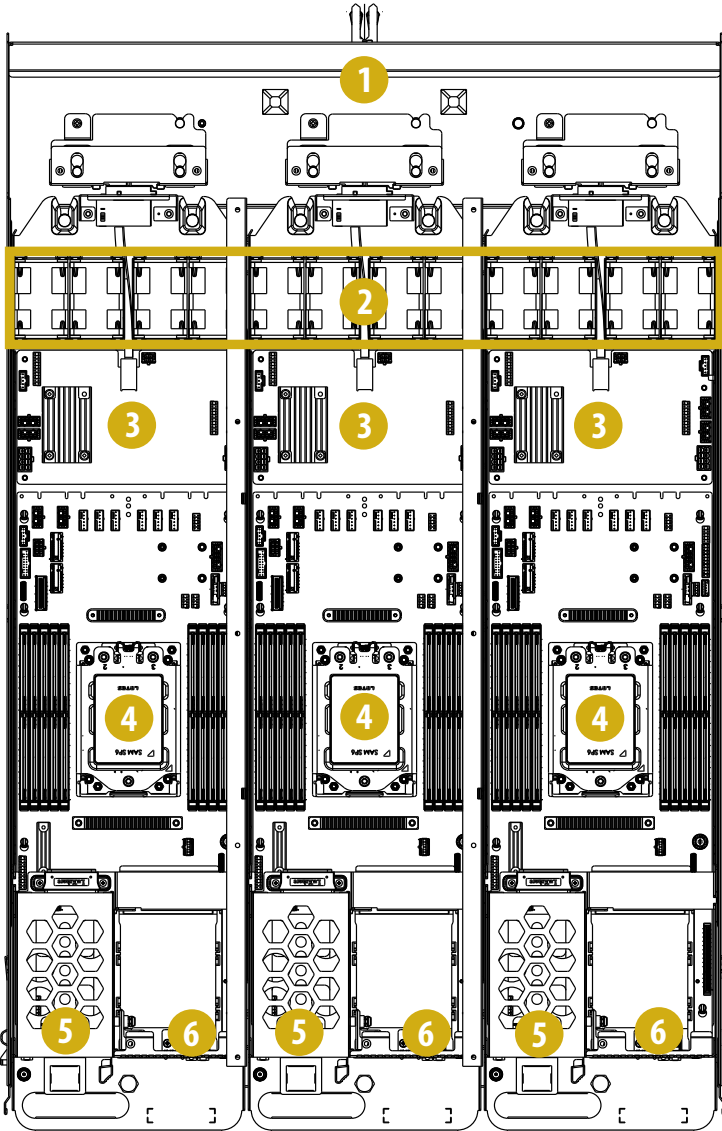
System



Sled

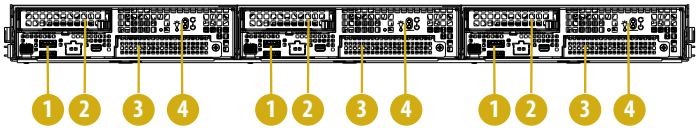


2.2 Internal Features



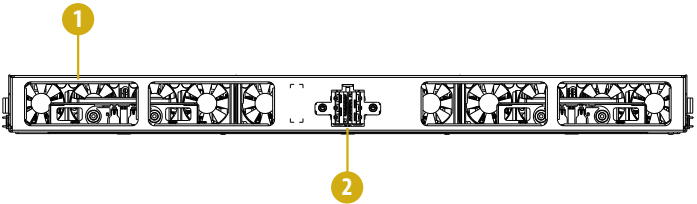
No.	Description
1	1 ORv3 power connector
2	12 Dual-rotor 40 x 56 mm fans
3	3 Power distribution boards (PDB)
4	3 Server motherboards (MB)
5	Top: 3 Hot-swap 2.5" NVMe (PCIe5.0 x4) drive bays Bottom: I/O panels of 3 server motherboards
6	Top: I/O panels of 3 front panel boards Bottom: 3 OCP NIC 3.0 (PCIe5.0 x16) slots

2.3 System Front Panel



No.	Description
1	I/O panels of 3 server motherboards
2	3 Hot-swap 2.5" NVMe (PCIe5.0 x4) drive bays
3	3 OCP NIC 3.0 (PCIe5.0 x16) slots
4	I/O panels of 3 front panel boards

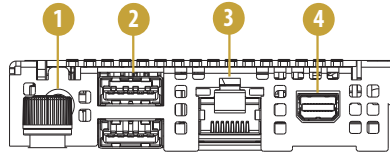
2.4 System Rear Panel



No.	Description
1	12 Dual-rotor 40 x 56 mm fans
2	1 ORv3 power connector

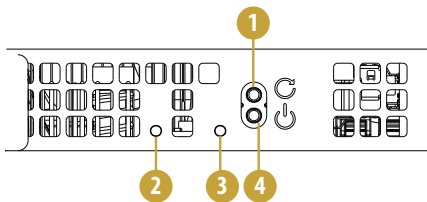
2.5 I/O Panel

I/O Panel of Server Motherboard



No.	Description
1	1 UID button w/ LED
2	2 Type-A (USB 3.2 Gen1) ports
3	1 Dedicated IPMI LAN port
4	1 Mini-DisplayPort (VGA, adapter cable required)* <i>*The Mini Display Port provides VGA analog output. To connect to a D-Sub (VGA) display, an adapter cable is required. Please contact ASRock Rack for adapter cable.</i>

I/O Panel of Front Panel Board



No.	Description
1	Reset button
2	System fail LED
3	Power LED
4	Power button

UID Button

Press the UID button to toggle the front UID LED on and off.



- 1. Press and hold the UID button for 4 seconds, the BMC will trigger an external reset.
- 2. Press and hold the UID button for 10 seconds, the BMC will reset and load default values.

Reset Button

When the system is completely unresponsive, press the system reset button to reboot the server without shutting it off and initialize the system.

Power Button

Press the power switch button to toggle the system power on and standby/sleep modes. To remove all power from the system completely, disconnect the node from the server.

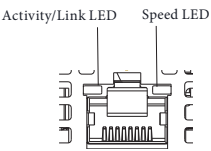
Status LED Definitions

UID LED	
Status	Description
Off	System identification is disabled.
Blue	System identification is active.

System Fail LED	
Status	Description
Off	Running or normal operation
Red	Signal error

Power LED	
Status	Description
Off	Power off
Green	Power on

Front Dedicated IPMI LAN Port



Activity/Link LED	
Status	Description
Off	No link
Blinking Yellow	Data activity
On	Link

Speed LED	
Status	Description
Off	10Mbps connection or no link
Orange	100Mbps connection
Green	1Gbps connection

Chapter 3 Hardware Installation and Maintenance

This chapter helps user to assemble the chassis and install components.

Before You Begin

Before working with the server, pay close attention to the “Important Safety Instructions” at the beginning of this manual.



1. Ensure the motherboard battery is installed before unplugging the power cord or installing/removing the motherboard.
2. Before installing or removing any component, ensure that the power supply is off or the power cord is detached from the power supply. Failure to do so may cause severe damage to the motherboard, peripherals, and/or components.

1. Make sure the server is powered off.

Power down the server if it is still running.

- (1) Press the Power button to power off the server from full-power mode to standby-power (sleep) mode. The Power LED at the front turns from solid green to blinking green.
- (2) Disconnect the power cord first from the AC outlet and then from the server.
The power LED turns off.



The server is not completely powered down when pressing the Power button on the front panel. The Power button lets the server toggle between Power On and Standby (Sleep) modes. Some internal circuitry remain active in the Standby mode. To remove all power from the system completely, be sure to disconnect the power cord from the server.

2. Ensure having a clean and stable working environment. Avoid dust and dirt because contaminants may cause malfunctions.
3. Ground properly before touching any system component. A discharge of static electricity may damage components. Wear a grounded wrist strap if available.



1. Some components are already pre-installed. Simply properly connect the relevant cables before or after installation.
2. Refer to the server motherboard user manual for instructions on how to install server motherboard components.

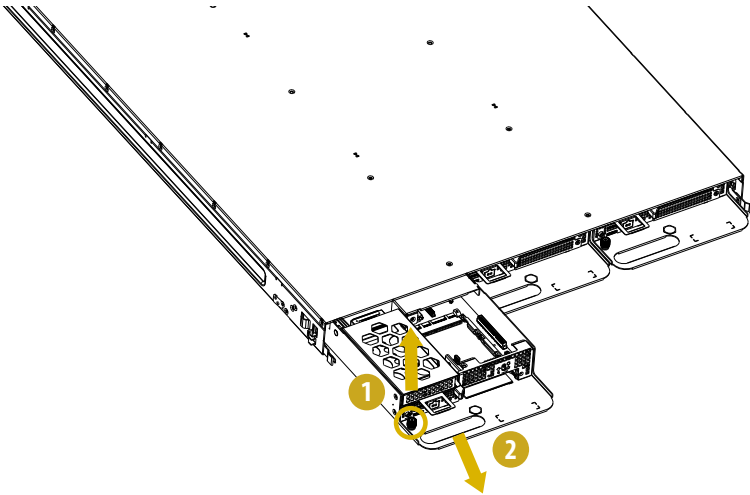
3.1 Sled Top Cover

Removing the Sled Top Cover

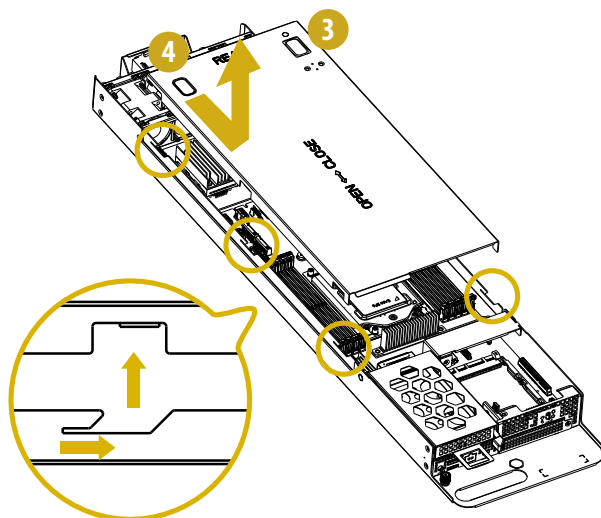


1. Before removing the sled top cover, power off the server.
2. The system must be operated with all the top cover installed to ensure proper cooling.

1. Pull up and rotate the plunger to disengage the locking pin from the chassis mounting hole.
2. Hold onto the handle and pull the sled out of the chassis.

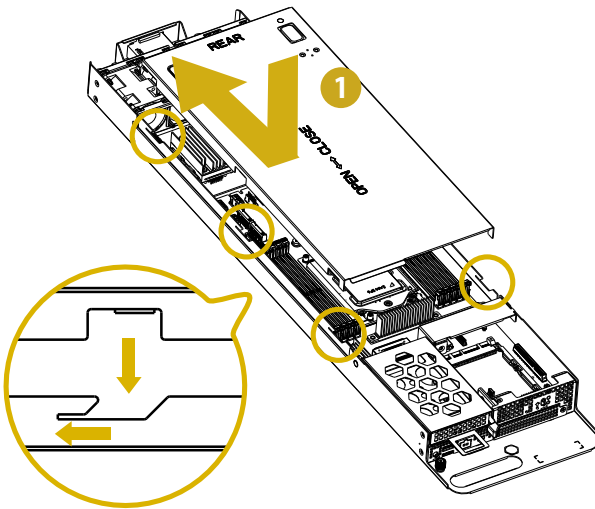


3. Press the latch on the sled cover.
4. Press the rubber pad and pull the cover toward the FRONT to release the cover from the locked position. Lift up and remove the cover.

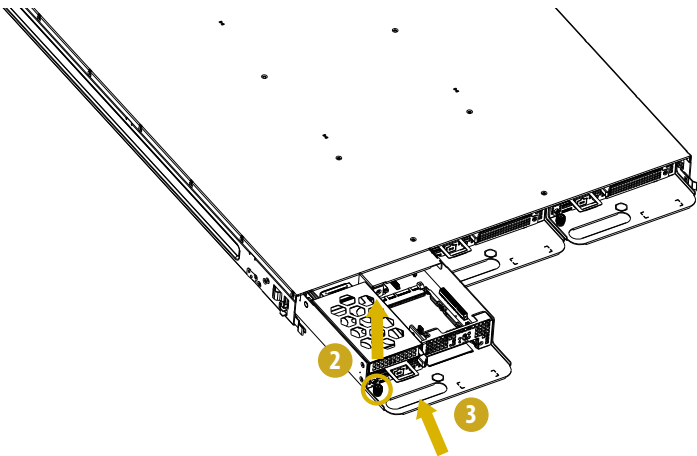


Installing the Sled to the Chassis

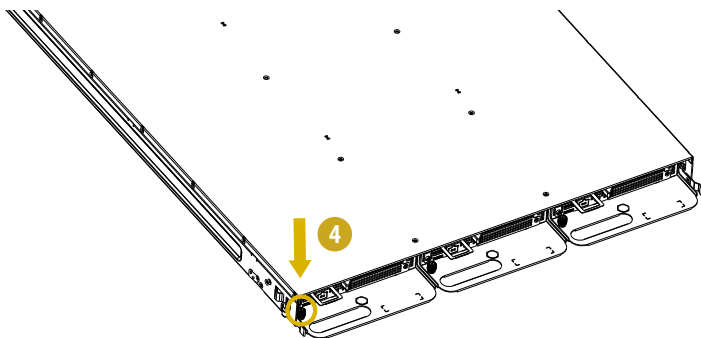
1. Lower the sled cover on the chassis, making sure the side latches align with the cutouts. Slide the sled cover toward the REAR until it clicks into place.



2. Make sure the plunger pin stays up.
3. Slide the sled all the way into the chassis. Make sure the sled is well seated.



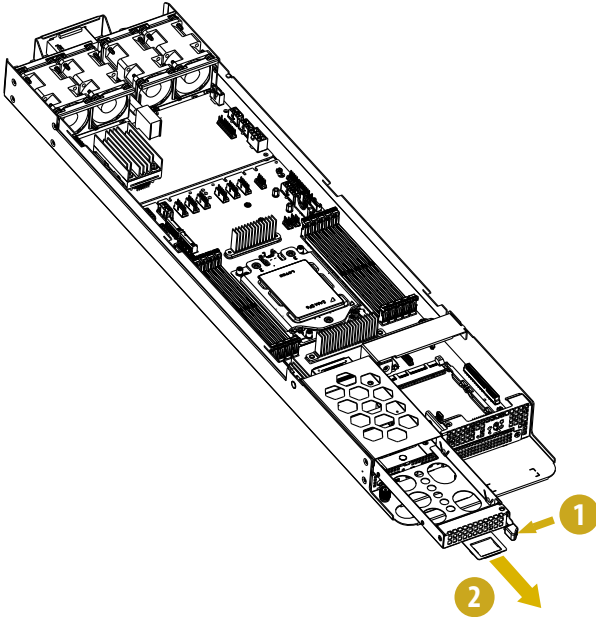
4. Rotate the plunger back to lock the pin into the mounting hole.



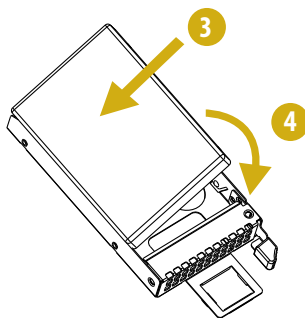
3.2 Drive

Installing 2.5" Drive to the Chassis

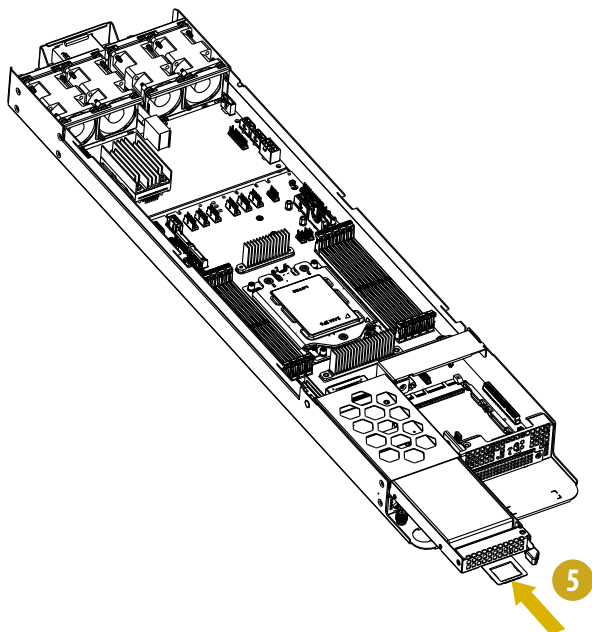
1. Press the locking lever latch on the drive tray to unlock the retention lever.
2. Grab the drive tray handle and pull the tray out.



3. Engage two embossed pins into the side dimples on the drive tray.
4. Carefully push down the other side of drive until the other two embossed pins and side dimples lock into place.



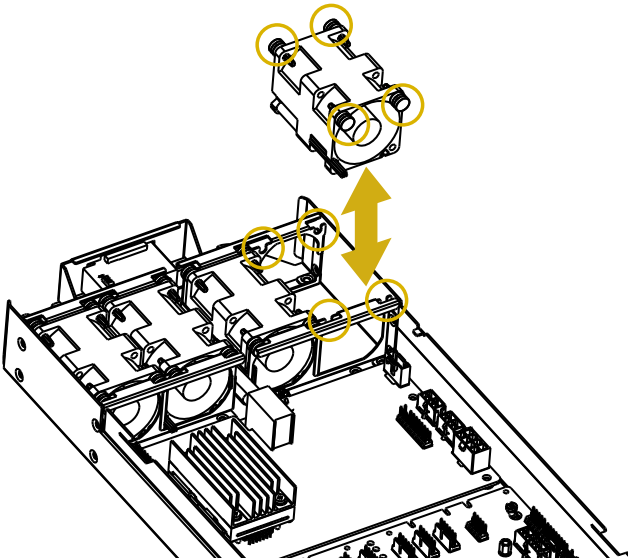
5. Slide the assembly into the bay until the drive is fully seated.



3.3 System Fan

Replacing the System Fan

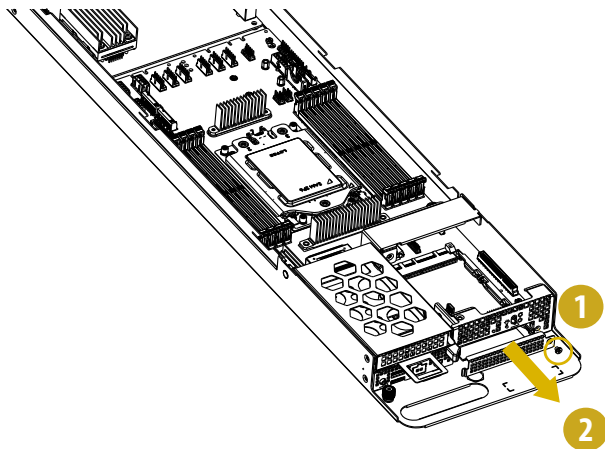
1. Lift to remove the failed fan.
2. Align the mounts on the replacement fan with the fan mounting holes on the fan bar.
3. Gently place the fan into the fan frame.
4. Make sure the fan is well seated and the fan connector is properly connected.



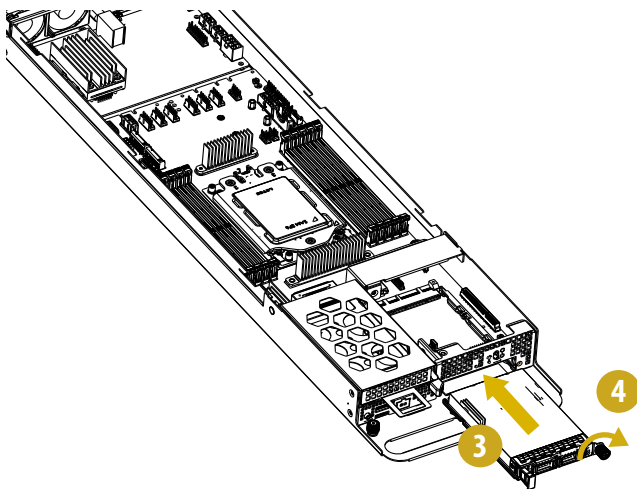
3.4 OCP Card

Installing the OCP Card

1. Remove the screw securing the slot cover to the chassis.
2. Remove the slot cover.

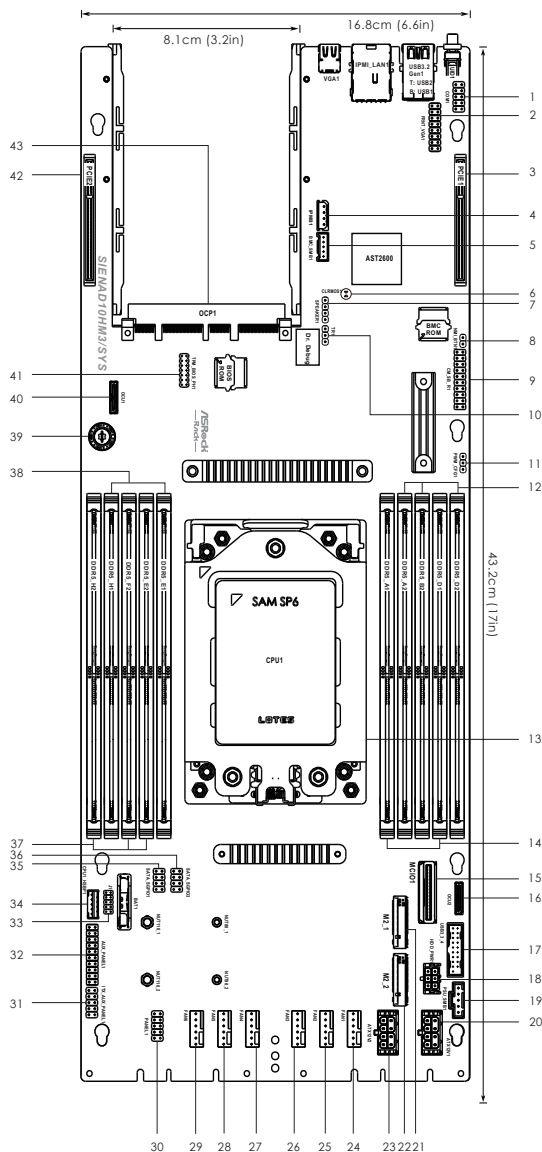


3. Install the OCP card into the slot.
4. Make sure the card is well seated and hand-tighten the thumbscrew on the face plate.



Chapter 4 Server Motherboard (SIENAD10HM3/SYS)

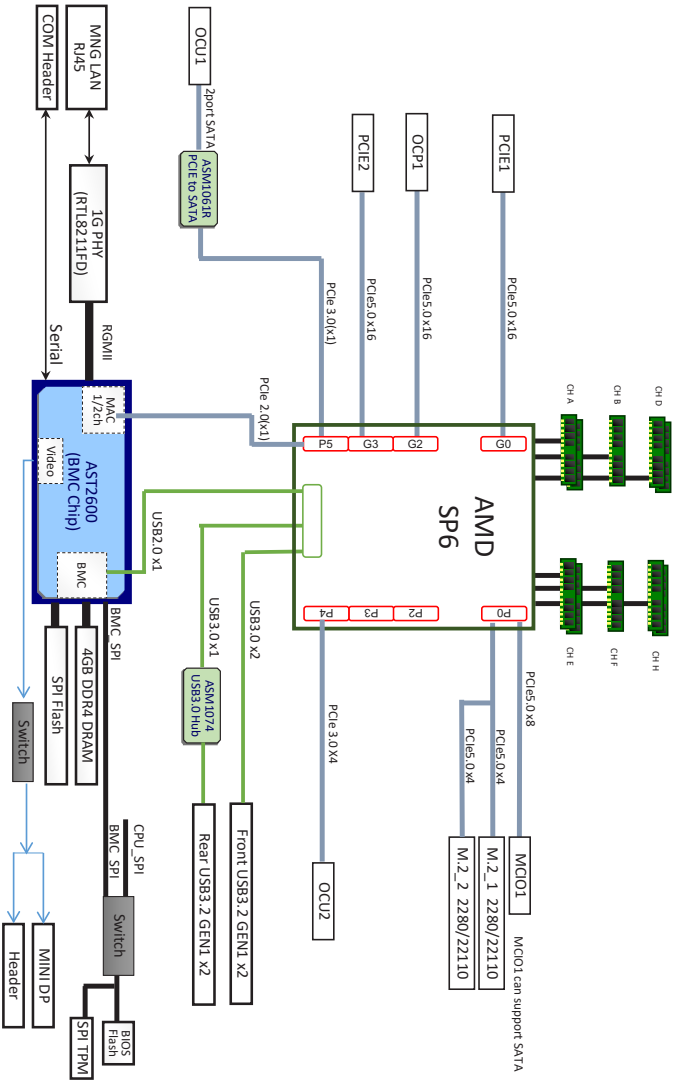
4.1 Layout



No.	Description
1	COM Port Header (COM1)
2	Front VGA Header (FRNT_VGA1)
3	PCI Express 5.0 x16 Slot (PCIE1)
4	Intelligent Platform Management Bus Header (IPMB1)
5	BMC SMBus Header (BMC_SMB1)
6	Clear CMOS Pad (CLRMOS1)
7	Speaker Header (SPEAKER1)
8	Non Maskable Interrupt Button (NMI_BTN1)
9	CM Board Standby Power Header (CM_SB_R1)
10	Thermal Sensor Header (TR1)
11	PWM Configuration Header (PWM_CFG1)
12	3 288-pin DDR5 DIMM Slots (DDR5_A2, DDR5_B2, DDR5_D2)
13	AMD Socket SP6 (LGA 4844) (CPU1)
14	2 288-pin DDR5 DIMM Slots (DDR5_A1, DDR5_D1)
15	Mini Cool Edge IO Connector (MCIO1)
16	OCuLink Connector (PCIe3.0 x4) (OCU2)
17	USB3.2 Gen1 Header (USB3_3_4)
18	HDD Power Connector (HDD_PWR1)
19	PSU SMBus (PSU_SMB1)
20	ATX 12V Power Connector (ATX12V1)
21	M.2 Socket (M2_1) (Type 2280/22110)
22	M.2 Socket (M2_2) (Type 2280/22110)
23	ATX 12V Power Connector (ATX12V2)
24	System Fan Connector (FAN1)
25	System Fan Connector (FAN2)
26	System Fan Connector (FAN3)
27	System Fan Connector (FAN4)
28	System Fan Connector (FAN5)
29	System Fan Connector (FAN6)
30	System Panel Header (PANEL1)
31	ITX Auxiliary Panel Header (ITX_AUX_PANEL1)
32	Auxiliary Panel Header (AUX_PANEL1)
33	System Front Panel Board Header (J1)

No.	Description
34	Backplane PCI Express Hot-Plug Connector (CPU1_HSBP1)
35	SATA SGPIO Connector (SATA_SGPIO1)
36	SATA SGPIO Connector (SATA_SGPIO3)
37	3 288-pin DDR5 DIMM Slots (DDR5_E2, DDR5_F2, DDR5_H2)
38	2 288-pin DDR5 DIMM Slots (DDR5_E1, DDR5_H1)
39	Thumbscrew
40	OCuLink Connector (2 SATA 6Gb/s) (OCU1)
41	SPI TPM Header (TPM_BIOS_PH1)
42	PCI Express 5.0 x16 Slot (PCIE2)
43	OCP 3.0 Gen5 x16 Mezzanine Card Slot (OCP1)

Each P* lane can support CXLL1 type3, but the lane must set equal width, ex: 1 x16, 2 x8, 4 x4, 8 x4, P5 are limited to Gen3 X4, P0, G3 can support SATA, max 32 SATA ports

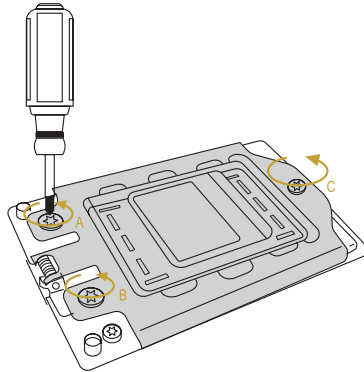


4.3 Installing the CPU and Heatsink (LGA 4844 Socket)

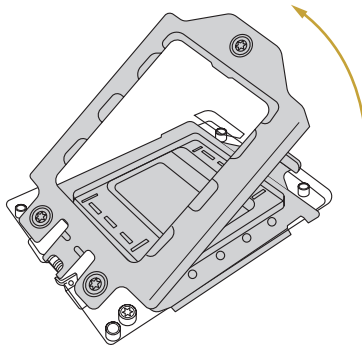


1. Before inserting the CPU into the socket, check if the PnP cap is on the socket, if the CPU surface is unclean, or if there are any bent pins in the socket. Do not force to insert the CPU into the socket if above situation is found. Otherwise, the CPU will be seriously damaged.
2. Unplug all power cables before installing the CPU.

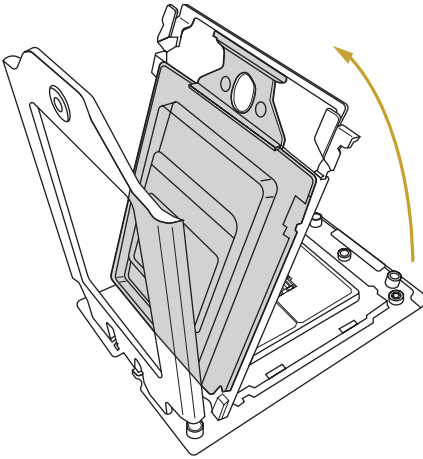
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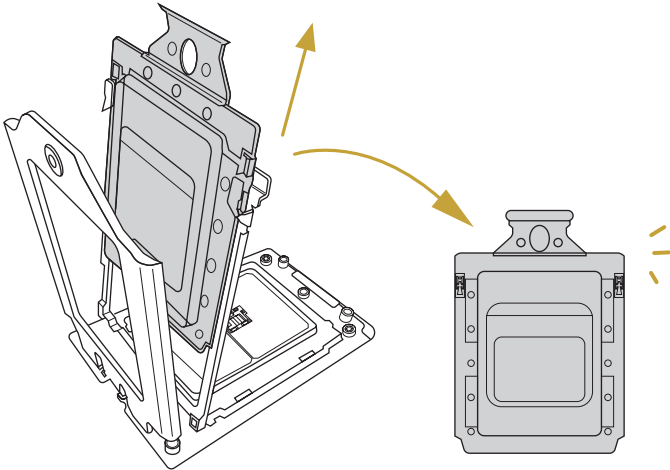
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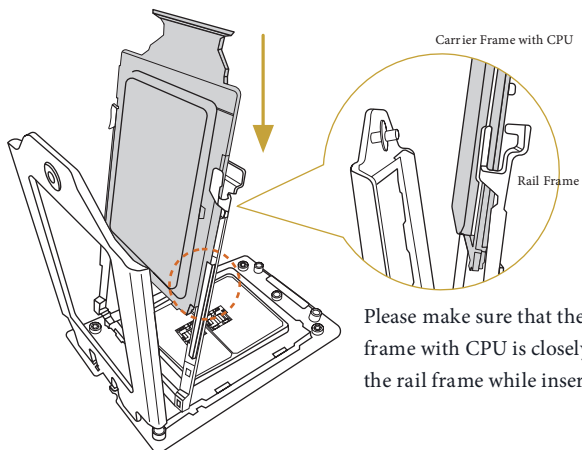
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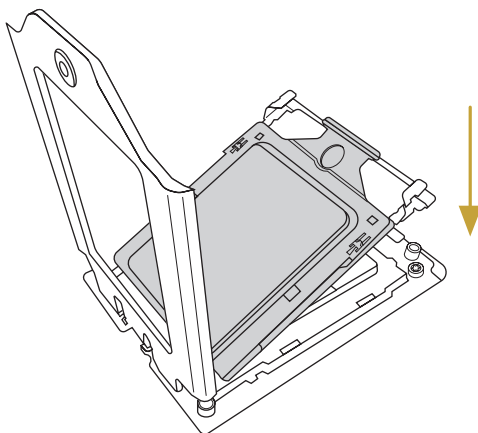


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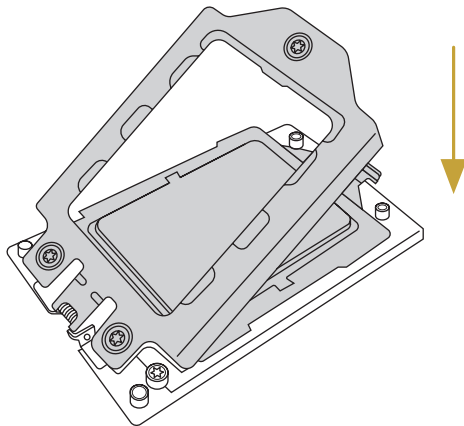


Install the carrier frame with CPU. Don't separate them.

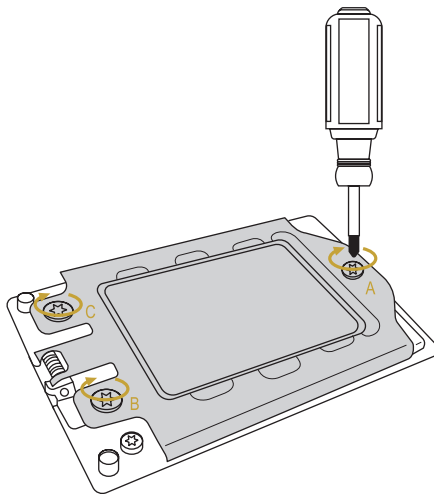
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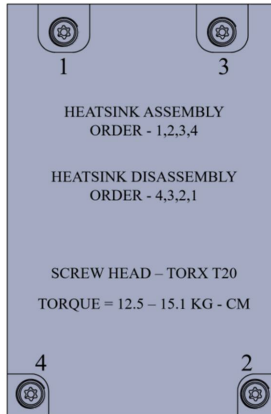
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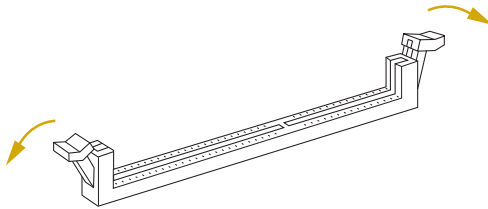


4.4 Installing the Memory Modules (DIMM)

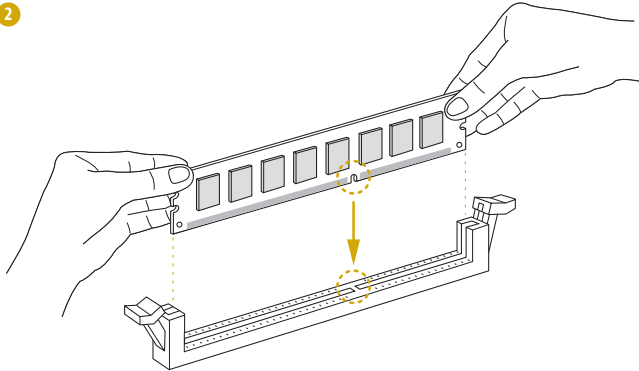


The DIMM only fits in one correct orientation. It will cause permanent damage to the server motherboard and the DIMM if forcing the DIMM into the slot at incorrect orientation. For more information about DIMM installation, refer to the server motherboard user manual.

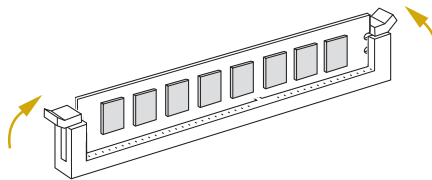
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2



3



4.5 Replacing the CMOS Battery



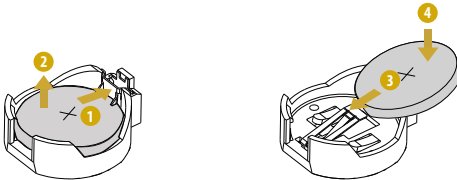
1. Ensure the battery is installed before unplugging the power cord or installing/removing the motherboard.
2. Always turn off the system and unplug the power cord before replacing the battery.
3. For safety, please replace the battery with the same or equivalent type recommended by the manufacturer.
4. Dispose of the used batteries in accordance with local regulations.

Refer to the section **4.1 Layout** to locate the battery.

**The illustration is for reference only. The actual installation may be slightly different by socket design.*

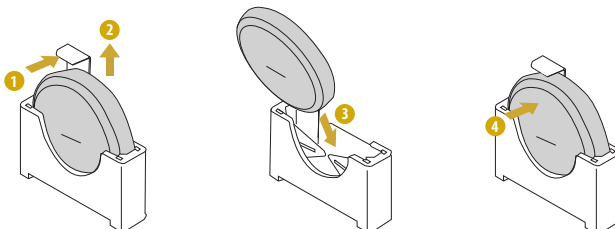
Replacing the Flat Battery

1. Shut down and unplug the system. Gently press the socket clip.
2. Remove the battery when it pops up. Or press down on one end of the battery to pop it up and remove it.
3. Insert a new battery into the socket with the positive side (+ sign) facing up.
4. Press the battery down until it clicks into place.



Replacing the Upright Battery

1. Shut down and unplug the system. Gently push the socket clip away from the battery.
2. Remove the battery.
3. Insert a new battery into the socket with the positive side (+ sign) facing the open side of the socket clip.
4. Press the battery down until it clicks into place.



Replacing the Wired Battery

To replace a wired CMOS battery, completely power down the system and unplug it from the power source. Locate the old battery, carefully trace its wires to the small connector on the motherboard, and unplug it. Install a new battery in its place and connect it to the motherboard.



Contact Information

Contact ASRock Rack or want to know more about ASRock Rack, you're welcome to visit ASRock Rack's website at <http://www.asrockrack.com>; or contact the dealer for further information. For technical questions, please submit a support request form at <https://event.asrockrack.com/tsd.asp>

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