



Industry Standard, Flexible Architecture

OPEN

Less Heat, Less Power Consumption

GREEN

Robust Design, Quality Parts

STABLE

Stable and
Reliable Solution

Server/Workstation
Motherboard

1U2FH-4L Series



User Manual

English



Version 1.0

Published March 2022

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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 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”

ASRockRack's Website: www.ASRockRack.com

Setting up the Server in a Restricted Access Location

- Only skilled person can remove the chassis covers to access the inside of the system.
- Access can only be gained by instructed person or by skilled person 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 German Ordinance for Work with Visual Display Units.

Replaceable Batteries

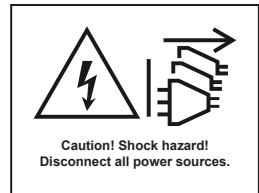
CAUTION

**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 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.

Contact Information

If you need to contact ASRockRack or want to know more about ASRockRack, you're welcome to visit ASRockRack's website at www.ASRockRack.com; or you may contact your dealer for further information.

ASRockRack Incorporation

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Chapter 1 Introduction

Thank you for purchasing 1U2FH-4L Series, a reliable barebone system produced under ASRockRack's consistently stringent quality control. It delivers excellent performance with robust design conforming to ASRockRack's commitment to quality and endurance.



- 1. Because the hardware specifications might be updated, the content of this documentation will be subject to change without notice. In case any modifications of this documentation occur, the updated version will be available on ASRockRack's website without further notice. If you require technical support related to this product, please visit our website for specific information about the model you are using.
ASRockRack's Website: www.ASRockRack.com*
- 2. The illustrations shown in this manual are examples only, the actual system may differ slightly .*

1.1 Shipping Box Contents

Item	Quantity	
	1U2FH-4L/C612	1U2FH-4L/C622 Series
1U2FH-4L Series Barebone (1U form factor)	1	1
System Board (MB)	1	1
Power Supply Unit	2	2
System Fan	5	6
HDD Backplane (BPB)	1	1
Front Panel Board (FPB)	1	1
Power Distribution Cage / Board (PDB)	1	1
Power Cable, ATX 8Pin, PDB to MB, 200mm	1	1
Power Cable, ATX 8Pin, PDB to MB, 700mm	1	1
Power Cable, ATX 24Pin, PDB to MB, 450mm	1	1
Power Cable, ATX 12Pin to 3*4Pin, PDB to BPB, 250/300/350mm	1	1
PMBus Cable, 1*5Pin, PDB to MB, 500mm	1	1
SMBus Cable, 1*5Pin, PDB to MB, 650mm	1	1
Front Panel Cable, 2*10Pin to 2*10Pin+1*5Pin, FPB to MB, 840+800mm	1	1
USB 2.0 Cable, FPB to MB, 2*5PIN, 850mm	1	1
VGA Cable, 2*8Pin, 850mm	1	0
BPB Cable, MiniSAS HD to 8087(L/A), 650mm	1	1
2.5" HDD Cable, SATA 7+15 to 7Pin+1*4Pin, 800&120mm	2	3
Accessory Box	1	1
User Manual	1	1
Quick Installation Guide	1	1

Note: Type and quantity of the cables vary depending on the server board that comes with your system.



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

1.2 Specifications

1U2FH-4L Series		
System		
Form Factor	1U Rackmount	1U Rackmount
Chassis Model	1U2FH-4L/C612	1U2FH-4L/C622 1U2FH-4L/C622VK
Dimensions	28" x 16.9" x 17" (710 mm X 430 mm X 43.5 mm)	24.6" x 16.9" x 17" (625 mm X 430 mm X 43.5 mm)
Support MB	EEB, 12"x13"	EEB, 12"x13"
Front Panel		
Buttons	• Power On/Standby Button • UID Button	• Power On/Standby Button • ID Button • System Reset Button • NMI Button
LEDs	• POWER LED • UID LED • LAN LED • HDD LED	• POWER LED • UID LED • LAN LED • HDD LED
I/O Ports	• 2 x USB 2.0 ports • VGA port	• 2 x USB 2.0 ports
External Drive Bay		
Front Side Drive Bay	4 Bay 3.5" SATA HDD (6Gb/s)	4 Bay 3.5" SATA HDD (6Gb/s)
Front Side Backplane	Backplane with 4 SATA ports	Backplane with 4 SATA ports
Internal Side Drive Bay	2 Bay 2.5" SATA HDD	1U2FH-4L/C622: 2 Bay 2.5" SATA HDD 1U2FH-4L/C622VK: N/A
Power Supply		
Type	1U, Redundant	1U, Redundant
Output Watts	650W Platinum	750W Platinum
System Fan		
Fan	4056 mm Fan x5	4056 mm Fan x6
Riser Card Support		
Riser card Type	2 x Symmetry Riser card (x16) support 2 x Full High PCIE card	2 x Symmetry Riser card (x16) support 2 x Full High PCIE card
Other		
Support MB	FH-C612NM <i>*Supports up to 120W CPU only; for higher Watt CPU support, please contact our sales representatives.</i>	EP2C622D16NM

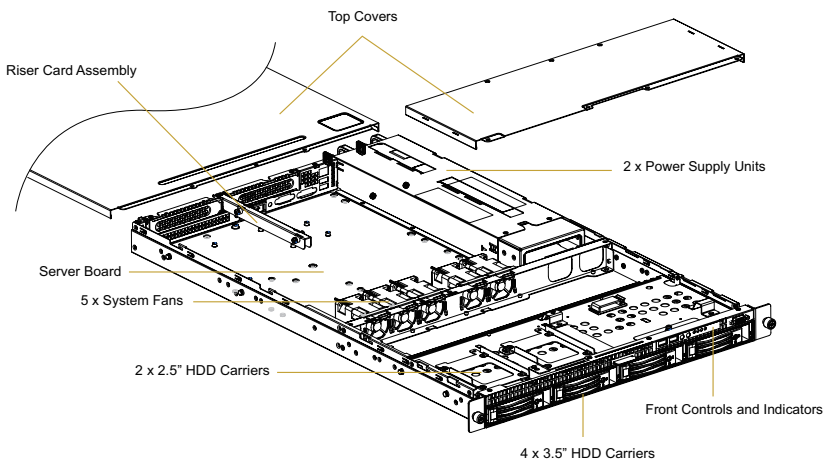
*Please be noted that the functions are supported depending on the type of the server board.

Chapter 2 Server System Overview

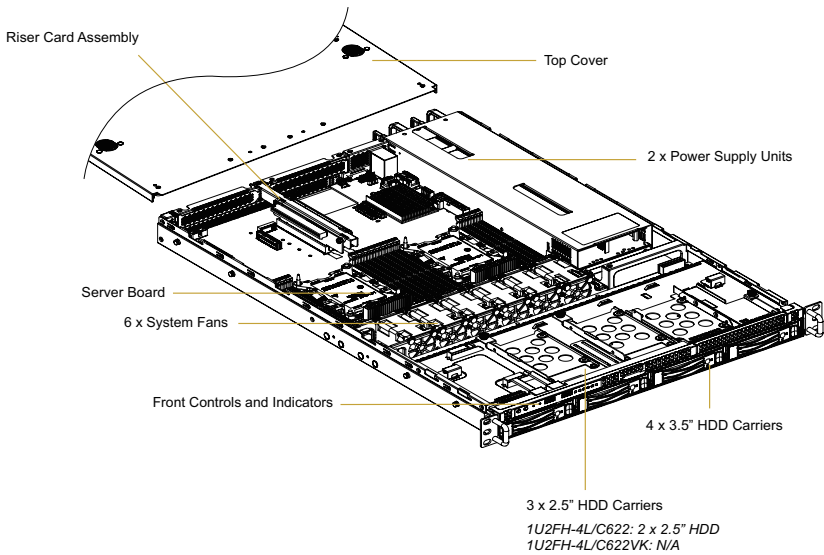
This chapter provides diagrams showing the location of important components of the server system.

2.1 System Components

1U2FH-4L/C612 Series

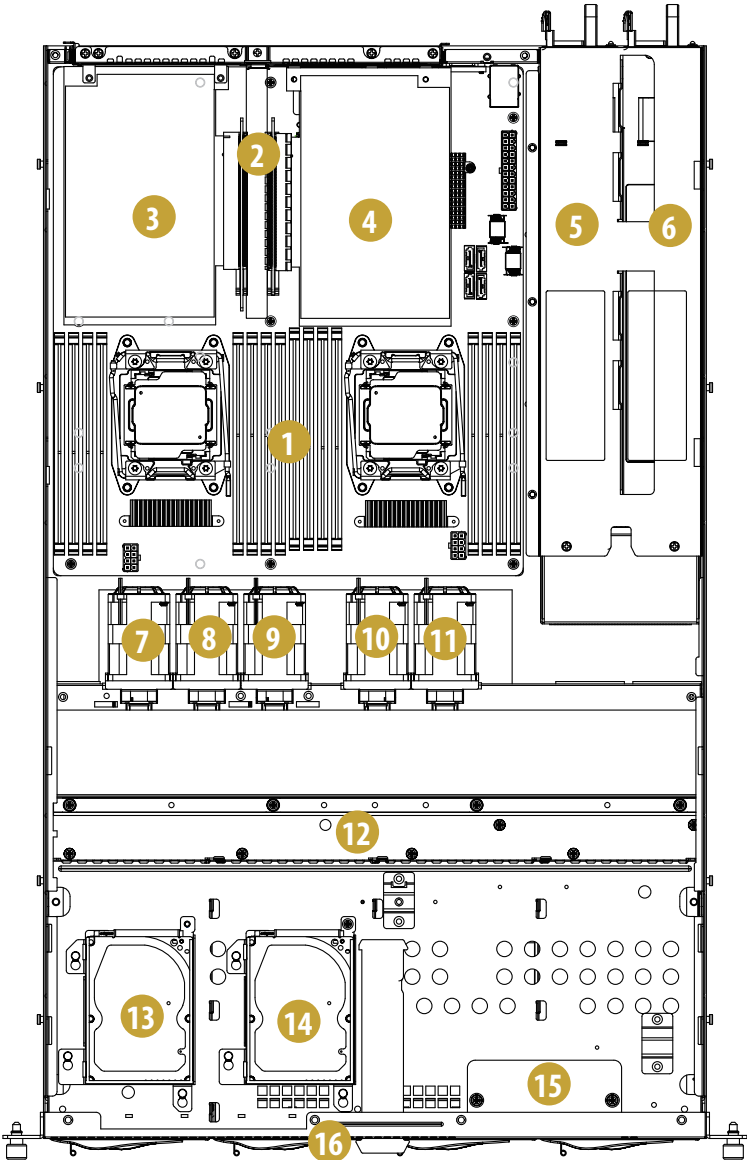


1U2FH-4L/C622 Series



2.2 Internal Features

1U2FH-4L/C612

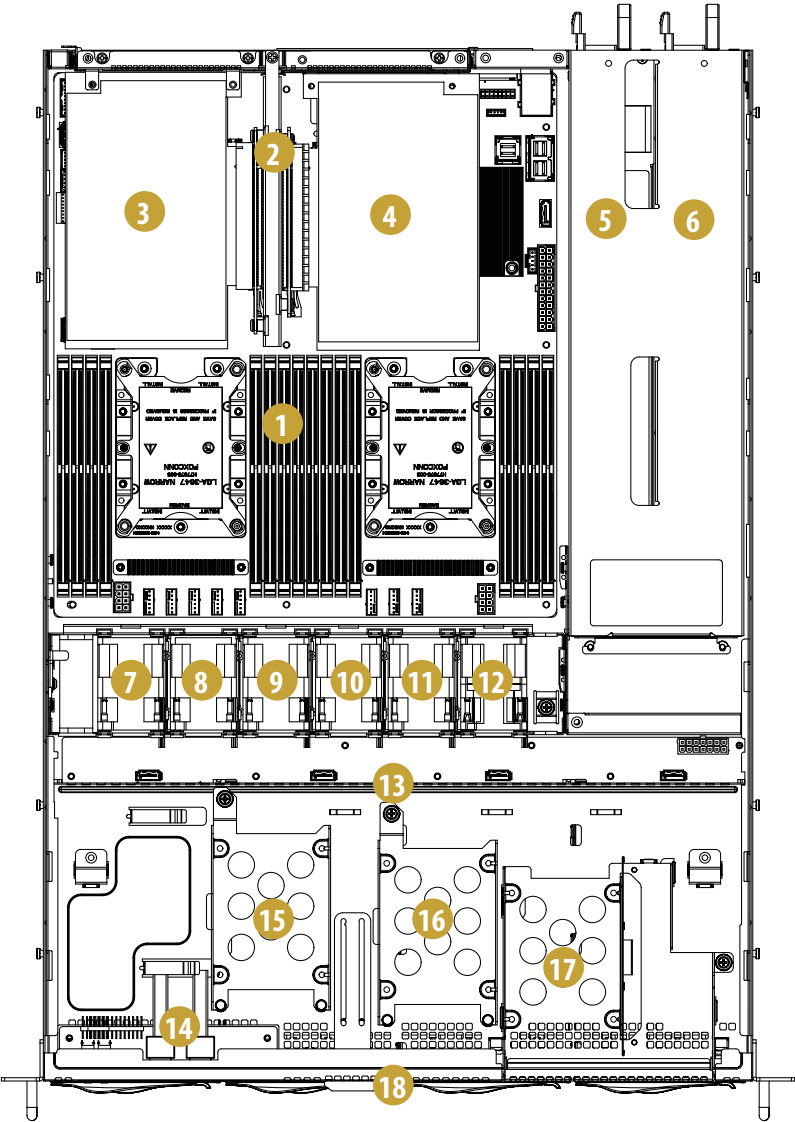


No.	Item
1	Server Board (SB)
2	Riser Card Assembly
3	PCIE Add-on Card 1 (on the riser card assembly)* or Storage Mezzanine Card (on the server board)
4	Top: PCIE Add-on Card 2 (on the riser card assembly)* Bottom: LAN Mezzanine Card (on the server board)**
5	Power Supply Unit (PSU2)
6	Power Supply Unit (PSU1)
7	System Fan (FAN1)
8	System Fan (FAN2)
9	System Fan (FAN3)
10	System Fan (FAN4)
11	System Fan (FAN5)
12	HDD Backplane Board (BPB)
13	2.5" HDD Carrier (HDD4)***
14	2.5" HDD Carrier (HDD5)***
15	Front Panel Board (FPB)
16	4 x 3.5" Hot-Swap HDD Trays (HDD0~HDD3)

*Supports Low profile and FHHL (Full High Half Length) PCIe cards

**Supports 1GbE x 2, 10GbE x2 or SFP+ (Fiber) mezzanine cards (M350R/M540R/M599R/M599RS)

***Supports 7mm 2.5-inch HDD only



No.	Item
1	Server Board (SB)
2	Riser Card Assembly
3	PCIE Add-on Card 1 (on the riser card assembly)* or Storage Mezzanine Card (on the server board)
4	Top: PCIE Add-on Card 2 (on the riser card assembly)* Bottom: LAN Mezzanine Card (on the server board)**
5	Power Supply Unit (PSU2)
6	Power Supply Unit (PSU1)
7	System Fan (FAN1)
8	System Fan (FAN2)
9	System Fan (FAN3)
10	System Fan (FAN4)
11	System Fan (FAN5)
12	System Fan (FAN6)
13	HDD Backplane Board (BPB)
14	Front Panel Board (FPB)
15	2.5" HDD Carrier (HDD4)*** (1U2FH-4L/C622VK not supported)
16	2.5" HDD Carrier (HDD5)*** (1U2FH-4L/C622VK not supported)
17	2.5" HDD Carrier (HDD6) (1U2FH-4L/C622 and 1U2FH-4L/C622VK not supported)
18	4 x 3.5" Hot-Swap HDD Trays (HDD0~HDD3)

*Supports Low profile and FHHL (Full High Half Length) PCIe cards

**Supports 1GbE x 2, 10GbE x2 or SFP+ (Fiber) mezzanine cards (M350R/M540R/M599R/M599RS)

***Supports 7mm 2.5-inch HDD only

2.3 System Front Panel

1U2FH-4L/C612



No.	Description
1	4 x 3.5" Hot-Swap HDD Trays (HDD0~HDD3)
2	2 x USB 2.0 Ports
3	Control Panel Buttons and LEDs
4	VGA Port

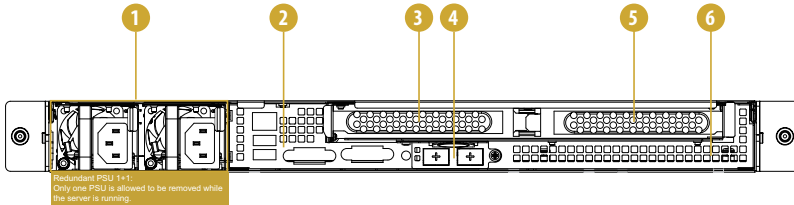
1U2FH-4L/C622



No.	Description
1	4 x 3.5" Hot-Swap HDD Trays (HDD0~HDD3)
2	2 x USB 2.0 Ports
3	Control Panel Buttons and LEDs

2.4 System Rear Panel

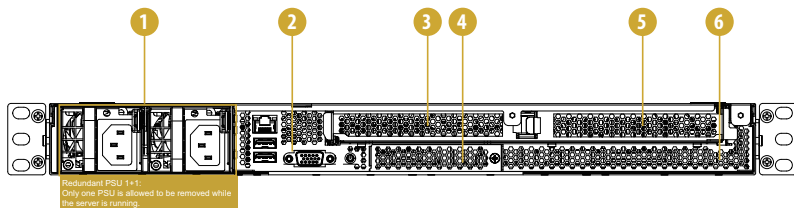
1U2FH-4L/C612



No.	Description
1	2 x Power Supply Units (Redundant PSU 1+1) *Server requires 1 working PSU, with 1 redundant PSU. You must have at least one active supply, installed, functioning and connected to AC. Only one of the PSUs is allowed to be removed while the server is running.
2	I/O Shield (depends on the specification of the server board)*
3	1 x PCI Express Slot 1 (on the riser card assembly) *Supports Low profile and FHHL (Full High Half Length) PCIe cards
4	1 x LAN Mezzanine Card Slot *Support for 1GbE x 2, 10GbE x2 or SFP+ (Fiber) x2
5	1 x PCI Express Slot 2 (on the riser card assembly) *Supports Low profile and FHHL (Full High Half Length) PCIe cards
6	Rear Vent*

*The locations of I/O shield and rear vent may vary depending on the system and server board models.

1U2FH-4L/C622



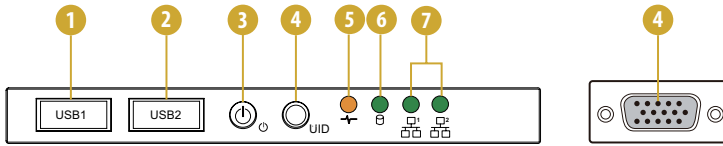
No.	Description
1	2 x Power Supply Units (Redundant PSU 1+1) *Server requires 1 working PSU, with 1 redundant PSU. You must have at least one active supply, installed, functioning and connected to AC. Only one of the PSUs is allowed to be removed while the server is running.
2	I/O Shield (depends on the specification of the server board)*

3	1 x PCI Express Slot 1 (on the riser card assembly) <i>*Supports Low profile and FHHL (Full High Half Length) PCIe cards</i>
4	1 x LAN Mezzanine Card Slot <i>*Support for 1GbE x 2, 10GbE x2 or SFP+ (Fiber) x2</i>
5	1 x PCI Express Slot 2 (on the riser card assembly) <i>*Supports Low profile and FHHL (Full High Half Length) PCIe cards</i>
6	Rear Vent*

**The locations of I/O shield and rear vent may vary depending on the system and server board models.*

2.5 Front Control Panel Buttons and LEDs

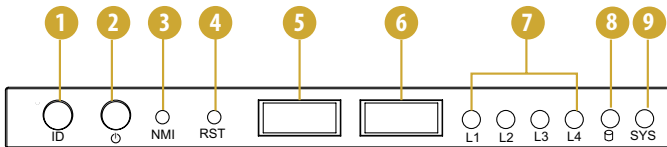
1U2FH-4L/C612



No.	Description
1	USB 2.0 Port (USB1)
2	USB 2.0 Port (USB2)
3	Power Button and LED
4	UID Button and LED*
5	System Status LED*
6	HDD Activity LED*
7	LAN1, LAN2 Activity LED*

*Please be noted that the functions are supported depending on the type of the motherboard.

1U2FH-4L/C622 Series



No.	Description
1	ID Button and LED
2	Power Button and LED
3	NMI (Nonmaskable Interrupt) Button
4	System Reset Button
5	USB 2.0 Port (USB1)
6	USB 2.0 Port (USB2)
7	LAN1, LAN2, LAN3, LAN4 Activity LED (LAN3 and LAN4 are not supported for 1U2FH-4L/C622 and 1U2FH-4L/C622VK)
8	HDD Status LED
9	System Status LED

*Please be noted that the functions are supported depending on the type of the server board.

UID/ID Button

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

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 power cord from the server.

NMI (Nonmaskable Interrupt) Button *(for 1U2FH-4L/C622 only)*

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 *(for 1U2FH-4L/C622 only)*

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

Power LED	
Status	Description
Green	Power on
Off	Power off

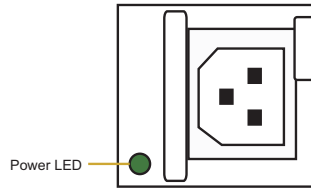
UID/ID LED	
Status	Description
Blue	System identification is active.
Off	System identification is disabled.

System Status LED	
Status	Description
Solid Red	There is a fault in the system.
Off	System is normally operating.

HDD Activity LED	
Status	Description
Blinking Green	At lease one of the HDDs is accessing data.
Solid Green	At lease one of the HDDs is connected.
Off	No HDD is present.

LAN LED	
Status	Description
Blinking Green	Network access
Solid Green	LAN is present.
Off	No LAN is present.

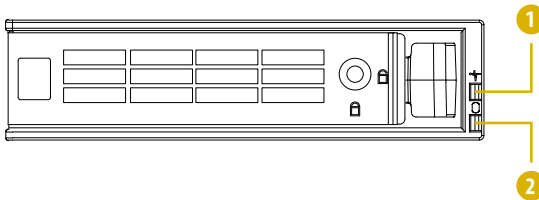
2.6 PSU LED



PSU Status LED

Status	Description
Green	Normal work; output ON and OK
Amber	Module fault/protection in operating mode (failure, OCP, OVP, Fan Fail, OTP, UVP) AC cord unplugged

2.7 3.5-inch Hard Drive Tray LEDs



No.	Description
1	HDD Power LED
2	HDD Activity LED

Status LED Definitions

HDD Power LED

Status	Description
Blue	HDD powered-on
Off	No power to HDD

HDD Activity LED

Status	Description
Solid Green	HDD active
Blinking Green	HDD accessing or reading
Red	HDD failed
Off	HDD powered-off

Chapter 3 Hardware Installation and Maintenance

This chapter helps you assemble the chassis and install components.

Before You Begin

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

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 you press 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 you have a clean and stable working environment. Avoid dust and dirt because contaminants may cause malfunctions.
3. Ground yourself 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" HDD(s)
- Power Supplies (Pre-installed)
- Server Board (Pre-installed)
- Front Panel Board (Pre-installed)
- HDD Backplane (Pre-installed)
- Fans (Pre-installed)

An Add-on Card is optional to be installed when you have a riser board installed on your server board.



1. Some components are already pre-installed. Simply properly connect the relevant cables before or after installation. See the Quick Installation Guide for more details.
2. Refer to the user manual of the server board you use for instructions on how to install server board components.

3.1 Server Top Cover

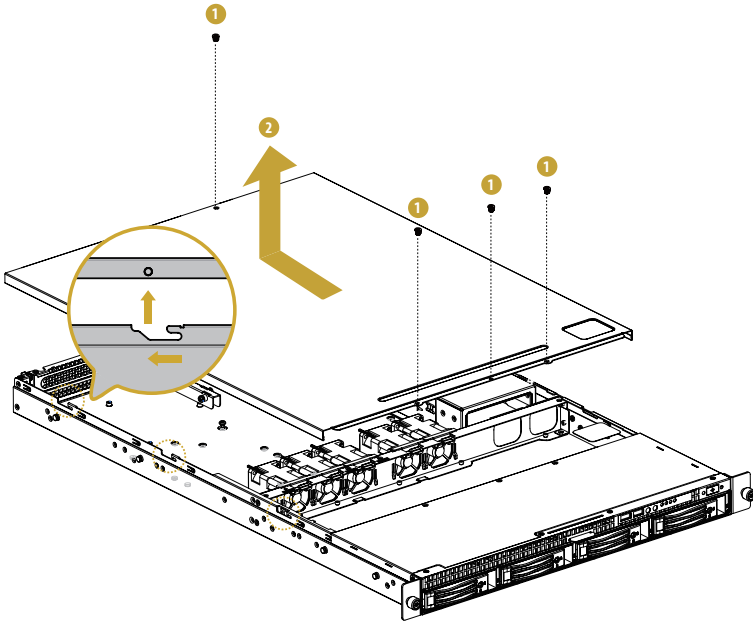
1U2FH-4L/C612

Removing the Server Top Covers

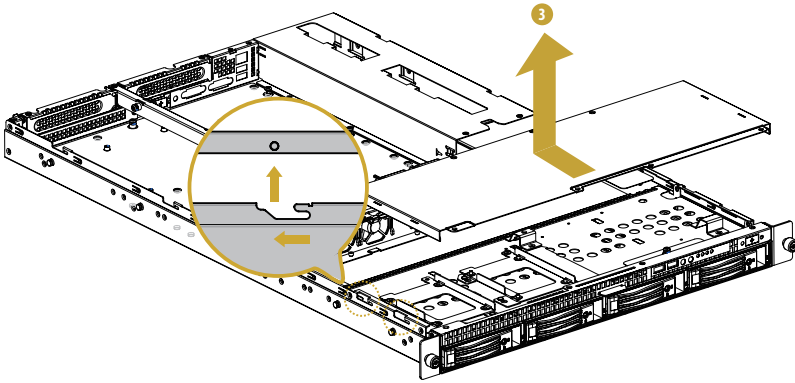


1. Before removing the top cover, power off the server and unplug the power cord.
2. The system must be operated with the chassis top cover installed to ensure proper cooling.

1. Remove the screws that secure the top rear cover to the chassis.
2. Push the top rear cover toward the rear of the chassis to remove the cover from the locked position. Lift up and remove the top rear cover.

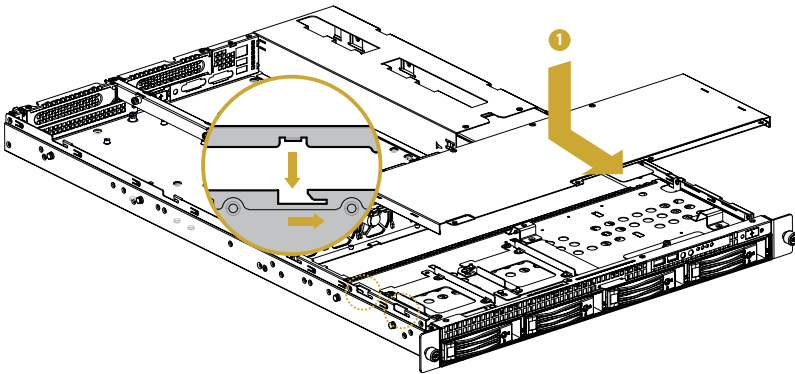


3. When the top rear cover has been removed, you can also remove the top front cover by pushing the top front cover toward the rear side.

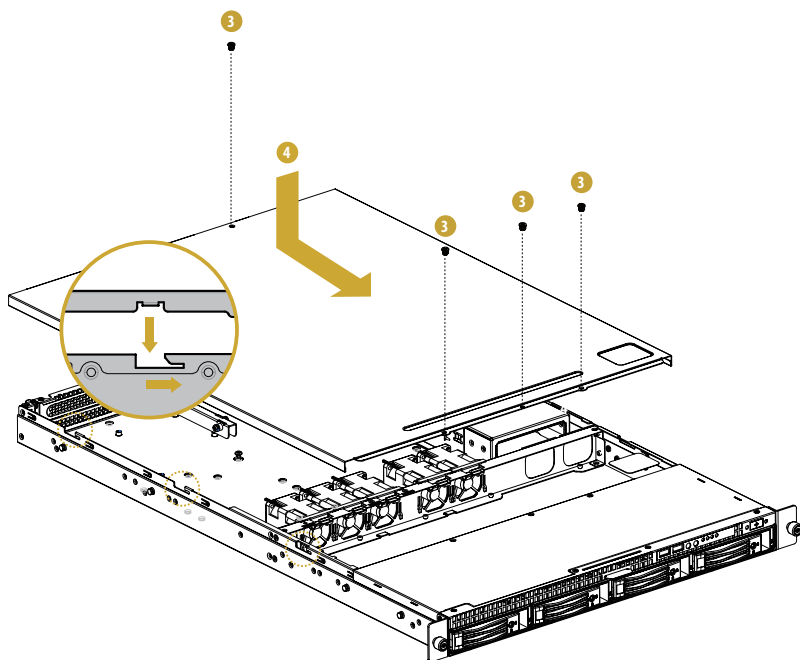


Installing the Server Top Cover

4. Lower the top front cover on the chassis, making sure the side latches align with the cutouts. Slide the top front cover toward the front.



5. Lower the top rear cover on the chassis, making sure the side latches align with the cutouts. Slide the top rear cover toward the front.
6. Secure the both covers with the screws.



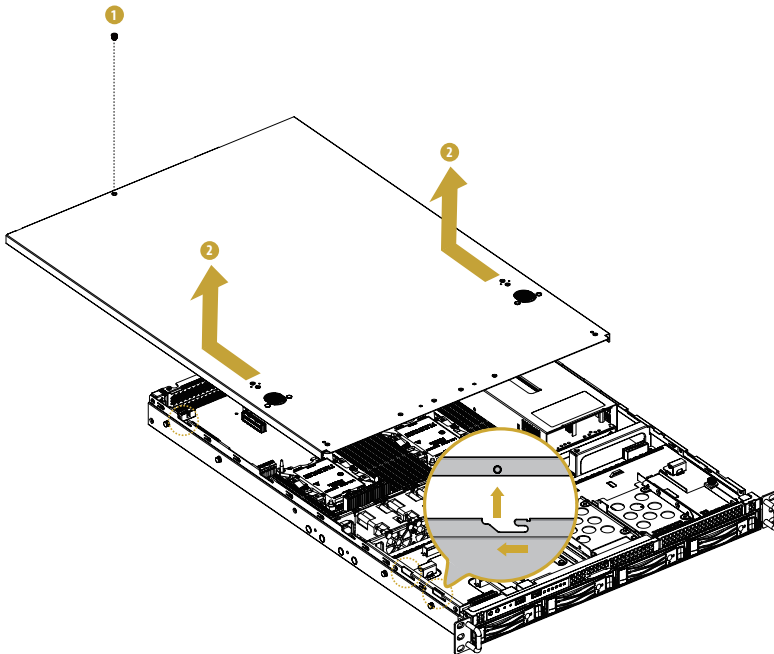
1U2FH-4L/C622 Series

Removing the Server Top Cover



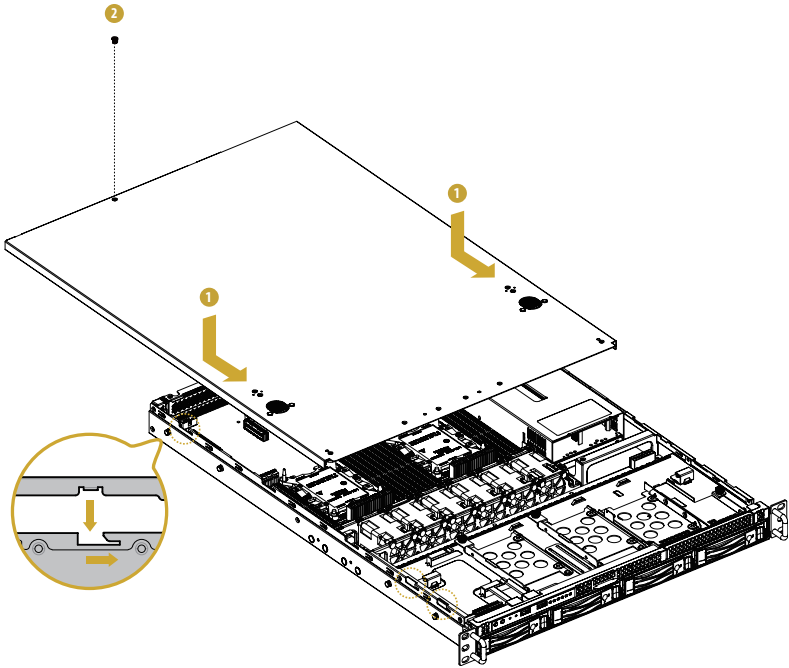
1. Before removing the top cover, power off the server and unplug the power cord.
2. The system must be operated with the chassis top cover installed to ensure proper cooling.

1. Remove the screw that secures the top cover to the chassis.
2. Press the tabs and push straight back to remove the cover from the locked position.
Then 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 top cover toward the front.
2. Secure the cover with a screw.



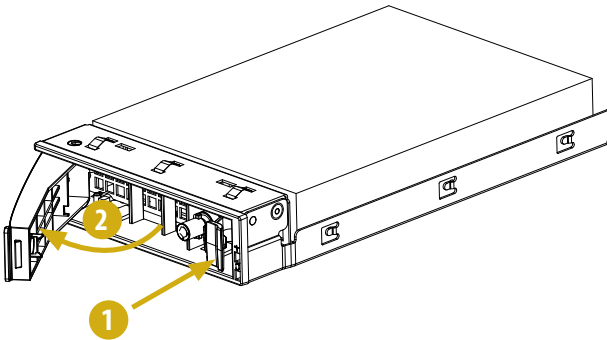
3.2 Hard Drive

3.2.1 Installing a Hard Disk Drive into 3.5" Hard Drive Tray

The system supports hot-swappable 3.5" hard drives.

Removing 3.5" Hard Drive Trays from the Chassis

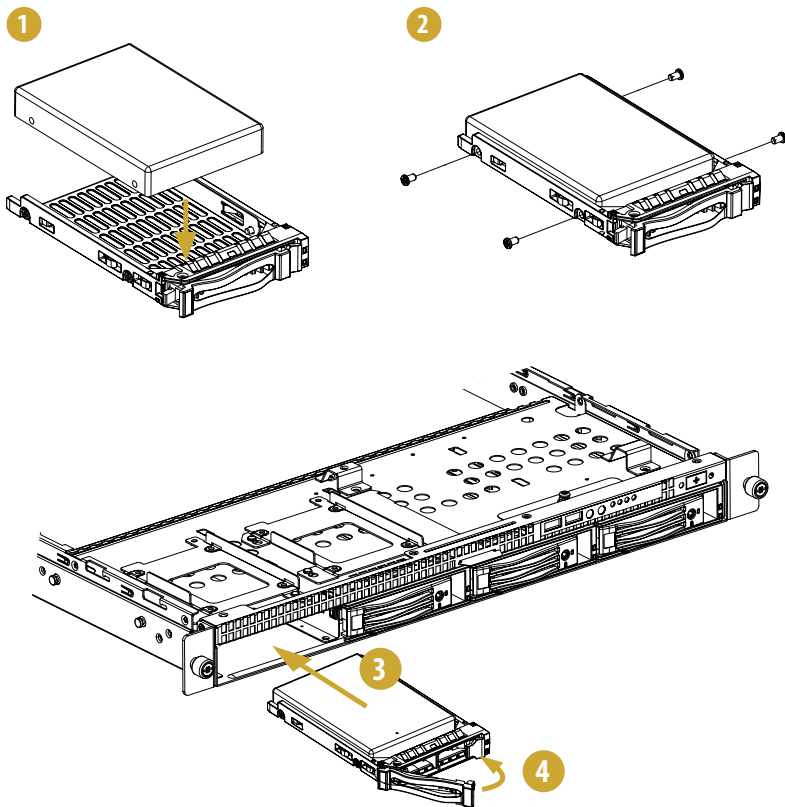
1. Press the locking lever latch on the drive tray to unlock the retention lever.
2. Rotate the lever out and away from the module bay and pull the hard drive out of the HDD tray.



Installing a 3.5" Hard Drive to the Hard Drive Tray

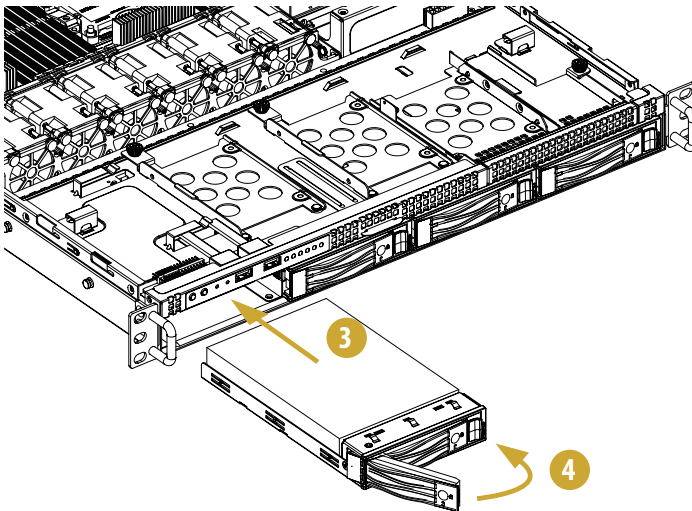
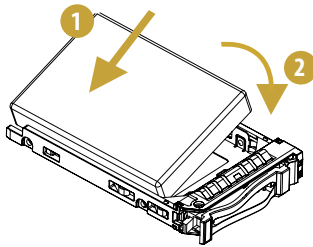
1U2FH-4L/C612

1. Place a 3.5" HDD into the 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 using four screws.
3. Slide the drive tray into the HDD bay until the drive is fully seated.
4. Push in the locking lever to lock the HDD tray into place.



1U2FH-4L/C622 Series

1. Engage two embossed pins into the side dimples on the tray.
2. Carefully push down the other side of the tray until the other two embossed pins and side dimples lock into place.
3. Slide the drive tray into the HDD bay until the drive is fully seated.
4. Push in the locking lever to lock the HDD tray into place.



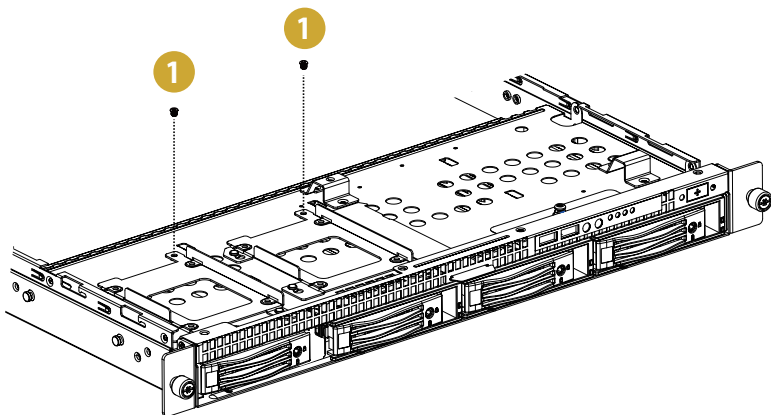
3.2.2 Installing a Hard Disk Drive into 2.5" Hard Drive Carrier

The system supports 2.5" hard drives (7mm).

1U2FH-4L/C612:

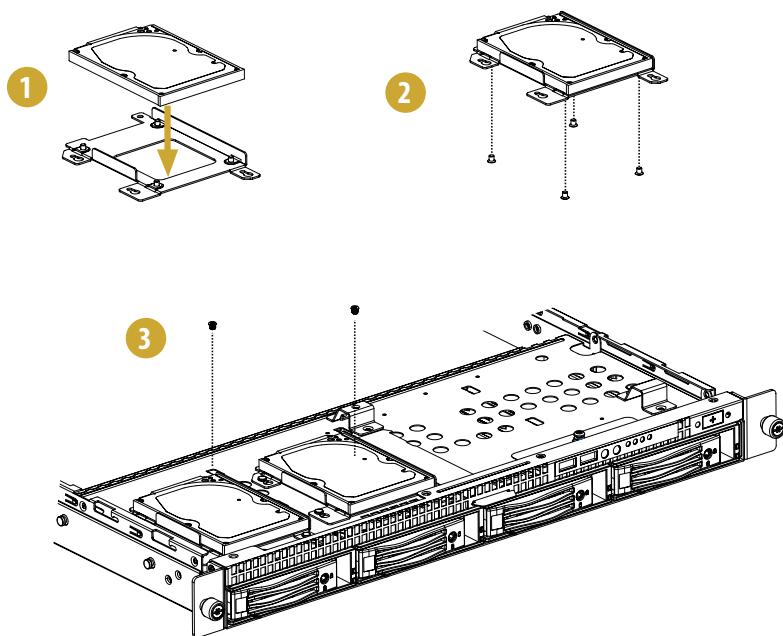
Removing 2.5" Hard Drive Carriers from the Chassis

1. Remove the screw that secures the hard drive carrier.



Installing a 2.5" Hard Drive to the Hard Drive Carrier

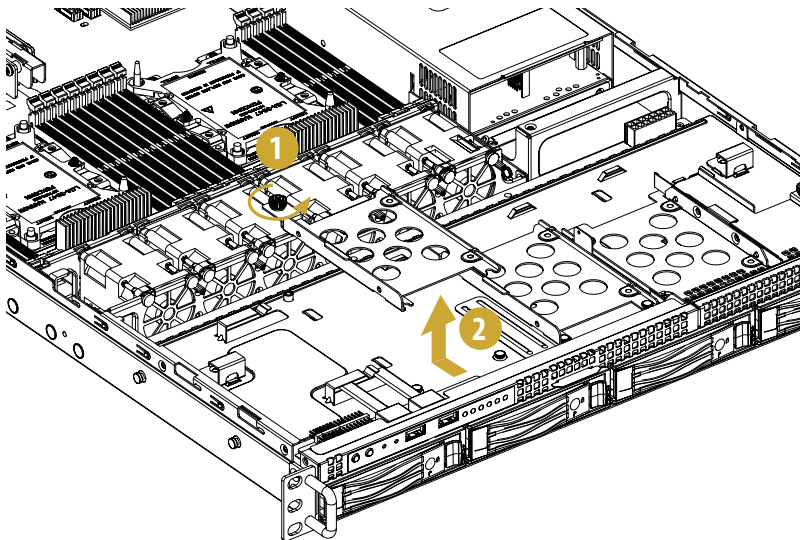
1. Place the 2.5" HDD into the carrier with the label facing up and the connector end toward the rear of the carrier where the mounting hole is located.
Carefully align the mounting holes in the hard drive and the carrier.
2. Secure the hard drive using four screws.
3. Place the drive assembly back to the chassis with screw holes aligned.
Secure each drive assembly with one screw.



1U2FH-4L/C622 Series

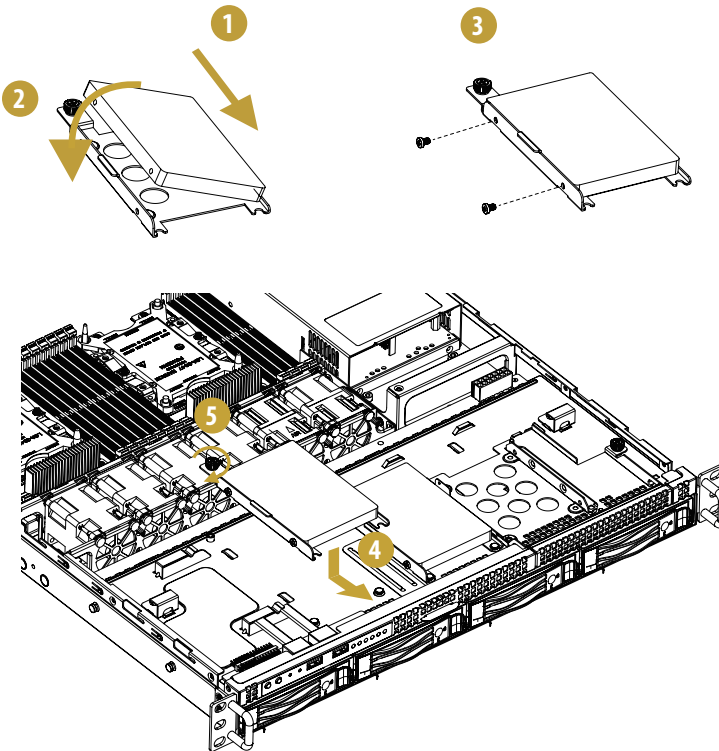
Removing a 2.5" Hard Drive Carrier from the Chassis

1. Hand-release the thumbscrew that secures the hard drive carrier to the chassis.
2. Push the carrier toward the rear of the chassis to remove it from the locked position.
Then remove the hard drive carrier.



Installing a 2.5" Hard Drive to the Hard Drive Carrier

1. Engage two embossed pins into the side dimples on the carrier.
2. Carefully push down the other side of the tray until the other two embossed pins and side dimples lock into place.
3. Secure the hard drive using screws.
4. Put the hard drive assembly back into the chassis and slide it toward the front.
5. Hand-tighten the thumbscrew to secure the hard drive assembly to the chassis.

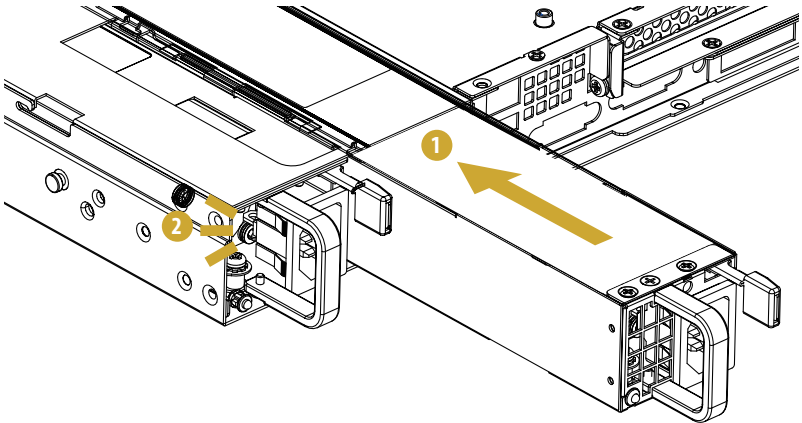


3.3 Power Supply

The system can accommodate two AC or two DC power supplies in the bay at the rear of the chassis. Each unit provides up to 650 Watts (1U2FH-4L/C612) or 750 Watts (1U2FH-4L/C622 Series) of power. Only a single power supply is required for operation, with the second power supply purely as a redundant, load-sharing backup. It can be removed without affecting system operation.

Installing and Removing the Power Supply

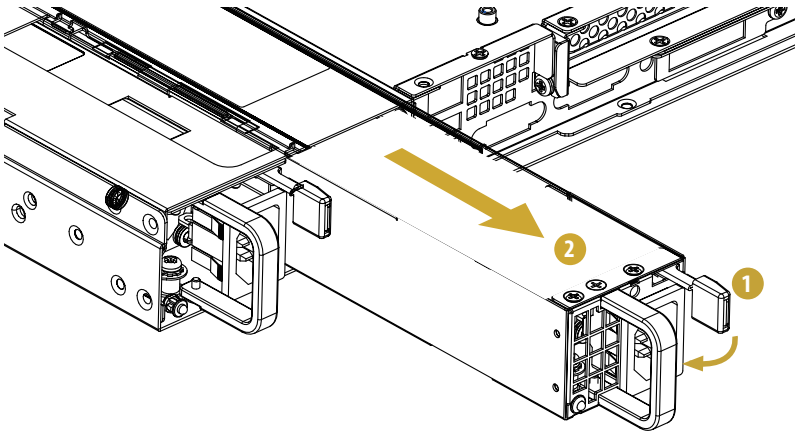
1. Align the power supply unit with the power supply slot. Ensure that the LED appears on the left when you are installing the power supply unit.
2. Carefully slide the PSU all the way into the power supply bay until it clicks into place.



Removing the Power Supply Unit

To remove a failed power supply, please first identify the failed power supply .

1. Hold onto the power supply handle while pressing the locking lever towards the power supply handle.
2. Pull to remove the power supply from the chassis.



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

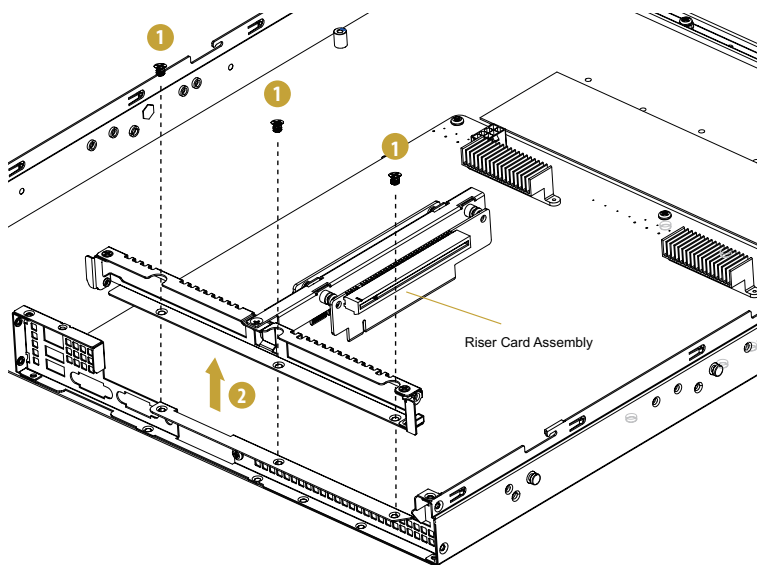
3.4 Add-On Card



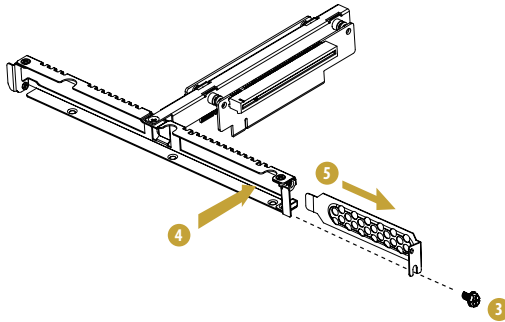
1. You can install up to two PCIE Add-on Cards to the chassis when they are installed on the provided riser card assembly.
2. Please be noted that you can install either a PCIE Add-on Card or a mezzanine card at one time only. When Add-on Card 1 is installed, the storage mezzanine card cannot be installed; when Add-on Card 2 is installed, the LAN mezzanine card cannot be installed.
3. Before installing an Add-on Card, power off the server and unplug the power cord.

Installing an Add-On Card

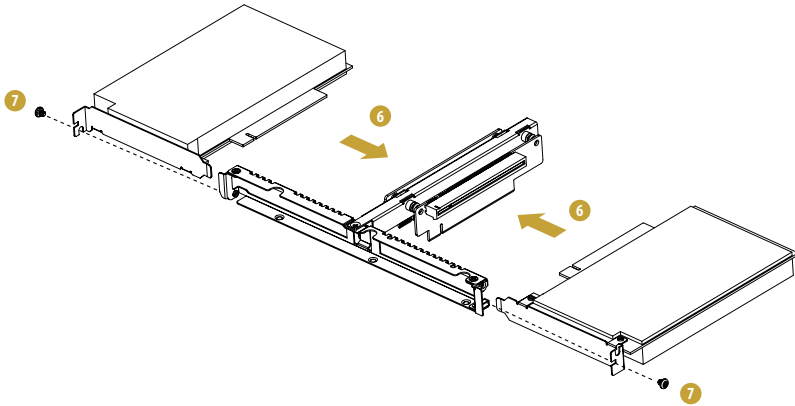
1. Remove the screws securing the riser card assembly on the chassis. Keep this screw for later use.
2. Lift up and remove the riser card assembly from the chassis.



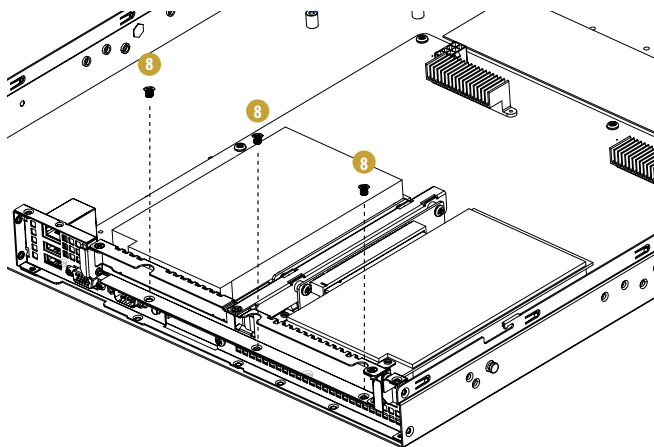
3. Remove the screw securing the filler plate.
4. Push to release the the filler plate from the assembly.
5. Slide the filler plate out sideways.



6. Install an Add-on Card into the retainer plate and into the connector on the riser card assembly.
7. Secure the card to the assembly with a screw.



8. Place the assembly back into the chassis and secure it with screws.



3.5 LAN Mezzanine Card

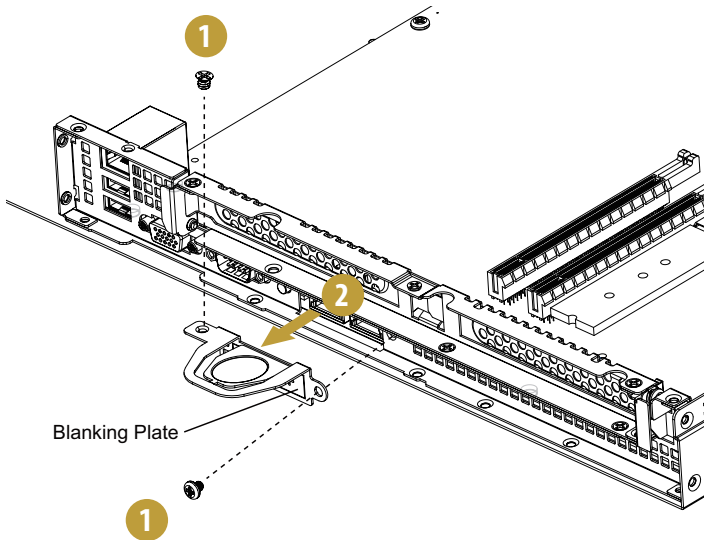
Note: The mezzanine card slot is located under the add-on card slot. If there is an add-on card assembly installed, you need to remove it before starting to install a mezzanine card.

1U2FH-4L/C612

Removing the Blanking Plate for a LAN Mezzanine Card

If you need to remove the blanking plate, please remove the screws that secure the blanking plate on the chassis. Keep the screws for later use.

**The pre-installed blanking plate is also the RJ-45 plug release module.*

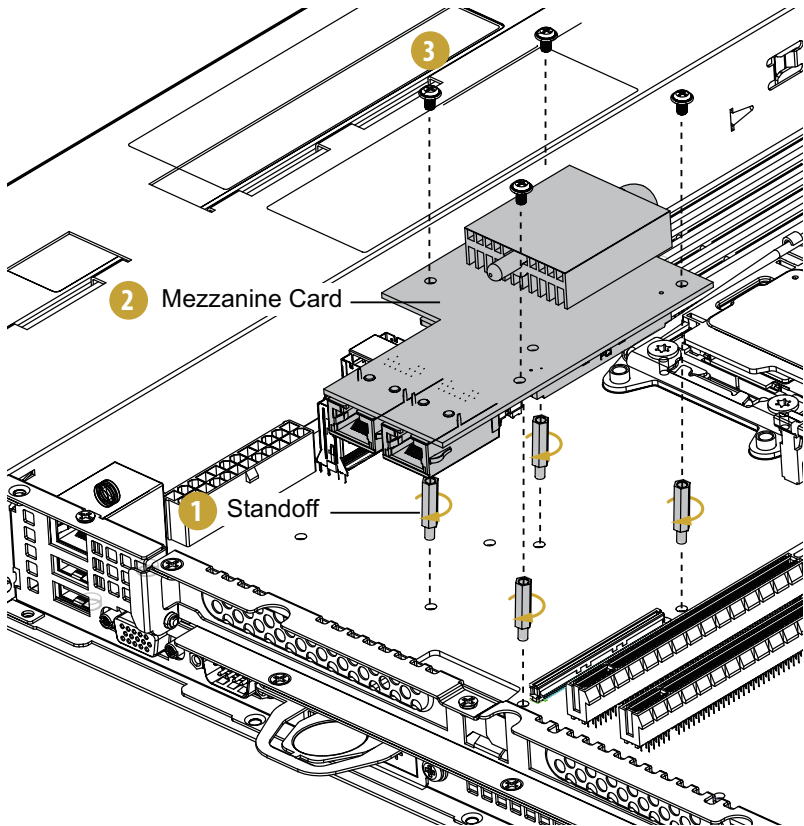


Installing a LAN Mezzanine Card

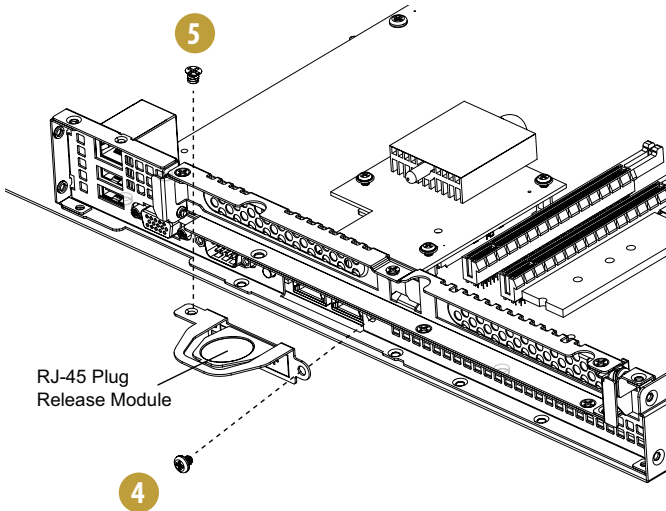
You can use an optional Ethernet mezzanine card for additional LAN ports. Please be aware that the mezzanine card must be used in conjunction with a matching I/O module.

**For M540R mezzanine card, you need to install the RJ-45 plug release module instead of a regular I/O module.*

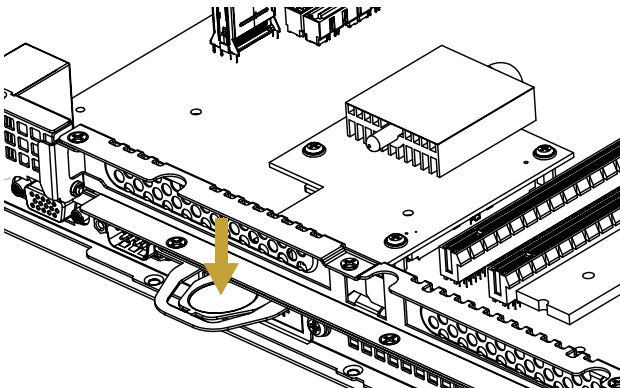
1. Install the four standoffs into the motherboard around the mezzanine card slot. Hand-tighten the standoffs.
2. Gently insert the mezzanine card into the mezzanine card slot on the motherboard.
3. Use screws to secure the mezzanine card to the motherboard standoffs.



4. Tighten the screws to secure the matching I/O module to the chassis. Install the RJ-45 plug release module instead for the M540 mezzanine card.



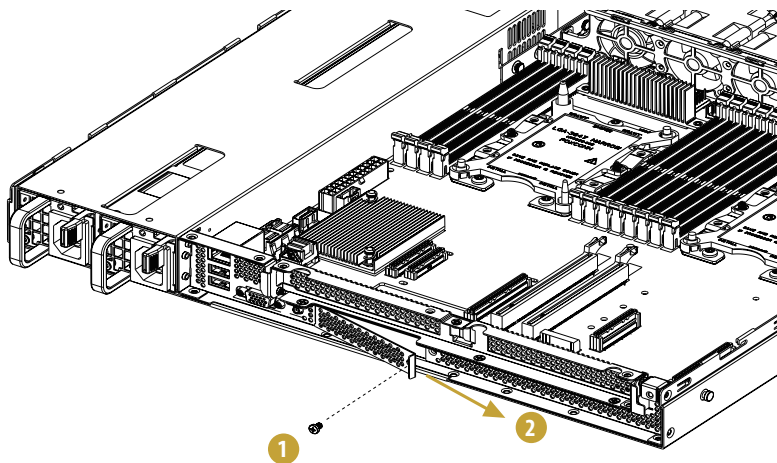
5. If you use the RJ-45 plug release module, simply press it to release plugs.



1U2FH-4L/C622

Removing the Blanking Plate for a LAN Mezzanine Card

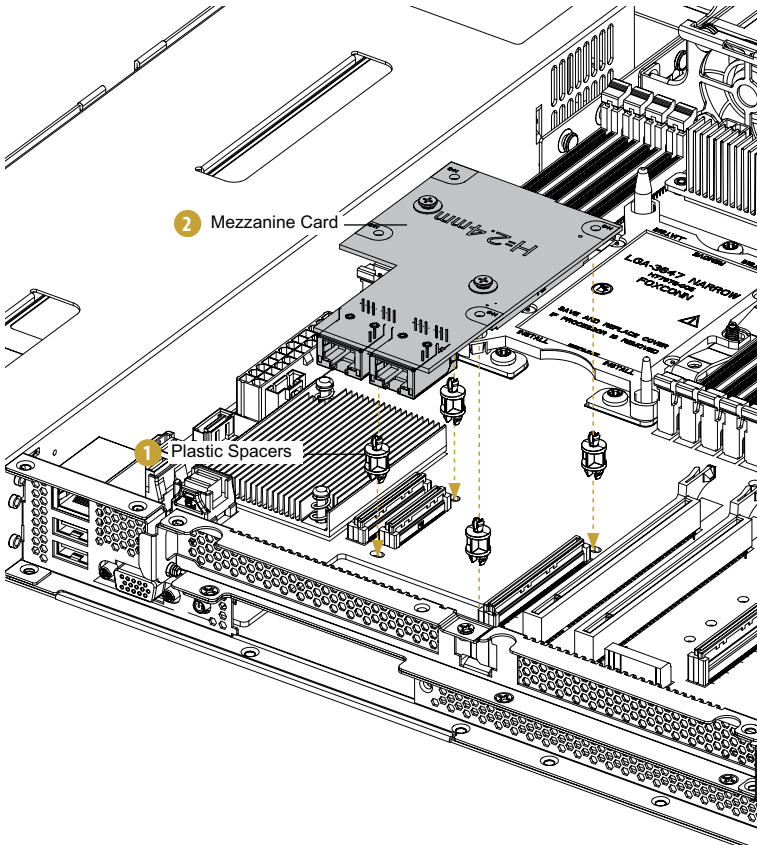
1. Remove the screw that secures the blanking plate on the chassis. Keep the screw for later use.
2. Slide the blanking plate out sideways.



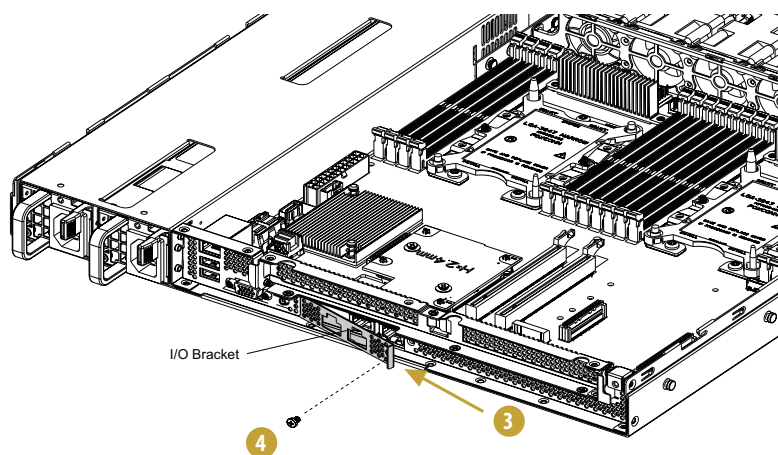
Installing a LAN Mezzanine Card

You can use an optional Ethernet mezzanine card for additional LAN ports. Please be aware that the mezzanine card must be used in conjunction with a matching I/O bracket.

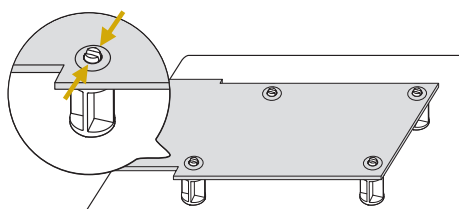
1. Install the four Plastic Spacers into the motherboard around the mezzanine card slot.
2. Gently insert the mezzanine card into the mezzanine card slot on the motherboard.



3. Insert and slide the I/O bracket into the slot/
4. Tighten the screw to secure the matching I/O bracket to the chassis.



Simply squeeze the top of each spacer support to release the mezzanine card.

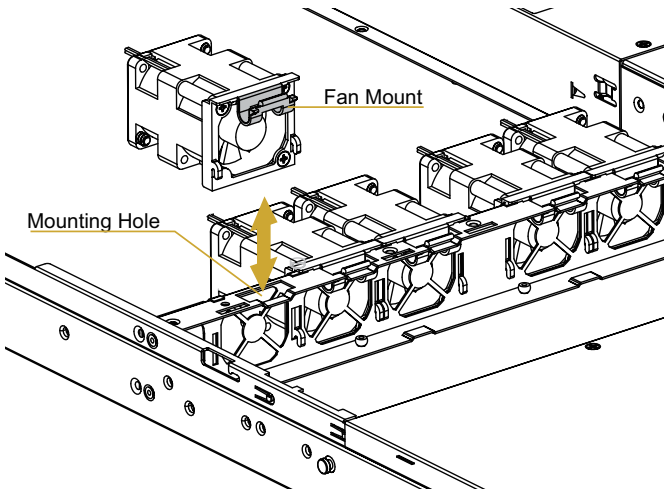


3.6 System Fan

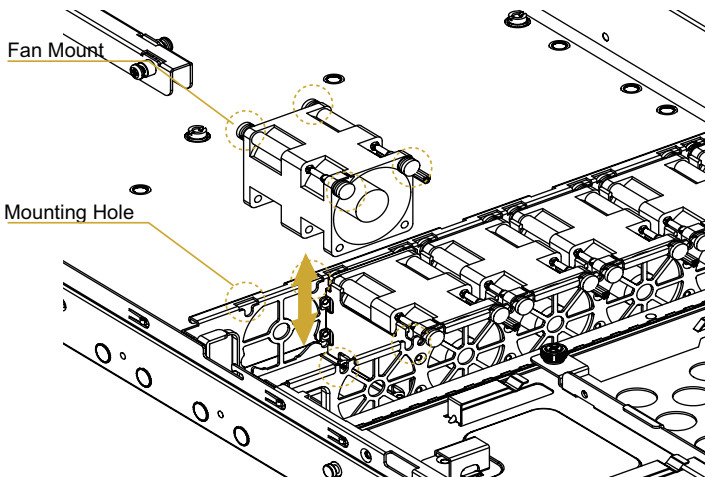
Replacing the System Fan

1. Unplug the fan connector and remove the failed fan.
2. Align the mounting holes on the fan bar with the fan mounts on the replacement fan.
3. Gently place the fan on the fan bar. Make sure the fan is well seated.
4. Connect the end of the fan cable to the fan connector.

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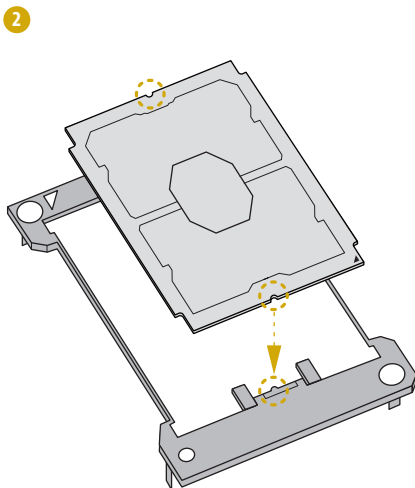
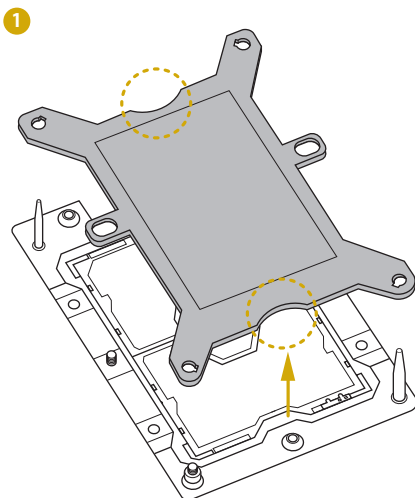


Appendix A

Installing the CPU (LGA 3647 Socket)

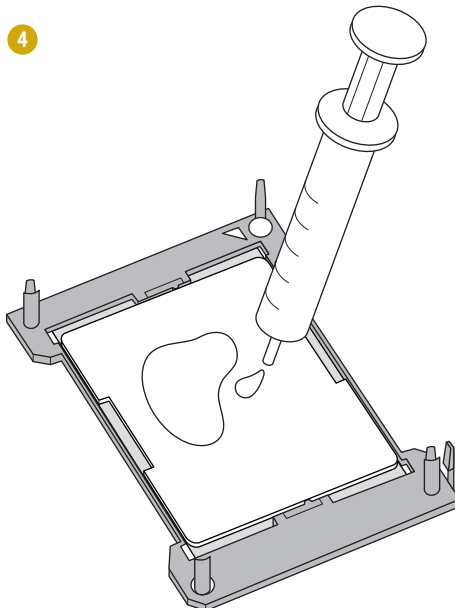
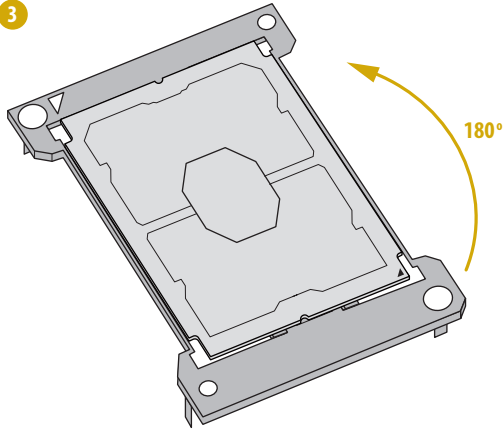


1. Before you insert the CPU into the socket, please check if the PnP cap is on the socket, if the CPU surface is unclean, or if there are any bent pins in the socket. Do not force to insert the CPU into the socket if above situation is found. Otherwise, the CPU will be seriously damaged.
2. Unplug all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

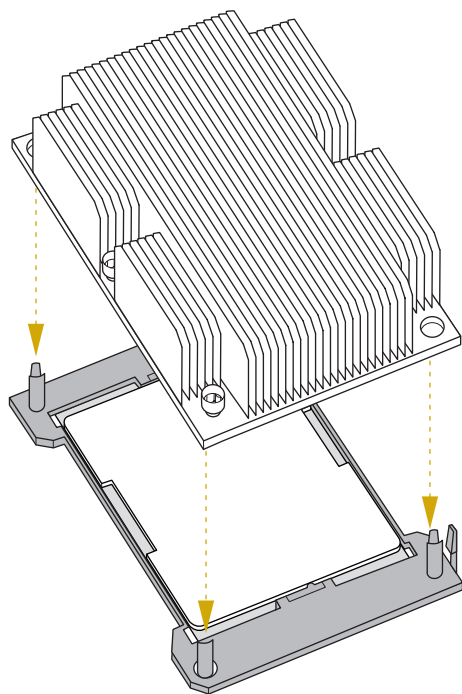


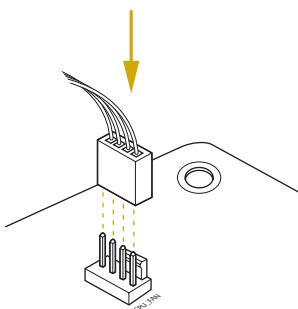
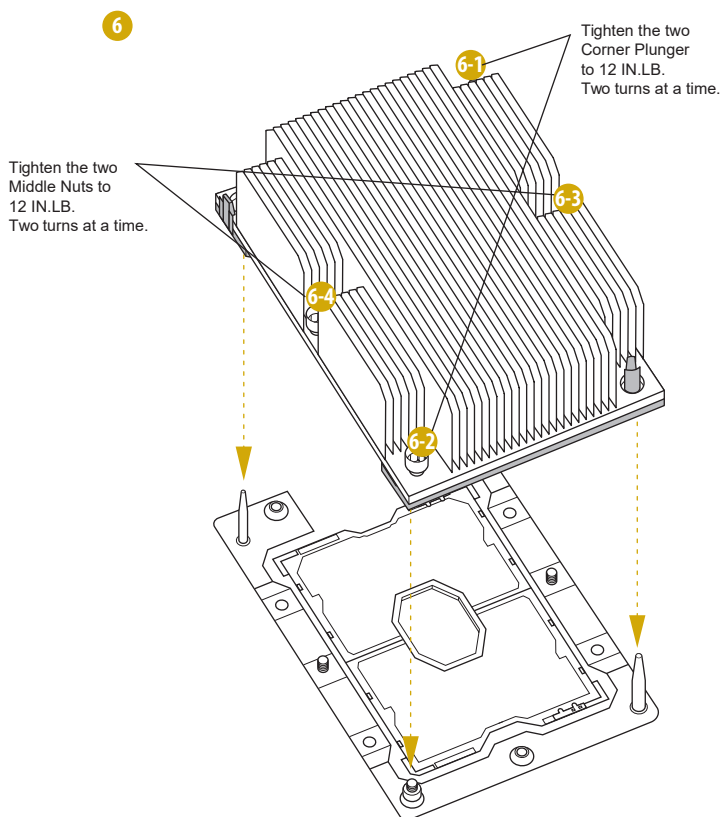


1. Before you installed the heatsink, you need to spray thermal interface material between the CPU and the heatsink to improve heat dissipation.
2. Illustration in this documentation are examples only. Heatsink or fan cooler type may differ.



5





Installing the CPU (LGA 2011 R3 Socket)



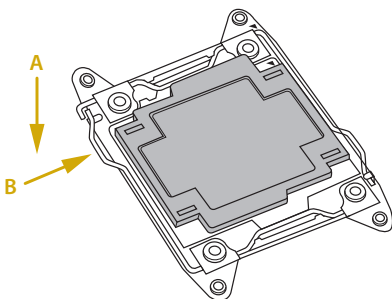
1. Before you insert the 2011-3-Pin CPU into the socket, please check if the PnP cap is on the socket, if the CPU surface is unclean, or if there are any bent pins in the socket. Do not force to insert the CPU into the socket if above situation is found. Otherwise, the CPU will be seriously damaged.
2. Unplug all power cables before installing the CPU.

CAUTION:

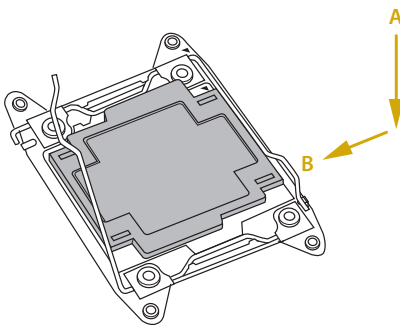
Please note that C612 platform is only compatible with the LGA 2011-3 socket, which is incompatible with the LGA 2011 socket.

Socket Type: Narrow ILM Socket

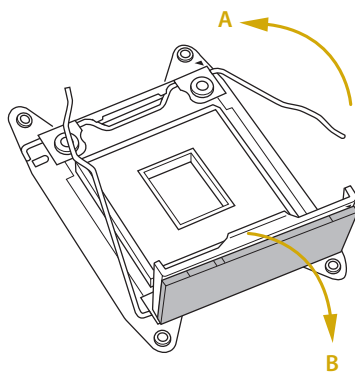
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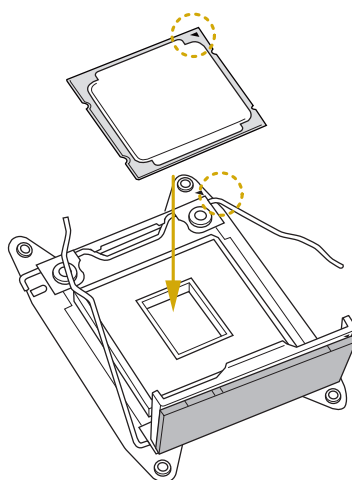
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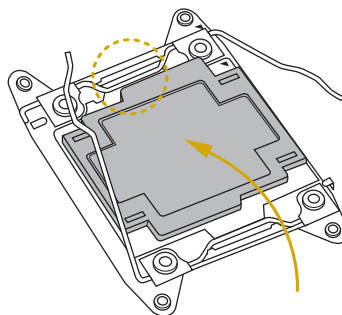
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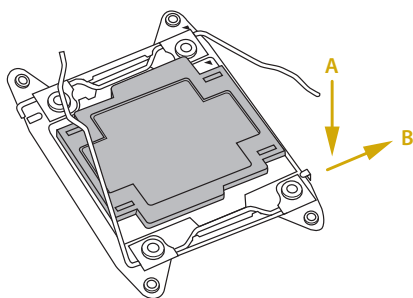
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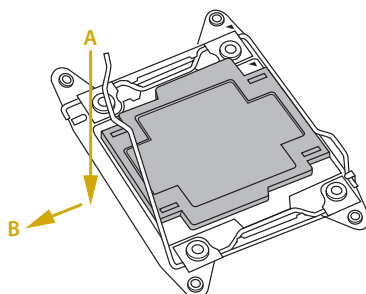
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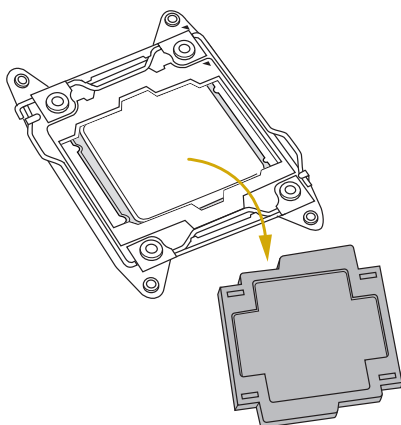
6



7



8



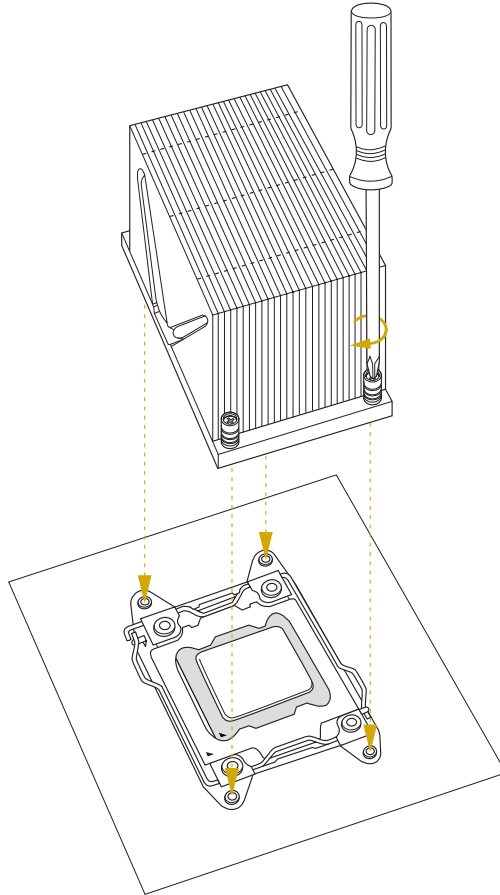
The cover must be placed if returning the motherboard for after service.

Installing the CPU Fan and Heatsink

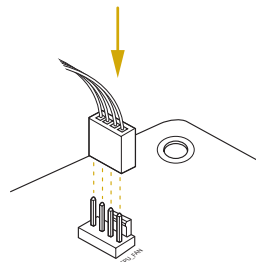


Before you installed the heatsink, you need to spray thermal interface material between the CPU and the heatsink to improve heat dissipation.

1



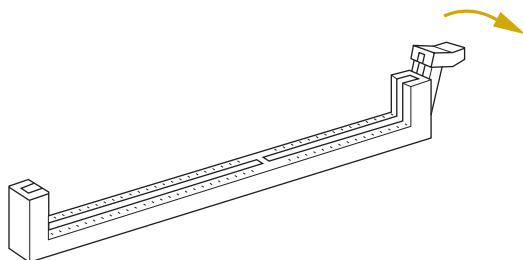
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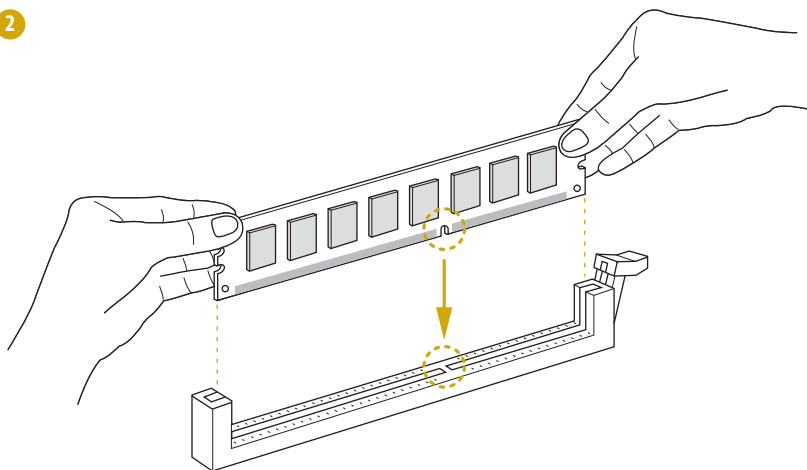
Appendix B

Installation of Memory Modules (DIMM)

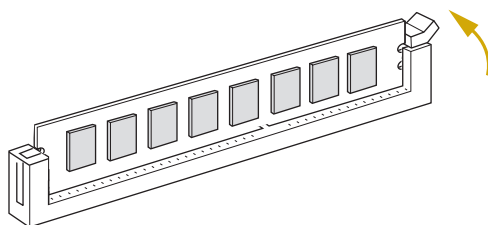
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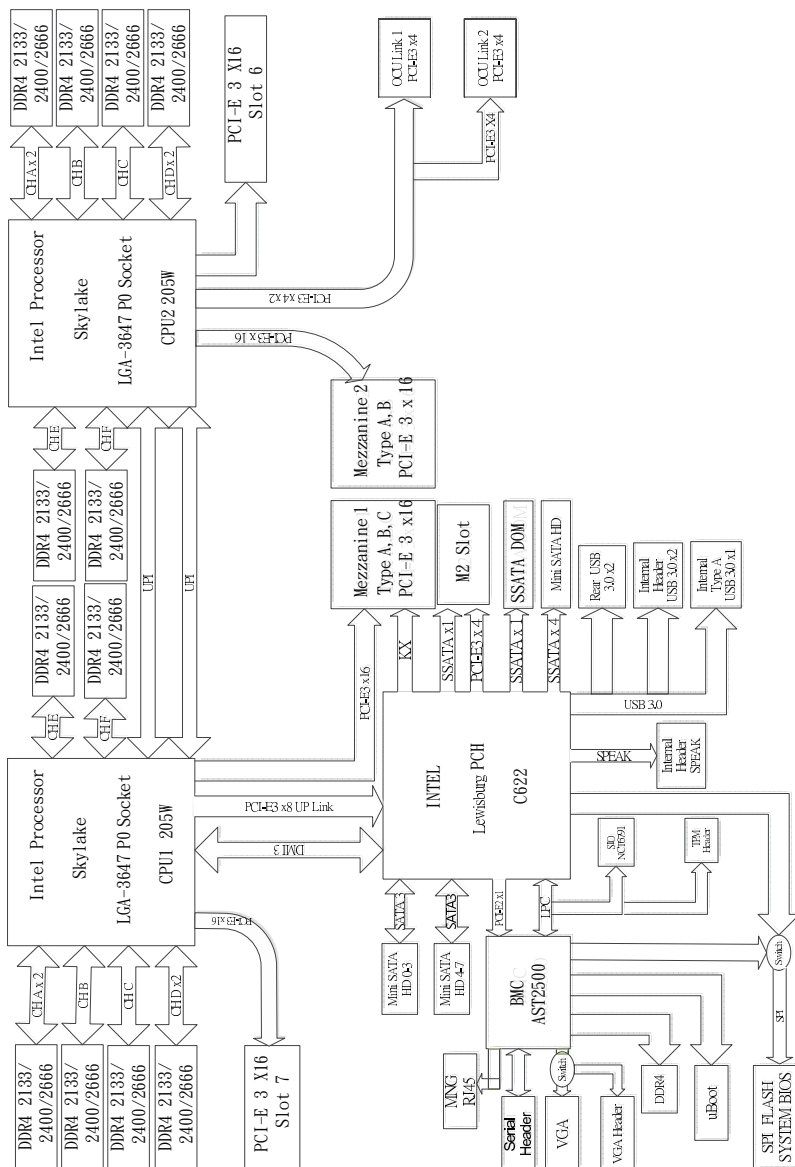


3



Appendix C

Block Diagram (EP2C622D16NM)



Block Diagram (FH-C612NM)

