SuperServer 1028U-TNRT+ (Complete System Only)

Integrated Board

X10DRU-i+

Views: | Angled View | Top View |
| Front View | Rear View |

Key Features

1. Dual socket R3 (LGA 2011) supports Intel® Xeon® processor E5-2600 **v4**[†]/ v3 family; QPI up to 9.6GT/s

2. Up to **3TB**[†] ECC 3DS LRDIMM , up to DDR4- **2400**[†]MHz ; 24x DIMM slots

3. 2x PCI-E 3.0 x16 slots (FH, 10.5" L), 2x PCI-E 3.0 x8 slots (LP, 1 internal)

4. 2x 10GBase-T ports

5. 10x Hot-swap 2.5" Drive Bays: Default 8x SATA3 ports and 2x NVMe/SATA3 hybrid ports; Optional 8x SAS3 ports via AOC

6. 5x heavy duty fans w/ optimal fan speed control

7. 750W Redundant Power Supplies **Platinum Level (94%+)**

Complete System Only: To maintain quality and integrity, this product is sold only as a completely-assembled system (with minimum 2 CPUs and 4 DIMMs).

▶ **Drivers & Utilities** ▶ **BIOS** ▶ **IPMI** ▶ **Tested Memory** ▶ **NVMe Options** ▶ **Manuals** ▶ **OS Certification Matrix** ▶ **Compatible GPU List** ▶ **Quick-References Guide** ▶ **Drive Options** ▶ **Network Card (AOC) Matrix**

Note: Image above may show a varied configuration of optional parts. Please refer to parts list for standard parts included.

Specifications

Product SKUs

SYS-1028U-TNRT+	■ SuperServer 1028U-TNRT+ (**Black**)

Motherboard

Super X10DRU-i+

Processor/Cache

CPU	■ Intel® Xeon® processor E5-2600 **v4**†/ v3 family (up to 160W TDP) * ■ Dual Socket R3 (LGA 2011)
Cores / Cache	■ Up to **22 Cores**† / Up to **55MB**† Cache
System Bus	■ QPI up to 9.6 GT/s
Note	† BIOS version 2.0 or above is required
Note	* Please contact Supermicro Technical Support for additional information about frequency optimized CPUs and specialized system optimization.

System Memory

Memory Capacity	■ 24x 288-pin DDR4 DIMM slots ■ Up to 3TB† ECC 3DS LRDIMM, 1.5TB ECC RDIMM/LRDIMM
Memory Type	■ **2400**†/2133/1866/1600MHz ECC DDR4 SDRAM 72-bit ■ 2666/2400 ECC DDR4 NVDIMM
DIMM Sizes	■ RDIMM: 64GB, 32GB, 16GB, 8GB, 4GB ■ LRDIMM: 64GB, 32GB ■ 3DS LRDIMM: 128GB ■ NVDIMM: 16GB
Memory Voltage	■ 1.2 V
Error Detection	■ Corrects single-bit errors

On-Board Devices

Chipset	■ Intel® C612 chipset
SATA	■ SATA3 (6Gbps) with RAID 0, 1, 5, 10
IPMI	■ Support for Intelligent Platform Management Interface v.2.0 ■ IPMI 2.0 with virtual media over LAN and KVM-over-LAN support ■ ASPEED AST2400 BMC
Network Connectivity	■ 2x 10GBase-T ports via AOC-URN2-i2XT ■ Intel® X540 10GBase-T ■ 1x Realtek RTL8211E PHY (dedicated IPMI)
Graphics	■ ASPEED AST2400 BMC

Input / Output

SATA	■ 10x SATA3 (6Gbps) ports
SAS	■ 8x SAS3 ports support via optional Add-on Card
NVMe	■ 2x NVMe ports

Chassis

Form Factor	■ 1U Rackmount
Model	■ **CSE-119UAC2-R751-T**

Dimensions and Weight

Height	■ 1.7" (43mm)
Width	■ 17.2" (437mm)
Depth	■ 28.5" (724mm)
Weight	■ Net Weight: 26 lbs (11.8 kg) ■ Gross Weight: 41 lbs (18.6 kg)
Available Color	■ Black

Front Panel

Buttons	■ Power On/Off button ■ System Reset button
LEDs	■ Power LED ■ Hard drive activity LED ■ 2x Network activity LEDs ■ System Overheat LED / Fan fail LED / UID LED

Expansion Slots

PCI-Express	■ 2x PCI-E 3.0 x16 slots (Full-height, 10.5" L) ■ 2x PCI-E 3.0 x8 slots (Low-profile, 1 internal) **(Both CPUs need to be installed for full access to PCI-E slots and onboard controllers. See manual block diagram and AOC Support for details.)**

Drive Bays

Hot-swap	■ 10x 2.5" Hot-swap drive bays ■ Default 8x SATA3 ports and 2x NVMe/SATA3 hybrid ports ■ Optional 8x SAS3 ports via AOC

System Cooling

Fans	■ 5x heavy duty fans with optimal fan speed control ■ 3x additional fans optional
Air Shroud	■ 1x Air Shroud

Power Supply

750W Redundant AC-DC Power Supplies, +12V/+12Vsb output

AC Input	■ 100-127Vac, 50-60Hz ■ 200-240Vac, 50-60Hz
+12V	■ Max: 62.5A & Min: 0A (100Vac-127Vac) ■ Max: 62.5A & Min: 0A (200Vac-240Vac)
12V SB	■ Max: 2.1A ■ Min: 0A

LAN	■ 2x RJ45 10GBase-T ports ■ 1x RJ45 Dedicated IPMI LAN port
USB	■ 5x USB 3.0 ports (2 rear, 2 onboard header, 1 Type A)
Video	■ 1x VGA Connector
Serial Port	■ 1x Serial header

System BIOS

BIOS Type	■ 128Mb SPI Flash EEPROM with AMI BIOS
BIOS Features	■ Plug and Play (PnP) ■ APM 1.2 ■ PCI 2.3 ■ ACPI 1.0 / 2.0 / 3.0 / 4.0 ■ USB Keyboard support ■ SMBIOS 2.7.1 ■ UEFI 2.3.1

Management

Software	■ SuperDoctor® 5 ■ Intel® Node Manager 3.0 ■ Watch Dog ■ NMI ■ SUM and SSM ■ Optional IPMI 1.5 / 2.0
Power Configurations	■ ACPI Power Management ■ Power-on mode for AC power recovery

Certification	**Platinum Level** [**Test Report**]

PC Health Monitoring

Voltage	■ Monitors for CPU Cores, +1.8V, +3.3V, +5V, +12V, +3.3V Standby, +5V Standby, VBAT, Memory Voltages. ■ 5+1 Phase-switching voltage regulator
FAN	■ 8x 4-pin fan headers ■ Status monitor for speed control ■ Pulse Width Modulated (PWM) fan connectors
Temperature	■ Support to monitor Supermicro AOC temperatures from IPMI or SD 5 ■ Monitoring for CPU and chassis environment ■ CPU thermal trip support ■ Thermal Control for 8x Fan Connectors ■ Thermal Monitor 2 (TM2) support ■ PECI
LED	■ Memory DIMM ECC error LEDs ■ CPU / System Overheat LED ■ Suspend static indicator LED ■ UID/Remote UID
Other Features	■ 4x 8-pin GPU power connectors ■ Chassis intrusion detection ■ Chassis intrusion header ■ SDDC Support ■ RoHS

Operating Environment / Compliance

RoHS	■ RoHS Compliant
Environmental Spec.	■ Operating Temperature: 10°C to 35°C (50°F to 95°F) ■ Non-operating Temperature: -40°C to 70°C (-40°F to 158°F) ■ Operating Relative Humidity: 8% to 90% (non-condensing) ■ Non-operating Relative Humidity: 5% to 95% (non-condensing)

Parts List

	Part Number	Qty	Description
Motherboard / Chassis	MBD-X10DRU-i+	1	Super X10DRU-i+ Motherboard
	CSE-119UAC2-R751-T	1	CSE-119UAC2-R751-T Chassis
Air Shroud	MCP-310-81903-0B	1	Mylar air shroud set for SC819U,119U (X10DRU+),HF
Add-on Card / Module	AOC-URN2-I2XT	1	1U Ultra Riser based on Intel X540 controller with 2 10Gbase-T ports, 2 NVMe ports, and 1 internal PCI-E x8 3.0 slot
Backplane	BPN-SAS3-116A-N2	1	10-port 1U SAS3 12Gbps Hybrid backplane, support up to 8x 2.5-inch SAS3/SATA3 HDD/SSD and 2x SAS3/SATA3/NVMe Storage Devices
Cable 1	CBL-PWEX-0650	1	8 pin female to 2x RA(Right Angle) big 4 pin female power, 47/62CM, 18AWG,RoHS/REACH
Cable 2	CBL-CDAT-0662	1	CBL,SGPIO,2X4F TO 2X4F,P2.54,ROUND CABLE,61.5CM,28AWG
Cable 3	CBL-0484L	2	SATA,INT,ROUND,ST-ST,55CM,30AWG
Cable 4	CBL-SAST-0656	1	MINI SAS HD(ST)-MINI SAS(RA-RS EXIT),6G,INT,39CM,SB,30AWG
Cable 5	CBL-PWEX-0653	1	8 pin female to 4 pin female power, 37cm, 18AWG,RoHS/REACH
Cable 6	CBL-SAST-0655	1	MINI SAS HD(ST)-MINI SAS(RA-RS EXIT),6G,INT,47CM,SB,30AWG
Cable 7	CBL-SAST-0658	2	MINI SAS HD,INT,PCIe NVMe SSD, 60CM,30AWG
Drive Tray(s)	MCP-220-00127-0B	2	Black gen-3 2.5 NVMe drive tray, Orange tab with lock (for hotswap NVMe drive),HF,RoHS/REACH
Label	LBL-0108	1	CAUTION LABEL FOR REDUNDANT PWR SYSTEMS
Manual	MNL-1678-QRG	1	SYS-1028U-TR(4/4T/T/TP)+, QRG,HF,RoHS/REACH
Parts	MCP-150-00009-0B	1	Internal AOC rubber support for SC819U, 119U
Riser Card	RSC-R1UW-2E16	1	1U LHS WIO Riser card with two PCI-E x16 slots
Riser Card	RSC-R1UW-E8R	1	1U RHS WIO Riser card with one PCI-E x8 slot
Rear Window	MCP-240-81909-0N	1	Ultra I/O Rear Window for SC819U, 119U-T tool-less chassis(i2XT)
Heatsink / Retention	SNK-P0047PS	2	1U Passive CPU Heat Sink for X9, X10 Systems Equipped w/ a Narrow ILM MB
Power Supply	PWS-751P-1R	2	1U 750W Redundant Platinum Single Output Power Supply w/Pmbus W73.5xH40xL203mm,RoHS/REACH
Fan	FAN-0101L4	5	40x56, 4 Pin PWM
Mounting Rails	MCP-290-00102-0N	1	Outer rail, quick-release type, 25.6" to 33.05"
	MCP-290-00120-0N	1	Inner rail, front, quick-release type (thumb screw applied)
	MCP-290-00112-0N	1	Inner rail, extension, long (quick) for 1U 17.2"W chassis

	Part Number	Qty	Description
Mounting Rails	MCP-290-00062-0N	-	Inner/outer rail set, quick-release type, 25.6" to 33.05"
	MCP-290-00064-0N	-	Thumb screw adapter of inner rail for 1U 17.2"
	MCP-290-00052-0N-BULK	-	Bulk outer rail, quick-release type, 25.6" to 33.05" (10 sets/pack)
Storage Control Card and Cable(s)	AOC-S3008L-L8e & 2x CBL-SAST-0593	-	Std LP, 8 internal ports, 12Gb/s per port- Gen3, 122HDD, HBA; Internal Mini-SAS HD to Mini-SAS HD 60cm,30AWG,12Gb/s
	AOC-S3008L-L8i & 2x CBL-SAST-0593	-	Std LP, 8 internal ports, 12Gb/s per port- Gen3, 63HDD, RAID 0,1,1E; Internal Mini-SAS HD to Mini-SAS HD 60cm,30AWG,12Gb/s
	AOC-S3108L-H8iR & 2x CBL-SAST-0593	-	Std LP, 8 internal ports, 12Gb/s per port- Gen3, 240HDD, RAID 0, 1, 5, 6, 10, 50, 60; Internal Mini-SAS HD to Mini-SAS HD 60cm,30AWG,12Gb/s

Network Card(s)	AOC-SGP-i2/4	-	Standard LP, 2/4x GbE RJ45, PCI-E x4, Intel i350
	AOC-STGN-i1S/i2S	-	Standard LP, 1/2x 10GbE SFP+, PCI-E x8, Intel 82599EN
	AOC-STG-b4S	-	Standard LP, 4x 10GbE SFP+, PCI-E x8, Broadcom BCM57840S
	AOC-STG-i2T	-	Standard LP, 2x 10GbE RJ45, PCI-E x8, Intel X540
	AOC-STG-i2	-	Standard LP, 2x 10GbE CX4, PCI-E x8, Intel 82598EB
	AOC-S40G-i2Q	-	Standard LP 2-port 40GbE controller, based on Intel Fortville XL710
	More	-	AOC Compatibility Matrix
CacheVault(s)	BTR-CV3108-1U1	-	CacheVault for Broadcom 3108 with Supercap mounting in 1U 40x56 fan tray
	BTR-TFM8G-LSICVM02 & BKT-BBU-BRACKET-05	-	CacheVault for Broadcom 3108; Supercap mounting bracket for PCI-E location
Fan	FAN-0101L4	Up to 3	40x40x56 mm, 14.4K-10.7K RPM Counter-rotating Cooling Fan
1U Cable Management Arm	MCP-290-00152-0N	1	1U Supermicro Cable Management Arm 2nd Gen
Global Services & Support	OS4HR3/2/1	-	3/2/1-year onsite 24x7x4 service
	OSNBD3/2/1	-	3/2/1-year onsite NBD service
Software	SFT-OOB-LIC • eStore	1	OOB Management Package (per node license)
Software	SFT-DCMS-Single	1	DataCenter Management Package (per node license)