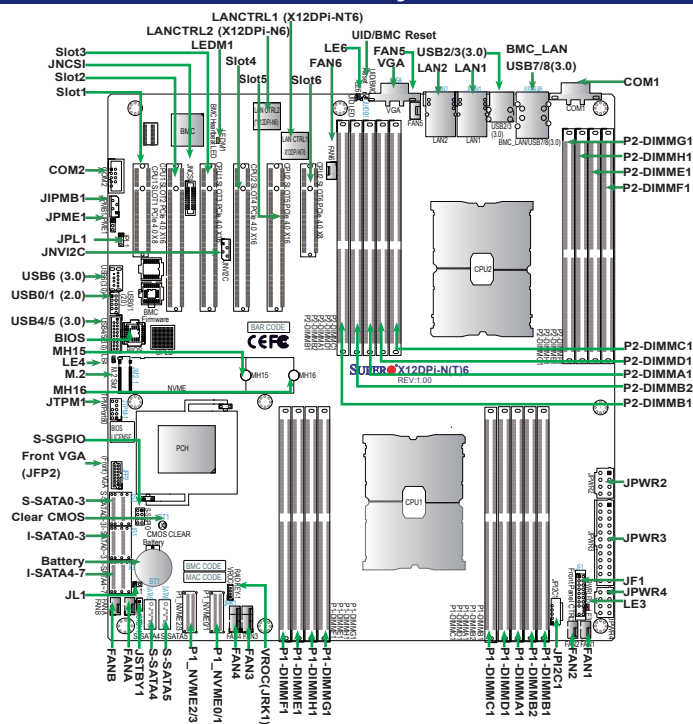


SUPERMICR SuperServer 220P-C9R(T) Quick Reference Guide

Board Layout



Jumper	Description	Default Setting
JBT1	CMOS Clear	Open (Normal)
JPG1	Audio Enable	Pins 1-2 (Enabled)
JPME1	ME Recovery	Pins 1-2 (Normal)
JPME2	Manufacturing Mode Select	Pins 1-2 (Normal)
JVRM1/ JVRM2	VRM SMB (to BMC or PCH)	Pins 1-2 (BMC, Normal)
JWD1	Watch Dog Timer Enable	Pins 1-2 (Reset to System)
Connector		
BT1	Onboard CMOS battery socket	
COM1/COM2	Back panel COM port/COM header for front access	
FAN1-6, FANA/FANB	System cooling fan headers (FAN1-FAN6, FAN A, FAN B)	
IPMI_LAN	Dedicated IPMI_LAN port	
I-SATA0-3, I-SATA4-7	SATA 3.0 connection header supported by the Intel PCH	
JF1	Front Panel Control header	
JHF11/JHF12	Host Fabric Interface (HFI) sideband headers for the HFI cards	
JPMB1	4-pin BMC External I ² C header (for an IPMI-supported card)	
JL1	Chassis Intrusion header	
JM2_1	M.2 slot	
JNV12C	NVMe I ² C header	
JNVME1/JNVME2	NVMe Slot1/NVMe Slot2	
JP12C1	Power Supply SMBus I ² C header	
JPWR1/JPWR2	8-pin Power Supply connectors	
JPWR3	24-pin ATX main power supply connector	
JRK1	RAID Key for onboard SATA devices	
JSTBY1	Standby power header	
JTPM1	Trusted Platform Module (TPM)/Port 80 connector	
LAN1/LAN2	Gigabit LAN/10G LAN Ethernet ports on the backpanel	
S-SATA0-3	S-SATA 3.0 connection Header supported by the Intel SCU	
S-SATA4/S-SATA5	Powered S-SATA Ports SuperDOM (Disk On Module) devices	
SLOT1	PCI-Express 4.0 X8 Slots supported by CPU1	
SLOT2/SLOT3	PCI-Express 4.0 X16 Slots supported by CPU1	
SLOT4/SLOT5	PCI-Express 4.0 X16 Slots supported by CPU2	
SLOT6	PCI-Express 4.0 X8 Slots supported by CPU2	
T-SGPI03	General Purpose Serial I/O port	
UID	Unit Identifier (UID) switch	
USB0/1 (2.0)	Front Accessible USB header with two USB 2.0 connections	
USB2/3, USB7/8 (3.0)	Rear I/O USB 3.0 ports	
USB4/5 (3.0)	Front Accessible USB header with two USB 3.0 connections	
USB6	Internal USB 3.0 Type-A header	
VGA (JFP2)	Front VGA header	

Memory

Note 1: Intel Optane PMem 200 Series is supported by the 3rd Gen Intel Xeon Scalable Processor (83xx/63xx/53xx/4315) Series only.
 Note 2: P1-DIMMB2/P2-DIMMB2 memory slots are reserved for Intel Optane PMem 200 Series only.
 Note 3: Memory speed support depends on the processors used in the system.

Memory Support for the 3rd Gen Intel Xeon Scalable Processor

Type	Ranks Per DIMM & Data Width	DIMM Capacity (GB)		Speed (MT/s); Voltage (V); Slot Per Channel (SPC) and DIMM Per Channel (DPC)	
		8Gb	16Gb	1DPC (1-DIMM Per Channel)	2DPC (2-DIMM Per Channel)
RDIMM	SRx8	8GB	16GB	3200	1.2V
	SRx4	16GB	32GB		
	DRx8	16GB	32GB		
	DRx4	32GB	64GB		
RDIMM-3DS	(4R/8R)x4	2H-64GB 4H-128GB	2H-128GB 4H-256GB		2933*
LRDIMM	QRx4	64GB	128GB	3200	3200
LRDIMM-3DS	(4R/8R)x4	4H-128GB	2H-128GB 4H-256GB	3200	3200

Validation Matrix (DDR4 DIMMS w/PMem 200 Series)

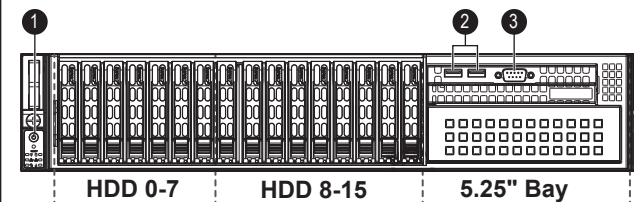
DIMM Type	Ranks Per DIMM & Data Width (Stack)	DIMM Capacity (GB)	
		8Gb	16Gb
RDIMM (up to 3200)	1Rx8	N/A	N/A
	1Rx4	16GB	32GB
	2Rx8	16GB	32GB
RDIMM 3DS (up to 3200)	2Rx4	32GB	64GB
	4Rx4 (2H)	N/A	128GB
LRDIMM (up to 3200)	4Rx4	64GB	128GB
LRDIMM 3DS (up to 3200)	4Rx4 (2H)	N/A	N/A
	8Rx4 (4H)	126GB	256GB

Memory Population Table (w/18 Slots)

When 1 CPU is used:	Memory Population Sequence
1 CPU & 1 DIMM	CPU1: P1-DIMMA1
1 CPU & 2 DIMMs	CPU1: P1-DIMMA1/P1-DIMME1
1 CPU & 3 DIMMs*	CPU1: P1-DIMMA1/P1-DIMME1/P1-DIMMC1
1 CPU & 4 DIMMs	CPU1: P1-DIMMA1/P1-DIMME1/P1-DIMMC1/P1-DIMMG1
1 CPU & 5 DIMMs*	CPU1: P1-DIMMA1/P1-DIMMB1/P1-DIMME1/P1-DIMMC1/P1-DIMMG1
1 CPU & 6 DIMM	CPU1: P1-DIMMA1/P1-DIMMB1/P1-DIMME1/P1-DIMMF1/P1-DIMMC1/P1-DIMMG1
1 CPU & 7 DIMMs*	CPU1: P1-DIMMA1/P1-DIMMB1/P1-DIMMD1/P1-DIMME1/P1-DIMMF1/P1-DIMMC1/P1-DIMMG1
1 CPU & 8 DIMMs	CPU1: P1-DIMMA1/P1-DIMMB1/P1-DIMMD1/P1-DIMME1/P1-DIMMF1/P1-DIMMC1/P1-DIMMG1/P1-DIMMH1
1 CPU & 9 DIMMs	CPU1: P1-DIMMA1/P1-DIMMB1/P1-DIMMD1/P1-DIMME1/P1-DIMMF1/P1-DIMMC1/P1-DIMMG1/P1-DIMMH1 + (P1-DIMMB2: for Pmem200 series)
When 2 CPUs are 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-DIMMB1/P1-DIMME1/P1-DIMMF1 CPU2: P2-DIMMA1/P2-DIMME1
2 CPUs & 8 DIMMs	CPU1: P1-DIMMA1/P1-DIMMB1/P1-DIMME1/P1-DIMMF1 CPU2: P2-DIMMA1/P2-DIMMB1/P2-DIMME1/P2-DIMMF1
2 CPUs & 10 DIMMs	CPU1: P1-DIMMA1/P1-DIMMB1/P1-DIMME1/P1-DIMMF1/P1-DIMMC1/P1-DIMMG1 CPU2: P2-DIMMA1/P2-DIMMB1/P2-DIMME1/P2-DIMMF1
2 CPUs & 12 DIMMs	CPU1: P1-DIMMA1/P1-DIMMB1/P1-DIMME1/P1-DIMMF1/P1-DIMMC1/P1-DIMMG1/P1-DIMMH1 CPU2: P2-DIMMA1/P2-DIMMB1/P2-DIMME1/P2-DIMMF1/P2-DIMMC1/P2-DIMMG1
2 CPUs & 14 DIMMs	CPU1: P1-DIMMA1/P1-DIMMB1/P1-DIMMD1/P1-DIMME1/P1-DIMMF1/P1-DIMMC1/P1-DIMMG1/P1-DIMMH1 CPU2: P2-DIMMA1/P2-DIMMB1/P2-DIMMD1/P2-DIMME1/P2-DIMMF1/P2-DIMMC1/P2-DIMMG1
2 CPUs & 16 DIMMs	CPU1: P1-DIMMA1/P1-DIMMB1/P1-DIMMD1/P1-DIMME1/P1-DIMMF1/P1-DIMMC1/P1-DIMMG1/P1-DIMMH1 CPU2: P2-DIMMA1/P2-DIMMB1/P2-DIMMD1/P2-DIMME1/P2-DIMMF1/P2-DIMMC1/P2-DIMMG1/P2-DIMMH1
2 CPU & 18 DIMMs	CPU1: P1-DIMMA1/P1-DIMMB1/P1-DIMMD1/P1-DIMME1/P1-DIMMF1/P1-DIMMC1/P1-DIMMG1/P1-DIMMH1 + (P1-DIMMB2: for Pmem200 series) CPU2: P2-DIMMA1/P2-DIMMB1/P2-DIMMD1/P2-DIMME1/P2-DIMMF1/P2-DIMMC1/P2-DIMMG1/P2-DIMMH1 + (P2-DIMMB2: for Pmem200 series)

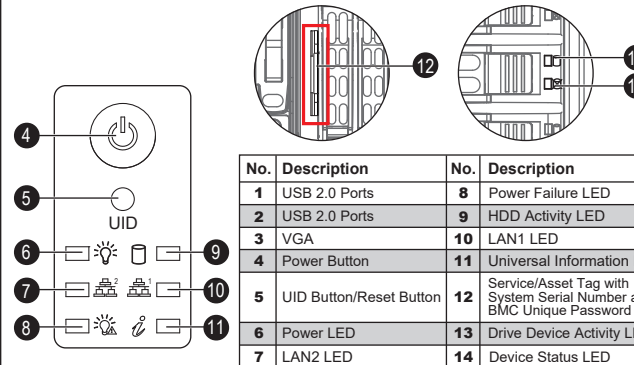
Note: *Unbalanced configuration (not recommended due to decreased performance)

Front View & Interface

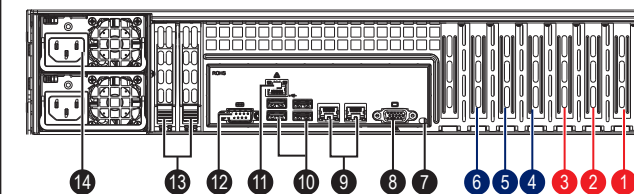


Slot	Description
0-7	2.5" hot-swap SAS3 drive bays
8-15	2.5" hot-swap SATA drive bays*

* 8-11 for optional 4x hotswap PCI-E 3.0 NVMe drives support

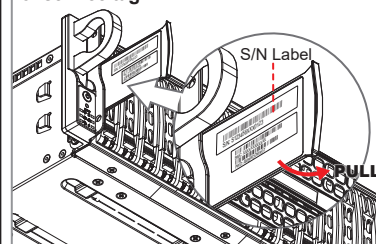


Rear View



System Information

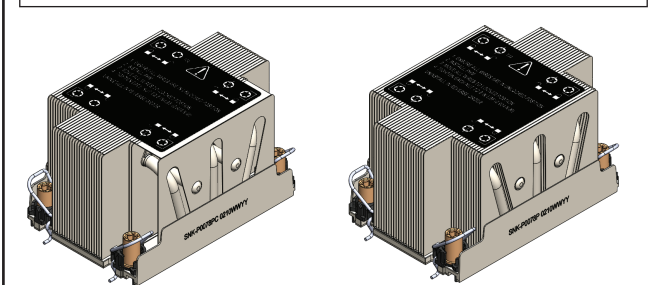
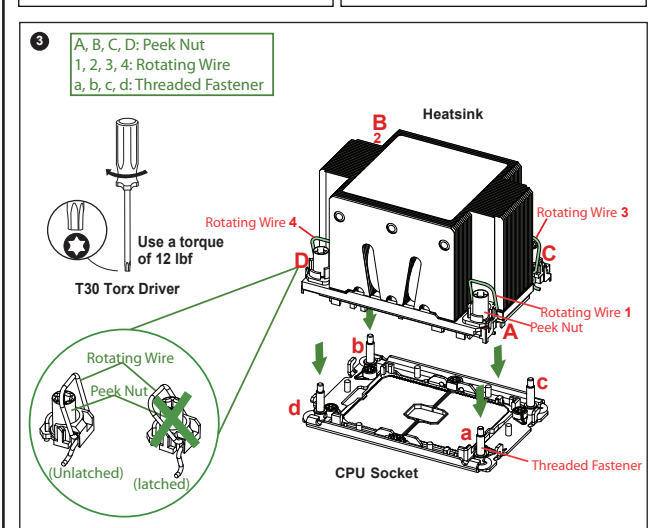
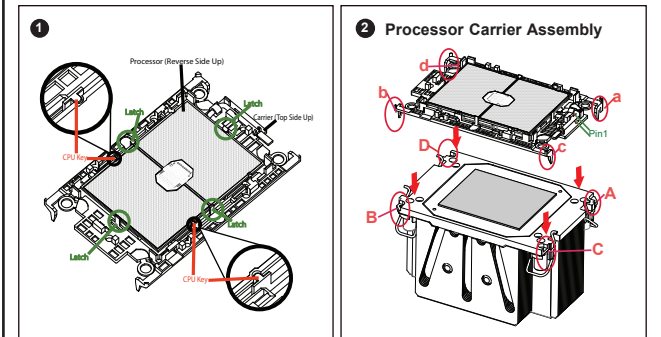
Pull-out tag with BMC unique password and Serial Number Label on the left side of service tag.



Each system comes with a unique default password for the ADMIN user. This can be found on a sticker on the motherboard and a sticker on the left side of the service tag on chassis. If necessary, the password can be reset by the Supermicro IPMICFG tool.

For more information, please visit <https://www.supermicro.com/en/solutions/management-software/bmc-resources>

CPU/Heatsink Installation



Note: Thermal grease is pre-applied on new heatsinks. No additional thermal grease is needed.

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>

