

BigTwin SuperServer SYS-220BT-DNC8R (Complete System Only)

NEW



Key Applications

- All-Flash Hyperconverged Infrastructure
- All-Flash Storage Area Network
- All-Flash Object Storage

Key Features

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

1. Socket P+ (LGA 4189) support 3rd Gen Intel® Xeon® Scalable processors

2. Intel® C621A

3. 20 DIMM Slots (16 DIMM Slots + 4 Intel® Optane™ Persistent Memory Slots)

4. 1 PCI-E 4.0 x16 (LP) slot;
1 PCI-E 4.0 x8 (LP) slot;
Tool-less support
Internal PCI-E 3.0 x8 for 2 M.2 NVMe/SATA support onboard
Optional NVMe Boot Controller via AOC-SMG3-2M2-B

5. Network connectivity via AIOM (OCP 3.0 compliant)

6. 12 Hot-swap 2.5" drive bays; 12 PCI-E 4.0 NVMe/SAS/SATA 2.5" drives

7. 2 cooling fans per node, 16.5K RPM
Liquid Cooling Support

8. 2200W Redundant Power Supplies Titanium Level (96%+); Shared Power Design

Specifications

Product SKUs

SYS-220BT-DNC8R	▪ SuperServer SYS-220BT-DNC8R (Black)
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Motherboard

Super X12DPT-B6

Processor (per Node)

CPU	▪ Dual Socket P+ (LGA 4189) ▪ 3rd Gen Intel® Xeon® Scalable processors ▪ Support CPU TDP 270W *
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Cores	▪ 40C/80T
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Note	▪ *Certain CPUs with high TDP may be supported only under specific conditions. Please contact Supermicro Technical Support for additional information about specialized system optimization
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System Memory (per Node)

Memory	▪ Memory Capacity: 16 DIMM slots (16 DRAM + 4 PMem) ▪ Up to 4TB: 16x 256 GB DRAM ▪ Up to 6TB: 8x 256 GB DRAM and 8x 512 GB PMem ▪ Memory Type: 3200MHz ECC DDR4 RDIMM ▪ Intel® Optane™ persistent memory 200 series
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On-Board Devices (per Node)

SAS	▪ SAS3 (12Gbps) via Broadcom® 3816 (IT mode)
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Chipset	▪ Intel® C621A
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Network Connectivity	▪ Via AIOM
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IPMI	▪ Support for Intelligent Platform Management Interface v.2.0 ▪ IPMI 2.0 with virtual media over LAN and KVM-over-LAN support
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Input / Output (per Node)

LAN	▪ 1 RJ45 Dedicated BMC LAN port
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USB	▪ 2 USB 3.0 port(s) (2 rear)
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Video	▪ 1 VGA port(s)
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Others	▪ M.2 for boot drive only
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System BIOS

Chassis

Form Factor	▪ 2U Rackmount
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Model	▪ CSE-217BD-000NP
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Dimensions and Weight

Height	▪ 3.47" (88mm)
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Width	▪ 17.68" (449mm)
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Depth	▪ 28.75" (730mm)
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Package	▪ 9.76" (H) x 24.65" (W) x 45.28" (D)
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Weight	▪ Net Weight: 54.5 lbs (24.7 kg) ▪ Gross Weight: 85 lbs (38.6 kg)
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Available Color	▪ Black
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Front Panel

Buttons	▪ Power On/Off button ▪ UID button
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LEDs	▪ HDD activity LED ▪ Network activity LEDs ▪ Power status LED ▪ Universal Information (UID) LED
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Expansion Slots (per Node)

PCI-Express (PCI-E)	▪ Slot 2: PCI-E 4.0 x8 LP ▪ Slot 3: PCI-E 4.0 x16 LP ▪ Internal Slot: M.2
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Drive Bays / Storage (per Node)

Hot-swap	▪ 12x 2.5" hot-swap NVMe/SATA/SAS drive bays (12x 2.5" NVMe hybrid)
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M.2	▪ 2 M.2 NVMe OR 2 M.2 SATA3
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System Cooling

Fans	▪ 4x 16.5K RPM Heavy Duty 8cm Fan(s)
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Power Supply

1U 2200W Redundant Power Supply Titanium, 45(W) X 40(H) X 48

Total Output Power	▪ 2200W : 100 - 240 Vac ▪ 2090W : 230 - 240 Vdc for CCC only
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Dimension (W x H x L)	▪ 45 x 40 x 480 mm
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BIOS Type ■ AMI 32MB Flash ROM

Management

Software

- Supemicro Out of Band (OOB) License (Included per Node)
- SuperCloud Composer
- SSM
- Intel® Node Manager
- SPM
- KVM with dedicated LAN
- IPMI 2.0
- SUM
- Watch Dog
- SuperDoctor® 5

Power Configurations ■ ACPI / APM Power Management

PC Health Monitoring

CPU

- 7+1 Phase-switching voltage regulator
- Monitors for CPU Cores, Chipset Voltages, Memory.

FAN

- Fans with tachometer monitoring
- Pulse Width Modulated (PWM) fan connectors
- Status monitor for speed control

Temperature ■ Monitoring for CPU and chassis environment

AC Input

- 1200W: 100-127Vac / 50-60Hz
- 2090W: 180-220Vac (for UL/cUL only)
- 1800W: 200-220Vac / 50-60Hz
- 1980W: 220-230Vac / 50-60Hz
- 2200W: 220-240Vac (for UL/cUL only)
- 2090W: 230-240Vac / 50-60Hz
- 2090W: 230-240Vdc (for CCC only)

+12V

- Max: 100A / Min: 0A (100-127Vac)
- Max: 150A / Min: 0A (200-220Vac)
- Max: 165A / Min: 0A (220-230Vac)
- Max: 174.17A / Min: 0A (180-220Vac, UL/cUL only)
- Max: 174.17A / Min: 0A (230-240Vac)
- Max: 174.17A / Min: 0A (230-240Vdc, CCC only)
- Max: 183.33A / Min: 0A (220-240Vac, UL/cUL only)

12V SB ■ Max: 2.1A / Min: 0A

Certification



Titanium Level

[Test Report]

Operating Environment

RoHS ■ RoHS Compliant

Environmental Spec.

- Operating Temperature: 10°C ~ 35°C (50°F ~ 95°F)
- Non-operating Temperature: -40°C to 60°C (-40°F to 140°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-X12DPT-B6	2	Super X12DPT-B6 Motherboard
	CSE-217BD-000NP	1	2U Chassis
Add-on Card / Module	AOC-S3816L-L16IT-P	2	16 int 12Gb/s SAS3 ports, x8 Gen4, HBA - LP, 122 HDD w/ exp,RoHS
Add-on Card / Module	AOC-SMG3-2H8M2-BW-P	2	2x Hybrid M.2 riser carrier card for X12 BigTwin,RoHS
Backplane	BPN-NVME4-217BHQ-S6	1	2U 24-Slot 4-Node BigTwin Backplane Supports up to 6xNVMe4/SAS4/SATA3 per Node
Cable 1	CBL-PWCD-0578-1	2	PWCD,US,IEC60320 C14 TO C13,3FT,14AWG,RoHS
Cable 2	CBL-PWCD-0578-IS	2	PWCD,US,IEC60320 C14 TO C13,910mm,14AWG,15A,250V,Black, RoHS
Cable 3	CBL-SAST-1233F-100	2	Slimline x8 (STR) to Slimline x4 (STR),FFC,FOLD,33.5CM,1
Cable 4	CBL-SAST-1234F-100	2	Slimline x8 (STR) to Slimline x8(STR),FFC,FOLD,33.5CM,10
Drive Tray(s)	MCP-220-00144-0B-BULK	24	Black Gen3 hot-swap 2.5 inch HDD tray with lock, orange tab
Air Shroud	MCP-310-21731-0B	2	BigTwin 2U2N plastic air shroud for X12DPT-B
Riser Card	RSC-P2R-88G4	2	2U RHS TwinPro Riser card with twoPCI-E4.0x8slots,HF,RoH
Storage Controller Card	SCC-P12N12T-B2	2	2U SCC with 12x NVMe & 12x SAS4 for BigTwin X12,HF,RoHS
Software	SFT-OOB-LIC	2	License key for enabling OOB BIOS management
Heatsink / Retention	SNK-P0078PW	2	2U Passive Wide CPU Heatsink (92x113x65mm) for X12 ICX/CPX CPU, Heatpipe
Heatsink / Retention	SNK-P0079P	2	1.5U Passive 55H mm CPU HS for X12 Whitley and Cedar Island
*Power Supply	PWS-2K22A-1R	2	1U 2200W Redundant Power Supply Titanium, 45(W) X 40(H) X 48
*Power Distributor	PDB-PT217-BGTWN	1	2U Big Twin Power Distributor Board Support Redundant 2KW
*FAN 1	FAN-0183L4	4	80x80x38 mm, 16.5K RPM, Non-hot-swappable Middle Cooling Fan for X11 Twin Pro, X10 and X11 Big Twin Series Servers
*Rail Set	MCP-290-00172-0N	1	2U non-tip rail set, quick release, default for 2,3U 17.6";W
*Fan Holder	MCP-320-21702-0N	2	Bigtwin fan holder (with 4.1mm rubber feet)(hold 2 80x38 fans)

Notes:

1. Parts with * are inside the chassis
2. Excessive parts might not be shipped, including but not limited to excessive drive trays, fans, riser brackets, air shrouds, IO shields, cables.....etc.

Optional Parts List			
	Part Number	Qty	Description
M.2 NVMe RAID Controller	<u>AOC-SMG3-2M2-B-P</u>	-	2x M.2 NVMe RAID Controller Card, x8 Gen3
SPI Capable TPM 1.2	<u>AOM-TPM-9671H-S</u>	-	SPI Capable TPM 1.2 Provisioned for Server, Horizontal Form Factor
SPI Capable TPM 2.0	<u>AOM-TPM-9670H-S</u>	-	SPI Capable TPM 2.0 Provisioned for Server, Horizontal Form Factor
SPI Capable TPM 2.0 with FIPS 140-2	AOM-TPM-9670H-FIPS	-	SPI Capable TPM 2.0 Provisioned for Server, Horizontal Form Factor, Supporting FIPS 140-2

SuperCloud Composer License	<u>SFT-SDDC-SINGLE</u>	-	SDDC Monitor License - Single License per Monitored host
System Management Suite	<u>SFT-DCMS-Single</u>	-	Supermicro System Management Software Suite node
VROC Intel SSD Only	<u>AOC-VROCINTMOD</u>	-	Intel VROC, RAID 0, 1, 5, 10 (Intel SSD Only)
VROC Premium	<u>AOC-VROCPREMOD</u>	-	Intel VROC Premium, RAID 0, 1, 5, 10
VROC Standard	<u>AOC-VROCSTNMOD</u>	-	Intel VROC Standard, RAID 0, 1, 10