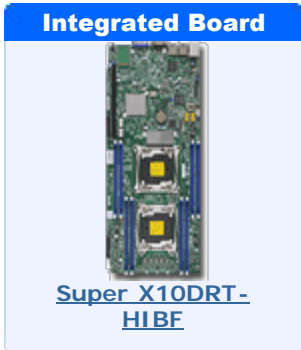


SuperServer 2028TR-HTFR



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. Single port IB (FDR, 56Gbps), w/ QSFP connector
5. Intel® i350 Dual port GbE LAN
6. 6x 2.5" Hot-swap SATA3 drive bays
7. 1600W Redundant Power Supplies
Titanium Level
8. 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-HTFR	▪ SuperServer 2028TR-HTFR (Black)
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Motherboard

Super X10DRT-HIBF

Processor/Cache

CPU	▪ Intel® Xeon® processor E5-2600 v4 [†] / v3 family (up to 145W TDP) * ▪ Dual Socket R3 (LGA 2011)
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Cores / Cache	▪ Up to 22 Cores[†] / Up to 55MB[†] Cache
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System Bus	▪ QPI up to 9.6 GT/s
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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
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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)

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
Infiniband	<ul style="list-style-type: none"> Mellanox ConnectX-3 FDR Infiniband 56Gbps Controller
SATA	<ul style="list-style-type: none"> SATA3 (6Gbps) with RAID 0, 1, 5, 10
IPMI	<ul style="list-style-type: none"> Support for Intelligent Platform Management Interface v.2.0 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)

Infiniband	<ul style="list-style-type: none"> 1x external QSFP Infiniband connector
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

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

Drive Bays (per Node)

Hot-swap 6x 2.5" Hot-swap SATA3 drive bays

System Cooling

Fans 4x 8cm heavy duty fans with PWM fan speed control

Power Supply

1600W Redundant Titanium Level Single Output Power Supplies

AC Input

- 800W Output @ 100-140V, 7-10A, 50-60Hz
- 1600W Output @ 180-240V, 8-11A, 50-60Hz

DC Output

- 800W: +12V/67A, +5Vsb/1A
- 1600W: +12V/133A, +5Vsb/1A

Certification



Titanium Level
[[Test Report](#)]

System BIOS

BIOS Type 128Mb SPI Flash EEPROM with AMI BIOS

BIOS Features

- 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 RoHS Compliant

Environmental Spec.

- 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-HIBF	4	Super X10DRT-HIBF 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