

# SuperServer 2028TP-HTTR



## Integrated Board



Super X10DRT-PT



## Key Features

Four **hot-pluggable** systems (nodes) in a 2U form factor. Each node supports the following:

1. Dual socket R3 (LGA 2011) supports Intel® Xeon® processor E5-2600 v3 family; QPI up to 9.6GT/s
2. Up to 1TB ECC LRDIMM, 512GB ECC RDIMM, up to 2133MHz; 16x DIMM sockets
3. 1x PCI-E 3.0 x16 Low-profile slot and 1x "0 slot"
4. Intel® X540 Dual port 10GBase-T LAN
5. Integrated IPMI 2.0 with KVM and Dedicated LAN
6. 6x 2.5" Hot-swap SATA HDD Bays
7. 2000W Redundant Power Supplies Titanium Level (96%)

Available Colors:

Black



Note: Image above may show a varied configuration or optional parts. Please refer to parts list for standard parts included.

## Specifications

### Product SKUs

SYS-2028TP-HTTR ■ SuperServer 2028TP-HTTR (Black)

### Motherboard

Super X10DRT-PT

### Processor/Cache (per Node)

CPU ■ Intel® Xeon® processor E5-2600 v3 family (up to 145W TDP) \*  
 ■ Dual Socket R3 (LGA 2011)

Cores / Cache ■ Up to 18 Cores / Up to 45MB Cache

System Bus ■ QPI up to 9.6 GT/s

Note \* Please contact Supermicro Technical Support for additional information about frequency optimized CPUs and specialized system optimization.

### System Memory (per Node)

■ 16x 288-pin DDR4 DIMM slots

### Chassis

Form Factor ■ 2U Rackmount

Model ■ CSE-217HQ+-R2K04B

### Dimensions and Weight

Width ■ 17.25" (438mm)

Height ■ 3.47" (88mm)

Depth ■ 28.75" (730mm)

Weight ■ Gross Weight: 90 lbs (40.9kg)  
 ■ Net Weight: 72 lbs (32.7 kg)

Available Colors ■ Black

### Front Panel

Buttons ■ Power On/Off button  
 ■ UID button

LEDs ■ Power status LED  
 ■ HDD activity LED  
 ■ 2x Network activity LEDs  
 ■ Universal Information (UID) LED

### Expansion Slots (per Node)

|                 |                                                                                                           |
|-----------------|-----------------------------------------------------------------------------------------------------------|
| Memory Capacity | <ul style="list-style-type: none"> <li>Up to 1TB ECC LRDIMM, 512GB ECC RDIMM</li> </ul>                   |
| Memory Type     | <ul style="list-style-type: none"> <li>2133/1866/1600MHz ECC DDR4 SDRAM 72-bit</li> </ul>                 |
| DIMM Sizes      | <ul style="list-style-type: none"> <li>RDIMM: 32GB, 16GB, 8GB, 4GB</li> <li>LRDIMM: 64GB, 32GB</li> </ul> |
| Memory Voltage  | <ul style="list-style-type: none"> <li>1.2 V</li> </ul>                                                   |
| Error Detection | <ul style="list-style-type: none"> <li>Corrects single-bit errors</li> </ul>                              |

#### On-Board Devices

|                     |                                                                                                                                                                                                                                                                     |
|---------------------|---------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------|
| Chipset             | <ul style="list-style-type: none"> <li>Intel® C612 chipset</li> </ul>                                                                                                                                                                                               |
| SATA                | <ul style="list-style-type: none"> <li>SATA3 (6Gbps); RAID 0, 1, 5, 10</li> </ul>                                                                                                                                                                                   |
| IPMI                | <ul style="list-style-type: none"> <li>Support for Intelligent Platform Management Interface v.2.0</li> <li>IPMI 2.0 with virtual media over LAN and KVM-over-LAN support</li> <li>ASPEED AST2400 BMC</li> </ul>                                                    |
| Network Controllers | <ul style="list-style-type: none"> <li>Intel® X540 Dual port 10GBase-T</li> <li>Virtual Machine Device Queues reduce I/O overhead</li> <li>Supports 10GBASE-T, 100BASE-TX, and 1000BASE-T, RJ45 output</li> <li>1x Realtek RTL8201N PHY (dedicated IPMI)</li> </ul> |
| Graphics            | <ul style="list-style-type: none"> <li>ASPEED AST2400 BMC</li> </ul>                                                                                                                                                                                                |

#### Input / Output (per Node)

|                      |                                                                                                                    |
|----------------------|--------------------------------------------------------------------------------------------------------------------|
| SATA                 | <ul style="list-style-type: none"> <li>6x SATA3 (6Gbps) ports</li> </ul>                                           |
| LAN                  | <ul style="list-style-type: none"> <li>2x RJ45 10GBase-T ports</li> <li>1x RJ45 Dedicated IPMI LAN port</li> </ul> |
| USB                  | <ul style="list-style-type: none"> <li>2x USB 3.0 ports total (2x rear)</li> </ul>                                 |
| VGA                  | <ul style="list-style-type: none"> <li>1x VGA port</li> </ul>                                                      |
| Serial Port / Header | <ul style="list-style-type: none"> <li>1x Fast UART 16550 port / 1 Header (internal)</li> </ul>                    |
| Others               | <ul style="list-style-type: none"> <li>1x <a href="#">SATADOM</a> support on the motherboard</li> </ul>            |

|             |                                                                                                                                                                                                    |
|-------------|----------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------|
| PCI-Express | <ul style="list-style-type: none"> <li>1x PCI-E 3.0 x16 Low-profile slot</li> </ul>                                                                                                                |
| 0 Slot      | <ul style="list-style-type: none"> <li>1x "0 slot" (x16)</li> <li><a href="#">Compatible Listing</a></li> </ul> <p>(Both CPUs need to be installed for full access to PCI-E slots and 0 slot.)</p> |

#### Drive Bays (per Node)

|          |                                                                                       |
|----------|---------------------------------------------------------------------------------------|
| Hot-swap | <ul style="list-style-type: none"> <li>6x 2.5" Hot-swap SAS/SATA HDD trays</li> </ul> |
|----------|---------------------------------------------------------------------------------------|

#### System Cooling

|      |                                                                                                             |
|------|-------------------------------------------------------------------------------------------------------------|
| Fans | <ul style="list-style-type: none"> <li>4x 8cm heavy duty PWM fans with optimal fan speed control</li> </ul> |
|------|-------------------------------------------------------------------------------------------------------------|

#### Power Supply with Digital Switching Control

|                                                                     |                                                                                                                                                                                                                                                 |
|---------------------------------------------------------------------|-------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------|
| 2000W Titanium Level (96%) High-efficiency Redundant Power Supplies |                                                                                                                                                                                                                                                 |
| Total Output Power                                                  | <ul style="list-style-type: none"> <li>1000W/1800W/1980W/2000W</li> </ul>                                                                                                                                                                       |
| AC Input                                                            | <ul style="list-style-type: none"> <li>100-127 V, 50-60 Hz</li> <li>200-220 V, 50-60 Hz</li> <li>220-230 V, 50-60 Hz</li> <li>230-240 V, 50-60 Hz</li> </ul>                                                                                    |
| +12V                                                                | <ul style="list-style-type: none"> <li>Max: 83.3A &amp; Min: 0A (100Vac-127Vac)</li> <li>Max: 150A &amp; Min: 0A (200Vac-220Vac)</li> <li>Max: 165A &amp; Min: 0A (220Vac-230Vac)</li> <li>Max: 166.7A &amp; Min: 0A (230Vac-240Vac)</li> </ul> |
| 5V SB                                                               | <ul style="list-style-type: none"> <li>Max: 1A / Min: 0A</li> </ul>                                                                                                                                                                             |

|               |                                                                                                                                                                                                                            |
|---------------|----------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------|
| Certification |   Titanium Level [ <a href="#">Test Report</a> ] |
|---------------|----------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------|

#### System BIOS

|               |                                                                                                                                                                                                 |
|---------------|-------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------|
| BIOS Type     | <ul style="list-style-type: none"> <li>128Mb SPI Flash EEPROM with AMI BIOS</li> </ul>                                                                                                          |
| BIOS Features | <ul style="list-style-type: none"> <li>Plug and Play (PnP)</li> <li>APM 1.2</li> <li>PCI 2.2</li> <li>ACPI 1.0 / 2.0</li> <li>USB Keyboard support</li> <li>SMBIOS 2.3</li> <li>UEFI</li> </ul> |

#### Operating Environment / Compliance

|                     |                                                                                                                                                                                                                                                                                                               |
|---------------------|---------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------|
| RoHS                | <ul style="list-style-type: none"> <li>RoHS Compliant</li> </ul>                                                                                                                                                                                                                                              |
| Environmental Spec. | <ul style="list-style-type: none"> <li>Operating Temperature: 10°C to 35°C (50°F to 95°F)</li> <li>Non-operating Temperature: -40°C to 70°C (-40°F to 158°F)</li> <li>Operating Relative Humidity: 8% to 90% (non-condensing)</li> <li>Non-operating Relative Humidity: 5% to 95% (non-condensing)</li> </ul> |

## Parts List

### Parts List - (Items Included)

|                              | Part Number                                | Qty | Description                                                                                                                                                                |
|------------------------------|--------------------------------------------|-----|----------------------------------------------------------------------------------------------------------------------------------------------------------------------------|
| <b>Motherboard / Chassis</b> | MBD-X10DRT-PT                              | 4   | Super X10DRT-PT Motherboards                                                                                                                                               |
|                              | CSE-217HQ+-R2K04B                          | 1   | 2U Chassis                                                                                                                                                                 |
| <b>Backplane</b>             | BPN-SAS3-217HQ                             | 1   | ,RoHS/REACH,PBF 2U Twin Square Backplane, support 24 SAS3/SATA3 HDD (2.5") with Hot Swapping. Per node for 6 HDDs. PWM fan control, HDD spin up and failure LED supported. |
| <b>Backplane</b>             | BPN-ADP-6SATA3P                            | 4   | Backplan adapter card; 6SATA ports,RoHS/REACH,PBF                                                                                                                          |
| <b>Label</b>                 | LBL-0108                                   | 1   | CAUTION LABEL FOR REDUNDANT PWR SYSTEMS                                                                                                                                    |
| <b>Manual</b>                | MNL-1662-QRG                               | 1   | 2028TP-HTR/HTTR/HTFR, QRG                                                                                                                                                  |
| <b>Riser Card</b>            | RSC-R1UTP-E16R                             | 4   | ,RoHS/REACH,PBF                                                                                                                                                            |
| <b>Heatsink / Retention</b>  | SNK-P0057PS                                | 4   | 1U High Performance Passive CPU Heat Sink for X9, X10 Systems Equipped w/ a Narrow ILM MB                                                                                  |
| <b>Heatsink / Retention</b>  | SNK-P0047PSM                               | 4   | 1U Passive Front CPU Heat Sink w/ a Middle Air Channel for X9, X10 2U Twin^2+ and Twin Pro^2 Series Servers                                                                |
| <b>Air Shroud</b>            | MCP-310-21703-0B<br>or<br>MCP-310-21702-0B | 4   | TwinPro 217HQ+/827HQ+ X10 plastic air shroud<br>or<br>TwinPro 217HQ+/827HQ+ X10 mylay air shroud                                                                           |
| <b>Power Supply</b>          | PWS-2K04A-1R<br>or<br>PWS-2K02P-1R         | 2   | 2000W Redundant Titanium Level Power Supplies<br>or<br>2000W Redundant Platinum Level Power Supplies                                                                       |

### Optional Parts List

|                               | Part Number                | Qty | Description                                      |
|-------------------------------|----------------------------|-----|--------------------------------------------------|
| <b>Onsite Service Program</b> | <a href="#">OS4HR3/2/1</a> | -   | 3/2/1-year onsite 24x7x4 service                 |
| <b>Onsite Service Program</b> | <a href="#">OSNBD3/2/1</a> | -   | 3/2/1-year onsite NBD service                    |
| <b>Software</b>               | SFT-OOB-LIC                | 4   | OOB Management Package (per node license)        |
| <b>Software</b>               | SFT-DCMS-Single            | 4   | DataCenter Management Package (per node license) |