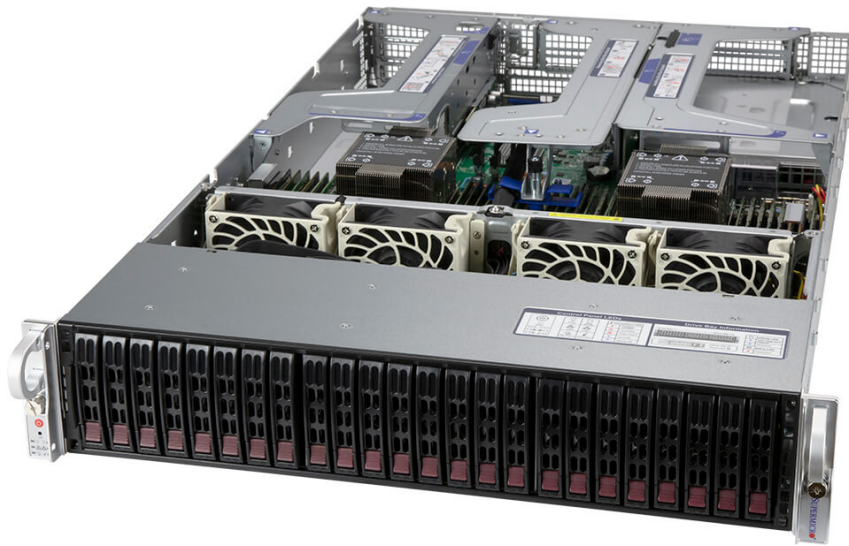


Ultra SuperServer SYS-220U-TNR (Complete System Only)

NEW

Key Applications

- Virtualization
- HPC
- Cloud Computing
- High End Enterprise Server
- Software Defined Storage
- Application Tier Service Provider
- 5G/Telco

Key Features

1. Dual Socket P+ (LGA-4189) 3rd Gen Intel® Xeon® Scalable Processors
2. Intel® C621A Chipset
3. 32 DIMM Slots;
Up to 8TB DRAM;
Up to 8TB Intel® Optane™ Persistent Memory (up to 12TB with DRAM);
3200/2933/2666 ECC DDR4 LRDIMM;RDIMM;
Intel® Optane™ Persistent Memory 200 series
4. 1 internal PCI-E 4.0 x8 (in x16 slot, LP)
1 PCI-E 4.0 x16 (FH, 10.5"L)
1 PCI-E 4.0 x16 (LP)
5 PCI-E 4.0 x8 (FH, 10.5"L)
5. Flexible networking options
6. 22x 2.5" hot-swap hybrid NVMe/SATA/SAS drive bays + 2x2.5" hot-swap SATA/SAS drive bays

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Specifications

Product SKUs

- SYS-220U-TNR** ■ SuperServer SYS-220U-TNR
(Black Front & Silver Body)

Motherboard

Super X12DPU-6

Processor

- CPU** ■ Dual Socket P+ (LGA-4189)
■ 3rd Gen Intel® Xeon® Scalable processors
■ Support CPU TDP 270W *
- Cores** ■ Up to 40C/80T; Up to 60MB Cache
- 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

System Memory

- Memory** ■ Memory Capacity: 32 DIMM slots
■ Up to 8TB: 32x 256 GB DRAM
■ Up to 12TB: 16x 512 GB PMem and 16x 256 GB DRAM
■ Memory Type: 3200/2933/2666MHz ECC DDR4 RDIMM;LRDIMM
■ Intel® Optane™ persistent memory 200 series
- Memory Voltage** ■ 1.2 V
- Error Detection** ■ ECC

On-Board Devices

- SATA** ■ SATA3 (6Gbps) via Intel® PCH 621A; RAID 0/1/5/10 support
- NVMe** ■ NVMe (16GT/s); RAID 0/1/5/10 support
■ NVMe (16GT/s); RAID 0/1/5/10 support
- Chipset** ■ Intel® C621A
- Network Connectivity** ■ 2x 10GbE BaseT with Intel® X710-AT2 (optional) OR
■ 2x 10GbE BaseT and 2x 10GbE SFP+ with Intel® X710-TM4 (optional)
■ No NIC option supported
- IPMI** ■ Support for Intelligent Platform Management Interface v.2.0
■ IPMI 2.0 with virtual media over LAN and KVM-over-LAN support

Input / Output

Chassis

- Form Factor** ■ 2U Rackmount
- Model** ■ CSE-219U3TS-R1K62P-T

Dimensions and Weight

- Height** ■ 3.5" (89mm)
- Width** ■ 17.2" (437mm)
- Depth** ■ 28.2" (717.2mm)
- Package** ■ 9.96" (H) x 24.6" (W) x 45.43" (D)
- Weight** ■ Net Weight: 37 lbs (16.8 kg)
■ Gross Weight: 63 lbs (28.6 kg)
- Available Color** ■ Black Front & Silver Body

Front Panel

- Buttons** ■ Power On/Off
■ UID button
- LEDs** ■ HDD activity
■ LAN1 activity
■ LAN2 activity
■ Power Fail
■ Power status
■ System information (overheat/UID)

Expansion Slots

- PCI-Express (PCI-E)** ■ Slot 1: PCI-E 4.0 x16 FH, 10.5"L
■ Slot 2: PCI-E 4.0 x8 FH, 10.5"L
■ Slot 3: PCI-E 4.0 x8 Internal LP
■ Slot 4: PCI-E 4.0 x16 LP
■ Slot 5: PCI-E 4.0 x8 FH, 10.5"L
■ Slot 6: PCI-E 4.0 x8 FH, 10.5"L
■ Slot 7: PCI-E 4.0 x8 FH, 10.5"L
■ Slot 8: PCI-E 4.0 x8 FH, 10.5"L
- Note** ■ **Optional RSC-W2-66G4 enables PCI-E x16 in slots 5, 7. Slots 6,8 will be disabled.**

Drive Bays / Storage

- Hot-swap** ■ 24x 2.5" hot-swap NVMe/SATA/SAS drive bays (22x 2.5" NVMe hybrid) (SAS/NVMe support requires additional parts. Please see the Optional Parts list.)

System Cooling

- Fans** ■ 4x 8cm heavy duty fans with optimal fan speed control
- Air Shroud** ■ 2 Air Shroud(s)

Power Supply

- 1600W Redundant Power Supplies with PMBus

LAN	<ul style="list-style-type: none"> 1 RJ45 Dedicated BMC LAN port
USB	<ul style="list-style-type: none"> 2 USB 3.0 port(s) (2 rear)
Video	<ul style="list-style-type: none"> 1 VGA port(s)
Serial Port	<ul style="list-style-type: none"> 1 COM Port(s) (1 rear)
DOM	<ul style="list-style-type: none"> 2 SuperDOM (Disk on Module) port

System BIOS



BIOS Type	<ul style="list-style-type: none"> AMI 32MB SPI Flash EEPROM
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Management

Software	<ul style="list-style-type: none"> Supermicro Out of Band (OOB) License (Included with Server) <ul style="list-style-type: none"> Redfish API IPMI 2.0 Intel® Node Manager KVM with dedicated LAN SUM NMI Watch Dog SuperDoctor® 5
Power Configurations	<ul style="list-style-type: none"> ACPI Power Management Power-on mode for AC power recovery

PC Health Monitoring

CPU	<ul style="list-style-type: none"> 7 +1 Phase-switching voltage regulator Monitors for CPU Cores, Chipset Voltages, Memory
FAN	<ul style="list-style-type: none"> Fans with tachometer monitoring Pulse Width Modulated (PWM) fan connectors Status monitor for speed control
Temperature	<ul style="list-style-type: none"> Monitoring for CPU and chassis environment Thermal Control for fan connectors

Dimension (W x H x L)	<ul style="list-style-type: none"> 73.5 x 40 x 203 mm
AC Input	<ul style="list-style-type: none"> 1000W: 100-127Vac / 50-60Hz 1600W: 200-240Vac / 50-60Hz
+12V	<ul style="list-style-type: none"> Max: 83A / Min: 0A (100Vac-127Vac) Max: 133A / Min: 0A (200Vac-240Vac)
12V SB	<ul style="list-style-type: none"> Max: 2.1A / Min: 0A
Output Type	<ul style="list-style-type: none"> AC-Input
Certification	  Titanium Level [Test Report]

Operating Environment

Environmental Spec.	<ul style="list-style-type: none"> 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)
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Parts List

Parts List - (Items Included)

	Part Number	Qty	Description
Motherboard / Chassis	MBD-X12DPU-6	1	Super X12DPU-6 Motherboard
	CSE-219U3TS-R1K62P-T	1	2U Chassis
Backplane	BPN-NVME4-216N-S24	1	2U 24-slot all-hybrid direct-attached backplane, support 24x 2.5
Cable 1	CBL-CDAT-0674	2	4 Pin to 4 Pin I2C Cable, 30cm, 26AWG, 4 Wires, Pinout 1-1
Cable 2	CBL-PWEX-0924	1	2x4,P3.0 to 2x4,P4.2,YL/RED,9.5A,24cm,16AWG,RoHS
Cable 3	CBL-PWEX-0925	2	2x4,P3.0 to 2x4,P4.2,YL/RED,9.5A,55cm,16AWG,RoHS
Cable 4	CBL-SAST-1250F-100	2	Slimline x4 (STR) to Slimline x4 (STR),FFC,INT,50CM,100
Cable 5	CBL-SAST-1270F-100	1	Slimline x4 (STR) to Slimline x4 (STR),FFC,INT,70CM,100
Riser Card	RSC-W2-8888G4	1	2U LHS WIO Riser card with four PCI-E 4.0 x8 slots,HF,RoHS
Riser Card	RSC-WR-6	1	1U RHS WIO Riser card with one PCI-E 4.0 x16 slot,HF,RoHS
Software	SFT-OOB-LIC	1	License key for enabling OOB BIOS management
Heatsink / Retention	SNK-P0078P	2	2U Passive CPU Heat Sink for X12 Generation Intel Whitley and Cedar Island Platforms
*Power Supply	PWS-1K62A-1R	2	AC-DC 1600W, Titanium Level, Redundancy, 1U, DC Output: +12V and +12Vs, 203 x 73.5 x 40 mm, AC Input: 90 - 264 VAC/47-63Hz, PMBus 1.2 with DSP controller,HF,RoHS/REACH
*Cable 6	CBL-0088L	4	10.5" 4PIN FAN POWER CORD FOR 743X-645,PBF
*Cable 7	CBL-0160L	2	US POWER CORD 16AWG, PB FREE
*FAN 1	FAN-0206L4	4	80x80x38 mm, 13.5K RPM, Middle Cooling Fan for 2U and above Servers
*FAN 2	FAN-0209L4	4	80x80x38 mm, 13.5K RPM, Middle Cooling Fan for 2U and above
*Drive Tray(s)	MCP-220-00047-0B	24	Black gen 3rd hot-swap 2.5inch HDD tray
*Rail Set	MCP-290-00057-0N	1	Rail set, quick/quick, default for 4U 17.2" W
*Rail Set	MCP-290-00060-0N	1	Threaded rail adapter default for round hole rack
*Air Shroud	MCP-310-81905-0B	1	Plastic air shroud for SC819U, 119U, 829U, 219U (PWS),RoHS/REACH
*Rail Set	MCP-290-00115-0N	1	Inner rail, quick-release type
*Rail Set	MCP-290-00117-0N	1	Outer rail, quick-release type

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
2 Rear 2.5" Hot-swap SATA Drive Bays (Complete System Only)	MCP-240-82922-0N-OEM • eStore	1	Rear 2x 2.5" HDDs riser bracket kit for SC829U/219U, tool-less
2U Cable Management Arm	MCP-290-00128-0N & MCP-290-00127-0N	1	2U Supermicro Cable Management Arm 2nd Gen (Compatible for racks that are 42" in depth)
2U Front Bezel	MCP-210-82601-0B • eStore	1	Black Front Bezel Suitable for 829U and 219U chassis with standard thumbscrew handle.
Add-on card for M.2 support	AOC-SLG3-2H8M2-O	-	2x Hybrid NVMe/SATA M.2 RAID Carrier, Standard LP,RoHS

CacheVaults	BTR-CVPM05 + BKT-BBU-BRACKET-05	-	CacheVault for Broadcom 3908/3916 with Supercap
	BTR-CV3108-U1	-	CacheVault for Broadcom 3108 with Supercap mounting for 2U Ultra
Drive Tray	MCP-220-00167-0B • eStore	1 ~ 22	2.5 drive tray, Orange tab (for hotswap NVMe drive)
Global Services & Support	<u>OSNBD3/2/1</u>	-	3/2/1-year onsite NBD service
	<u>OS4HR3/2/1</u>	-	3/2/1-year onsite 24x7x4 service
Intel® VROC RAID Key Options	<u>AOC-VROCINTMOD</u>	1	Intel VROC, RAID 0, 1, 5, 10 (Intel SSD Only)
	<u>AOC-VROCPREMOD</u>	1	Intel VROC Premium, RAID 0, 1, 5, 10
	<u>AOC-VROCSTNMOD</u>	1	Intel VROC Standard, RAID 0, 1, 10
Network Card(s)	<u>AOC Compatibility Matrix</u>	-	Standard Networking AOC Matrix
NVMe Support Kit	CBL-KIT-220U-TNR-8	1	8 NVMe Support Kit for X12 Ultra SYS-220U-TNR
	CBL-KIT-220U-TNR-22N + 3 AOC-SLG4-4E4T-O	1	22 NVMe Support Kit for X12 Ultra 220U-TNR without NIC UIO
	CBL-KIT-220U-TNR-22 + 2 AOC-SLG4-2E4T-O + 2 AOC-SLG4-4E4T-O	1	22 NVMe Support Kit for X12 Ultra 220U-TNR with NIC UIO
Optional Storage Controller Card + Cable(s)	<u>AOC-S3108L-H8iR-16DD</u> + 1x CBL-SAST-1260-100 or + 2x CBL-SAST-1285-100 (For system has 22 NVMe Support Kit with NIC UIO)	-	Standard LP, 8 internal ports (12Gb/s) Gen-3; RAID 0, 1, 5, 6, 10, 50, 60
	AOC-S3908L-H8iR-16DD-O + 1x CBL-SAST-1276F-100 or + 1x CBL-SAST-1264F-100 (For system has 22 NVMe Support Kit with NIC UIO)	-	Standard LP, 8 internal ports (12Gb/s) Gen-4; RAID 0, 1, 5, 6, 10, 50, 60
	AOC-S3008L-L8i + 1x CBL-SAST-1260-100 or + 2x CBL-SAST-1285-100 (For system has 22 NVMe Support Kit with NIC UIO)	-	Standard LP, 8 internal ports (12Gb/s) Gen-3; RAID 0,1,1E
	AOC-S3916L-H16iR-32DD-O + 1x CBL-SAST-1264F-100, 1x CBL-SAST-1276F-100 or + 2x CBL-SAST-1264F-100 (For system has 22 NVMe Support Kit with NIC UIO)	-	Standard LP, 16 internal ports (12Gb/s) Gen-4; RAID 0, 1, 5, 6, 10, 50, 60
	AOC-S3008L-L8E+-O + 1x CBL-SAST-1260-100 or + 2x CBL-SAST-1285-100 (For system has 22 NVMe Support Kit with NIC UIO)	-	Standard LP, 8 internal ports (12Gb/s) Gen-3; HBA + I2C
	<u>AOC-S3008L-L8E</u> + 1x CBL-SAST-1260-100 or <u>AOC-S3008L-L8E</u> + 2x CBL-SAST-1285-100 (For system has 22 NVMe Support Kit with NIC UIO)	-	Standard LP, 8 internal ports (12Gb/s) Gen-3; HBA

	AOC-S3808L-L8iIT-O + 1x CBL-SAST-1264F-100 or + 1x CBL-SAST-1264F-100 (For system has 22 NVMe Support Kit with NIC UIO)	-	Standard LP, 8 internal ports (12Gb/s) Gen-4; HBA
	AOC-S3816L-L16iIT-O + 2x CBL-SAST-1264F-100 or + 2x CBL-SAST-1264F-100 (For system has 22 NVMe Support Kit with NIC UIO)	-	Standard LP, 16 internal ports (12Gb/s) Gen-4; HBA
Power Supply	PWS-1K30D-1R • <i>eStore</i>	2	1U 1300W, Redundancy, DC Input: -48Vdc
	PWS-2K08A-1R • <i>eStore</i>	2	1U 2000W, Titanium Level, Redundancy, AC Input: 90-264VAC/47-63Hz, and wide DC input 180Vdc~300Vdc
Riser Card	<u>RSC-W2-688G4</u>	1	2U LHS WIO Riser card with one PCI-E 4.0 x16 and two PCI-E4
	RSC-W2-66G4	1	2U LHS WIO Riser card with two PCI-E 4.0 x16 slots, HF, RoHS
Software	<u>SFT-DCMS-Single</u>	1	DataCenter Management Package (per node license)
Trusted Platform Module Options	AOM-TPM-9671V-O	1	SPI Capable Vertical TPM 1.2 Module
	AOM-TPM-9670V-S-FIPS-P	1	AOM-TPM-9670V-S-FIPS TPM 2.0 support TAA and FIPS, RoHS
	AOM-TPM-9670V-O	1	SPI TPM 2.0 using SLB9670
Ultra Riser Card Options + Rear Window	AOC-2UR68G4-M2TS + MCP-240-82914-0N	1	2U Ultra Riser 2-port 25GbE SFP28, Mellanox CX-6 LX, 1 PCIe 4.0 x8 (in x16), 1 PCIe 4.0 x16 and 1 PCIe 4.0x8 (internal, in x16), RoHS
	AOC-2UR68G4-I4XTS-O + MCP-240-82930-0N	1	2U Ultra Riser with 2-port 10G RJ45 & 2-port 10G SFP+, Intel Carlsville X710-TM4, with 1 PCI-E 4.0 x8 (in x16), 1 PCI-E 4.0 x16 and 1 PCI-E 4.0x8 (internal, in x16), RoHS
	AOC-2UR68G4-I2XT-O + MCP-240-82909-0N	1	2U Ultra Riser with 2-port 10G RJ45, Intel Carlsville X710-TM4, 1 PCI-E 4.0 x8 (in x16), 1 PCI-E 4.0 x16 and 1 PCI-E 4.0x8 (internal, in x16), RoHS
	AOC-2UR668G4-O	1	2U Ultra Riser with 2x PCI-E 4.0 x16 and 1x PCI-E 3.0 x8 (internal), RoHS