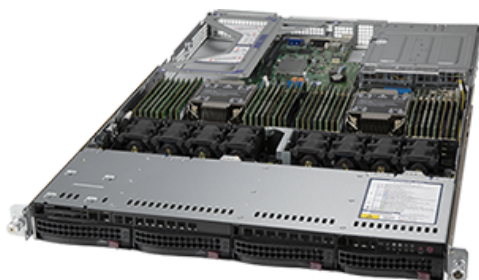


# Ultra SuperServer SYS-610U-TNR



## Key Applications

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

## Key Features

- Dual Socket P+ (LGA-4189) 3rd Gen Intel® Xeon® Scalable Processors;
- Intel® C621A Chipset;
- 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;
- 1 Internal PCI-E 4.0 x16; 2 PCI-E 4.0 x16 (FH, 10.5"L); 1 PCI-E 4.0 x16 (LP);
- Flexible networking options;
- 4x3.5" hot-swap hybrid NVMe/SATA/SAS drive bays;
- 8 heavy duty fans with optimal fan speed control;
- 1200W redundant Titanium level power supplies;

[More details here](#)



<b>Form Factor</b>	1U Rackmount Enclosure: 437 x 43 x 754mm (17.2" x 1.7" x 29.7") Package: 605 x 203 x 950mm (23.81" x 7.99" x 37.4")
<b>Processor</b>	3rd Gen Intel® Xeon® Scalable processors Dual Socket LGA-4189 (Socket P+) supported TDP up to 270W; 3 UPI
<b>Drive Bays</b>	4x 3.5" hot-swap NVMe/SATA/SAS drive bays; 4x 2.5" NVMe hybrid; Optional RAID support via RAID controller AOC
<b>Expansion Slots</b>	Slot 1: PCI-E 4.0 x16 Internal LP Slot 2: PCI-E 4.0 x16 LP Slot 3: PCI-E 4.0 x16 FH, 10.5"L Slot 4: PCI-E 4.0 x16 FH, 10.5"L
<b>On-Board Devices</b>	SATA: SATA3 (6Gbps); 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
<b>Input / Output</b>	LAN: 1 RJ45 Dedicated BMC LAN port 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

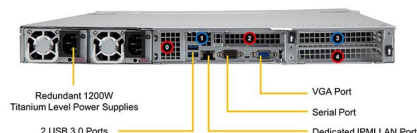
(Front View – System)



Slot	Description
1 - 4	3.5" Hot-swap NVMe/SAS3/SATA3 Drive Bays
5	Slim DVD or 2.5" SSD Bay**
6	Slim Floppy or 2.5" SSD Bay**

\*SAS3 support requires additional parts in optional parts list  
 \*\*DVD, Floppy, or 2.5" SSD support requires additional parts in optional parts list

(Rear View – System)



Slot Description
1 Ultra Riser Networking Slot
2 PCI-E 4.0 x16 Slot (Internal LP)
3 PCI-E 4.0 x16 Slot (LP)
4 PCI-E 4.0 x16 Slot (FH, 10.5" L)
5 PCI-E 4.0 x16 Slot (FH, 10.5" L)

CPU1 CPU2

<b>Cooling System</b>	8x 4cm heavy duty fan(s)
<b>Power Supply</b>	1200W Redundant Power Supplies with PMBus Dimension (W x H x L): 73.5 x 40 x 203 mm Output Type: AC-Input
<b>System BIOS</b>	BIOS Type: AMI 32MB SPI Flash EEPROM
<b>Management</b>	SuperDoctor® 5; Watch Dog; NMI; SUM; KVM with dedicated LAN; Intel® Node Manager; IPMI 2.0; Redfish API; Supermicro Out of Band (OOB) License (Included with Server)
<b>PC Health Monitoring</b>	CPU: Monitors for CPU Cores, Chipset Voltages, Memory 7 +1 Phase-switching voltage regulator FAN: Fans with tachometer monitoring Status monitor for speed control Pulse Width Modulated (PWM) fan connectors Temperature: Monitoring for CPU and chassis environment Thermal Control for fan connectors
<b>Dimensions and Weight</b>	Height: 1.7" (43 mm) Width: 17.2" (437 mm) Depth: 29.7" (754 mm) Gross Weight: 44.5 lbs (20.2 kg) Net Weight: 29.5 lbs (13.4 kg) Packaging: 7.99" (H) x 23.81" (W) x 37.4" (D) Available Color: Black Front & Silver Body
<b>Operating Environment</b>	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)
<b>Motherboard</b>	<a href="#">Super X12DPU-6</a>
<b>Chassis</b>	CSE-819U3TS-R1K22P-T

**Parts List - (Items Included)**

	Part Number	Qty	Description
<b>Motherboard / Chassis</b>	MBD-X12DPU-6	1	Super X12DPU-6 Motherboard
	CSE-819U3TS-R1K22P-T	1	1U Chassis
<b>Backplane</b>	BPN-SAS3-815TQ-N4	1	4-port 1U SAS3 12Gbps Hybrid backplane, support up to 4x 3.5-inch SAS3/SATA3/NVMe Storage Devices
<b>Cable 1</b>	CBL-PWEX-0650	1	8 Pin Female to 2x RA(Right Angle) Big 4 Pin Female Power
<b>Cable 2</b>	CBL-SAST-1256-100	1	Slimline X4 (RE) to 4x SATA,INT,56/46/56CM,SB 56CM,1
<b>Air Shroud</b>	MCP-310-11907-0N	1	CSE-119UH3 Plastic Air Shroud (right side) for X12DPU
<b>Air Shroud</b>	MCP-310-11908-0N	1	CSE-119UH3 Plastic Air Shroud (left side) for X12DPU
<b>Riser Card</b>	RSC-W-66G4	1	1U LHS WIO Riser card with two PCI-E 4.0 x16 slots,HF,RoHS
<b>Riser Card</b>	RSC-WR-6	1	1U RHS WIO Riser card with one PCI-E 4.0 x16 slot,HF,RoHS
<b>Software</b>	SFT-OOB-LIC	1	License key for enabling OOB BIOS management
<b>Heatsink / Retention</b>	SNK-P0077P	2	1U Passive CPU Heat Sink for X12 Generation Intel Whitley and Cedar Island Platforms
<b>*Power Supply</b>	PWS-1K22A-1R	2	1U 1200W/800W Titanium Redundant Power Supply CRPS 73.5x203x40mm,RoHS/REACH
<b>*Cable 3</b>	CBL-CDAT-0667	1	FRONT PANEL CONTROL CABLE 20 PIN TO 20 PIN W/TUBE, 85CM, 28A
<b>*Cable 4</b>	CBL-PWCD-0160-IS	2	PWCD,US,NEMA5-15P TO IEC60320 C13,6FT,16AWG,RoHS/REACH
<b>*Peripheral Drive1</b>	CSE-PT93L-B	1	Black DVD dummy cover for SC813, 813M, 815, PBF-RoHS
<b>*FAN 1</b>	FAN-0210L4	8	40x40x56 mm, 29.5K-25.5K RPM, Counter-rotating Fan, RoHS
<b>*FAN 2</b>	FAN-0216L4-2	8	40x40x56 mm, 31K-26.6K RPM, Counter-rotating Fan, Non-hot-swappable
<b>*Front Panel</b>	FPB-FP815U	1	815 UIO front control board (U)
<b>*Parts</b>	MCP-160-11901-0B	1	1U Ultra Mylar cable channel for X12
<b>*Parts</b>	MCP-160-11902-0B	1	1U Ultra FP1 cable protective Mylar
<b>*Drive Tray(s)</b>	MCP-220-00075-0B	4	Black gen 5.5 hot-swap 3.5" HDD tray
<b>*Rear Window</b>	MCP-240-81916-0N	1	Ultra I/O Rear window for SC819U, 119U tool-less chassis (No opening)
<b>*Front Panel</b>	MCP-280-00034-0N	1	Universal Thermal sensor kit with 40cm I2C cable
<b>*Rail Set</b>	MCP-290-00112-0N	1set	Inner rail, extension, long (quick) for 1U 17.2
<b>*Air Shroud</b>	MCP-310-81905-0B	1	Plastic air shroud for SC819U, 119U, 829U, 219U (PWS),RoHS/REACH
<b>*Fan Holder</b>	MCP-320-00056-0B	32	40X56 rubber fan pin for SC819U, SC119U,RoHS/REACH
<b>*Front Panel</b>	FPB-TMP-002	1	Thermal Sensor board with 40cm I2C cable

**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
<b>1U Cable Management Arm</b>	MCP-290-00165-0N •eStore	1	1U Supermicro Cable Management Arm 3rd Gen
<b>Add-on card for M.2 support</b>	AOC-SLG3-2H8M2-O	-	2x Hybrid NVMe/SATA M.2 RAID Carrier, Standard LP,RoHS
<b>CacheVaults</b>	BTR-CVPM05 + BKT-BBU-BRACKET-05	-	CacheVault for Broadcom 3908/3916 with Supercap
	BTR-CV3108-1U1	-	CacheVault for Broadcom 3108 with Supercap mounting in 1U 40x56 fan tray
<b>Drive Tray</b>	MCP-220-00138-0B	1 ~ 4	Black gen-5.5 tool-less NVMe 3.5-to-2.5 drive tray, Orange tab (For NVMe)
	MCP-220-00118-0B	1 ~ 4	Black gen-5.5 tool-less 3.5-to-2.5 drive tray, Red tab (For SATA/SAS)
<b>DVD-ROM/DVD-RW</b>	DVM-PLDS-DVDRW-SBT5	1	BLACK PHILIPS SLIM DVD-RW SATA DRIVE, HF, RoHS
	DVM-TEAC-DVDRW-SBT5	1	BLACK TEAC SLIM DVD-RW SATA DRIVE, HF, RoHS
	DVM-TEAC-DVD-SBT5	1	BLACK TEAC SLIM DVD SATA DRIVE, HF, RoHS
<b>DVD-ROM/DVD-RW Installation Kit</b>	MCP-220-81502-0N + CBL-0161L + CBL-PWEX-0702	1	Slim SATA DVD kit
<b>Global Services &amp; Support</b>	<a href="#">OSNBD3/2/1</a>	-	3/2/1-year onsite NBD service
	<a href="#">OS4HR3/2/1</a>	-	3/2/1-year onsite 24x7x4 service
<b>Hot-Swap 2.5" Slim HDD Tray (DVD Slot)</b>	MCP-220-81506-0N •eStore & CBL-0161L & CBL-PWEX-0650	1	12G 2.5" Hot-swap Slim DVD Size Drive Kit w/Status LED
<b>Hot-Swap 2.5" Slim HDD Tray (FDD Slot)</b>	MCP-220-81504-0N •eStore & CBL-0161L & CBL-PWEX-0650	1	12G 2.5" Hot-swap Slim Floppy Size Drive Kit w/Status LED
<b>Intel® VROC RAID Key Options</b>	<a href="#">AOC-VROCSTNMOD</a>	1	Intel VROC Standard, RAID 0, 1, 10
	<a href="#">AOC-VROCINTMOD</a>	1	Intel VROC, RAID 0, 1, 5, 10 (Intel SSD Only)
	<a href="#">AOC-VROCPREMOD</a>	1	Intel VROC Premium, RAID 0, 1, 5, 10
<b>Internal 2.5" Slim HDD Tray (DVD slot)</b>	MCP-290-00036-0B & CBL-0484L •eStore & CBL-0080L •eStore & CBL-PWEX-0650	1	12G 2.5" Internal Slim DVD Size Drive Kit
<b>Internal 2.5" Slim HDD Tray (FDD slot)</b>	MCP-220-83601-0B & CBL-0484L •eStore & CBL-0080L •eStore & CBL-PWEX-0650	1	12G 2.5" Internal Slim Floppy Size Drive Kit
<b>Internal Drive Tray for Two 2.5" Drives</b>	CBL-0484L •eStore Or	2	SATA3 S-S Cable
	CBL-SAST-0654 Or	1	miniSAS(iPass) to 4 SATA Cable
	CBL-SAST-0948 •eStore	1	miniSAS HD to 4 SATA Cable
	MCP-120-82916-0N	1	2.5" Internal Drive Bay (Slim DVD Tray)
	CBL-PWEX-0650 CBL-0080L •eStore	1 2	Power Cable for Two internal 2.5" drives
<b>Network Card(s)</b>	<a href="#">AOC Compatibility Matrix</a>	-	Standard Networking AOC Matrix
<b>NVMe Support Cable Kit</b>	CBL-KIT-610U-TNR-4	1	4 NVMe Cable Kit for X12 Ultra SYS-610U-TNR
<b>Optional Storage Controller Card + Cable(s)</b>	AOC-S3908L-H8iR-16DD-O + 1x CBL-SAST-1251-100	-	Standard LP, 8 internal ports (12Gb/s) Gen-4; RAID 0, 1, 5, 6, 10, 50, 60
	AOC-S3008L-L8i + 1x CBL-SAST-0948 •eStore	-	Standard LP, 8 internal ports (12Gb/s) Gen-3; RAID 0,1,1E
	AOC-S3008L-L8E+ + 1x CBL-SAST-0948 •eStore	-	Standard LP, 8 internal ports (12Gb/s) Gen-3; HBA + I2C
	<a href="#">AOC-S3008L-L8E</a> + 1x CBL-SAST-0948 •eStore	-	Standard LP, 8 internal ports (12Gb/s) Gen-3; HBA
	AOC-S3808L-L8iT-O + 1x CBL-SAST-1251-100	-	Standard LP, 8 internal ports (12Gb/s) Gen-4; HBA
	<a href="#">AOC-S3108L-H8iR-16DD</a> + 1x CBL-SAST-0948 •eStore	-	Standard LP, 8 internal ports (12Gb/s) Gen-3; RAID 0, 1, 5, 6, 10, 50, 60
<b>Power Supply</b>	PWS-2K08A-1R •eStore	2	1U 2000W, Titanium Level, Redundancy, AC Input: 90-264VAC/47-63Hz, and wide DC input 180Vdc~300Vdc
	PWS-1K62A-1R •eStore	2	1U 1600W, Titanium Level, Redundancy, AC Input: 90 - 264 VAC/47-63Hz
	PWS-1K30D-1R •eStore	2	1U 1300W, Redundancy, DC Input: -48Vdc
<b>Software</b>	SFT-DCMS-Single	1	DataCenter Management Package (per node license)
<b>Trusted Platform Module Options</b>	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
<b>Ultra Riser Card Options + Rear Window</b>	AOC-URG4N4-O	1	1U Ultra Riser without NIC, with 1 PCI-E 4.0 x16 (internal), and 4 NVMe ports (2x SlimSAS x8),RoHS
	AOC-URG4N4-m2TS + MCP-240-81915-0N	1	1U Ultra Riser 2-port 25GbE SFP28, based on Mellanox CX-6 LX, with 1 PCI-E 4.0 x16 (internal), and 4 NVMe ports (2x SlimSAS x8),RoHS
	AOC-URG4N4-I4XTS-O + MCP-240-81911-0N	1	1U Ultra Riser with 2-port 10GBase-T RJ45 & 2-port 10G SFP+, based on Intel Carlsville X710-TM4, with 1 PCI-E 4.0 x16 (internal), and 4 NVMe ports (2x SlimSAS x8),RoHS
	AOC-URG4N4-I2XT-O + MCP-240-81909-0N	1	1U Ultra Riser with 2-port 10GBase-T RJ45, based on Intel Carlsville X710-AT2, with 1 PCI-E 4.0 x16 (internal), and 4 NVMe ports (2x SlimSAS x8),RoHS