

## SuperServer 1028U-TR4+ (Complete System Only)



Integrated Board



**X10DRU-i+**

Views: | [Angled View](#) | [Top View](#) |  
| [Front View](#) | [Rear View](#) |

**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](#) ► [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.

### Key Features

1. Dual socket R3 (LGA 2011) supports Intel® Xeon® processor E5-2600 v4<sup>†</sup>/ v3 family; QPI up to 9.6GT/s
2. Up to **3TB<sup>†</sup>** ECC 3DS LRDIMM , up to DDR4- **2400<sup>†</sup>**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. 4x Gigabit Ethernet ports
5. 10x Hot-swap 2.5" Drive Bays:  
10x SATA3 ports by default; optional 8x SAS3 ports
6. 4x heavy duty fans w/ optional fan speed control
7. 750W Redundant Power Supplies  
**Platinum Level (94%+)**

# Specifications

## Product SKUs

<b>SYS-1028U-TR4+</b>	■ SuperServer 1028U-TR4+ (Black)
-----------------------	----------------------------------

## Motherboard

<b>Super X10DRU-i+</b>
------------------------

## Processor/Cache

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

## System Memory

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

## On-Board Devices

<b>Chipset</b>	■ Intel® C612 chipset
<b>SATA</b>	■ SATA3 (6Gbps) with RAID 0, 1, 5, 10
<b>IPMI</b>	■ 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
<b>Network Connectivity</b>	■ 4x Gigabit Ethernet ports via <a href="#">AOC-UR-i4G</a> ■ Intel® i350 Gigabit Ethernet Controller ■ 1x Realtek RTL8211E PHY (dedicated IPMI)
<b>Graphics</b>	■ ASPEED AST2400 BMC

## Input / Output

<b>SATA</b>	■ 10x SATA3 (6Gbps) ports
<b>SAS</b>	■ 8x SAS3 ports support via optional Add-on Card
<b>LAN</b>	■ 4x RJ45 Gigabit Ethernet ports ■ 1x RJ45 Dedicated IPMI LAN port

## Chassis

<b>Form Factor</b>	■ 1U Rackmount
<b>Model</b>	■ <b>CSE-119UAC-R751-T</b>

## Dimensions and Weight

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

## Front Panel

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

## Expansion Slots

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

## Drive Bays

<b>Hot-swap</b>	■ 10x 2.5" Hot-swap drive bays
-----------------	--------------------------------

## System Cooling

<b>Fans</b>	■ 4x heavy duty fans with optimal fan speed control ■ 4x additional fans optional
<b>Air Shroud</b>	■ 1x Air Shroud

## Power Supply

750W Redundant AC-DC Power Supplies, +12V/+12Vsb output	
<b>AC Input</b>	■ 100-127Vac, 50-60Hz ■ 200-240Vac, 50-60Hz
<b>+12V</b>	■ Max: 62.5A & Min: 0A (100Vac-127Vac) ■ Max: 62.5A & Min: 0A (200Vac-240Vac)
<b>12V SB</b>	■ Max: 2.1A ■ Min: 0A

<b>Certification</b>	 <b>Platinum Level</b> <b>[ Test Report ]</b>
----------------------	---

<b>USB</b>	<ul style="list-style-type: none"> <li>5x USB 3.0 ports (2 rear, 2 onboard header, 1 Type A)</li> </ul>
<b>Video</b>	<ul style="list-style-type: none"> <li>1x VGA Connector</li> </ul>
<b>Serial Port</b>	<ul style="list-style-type: none"> <li>1x Serial header</li> </ul>

#### System BIOS

<b>BIOS Type</b>	<ul style="list-style-type: none"> <li>128Mb SPI Flash EEPROM with AMI BIOS</li> </ul>
<b>BIOS Features</b>	<ul style="list-style-type: none"> <li>Plug and Play (PnP)</li> <li>APM 1.2</li> <li>PCI 2.3</li> <li>ACPI 1.0 / 2.0 / 3.0 / 4.0</li> <li>USB Keyboard support</li> <li>SMBIOS 2.7.1</li> <li>UEFI 2.3.1</li> </ul>

#### Management

<b>Software</b>	<ul style="list-style-type: none"> <li><u>SuperDoctor® 5</u></li> <li>Intel® Node Manager 3.0</li> <li>Watch Dog</li> <li>NMI</li> <li><u>SUM</u> and <u>SSM</u></li> <li>Optional IPMI 1.5 / 2.0</li> </ul>
<b>Power Configurations</b>	<ul style="list-style-type: none"> <li>ACPI Power Management</li> <li>Power-on mode for AC power recovery</li> </ul>

#### PC Health Monitoring

<b>Voltage</b>	<ul style="list-style-type: none"> <li>Monitors for CPU Cores, +1.8V, +3.3V, +5V, +12V, +3.3V Standby, +5V Standby, VBAT, Memory Voltages.</li> <li>5+1 Phase-switching voltage regulator</li> </ul>
<b>FAN</b>	<ul style="list-style-type: none"> <li>8x 4-pin fan headers</li> <li>Status monitor for speed control</li> <li>Pulse Width Modulated (PWM) fan connectors</li> </ul>
<b>Temperature</b>	<ul style="list-style-type: none"> <li>Support to monitor Supermicro AOC temperatures from IPMI or SD 5</li> <li>Monitoring for CPU and chassis environment</li> <li>CPU thermal trip support</li> <li>Thermal Control for 8x Fan Connectors</li> <li>Thermal Monitor 2 (TM2) support</li> <li>PECI</li> </ul>
<b>LED</b>	<ul style="list-style-type: none"> <li>Memory DIMM ECC error LEDs</li> <li>CPU / System Overheat LED</li> <li>Suspend static indicator LED</li> <li>UID/Remote UID</li> </ul>
<b>Other Features</b>	<ul style="list-style-type: none"> <li>4x 8-pin GPU power connectors</li> <li>Chassis intrusion detection</li> <li>Chassis intrusion header</li> <li>SDDC Support</li> <li>RoHS</li> </ul>

#### Operating Environment / Compliance

<b>RoHS</b>	<ul style="list-style-type: none"> <li>RoHS Compliant</li> </ul>
<b>Environmental Spec.</b>	<ul style="list-style-type: none"> <li>Operating Temperature: 5°C to 40°C (41°F to 104°F)</li> <li>Non-operating Temperature: -40°C to 70°C (-40°F to 158°F)</li> <li>Operating Relative Humidity: 8% to 90% (non-condensing)</li> <li>Non-operating Relative Humidity: 5% to 95% (non-condensing)</li> </ul>

## Parts List

### Parts List - (Items Included)

	Part Number	Qty	Description
<b>Motherboard / Chassis</b>	MBD-X10DRU-i+	1	Super X10DRU-i+ Motherboard
	CSE-119UAC-R751-T	1	CSE-119UAC-R751-T Chassis
<b>Air Shroud</b>	MCP-310-81903-0B	1	Mylar air shroud set for SC819U,119U (X10DRU+),HF
<b>Add-on Card / Module</b>	AOC-UR-I4G	1	1U Ultra Riser based on Intel i350AM4 controller with 4 GbE RJ45 ports and 1 internal PCI-E x8 3.0 slot
<b>Backplane</b>	BPN-SAS3-116A	1	10-port 1U SAS3 12Gbps direct-attached backplane, support up to 10x 2.5-inch SAS3/SATA3 HDD/SSD
<b>Cable 1</b>	CBL-0484L	2	SATA,INT,ROUND,ST-ST,55CM,30AWG
<b>Cable 2</b>	CBL-CDAT-0662	1	CBL,SGPIO,2X4F TO 2X4F,P2.54,ROUND CABLE,61.5CM,28AWG
<b>Cable 3</b>	CBL-PWEX-0650	1	8 pin female to 2x RA(Right Angle) big 4 pin female power, 47/62CM, 18AWG,RoHS/REACH
<b>Cable 4</b>	CBL-SAST-0655	1	MINI SAS HD(ST)-MINI SAS(RA-RS EXIT),6G,INT,47CM,SB,30AWG
<b>Cable 5</b>	CBL-SAST-0656	1	MINI SAS HD(ST)-MINI SAS(RA-RS EXIT),6G,INT,39CM,SB,30AWG
<b>Parts</b>	MCP-150-00009-0B	1	Internal AOC rubber support for SC819U, 119U
<b>Manual</b>	MNL-1678-QRG	1	SYS-1028U-TR(4/4T/T/TP)+, QRG,HF,RoHS/REACH
<b>Riser Card</b>	RSC-R1UW-2E16	1	1U LHS WIO Riser card with two PCI-E x16 slots
<b>Riser Card</b>	RSC-R1UW-E8R	1	1U RHS WIO Riser card with one PCI-E x8 slot
<b>Heatsink / Retention</b>	SNK-P0047PS	2	1U Passive CPU Heat Sink for X9, X10 Systems Equipped w/ a Narrow ILM MB
<b>Power Supply</b>	PWS-751P-1R	2	1U 750W Redundant Platinum Single Output Power Supply w/Pmbus W73.5xH40xL203mm,RoHS/REACH
<b>Mounting Rails</b>	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

### Optional Parts List

	Part Number	Qty	Description
<b>Mounting Rails</b>	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)
<b>Storage Control Card and Cable(s)</b>	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
<b>Network Card(s)</b>	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	-	<a href="#">AOC Compatibility Matrix</a>
<b>CacheVault(s)</b>	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
<b>Fan</b>	FAN-0101L4	Up to 4	40x40x56 mm, 14.4K-10.7K RPM Counter-rotating Cooling Fan
<b>1U Cable Management Arm</b>	MCP-290-00152-0N	1	1U Supermicro Cable Management Arm 2nd Gen

Global Services & Support	<u>OS4HR3/2/1</u>	-	3/2/1-year onsite 24x7x4 service
	<u>OSNBD3/2/1</u>	-	3/2/1-year onsite NBD service
Software	<u>SFT-OOB-LIC</u> • <i>eStore</i>	1	OOB Management Package (per node license)
Software	<u>SFT-DCMS-Single</u>	1	DataCenter Management Package (per node license)