Motherboard Layout and Features

= mounting hole
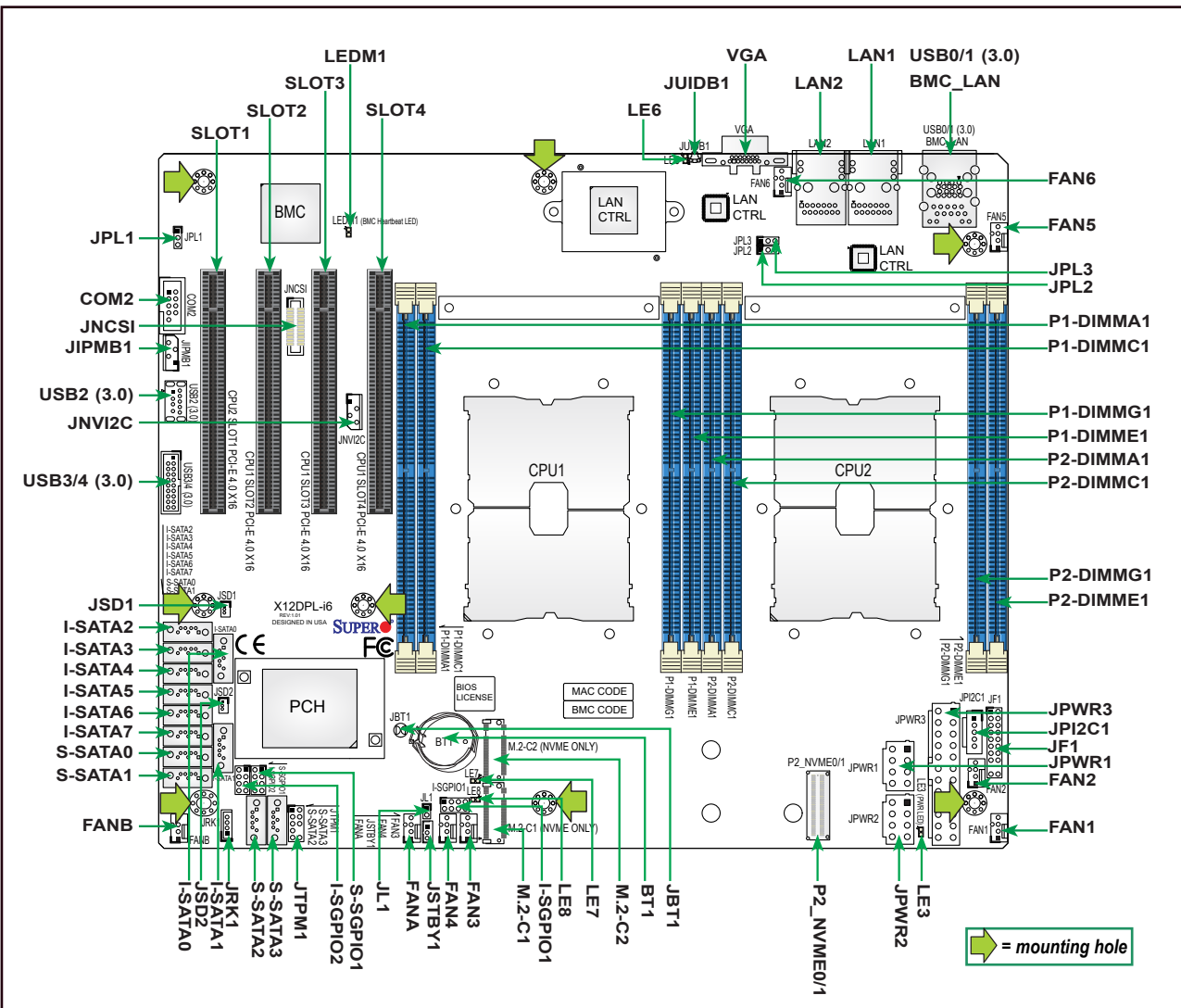
CPU/Heatsink Installation

PHM Overview
1. Heatsink
2. Processor Carrier
3. Intel Xeon Processor
4. Processor Heatsink Module (PHM)

CPU Carrier Assembly

Creating Processor Heatsink Module
Processor Carrier Assembly (Reverse Side View)

Installing the PHM (Processor Heatsink Module)

Front Control Panel

	1	2	
Power Button	○	○	Ground
Reset Button	○	○	Ground
3.3V	○	○	Power Fail (for LED6)
Red+ (Blue LED_Cathode, UID)	○	○	Blue+ (Red Off/Fan Fail/ PWR Fail for LED6/Blue UID LED)
NIC2 (Activity) LED	○	○	NIC2 (Link) LED
NIC1 (Activity) LED	○	○	NIC1 (Link) LED
ID_UID/3.3V Stby	○	○	HDD LED
3.3V	○	○	FP PWR LED
Key	○	○	Key
NMI	○	○	Ground
	19	20	

Connectors

Connector	Description
BMC_LAN	Dedicated BMC LAN Port
BT1	Onboard CMOS Battery
COM2	Front Accessible COM Port Header
FAN1 - FAN6, FANA, FANB	CPU/System Fan Headers
JF1	Front Control Panel Header
JIPMB1	4-pin BMC External I^2C Header
JL1	Chassis Intrusion Header
JNCSI	NC-SI (Network Controller Sideband Interface) Connector
JNVI2C	NVMe I^2C Header
JPI2C1	Power SMBus (System Management Bus) I^2C Header
JPWR1, JPWR2	8-pin Power Supply Connectors
JPWR3	24-pin ATX Main Power Supply Connector
JSD1, JSD2	SATA DOM (Disk-On-Module) Power Connectors
JSTBY1	Standby Power Header
JTPM1	Trusted Platform Module (TPM)/Port 80 Connector
JUIDB1	Unit Identifier (UID) Switch / BMC Reset Button
LAN1, LAN2	Ethernet LAN (RJ45) Port 1 and Port 2 (1G LAN support on X12DPL-i6 and 10G LAN support on X12DPL-NT6)
M.2-C1, M.2-C2	PCIe 4.0 x4 M.2 Slots (with support of M-key 2280 and 22110)
P2-NVME0/1	PCIe 4.0 x8 NVMe SlimSAS Port with support of two NVMe connections (X12DPL-NT6 only)
I-SATA0 - I-SATA7	Intel PCH SATA 3.0 Ports (with RAID 0, 1, 5, 10 support); I-SATA0/1: Intel PCH Powered I-SATA 3.0 Ports with support for SuperDOM (Disk on Module) devices
S-SATA0 - S-SATA3	Intel PCH S-SATA 3.0 Ports (with RAID 0, 1, 5, 10 support)
I-SGPIO1, I-SGPIO2	Serial General Purpose I/O Headers (for I-SATA0/1/2/3 and I-SATA4/5/6/7)
S-SGPIO1	Serial General Purpose I/O Header (for S-SATA0/1/2/3)
SLOT1	PCIe 4.0 x16 Slot supported by CPU2
SLOT2, SLOT3, SLOT4	PCIe 4.0 x16 Slots supported by CPU1
USB0, USB1 (3.0)	Rear I/O USB 3.0 Ports
USB2 (3.0)	Internal Type-A USB 3.0 Header
USB3/4 (3.0)	Front-accessible USB 3.0 Header with support for two USB 3.0 ports
VGA	Rear I/O VGA Port
VROC (JRK1)	Intel VROC Key Header for NVMe RAID support

📝 **Note 1:** Refer to Chapter 2 of the user's manual for CPU/Heatsink and memory Installation instructions. Please also visit our website at www.supermicro.com for CPU/Memory support updates.

Note 2: All graphics shown in this quick reference guide (QRG) are for illustration only. Your components may or may not look the same as the graphics shown in this QRG.

Jumpers and LED Indicators

Jumper	Description	Default Setting
JBT1	CMOS Clear	Open (Normal)
JPL1	X12DPL-NT6 LAN Enable/Disable	Pins 1-2 (Enabled)
JPL2, JPL3	X12DPL-i6 LAN1, LAN2 Enable/Disable	Pins 1-2 (Enabled)

LED	Description	Status
LE3	Power LED	LED On: Onboard Power On
LE6	Unit Identifier (UID) LED	Solid Blue: Unit Identified
LE7, LE8	PCIe M.2 Activity LEDs	Blinking Green: M.2 Active
LEDM1	BMC Heartbeat LED	Blinking Green: BMC Normal

CPU Support

This motherboard supports dual 3rd Generation Intel® Xeon® Scalable Family Processors (in Socket P+/LGA4189) with a Thermal Design Power (TDP) of up to 185W.

Memory Support

This motherboard supports up to 2 TB of 3DS LRDIMM/LRDIMM/3DS RDIMM/RDIMM DDR4 (288-pin) ECC memory with speeds of 3200/2933/2666 MHz in eight slots.

Memory Population Table

Memory Population Table (3DS LRDIMM/LRDIMM/3DS RDIMM/RDIMM DDR4 ECC Memory)	
When 1 CPU used:	**Memory Population Sequence**
1 CPU & 1 DIMM	CPU1: P1-DIMMA1
1 CPU & 2 DIMMs	CPU1: P1-DIMMA1/P1-DIMME1
1 CPU & 4 DIMMs	CPU1: P1-DIMMA1/P1-DIMME1/P1-DIMMC1/P1-DIMMG1
When 2 CPUs used:	**Memory Population Sequence**
2 CPUs & 2 DIMMs	CPU1: P1-DIMMA1 CPU2: P2-DIMMA1
2 CPUs & 4 DIMMs	CPU1: P1-DIMMA1/P1-DIMME1 CPU2: P2-DIMMA1/P2-DIMME1
2 CPUs & 6 DIMMs	CPU1: P1-DIMMA1/P1-DIMMC1/P1-DIMME1/P1-DIMMG1 CPU2: P2-DIMMA1/P2-DIMME1
2 CPUs & 8 DIMMs	CPU1: P1-DIMMA1/P1-DIMMC1/P1-DIMME1/P1-DIMMG1 CPU2: P2-DIMMA1/P2-DIMMC1/P2-DIMME1/P2-DIMMG1

Rear I/O Connectors

Rear I/O Ports			
No.	**Description**	**No.**	**Description**
1.	BMC LAN Port	6.	Rear VGA Port (VGA)
2.	USB0 (USB 3.0)	7.	Unit Identifier Switch (UID) / BMC Reset Button
3.	USB1 (USB 3.0)		
4.	1G LAN1 (X12DPL-i6), 10G LAN1 (X12DPL-NT6)		
5.	1G LAN2 (X12DPL-i6), 10G LAN2 (X12DPL-NT6)		