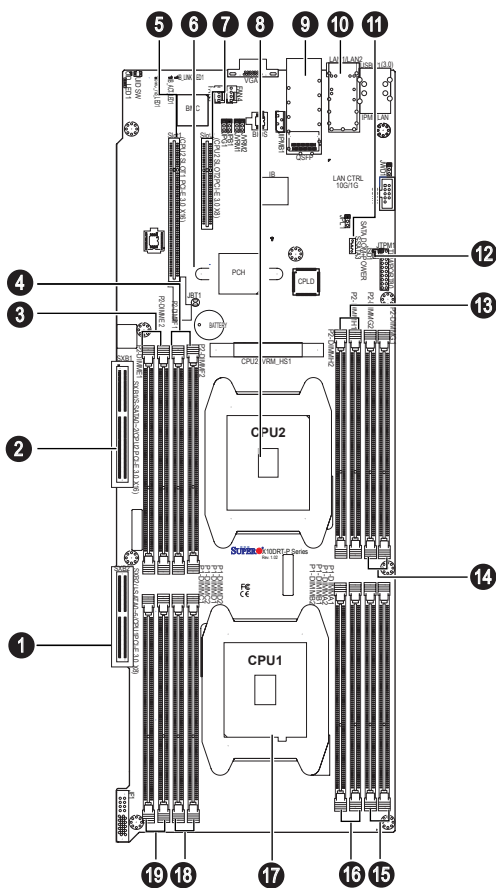


SUPERMICR® SuperServer 2028TP-DC1R/DC1TR/DC1FR Quick Reference Guide

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-DC1FR only)                |
| 10  | Gigabit LAN1/LAN2 or 10G Base-T Connector (2028TP-DC1TR 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

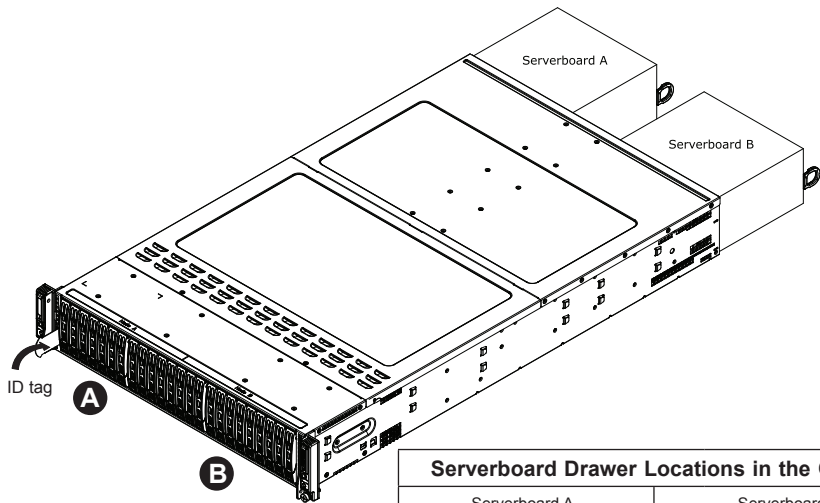
| Processors and their Corresponding Memory Modules |                            |           |           |           |           |           |           |           |
|---------------------------------------------------|----------------------------|-----------|-----------|-----------|-----------|-----------|-----------|-----------|
| 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

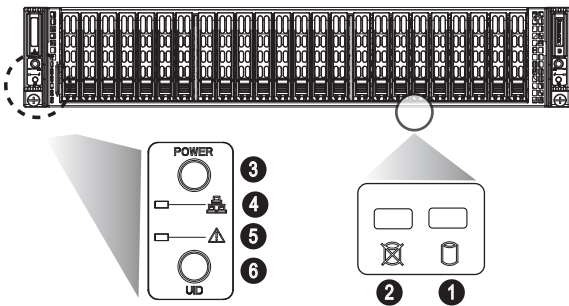
| Intel E5-2600v3 Series Processor Memory Support |                             |                    |      |                                                                              |          |                     |
|-------------------------------------------------|-----------------------------|--------------------|------|------------------------------------------------------------------------------|----------|---------------------|
| 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            |

Nodes and Corresponding Hard Drives



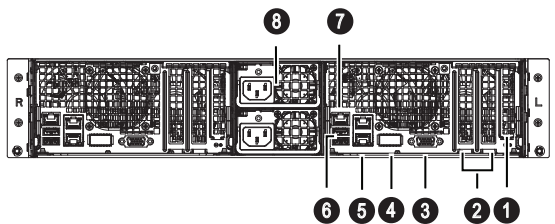
| Serverboard Drawer Locations in the Chassis   |                                               |
|-----------------------------------------------|-----------------------------------------------|
| Serverboard A<br>Controls HDDs A1 through A12 | Serverboard B<br>Controls HDDs B1 through B12 |

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

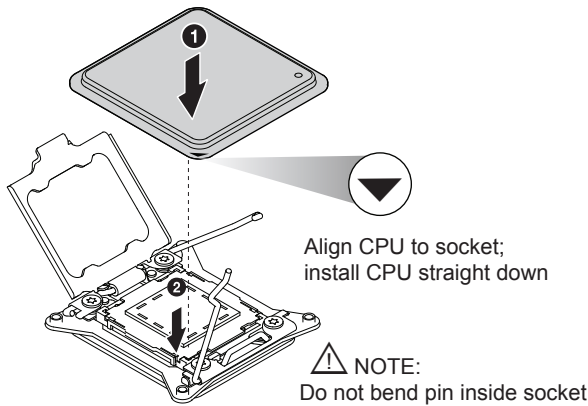


| No. | Description                                       |
|-----|---------------------------------------------------|
| 1   | 0 Slot                                            |
| 2   | Low-Profile PCI-E Slot (1x16 & 1x8)               |
| 3   | VGA Connector                                     |
| 4   | InfiniBand Port (2028TP-DC1FR only)               |
| 5   | G_LAN or 10G Base-T Connector (2028TP-DC1TR only) |
| 6   | USB Ports                                         |
| 7   | IPMI LAN Port                                     |
| 8   | Power Supply Module                               |

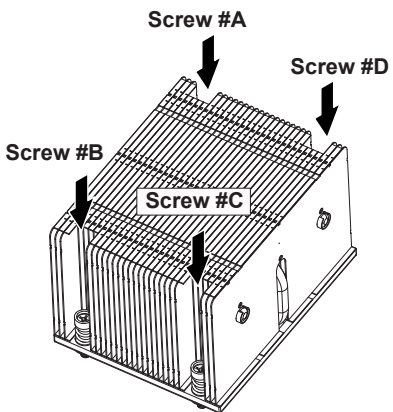
Beep Codes

| 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



Heatsink Installation



- Place the heatsink on top of the installed CPU.
- Align the four screws to the socket.
- Holding the heatsink in place, screw down as shown (cross pattern, in order: A, C, B, D).
- 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](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>

