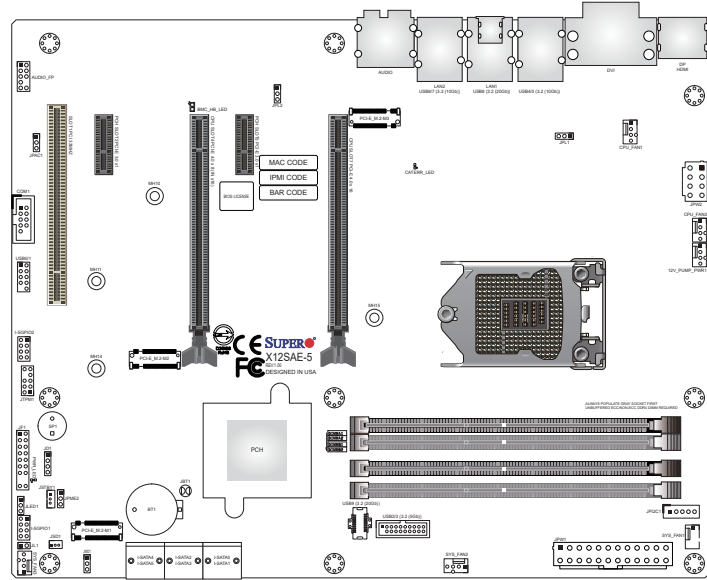
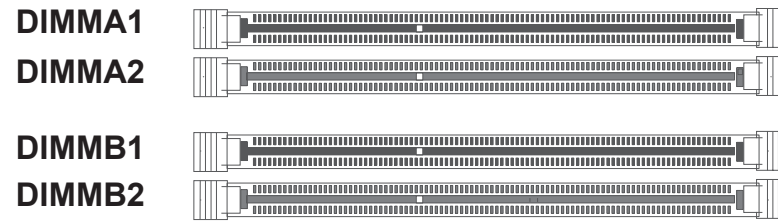


Board Layout



Jumper	Description	Default Setting
JBT1	Clear CMOS (onboard)	Short Pads to Clear CMOS
JD1	Speaker Buzzer (Default)	Pins 1-4: External Speaker Pins 3-4: Buzzer
JPAC1	HD Audio Enable/Disable	Pins 1-2 (Enabled)
JPG1	VGA Enable (for X12SCA-5F only)	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 (RST)
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 Fan Headers	
CPU SLOT4	PCIe 4.0 x8 (IN x16) Slot	
CPU SLOT7	PCIe 4.0 x16 Slot	
DP	Back Panel DisplayPort	
HDMI	Back Panel High Definition Multimedia Interface (HDMI)	
DVI	Digital Video Interface (DVI-D)	
I-SATA0 ~ I-SATA5	Intel Serial ATA (SATA 3.0) Ports (6 Gb/second)	
I-SGPIO1/I-SGPIO2	Serial General Purpose I/O Headers	
IPMI_LAN	Dedicated IPMI LAN Port (for X12SCA-5F only)	
JF1	Front Control Panel Header	
JL1	Chassis Intrusion Header	
JLED1	3-pin Power LED Header	
JPI2C1	Power Supply SMBus I2C Header	
JPW1	24-pin ATX Main Power Connector (Required)	
JPW2	+12V 8-pin CPU Power Connector (Required)	
JSD1	SATA DOM (Disk-On-Module) Power Connector	
JSTBY1	Standby Power Header (5V)	
JTPM1	Trusted Platform Module (TPM)/Port 80 Header	
LAN1/LAN2	LAN1: RJ45 1 Gb LAN Port, LAN2: RJ45 2.5 Gb LAN Port	
MH10/MH11/MH14/MH15	M.2 Mounting Holes	
PCI-E_M.2-M1	PCIe 3.0 x4 M.2 M-key Socket (Supports 22110 and 2280 form factors)(Small Form Factor Devices and Other Portable Devices for High Speed NVMe SSDs)	
PCI-E_M.2-M2	PCIe 3.0 x4 M.2 M-key Socket (Supports 2280 Form Factor)	
PCI-E_M.2-M3	PCIe 4.0 x4 M.2 M-key Socket (Supports 2280 Form Factor)	
SLOT1	PCI Slot, 32 Bit/33MHz with 5V Single Voltage	
PCH SLOT2/PCH SLOT5	PCIe 3.0 x4 Slots	
SP1	Internal Speaker/Buzzer	
SYS_FAN1 ~ SYS_FAN3	System Fan Headers	
UID	Unit Identifier (UID)Switch (X12SCA-5F only)	
USB0/1	Front Access USB 2.0	
USB2/3	Front Access USB 3.2 Gen 2x1 Header (5Gb)	
USB4/5/6/7	Back Panel USB 3.2 Gen 2x1 Ports (10Gb, Type-A)	
USB8	Back Panel USB 3.2 Gen 2x2 Port (20Gb, Type-C)	
USB9	Front Access USB 3.2 Gen 2x2 Header (20Gb)	
VGA	VGA Port for (X12SCA-5F, IPMI only)	

Memory



General Guidelines for Optimizing Memory Performance

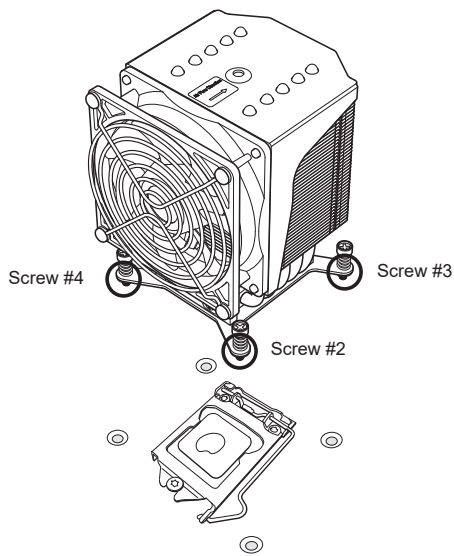
When installing memory modules, the DIMM slots should be populated in the following order: DIMMA2, DIMMB2, then DIMMA1, DIMMB1

- Always use DDR4 DIMM modules of the same size, type and speed.
- Mixed DIMM speeds can be installed. However, all DIMMs will run at the speed of the slowest DIMM.
- For optimal performance, use DDR4 memory of the same type, size and speed.
- The motherboard will support 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

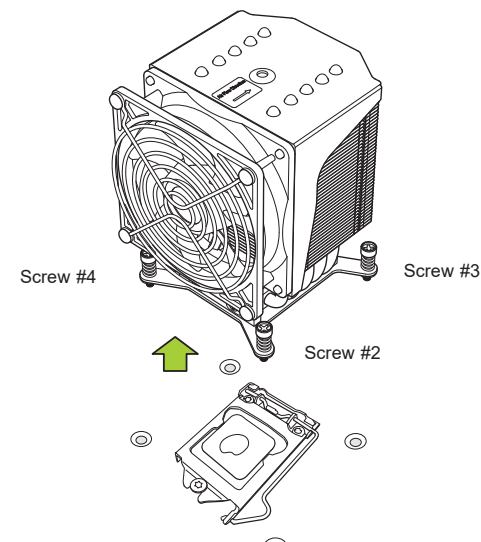
1. Apply the proper amount of thermal grease to the heatsink.
2. Place the heatsink on top of the CPU so that the four mounting holes on the heatsink are aligned with those on the retention mechanism.
3. Tighten the screws in the following order:



4. Once the screws are tightened, plug the power connector of cooler into either CPU_FAN1 or CPU_FAN2 header.

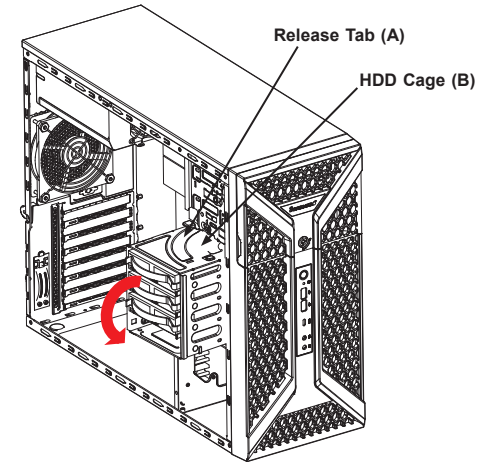
Removing an Active CPU Heatsink with Fan

1. Unplug the power cord from the power supply and power connector of cooler from fan header on the motherboard.
2. Loosen the screws in the order 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.

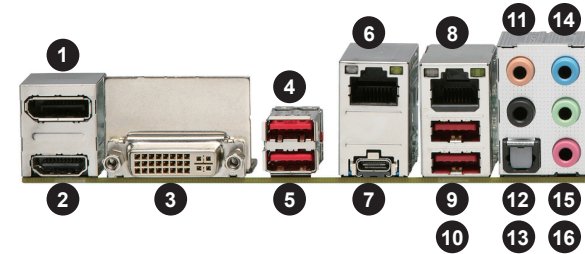
Hard Drives Installation



Removing and Installing 3.5 Hard Drives

1. Open the chassis left side cover.
2. Remove the drive mounting bracket from the cage. Pinch the tabs and pull out.
3. Secure the drive into the mounting bracket by flexing the drive bracket and drop the drive in with the connector side facing into the chassis.
4. Slide the assembly into the cage.
5. Connect the storage device cables from the motherboard.

Rear I/O Ports

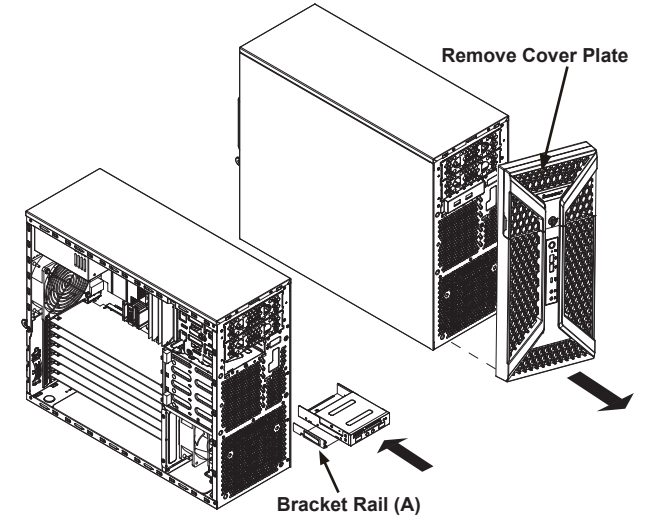


#	Description
1	DisplayPort 1.4a
2	HDMI Port 2.0b
3	Digital Video Interface (DVI-D)
4	USB 3.2 Gen1 (Type A)
5	USB 3.2 Gen1 (Type A)
6	1Gb LAN Port 1
7	USB 3.2 Gen2x2 (Type C)
8	2.5Gb LAN Port 2
9	USB 3.2 Gen2 (Type A)
10	USB 3.2 Gen2 (Type A)
11	Center/LFE Out
12	Surround Out
13	S/PDIF Out
14	Line In
15	Line Out
16	Mic In

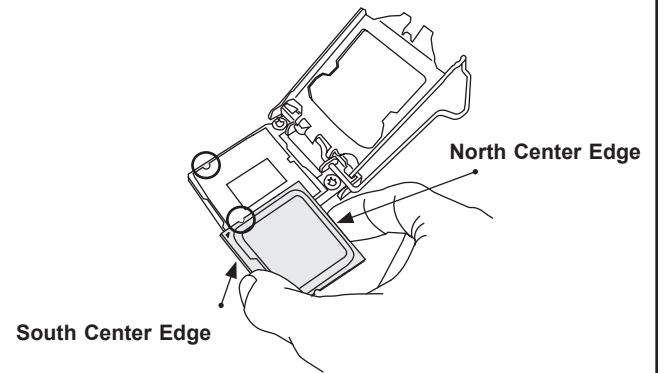
Installing an Optical Device

Installing an Optical Device

1. Remove power from the system.
2. Remove the front bezel from the chassis by lifting it upwards from the bottom, and pulling off the front of the chassis.
3. Remove the cover plate from the bezel.
4. Install the bracket rail (A) onto one side of the device, by inserting the pins of the bracket into the mounting holes on the sides of the optical device.
5. Slide the device into the chassis.



CPU Installation



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>

