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**FOR YOUR SYSTEM TO WORK PROPERLY, PLEASE DOWNLOAD APPROPRIATE DRIVERS/IMAGES/USER'S MANUAL FROM THE LINKS BELOW:**

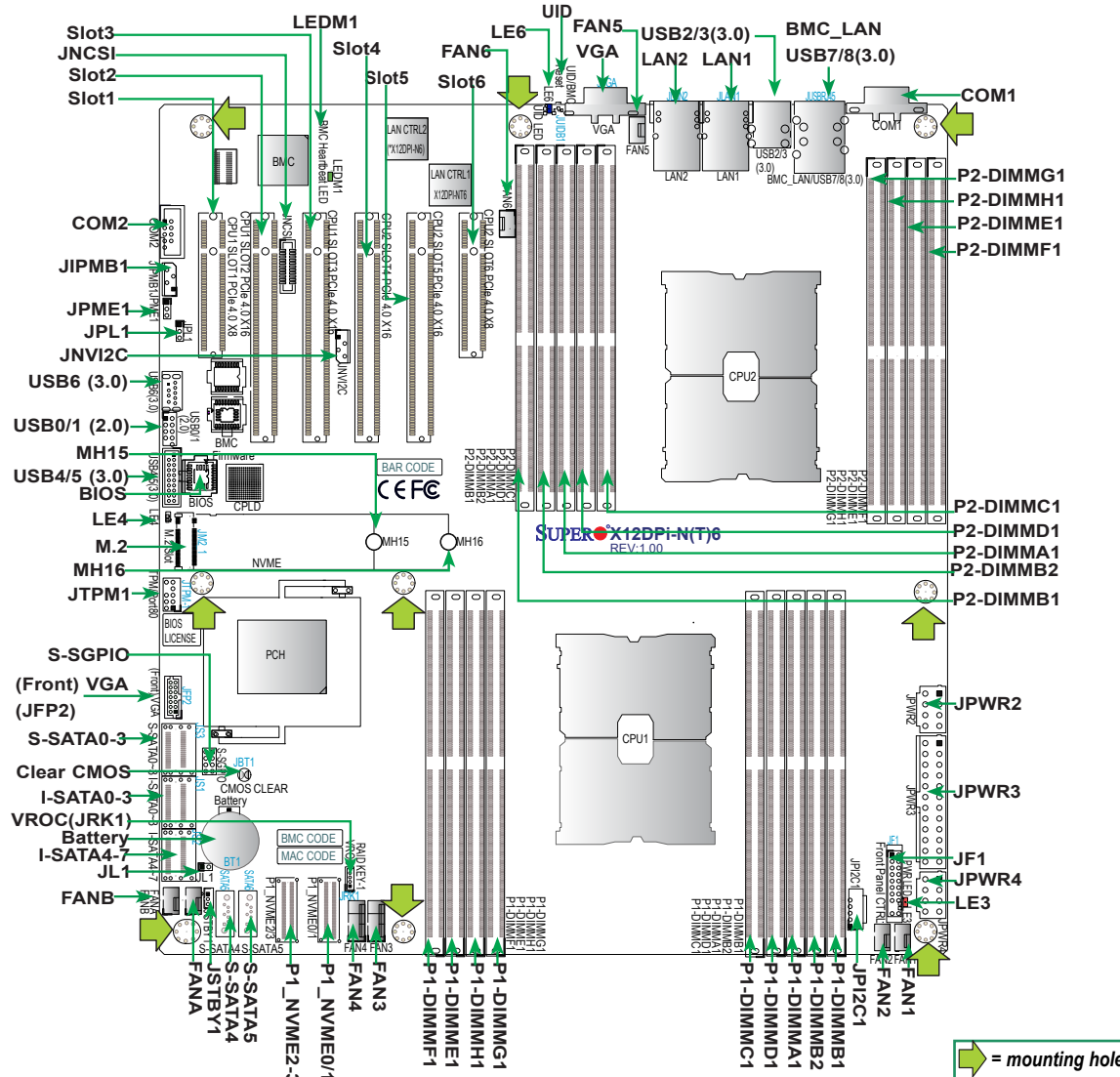
- Manuals: <http://www.supermicro.com/support/manuals>
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**PACKAGE CONTENTS**

- One Supermicro Motherboard
- Three SATA Cables (CBL-0044L x2) & (CBL-0476 x1)
- One (1) I/O Shield (MCP-260-00042-0N)
- One QRG (MNL-2233-QRG)



**Motherboard Layout and Features**



**Jumpers/Connectors/LED Indicators**

Jumper	Description	Default Setting
JBT1	CMOS Clear	Open (Normal)
JPL1	LAN Enable	Pins 1-2 (Enabled)
JPME1	ME Recovery Enable	Pins 1-2 (Normal)

Connector	Description
Battery (BT1)	Onboard CMOS battery
COM1	Rear COM port on the I/O back panel
COM2	Front Accessible COM port header
FAN1~6, FANA/FANB	CPU/System fan headers
BMC_LAN	Dedicated BMC LAN port
JF1	Front panel control header
JIPMB1	4-pin BMC external I <sup>2</sup> C header
JL1	Chassis intrusion header
JNCSI	NC-SI (Network Controller Sideband Interface) connector
JNVI <sup>2</sup> C1	NVMe I <sup>2</sup> C header
JPI <sup>2</sup> C1	Power SMBbus (System Management Bus) I <sup>2</sup> C header
JPWR2/JPWR4	8-pin power supply connectors
JPWR3	24-pin ATX main power supply connector
JSTBY1	Standby power header
JTPM1	Trusted Platform Module (TPM)/Port 80 connector
LAN1/LAN2	Ethernet LAN Port 1/Port 2 (1G LAN: for X12DPi-N6 and 10G LAN: for X12DPi-NT6)
M.2	PCIe 4.0 x4 M.2 slot (with support of M-Key 2280, 22110)
MH.15, MH.16	Mounting holes for M.2 keys (MH15: for M.2 Key 2280, MH16: for M.2 Key 22110)
P1_NVME0/1, P1_NVME2/3	PCIe 4.0 x8 SlimSAS ports with support of four NVMe connections (0/1, 2/3)
I-SATA0~3/I-SATA4~7	Intel PCH SATA 3.0 ports (with RAID 0, 1, 5, 10 support)
S-SATA0~3	Intel PCH S-SATA 3.0 ports (with RAID 0, 1, 5, 10 support)
S-SATA4/S-SATA5	Intel PCH powered S-SATA 3.0 ports with support for SuperDOM (Disk on Module) devices
SLOT1	PCIe 4.0 X8 slot supported by CPU1
SLOT2/SLOT3	PCIe 4.0 X16 slots supported by CPU1
SLOT4/SLOT5	PCIe 4.0 X16 slots supported by CPU2
SLOT6	PCIe 4.0 X8 slot supported by CPU2
S-SGPIO	Serial Link General Purpose I/O header (for S-SATA4/5)
UID LED/BMC Reset	Unit Identifier (UID) LED & BMC Reset switch (JUIDB1)
USB0/1 (2.0)	Front-accessible USB 2.0 header with support for two USB ports
USB2/3 & 7/8 (3.0)	Rear I/O USB 3.0 ports
USB4/5 (3.0)	Front-accessible USB 3.0 header with support for two USB ports
USB6 (3.0)	Internal Type A USB 3.0 port
VGA Ports	Rear I/O VGA port (JVGA) & Front VGA connector (JFP2)
VROC (JRK1)	Intel VROC key header for NVMe RAID support

**CPU Support**

This motherboard supports dual 3rd Gen Intel® Xeon Scalable Family Processors in (Socket P+/LGA4189) with up to 40 cores and with a TDP of up to 270W.

**Memory Support**

Supports up to 4 TB 3DS LRDIMM/LRDIMM/3DS RDIMM/RDIMM DDR4 (288-pin) ECC memory with speeds of 3200/2933/2666 MHz in 16 slots and up to 4 TB Intel® Optane PMem 200 series memory with speeds of up to 3200 MHz in two additional slots (Note 1).

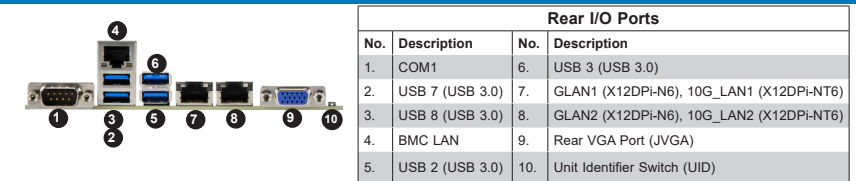
DDR4 Memory Population Table	
<b>When 1 CPU is used:</b>	<b>Memory Population Sequence</b>
1 CPU & 1 DIMM	CPU1: P1-DIMMA1
1 CPU & 2 DIMMs (Note 2)	CPU1: P1-DIMMA1/P1-DIMME1
1 CPU & 4 DIMMs (Note 2)	CPU1: P1-DIMMA1/P1-DIMME1/P1-DIMMC1/P1-DIMMG1
1 CPU & 6 DIMM	CPU1: P1-DIMMA1/P1-DIMME1/P1-DIMMC1/P1-DIMMG1/P1-DIMMB1/P1-DIMMF1
1 CPU & 8 DIMMs (Note 2)	CPU1: P1-DIMMA1/P1-DIMME1/P1-DIMMC1/P1-DIMMG1/P1-DIMMB1/P1-DIMMF1/P1-DIMMD1/P1-DIMMH1
1 CPU & 9 DIMMs (Note 1) & (Note 2)	CPU1: P1-DIMMA1/P1-DIMME1/P1-DIMMC1/P1-DIMMG1/P1-DIMMB1/P1-DIMMF1/P1-DIMMD1/P1-DIMMH1 + (P1-DIMMB2: Reserved for PMem 200 series only)
<b>When 2 CPUs are used:</b>	<b>Memory Population Sequence</b>
2 CPUs & 2 DIMMs (Note 2)	CPU1: P1-DIMMA1 CPU2: P2-DIMMA1
2 CPUs & 4 DIMMs (Note 2)	CPU1: P1-DIMMA1/P1-DIMME1 CPU2: P2-DIMMA1/P2-DIMME1
2 CPUs & 6 DIMMs	CPU1: P1-DIMMA1/P1-DIMME1/P1-DIMMC1/P1-DIMMG1 CPU2: P2-DIMMA1/P2-DIMME1
2 CPUs & 8 DIMMs (Note 2)	CPU1: P1-DIMMA1/P1-DIMME1/P1-DIMMC1/P1-DIMMG1 CPU2: P2-DIMMA1/P2-DIMME1/P2-DIMMC1/P2-DIMMG1
2 CPUs & 10 DIMMs	CPU1: P1-DIMMA1/P1-DIMME1/P1-DIMMC1/P1-DIMMG1/P1-DIMMB1/P1-DIMMF1 CPU2: P2-DIMMA1/P2-DIMME1/P2-DIMMC1/P2-DIMMG1
2 CPUs & 12 DIMMs (Note 2)	CPU1: P1-DIMMA1/P1-DIMME1/P1-DIMMC1/P1-DIMMG1/P1-DIMMB1/P1-DIMMF1 CPU2: P2-DIMMA1/P2-DIMME1/P2-DIMMC1/P2-DIMMG1/P2-DIMMB1/P2-DIMMF1
2 CPUs & 14 DIMMs	CPU1: P1-DIMMA1/P1-DIMME1/P1-DIMMC1/P1-DIMMG1/P1-DIMMB1/P1-DIMMF1/P1-DIMMD1/P1-DIMMH1 CPU2: P2-DIMMA1/P2-DIMME1/P2-DIMMC1/P2-DIMMG1/P2-DIMMB1/P2-DIMMF1
2 CPUs & 16 DIMMs (Note 2)	CPU1: P1-DIMMA1/P1-DIMME1/P1-DIMMC1/P1-DIMMG1/P1-DIMMB1/P1-DIMMF1/P1-DIMMD1/P1-DIMMH1 CPU2: P2-DIMMA1/P2-DIMME1/P2-DIMMC1/P2-DIMMG1/P2-DIMMB1/P2-DIMMF1/P2-DIMMD1/P2-DIMMH1
2 CPUs & 18 DIMMs (Note 1) & (Note 2)	CPU1: P1-DIMMA1/P1-DIMME1/P1-DIMMC1/P1-DIMMG1/P1-DIMMB1/P1-DIMMF1/P1-DIMMD1/P1-DIMMH1 + (P1-DIMMB2: Reserved for PMem 200 series only) CPU2: P2-DIMMA1/P2-DIMME1/P2-DIMMC1/P2-DIMMG1/P2-DIMMB1/P2-DIMMF1/P2-DIMMD1/P2-DIMMH1 + (P2-DIMMB2: Reserved for PMem 200 series only)

Note 1: P1-DIMMB2 and P2-DIMMB2 are reserved for Intel® Optane™ PMem 200 Series only.  
 Note 2: This memory configuration is recommended by Supermicro for optimal memory performance. Please use this configuration to maximize your memory performance.  
 Note 3: PMem 200 memory is supported by the 3rd Gen. Intel Scalable Family (83xx/63xx/53xx/4314 Series) Processors.

PMem Population within 1 CPU socket											
DDR4 +PMem	Mode	AD Interleave	P1-DIMMF1	P1-DIMME1	P1-DIMMH1	P1-DIMMG1	P1-DIMMC1	P1-DIMMD1	P1-DIMMA1	P1-DIMMB1	
4+4	AM	One - x4	PMem	DDR4	PMem	DDR4	PMem	DDR4	PMem	DDR4	
		One - x4	DDR4	PMem	DDR4	PMem	DDR4	PMem	DDR4	PMem	
6+1	AD	One - x1	DDR4	DDR4	DDR4	DDR4	DDR4	PMem	DDR4	DDR4	
			DDR4	DDR4	DDR4	DDR4	DDR4	PMem	DDR4	DDR4	
			DDR4	DDR4	PMem	DDR4	DDR4	DDR4	DDR4	PMem	DDR4
			DDR4	DDR4	DDR4	DDR4	DDR4	DDR4	PMem	DDR4	DDR4
			DDR4	DDR4	DDR4	PMem	DDR4	DDR4	DDR4	PMem	DDR4
			DDR4	PMem	DDR4	DDR4	DDR4	DDR4	DDR4	PMem	DDR4
8+1	AD	One - x1	DDR4	DDR4	DDR4	DDR4	DDR4	DDR4	PMem	DDR4	

Validation Matrix (DDR4 DIMMS with PMem 200 Series)			
DIMM Type	Ranks Per DIMM & Data Width (Stack)	DIMM Capacity (GB)	
		8Gb	16Gb
RDIMM (up to 3200)	1Rx8	N/A	N/A
	1Rx4	16GB	32GB
	1Rx8	16GB	32GB
RDIMM 3DS (up to 3200)	4Rx4 (2H)	N/A	128GB
	8Rx4 (4H)	NA	256GB
LRDIMM (up to 3200)	4Rx4	64GB	128GB
	8Rx4 (4H)	128GB	256GB

**Rear I/O Connectors**



**CPU/Heatsink Installation**

**PHM Overview**

- Heatsink
- Processor Carrier
- Intel Xeon Processor
- Processor Heatsink Module (PHM)

**CPU Carrier Assembly**

**Creating Processor Heatsink Module**

Processor Carrier Assembly (Reserve Side View)

**Front Control Panel**

Pin	1	2
Power Button	Ground	Ground
Reset Button	Ground	Ground
3.3V	Power Fail (for LED6)	Blue (Red OH/Fan Fail/PWR Fail for LEDs/Blue UID LED)
Red (Blue_LED)	Blue (Red OH/Fan Fail/PWR Fail for LEDs/Blue UID LED)	Blue (Red OH/Fan Fail/PWR Fail for LEDs/Blue UID LED)
NIC2 (Activity) LED	NIC2 (Link) LED	NIC2 (Link) LED
NIC1 (Activity) LED	NIC1 (Link) LED	NIC1 (Link) LED
ID_UID/3.3V Stby	HDD LED	HDD LED
3.3V	FP PWR LED	FP PWR LED
Key	Key	Key
NMI	Ground	Ground

**Installing the PHM (Processor Heatsink Module)**

Note: 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](http://www.supermicro.com) for CPU/Memory support updates. All graphics are for illustration only.