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GREEN Less Heat, Less Power Consumption

STABLE Robust Design, Quality Parts

Stable and
Reliable Solution

Server/Workstation

Motherboard

1U4LW-C262/2L2T

User Manual

English



Version 1.11

Published Aug. 2025

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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”

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.

ASRock Rack's Website: www.ASRockRack.com

Replaceable Batteries

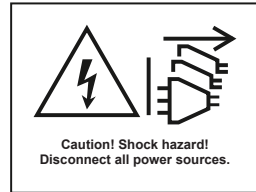
CAUTION

**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 unplug any power cords/cables, 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 power cord from the wall outlet when installing or removing main system components, such as the server motherboard and power supply unit.
- 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 1U4LW-C262/2L2T, 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, hard 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
1U4LW-C262/2L2T	EC262D4U-2L2T



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 you purchase.



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

1.1 Shipping Box Contents

Item	Quantity
1U4LW Series Barebone (1U form factor)	1
Power Supply Unit	1
System Fan	5
Power Distribution Board (PDB)	1
System Motherboard (MB)	1
Front Panel Board (FPB)	1
Riser Cable	1
Accessory Box	1

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

1.2 Specifications

1U4LW-C262/2L2T	
System	
Form Factor	1U Rackmount
Dimension	534.35 x 430 x 43.3mm (21" x 16.9" x 1.7")
Support MB	EC262D4U-2L2T
Front Panel	
Button	Power switch, ID switch, system reset, NMI
LED	Power status, hard drive, LANs, system fail activity LEDs
I/O Port	2 Type-A (USB3.2 Gen1)
External Drive Bay / Storage	
Front Side Drive Bay	4 Hot-swap 3.5" SATA drive bays
Front Side Backplane	4-port 6Gbps passive backplane
Internal Side	2 Fixed 2.5" NVMe (PCIe4.0 x4) drive bays 1 M-key (PCIe4.0 x4); supports 2280/2260/2242/2230 form factor [PCH]
Power Supply	
Type	Single fixed PSU
Output Watt	400W @ 100-240Vac input
Efficiency	80-PLUS Gold
AC Input	AC 100-240V/6-3A, 50-60Hz
System Fan	
Fan	5 PWM easy-swap 40x28mm fans
Processor System	
CPU	Supports Intel® Xeon® 6300-series, Xeon® E-2400 series, and Pentium® Gold G7400/G7400T processors
Socket	Single Socket LGA 1700
Thermal Design Power	Max. up to 95W (TDP)
Chipset	Intel® C262

System Memory	
Supported DIMM Quantity	4 DIMM slots (2DPC)
Supported Type	Supports DDR5 288-pin ECC UDIMM
Max. Capacity per DIMM	32GB
Max. DIMM Frequency	4400MT/s (2SPC - 1DIMM) 4000MT/s (2SPC - 2DIMM 1R) 3600MT/s (2SPC - 2DIMM 2R)
Voltage	1.1V
PCIe Expansion Slot	
PCIe x16	1 FHHL PCIe5.0 x16 via RBIUX16R_G5
Ethernet	
Additional GbE Controller	2 RJ45 (10GbE) by Intel® X710 2 RJ45 (1GbE) by Intel® i210
Server Management	
BMC Controller	ASPEED AST2600: iKVM, vMedia support
IPMI Dedicated GLAN	1 RJ45 dedicated IPMI LAN port by Realtek RTL8211F
Graphics	
Controller	ASPEED AST2600: 1 DB15 (VGA)
Rear I/O	
UID Button/ LED	1 UID button w/ LED
Video Port	1 DB15 (VGA)
Serial Port	1 DB9 (COM)
USB3.2 Gen1 Port	2 Type-A (USB3.2 Gen1)
RJ45	2 RJ45 (10GbE), 2 RJ45 (1GbE), 1 dedicated IPMI
System BIOS	
BIOS Type	AMI 256Mb SPI Flash ROM
BIOS Features	Plug and Play, ACPI 6.4 and above compliance wake up events, SMBIOS 2.8 and above, ASRock Rack Instant Flash

Hardware Monitor	
Temperature	CPU, MB, card side, VR, DDR5, PCH, M.2, X710, TR1 temperature sensing
Fan	Fan tachometer CPU quiet fan (allows chassis fan speed auto-adjust by CPU temperature) Fan multi-speed control
Voltage	3VSB, 5VSB, CPU_VCORE, VCCIN_AUX, VDD2, 1.05V_PCH, 0V82SB_PCH, 1V8SB, VCCSA, BAT, 3V, 5V, 12V
Environment	
Temperature	Operation temperature: 10°C ~ 35°C Non operation temperature: -40°C ~ 70°C
Humidity	Non operation humidity: 20% ~ 90% (non condensing)

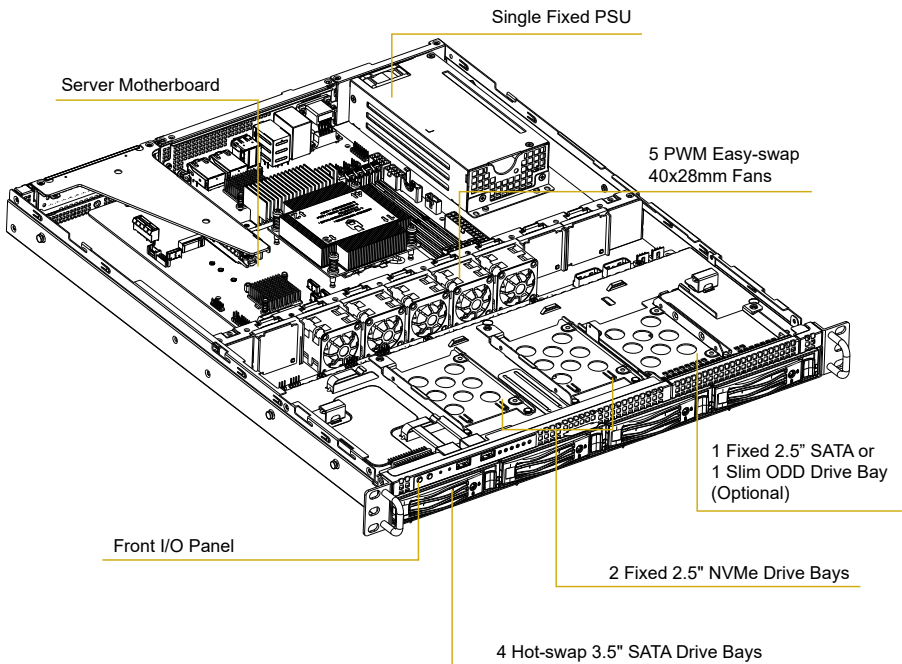


The functions are supported depending on the type of the server motherboard. Refer to the server motherboard user manual for more information.

Chapter 2 Server System Overview

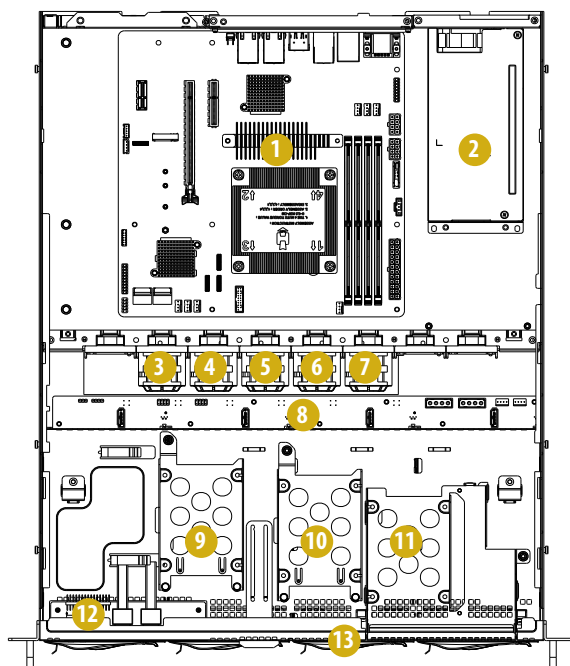
This chapter provides diagrams showing the location of important components of the server system.

2.1 System Components



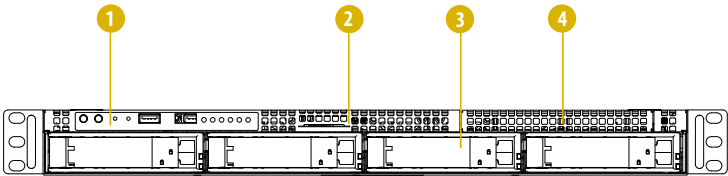
Note: The illustrations in this User Manual are for references only. The actual product may be slightly different by SKU.

2.2 Internal Features



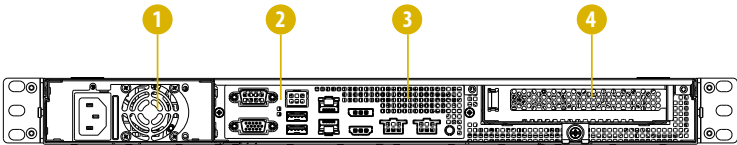
No.	Description
1	Server motherboard
2	Single fixed PSU
3	PWM easy-swap 40x28mm fan (FAN5)
4	PWM easy-swap 40x28mm fan (FAN4)
5	PWM easy-swap 40x28mm fan (FAN3)
6	PWM easy-swap 40x28mm fan (FAN2)
7	PWM easy-swap 40x28mm fan (FAN1)
8	Hard drive backplane board (BPB)
9	1 Fixed 2.5" NVMe (PCIe4.0 x4) drive bay
10	1 Fixed 2.5" NVMe (PCIe4.0 x4) drive bay
11	1 Fixed 2.5" SATA or 1 slim optical disc drive (ODD) drive bay (optional)
12	Front panel board (FPB)
13	4 Hot-swap 3.5" SATA drive bays

2.3 System Front Panel



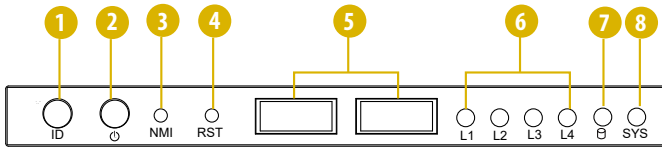
No.	Description
1	Front I/O panel
2	2 Fixed 2.5" NVMe (PCIe4.0 x4) drive bays
3	4 Hot-swap 3.5" SATA drive bays
4	1 Fixed 2.5" SATA or 1 slim optical disc drive (ODD) drive bay (optional)

2.4 System Rear Panel



No.	Description
1	Single fixed PSU
2	Rear I/O panel (depends on the specification of the server motherboard)
3	Rear vent
4	1 FHHL PCIe5.0 x16 slot via RB1UX16R_G5

2.5 Front I/O Panel



No.	Description
1	ID switch w/ LED
2	Power switch w/ power status LED
3	NMI button
4	System reset button
5	2 Type-A (USB3.2 Gen1) ports
6	LAN1, LAN2, LAN3, LAN4 LEDs
7	Hard drive LED
8	System fail activity LED

ID Switch

Press the ID button to toggle the front panel ID LED and the baseboard ID LED on and off. You are able to locate the server you're working on from behind a rack of servers.

Power Switch

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 power cord from the server.

NMI (Nonmaskable Interrupt) Button

Press the NMI button with a paper clip or pin to generate a nonmaskable interrupt and to put the server in a halt state for examination.

System 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.

Status LED Definitions

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

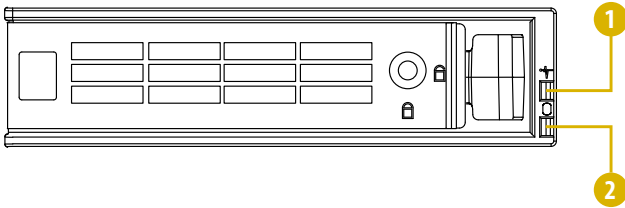
Power Status LED	
Status	Description
Off	Power off
Green	Power on
Blinking Green	Standby (Sleep) mode

LAN1, LAN2, LAN3, LAN4 LEDs	
Status	Description
Off	No LAN is present.
Green	LAN is present.
Blinking Green	Network access

Hard Drive LED	
Status	Description
Off	Hard drive idle
Blinking Green	Hard drive access

System Fail Activity LED	
Status	Description
Off	Running or normal operation
Yellow	At least one sensor has critical alert.

2.6 Hard Drive Tray LED



No.	Description
1	Hard drive power LED
2	Hard drive activity LED

Status LED Definitions

Hard Drive Power LED	
Status	Description
Off	No power to hard drive
Blue	Hard drive powered-on

Hard Drive Activity LED	
Status	Description
Off	Hard drive powered-off
Green	Hard drive active
Blinking Green	Hard drive accessing or reading
Red	Hard drive failed

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.



Ensure the motherboard battery is installed before unplugging the power cord or installing/removing the motherboard. Failure to follow this precaution may result in physical injury or damage to motherboard 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.

Installing Procedures

The followings are prerequisite to be installed.

- 3.5" or 2.5" Hard Drives
- Power Supply Unit (Pre-installed)
- System Fans (Pre-installed)
- Server Motherboard (Pre-installed)
- Hard Drive Backplane (Pre-installed)



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.

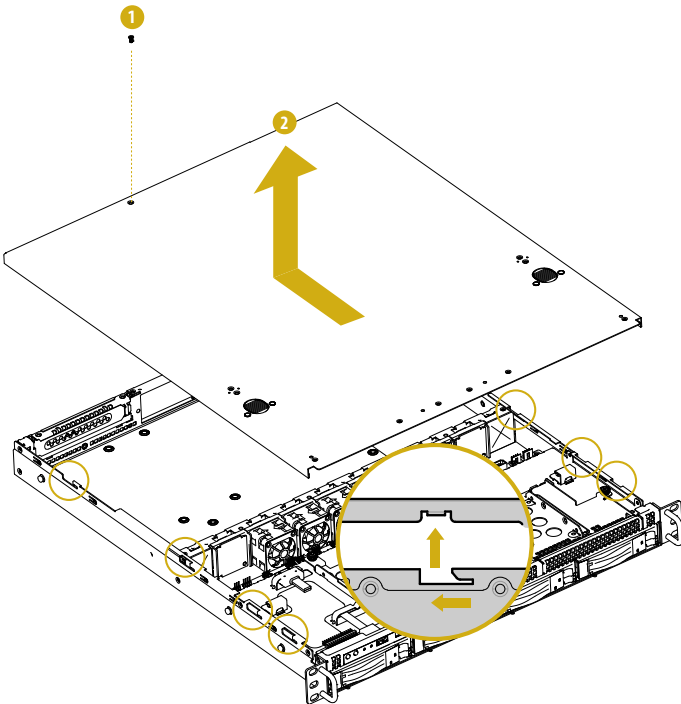
3.1 Server Top Cover

Removing the Server Top Cover



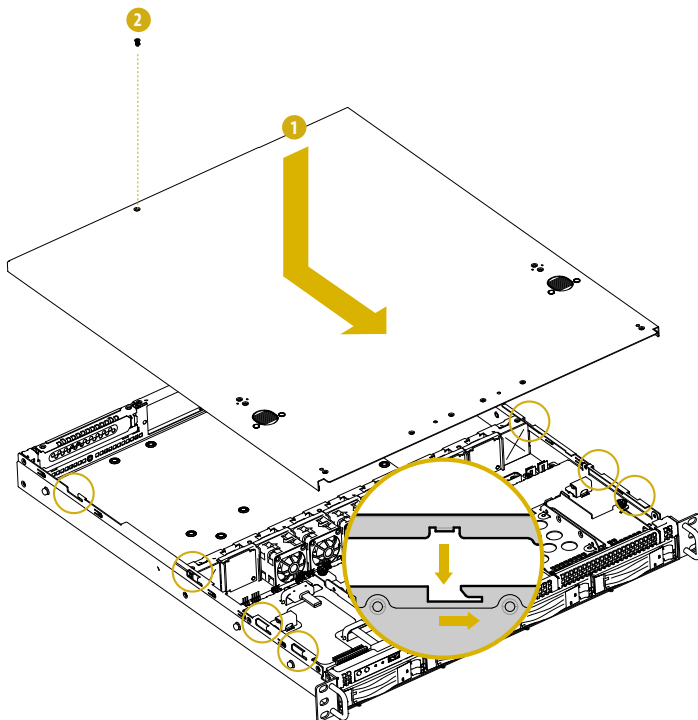
1. Before removing the top cover, power off the server and unplug the power cord.
2. The system must be operated with the chassis top cover installed to ensure proper cooling.

1. Remove the screw securing the top cover to the chassis.
2. Push the top cover toward the REAR of the chassis to release the cover from the locked position. Lift up and remove the cover.



Installing the Server Top Cover

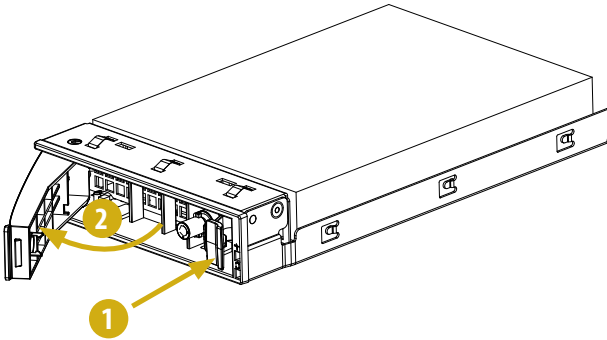
1. Lower the top cover on the chassis, making sure the side latches align with the cutouts. Slide the cover toward the FRONT of the chassis.
2. Secure the top cover in place with the screw.



3.2 Hard Drive

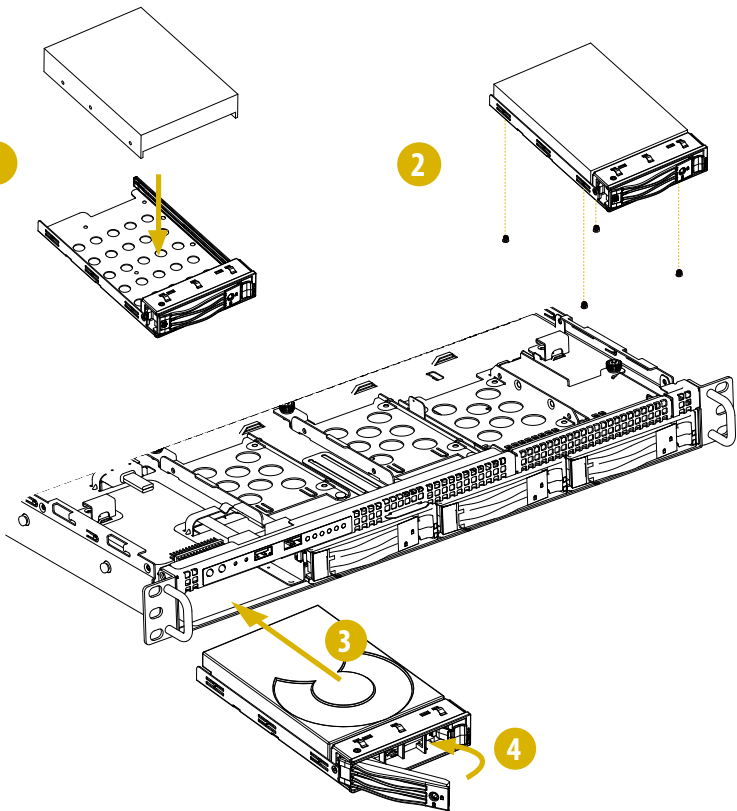
Removing 3.5" Hard Drive Tray from the Chassis

1. Press the locking lever latch on the hard drive tray to unlock the retention lever.
2. Rotate the lever out and away from the module bay and pull the tray out of the chassis.



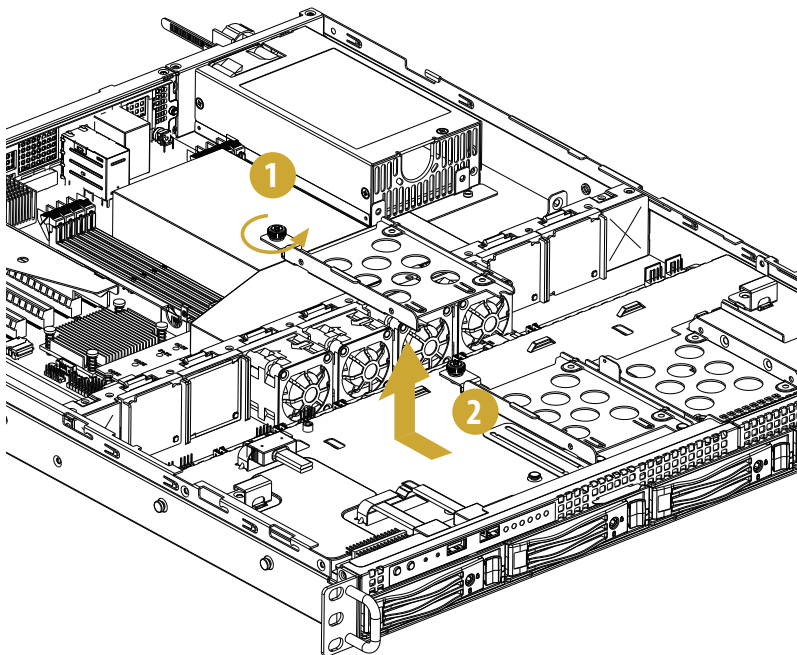
Installing a 3.5" Hard Drive to the Chassis

1. Place the 3.5" hard drive into the hard drive tray with the printed circuit board side facing down. Carefully align the mounting holes in the hard drive and the tray.
2. Secure the hard drive with four screws.
3. Slide the hard drive assembly into the hard drive bay until the assembly is fully seated.
4. Push in the locking lever to lock the assembly in place.



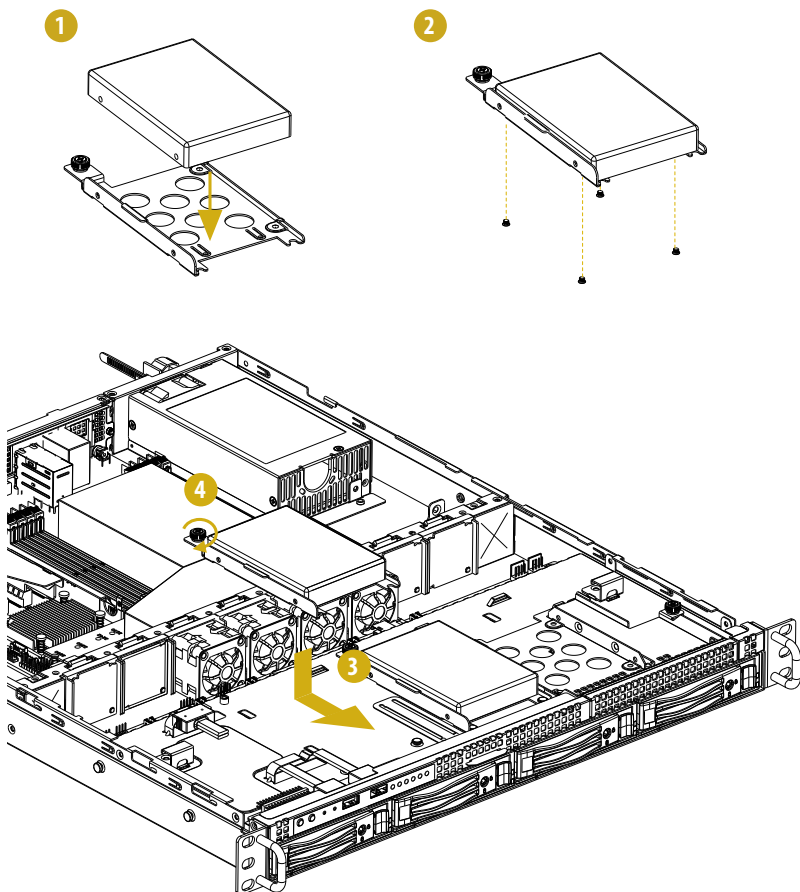
Removing a 2.5" Hard Drive Carrier from the Chassis

1. Hand-release the thumbscrew securing the hard drive carrier to the chassis.
2. Push the carrier toward the REAR of the chassis to release it from the locked position.
Remove the carrier.



Installing a 2.5" Hard Drive to the Chassis

1. Place a 2.5" hard drive into the hard drive carrier with the printed circuit board side facing down.
2. Secure the hard drive to the carrier with the screws.
3. Put the hard drive assembly back into the chassis and slide it toward the FRONT.
4. Hand-tighten the thumbscrew to secure the assembly to the chassis.



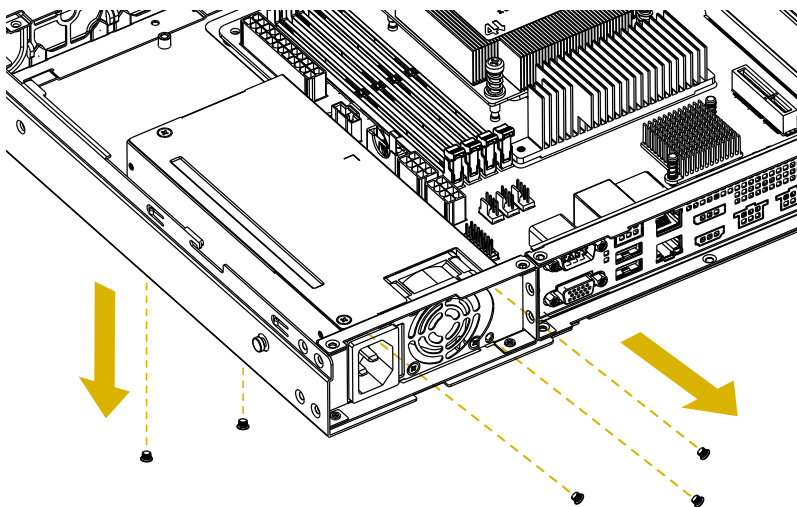
3.3 Power Supply

Removing the Power Supply Unit



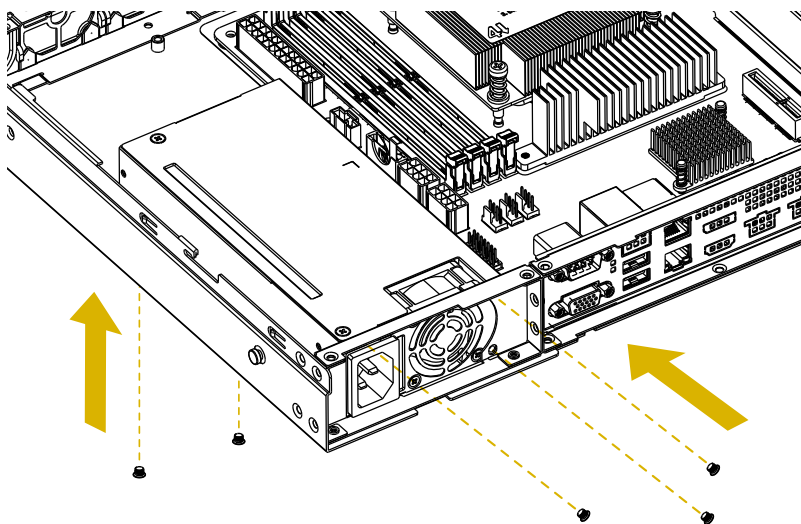
1. Before replacing the power supply unit, power off the server, unplug the power cord, and disconnect all wiring from the power supply unit.
2. In a redundant system, it does not need to power down the server.

Remove 5 screws based on location. Remove the PSU.



Installing the Power Supply Unit

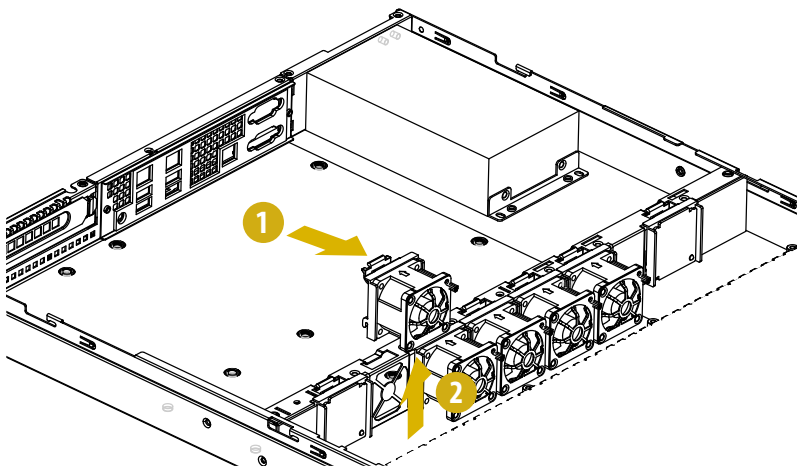
Install 5 screws according to location to install the PSU.



3.4 System Fan

Replacing the Easy-swap Fan

1. Press and hold the clip on the fan.
2. Press and hold the clip on the middle fan.



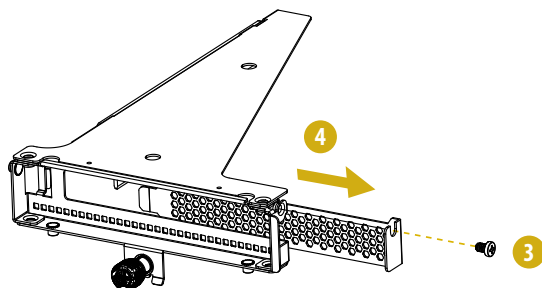
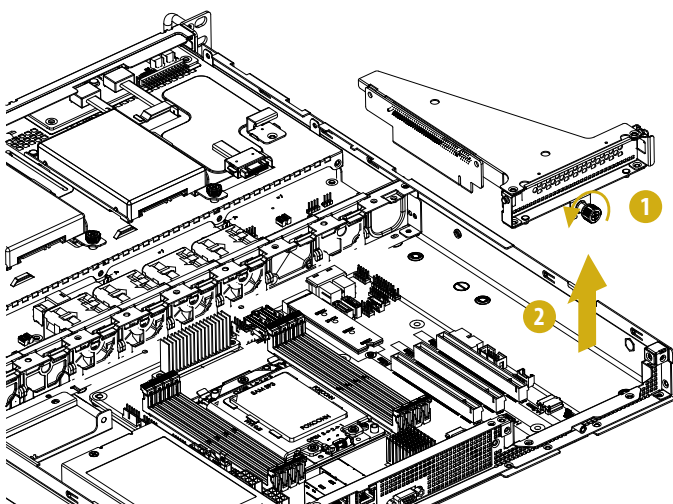
3.5 Add-in Card



1. Install an add-in card to the chassis only when having a riser-card installed on the server motherboard.
2. Before installing the add-in card, power off the server and unplug the power cord.

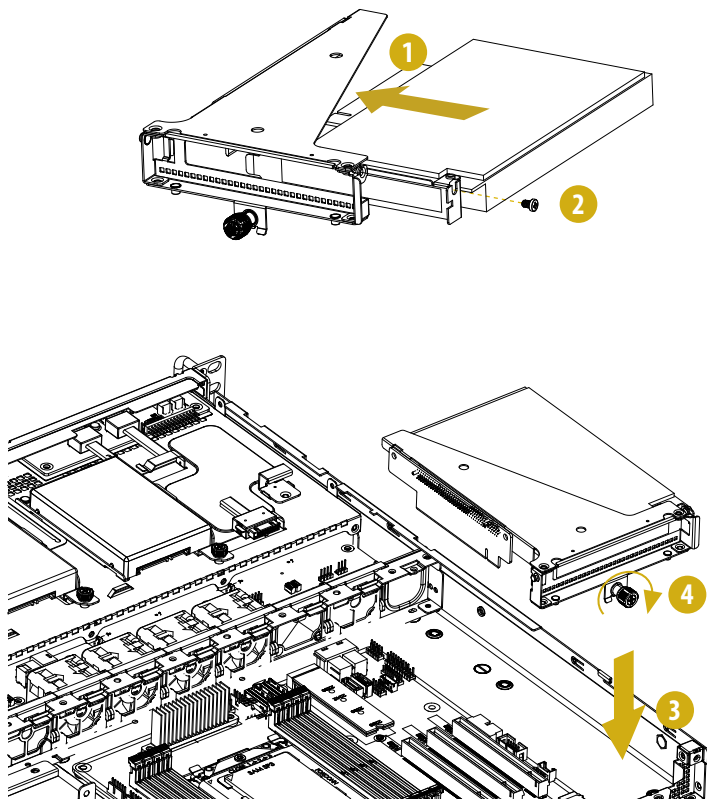
Removing the Riser-card Bracket from the Chassis

1. Hand-release the thumbscrew securing the riser-card bracket on the chassis.
2. Lift up the bracket.
3. Remove the screw securing the blanking plate on the bracket.
4. Slide the blanking plate out sideways.



Installing the Add-in Card

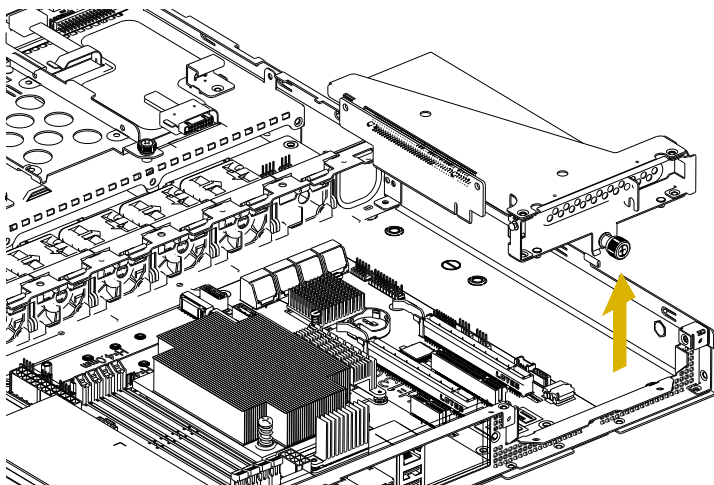
1. Install the add-in card to the riser-card bracket.
2. Secure the add-in card to the bracket with the screw.
3. Align the add-in card assembly with the opening of the chassis.
4. Hand-tighten the thumbscrew to secure the assembly to the chassis.



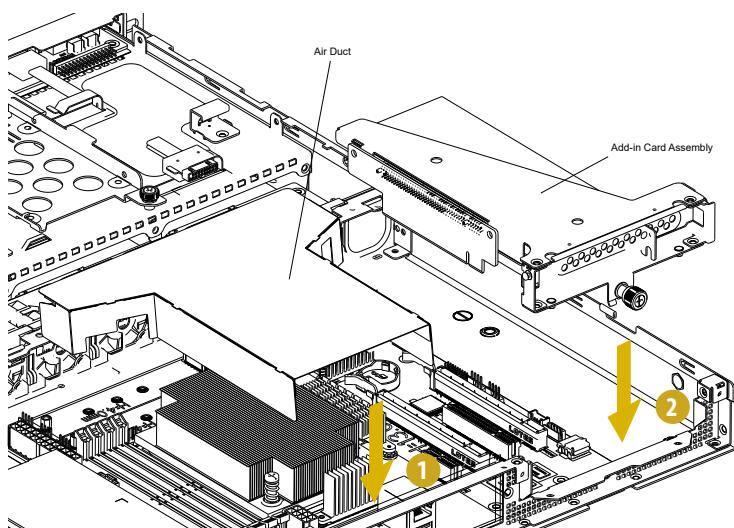
3.6 Air Duct

Installing the Air Duct

If an add-in card assembly is already installed but not the air duct, remove the add-in card assembly from the chassis before installing the air duct. See section 3.5 **Add-in Card** for more instructions.



If an add-in card is not installed yet, install the air duct first. Then install the add-in card assembly to the chassis.

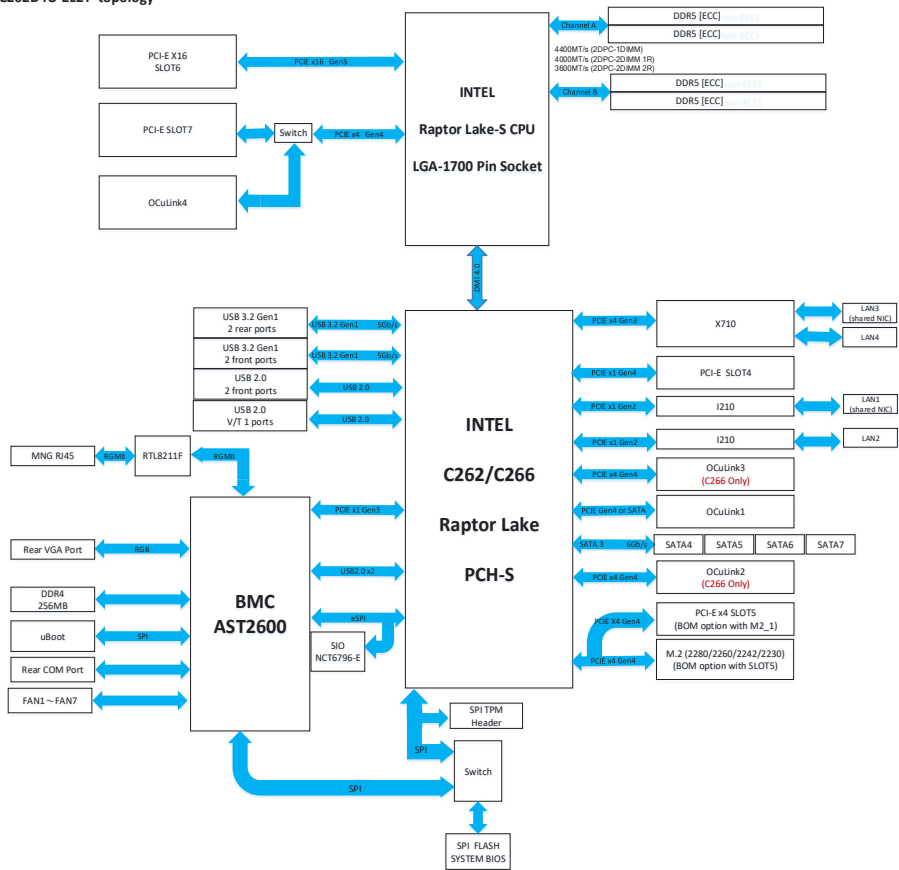


No.	Description
1	Chassis Fan Connector (FAN6)
2	Chassis Fan Connector (FAN7)
3	Front VGA Header (FRNT_VGA1)
4	PWM Configuration Header (PWM_CFG1)
5	ATX 12V Power Connector (ATX12V1)
6	ATX 12V Power Connector (ATX12V2)
7	PSU SMBus Header (PSU_SMB1)
8	ATX Power Connector (ATXPWR1)
9	2 x 288-pin DDR5 DIMM Slots (DDR5_A2, DDR5_B2)
10	2 x 288-pin DDR5 DIMM Slots (DDR5_A1, DDR5_B1)
11	Chassis Fan Connector (FAN4)
12	Chassis Speaker Header (SPEAKER1)
13	Single Socket (LGA-1700) (CPU1)
14	USB 3.2 Gen1 Header (USB3_3_4)
15	OCuLink x4 Connector (OCU4)
16	OCuLink x4 Connector (OCU2) <i>(for EC266D4U/EC266D4U-2L2T only)</i>
17	OCuLink x4 Connector (OCU1)
18	USB Connector (USB_5)
19	Chassis Fan Connector (FAN3)
20	Chassis Fan Connector (FAN2)
21	Chassis Fan Connector (FAN1)
22	SATA3 Connectors (SATA_7)(Upper), (SATA_6)(Lower)
23	SATA3 Connectors (SATA_5)(Upper), (SATA_4)(Lower)
24	System Panel Header (PANEL1)
25	Auxiliary Panel Header (AUX_PANEL1)
26	SATA SGPIO Connector (SATA_SGPIO1)
27	SPI TPM Header (TPM_BIOS_PH1)
28	USB 2.0 Header (USB_1_2)
29	CPU PECI Mode Jumper (PECI1)
30	Thermal Sensor Header (TR1)
31	Intelligent Platform Management Bus Header (IPMB1)
32	BMC SMBus Header (BMC_SMB1)
33	Non Maskable Interrupt Button (NMI_BTN1)
34	Security Override Jumper (SEC_OR1)

No.	Description
35	Front LAN LED Header (LED_LAN3_4)
36	OCuLink x4 Connector (OCU3) <i>(for EC266D4U/EC266D4U-2L2T only)</i>
37	PCI Express 5.0 x16 Slot (PCIE4)
38	Clear CMOS Pad (CLRMOS1)
39	M.2 Socket (M2_1) (Type 2230/2242/2260/2280)
40	PCI Express 5.0 x16 Slot (PCIE6)
41	PCI Express 4.0 x4 Slot (PCIE7)
42	Chassis Fan Connector (FAN5)

4.2 Block Diagram

EC262D4U-2L2T topology

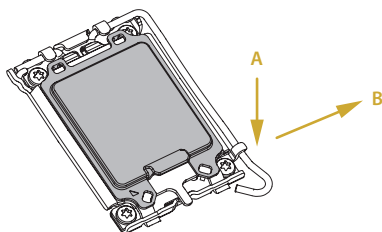


4.3 Installing the CPU (LGA 1700 Socket)

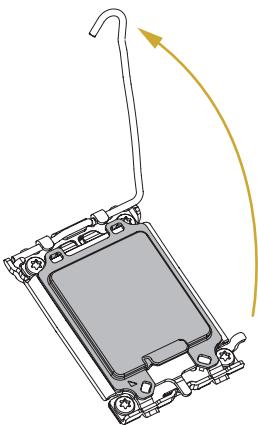


1. Before inserting the CPU into the socket, check if the PnP cap is on the socket, if the CPU surface is unclean, or if there are any bent pins in the socket. Do not force to insert the CPU into the socket if above situation is found. Otherwise, the CPU will be seriously damaged.
2. Unplug all power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

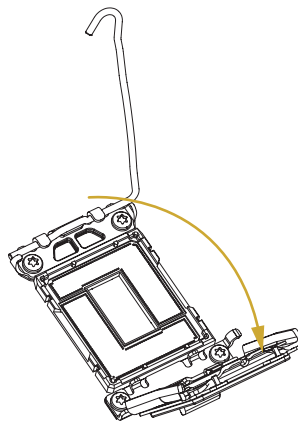
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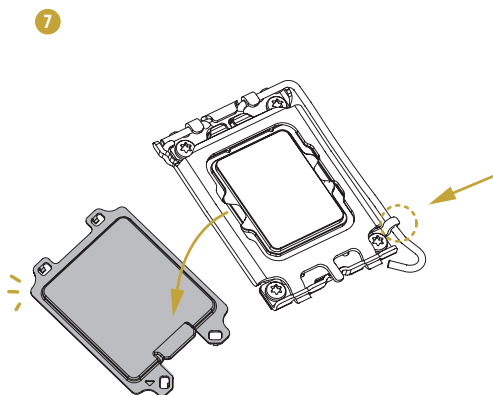
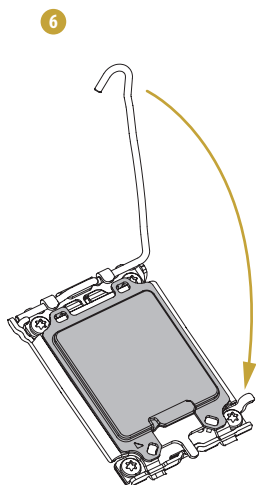
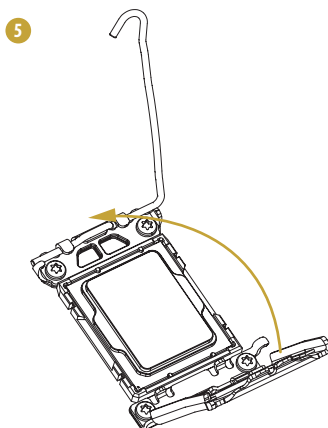
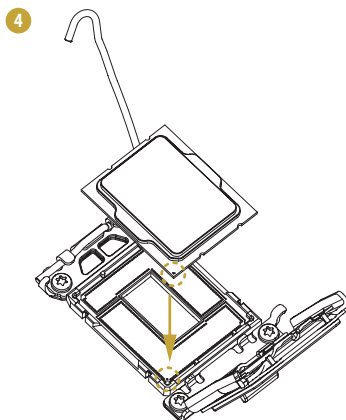


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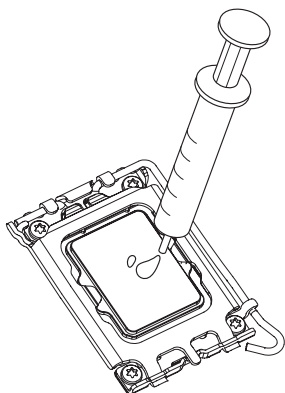
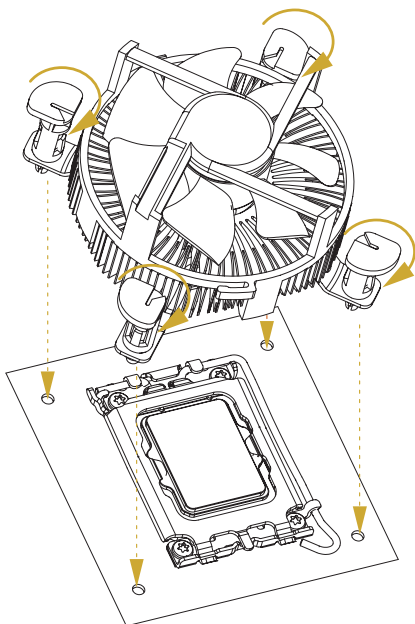
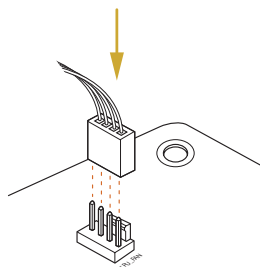
3





Save and replace the cover if the processor is removed. The cover must be placed if wishing to return the server motherboard for after service.

4.4 Installing the CPU Fan and Heatsink

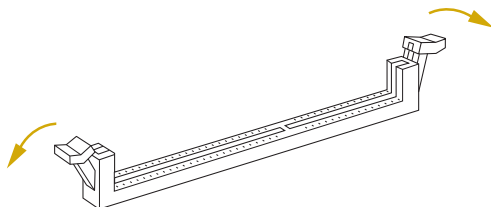
**1****2**

4.5 Installing the Memory Modules (DIMM)

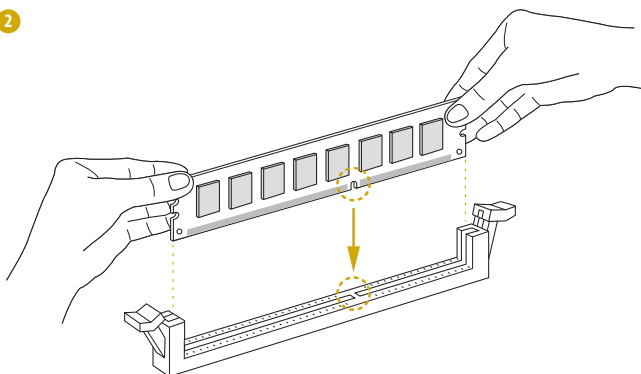


The DIMM only fits in one correct orientation. It will cause permanent damage to the server motherboard and the DIMM if forcing the DIMM into the slot at incorrect orientation. For more information about DIMM installation, refer to the server motherboard user manual.

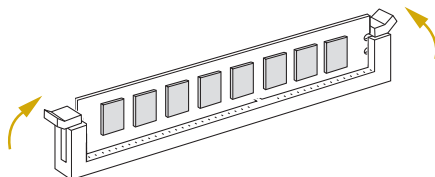
1



2



3



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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