Ultra SuperServer SYS-610U-TNR (Complete System Only   )

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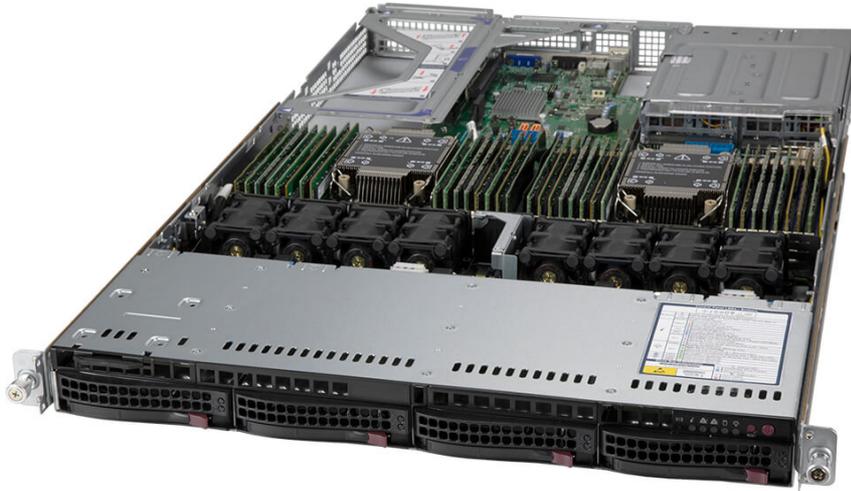
Key Applications

- **- 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 x16
   1 PCI-E 4.0 x16 (LP)

   2 PCI-E 4.0 x16 (FH, 10.5"L)

5. Flexible networking options

6. 4x3.5" hot-swap hybrid NVMe/SATA/SAS drive bays

7. 8 heavy duty fans with optimal fan speed control

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SYS-610U-TNR | 1U | SuperServer | Products | Super Micro Computer, Inc.

Specifications

Product SKUs

SYS-610U-TNR	SuperServer SYS-610U-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); 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

Chassis

Form Factor	■ 1U Rackmount
Model	■ **CSE-819U3TS-R1K22P-T**

Dimensions and Weight

Height	■ 1.7" (43mm)
Width	■ 17.2" (437mm)
Depth	■ 29.7" (754mm)
Package	■ 7.99" (H) x 23.81" (W) x 37.4" (D)
Weight	■ Net Weight: 29.5 lbs (13.4 kg) ■ Gross Weight: 44.5 lbs (20.2 kg)
Available Color	■ Black Front & Silver Body

Front Panel

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

Expansion Slots

PCI-Express (PCI-E)	■ 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

Drive Bays / Storage

Hot-swap	■ 4x 3.5" hot-swap NVMe/SATA/SAS drive bays (4x 2.5" NVMe hybrid) (SAS/NVMe support requires additional parts. Please see the Optional Parts list.)

System Cooling

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

Power Supply

1200W Redundant Power Supplies with PMBus

Dimension (W x H x L)	■ 73.5 x 40 x 203 mm
AC Input	■ 800W: 100-127Vac / 50-60Hz ■ 1200W: 200-240Vac / 50-60Hz ■ 1200W: 200-240Vdc (For CCC Only)

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

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

+12V	▪ Max: 66.7A / Min: 0A (100Vac-127Vac) ▪ Max: 100A / Min: 0A (200Vac-240Vac) ▪ Max: 100A / Min: 0A (200Vdc-240Vdc) (For CCC Only)
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)

Parts List

Parts List - (Items Included)

	Part Number	Qty	Description
Motherboard / Chassis	MBD-X12DPU-6	1	Super X12DPU-6 Motherboard
	CSE-819U3TS-R1K22P-T	1	1U Chassis
Backplane	BPN-SAS3-815TQ-N4	1	4-port 1U SAS3 12Gbps Hybrid backplane, support up to 4x 3.5-inch SAS3/SATA3/NVMe Storage Devices
Cable 1	CBL-PWEX-0650	1	8 Pin Female to 2x RA(Right Angle) Big 4 Pin Female Power
Cable 2	CBL-SAST-1256-100	1	Slimline X4 (RE) to 4x SATA,INT,56/46/46/56CM,SB 56CM,1
Air Shroud	MCP-310-11907-0N	1	CSE-119UH3 Plastic Air Shroud (right side) for X12DPU
Air Shroud	MCP-310-11908-0N	1	CSE-119UH3 Plastic Air Shroud (left side) for X12DPU
Riser Card	RSC-W-66G4	1	1U LHS WIO Riser card with two PCI-E 4.0 x16 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-P0077P	2	1U Passive CPU Heat Sink for X12 Generation Intel Whitley and Cedar Island Platforms
*Power Supply	PWS-1K22A-1R	2	1U 1200W/800W Titanium Redundant Power Supply CRPS 73.5x203x40mm,RoHS/REACH
*Cable 3	CBL-CDAT-0667	1	FRONT PANEL CONTROL CABLE 20 PIN TO 20 PIN W/TUBE, 85CM, 28A
*Cable 4	CBL-PWCD-0160-IS	2	PWCD,US,NEMA5-15P TO IEC60320 C13,6FT,16AWG,RoHS/REACH
*Peripheral Drive1	CSE-PT93L-B	1	Black DVD dummy cover for SC813, 813M, 815, PBF-RoHS
*FAN 1	FAN-0210L4	8	40x40x56 mm, 29.5K-25.5K RPM, Counter-rotating Fan, RoHS
*Front Panel	FPB-FP815U	1	815 UIO front control board (U)
*Parts	MCP-160-11901-0B	1	1U Ultra Mylar cable channel for X12
*Parts	MCP-160-11902-0B	1	1U Ultra FP1 cable protective Mylar
*Drive Tray(s)	MCP-220-00075-0B	4	Black gen 5.5 hot-swap 3.5" HDD tray
*Rear Window	MCP-240-81916-0N	1	Ultra I/O Rear window for SC819U, 119U tool-less chassis (No opening)
*Front Panel	MCP-280-00034-0N	1	Universal Thermal sensor kit with 40cm I2C cable
*Rail Set	MCP-290-00112-0N	1set	Inner rail, extension, long (quick) for 1U 17.2
*Air Shroud	MCP-310-81905-0B	1	Plastic air shroud for SC819U, 119U, 829U, 219U (PWS),RoHS/REACH
*Fan Holder	MCP-320-00056-0B	32	40X56 rubber fan pin for SC819U, SC119U,RoHS/REACH
*Front Panel	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
1U Cable Management Arm	MCP-290-00165-0N • eStore	1	1U Supermicro Cable Management Arm 3rd Gen
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-CV3108-1U1	-	CacheVault for Broadcom 3108 with Supercap mounting in 1U 40x56 fan tray
Drive Tray	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)
DVD-ROM/DVD-RW	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
DVD-ROM/DVD-RW Installation Kit	MCP-220-81502-0N • *e*Store + CBL-0161L + CBL-PWEX-0702	1	Slim SATA DVD kit
Global Services & Support	OSNBD3/2/1	-	3/2/1-year onsite NBD service
	OS4HR3/2/1	-	3/2/1-year onsite 24x7x4 service
Hot-Swap 2.5" Slim HDD Tray (DVD Slot)	MCP-220-81506-0N • *e*Store & CBL-0161L & CBL-PWEX-0650	1	12G 2.5" Hot-swap Slim DVD Size Drive Kit w/Status LED
Hot-Swap 2.5" Slim HDD Tray (FDD Slot)	MCP-220-81504-0N • *e*Store & CBL-0161L & CBL-PWEX-0650	1	12G 2.5" Hot-swap Slim Floppy Size Drive Kit w/Status LED
Intel® VROC RAID Key Options	AOC-VROCPREMOD	1	Intel VROC Premium, RAID 0, 1, 5, 10
	AOC-VROCSTNMOD	1	Intel VROC Standard, RAID 0, 1, 10
	AOC-VROCINTMOD	1	Intel VROC, RAID 0, 1, 5, 10 (Intel SSD Only)
Internal 2.5" Slim HDD Tray (DVD slot)	MCP-290-00036-0B & CBL-0484L & CBL-0080L • *e*Store & CBL-PWEX-0650	1	12G 2.5" Internal Slim DVD Size Drive Kit
Internal 2.5" Slim HDD Tray (FDDD slot)	MCP-220-83601-0B & CBL-0484L & CBL-0080L • *e*Store & CBL-PWEX-0650	1	12G 2.5" Internal Slim Floppy Size Drive Kit
Internal Drive Tray for Two 2.5" Drives	CBL-PWEX-0650 CBL-0080L • *e*Store	1 2	Power Cable for Two internal 2.5" drives
	CBL-0484L Or CBL-SAST-0654 Or CBL-SAST-0948 • *e*Store	2 1 1	SATA3 S-S Cable miniSAS(iPass) to 4 SATA Cable miniSAS HD to 4 SATA Cable
	MCP-120-82916-0N	1	2.5" Internal Drive Bay (Slim DVD Tray)
Network Card(s)	AOC Compatibility Matrix	-	Standard Networking AOC Matrix
NVMe Support Cable Kit	CBL-KIT-610U-TNR-4	1	4 NVMe Cable Kit for X12 Ultra SYS-610U-TNR
Optional Storage Controller Card + Cable(s)	AOC-S3808L-L8iT-O + 1x CBL-SAST-1251-100	-	Standard LP, 8 internal ports (12Gb/s) Gen-4; HBA
	AOC-S3108L-H8iR-16DD + 1x CBL-SAST-0948 • *e*Store	-	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-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 • *e*Store	-	Standard LP, 8 internal ports (12Gb/s) Gen-3; RAID 0,1,1E
	AOC-S3008L-L8E+-O + 1x CBL-SAST-0948 • *e*Store	-	Standard LP, 8 internal ports (12Gb/s) Gen-3; HBA + I2C

	AOC-S3008L-L8E + 1x CBL-SAST-0948 • eStore	-	Standard LP, 8 internal ports (12Gb/s) Gen-3; HBA
Power Supply	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
	PWS-2K08A-1R • eStore	2	1U 2000W, Titanium Level, Redundancy, AC Input: 90-264VAC/47-63Hz, and wide DC input 180Vdc~300Vdc
Software	SFT-DCMS-Single	1	DataCenter Management Package (per node license)
Trusted Platform Module Options	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
	AOM-TPM-9671V-O	1	SPI Capable Vertical TPM 1.2 Module
Ultra Riser Card Options + Rear Window	AOC-URG4N4-m2TS + MCP-240-819150N	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-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-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-TM4, with 1 PCI-E 4.0 x16 (internal), and 4 NVMe ports (2x SlimSAS x8),RoHS