P/N: 15G065248000AK V1.0

Quick Installation Guide

E3C256D4U-2L2T | E3C252D4U-2T | E3C252D4U

E3C256D4U-2L2T/BCM | E3C252D4U-2T/BCM | E3C256D4U-2L2T/X550

E3C256D4U-2L2T E3C252D4U-2T E3C252D4U E3C256D4U-2L2T/BCM E3C256D4U-2T/BCM E3C256D4U-2L2T/X550

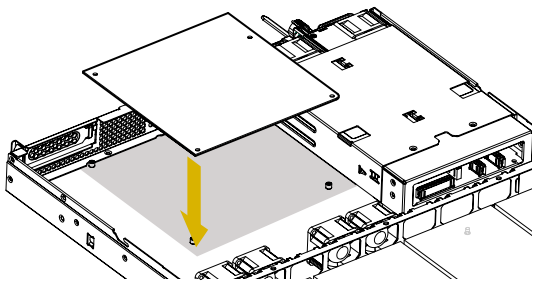
The server board User's Manual is available for download from the ASRock Rack's official website at http://www.asrockrack.com.

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

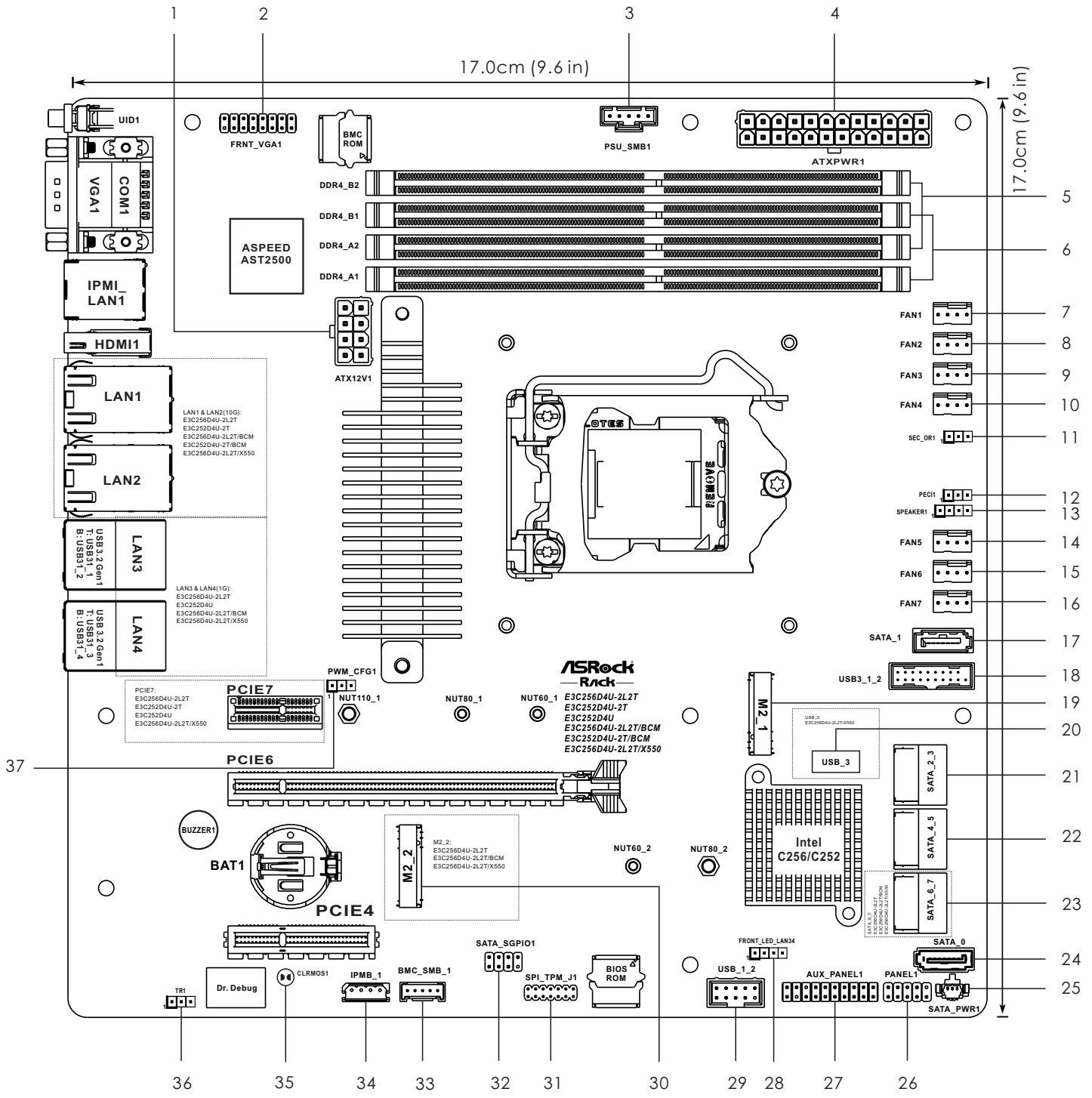
1. Unplug the power cord from the wall socket before touching any components.
2. To avoid damaging the server board's components due to static electricity, NEVER place your server board directly on the carpet or the like. Also remember to use a grounded wrist strap or touch a safety grounded object before 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

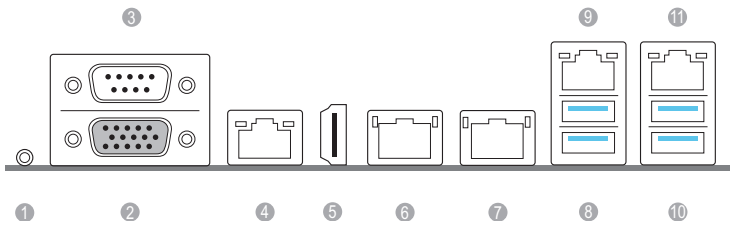


No.	Description
1	ATX 12V Power Connector (ATX12V1)
2	Front VGA Header (FRNT_VGA1)
3	PSU SMBus (PSU_SMB1)
4	ATX Power Connector (ATXPWR1)
5	2 x 288-pin DDR4 DIMM Slots (DDR4_A2, DDR4_B2, Blue)
6	2 x 288-pin DDR4 DIMM Slots (DDR4_A1, DDR4_B1, White)
7	System Fan Connector (FAN1)
8	System Fan Connector (FAN2)
9	System Fan Connector (FAN3)
10	System Fan Connector (FAN4)
11	Security Override Jumper (SEC_OR1)
12	CPU PECI Mode Jumper (PECI1)
13	Chassis Speaker Header (SPEAKER1)
14	System Fan Connector (FAN5)
15	System Fan Connector (FAN6)
16	System Fan Connector (FAN7)
17	SATA3 Connector (SATA_1)
18	USB 3.2 Gen1 Header (USB3_1_2)
19	M.2 Socket (M2_1) (Type 2260/2280/22110)*
20	Type-A USB 2.0 Port (USB_3) *(for E3C256D4U-2L2T/X550 only)*
21	SATA3 Connectors (SATA3_3)(Upper), (SATA3_2)(Lower)
22	SATA3 Connectors (SATA3_5)(Upper), (SATA3_4)(Lower)
23	SATA3 Connectors (SATA3_7)(Upper), (SATA3_6)(Lower) *(for E3C256D4U-2L2T / E3C256D4U-2L2T/BCM / E3C256D4U-2L2T/X550 only)*
24	SATA3 DOM Connector (SATA_0), Red*
25	SATA DOM Power Header (SATA_PWR1)
26	System Panel Header (PANEL1)
27	Auxiliary Panel Header (AUX_PANEL1)
28	Front LAN LED Connector (FRONT_LED_ LAN34)
29	USB 2.0 Header (USB_1_2)
30	M.2 Socket (M2_2) (Type 2260/2280) *(for E3C256D4U-2L2T / E3C256D4U-2L2T/BCM / E3C256D4U-2L2T/X550 only)*
31	TPM-SPI Header (SPI_TPM_J1)
32	SATA SGPIO Connector (SATA_SGPIO1)
33	BMC SMBus Header (BMC_SMB_1)
34	Intelligent Platform Management Bus Header (IPMB_1)
35	Clear CMOS Pad (CLRMOS1)
36	Thermal Sensor Header (TR1)
37	PWM Configuration Header (PWM_CFG1)

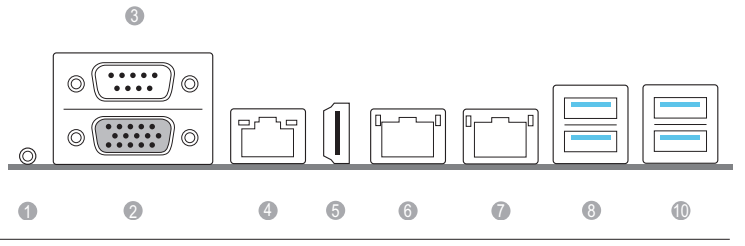
**The M.2 slot (M2_1) is shared with the SATA_0 connector. When M2_1 is populated with a M.2 SATA3/PCIE3.0(x4 or x2) module, SATA_0 is disabled.*

3 I/O Panel

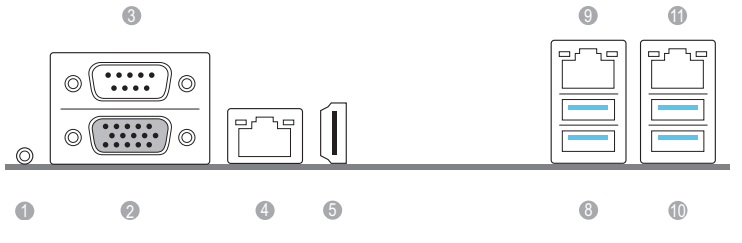
E3C256D4U-2L2T
E3C256D4U-2L2T/BCM
E3C256D4U-2L2T/X550
LAN1 supports NCSI.



E3C252D4U-2T
E3C252D4U-2T/BCM
LAN1 supports NCSI.



E3C252D4U
LAN3 supports NCSI.



No.	Description
1	UID Switch (UID1)
2	VGA Port (VGA1)
3	Serial Port (COM1)
4	LAN RJ-45 Port (IPMI_LAN)
5	HDMI Port (HDMI1)
6	10G LAN RJ-45 Port (LAN1)
7	10G LAN RJ-45 Port (LAN2)
8	USB 3.2 Gen1 Ports (USB31_1_2)
9	1G LAN RJ-45 Port (LAN3)
10	USB 3.2 Gen1 Ports (USB31_3_4)
11	1G LAN RJ-45 Port (LAN4)

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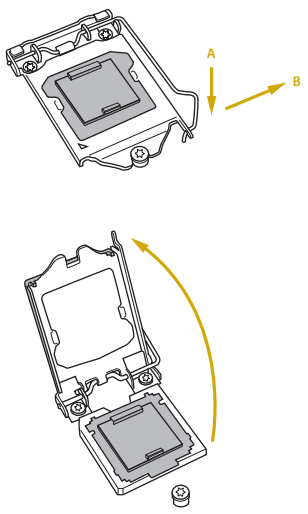
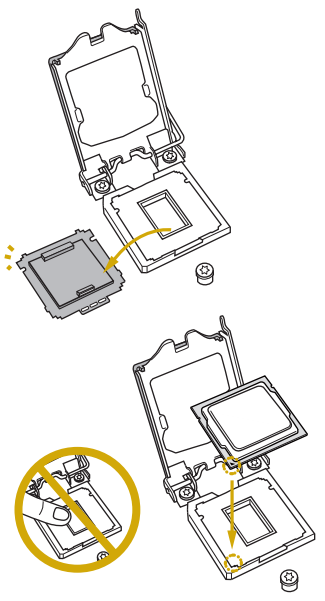
E3C256D4U-2L2T E3C252D4U-2T E3C252D4U E3C256D4U-2L2T/BCM E3C256D4U-2T/BCM E3C256D4U-2L2T/X550

4 Install the Processor

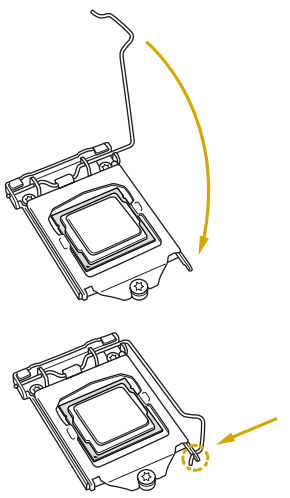
1. Open the socket levers and the CPU socket cover. Remove the CPU protection cap.



2. Install the processor and close the socket cover.



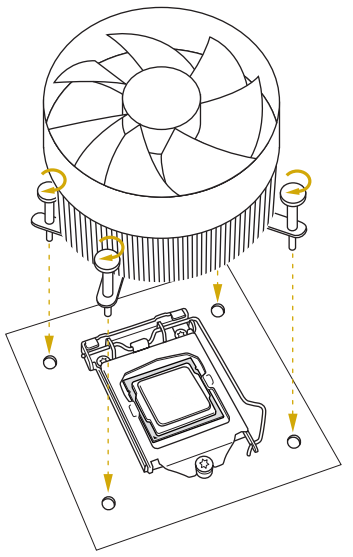
3. Close the socket levers.



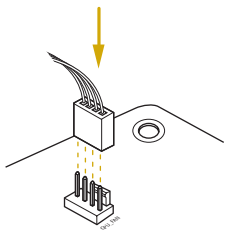
We recommend using the CPU Installation tool to avoid CPU pin-bent problem.

5 Install the CPU Fan and Heatsink

1. Apply the thermal grease. Install the CPU fan and heatsink and secure the screws.



2. Connect the CPU fan to the CPU FAN connector.



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HIGH-DEFINITION MULTIMEDIA INTERFACE

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6 M.2_SSD (NGFF) Module Installation

1. Find the corresponding nut location to be used.

M2_1:

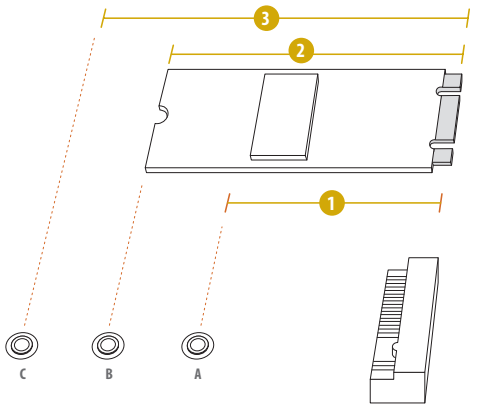
No.	1	2	3
Nut Location	A	B	C
PCB Length	6cm	8cm	11cm
Module Type	Type2260	Type2280	Type22110

E3C252D4U-2T / E3C252D4U / E3C252D4U-2T/BCM :
The M.2 Socket (M2_1) supports a M.2 SATA3 6.0 Gb/s module or a M.2 PCI Express module up to Gen3 x2(16GT/s).

**The M.2 slot (M2_1) is shared with the SATA_0 connector. When M2_1 is populated with a M.2 SATA3/PCIE3.0(x2) module, SATA_0 is disabled.*

E3C256D4U-2L2T / E3C256D4U-2L2T/BCM / E3C256D4U-2L2T/X550:
The Ultra M.2 Socket supports a M.2 SATA3 6.0 Gb/s module or a M.2 PCI Express module up to Gen3 x4(32GT/s).

**The M.2 slot (M2_1) is shared with the SATA_0 connector. When M2_1 is populated with a M.2 SATA3/PCIE3.0(x4 or x2) module, SATA_0 is disabled.*

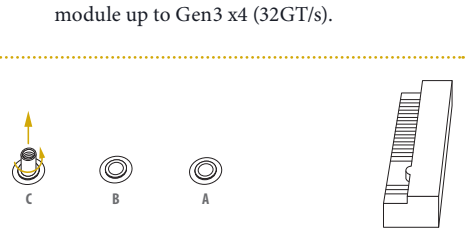


M2_2:

No.	1	2
Nut Location	A	B
PCB Length	6cm	8cm
Module Type	Type2260	Type2280

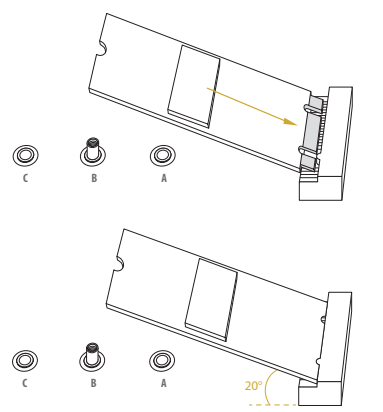
For E3C256D4U-2L2T / E3C256D4U-2L2T/BCM / E3C256D4U-2L2T/X550 only:
The M.2 Socket supports a M.2 PCI Express module up to Gen3 x4 (32GT/s).

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

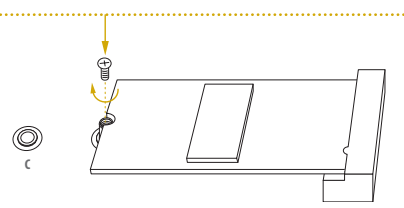


3. Peel off the yellow protective film on the nut. Hand tighten the standoff into the desired location.

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

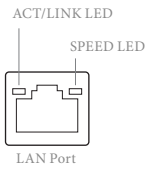


5. Tighten the screw with a screwdriver to secure the module into place. Please do not overtighten the screw.



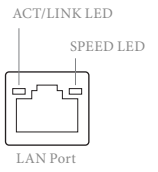
7 LAN Port LED Indications

IPMI LAN Port



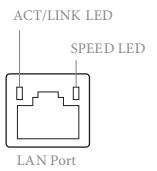
Activity / Link LED		Speed LED	
Status	Description	Status	Description
Off	No Link	Off	10M bps connection or no link
Blinking Green	Data Activity	Off	100M bps connection
On	Link	Yellow	1Gbps connection

1G LAN Port



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

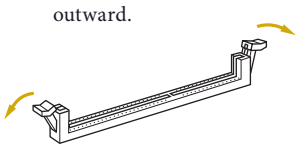
10G LAN Port



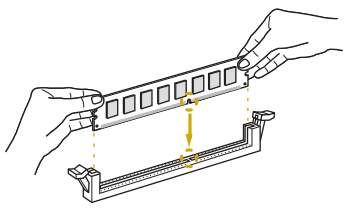
Activity / Link LED		Speed LED	
Status	Description	Status	Description
Off	No Link	Off	100Mbps connection or no link
Blinking Yellow	Data Activity	Yellow	1Gbps connection
On	Link	Green	10Gbps connection

8 Install the Memory

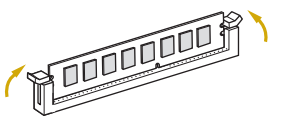
1. Unlock a DIMM slot by pressing the module clips outward.



2. Insert the memory module.

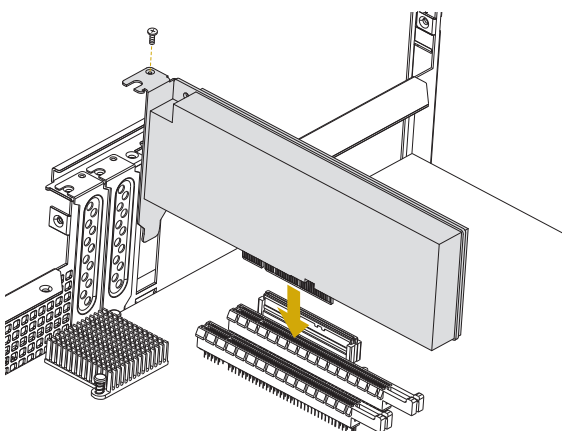


3. Lock the clips.



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.



Slot	Generation	Mechanical	Electrical	Source
PCIE 7	3.0	x1	x1	PCH
PCIE 6	4.0	x16	x16	CPU
PCIE 4	4.0	x4	x4	CPU

**PCIE6 slot supports PCIe3.0 only and PCIE4 will not function when installing Pentium Series Processors.*
**PCIE7 slot does not support E3C256D4U-2L2T/BCM and E3C252D4U-2T/BCM.*