

SuperServer 2028TR-HTR



Integrated Board



Super X10DRT-H

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 v4[†]/ v3 family; QPI up to 9.6GT/s
2. Up to **1TB[†]** ECC 3DS LRDIMM , up to DDR4- **2400[†]**MHz ; 8x DIMM slots
3. 1x PCI-E 3.0 x16 (LP) slot
4. Intel® i350 Dual port GbE LAN
5. 6x 2.5" Hot-swap SATA3 drive bays
6. 1600W Redundant Power Supplies
Titanium Level
7. 2x SATA DOM

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

Specifications

Product SKUs

- SYS-2028TR-HTR** ■ SuperServer 2028TR-HTR (**Black**)

Motherboard

Super X10DRT-H

Processor/Cache

- CPU** ■ Intel® Xeon® processor E5-2600 v4[†]/ v3 family (up to 145W TDP) *
■ Dual Socket R3 (LGA 2011)

- Cores / Cache** ■ Up to **22 Cores[†]** / Up to **55MB[†]** Cache

- System Bus** ■ QPI up to 9.6 GT/s

- Note** [†] BIOS version 2.0 or above is required

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

System Memory

- Memory Capacity** ■ 8x 288-pin DDR4 DIMM slots
■ Up to 1TB[†] ECC 3DS LRDIMM, 256GB ECC RDIMM

Chassis

- Form Factor** ■ 2U Rackmount

- Model** ■ **CSE-217HQ-R1K68B**

Dimensions and Weight

- Width** ■ 17.25" (438mm)

- Height** ■ 3.47" (88mm)

- Depth** ■ 28.5" (724mm)

- Package** ■ 26.4" (H) x 11.2" (W) x 39.8" (D)

- Weight** ■ Gross Weight: 85 lbs (38.6kg)
■ Net Weight: 54.5 lbs (24.7 kg)

- Available Colors** ■ Black

Front Panel

- Buttons** ■ Power On/Off button
■ System Reset button
■ UID button

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

Expansion Slots (per Node)

- PCI-Express** ■ 1x PCI-E 3.0 (x16) Low-profile slot

| | |
|------------------------|--|
| Memory Type | <ul style="list-style-type: none"> 2400⁺/2133/1866/1600MHz ECC DDR4 SDRAM 72-bit |
| DIMM Sizes | <ul style="list-style-type: none"> RDIMM: 32GB, 16GB, 8GB, 4GB LRDIMM: 64GB, 32GB 3DS LRDIMM: 128GB |
| Memory Voltage | <ul style="list-style-type: none"> 1.2 V |
| Error Detection | <ul style="list-style-type: none"> Corrects single-bit errors |

On-Board Devices

| | |
|----------------------------|---|
| Chipset | <ul style="list-style-type: none"> Intel® C612 chipset |
| SATA | <ul style="list-style-type: none"> SATA3 (6Gbps) with RAID 0, 1, 5, 10 Support for Intelligent Platform Management Interface v.2.0 |
| IPMI | <ul style="list-style-type: none"> IPMI 2.0 with virtual media over LAN and KVM-over-LAN support ASPEED AST2400 BMC |
| Network Controllers | <ul style="list-style-type: none"> Intel® i350 Dual Port Gigabit Ethernet Virtual Machine Device Queues reduce I/O overhead Supports 10BASE-T, 100BASE-TX, and 1000BASE-T, RJ45 output 1x Realtek RTL8201N PHY (dedicated IPMI) |
| Video | <ul style="list-style-type: none"> ASPEED AST2400 BMC |

Input / Output (per Node)

| | |
|-------------------|---|
| Serial ATA | <ul style="list-style-type: none"> 8x SATA3 (6Gbps) ports |
| LAN | <ul style="list-style-type: none"> 2x RJ45 Gigabit Ethernet LAN ports 1x RJ45 Dedicated IPMI LAN port |
| USB | <ul style="list-style-type: none"> 2x USB 3.0 ports (rear) |
| Video | <ul style="list-style-type: none"> 1x VGA port |

Drive Bays (per Node)

| | |
|-----------------|---|
| Hot-swap | <ul style="list-style-type: none"> 6x 2.5" Hot-swap SATA3 drive bays |
|-----------------|---|

System Cooling

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

Power Supply

1600W Redundant Titanium Level Single Output Power Supplies

| | |
|-----------------|---|
| AC Input | <ul style="list-style-type: none"> 800W Output @ 100-140V, 7-10A, 50-60Hz 1600W Output @ 180-240V, 8-11A, 50-60Hz |
|-----------------|---|

| | |
|------------------|--|
| DC Output | <ul style="list-style-type: none"> 800W: +12V/67A, +5Vsb/1A 1600W: +12V/133A, +5Vsb/1A |
|------------------|--|

Certification



Titanium Level
[[Test Report](#)]

System BIOS

| | |
|------------------|--|
| BIOS Type | <ul style="list-style-type: none"> 128Mb SPI Flash EEPROM with AMI BIOS |
|------------------|--|

| | |
|----------------------|---|
| BIOS Features | <ul style="list-style-type: none"> Plug and Play (PnP) APM 1.2 PCI 2.2 ACPI 1.0 / 2.0 USB Keyboard support SMBIOS 2.3 UEFI |
|----------------------|---|

Operating Environment / Compliance

| | |
|-------------|--|
| RoHS | <ul style="list-style-type: none"> RoHS Compliant |
|-------------|--|

Environmental Spec.

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

Parts List

Parts List - (Items Included)

| | Part Number | Qty | Description |
|------------------------------|------------------|-----|--|
| Motherboard / Chassis | MBD-X10DRT-H | 4 | Super X10DRT-H Motherboard |
| | CSE-217HQ-R1K68B | 1 | 2U Chassis |
| Air Shroud | MCP-310-82715-0B | 4 | Plastic air shroud for SC827H/HQ,217HQ, X9 DP |
| Backplane | BPN-SAS-217HQ | 1 | Support 24x2.5ö SAS/SATA hard drives |
| Backplane | BPN-ADPX9-6SATA | 4 | 6-PORT SATA ADAPTER FOR TWIN |
| Cable 1 | CBL-0473L | 8 | 21cm 30AWG SATA S-S cable |
| Label | LBL-0108 | 1 | CAUTION LABEL FOR REDUNDANT PWR SYSTEMS |
| Manual | MNL-1691-QRG | 1 | MNL-SYS-2028TR-H72R/H72FR,QRG |
| Riser Card | RSC-R1UTP-E16R | 4 | ,RoHS/REACH,PBF |
| Heatsink / Retention | SNK-P0047PW | 4 | 1U Passive Custom Rear CPU Heat Sink for X9, X10 1U Twin, 2U Twin^2 8-DIMM per Node Series Servers |
| Heatsink / Retention | SNK-P0047PS | 4 | 1U Passive CPU Heat Sink for X9, X10 Systems Equipped w/ a Narrow ILM MB |
| Power Supply | PWS-1K68A-1R | 2 | 1U 1600W Redundant Titanium Power Supply 76mm width 27Pair,PBF |

| Optional Parts List | | | |
|-------------------------------|------------------------------|-----|---|
| | Part Number | Qty | Description |
| Onsite Service Program | OS4HR3/2/1 | - | 3/2/1-year onsite 24x7x4 service |
| Onsite Service Program | OSNBD3/2/1 | - | 3/2/1-year onsite NBD service |
| Software | SFT-OOB-LIC | 1 | OOB Management Package (per node license) |
| Software | SFT-DCMS-Single | 1 | DataCenter Management Package (per node license) |
| SuperDOM | - | - | Supermicro SATA DOM Solutions [Details] |
| Network Card(s) | AOC-S40G-i2Q | - | Standard LP 2-port 40GbE controller, based on Intel Fortville XL710 |
| | AOC-SGP-i2 | - | Standard LP, 2x GbE RJ45, PCI-E x4, Intel i350AM2 |
| | AOC-SGP-i4 | - | Standard LP, 4x GbE RJ45, PCI-E x4, Intel i350 |
| | AOC-STG-b4S | - | Standard LP, 4x 10GbE SFP+, PCI-E x8, Broadcom BCM57840S |
| | AOC-STGN-i2S | - | Standard LP, 2x 10GbE SFP+, PCI-E x8, Intel 82599ES |
| | AOC-STGN-i1S | - | Standard LP, 1x 10GbE SFP+, PCI-E x8, Intel 82599EN |
| | AOC-STG-i2T | - | Standard LP, 2x 10GbE RJ45, PCI-E x8, Intel X540 |
| | AOC-STG-i2 | - | Standard LP, 2x 10GbE CX4, PCI-E x8, Intel 82598EB |