

Ultra SuperServer SYS-220U-MTNR (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. 6x 2.5" hot-swap hybrid NVMe/SATA/SAS drive bays

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Specifications

Product SKUs

SYS-220U-MTNR	SuperServer SYS-220U-MTNR (Black Front & Silver Body)
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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
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

LAN	1 RJ45 Dedicated BMC LAN port
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Chassis

Form Factor	2U Rackmount
Model	CSE-219ULTS-R1K62P

Dimensions and Weight

Height	3.5" (89mm)
Width	17.2" (437mm)
Depth	22.6" (574mm)
Package	9.96" (H) x 24.6" (W) x 45.43" (D)
Weight	- Net Weight: 40 lbs (18.2 kg) - Gross Weight: 66 lbs (30 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	6x 2.5" hot-swap NVMe/SATA/SAS drive bays (6x 2.5" NVMe hybrid) (SAS/NVMe support requires additional parts. Please see the Optional Parts list.)
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System Cooling

Fans	6x 6cm heavy duty fans with optimal fan speed control
Air Shroud	2 Air Shroud(s)

Power Supply

1600W Redundant Power Supplies with PMBus

USB	■ 2 USB 3.0 port(s) (2 rear)
Video	■ 1 VGA port(s)
Serial Port	■ 1 COM Port(s) (1 rear)
DOM	■ 2 SuperDOM (Disk on Module) port

System BIOS

BIOS Type	■ AMI 32MB SPI Flash EEPROM
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Management

Software	■ Supermicro Out of Band (OOB) License (Included with Server) ■ Redfish API ■ IPMI 2.0 ■ Intel® Node Manager ■ KVM with dedicated LAN ■ SUM ■ NMI ■ Watch Dog ■ SuperDoctor® 5
Power Configurations	■ ACPI Power Management ■ Power-on mode for AC power recovery

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 ■ Thermal Control for fan connectors

Dimension (W x H x L)	■ 73.5 x 40 x 203 mm
AC Input	■ 1000W: 100-127Vac / 50-60Hz ■ 1600W: 200-240Vac / 50-60Hz
+12V	■ Max: 83A / Min: 0A (100Vac-127Vac) ■ Max: 133A / Min: 0A (200Vac-240Vac)
12V SB	■ Max: 2.1A / Min: 0A
Output Type	■ AC-Input
Certification	  Titanium Level [Test Report]

Operating Environment

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)
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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-219ULTS-R1K62P	1	2U Chassis
Backplane	BPN-NVME4-HE211N-S6	1	1U 6-Slot BPN Supports 6 x SAS3/SATA3/NVMe4 Storage Device,HF,RoHS
Cable 1	CBL-PWEX-1147R-30	1	MicroHi,2x4,PH3.0 to 2x4,RA to MiniFit,PH4.2,30CM,9.5A/
Cable 2	CBL-SAST-1248LP-100	2	Slimline x4 (RE) to SlimlineLP x4 (STR),47CM,100 OHM,Ro
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-P0079P	2	1.5U Passive 55H mm CPU HS for X12 Whitley and Cedar Island
*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
*FAN 1	FAN-0214L4	6	60x60x56 mm, 15.3K-15.3K RPM, Counter-rotating Cooling Fan for 2U Ultra-E Series Servers
*Front Panel	FPB-TB826-T	1	Chassis transfer board for SC826
*Drive Tray(s)	MCP-220-00187-0B	6	2.5 thin profile drive tray, standard color tab, for SC119UH
*Rail Set	MCP-290-00058-0N	1	Short rail set, quick release, 19.6";~26.9"; Extendable Length
*Rail Set	MCP-290-00114-0N	1	Outer rail, short, quick-release
*Rail Set	MCP-290-00116-0N	1	Inner rail, short, 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 	1	Rear 2x 2.5" HDDs riser bracket kit for SC829U/219U, tool-less
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-220-00178-0B	1 ~ 6	2.5 thin profile 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-MTNR	1	Cables Kit for X12 Ultra SYS-220U-MTNR
Optional Storage Controller Card + Cable(s)	AOC-S3008L-L8i + 2x CBL-SAST-1250LP-100	-	Standard LP, 8 internal ports (12Gb/s) Gen-3; RAID 0,1,1E
	AOC-S3008L-L8E+-O + 2x CBL-SAST-1250LP-100	-	Standard LP, 8 internal ports (12Gb/s) Gen-3; HBA + I2C
	<u>AOC-S3008L-L8E</u> + 2x CBL-SAST-1250LP-100	-	Standard LP, 8 internal ports (12Gb/s) Gen-3; HBA
	AOC-S3808L-L8iT-O + 1x CBL-SAST-1253LP-100	-	Standard LP, 8 internal ports (12Gb/s) Gen-4; HBA
	<u>AOC-S3108L-H8iR-16DD</u> + 2x CBL-SAST-1250LP-100	-	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-1253P-100	-	Standard LP, 8 internal ports (12Gb/s) Gen-4; RAID 0, 1, 5, 6, 10, 50, 60
Power Supply	PWS-1K30D-1R • <u>eStore</u>	2	1U 1300W, Redundancy, DC Input: -48Vdc
	PWS-2K08A-1R • <u>eStore</u>	2	1U 2000W, Titanium Level, Redundancy, AC Input: 90-264VAC/47-63Hz, and wide DC input 180Vdc~300Vdc
Riser Card	RSC-W2-66G4	1	2U LHS WIO Riser card with two PCI-E 4.0 x16 slots,HF,RoHS
	<u>RSC-W2-688G4</u>	1	2U LHS WIO Riser card with one PCI-E 4.0 x16andtwoPCI-E4
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-O	1	SPI TPM 2.0 using SLB9670
	AOM-TPM-9670V-S-FIPS-P	1	AOM-TPM-9670V-S-FIPS TPM 2.0 support TAA and FIPS,RoHS
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-2UR668G4-O + MCP-240-82925-0N	1	2U Ultra Riser with 2x PCI-E 4.0 x16 and 1x PCI-E 3.0 x8 (internal),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