



CS280-S3065

MS-S402

Server System
User Guide

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Regulatory Notices

WEEE Statement

Under the European Union (“EU”) Directive on Waste Electrical and Electronic Equipment, Directive 2012/19/EU, products of “electrical and electronic equipment” cannot be discarded as municipal waste anymore and manufacturers of covered electronic equipment will be obligated to take back such products at the end of their useful life.



CE Conformity

This product has been tested and found to comply with the harmonized standards for Information Technology Equipment published under Directives of Official Journal of the European Union.



FCC-A Radio Frequency Interference Statement

This equipment has been tested and found to comply with the limits for a Class A digital device, pursuant to Part 15 of the FCC Rules. These limits are designed to provide reasonable protection against harmful interference when the equipment is operated in a commercial environment. This equipment generates, uses and can radiate radio frequency energy and, if not installed and used in accordance with the instruction manual, may cause harmful interference to radio communications. Operation of this equipment in a residential area is likely to cause harmful interference, in which case the user will be required to correct the interference at his own expense.



Notice 1

The changes or modifications not expressly approved by the party responsible for compliance could void the user’s authority to operate the equipment.

Notice 2

Shielded interface cables and AC power cord, if any, must be used in order to comply with the emission limits.

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

- This device may not cause harmful interference, and
- This device must accept any interference received, including interference that may cause undesired operation.

Chemical Substances Information

In compliance with chemical substances regulations, such as the EU REACH Regulation (Regulation EC No. 1907/2006 of the European Parliament and the Council), MSI provides the information of chemical substances in products at:

<https://csr.msi.com/global/index>

Battery Information

Please take special precautions if this product comes with a battery.

- Danger of explosion if battery is incorrectly replaced. Replace only with the same or equivalent type recommended by the manufacturer.
- Avoid disposal of a battery into fire or a hot oven, or mechanically crushing or cutting of a battery, which can result in an explosion.
- Avoid leaving a battery in an extremely high temperature or extremely low air pressure environment that can result in an explosion or the leakage of flammable liquid or gas.
- Do not ingest battery. If the coin/button cell battery is swallowed, it can cause severe internal burns and can lead to death. Keep new and used batteries away from children.

European Union:



Batteries, battery packs, and accumulators should not be disposed of as unsorted household waste. Please use the public collection system to return, recycle, or treat them in compliance with the local regulations.

BSMI:



廢電池請回收

For better environmental protection, waste batteries should be collected separately for recycling or special disposal.

California, USA:



The button cell battery may contain perchlorate material and requires special handling when recycled or disposed of in California. For further information please visit:

<http://www.dtsc.ca.gov/hazardouswaste/perchlorate/>

Environmental Policy

- The product has been designed to enable proper reuse of parts and recycling and should not be thrown away at its end of life.
- Users should contact the local authorized point of collection for recycling and disposing of their end-of-life products.
- Visit the MSI website <https://csr.msi.com/global/pevn_ewaste> and locate a nearby distributor for further recycling information.
- Please visit <<https://us.msi.com/page/recycling>> for information regarding the recycling of your product in the US.



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Technical Support

If a problem arises with your product and no solution can be obtained from the user's manual, please contact your place of purchase or local distributor. Alternatively, please visit <https://eps.msi.com/support> for further guidance.

Safety Information

 ***Please read and follow these safety instructions carefully before installing, operating or performing maintenance on the server.***

General Safety Instructions

- Always read the safety instructions carefully.
- Keep this User's Manual for future reference.
- Keep this equipment away from humidity.
- Lay the equipment on a stable, flat surface before setting it up.
- Do not cover the air openings to prevent overheating.
- Avoid spilling liquids into the equipment to prevent damage or electrical shock.
- Do not leave the equipment in an unconditioned environment. Storage temperatures above 60°C (140°F) may cause damage.

Electrical Safety

Power Setup and Protection

- Ensure the power source matches the equipment voltage before connection.
- Plug the power cord into a grounded (earthed) electrical outlet that is easily accessible at all times. Do not disable the power cord grounding plug, as it is an important safety feature.
- Do not use a power adapter other than the one provided.
- Place the power cord to avoid being stepped on or crushed.
- Protect the server from power fluctuations and outages using a regulated uninterruptible power supply (UPS).

Handling Power Connections

- Unplug the power cord before inserting add-on cards or modules.
- Disconnect all power supplies before maintenance to avoid electrical shock. If the unit has more than one power supply, disconnect all of them.
- Unplug the power cord to fully disconnect the system. The front panel Power On/Standby button does not completely shut off system power. Portions of the power supply and some internal circuitry remain active until AC/DC power is removed.

Installation and Handling

This equipment must be installed in restricted access areas by qualified personnel to comply with safety standards set by the NEC and IEC 62368-1, Third Edition, for Information Technology Equipment.

Lifting and Placement

- Follow occupational health and safety guidelines for manual material handling.
- A minimum of two people is required to lift or install the server. For installations above chest height, a third person may be needed for alignment.
- Exercise caution when installing or removing the server from the rack, as it may become unstable when not fastened to the rails.

Component Handling and Maintenance

Hot Surfaces

- Allow components like drives and power supplies to cool before touching.

Energy Pack Handling

- To reduce the risk of fire or burns after removing the energy pack:
- Do not disassemble, crush, or puncture the energy pack.
- Avoid shorting external contacts.
- Do not dispose of the energy pack in fire or water.

Other Components

- Keep away from hazardous moving parts, such as fan blades, to prevent injury.
- Do not drop or jolt the system, as this may damage internal components or compromise safety.

General Precautions During Operation

- Avoid operating the server with the access panel open or removed for extended periods, as this disrupts airflow and may cause overheating.
- Do not insert incorrect connectors into ports to avoid damage to components or the risk of electrical hazards.
- This equipment is not suitable for use in locations where children are likely to be present.

When to Contact Service Personnel

Seek immediate assistance from qualified personnel if any of the following occurs:

- The power cord or plug is damaged.
- Liquid has entered the equipment.
- The equipment has been exposed to moisture.
- The equipment does not function as described in the User Guide
- The equipment has been dropped or physically damaged.
- The equipment shows visible signs of breakage.

● **Safety: IEC/EN 62368-1**

This equipment is compliant with CB/LVD of Safety: IEC/EN 62368-1:2014.

The elements of the instructional safeguard shall be as follows:

- element 1a:  IEC 60417-6056(2011-05) for moving fan blades or
-  IEC 60417-6057(2011-05) for other moving parts
- element 2: “Moving part” or “Moving fan blade” as applicable, or equivalent text
- element 3: optional
- element 4: “Keep body parts away from moving parts” or “Keep body parts away from fan blades” or “Keep body parts out of the motion path” as applicable, or equivalent text

Symbols on Equipment

	CAUTION. This symbol indicates a potential hazard. The potential for injury exists if cautions are not observed. Consult equipment documentation for specific details.
	CAUTION. Slide-mounted equipment is not to be used as a shelf or a work space.
	Warning. This symbol indicates the presence of hazardous energy circuits or electric shock hazards. Refer all servicing to qualified personnel.
	Warning. This symbol indicates the presence of a hot surface or hot component. If this surface is contacted, the potential for injury exists. To reduce risk of injury from a hot component, allow the surface to cool before touching.
 	CAUTION: Risk of Explosion if Battery is replaced by an Incorrect Type. Dispose of Used Batteries According to the Instructions. ATTENTION: Risque d'explosion si la batterie est remplacée par un type incorrect. Mettre au rebut les batteries usagées selon les instructions.
	Multiple power connections. Prior to servicing, disconnect all power cords. Raccordements de puissance multiples. Avant l'entretien, vous devez débrancher tous les cordons d'alimentation.

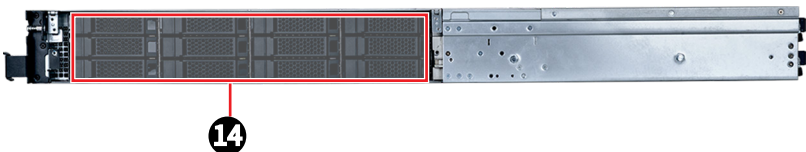
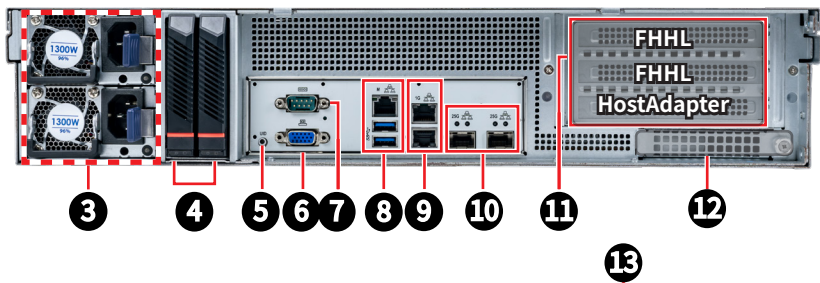
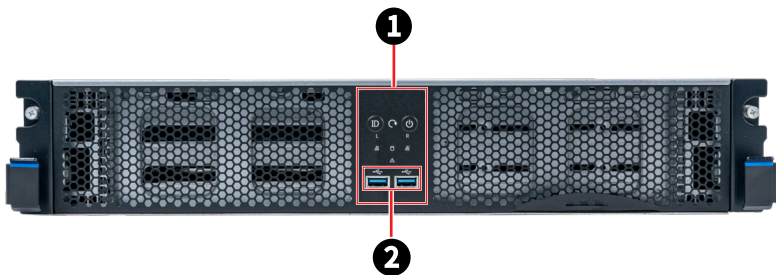
System Specifications

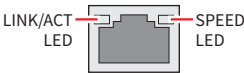
Model	CS280-S3065
SKUs	S3065S280RAS24U2
Form factor	· 2U
Dimensions	· 17.2"W(438mm) × 3.4"H(87mm) × 34.6"D(880mm)
Processor	· Single Intel® Xeon® 6700E-series, 6500P-series and 6700P-series processors, TDP up to 350W
Socket	· 1 x Intel LGA 4710 (Socket E2)
Memory	· 8 x DDR5 DIMM Slots, 8 channels(1DPC), RDIMM/RIMM-3DS/MCRDIMM - Max. Frequency: RDIMM: 6400MT/s MCRDIMM: 8000MT/s - Max. Capacity per DIMM: 256GB(RDIMM), 64GB(MCRDIMM) *MCRDIMMs are only supported with Intel® Xeon® 6 P-core series processors
Drive Bays	· 24 x Front hot-swap 3.5"/2.5" SATA3.0/SAS12G drive bays* · 2 x Rear hot-swap 2.5" U.2 PCIe5.0 x4 NVMe drive bays
Internal Storage	· 2 x 2280/22110 PCIe 5.0 x2 NVMe M.2 ports
Expansion Slots	· 2 x PCIe 5.0 x16 FHHL slots · 1 x Mechanical support for Host Adapter (no PCIe signal)
Networking	· 2 x 25 GbE SFP28 Ethernet Ports (Intel® E810XXVAM2 with NCSI supported) · 2 x GbE RJ45 ports (Intel® i210AT with NCSI supported) · 1 x PCIe 5.0 x16 OCP3.0 Slot (NCSI supported) *NCSI only one port is functional at the same time
RAID	· NVMe RAID 0/1/5/10 support (Intel® VROC RAID key required)
Front I/O	· 2 x USB 3.0 Type-A Port · 1 x System Power LED Button · 1 x UID LED Button · 1 x Reset Button · 5 x Status LEDs: Fault/LAN/HDD/Left HDD Failure/Right HDD Failure
Rear I/O	· 2 x 25G SFP28 Ethernet Ports · 2 x 1000Base-T Ethernet Ports · 1 x 1000Base-T Dedicated Server Management Port · 2 x USB 3.2 Gen 1 Type-A Port · 1 x VGA D-Sub Port · 1 x COM RJ45 Port · 1 x UID LED Button
Security	· Chassis Intrusion · TPM2.0 module supported (optional)

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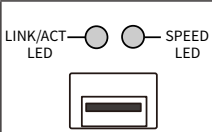
Model	CS280-S3065
SKUs	S3065S280RAS24U2
Server Management	· 1 x 1000Base-T Dedicated Server Management Port · ASPEED AST2600 with AMI MegaRAC based firmware supporting IPMI 2.0 and DMTF Redfish API · Single BIOS and Single BMC
Cooling	· 1 x EVAC air cooling module for max. 350W CPU · 6 x 6038 Hot-swap System Fans
Environment	· System Operating Temperature: 0°C ~ 35°C (50°F ~ 95°F) · Non-operating Temperature: -20°C ~ 70°C (-4°F to 158°F) · Non-operating Relative Humidity: 5% to 85% (non-condensing)
Power Supply	· (1+1) 1300W CRPS 80+ Titanium
Certification	· CE, FCC (Class A)

System Overview

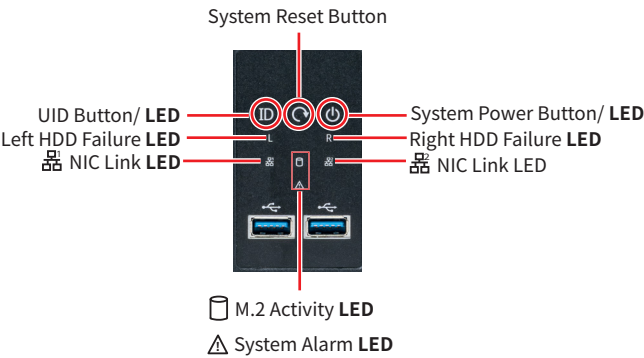


1	Front IO																	
2	USB3.0 Type-A Ports This connector is provided for USB peripheral devices. (Speed up to 5G bps)																	
3	(1+1) CRPS Power supplys																	
4	hot-swap 2.5" U.2 PCIe5.0 x4 NVMe drive bays																	
5	UID Button/ LED																	
6	VGA D-Sub Port																	
7	Serial Port																	
8	upper:GbE RJ45 Port (mgmt.) Dedicated IPMI Port middle/lower:USB3.0 Type-A Ports																	
9	GbE RJ45 Ports (mgmt.) The standard RJ45 LAN jack is provided for connection to the Local Area Network (LAN). You can connect a network cable to it.  <table><tr><th>LED</th><th>Status</th><th>Description</th></tr><tr><td rowspan="3">Link/ Activity LED</td><td> Off</td><td>No link</td></tr><tr><td> Green</td><td>Linked</td></tr><tr><td> Blinking</td><td>Data activity</td></tr><tr><td rowspan="3">Speed LED</td><td> Off</td><td>10 Mbps</td></tr><tr><td> Orange</td><td>100 Mbps</td></tr><tr><td> Green</td><td>1 Gbps</td></tr></table>	LED	Status	Description	Link/ Activity LED	 Off	No link	 Green	Linked	 Blinking	Data activity	Speed LED	 Off	10 Mbps	 Orange	100 Mbps	 Green	1 Gbps
LED	Status	Description																
Link/ Activity LED	 Off	No link																
	 Green	Linked																
	 Blinking	Data activity																
Speed LED	 Off	10 Mbps																
	 Orange	100 Mbps																
	 Green	1 Gbps																
10	25G SFP28 Ethernet Ports																	

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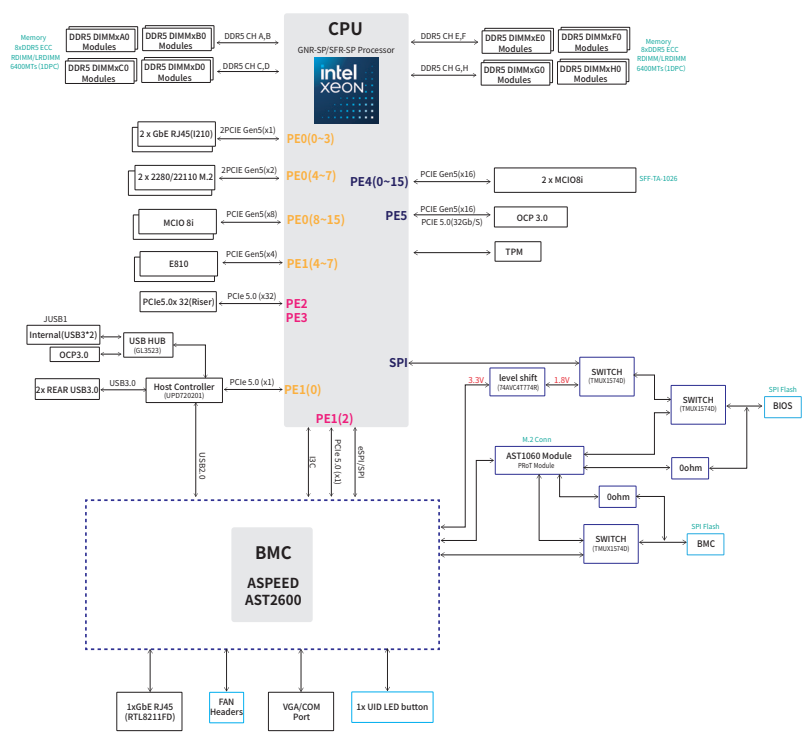
10	25GbE SFP28 Ethernet Ports LED			
	The System Status LED is provided for indicators for system.			
		Color	Status	Description
	Link/ACT (Left Side)	● Green	On	LAN link is established
		● Green	Blinking	LAN activity is occurring
		○ Off	Off	LAN link is not established
	SPEED (Right Side)	● Green	On	25GbE
		● Orange	On	10GbE
		○ Off	Off	1GbE/ No LAN Linked
11	PCIe Add-in Card Area			
12	OCP 3.0 Mezzanine Slot			
13	12 x 3.5" Drive bay Configuration (Left: 0~11)			
14	12 x 3.5" Drive bay Configuration (Right: 12~23)			

System LED Indicators



LED	LED State	Description
System Power LED	● Blue	System power is on
		System power is on ACPI S0 state
	◐ Blinking	System is sleeping
	○ Off	System power is off
UID LED	○ Off	System power is on ACPI S4, S5 state
⚠ System Alarm LED	● Green	Identify active via command or button
	● Red	No identification
	○ Off	BMC initialization
🔌 🔌 NIC Link LED	● Red	System has failed
	○ Off	System is running/ normal operation
📄 M.2 Activity LED	◐ Blinking	NIC activity is occurring
	○ Off	NIC link is not established
📄 M.2 Activity LED	● Amber	M.2 present, no activity
	◐ Blinking	M.2 accessing
	○ Off	No M.2 activity
Left /Right HDD Failure LED	● Red	HDD signal has error
	○ Off	HDD is running/ normal operation

Block Diagram

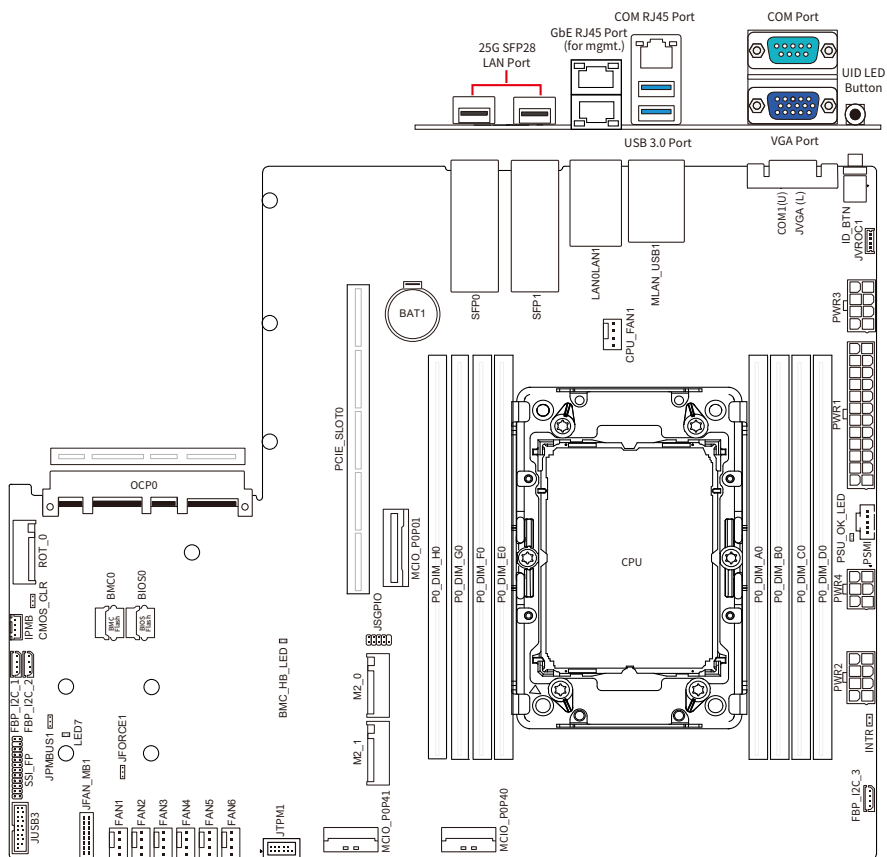


System Storage Topology

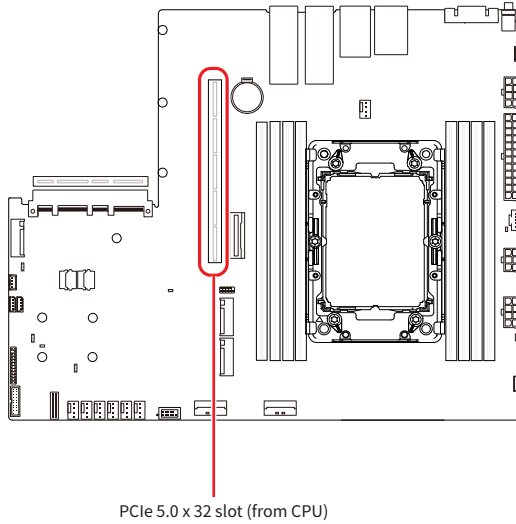


24 x 3.5” Drive Hot-Swap Drive Bays			
SATA/SAS #0	SATA/SAS #3	SATA/SAS #6	SATA/SAS #9
SATA/SAS #1	SATA/SAS #4	SATA/SAS #7	SATA/SAS #10
SATA/SAS #2	SATA/SAS #5	SATA/SAS #8	SATA/SAS #11
PE3			
SATA/SAS #12	SATA/SAS #15	SATA/SAS #18	SATA/SAS #21
SATA/SAS #13	SATA/SAS #16	SATA/SAS #19	SATA/SAS #22
SATA/SAS #14	SATA/SAS #17	SATA/SAS #20	SATA/SAS #23
PE3			
NVME#0		NVME#1	
PE4			
40			

Server Board layout



Expansion Slots



PCIe (Peripheral Component Interconnect Express) Slots

The PCI Express slots support PCIe interface expansion cards.



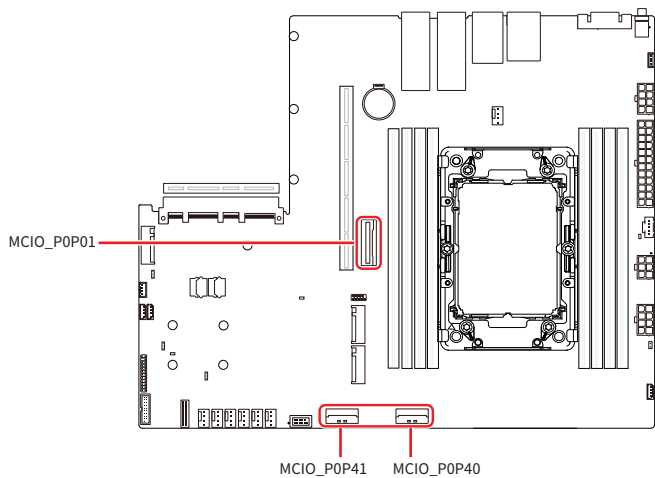
Important

When adding or removing expansion cards, make sure that you unplug the power supply first. Meanwhile, read the documentation for the expansion card to configure any necessary hardware or software settings for the expansion card, such as jumpers, switches or BIOS configuration.

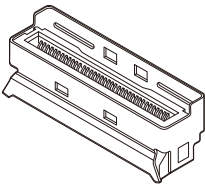
Server Board Connectors

Storage Connectors

These vertical 74-pin Mini Cool Edge IO (MCIO) connectors support data transmission for the PCIe 5.0 x4 interface, delivering a per-lane transfer rate of 32 GT/s.

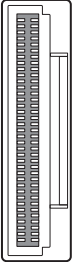


Slot	Speed
MCIO_P0P01	PCIe5.0 x8 32GT/s
MCIO_P0P41	
MCIO_P0P40	



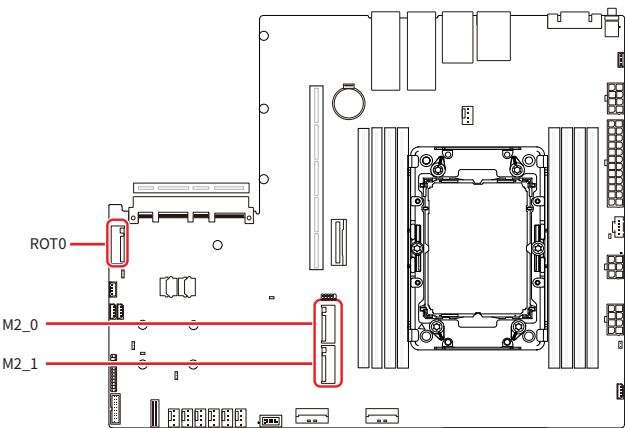
MCIO_POP40~MCIO_POP41: MCIO 8i Connectors

These are vertical 74-pin Mini Cool Edge IO (MCIO) connectors, which support PCIe 5.0 x16 32GT/s interface.

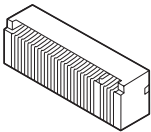
MCIO_POP40 MCIO_POP41 	A1	GND	B1	GND
	A2	RX_DP0	B2	TX_DP0
	A3	RX_DN0	B3	TX_DN0
	A4	GND	B4	GND
	A5	RX_DP1	B5	TX_DP1
	A6	RX_DN1	B6	TX_DN1
	A7	GND	B7	GND
	A8	P3V3_AUX	B8	SMB_BMC_MCIO_SCL1
	A9	CPU0_MCIO_LVC3_ALERT_N	B9	SMB_BMC_MCIO_SDA1
	A10	GND	B10	GND
	A11	CLK_100M_CPU0_MCIO_DP1	B11	RST_PCIE_CPU_PERST_N
	A12	CLK_100M_CPU0_MCIO_DN1	B12	FM_MXIO1_CPU0_PE1B_PESTI_CBL_PRES_N
	A13	GND	B13	GND
	A14	RX_DP2	B14	TX_DP2
	A15	RX_DN2	B15	TX_DN2
	A16	GND	B16	GND
	A17	RX_DP3	B17	TX_DP3
	A18	RX_DN3	B18	TX_DN3
	A19	GND	B19	GND
	A20	RX_DP4	B20	TX_DP4
	A21	RX_DN4	B21	TX_DN4
	A22	GND	B22	GND
	A23	RX_DP5	B23	TX_DP5
	A24	RX_DN5	B24	TX_DN5
	A25	GND	B25	GND
	A26	SMB_MCIOP1_0_CPU0_SCL	B26	CLK_100M_CPU0_MCIO_DP2
	A27	SMB_MCIOP1_0_CPU0_SDA	B27	CLK_100M_CPU0_MCIO_DN2
	A28	GND	B28	GND
	A29	SMB_MCIO_SCL2	B29	PWRBRK_MCIO
	A30	SMB_MCIO_SDA2	B30	MCIO_PERST_WAKE_L
	A31	GND	B31	GND
	A32	RX_DP6	B32	TX_DP6
	A33	RX_DN6	B33	TX_DN6
	A34	GND	B34	GND
	A35	RX_DP7	B35	TX_DP7
	A36	RX_DN7	B36	TX_DN7
	A37	GND	B37	GND

M2_0~1: M.2 Slot (M Key, PCIe 5.0 x2, 2280/ 22110)

The M.2 slot supports solid-state drive (SSD). For Installation procedure, please refer to “System Setup > M.2 SSD” .

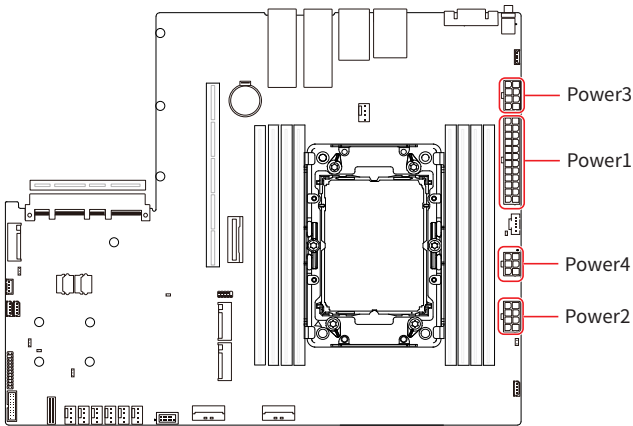


Slot	Speed
M2_0,M2_1	PCIe5.0 x4 32GT/s



Connectors

Power Connectors



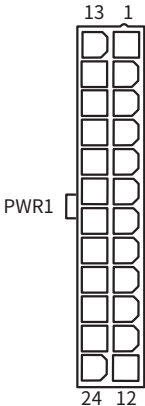
PWR1~4: ATX Power Connectors

These ATX (Advanced Technology Extended) connectors allow you to connect a power supply. To connect the power supply, ensure that the plug is inserted in the proper orientation and that the pins are aligned. Then firmly push down the power supply into the connector.

PWR4: For HDD backplane Power (6-Pin)

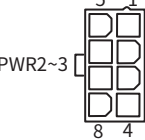
PWR1: 24-pin ATX Power Connectors

These connectors provide power output to powers.

	1	P3V3	13	P3V3
	2	P3V3	14	NC
	3	GND	15	GND
	4	P5V	16	ATX_PS_ON_N
	5	GND	17	GND
	6	P5V	18	GND
	7	GND	19	GND
	8	PS1_PWROK	20	NC
	9	5VSB	21	P5V
	10	P12V	22	P5V
	11	P12V	23	P5V
	12	P3V3	24	GND

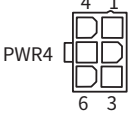
PWR2~3: 8-pin ATX Power Connectors

These connectors provide power output to powers.

	1	GND	5	P12V
	2	GND	6	P12V
	3	GND	7	P12V
	4	GND	8	P12V

PWR4: 6-pin HDD BP Power Connector

This connector provides power output to HDDs on rear side.

	1	P12V	4	GND
	2	P12V	5	GND
	3	P12V	6	GND

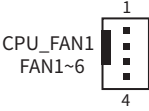
Important

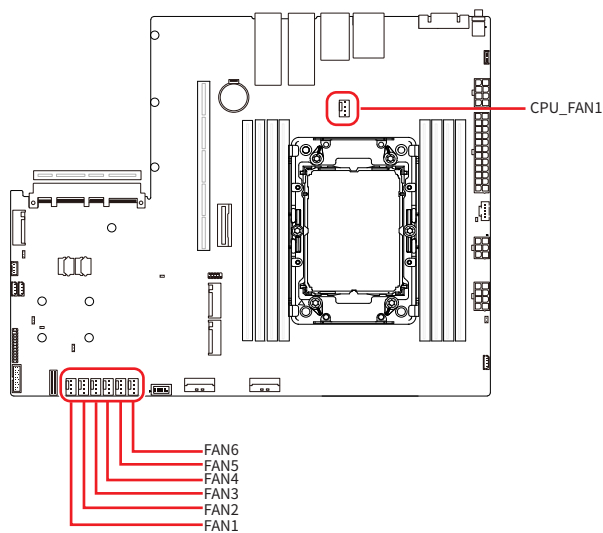
Make sure that all power connectors are securely connected to the power supply to ensure stable operation of the motherboard.

Cooling Connectors

FAN1~6,CPU_FAN1: CPU Fan Power Connectors

The fan power connectors support CPU cooling fans.

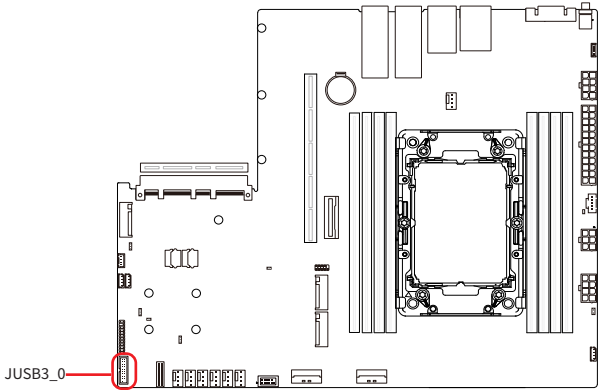
	1	GND
	2	P12V
	3	FAN_TACH
	4	FAN_PWM



JUSB3_0: USB 3.0 Connector

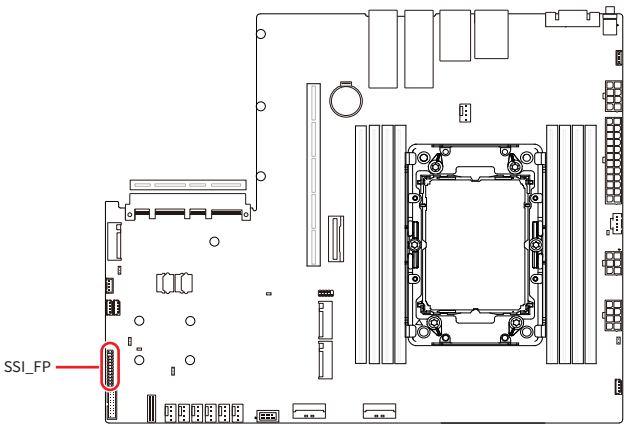
This port is backward-compatible with USB 3.0 devices and supports data transfer rate up to **5 Gbps**.

 JUSB3_0	1	P5V_USB_1	11	USB2_P3_ESD_DP
	2	USB3_P2_ESD_RXN	12	USB2_P3_ESD_DN
	3	USB3_P2_ESD_RXP	13	GND
	4	GND	14	USB3_P3_ESD_TXP
	5	USB3_P2_ESD_TXN	15	USB3_P3_ESD_TXN
	6	USB3_P2_ESD_TXP	16	GND
	7	GND	17	USB3_P3_ESD_RXP
	8	USB2_P2_ESD_DN	18	USB3_P3_ESD_RXN
	9	USB2_P2_ESD_DP	19	P5V_USB_2
	10	NC		



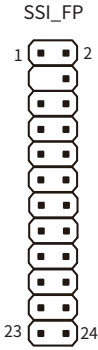
Front Panel Connectors

Front Panel Connectors, or the Front Panel Header, is a block of connectors on a motherboard that controls the power on, power reset, and the LED light indicators on your chassis.



SSI_FP: Front Panel Connector

The front panel connector is provided for electrical connection to the front panel switches and LEDs.

	1	POWER LED+	2	P3V3_AUX
	3	Key	4	SYS ID LED+
	5	FP_PWR_LED_B_N	6	FP_ID_LED_B_R_N
	7	HDD_ACT_LED+	8	SYS_ERR_LED_L
	9	FP_HDD_ACT_LED_N	10	SYS_FLT_LED_L
	11	FP_PWR_BTN_R_N	12	ACT LED+
	13	POWER SWITCH GND	14	FP_LNK_ACT_NIC1_LED_N
	15	SYS_RST_BTN	16	SMB_BMC_SCM_SDA_LVC3
	17	RESET SWITCH GND	18	SMB_BMC_SCM_SCL_LVC3
	19	FP_ID_BTN_N_R	20	FP_INTRUDER_N
	21	GND	22	ACT LED+
	23	FP1_NMI_BTN_N	24	FP_LNK_ACT_NIC2_LED_N

Other Connectors and Components

IPMB: IPMB Header

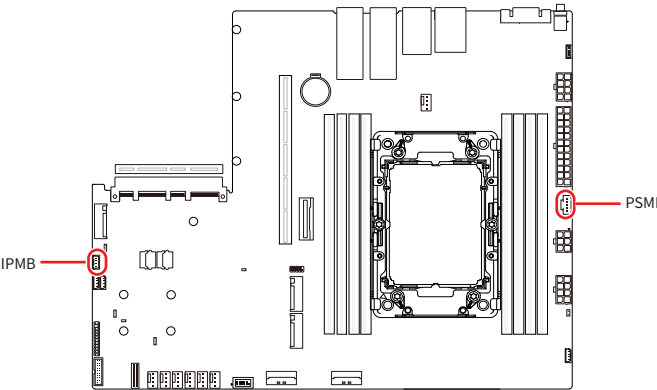
This header is used to connect the IPMB (Intelligent Platform Management Bus).

	1	SMB_IPMB_DAT
	2	GND
	3	SMB_IPMB_CLK
	4	P5V_AUX

PSMI: PMBus Connector

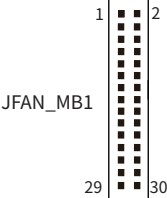
This connector is used to connect the PSMI (Power Supply Monitoring Interface).

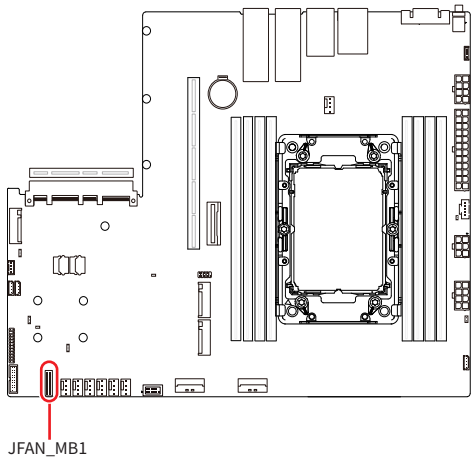
	1	SMB_PSU_CLK
	2	SMB_PSU_DAT
	3	FM_PS_ALERT
	4	GND
	5	P3V3_AUX



JFAN_MB1: Fan Header

This connector is reserved for fan backplane, which used to control system fan. The chassis contains without a fan backplane.

	1	PWM2	2	PWM1
	3	PWM4	4	PWM3
	5	NC	6	PWM5
	7	P3V3_AUX	8	P5V_AUX
	9	FANTACH1	10	FANTACH6
	11	FANTACH2	12	FANTACH7
	13	FANTACH3	14	FANTACH8
	15	FANTACH4	16	FANTACH9
	17	FANTACH5	18	FANTACH10
	19	GND	20	GND
	21	SMB_FAN_LVC3_SCL	22	SMB_FAN_LVC3_SDA
	23	ATX_PG	24	GND(NC)
	25	GND	26	GND
	27	NC	28	NC
	29	NC	30	NC



JVROC1: VROC Box Header

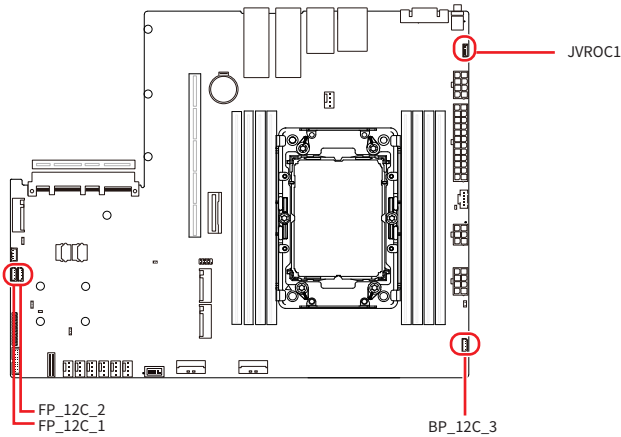
Intel® Virtual RAID on CPU (Intel® VROC) is a hybrid RAID solution specifically designed for NVMe SSDs connected directly to the CPU.

JVROC1 	1	GND
	2	PU_KEY_CONN_PIN2_R
	3	GND
	4	FM_PCH_SATA_RAID_KEY_R

FP_I2C_1, FP_I2C_2,FP_I2C_3: I2C Box Headers

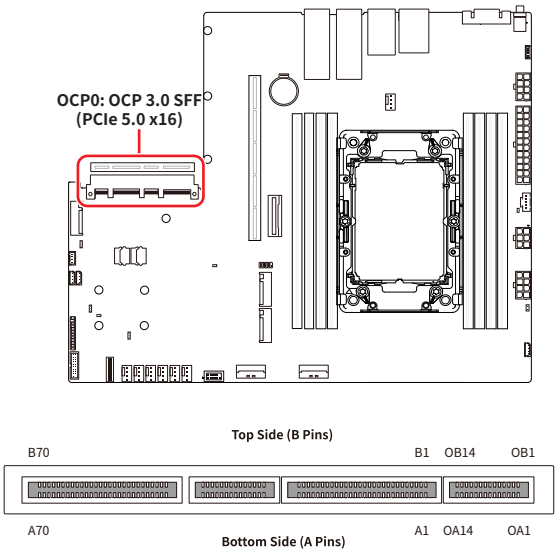
These connectors, known as I2C, are provided for users to connect System Management Bus (SMBus) interface.

FP_I2C_1 FP_I2C_2 FP_I2C_3 	1	P3V3 (NC)
	2	FP_I2C_CLK
	3	FP_I2C_DAT
	4	GND



OCP0: OCP 3.0 Mezzanine Slot

This slot enables the deployment of a wide variety of additional options through OCP(Open Compute Project) network interface cards (NICs) or other expansion Cards.



Top Side (B Pins)		Bottom Side (A Pins)	
OB1	PWRGD_OCP0_NIC1_PWRGD_R	OA1	RST_CPU0_PE0_OCP0_PERST2_N
OB2	FM_OCP0_NIC_MAIN_PWR_EN	OA2	RST_CPU0_PE0_OCP0_PERST3_N
OB3	SGPIO_OCP0_R_LD_N	OA3	IRQ_WAKE_CPU0_PE0_OCP0_LVC3_N
OB4	SGPIO_OCP0_R_DIN	OA4	OCP0_RBT_ARB_IN
OB5	SGPIO_OCP0_R_DOUT	OA5	OCP0_RBT_ARB_OUT
OB6	SGPIO_OCP0_R_CLK	OA6	PUD_OCP0_SLOT_ID1_N
OB7	PUD_OCP0_SLOT_ID0_N	OA7	RMII_OCP0_TX_EN
OB8	RMII_OCP0_RXD1	OA8	RMII_OCP0_TXD1
OB9	RMII_OCP0_RXD0	OA9	RMII_OCP0_TXD0
OB10	GND	OA10	GND

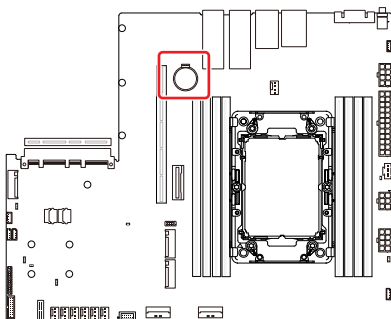
Top Side (B Pins)		Bottom Side (A Pins)	
OB11	NC	OA11	RST_CPU0_PE0_OCP0_PERST2_N
OB12	NC	OA12	RST_CPU0_PE0_OCP0_PERST3_N
OB13	GND	OA13	IRQ_WAKE_CPU0_PE0_OCP0_LVC3_N
OB14	RMII_OCP0_CSDV	OA14	OCP0_RBT_ARB_IN
Mechanical Key			
B1	P12V_AUX_OCP0	A1	GND
B2	P12V_AUX_OCP0	A2	GND
B3	P12V_AUX_OCP0	A3	GND
B4	P12V_AUX_OCP0	A4	GND
B5	P12V_AUX_OCP0	A5	GND
B6	P12V_AUX_OCP0	A6	GND
B7	PD_OCP0_NIC_BIF0_N	A7	SMB_CPU0_PE2_OCP0_LVC3_SCL
B8	PD_OCP0_NIC_BIF1_N	A8	SMB_CPU0_PE2_OCP0_LVC3_SDA
B9	PD_OCP0_NIC_BIF2_N	A9	RST_BMC_PCIE_MUX_R_LVC3_N
B10	RST_CPU0_PE7_OCP0_PERST0_N	A10	PD_CPU0_OCP0_NIC_PRSTNTA_N
B11	P3V3_AUX_OCP0	A11	RST_CPU0_PE7_OCP0_PERST1_N
B12	FM_OCP0_NIC_AUX_PWR_LVC3_R_EN	A12	FM_CPU0_PE_OCP0_NIC_PRSTN2_N
B13	GND	A13	GND
B14	CLK_100M_CPU0_OCP0_0_DN	A14	CLK_100M_CPU0_OCP0_1_DN
B15	CLK_100M_CPU0_OCP0_0_DP	A15	CLK_100M_CPU0_OCP0_1_DP
B16	GND	A16	GND
B17	P5E_CPU0_PE2_OCP_TX_DN0	A17	P5E_CPU0_PE2_OCP_RX_DN0
B18	P5E_CPU0_PE2_OCP_TX_DP0	A18	P5E_CPU0_PE2_OCP_RX_DP0
B19	GND	A19	GND
B20	P5E_CPU0_PE2_OCP_TX_DN1	A20	P5E_CPU0_PE2_OCP_RX_DN1
B21	P5E_CPU0_PE2_OCP_TX_DP1	A21	P5E_CPU0_PE2_OCP_RX_DP1
B22	GND	A22	GND
B23	P5E_CPU0_PE2_OCP_TX_DN2	A23	P5E_CPU0_PE2_OCP_RX_DN2
B24	P5E_CPU0_PE2_OCP_TX_DP2	A24	P5E_CPU0_PE2_OCP_RX_DP2
B25	GND	A25	GND
B26	P5E_CPU0_PE2_OCP_TX_DN3	A26	P5E_CPU0_PE2_OCP_RX_DN3
B27	P5E_CPU0_PE2_OCP_TX_DP3	A27	P5E_CPU0_PE2_OCP_RX_DP3

B28	GND	A28	GND
Mechanical Key			
B29	GND	A29	GND
B30	P5E_CPU0_PE2_OCP_TX_DN4	A30	P5E_CPU0_PE2_OCP_RX_DN4
B31	P5E_CPU0_PE2_OCP_TX_DP4	A31	P5E_CPU0_PE2_OCP_RX_DP4
B32	GND	A32	GND
B33	P5E_CPU0_PE2_OCP_TX_DN5	A33	P5E_CPU0_PE2_OCP_RX_DN5
B34	P5E_CPU0_PE2_OCP_TX_DP5	A34	P5E_CPU0_PE2_OCP_RX_DP5
B35	GND	A35	GND
B36	P5E_CPU0_PE2_OCP_TX_DN6	A36	P5E_CPU0_PE2_OCP_RX_DN6
B37	P5E_CPU0_PE2_OCP_TX_DP6	A37	P5E_CPU0_PE2_OCP_RX_DP6
B38	GND	A38	GND
B39	P5E_CPU0_PE2_OCP_TX_DN7	A39	P5E_CPU0_PE2_OCP_RX_DN7
B40	P5E_CPU0_PE2_OCP_TX_DP7	A40	P5E_CPU0_PE2_OCP_RX_DP7
B41	GND	A41	GND
Top Side (B Pins)		Bottom Side (A Pins)	
B42	FM_CPU0_OCP0_NIC_PRSTN0_N	A42	FM_CPU0_OCP0_NIC_PRSTN1_N
Mechanical Key			
B43	GND	A43	GND
B44	P5E_CPU0_PE2_OCP_TX_DN8	A44	P5E_CPU0_PE2_OCP_RX_DN8
B45	P5E_CPU0_PE2_OCP_TX_DP8	A45	P5E_CPU0_PE2_OCP_RX_DP8
B46	GND	A46	GND
B47	P5E_CPU0_PE2_OCP_TX_DN9	A47	P5E_CPU0_PE2_OCP_RX_DN9
B48	P5E_CPU0_PE2_OCP_TX_DN9	A48	P5E_CPU0_PE2_OCP_RX_DP9
B49	GND	A49	GND
B50	P5E_CPU0_PE2_OCP_TX_DN10	A50	P5E_CPU0_PE2_OCP_RX_DN10
B51	P5E_CPU0_PE2_OCP_TX_DP10	A51	P5E_CPU0_PE2_OCP_RX_DP10
B52	GND	A52	GND
B53	P5E_CPU0_PE2_OCP_TX_DN11	A53	P5E_CPU0_PE2_OCP_RX_DN11
B54	P5E_CPU0_PE2_OCP_TX_DP11	A54	P5E_CPU0_PE2_OCP_RX_DP11
B55	GND	A55	GND

B56	P5E_CPU0_PE2_OCP_TX_DN12	A56	P5E_CPU0_PE2_OCP_RX_DN12
B57	P5E_CPU0_PE2_OCP_TX_DP12	A57	P5E_CPU0_PE2_OCP_RX_DP12
B58	GND	A58	GND
B59	P5E_CPU0_PE2_OCP_TX_DN13	A59	P5E_CPU0_PE2_OCP_RX_DN13
B60	P5E_CPU0_PE2_OCP_TX_DP13	A60	P5E_CPU0_PE2_OCP_RX_DP13
B61	GND	A61	GND
B62	P5E_CPU0_PE2_OCP_TX_DN14	A62	P5E_CPU0_PE2_OCP_RX_DN14
B63	P5E_CPU0_PE2_OCP_TX_DP14	A63	P5E_CPU0_PE2_OCP_RX_DP14
B64	GND	A64	GND
B65	P5E_CPU0_PE2_OCP_TX_DN15	A65	P5E_CPU0_PE2_OCP_RX_DN15
B66	P5E_CPU0_PE2_OCP_TX_DP15	A66	P5E_CPU0_PE2_OCP_RX_DP15
B67	GND	A67	GND
B68	FM_CPU0_PE0_OCP0_PRSTN3_QS_N	A68	USB2_OCP_NIC_DN
B69	NC	A69	USB2_OCP_NIC_DP
B70	FM_CPU_PE_OCP0_NIC_PRSTN3_N	A70	FM_PWRBRK_CPU0_PE2_OCP0_LVC3_N

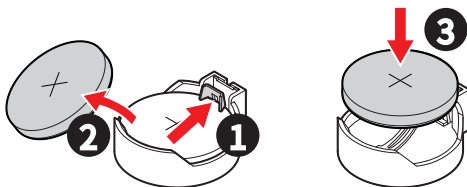
BAT1: CMOS Battery

If the CMOS battery is out of charge, the time in the BIOS will be reset and the data of system configuration will be lost. In this case, you need to replace the CMOS battery.



Replacing CMOS battery

1. Push the retainer clip to free the battery.
2. Remove the battery from the socket.
3. Install the new CR2032 coin-cell battery with the + sign facing up. Ensure that the retainer holds the battery securely.



WARNING

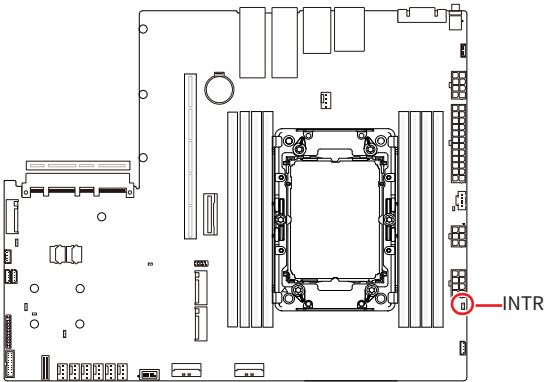
KEEP OUT OF REACH OF CHILDREN

- *Swallowing can lead to chemical burns, perforation of soft tissue, can death.*
- *Severe burns can occur within 2 hours of ingestion.*
- *If you think batteries might have been swallowed or placed inside any part of the body, seek immediate medical attention.*

INTR: Chassis Intrusion Header

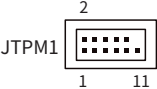
This header connects to the chassis intrusion switch cable, which monitors and detects any unauthorized opening in the server’ s chassis. When the chassis is opened, this header sends a signal to notify the Baseboard Management Controller (BMC) to record the intrusion event or trigger an alert for administrators.

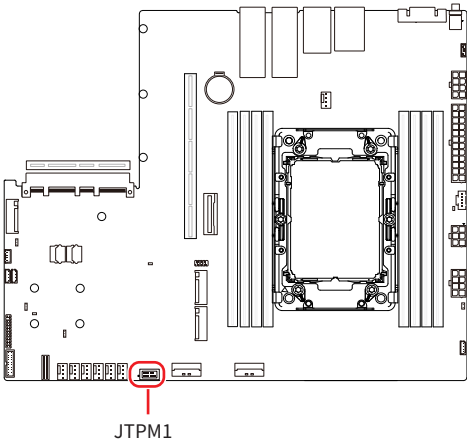
INTR 	1	CHASSIS
	2	GND



JTPM1: SPI TPM Header

This header connects to a TPM (Trusted Platform Module) module (optional). Please refer to the TPM security platform manual for more details.

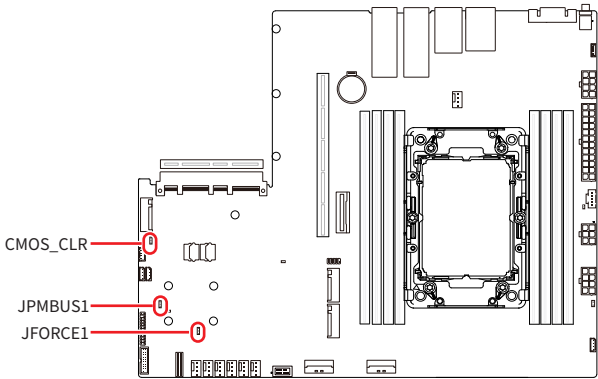
	1	TPM_PRSENT	2	RST_TPM_N
	3	SPI_TPM_MOSI	4	TPM_IRQ_N
	5	SPI_TPM_MISO	6	TPM_CLK
	7	NG	8	GND
	9	P1V8_AUX	10	TPM_CS_N
	11	P1V8_AUX	12	NG



Server Board Jumpers



Avoid adjusting jumpers when the system is on; it will damage the motherboard.

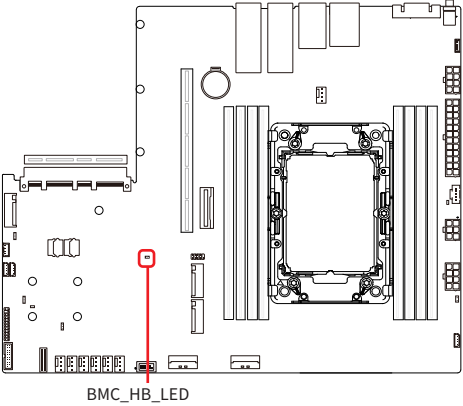


Jumper Name	Default Setting	Description
CMOS_CLR	 1	1-2: Normal<Default> 2-3: Clear RTC
JPMBUS1	 1	1-2: Normal<Default> 2-3: Disable BMC to PMBUS
JFORCE1	 1	1-2: Force Power On Disable<Default> 2-3: Force Power On Enable

Onboard LEDs

BMC_HB_LED: BMC Heartbeat LED

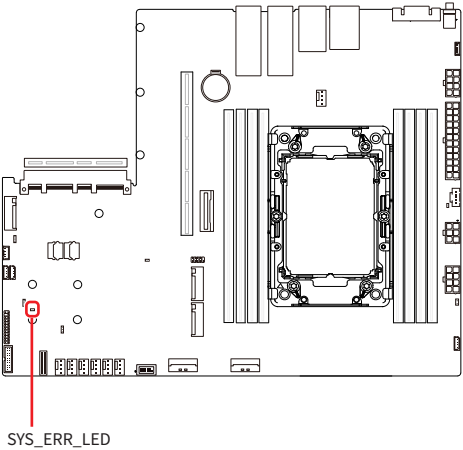
This LED indicates the BMC status.



Status	Description
 Blinking 1Hz	BMC ready
Others	BMC not ready

LED7: SYS_ERR_LED

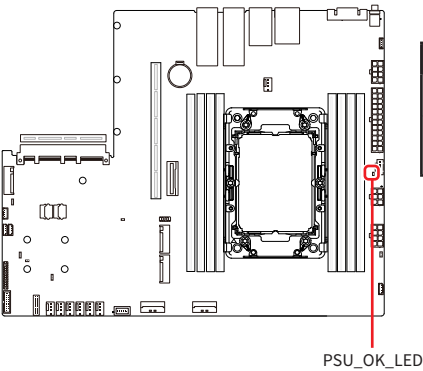
The SYS_ERR_LED indicates the system is in error.



Status	Description
 Off	System normal
 On	System error

PSU_OK_LED: ATX_PWROK LED

This PSU_OK_LED indicates all the ATX Power status is OK.



Status	Description
Off	ATX power is not power on
On	ATX power is on and OK

Getting Started



Important

- All information is subject to change without prior notice.
- The system photos are provided for demonstration purposes only. The appearance and internal view of your system may vary depending on the model you purchased.

Necessary Tools



Screwdriver



Pliers



Tweezers



Anti-Static
Gloves

Safety Precautions

The following precautions should be observed while handling the system:

- Place the system on a flat and stable surface.
- Do not place the system in environments subject to mist, smoke, vibration, excessive dust, salty or greasy air, or other corrosive gases and fumes.
- Do not drop or jolt the system.
- Do not use a power adapter other than the one enclosed with the system.
- Disconnect the power cord before performing any installation procedures on the system.
- Do not perform any maintenance with wet hands.
- Prevent foreign substances, such as water, other liquids or chemicals, from entering the system while performing installation procedures.
- Use a grounded wrist strap before handling system components such as CPU, Memory, HDD, expansion cards, etc.
- Place system components on a grounded antistatic pad or on the bed that came with the components whenever the components are separated from the system.

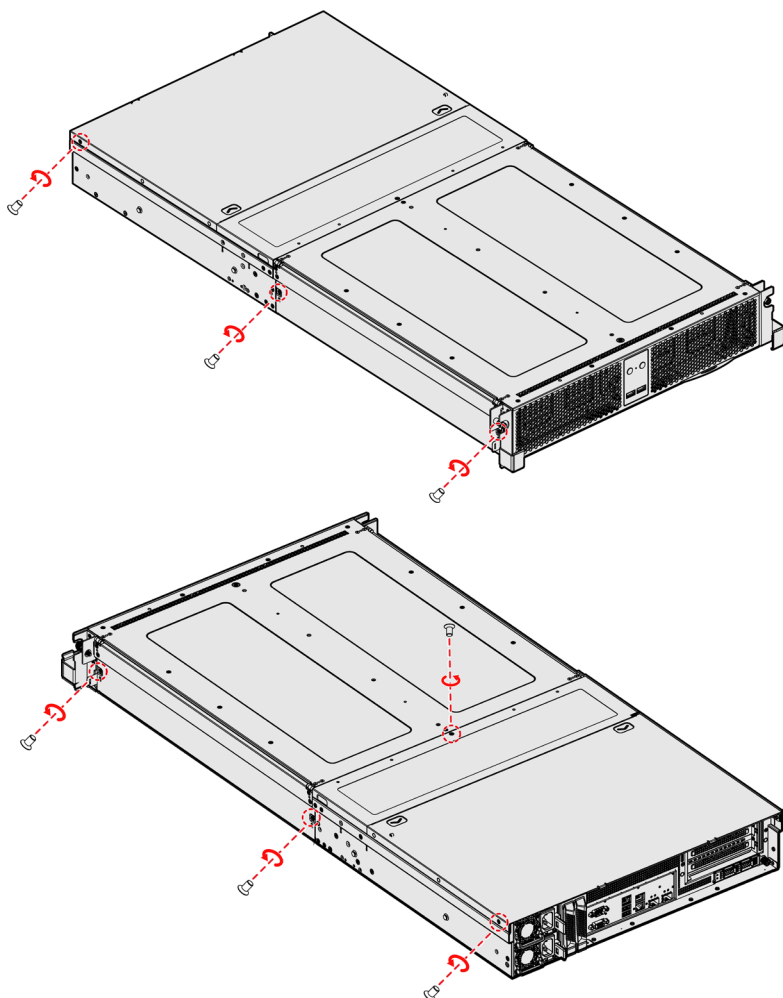
System Cover

Removing System Cover

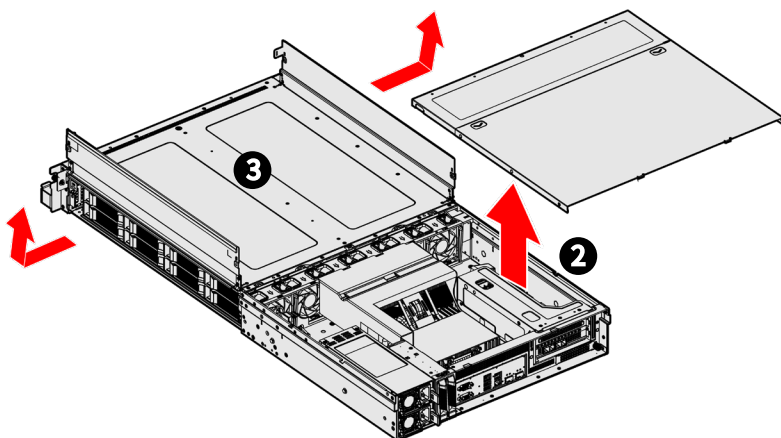
1. Remove the 6 screws securing the system with screwdriver on both sides and 1 on the top.

Important

- Make sure to handle the screws and small parts carefully to avoid losing them or causing any damage.



2. Remove the rear chassis cover to expose the interior of the rear chassis.
3. lift over the both sides cover of the chassis to expose the 3.5"/2.5" HDD module.



System Setup



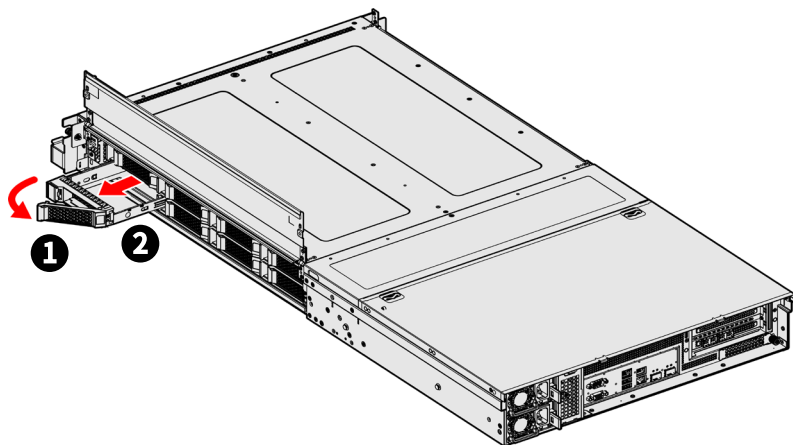
Important

Before removing or installing any components, make sure the system is not turned on or connected to the power.

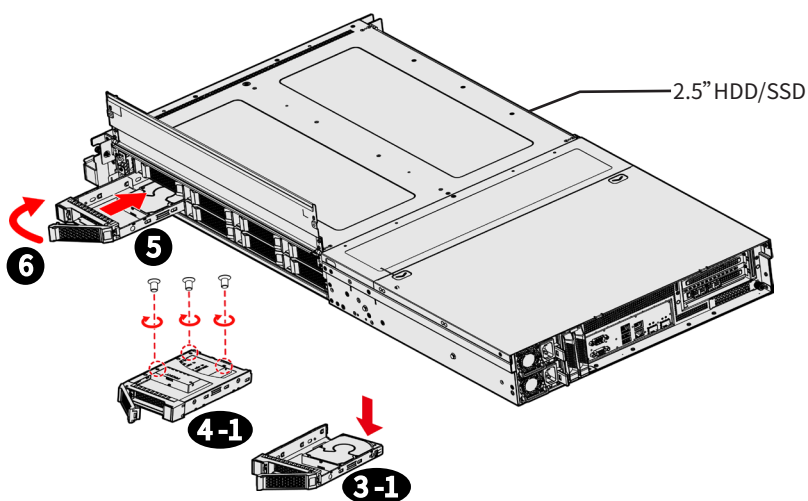
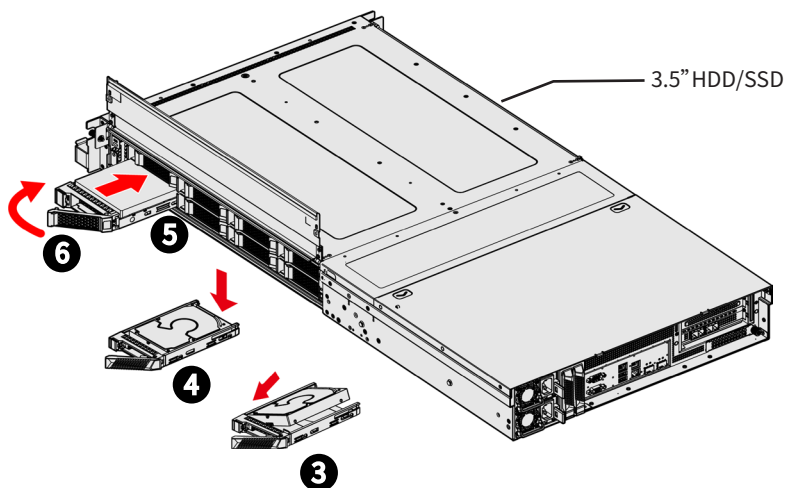
Drive Bay

Installing 3.5"2.5" HDD/ SSD

1. Carefully pull over the lever open.
2. With the lever open, pull out the HDD tray.



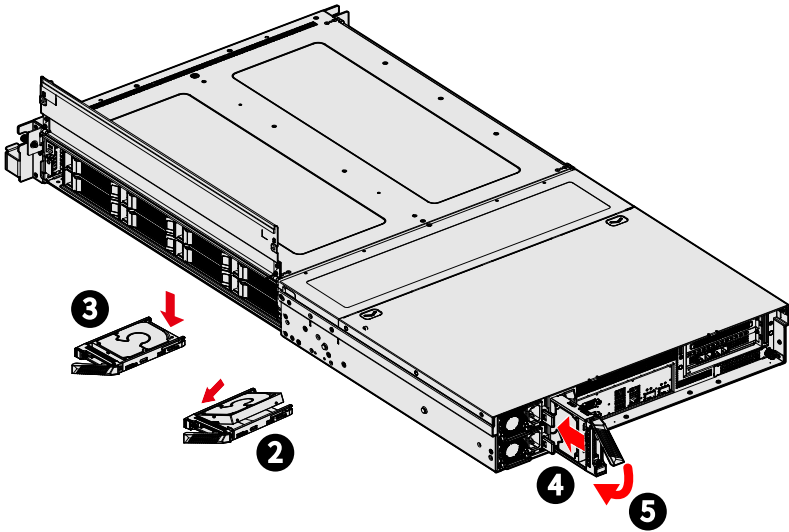
3. Engage two embossed pins into the side dimples on the HDD/ SSD.
- 3-1. Carefully put the 2.5" HDD/SSD onto the tray.
4. Carefully push down the other side of the HDD/ SSD until another two embossed pins and side dimples lock it into place.
- 4-1. Secure the 2.5" HDD/SSD with 3 screws to the tray.
5. With the lever open, insert the 3.5"/2.5" HDD/ SSD assembly vertically into the drive bay until the locking lever is engaged.
6. Push in the lever to lock it into place.



Drive Bay

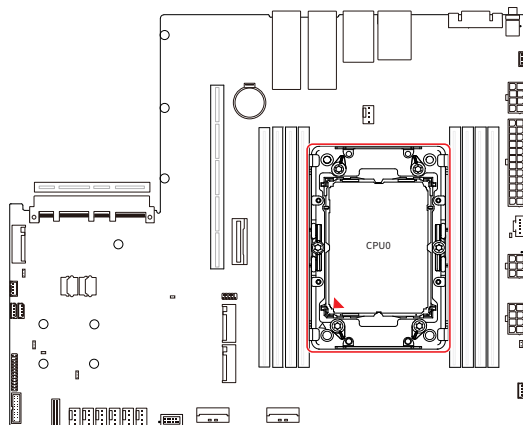
Installing Rear 2.5" NVMe SSD

1. The same procedure as open the side tray lever.
2. Engage two embossed pins into the side dimples on the NVMe SSD.
3. Carefully push down the other side of the NVMe SSD until another two embossed pins and side dimples lock it into place.
4. With the lever open, insert the 2.5" NVMe SSD assembly vertically into the drive bay until the locking lever is engaged.
5. Push in the lever to lock it into place.



CPU & Heatsink

Use appropriate ground straps, gloves and ESD mats to protect yourself from electrostatic discharge (ESD) while installing the processor.



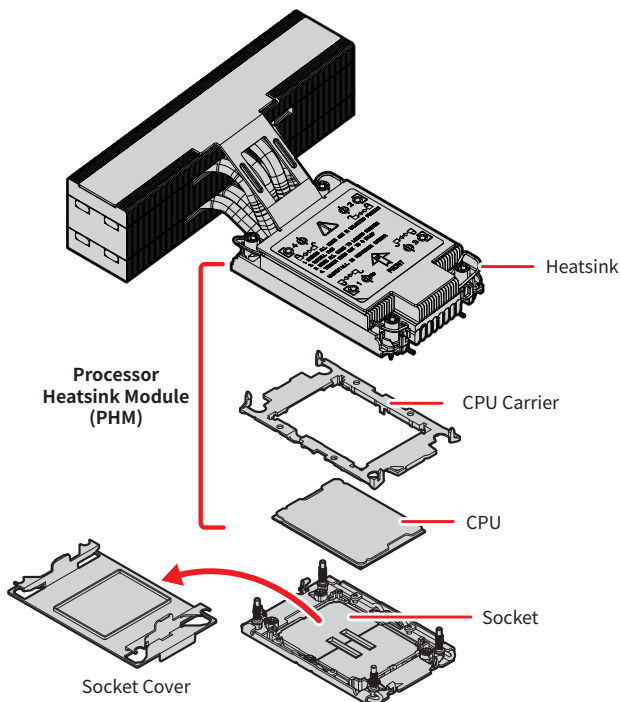
Important

- While **replacing the CPU**, always turn off the power supply or unplug the power supply's power cord from the grounded outlet first to ensure the safety of CPU.
- **Overheating** will seriously damage the CPU and system. Always make sure the cooling fan can work properly to protect the CPU from overheating. Make sure to apply an even layer of thermal paste (or thermal tape) between the CPU and the heatsink to enhance heat dissipation.

Assembly Overview

Important

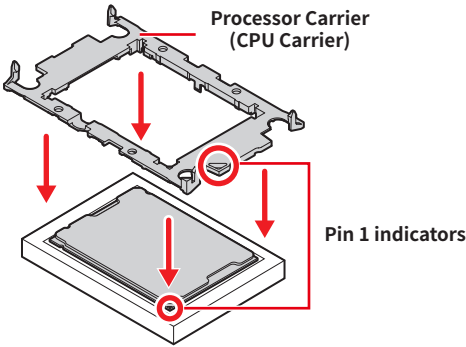
Illustrations are for demonstration purposes only; actual parts may vary.



Important

- Please check the instruction that come with your heatsink and thermal paste for more details before starting.
- Confirm if your heatsink is firmly installed before turning on your system.
- Whenever CPU is not installed, always protect your CPU socket pins with the plastic cap covered.
- Do not touch the CPU socket pins to avoid damage.
- Read the CPU status in BIOS.

1. Place the processor carrier on top of the processor in the tray with their pin 1 indicators aligned. If installed properly, the CPU will snap into the carrier's side latches and the carrier will latch firmly to it. Verify that the processor is securely latched to the carrier. The carrier must be flat and level to the processor top Integrated Heat Spreader (IHS). If the carrier is not latched properly , press the carrier down.

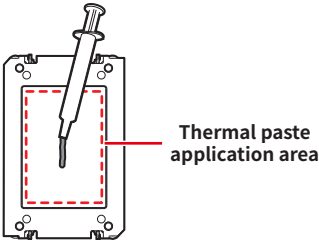


Note

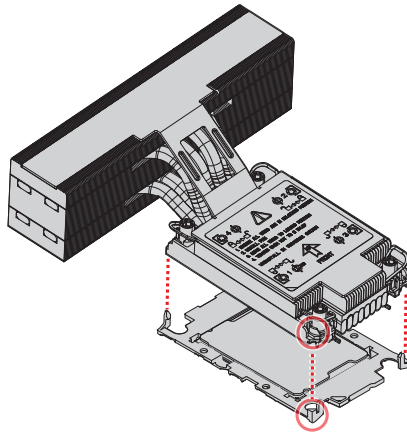
Please refer to the following table for the corresponding CPU carrier.

CPU Package Type	· Granite Rapids-SP XCC	· Granite Rapids-SP HCC · Granite Rapids-SP LCC · Sierra Forest-SP
CPU Carrier Code	E2A	E2B

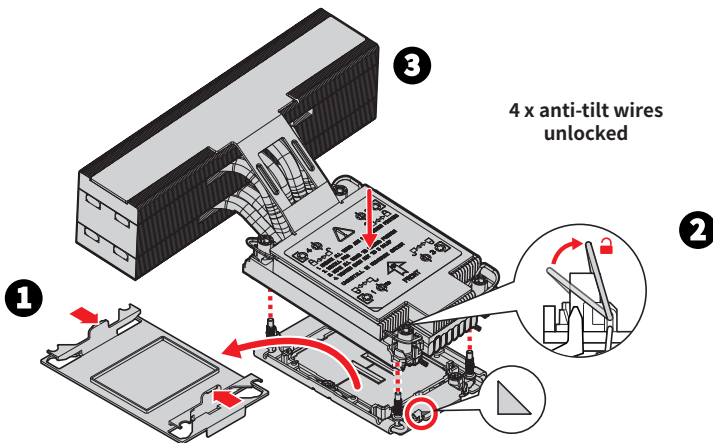
2. Remove the protective film at the bottom of the heatsink if any.
3. *To avoid damaging the fins of the heatsink, always grip the heatsink along the axis of the fins. Holding a heatsink along the side might damage its fins or solder.*
4. Make sure the heatsink has pre-applied thermal paste. If there isn't, you'll need to apply thermal paste to the bottom center of the heatsink.



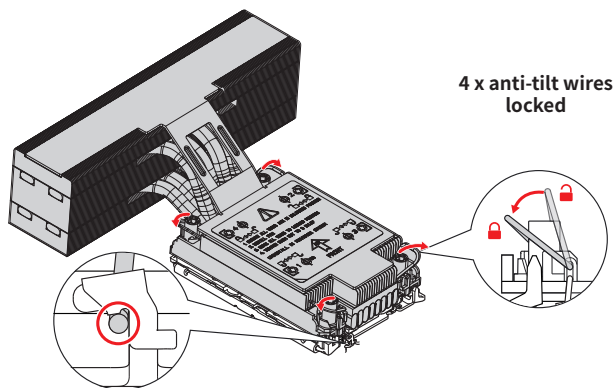
4. Check the heatsink for a diagonally cut corner or the #1clip on the heatsink label if present. Align the processor carrier's Pin 1 indicator with the heatsink's cut corner (#1 clip), then gently press the heatsink down to engage the carrier's latching mechanism to the heatsink at four corners.



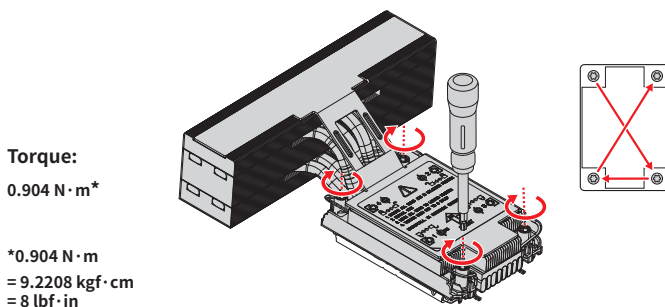
5. Make sure the attached clips on the carrier grab onto the heatsink and firmly secure the carrier, CPU and heatsink as one Processor Heatsink Module (PHM).
6. Remove the socket cover by squeezing the finger grips in, then flip 4 anti-tilt wires on the heatsink to the unlocked position (inward) and place the PHM on top of the bolster plate with the Pin 1 indicators aligned. Hold the PHM horizontally, carefully lower down to engage PHM to bolster the plate's alignment pin.



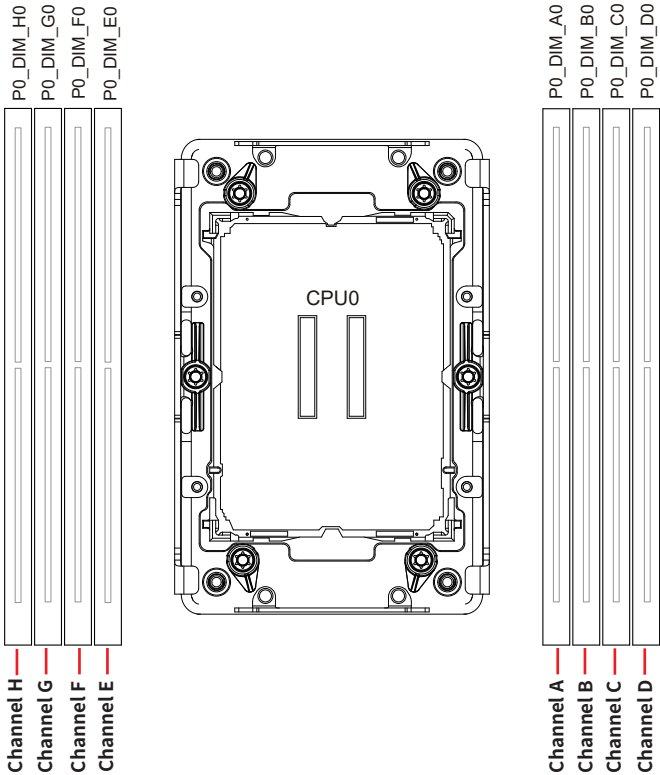
7. Flip 4 anti-tilt wires to the locked position (outward) and make sure the latches of the wires are firmly secure.



8. Tighten all screws on the PHM in diagonal sequences to secure the PHM to the motherboard.
- To avoid distributing uneven pressure on the CPU, it is recommended to secure the PHM in two steps: first, loosely attach the screws at four points and then gradually tighten them.



Memory



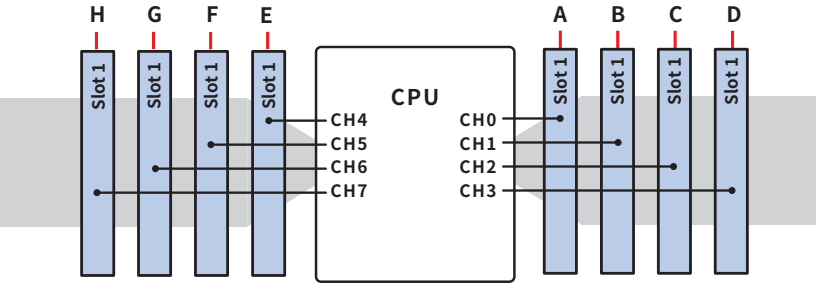
Recommended Memory Population

Key Parameters for DIMM Configuration

Granite Rapids-SP DDR DIMM Support Matrix									
Support Matrix for Intel Xeon 6500P/6700P-series									
Type	Ranks Per DIMM and Data Width	DIMM Capacity(GB)						Channel Speed(MT/s); Voltage (V); Slots per Channel(SPC)&DIMMs per Channel(DPC)	
		DRAM Density							
		16Gb		24 Gb		32Gb		1DPC/2SPC	2DPC/2SPC
		1DPC	2DPC	1DPC	2DPC	1DPC	2DPC	1.1V	
RDIMM	1Rx8	16GB		24GB				6400,6000, 5600,5200, 4800 (DDR5-6400 rated RDIMMS only)	5200,4800 (DDR5-6400 rated RDIMMS only)
	1Rx4	32GB		48GB					
	2Rx8	32GB	32GB	48GB					
	2Rx4	64GB	64GB*	96GB	96GB*	128GB*	128GB*		
RDIMM 3DS	8Rx4		256GB*						
	4Rx4					256GB*	256GB*		
MRDIMM	2Rx8	32GB						8000,7200 (MRDIMM -8800 only)	N/A(no 2DPC configs for MRDIMM)
	2Rx4	64GB							

Sierra Forest- SP DDR DIMM Support Matrix									
Support Matrix for Intel Xeon 6700E-series									
Type	Ranks Per DIMM and Data Width	DIMM Capacity(GB)						Channel Speed(MT/s); Voltage (V); Slots per Channel(SPC)&DIMMs per Channel(DPC)	
		DRAM Density							
		16Gb		24Gb		32Gb		1DPC/2SPC	2DPC/2SPC
1DPC		2DPC	1DPC	2DPC	1DPC	2DPC	1.1V		
RDIMM	1Rx4	32GB						6400,6000,	N/A
	2Rx8	32GB						5600,5200,	N/A
	2Rx4	64GB	64GB	96GB	96GB			4800(DDR5-6400 rated RDIMMS only)	5200,4800
	2Rx4					128GB	128GB		N/A
RDIMM 3DS	4Rx4					256GB	256GB		

DDR5 Only DIMM Configuration



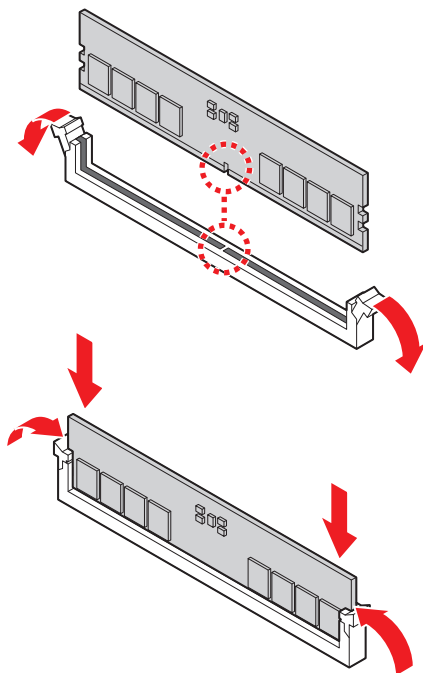
SPR IMC#	IMC7	IMC6	IMC5	IMC4	C P U	IMC0	IMC1	IMC2	IMC3
Channel	H	G	F	E		A	B	C	D
	Chan 7	Chan 6	Chan 5	Chan 4		Chan 0	Chan 1	Chan 2	Chan 3
	H0	G0	F0	E0		A0	B0	C0	D0
DDR5									
1+0									
4+0		V		V		V		V	
	V		V				V		V
8+0	V	V	V	V		V	V	V	V
"V" indicates DIMMs are populated with DDR5.									

Note

1. There should be at least one DDR5 DIMM per socket.
2. 1-DIMM configuration is a special POR case and Intel validation is limited.
3. Validation scope limited to :Functional Validation, DIMMs populated only in CH0 Slot0, Birth Stream-SP:16GB 1Rx8 and 32GB 2Rx8(Granite Rapids-SP)&32GB 2Rx8 (Intel®Xeon® 6700-Series Processor with E-Cores) only,Birch Stream-AP:32GB 2Rx8 only.
4. Enforce Population Por BIOS knob must be enable for production.

Installing Memory Modules

1. Open the side clips to unlock the DIMM slot.
2. Insert the DIMM vertically into the slot, ensuring that the off-center notch at the bottom aligns with the slot.
3. Push the DIMM firmly into the slot until it clicks and the side clips automatically close.
4. Verify that the side clips have securely locked the DIMM in place.



Important

You can barely see the golden finger if the memory module is properly inserted in the DIMM slot.

Installing M.2 SSD onto the Server Board

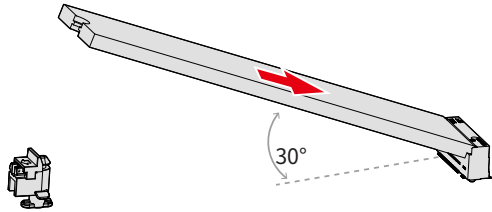


Video Demonstration

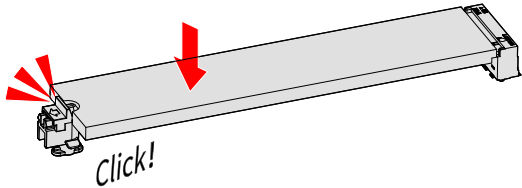
Watch the video to learn how to
Install M.2 SSD.



1. Insert your M.2 SSD into the M.2 slot at a 30-degree angle.



2. Secure the M.2 SSD in place with the M.2 latch.



Installing M.2 ROT module

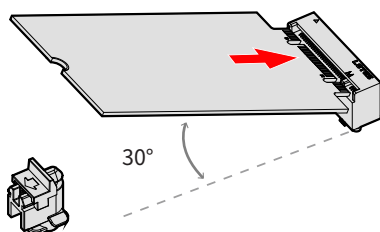


Video Demonstration

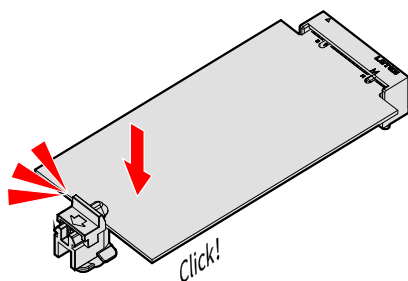
Watch the video to learn how to
Install M.2 SSD.



1. Insert your M.2 module into the M.2 slot at a 30-degree angle.



2. Secure the M.2 module in place with the supplied M.2 screw.



PCIe Add-in Card

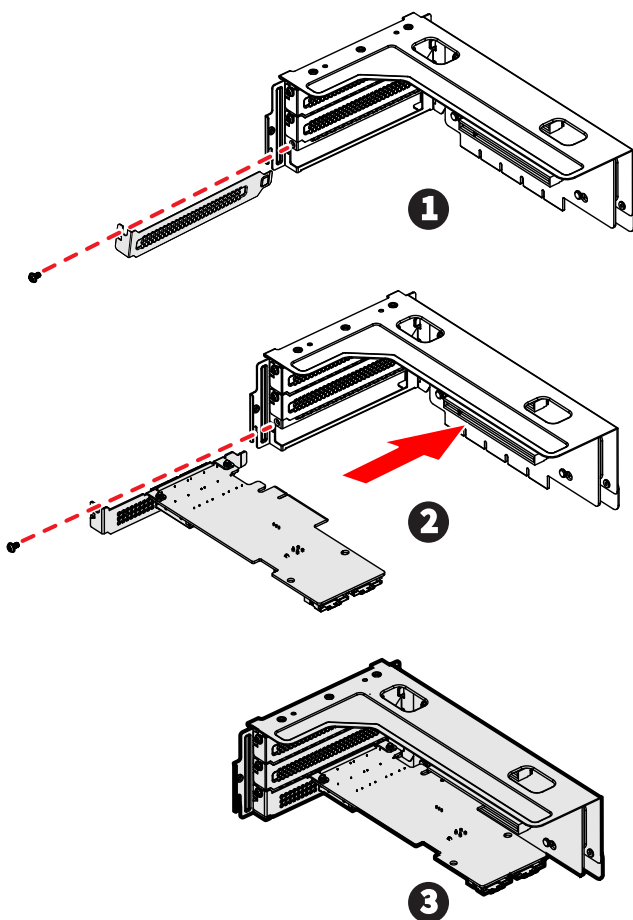
Installing PCIe Add-in Card

1. Loosen the screw on the riser bracket to remove the filler panel.
2. Align the PCIe add-in card with the connector on the riser card, and insert it until it is fully seated.
3. Tighten the screws to securely fix the PCIe add-in card in place.



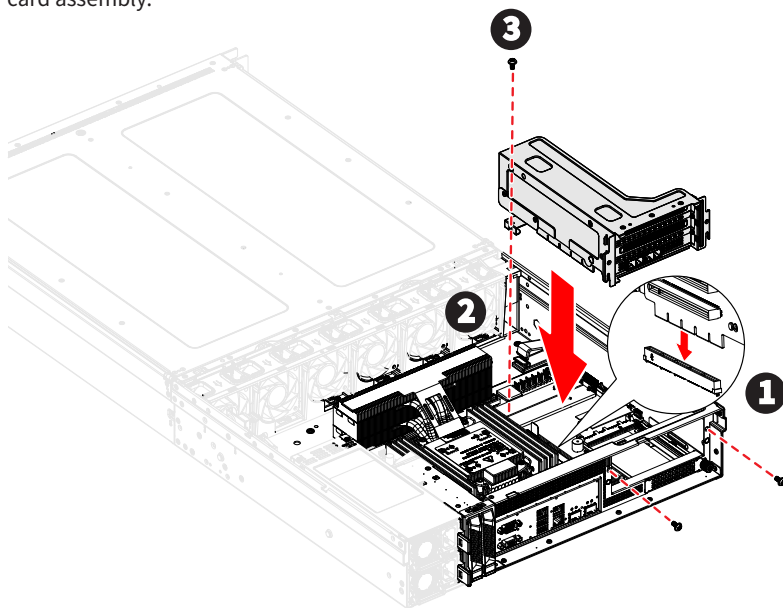
Important

The procedure for installing PCIe add-in cards are the same for all the riser slot.



Installing Riser Card Assembly

1. Make sure the key slots on the rear edge of the riser card assembly are aligned with the mounting pins on the rear edge of the system (indicated by the circle in the image below).
2. Insert the riser card assembly into the PCIe slot on the system board.
3. Tighten the screws on the rear and middle side of the system to secure the riser card assembly.



System Fan

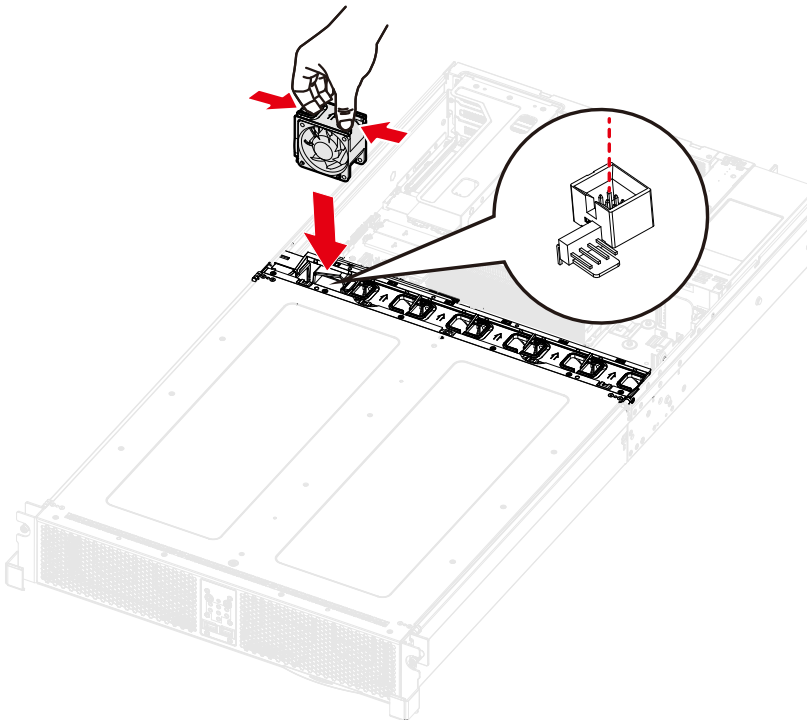
The server system is equipped with six 60 x 60 x 38mm hot-swappable system fans that provide primary airflow to maintain optimal cooling and prevent overheating.

The fan features include:

- Tachometer on each fan allows BMC to monitor the system's status in real-time.
- An integrated BMC firmware automatically adjusts fan speed based on the system's thermal status to maintain optimal performance.
- An integrated fault LED on the top of each fan lights up red in case of a failure, simplifying issue identification.
- Fans are mounted within a fan cage that can be easily removed for cable routing, simplifying maintenance and upgrading for efficient operation.

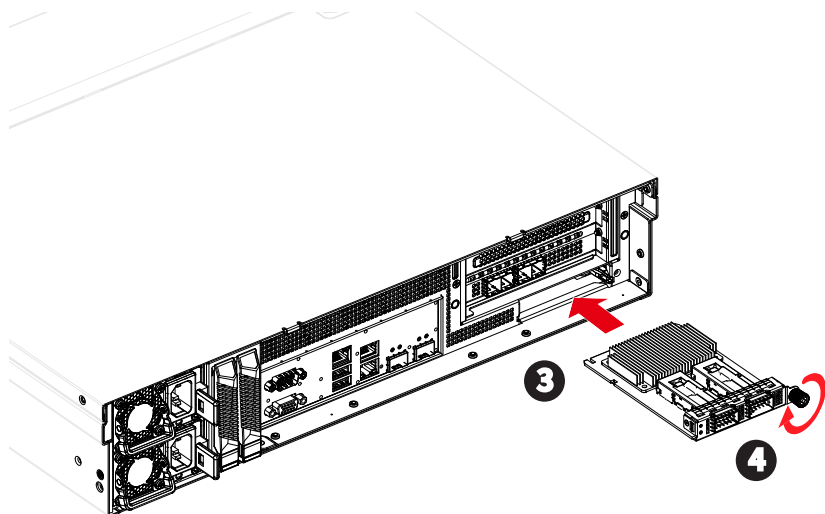
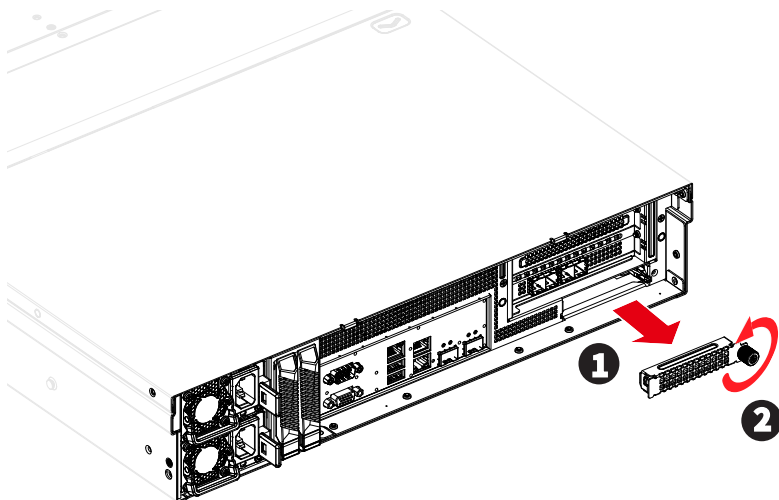
Installing 2U Fan

1. With the connectors aligned, press the fan release tabs and slide the fan into the slot.
2. Release the tabs until the fan locks into place.



Installing OCP Card

1. Unscrew to release the OCP dummy bracket.
2. Insert the OCP Card into the OCP bay and secure the rotary screw.



Air Duct

The server system offers a pre-installed plastic air duct available as an accessory.

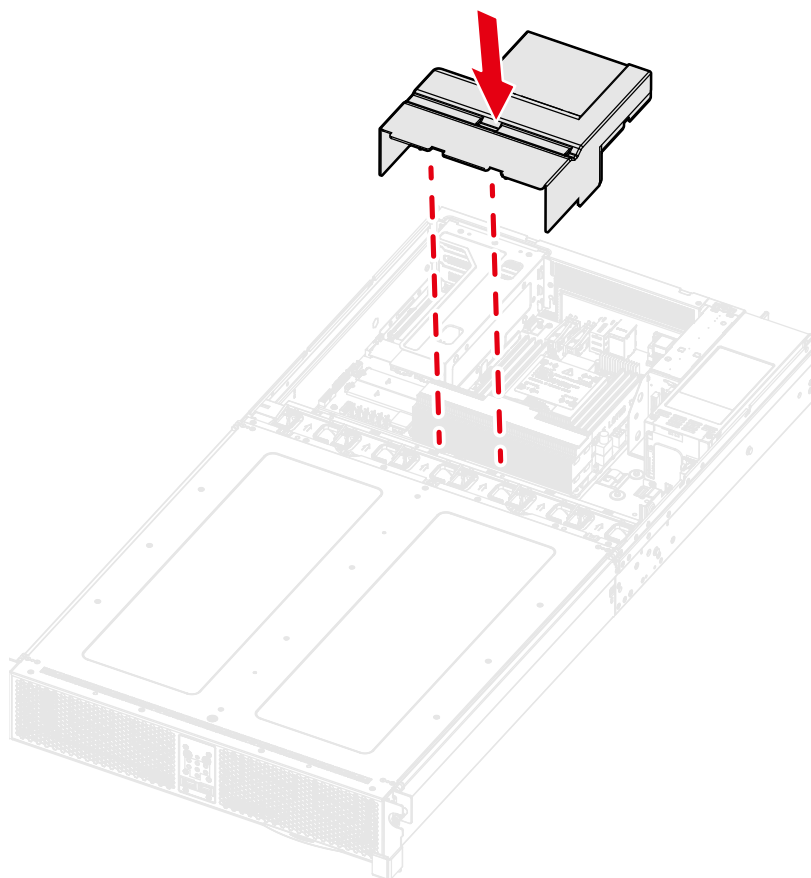


Important

- Make sure not to trap the power cord when installing the air duct to the chassis.

Installing Air Duct

1. Install the air duct to the chassis.



Power Supply Unit (PSU)

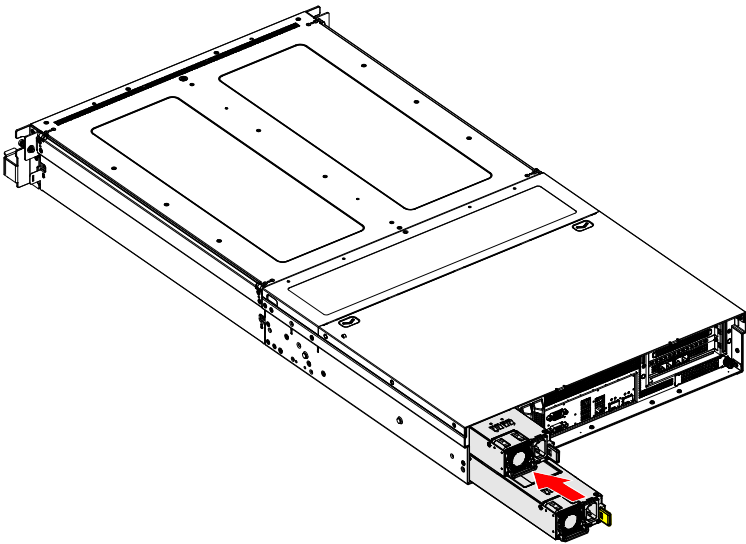
The server system supports two power supplies that can be easily inserted and removed from the rear side of the system without the need for tools.

Important

- Both power supplies must be identical and both power cords should be connected.
- Failing to connect both power supplies could result in CPU throttling.

Installing PSU

1. Press the tab and hold the latch to pull out the power.
2. Slide the PSU into the chassis bay until the release latch snaps into place.
3. Connect the power cable to the PSU power outlet.

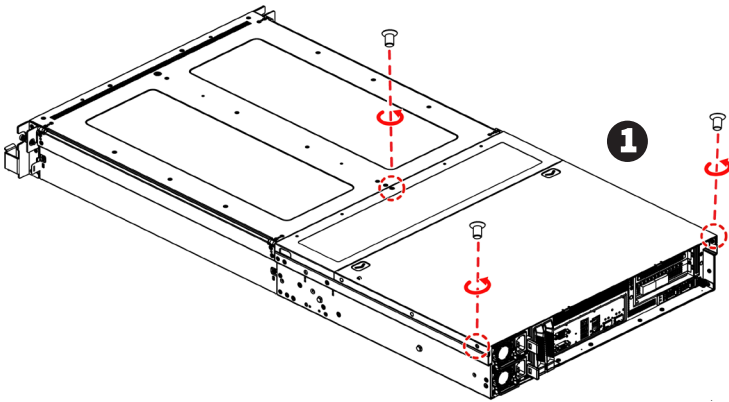


Intalling 8i to 2x4i Cable

The 8i to 2x4i cable is dedicate for 9560-16i Raid Card provided to the customers for self-installation in the accessory.

Removing System cover

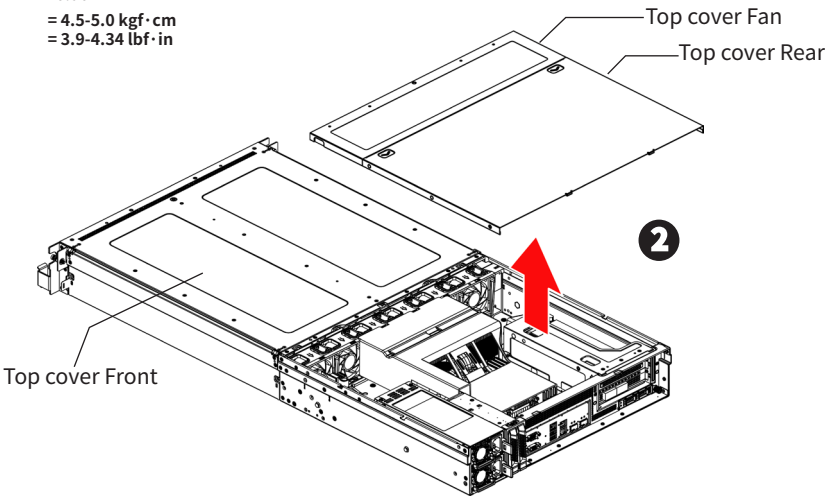
- 1. Removing the screws securing the system on both sides and top.
- 2. Slide the covers to the front and back side of the system to remove it.



Torque:

0.904 N·m*

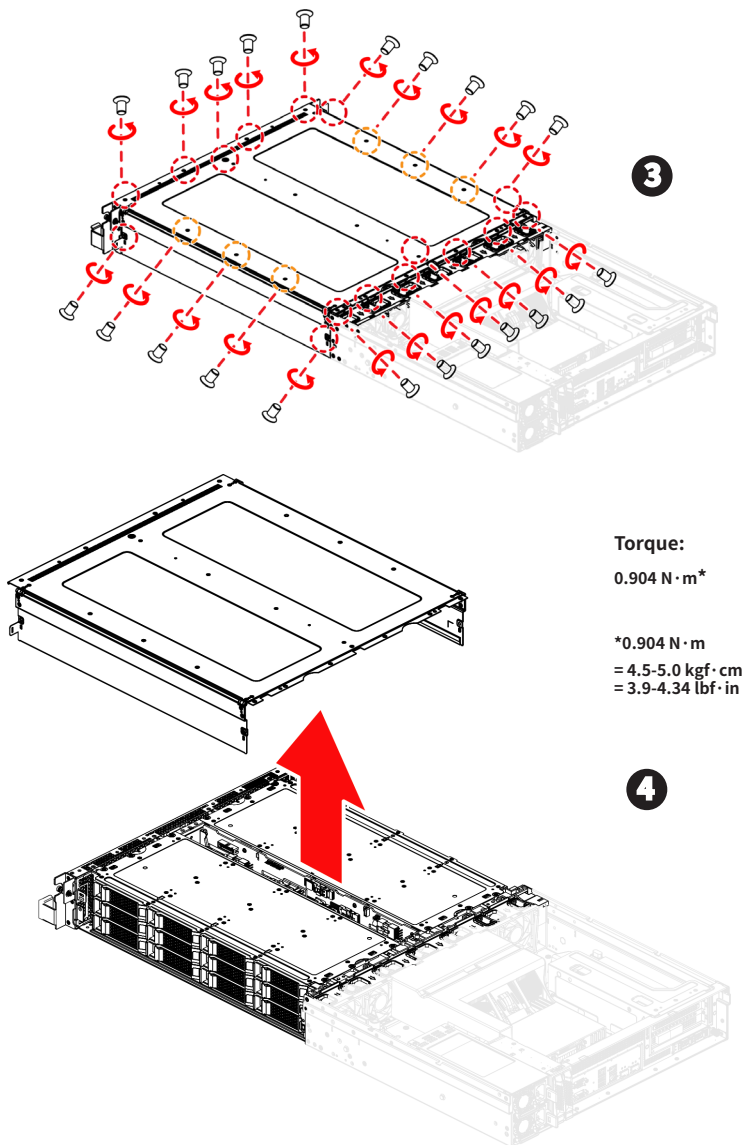
*0.904 N·m
= 4.5-5.0 kgf·cm
= 3.9-4.34 lbf·in



3. Removing the screws securing the system on top cover front.
4. Pull off the front side cover of the system to remove it.

Important

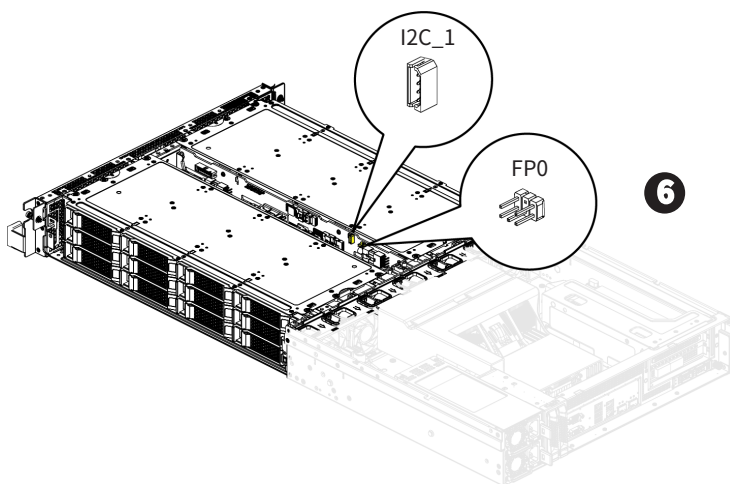
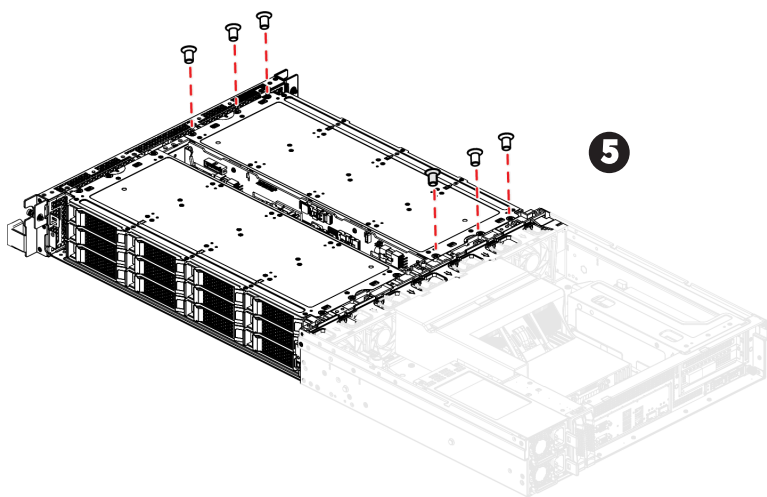
- The six screws within the yellow - circled area shall be stored independently and must not be commingled with the remaining nineteen screws.



5. Removing the screws securing the 12 HDD BP-L module.
6. unplug the connectors in yellow on the 12 HDD Module L Backplane.

! Important

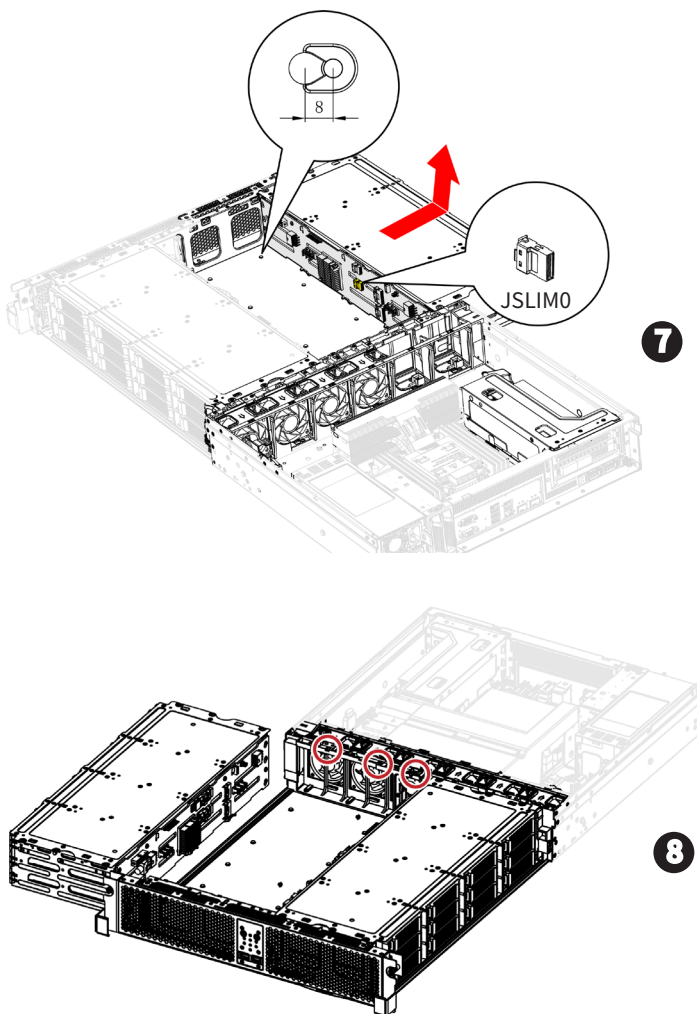
- The six screws in the red circle on the diagram (are of the same specification as the screws in the red circle position in steps 3 and can be stored together).
- The power cable may remain plugged in without hindering the installation of the raid card cable.



7. Move 12 HDD BP-L module horizontally outward to the limit point (about 10mm) and lift it up to slide the module out of its slot. Then disconnect lower section of the 12 HDD BP-L JSLIM0 cable.
8. Cut off the three cable ties in the following figure.

! Important

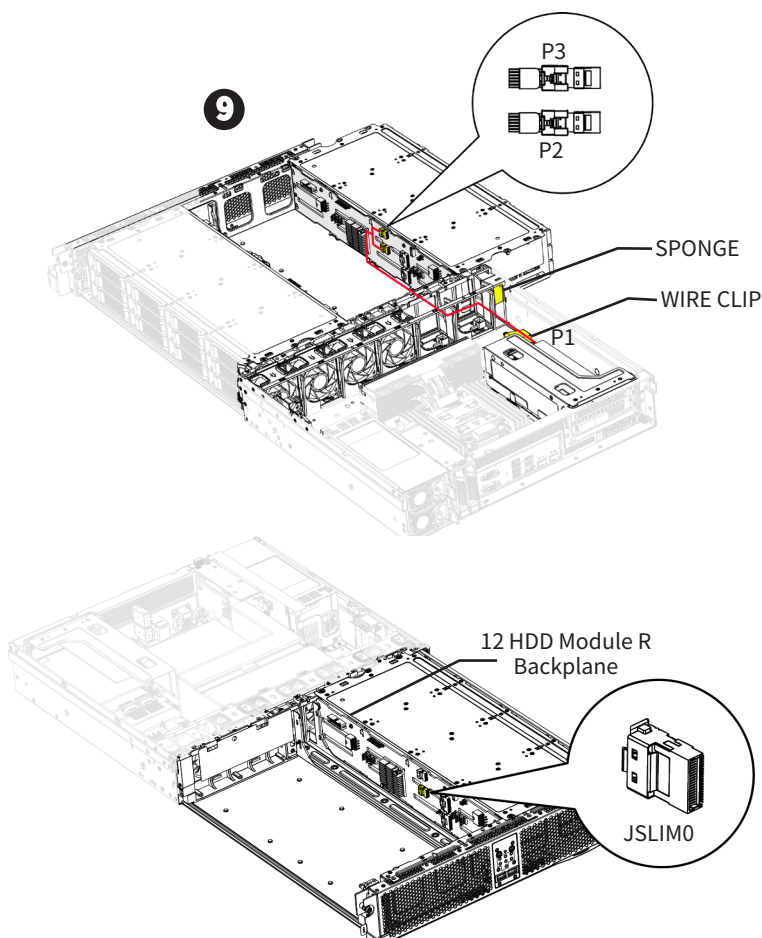
- Remove all the HDDs before uninstalling the Left HDD Module.
- Be careful during the moving process and do not damage any cables.
- Set the disassembled products aside and protect them well.



9. Take out 8i to 2x4i cable in the AK box . Arrange the 8i to 2x4i cable according to the drawn route (the P1 end goes through the **FAN HOLDER**. Be careful not to damage the **SPONGE** and arrange it into the **WIRE CLIP**). P1 is connect to the raid card.
- 10.Repeat the steps in reverse to reinstall the 12 HDD L BP Module.

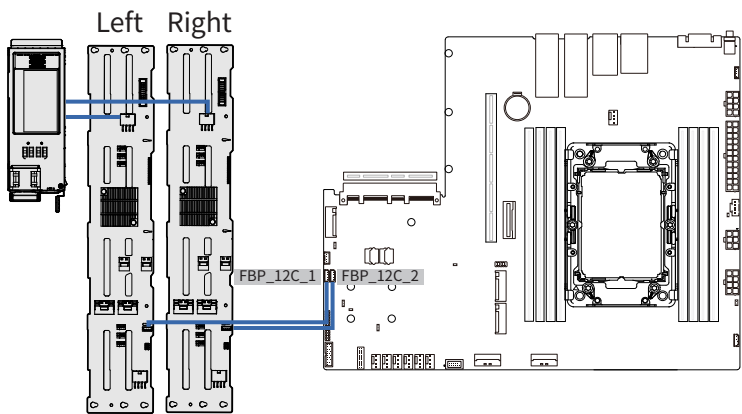
Important

- After installing the 8i to 2x4i cable reconnect all other cables on the BP connectors mentioned in step 6.
- The **P2** end of the original 8i to 2x4i cable which was initially plugged into the JSLIM0 connector of the 12 HDD **Module L BP** needs to be connected to the JSLIM0 connector on the 12 HDD **Module R BP** (for detail please refer to the **Chapter Raid Card Cable connection**) .

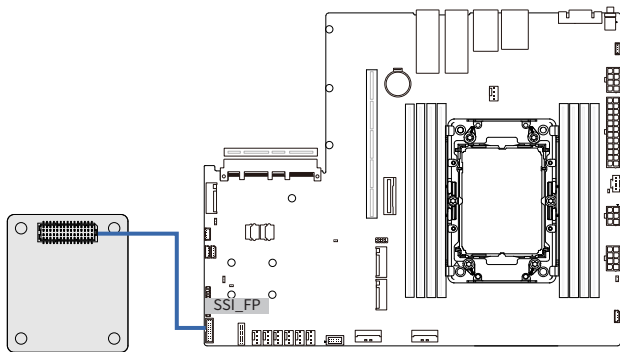


Cable Routing

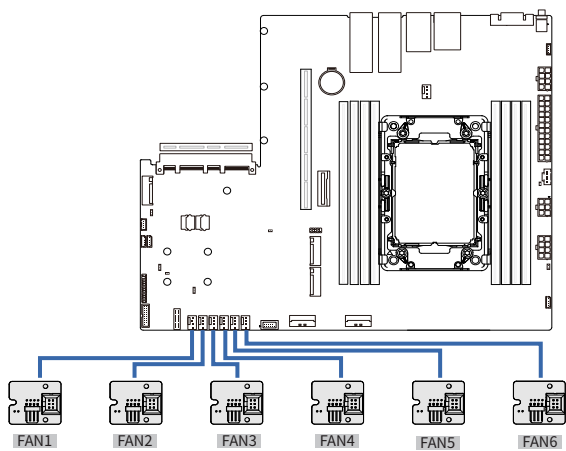
Front HDD Backplane Cables Connection



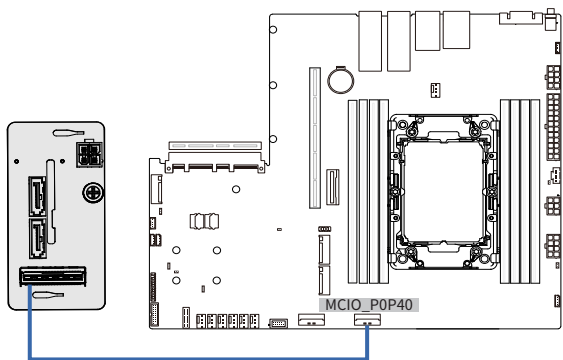
Front Panel Board Cable Connection



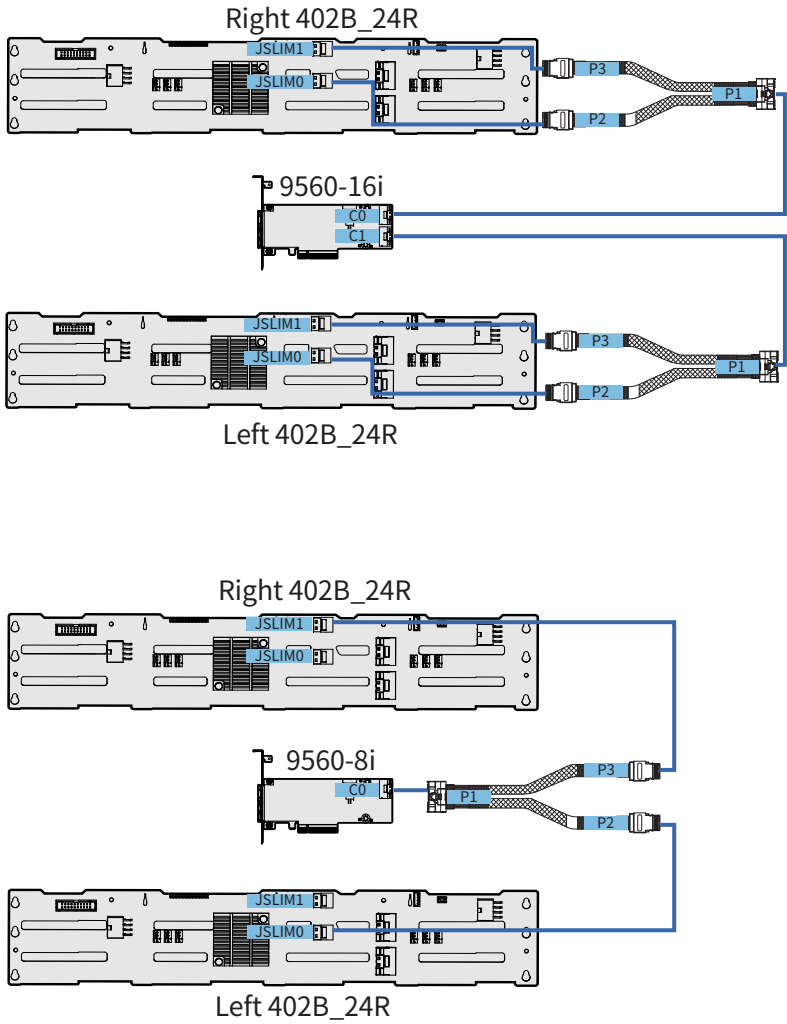
Fan BP Cables Connection



Rear HDD BP Cables Connection



Raid Card Cables Connection



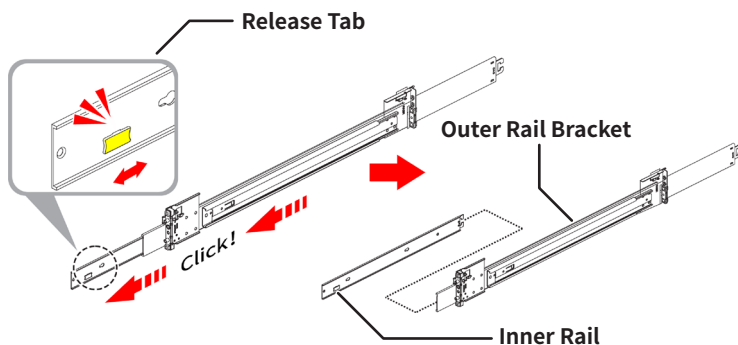
Slide Rail

Important

The pre-installed screws on the outer rail bracket are intended only for square rack holes. For round holes, please switch to the “7.1 round hole screw”.

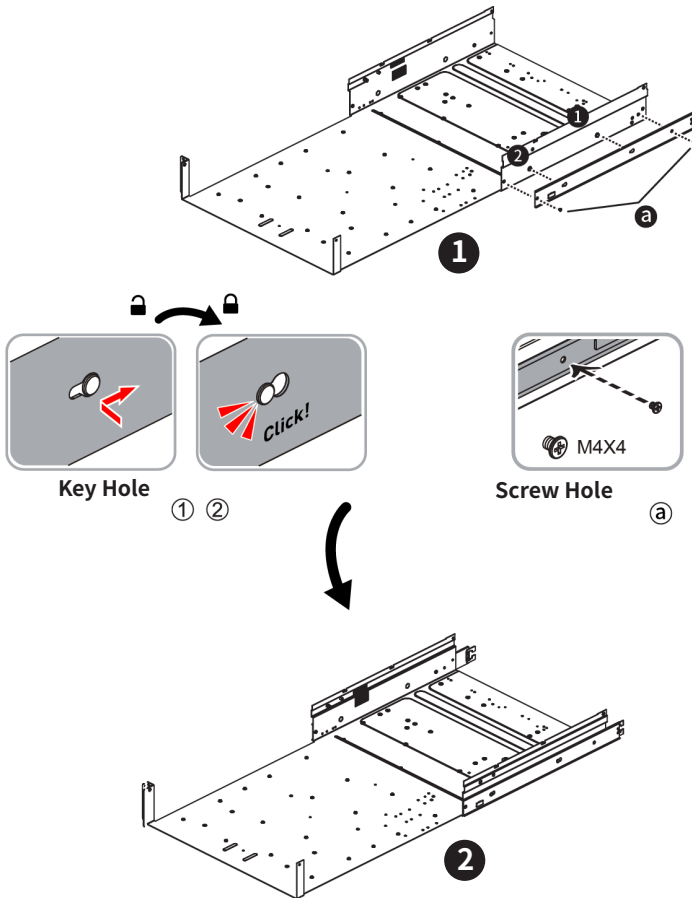
Disassembling Slide Rail

Slide the release tab forward to separate the inner rail from the bracket.



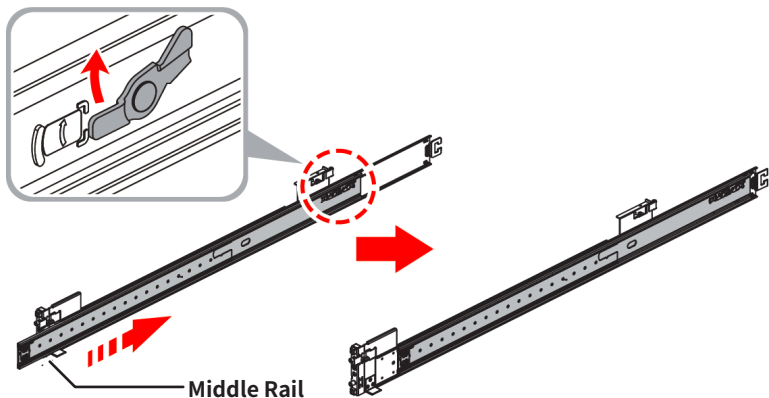
Installing Inner Rail to System

1. Align the standoffs on the side of the system with the hole on the inner rail, then pull the inner rail backwards till it locks into place.
2. Tighten the screw to secure the inner rail.
3. Repeat the same procedure to install the inner rail on the other side of the system.

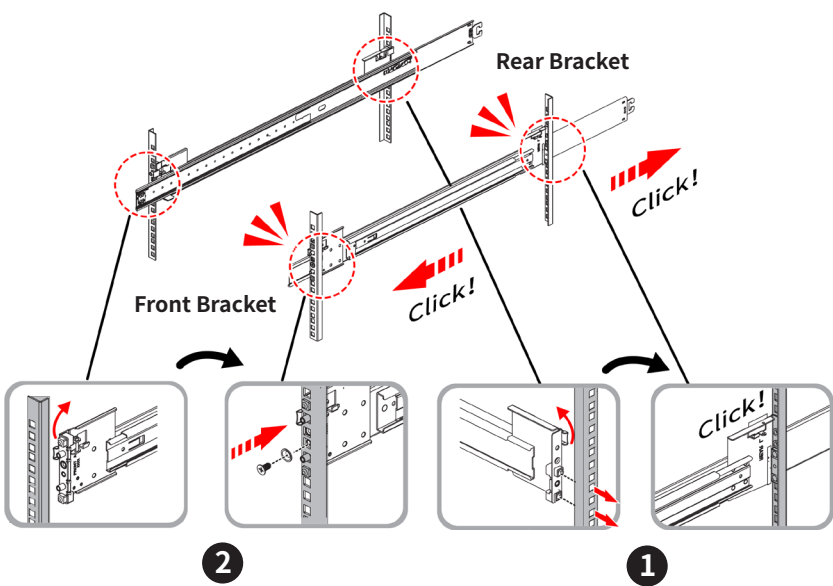


Retracting Outer Rail Bracket

Pull the latch downward to slide the middle rail back to the outer rail bracket.



Attaching Outer Rail Bracket to Rack Frame

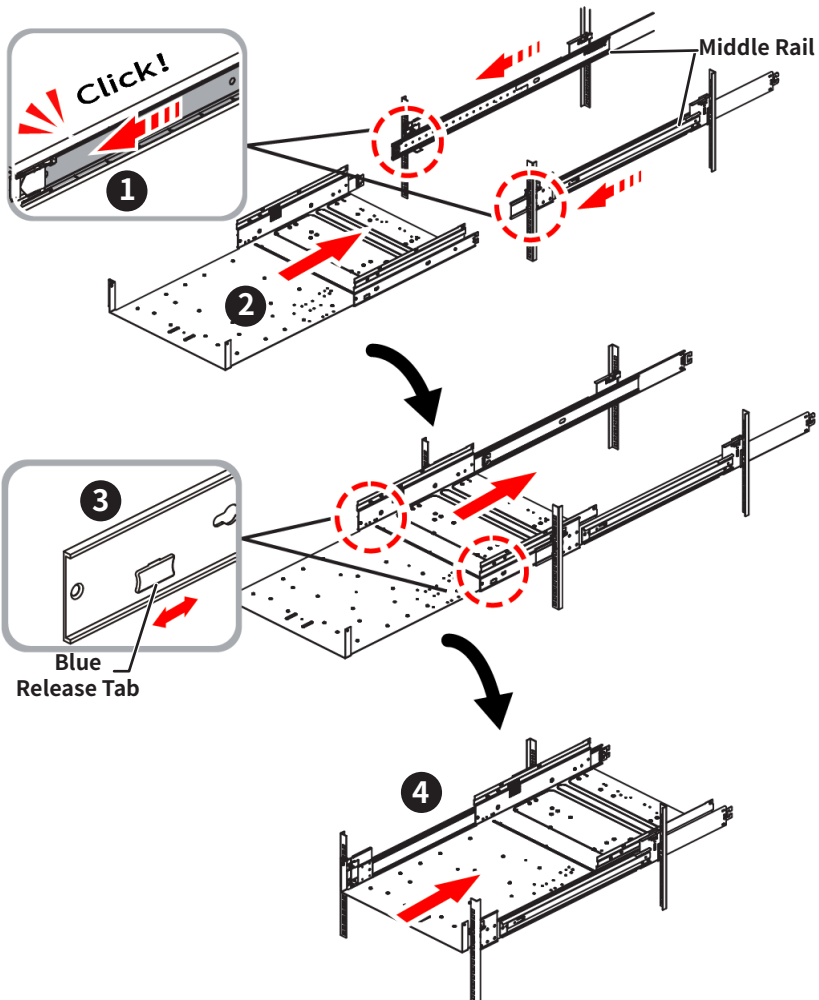


Installing System into Rack

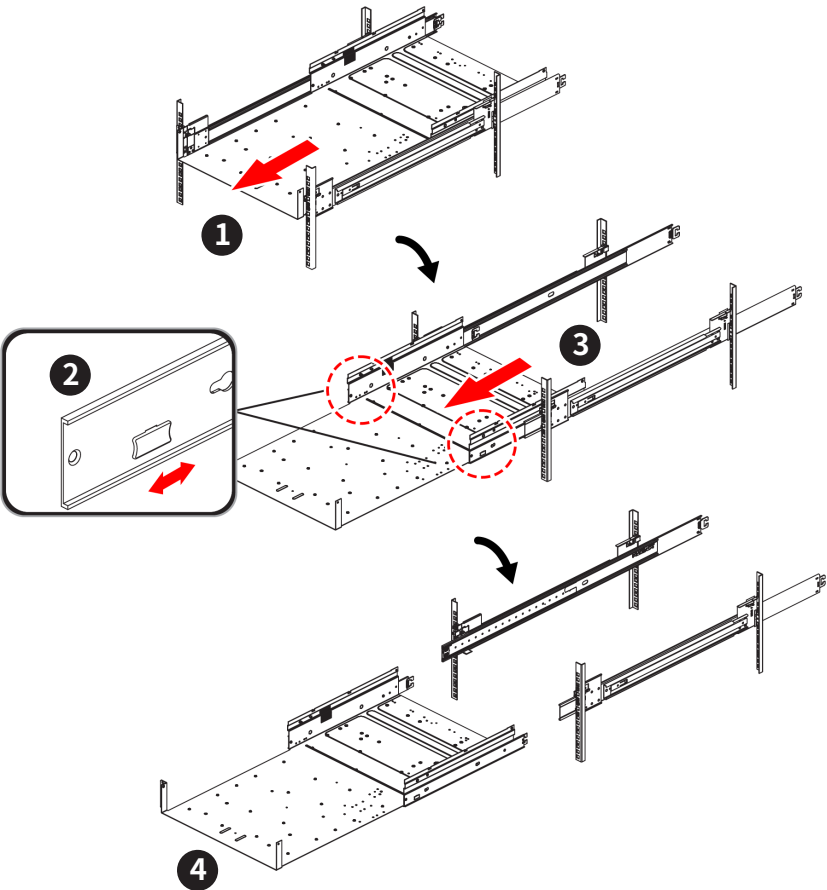
1. Pull out the middle rails till it fully extended, ensure ball bearing retainer is located at the front of the middle rail.
2. Insert the chassis into middle-outer rails.
3. Push the blue release tab on the inner rails until hit a stop.
4. Push the system into the rack forward.

Important

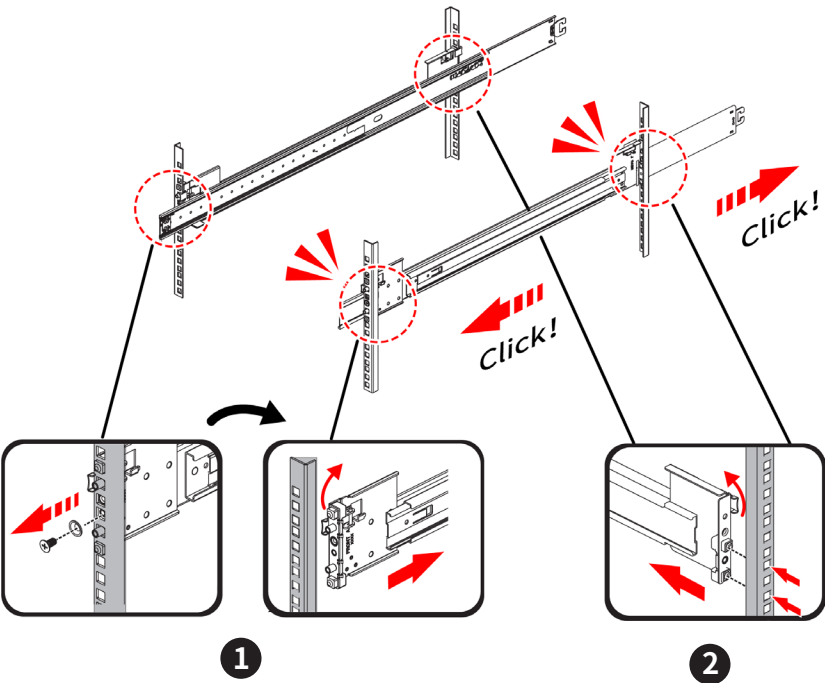
Ensure the ball bearing retainers are locked forward on each middle rail.



Remove the chassis from the rack



Detaching Outer Rail Bracket from Rack Frame





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[EPS.MSI.COM](https://www.msi.com/eps)