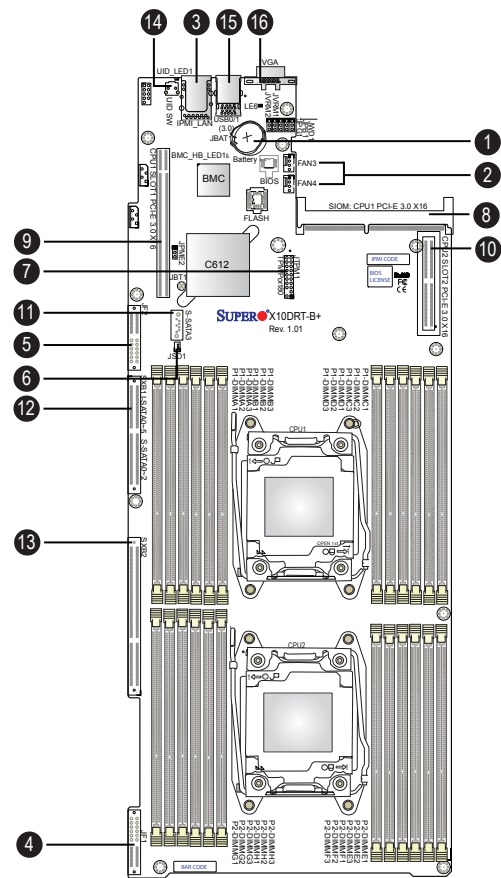


SUPERMICR[®] SuperServer 2028BT-HNR+/HNC0R+/HTR+ Quick Reference Guide

Board Layout



Note:

1. Please contact Supermicro Technical Support for additional information about frequency optimized CPUs and specialized system optimization.
2. Remove the plastic seal on the top of the chassis.

No.	Description
1	Battery (JBAT1): Onboard CMOS battery
2	FAN3, FAN4: System fan headers
3	IPMI_LAN: Dedicated IPMI LAN port
4	JF1: Power and front control panel connector
5	JF2: PCIe 3.0 x4 slot supported by CPU1
6	JSD1: SATA DOM (Disk-On-Module) power connector
7	JTPM1: TPM (Trusted Platform Module)/Port 80 header
8	SIOM: CPU1 PCIe 3.0 x16 slot for proprietary add-on module use
9	SLOT1: PCIe 3.0 x16 slot supported by CPU1
10	SLOT2: PCIe 3.0 x16 slot supported by CPU2
11	S-SATA3: SATA DOM with power-pin connector
12	SXB1: PCIe 3.0 x4 slot (supported by CPU1) and SATA connections (I-SATA0~5 & S-SATA0~2)
13	SXB2: PCIe 3.0 x24 slot supported by CPU2
14	UID SW: UID (Unit Identifier) switch
15	USB0/1 (3.0): Back panel USB 3.0 ports
16	VGA: Back panel VGA port

Memory

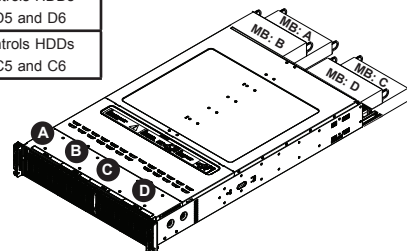
Processors and their Corresponding Memory Modules												
CPU#	Corresponding DIMM Modules											
(CPU 1) P1-DIMM	A1	B1	C1	D1	A2	B2	C2	D2	A3	B3	C3	D3
(CPU 2) P2-DIMM	E1	F1	G1	H1	E2	F2	G2	H2	E3	F3	G3	H3

Processors and Memory Module Population for Optimal Performance	
Number of CPUs + DIMMs	CPU and Memory Population Configuration Table (For memory to work properly, follow the instructions below)
1 CPU & 2 DIMMs	CPU1: P1-DIMMA1/P1-DIMMB1
1 CPU & 4 DIMMs	CPU1: P1-DIMMA1/P1-DIMMB1, P1-DIMMC1/P1-DIMMD1
1 CPU & 5~8 DIMMs	CPU1: P1-DIMMA1/P1-DIMMB1, P1-DIMMC1/P1-DIMMD1 + Any memory pairs in P1-DIMMA2/P1-DIMMB2/P1-DIMMC2/P1-DIMMD2 slots
2 CPUs & 4 DIMMs	CPU1 + CPU2: P1-DIMMA1/P1-DIMMB1, P2-DIMME1/P2-DIMMF1
2 CPUs & 6 DIMMs	CPU1 + CPU2: P1-DIMMA1/P1-DIMMB1/P1-DIMMC1/P1-DIMMD1, P2-DIMME1/P2-DIMMF1
2 CPUs & 8 DIMMs	CPU1 + CPU2: P1-DIMMA1/P1-DIMMB1/P1-DIMMC1/P1-DIMMD1, P2-DIMME1/P2-DIMMF1/P2-DIMMG1/P2-DIMMH1
2 CPUs & 9~16 DIMMs	CPU1/CPU2: P1-DIMMA1/P1-DIMMB1/P1-DIMMC1/P1-DIMMD1, P2-DIMME1/P2-DIMMF1/P2-DIMMG1/P2-DIMMH1 + Any memory pairs in P1, P2 DIMM slots
2 CPUs & 16 DIMMs	PU1/CPU2: P1-DIMMA1/P1-DIMMB1/P1-DIMMC1/P1-DIMMD1, P2-DIMME1/P2-DIMMF1/P2-DIMMG1/P2-DIMMH1, P1-DIMMA2/P1-DIMMB2/P1-DIMMC2/P1-DIMMD2, P2-DIMME2/P2-DIMMF2/P2-DIMMG2/P2-DIMMH2
2 CPUs & 16~24 DIMMs	PU1/CPU2: P1-DIMMA1/P1-DIMMB1/P1-DIMMC1/P1-DIMMD1, P2-DIMME1/P2-DIMMF1/P2-DIMMG1/P2-DIMMH1, P1-DIMMA2/P1-DIMMB2/P1-DIMMC2/P1-DIMMD2, P2-DIMME2/P2-DIMMF2/P2-DIMMG2/P2-DIMMH2, P1-DIMMA3/P1-DIMMB3/P1-DIMMC3/P1-DIMMD3, P2-DIMME3/P2-DIMMF3/P2-DIMMG3/P2-DIMMH3

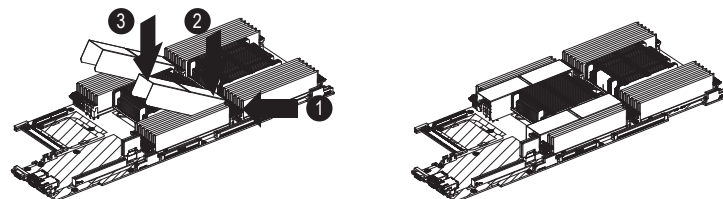
Populating RDIMM/LRDIMM DDR4 Memory Modules									
Type	Ranks Per DIMM and Data Width	DIMM Capacity (GB)		Speed (MT/s); Voltage (V); Slots per Channel (SPC) and DIMMs per Channel (DPC)					
				3 Slots per Channel					
				1 DPC		2 DPC		3 DPC	
				E4-2600 V3	E4-2600 V4	E4-2600 V3	E4-2600 V4	E4-2600 V3	E4-2600 V4
		4 GB	8 GB	1.2 V	1.2 V	1.2 V	1.2 V	1.2 V	1.2 V
RDIMM	SRx4	8 GB	16 GB	2133	2400	1866	2133	1600	1600
RDIMM	SRx8	4 GB	8 GB	2133	2400	1866	2133	1600	1600
RDIMM	DRx8	8 GB	16 GB	2133	2400	1866	2133	1600	1600
RDIMM	DRx4	16 GB	32 GB	2133	2400	1866	2133	1600	1600
LRDIMM	QRx4	32 GB	64 GB	2133	2400	2133	2400	1600	1866
LRDIMM 3DS	8Rx4	64 GB	128 GB	2133	2400	2133	2400	1600	1866

Nodes and Corresponding Hard Drives

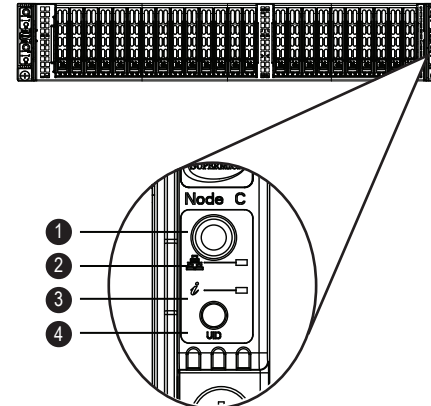
Drives Controlled by Nodes	
Motherboard B controls HDDs B1, B2, B3, B4, B5 and B6	Motherboard D controls HDDs D1, D2, D3, D4, D5 and D6
Motherboard A controls HDDs A1, A2, A3, A4, A5 and A6	Motherboard C controls HDDs C1, C2, C3, C4, C5 and C6



Air Shroud installation

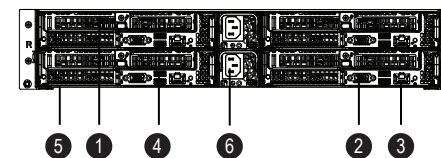


Front view & Interface



No.	Description
1	Power
2	NIC
3	Information LED
4	UID

Rear View

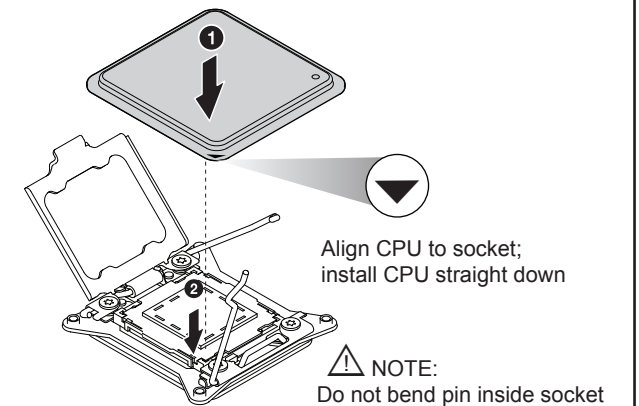


No.	Description
1	PCI-E Slot
2	VGA Connector
3	IPMI_dedicated LAN
4	USB Ports
5	SIOM Slot
6	Power Supply Module

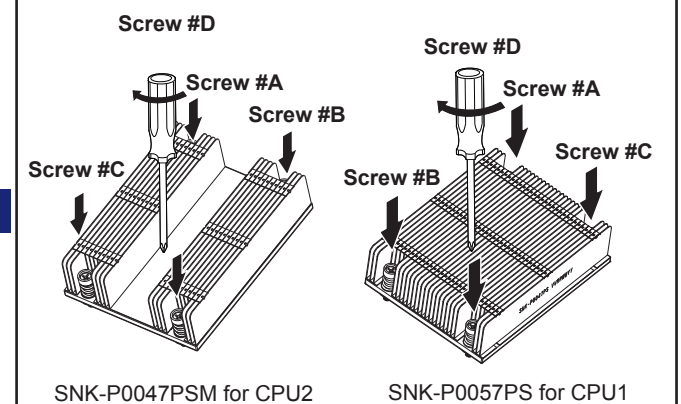
Beep Codes

X10 Serverboard BIOS Beep Codes		
Beep Code/LED	Error Message	Description
1 beep	Refresh	Ready to boot
5 short beeps + 1 long beep	Memory Error	No memory detected in the system
5 beeps	No Con-In or No Con-Out devices	Con-In includes USB or PS/2 keyboard, PCI or Serial Console Redirection, IPMI KVM or SOL. Con-Out includes Video Controller, PCI or Serial Console Redirection, IPMI SOL.
1 beep per device	Refresh	1 beep or each USB device
X10 IPMI Error Codes		
1 Continuous Beep	System OH	System Overheat

CPU Installation



Heatsink Installation



SNK-P0047PSM for CPU2

SNK-P0057PS for CPU1

1. Place the heatsink on top of the installed CPU.
2. Align the four screws to the socket.
3. Holding the heatsink in place, screw down as shown (cross pattern, in order: D, A, B, C).
4. Note: Only use 4.3lbf (max) of torque; otherwise, hand-tighten each screw to avoid damaging the CPU.

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>

