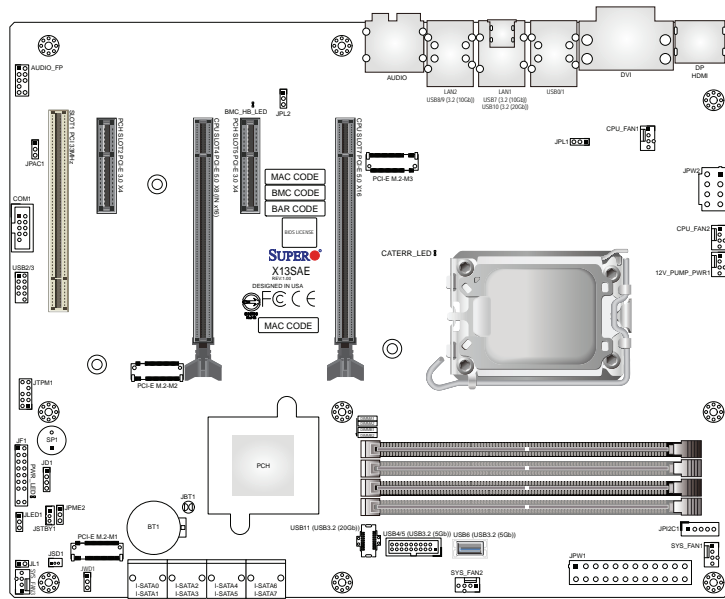


SUPERMICR[®] Super Workstation 531A-IL Quick Reference Guide

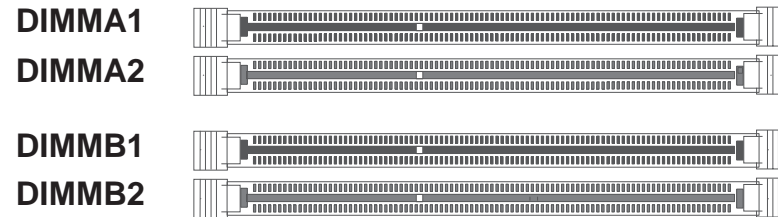
Board Layout



Jumper	Description	Default Setting
JBT1	Clear CMOS (onboard)	Short Pads to Clear CMOS
JD1	Speaker/Buzzer	Pins 1-4: External Speaker Pins 3-4: Buzzer (Default)
JPAC1	HD Audio Enable/Disable	Pins 1-2 (Enabled)
JPL1/JPL2	LAN1/LAN2 Enable/Disable	Pins 1-2 (Enabled)
JPME2	ME Manufacturing Mode	Pins 1-2 (Normal)
JWD1	Watch Dog Function Enable	Pins 1-2 (Reset)

Connector	Description
12V_PUMP_PWR1	12V 4-pin Power Connector (for CPU Liquid Cooling Pump)
AUDIO	Back Panel High Definition Audio Ports
AUDIO_FP	Front Panel Audio Header
BT1	Onboard Battery
COM1	COM Port Header
CPU_FAN1/CPU_FAN2	CPU_FAN1/CPU_FAN2: CPU Fan Headers
SYS_FAN1 - SYS_FAN3	SYS_FAN1 - SYS_FAN3: System Fan Headers
DP	Back Panel DisplayPort (1.4a)
HDMI	Back Panel High Definition Multimedia Interface (2.0b)
DVI	Digital Video Interface (DVI-D)
I-SATA0 - I-SATA7	Intel Serial ATA (SATA 3.0) Ports (6 Gb/second)
JF1	Front Control Panel Header
JL1	Chassis Intrusion Header
JLED1	3-pin Power LED Header
JPI2C1	Power Supply SMBus I ² C Header
JPW1	24-pin ATX Main Power Connector (Required)
JPW2	+12V 8-pin CPU Power Connector (Required)
JSD1	SATA Disk-On-Module (DOM) Power Connector
JSTBY1	Standby Power Header (5V)
JTPM1	Trusted Platform Module (TPM)/Port 80 Header
LAN1	RJ45 1GbE LAN Port
LAN2	RJ45 2.5GbE LAN Port
MH10/MH14/MH15	M.2 Device Mounting Holes
PCI-E M.2-M1	PCIe 4.0 x4 M.2 M-key Sockets (from PCH)
PCI-E M.2-M2	PCIe 4.0 x4 M.2 M-key Sockets (from CPU)
SLOT1 PCI 33MHZ	PCI Slot (32 Bit/33MHz with 5V Single Voltage)
(PCH) SLOT2/(PCH) SLOT5	PCIe 3.0 x4 Slots
(CPU) SLOT4	PCIe 5.0 x8 (in x16 slots)
(CPU) SLOT7	PCIe 5.0 x16 Slot
SP1	Internal Speaker/Buzzer
USB0/USB1	Back Panel USB 2.0 Ports (Type-A)
USB2/3	Front Access USB 2.0 Header
USB4/5	Front Access USB 3.2 Gen. 1 Header (5Gb)
USB6	Internal USB 3.2 Gen. 1 Connector (5Gb/vertical Type-A)
USB7/USB8/USB9	Back Panel USB 3.2 Gen 2 Ports (10Gb/Type-A)
USB10	Back Panel USB 3.2 Gen 2x2 Ports (20Gb/Type-C)
USB11	Front Access USB 3.2 Gen. 2x2 Header (20Gb/Type-C)

Memory



The X13SAE supports up to 128GB of DDR5 Unbuffered DIMM (UDIMM) ECC/non-ECC with speeds of up to 4400MHz.

General Guidelines for Optimizing Memory Performance

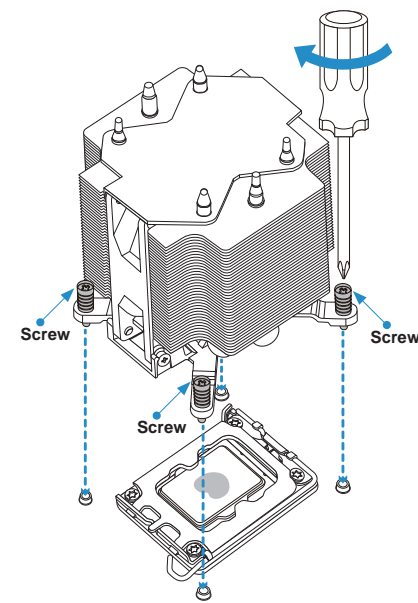
When installing memory modules, the DIMM slots should be populated in the following order: DIMMA2, DIMMB2, then DIMMA1, DIMMB1

- For optimal performance, use DDR5 memory of the same type, size and speed.
- Mixed DIMM speeds can be installed. However, all DIMMs will run at the speed of the slowest DIMM.
- The motherboard supports odd-numbered modules (one or three modules installed). However, to achieve the best memory performance, a balanced memory population is recommended.

Heatsink Installation

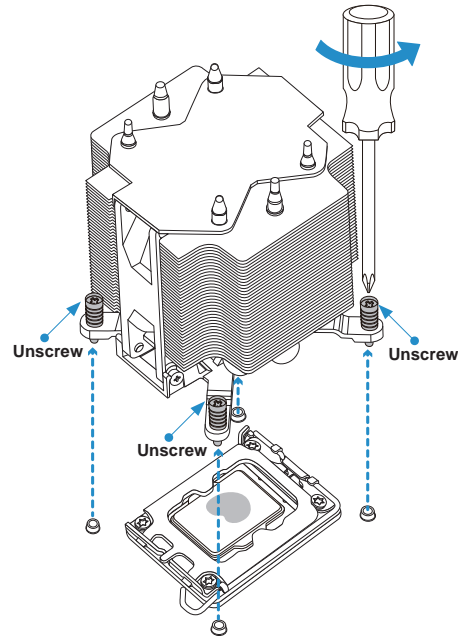
Installing an Active CPU Heatsink with Fan

1. Apply the proper amount of thermal grease to the heatsink.
2. Place the heatsink on top of the CPU so that the four mounting holes on the heatsink are aligned with those on the retention mechanism.
3. Tighten the screws.



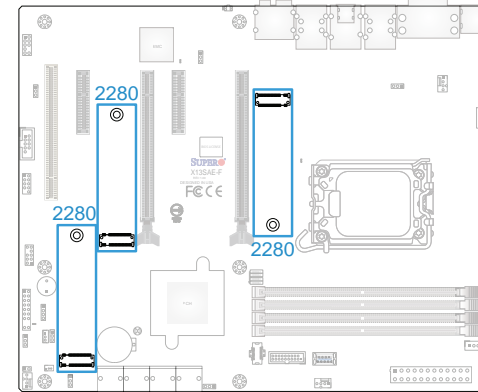
Removing an Active CPU Heatsink with Fan

1. Unplug the power cord from the power supply and power connector from the cooler and fan header.
2. Loosen the screws as shown below.
3. Gently wiggle the heatsink to loosen it. Do not use excessive force when wiggling the heatsink.
4. Once the heatsink is loosened, remove it from the motherboard.



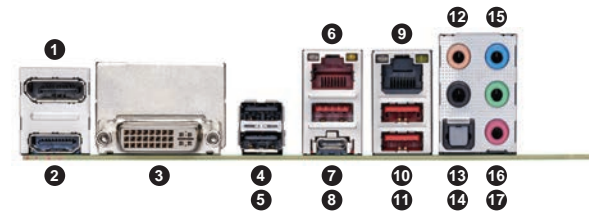
M.2 Installation

This motherboard has three PCIe 4.0 M.2 M-key sockets that support the M.2 2280 module. One standoff is pre-installed into the position of 2280 mounting hole.



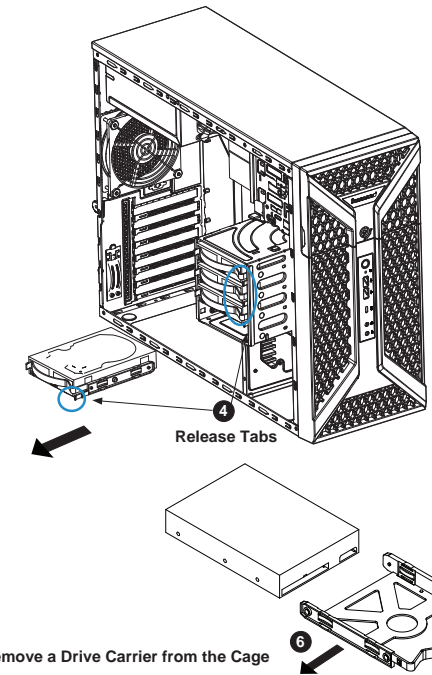
1. Locate the pre-installed standoff. Remove the standoff screw and set it aside.
2. Carefully insert the M.2 device into the M.2 socket and lower the semi-circle notched end onto the standoff.
3. Tighten the standoff screw to secure the M.2 device into place. Do not overtighten so as to avoid damaging the M.2 device.

Rear I/O Ports



#	Description
1	DisplayPort 1.4a
2	HDMI 2.0b Port
3	Digital Video Interface (DVI-D)
4	USB0: USB 2.0 (Type-A)
5	USB1: USB 2.0 (Type-A)
6	LAN1: 1GbE LAN Port
7	USB7: USB 3.2 Gen. 2x1 (Type-A)
8	USB10: USB 3.2 Gen. 2x2 (Type-C)
9	LAN2: 2.5GbE LAN Port
10	USB8: USB 3.2 Gen. 2x1 (Type-A)
11	USB9: USB 3.2 Gen. 2x1 (Type-A)
12	Center/LFE Out
13	Surround Out
14	S/PDIF Out
15	Line In
16	Line Out
17	Mic In

Hard Drives Installation



Removing and Installing 3.5 Hard Drives

1. Begin by removing power from the system and remove the side cover.
2. Rotate the hard drive cage outward.
3. Disconnect all of the cables from the hard drive.
4. Press the release tab on the side of the hard drive carrier.
5. Slide the hard drive carrier out of the cage.
6. If a hard drive is already present, pull the sides of the carrier and remove the drive from the carrier.
7. Insert a new drive into the carrier and push the sides of the carrier together.
8. Insert the carrier into the cage. Slide the carrier towards the back of the cage until it clicks into place.
9. If desired, each carrier may be secured to the exterior of the hard drive cage using one optional screw.
10. Rotate the cage 90 degree inward.
11. Connect the hard drive cables.

Caution

SAFETY INFORMATION
IMPORTANT: See installation instructions and safety warning before connecting system to power supply.
http://www.supermicro.com/about/policies/safety_information.cfm

WARNING:
To reduce risk of electric shock/damage to equipment, disconnect power from server by disconnecting all power cords from electrical outlets.
If any CPU socket empty, install protective plastic CPU cap

CAUTION:
Always be sure all power supplies for this system have the same power output. If mixed power supplies are installed, the system will not operate.

For more information go to <http://www.supermicro.com/support>

