P/N: 15G065099000AK V1.0

Quick Installation Guide

EP2C6212D16NM

www.asrockrack.com

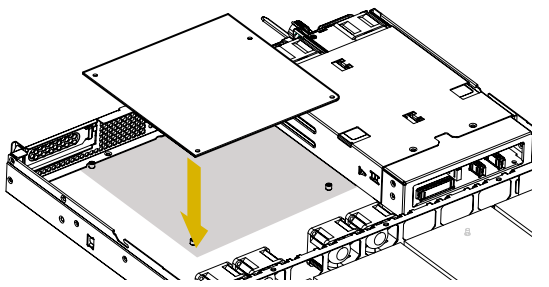
The server board User's Manual is available for download from the ASRock Rack's official website at http://www.asrockrack.com.

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

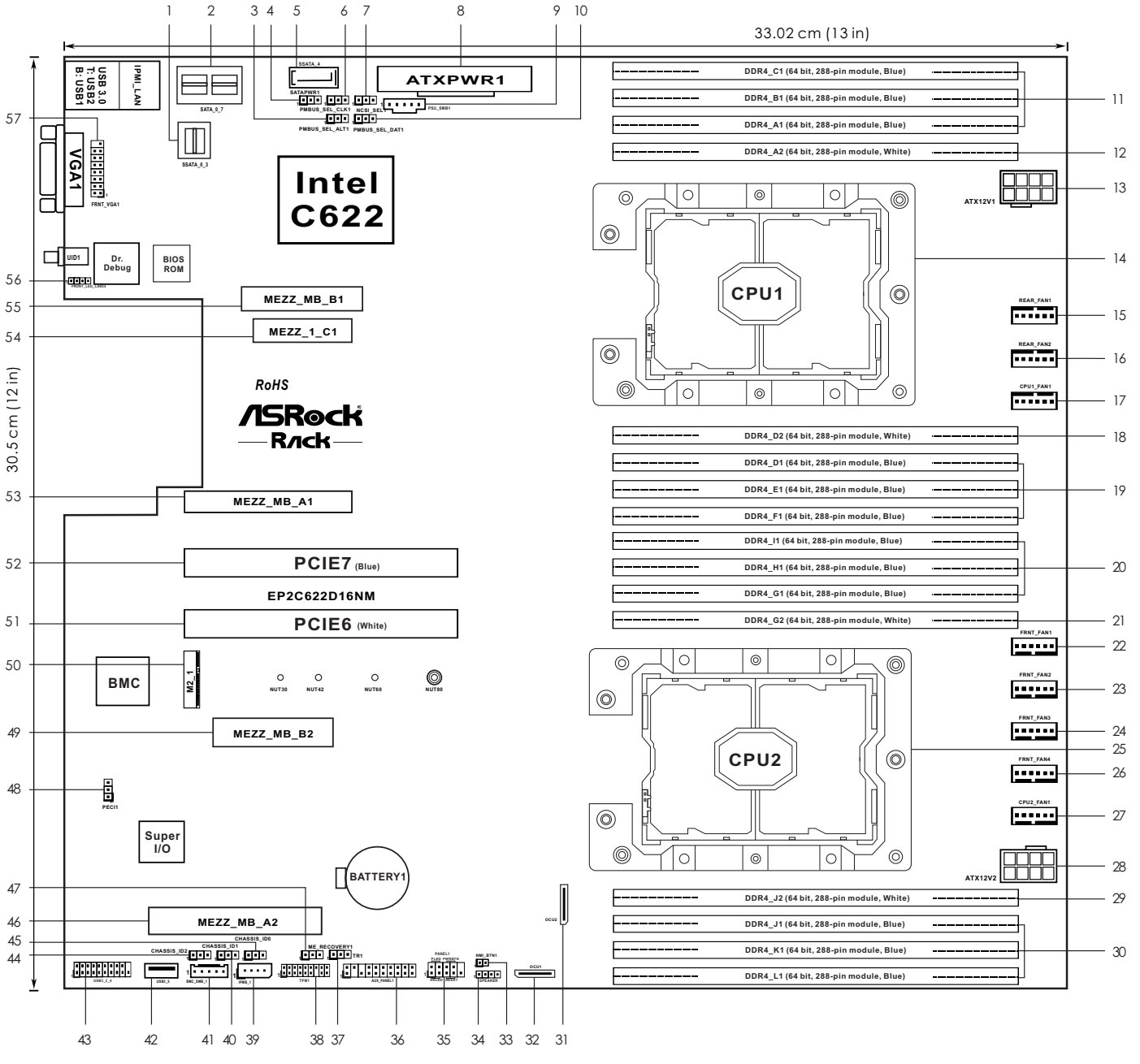
1. Unplug the power cord from the wall socket before touching any components.
2. To avoid damaging the server board's components due to static electricity, NEVER place your server board directly on the carpet or the like. Also remember to use a grounded wrist strap or touch a safety grounded object before you handle the components.
3. Hold components by the edges and do not touch the ICs.
4. Whenever you 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



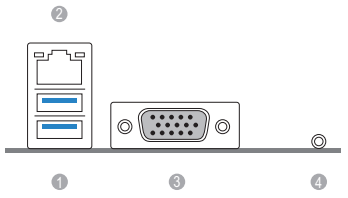
2 Motherboard Layout



1	Mini-SAS HD Connector (SSATA_0_3)
2	Mini-SAS HD Connector (SATA_0_7)
3	PMBUS Mode Jumper (PMBUS_SEL_ALT1)
4	SATA DOM Power Jumper (SATAPWR1)
5	SATA DOM Connector, Red (SSATA_4)
6	PMBUS Mode Jumper (PMBUS_SEL_CLK1)
7	NCSI Mode Jumper (NCSI_SEL1)
8	ATX Power Connector (ATXPWR1)
9	PSU SMBus (PSU_SMB1)
10	PMBUS Mode Jumper (PMBUS_SEL_DAT1)
11	3 x 288-pin DDR4 DIMM Slots (DDR4_A1, DDR4_B1, DDR4_C1, Blue)*
12	1 x 288-pin DDR4 DIMM Slots (DDR4_A2, White)
13	ATX 12V Power Connector (ATX12V1)
14	LGA 3647 CPU Socket P0 (CPU1)
15	Rear Fan Connector (REAR_FAN1)
16	Rear Fan Connector (REAR_FAN2)
17	CPU1 Fan Connector (CPU1_FAN1)
18	1 x 288-pin DDR4 DIMM Slots (DDR4_D2, White)
19	3 x 288-pin DDR4 DIMM Slots (DDR4_D1, DDR4_E1, DDR4_F1, Blue)*
20	3 x 288-pin DDR4 DIMM Slots (DDR4_G1, DDR4_H1, DDR4_I1, Blue)*
21	1 x 288-pin DDR4 DIMM Slots (DDR4_G2, White)
22	Front Fan Connector (FRNT_FAN1)
23	Front Fan Connector (FRNT_FAN2)
24	Front Fan Connector (FRNT_FAN3)
25	LGA 3647 CPU Socket P0 (CPU2)
26	Front Fan Connector (FRNT_FAN4)
27	CPU2 Fan Connector (CPU2_FAN1)
28	ATX 12V Power Connector (ATX12V2)
29	1 x 288-pin DDR4 DIMM Slots (DDR4_J2, White)
30	3 x 288-pin DDR4 DIMM Slots (DDR4_J1, DDR4_K1, DDR4_L1, Blue)
31	OCuLink x4 Connector (OCU2)
32	OCuLink x4 Connector (OCU1)
33	Non Maskable Interrupt Button (NMI_BTN1)
34	Speaker Header (SPEAKER1)
35	System Panel Header (PANEL1)
36	Auxiliary Panel Header (AUX_PANEL1)
37	Thermal Sensor Header (TR1)
38	TPM Header (TPM1)
39	Intelligent Platform Management Bus header (IPMB1)
40	Chassis ID1 Jumper (CHASSIS_ID1)
41	BMC SMBus Header (BMC_SMB_1)
42	Vertical Type A USB 3.0 (USB3_5)
43	BMC SMBus Header 1 (BMC_SMB1)
44	Chassis ID2 Jumper (CHASSIS_ID2)
45	Chassis ID0 Jumper (CHASSIS_ID0)
46	Mezzanine Slot (MEZZ_MB_A2)*
47	ME Recovery Jumper (ME_RECOVERY1)
48	CPU PECI Mode Jumper (PECI1)
49	Mezzanine Slot (MEZZ_MB_B2)*
50	M.2 Slot (M2_2)
51	PCI Express 3.0 Slot (PCIE6)
52	PCI Express 3.0 Slot (PCIE7)
53	Mezzanine Slot (MEZZ_MB_A1)
54	Mezzanine Slot (MEZZ_1_C1)
55	Mezzanine Slot (MEZZ_MB_B1)
56	Front LAN LED Header (FRONT_LED_LAN34)
57	Front VGA Header (FRONT_VGA1)

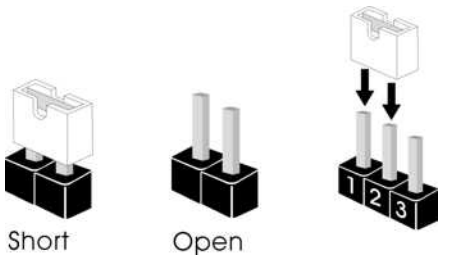
Only supports ASRockRack storage cards.

3 I/O Panel



No.	Description
1	USB 3.0 Ports (USB3_1_2)
2	LAN RJ-45 Port (IPMI_LAN1)
3	VGA Port (VGA1)
4	UID Switch (UID)

4 Jumper Cap On/Off

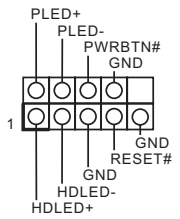


When the jumper cap is placed on the pins, the jumper is "Short". If no jumper cap is placed on the pins, the jumper is "Open".

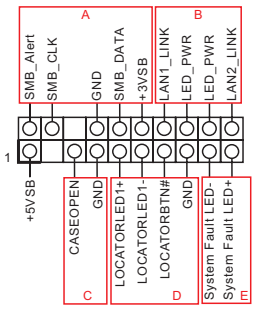
The illustration shows a 3-pin jumper whose pin1 and pin2 are "Short" when a jumper cap is placed on these 2 pins.

5 Headers

System Panel



Auxiliary Panel



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ASRock Rack
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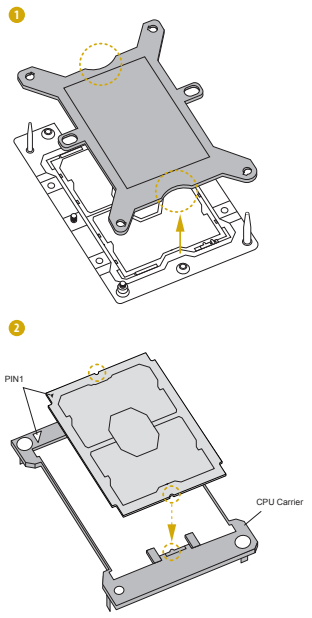
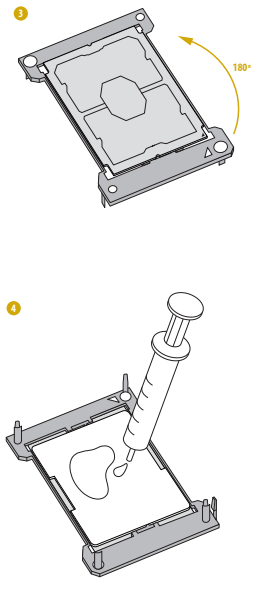
6 Install the Processor and Heatsink

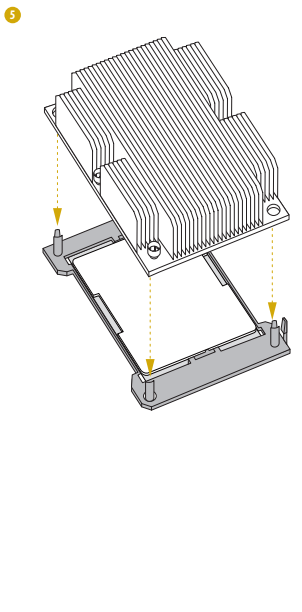
Remove the CPU socket cover. Align and install the processor on the carrier.



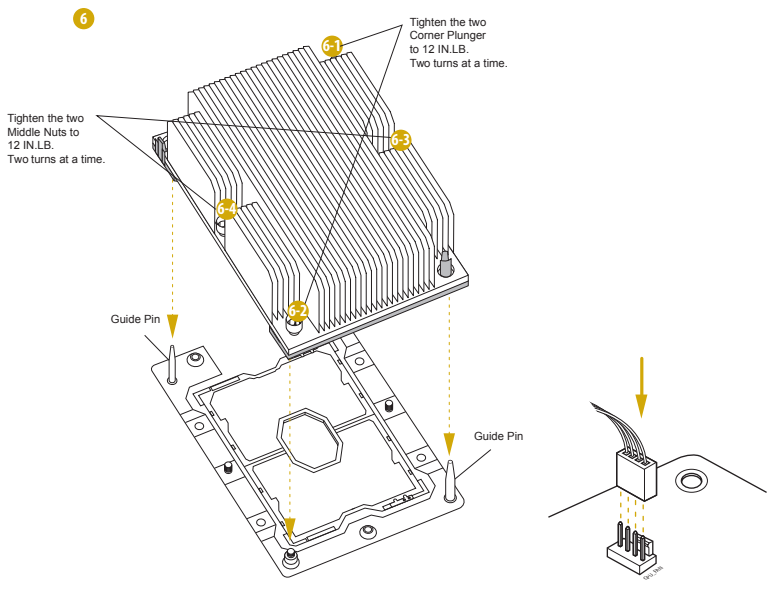
Carefully flip the carrier assembly. Apply a thermal paste .



Then install the heatsink to the carrier assembly and make sure the arrow is located in the correct direction.

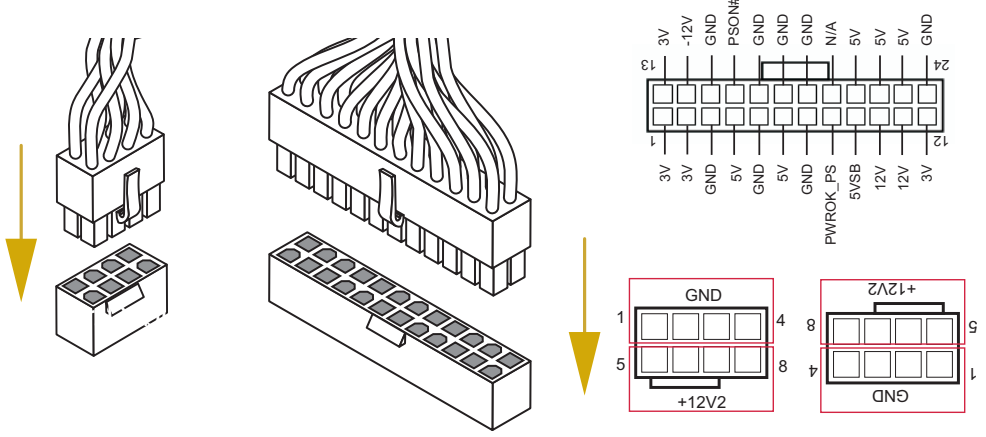


Install the heatsink. Tighten the screws in a sequential order (6-1>6-2>6-3>6-4). When dissembling the heatsink, loosen the screws in reverse order (6-4>6-3>6-2>6-1). Connect the CPU fan to the CPU FAN connector.



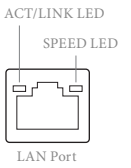
We recommend using the CPU Installation tool to avoid CPU pin-bent problem.

7 Install the Power Cables



8 LAN Port LED Indications

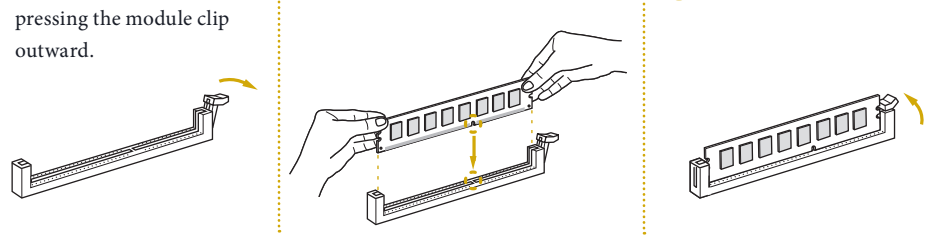
IPMI LAN Port



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

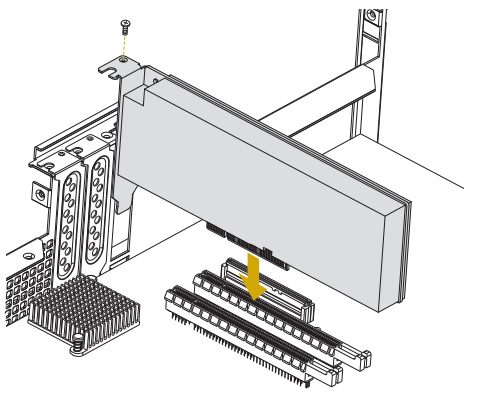
9 Install the Memory

1. Unlock a DIMM slot by pressing the module clip outward.
2. Insert the memory module.
3. Lock the clip.



10 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.



**Images shown are for illustrative purposes only and may differ depending on model.*

11 Recommended Memory Configurations

1 CPU Configuration

	CPU1							
	A1	A2	B1	C1	D1	D2	E1	F1
1 DIMM	#							
2 DIMMS	#				#			
4 DIMMS	#		#		#		#	
6 DIMMS	#		#	#	#		#	#
8 DIMMS	#	#	#	#	#	#	#	#

2 CPU Configuration

	CPU1							
	A1	A2	B1	C1	D1	D2	E1	F1
1 DIMM	#							
2 DIMMS	#							
4 DIMMS	#				#			
8 DIMMS	#		#		#		#	
16 DIMMS	#	#	#	#	#	#	#	#

	CPU2							
	G1	G2	H1	I1	J1	J2	K1	L1
1 DIMM								
2 DIMMS	#							
4 DIMMS	#				#			
8 DIMMS	#		#		#		#	
16 DIMMS	#	#	#	#	#	#	#	#

Note: "#" indicates the socket is populated with a memory module.

12 Dr. Debug

Code	Description
00	Please check if the CPU is installed correctly and then clear CMOS.
0d	Problem related to memory, VGA card or other devices. Please clear CMOS, re-install the memory and VGA card, and remove other USB, PCI devices.
01 - 54 (except 0d), 5A- 60	Problem related to memory. Please re-install the CPU and memory then clear CMOS. If the problem still exists, please install only one memory module or try using other memory modules.
55	The Memory could not be detected. Please re-install the memory and CPU. If the problem still exists, please install only one memory module or try using other memory modules.
61 - 91	Chipset initialization error. Please press reset or clear CMOS.
92 - 99	Problem related to PCI-E devices. Please re-install PCI-E devices or try installing them in other slots. If the problem still exists, please remove all PCI-E devices or try using another VGA card.
A0 - A7	Problem related to IDE or SATA devices. Please re-install IDE and SATA devices. If the problem still exists, please clear CMOS and try removing all SATA devices.
b0	Problem related to memory. Please re-install the CPU and memory. If the problem still exists, please install only one memory module or try using other memory modules.
b4	Problem related to USB devices. Please try removing all USB devices.
b7	Problem related to memory. Please re-install the CPU and memory then clear CMOS. If the problem still exists, please install only one memory module or try using other memory modules.
d6	The VGA could not be recognized. Please clear CMOS and try re-installing the VGA card. If the problem still exists, please try installing the VGA card in other slots or use other VGA cards.
d7	The Keyboard and mouse could not be recognized. Please try re-installing the keyboard and mouse.
d8	Invalid Password.
FF	Please check if the CPU is installed correctly and then clear CMOS.