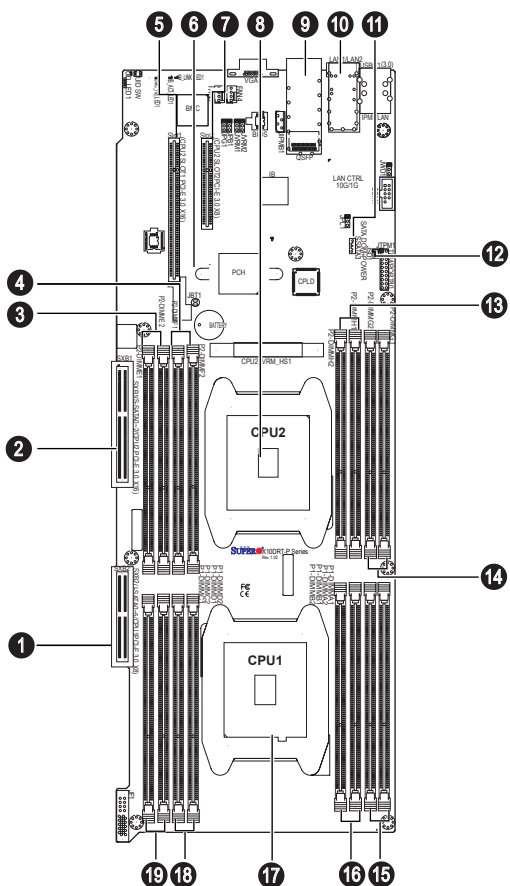# SUPERMICRO® SuperServer 2028TP-HTR/HTTR/HTFR Quick Reference Guide

Board Layout

Note:
1. Install CPU1 first.
2. In order to support PCI-e and Zero slots, two CPUs must be installed.

No.	Description
1	SXB2: I-SATA 0-5/PCI-E 3.0 x8 Slot supported by CPU1
2	SXB1: S-SATA 0-2/PCI-E 3.0 x16 Slot supported by CPU2
3	P2-DIMME1/P2-DIMME2 slot
4	P2-DIMMF1/P2-DIMMF2 slot
5	Slot1: CPU2 Slot1 PCI-E 3.0 x16
6	JBT1: CMOS Clear
7	Slot2: CPU2 Slot2 PCI-E 3.0 x8
8	CPU2
9	InfiniBand (FDR) Connector (2028TP-HTFR only)
10	Gigabit LAN1/LAN2 or 10G Base-T Connector (2028TP-HTTR only)
11	S-SATA3: SATA DOM (Disk_On_Module) with Power-pin Connector
12	JSD1: SATA DOM (Device_on_Module) Power Connector
13	P2-DIMMH1/P2-DIMMH2 slot
14	P2-DIMMG1/P1-DIMMG2 slot
15	P1-DIMMA1/P1-DIMMA2 slot
16	P1-DIMMB1/P1-DIMMB2 slot
17	CPU1 (Install CPU1 first)
18	P1-DIMMC1/P1-DIMMC2 slot
19	P1-DIMMD1/P1-DIMMD2 slot

Memory

Processors and their Corresponding Memory Modules

CPU#	Corresponding DIMM Modules							
CPU 1	P1-DIMMA1	P1-DIMMB1	P1-DIMMC1	P1-DIMMD1	P1-DIMMA2	P1-DIMMB2	P1-DIMMC2	P1-DIMMD2
CPU 2	P2-DIMME1	P2-DIMMF1	P2-DIMMG1	P2-DIMMH1	P2-DIMME2	P2-DIMMF2	P2-DIMMG2	P2-DIMMH2

Processors and Memory Module Population for Optimal Performance

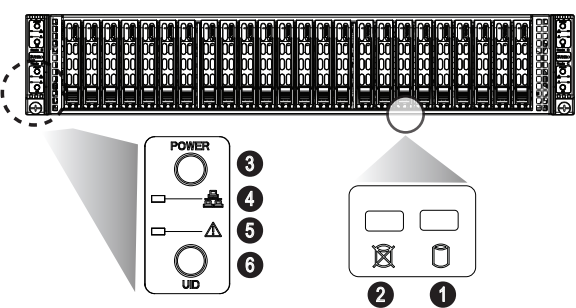| Number of CPUs + DIMMs	CPU and Memory Population Configuration Table (For memory to work properly, follow the instructions below)
1 CPU & 2 DIMMs	CPU1: P1-DIMMA1/P1-DIMMB1
1 CPU & 4 DIMMs	CPU1: P1-DIMMA1/P1-DIMMB1, P1-DIMMC1/P1-DIMMD1
1 CPU & 5~8 DIMMs	CPU1: P1-DIMMA1/P1-DIMMB1, P1-DIMMC1/P1-DIMMD1 + Any memory pairs in P1-DIMMA2/P1-DIMMB2/P1-DIMMC2/P1-DIMMD2 slot
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 & 8~16 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	CPU1 + 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

Populating RDIMM/LRDIMM Memory Modules

Type	Ranks Per DIMM & Data Width	DIMM Capacity (GB)		Speed (MT/s), Voltage (V), Slot per Channel (SPC) and DIMM Per Channel (DPC)			
				1 Slot Per Channel	2 Slots Per Channel		
				1DPC	1DPC	2DPC	
		4Gb	8Gb	1.2V	1.2V	1.2V	
RDIMM	SRx4	8GB	16GB	2133 MHz	2133 MHz	1866 MHz	
RDIMM	SRx8	4GB	8GB	2133 MHz	2133 MHz	1866 MHz	
RDIMM	DRx8	8GB	16GB	2133 MHz	2133 MHz	1866 MHz	
RDIMM	DRx4	16GB	32GB	2133 MHz	2133 MHz	1866 MHz	
LRDIMM	QRx4	32GB	64GB	2133 MHz	2133 MHz	2133 MHz	

Intel E5-2600v3 Series Processor Memory Support

Nodes and Corresponding Hard Drives

Motherboard Drawer Locations in the Chassis	
Motherboard B Controls HDDs B1 to B6	Motherboard D Controls HDDs D1 to D6
Motherboard A Controls HDDs A1 to A6	Motherboard C Controls HDDs C1 to C6
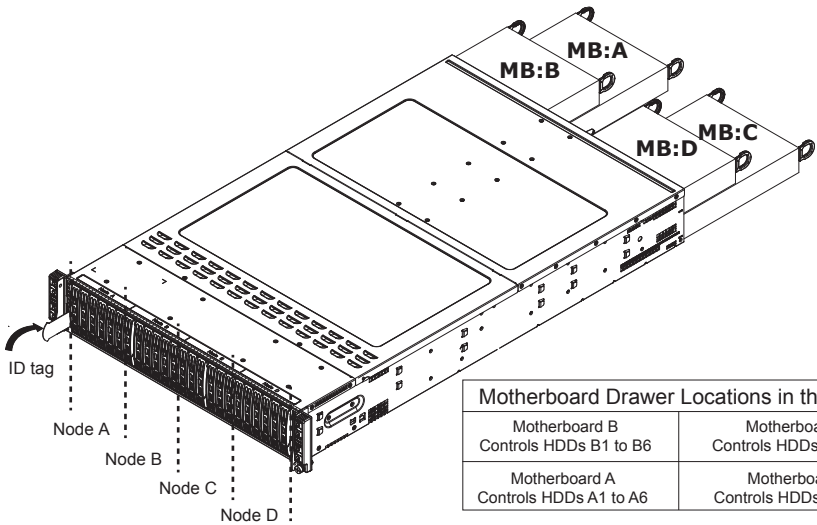
Front view & Interface

No.	Description
1	Hard Drive Signal
2	Hard Drive Fail
3	Power Button
4	LAN LED
5	Alert
6	UID Button

Rear View
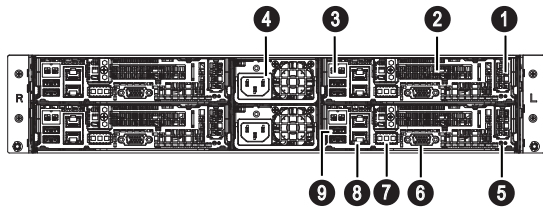
No.	Description
1	0 Slot
2	Low-Profile PCI-E Slot
3	IPMI LAN Port
4	Power Supply Module
5	UID Button
6	VGA Connector
7	InfiniBand Port (2028TP-HTFR only)
8	G_LAN or 10G Base-T Connector (2028TP-HTTR only)
9	USB Ports

Beep Codes

BIOS Beep Codes

Beep Code/LED	Message	Description
1 beep	Refresh	Circuits have been reset. (Ready to power up)
5 short beeps + 1 long beep	Memory Error	No memory detected
5 beeps and 2 short beeps	Display memory read/write error	Video adapter missing or with faulty memory
1 continuous beep	System Overheat	System Overheat

CPU Installation

Align CPU to socket; install CPU straight down

⚠ NOTE: Do not bend pin inside socket
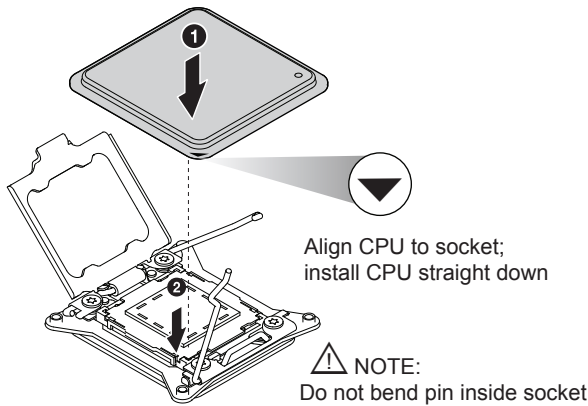
Heatsink Installation
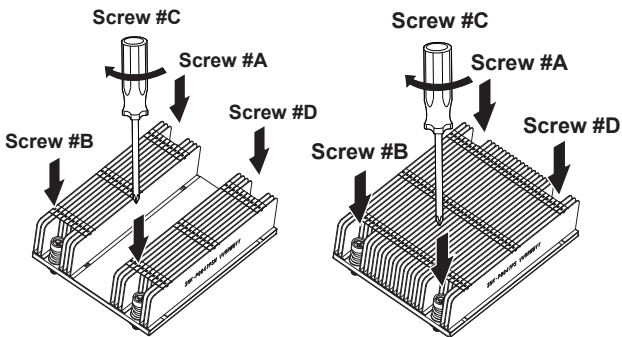
SNK-P0047PSM for CPU1 (Close to fan)

SNK-P0057PS for CPU2

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: A, C, B, D).
4. Note: Only use 6-8 lb/f 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