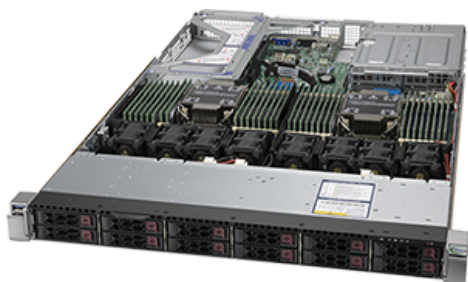


Ultra SuperServer SYS-120U-TNR



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;
- 2 PCI-E 4.0 x16 (FH, 10.5"L); 1 PCI-E 4.0 x16 (LP); 1 Internal PCI-E 4.0 x16;
- Flexible networking options;
- 12x 2.5" 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](#)



Form Factor	1U Rackmount Enclosure: 437 x 43 x 739mm (17.2" x 1.7" x 29.1") Package: 605 x 203 x 950mm (23.81" x 7.99" x 37.4")
Processor	3rd Gen Intel® Xeon® Scalable processors Dual Socket LGA-4189 (Socket P+) supported TDP up to 270W; 3 UPI
Drive Bays	12x 2.5" hot-swap NVMe/SATA/SAS drive bays; 12x 2.5" NVMe hybrid; Optional RAID support via RAID controller AOC
Expansion Slots	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
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 USB: 3 USB 3.0 port(s) (2 rear; 1 front) 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 – 6	2.5" Hot-swap NVMe/SAS3*/SATA3 Drive Bays (NVMe from CPU1)**
7 – 12	2.5" Hot-swap NVMe/SAS3*/SATA3 Drive Bays (NVMe from CPU2)**

*SAS3 support requires additional parts in optional parts list
 **NVMe 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

Cooling System	8x 4cm heavy duty fan(s)
Power Supply	1200W Redundant Power Supplies with PMBus Dimension (W x H x L): 73.5 x 40 x 203 mm Output Type: AC-Input
System BIOS	BIOS Type: AMI 32MB SPI Flash EEPROM
Management	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)
PC Health Monitoring	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
Dimensions and Weight	Height: 1.7" (43 mm) Width: 17.2" (437 mm) Depth: 29.1" (739 mm) Gross Weight: 41 lbs (18.6 kg) Net Weight: 26.5 lbs (12.2 kg) Packaging: 7.99" (H) x 23.81" (W) x 37.4" (D) Available Color: Black Front & Silver Body
Operating Environment	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)
Motherboard	Super X12DPU-6
Chassis	CSE-119UH3TS-R1K22P-T

Parts List - (Items Included)			
	Part Number	Qty	Description
Motherboard / Chassis	MBD-X12DPU-6	1	Super X12DPU-6 Motherboard
	CSE-119UH3TS-R1K22P-T	1	1U Chassis
Backplane	BPN-NVME4-119A-S12	1	1U 12-Slot SFF Backplane Supports 12 x SAS3/SATA3/NVMe4 Storage Device,HF,RoHS
Cable 1	CBL-PWEX-0920-1	1	2x4pin,P4.2,Female,GPU to 2 2x2,P4.2,Female,67cm,YRB,
Cable 2	CBL-PWEX-0921-1	1	2x4,P4.2,F,GPU to 2x2,P4.2,F,33cm,YRB,18AWG,10.5Ap,RoHS
Cable 3	CBL-SAST-1241F-100	1	Slimline x4 (STR) to Slimline x4 (STR),FFC,INT,41CM,100
Cable 4	CBL-SAST-1250F-100	1	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
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 6	CBL-CDAT-1290F	1	[NR] FRONT CNTL,20 TO 20 PIN,P0.5,FLAT,90CM,STD,RoHS
*Cable 7	CBL-CUSB-1265-119	1	[NR] USB 3.0(F) Type A, RA to USB3.0 20pin,65CM,26/32AWG
*Cable 8	CBL-PWCD-0160-IS	2	PWCD,US,NEMA5-15P TO IEC60320 C13,6FT,16AWG,RoHS/REACH
*FAN 1	FAN-0210L4	8	40x40x56 mm, 29.5K-25.5K RPM, Counter-rotating Fan, RoHS
*FAN 2	FAN-0216L4-2	8	40x40x56 mm, 31K-26.6K RPM, Counter-rotating Fan, Non-hot-swappable
*Front Panel	FPB-FP119UH	1	Front control board for 119UHTS 1U Ultra
*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-220-00187-0B	12	2.5 thin profile drive tray, standard color tab, for SC119UH
*Rear Window	MCP-240-81916-0N	1	Ultra I/O Rear window for SC819U, 119U tool-less chassis (No opening)
*Rail Set	MCP-290-00102-0N	1set	Outer rail, quick-release type, 25.6" to 33.05"
*Rail Set	MCP-290-00112-0N	1set	Inner rail, extension, long (quick) for 1U 17.2
*Rail Set	MCP-290-00179-0N	1set	1U Inner rail, front, quick-release type (W/O handle)
*Air Shroud	MCP-310-11912-0B	1	Rubber center Air block for SC119UH3
*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
*Fan Holder	MCP-320-11901-0B	2	Fan Holder for 4pcs 40x56 fans with cable tunnel optimize for X12DPU and SC119UH3

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 	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-220-00178-0B	1 ~ 12	2.5 thin profile drive tray, Orange tab (for hotswap NVMe drive), for SC119UH
Global Services & Support	OSNBD3/2/1	-	3/2/1-year onsite NBD service
	OS4HR3/2/1	-	3/2/1-year onsite 24x7x4 service
Intel® VROC RAID Key Options	AOC-VROCSNMOD	1	Intel VROC Standard, RAID 0, 1, 10
	AOC-VROCINTMOD	1	Intel VROC, RAID 0, 1, 5, 10 (Intel SSD Only)
	AOC-VROCPREMOD	1	Intel VROC Premium, RAID 0, 1, 5, 10
Internal Drive Tray for Two 2.5" Drives	MCP-120-82916-0N	1	2.5" Internal Drive Bay (Slim DVD Tray)
	CBL-0484L  Or	2	SATA3 S-S Cable
	CBL-SAST-0654 Or	1	miniSAS(iPass) to 4 SATA Cable
	CBL-SAST-0948	1	miniSAS HD to 4 SATA Cable
	CBL-PWEX-0650	1	Power Cable for Two internal 2.5" drives
	CBL-0080L	2	
Network Card(s)	AOC Compatibility Matrix	-	Standard Networking AOC Matrix
NVMe Support Cable Kit	CBL-KIT-120U-TNR-12-1	1	12 NVMe Cables Kit for X12 Ultra SYS-120U-TNR
Optional Storage Controller Card + Cable(s)	AOC-S3816L-L16iT-O + 1x CBL-SAST-1264F-100, 1x CBL-SAST-1265F-100	-	Standard LP, 16 internal ports (12Gb/s) Gen-4; HBA
	AOC-S3108L-H8iR-16DD + 1x CBL-SAST-1260-100	-	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-1271F-100	-	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	-	Standard LP, 8 internal ports (12Gb/s) Gen-3; RAID 0,1,1E
	AOC-S3916L-H16iR-32DD-O + 1x CBL-SAST-1265F-100, 1x CBL-SAST-1271F-100	-	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	-	Standard LP, 8 internal ports (12Gb/s) Gen-3; HBA + I2C
	AOC-S3008L-L8E + 1x CBL-SAST-1260-100	-	Standard LP, 8 internal ports (12Gb/s) Gen-3; HBA
	AOC-S3808L-L8iT-O + 1x CBL-SAST-1264F-100	-	Standard LP, 8 internal ports (12Gb/s) Gen-4; HBA
Power Supply	PWS-1K62A-1R 	2	1U 1600W, Titanium Level, Redundancy, AC Input: 90 - 264 VAC/47-63Hz
	PWS-1K30D-1R 	2	1U 1300W, Redundancy, DC Input: -48Vdc
	PWS-2K08A-1R 	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-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-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-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-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-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