P/N: 15G065376000AK V1.0

Quick Installation Guide

GNR2D16-2T

www.asrockrack.com

GNR2D16-2T

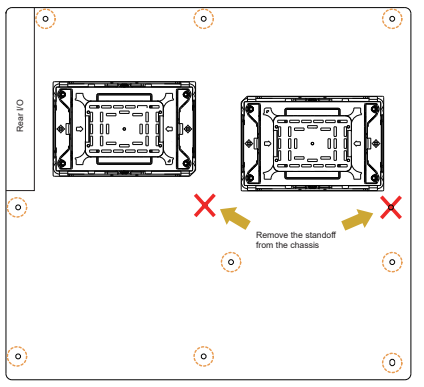
The server board User's Manual is available for download from the ASRock Rack's official website at http://www.asrockrack.com.

Take note of the following precautions before installing server board components or change any server board settings.

1. Unplug the power cord from the wall socket before touching any components.
2. To avoid damaging the server board's components due to static electricity, NEVER place the server board directly on the carpet or the like. Also remember to use a grounded wrist strap or touch a safety grounded object before you handle the components.
3. Hold components by the edges and do not touch the ICs.
4. Whenever uninstall any component, place it on a grounded anti-static pad or in the bag that comes with the component.
5. When placing screws into the screw holes to secure the server board to the chassis, please do not over-tighten the screws! Doing so may damage the server board.

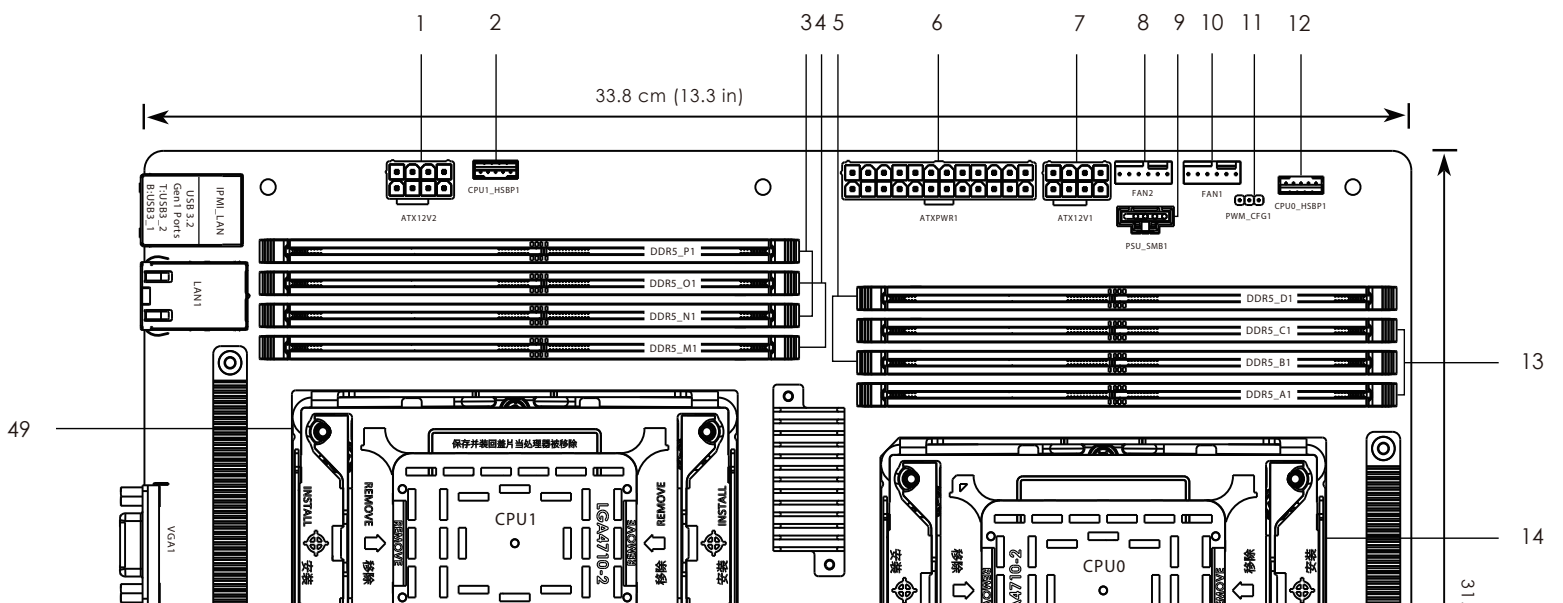
1 Install the Server Board

1. Insert the server board into the chassis.
2. Affix the screws clockwise into the mounting holes in all of the corners of the server board.
   Do not over-tighten the screws



Attention! Before installing this motherboard, be sure to unscrew and remove the standoffs at the marked location, under the motherboard, from the chassis, in order to avoid electrical short circuit and damage to your motherboard.

2 Motherboard Layout

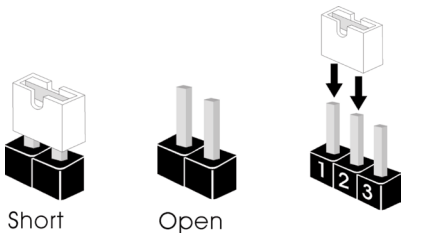


No.	Description
1	ATX 12V Power Connector (ATX12V2)
2	Backplane PCI Express Hot-Plug Connector (CPU1_HSBP1)
3	2 DDR5 DIMM Slots (DDR5_N1, DDR5_P1)
4	2 DDR5 DIMM Slots (DDR5_M1, DDR5_O1)
5	2 DDR5 DIMM Slots (DDR5_B1, DDR5_D1)
6	ATX Power Connector (ATXPWR1)
7	ATX 12V Power Connector (ATX12V1)
8	System Fan Connector (FAN2)
9	PSU SMBus (PSU_SMB1)
10	System Fan Connector (FAN1)
11	PWM Configuration Header (PWM_CFG1)
12	Backplane PCI Express Hot-Plug Connector (CPU0_HSBP1)
13	2 DDR5 DIMM Slots (DDR5_A1, DDR5_C1)
14	Socket E2 (LGA4710) (CPU0)
15	2 DDR5 DIMM Slots (DDR5_I1, DDR5_K1)
16	2 DDR5 DIMM Slots (DDR5_E1, DDR5_G1)

No.	Description
17	Mini Cool Edge IO Connector (MCIO1)
18	ATX 12V Power Connector (ATX12V3)
19	Mini-SAS HD Connector (MiniSAS_1)
20	ATX 12V Power Connector (ATX12V4)
21	USB 3.2 Gen1 Header (USB3_1_2)
22	System Fan Connector (FAN3)
23	System Fan Connector (FAN4)
24	System Fan Connector (FAN5)
25	System Fan Connector (FAN6)
26	System Fan Connector (FAN7)
27	System Fan Connector (FAN8)
28	System Panel Header (PANEL1)
29	Clear CMOS Pad (CLRMOS1)
30	Auxiliary Panel Header (AUX_PANEL1)
31	M.2 Socket (M2_1) (Type 2280 / 22110)
32	M.2 Socket (M2_2) (Type 2280 / 22110)
33	SPI TPM Header (TPM1)

No.	Description
34	MicroSD Card Slot (SDC1)
35	2 DDR5 DIMM Slots (DDR5_F1, DDR5_H1)
36	COM Port Header (COM1)
37	Virtual RAID On CPU Header (RAID_1)
38	Intelligent Platform Management Bus Header (IPMB_1)
39	BMC SMBus Header (BMC_SMB_2)
40	BMC SMBus Header (BMC_SMB_1)
41	Non Maskable Interrupt Button (NMI_BTN1)
42	PCI Express 5.0/CXL2.0 x16 Slot (PCIE1)
43	PCI Express 5.0/CXL2.0 x16 Slot (PCIE2)
44	PCI Express 5.0/CXL2.0 x16 Slot (PCIE3)
45	PCI Express 5.0/CXL2.0 x16 Slot (PCIE4)
46	PCI Express 5.0/CXL2.0 x16 Slot (PCIE5)
47	PCI Express 5.0/CXL2.0 x8 Slot (PCIE6)
48	2 DDR5 DIMM Slots (DDR5_J1, DDR5_L1)
49	Socket E2 (LGA4710) (CPU1)

3 Jumper Settings



When the jumper cap is placed on the pins, the jumper is "Short". If no jumper cap is placed on the pins, the jumper is "Open".

The illustration shows a 3-pin jumper whose pin1 and pin2 are "Short" when a jumper cap is placed on these 2 pins.

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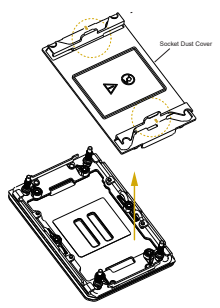
4 Install the Processor and Heatsink

Remove the CPU socket cover and open the socket lever.

1



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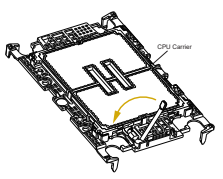
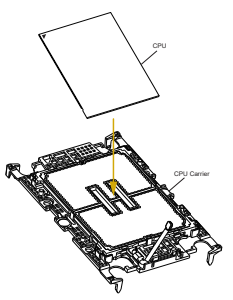


Align and install the processor on the carrier and make sure the arrow is located in the correct direction. Close the socket lever.

3



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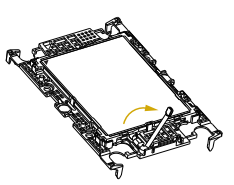
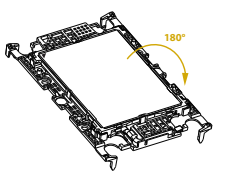


Carefully flip the carrier assembly. Apply a thermal paste.

5



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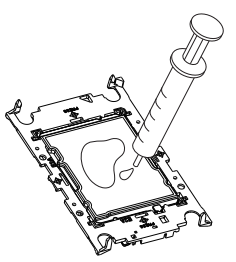
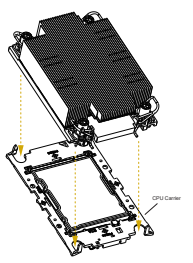


Install the heatsink to the CPU carrier. Then install the heatsink and CPU carrier to the socket.

7



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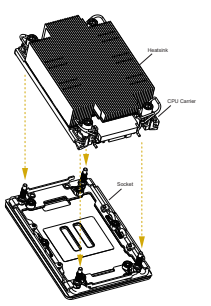
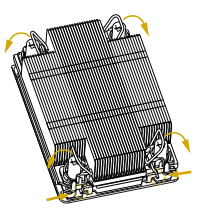


Tighten the corner fasteners. Secure the heastink to the motherboard with a screwdriver.

9



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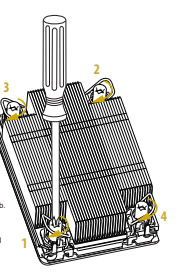
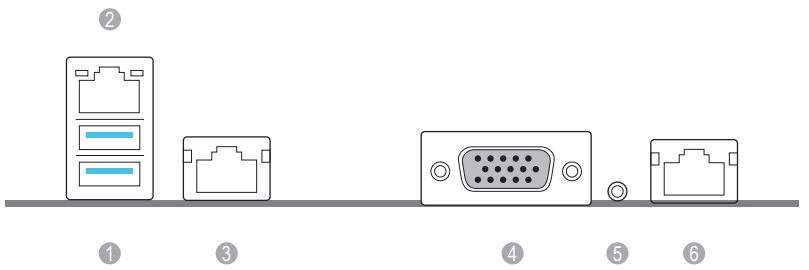


We recommend using the CPU Installation tool to avoid CPU pin-bent problem.

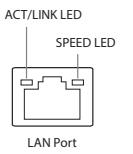
5 I/O Panel



No.	Description	No.	Description
1	USB 3.2 Gen1 Ports (USB3_1_2)	4	VGA Port (VGA1)
2	LAN RJ-45 Port (IPMI_LAN)	5	UID Switch (UID1)
3	10G LAN RJ-45 Port (LAN1, shared NIC)	6	10G LAN RJ-45 Port (LAN2)

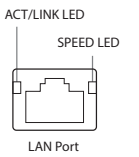
6 LAN Port LED Indications

IPMI LAN Port



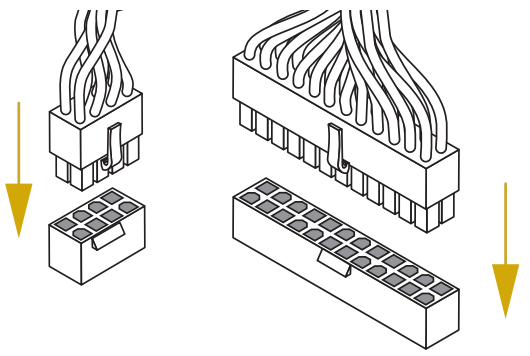
Activity / Link LED		Speed LED	
Status	**Description**	**Status**	**Description**
Off	No Link	Off	10Mbps connection or no link
Blinking Yellow	Data Activity	Yellow	100Mbps connection
On	Link	Green	1Gbps connection

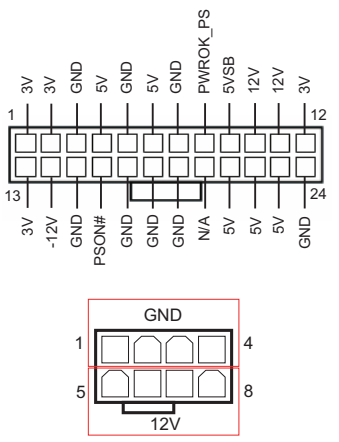
10G LAN Port



Activity / Link LED		Speed LED	
Status	**Description**	**Status**	**Description**
Off	No Link	Off	100Mbps connection or no link
Blinking Yellow	Data Activity	Yellow	1Gbps connection
On	Link	Green	10Gbps connection

7 Install the Power Cables

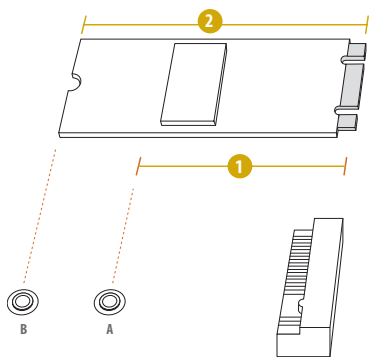




8 Install M.2 SSD Module

1 Find the corresponding nut location to be used.

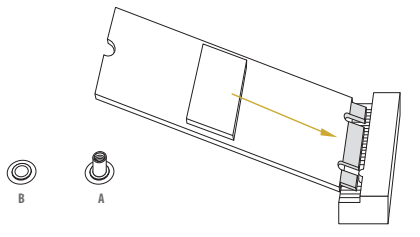
No.	1	2
Nut Location	A (NUT2280_1/2)	B (NUT22110_1/2)
PCB Length	8cm	11cm
Module Type	Type 2280	Type 22110



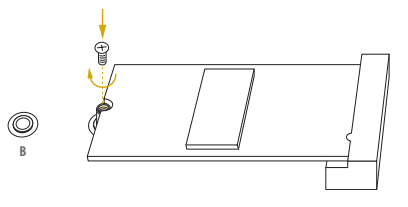
2 Move the standoff based on the module type and length.

3 Peel off the yellow protective film on the nut. Hand tighten the standoff into the desired location.

4 Gently insert the M.2 module into the slot.



5 Tighten the screw with a screwdriver to secure the module into place. Please do not overtighten the screw.

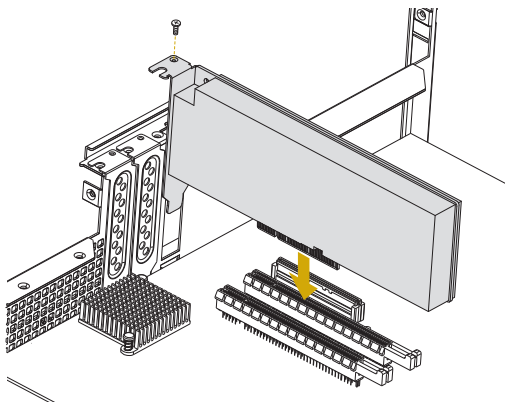


9 Install the PCIE Card

1 Remove the bracket facing the slot that you intend to use. Keep the screw for later use.

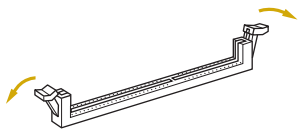
2 Align the card connector with the slot and press firmly until the card is completely seated on the slot.

3 Fasten the card to the chassis with the screw.

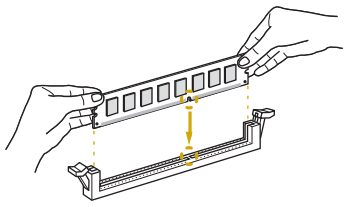
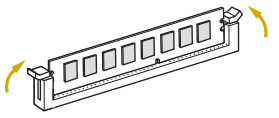


10 Install the Memory

1 Unlock a DIMM slot by pressing the module clips outward.



2 Insert the memory module.



3 Lock the clips.