

# SuperServer 1028R-WC1R



## Integrated Board



## Super X10DRW-i

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## 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 **2TB<sup>†</sup>** ECC 3DS LRDIMM , up to DDR4- **2400<sup>†</sup>**MHz ; 16x DIMM slots
3. 2 PCI-E 3.0 x16 (FHHL) slots
4. 10 Hot-swap 2.5" SAS/SATA drive bays; (default 8 SAS3, 2 SATA3)
5. SAS3 (12Gbps) via Broadcom 3108
6. Intel® i350 Dual port GbE LAN
7. I/O ports: 2x SuperDOM, 1x VGA, 1x COM, 6x USB 3.0 (4 rear, 2 front)
8. Optional 2x 2.5" NVMe drives support
9. 750W Redundant Power Supplies **Platinum Level** High-efficiency

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

# Specifications

## Product SKUs

<b>SYS-1028R-WC1R</b>	<ul style="list-style-type: none"> <li>SuperServer 1028R-WC1R (Black)</li> </ul>
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## Motherboard

### Super X10DRW-i

## Processor/Cache

<b>CPU</b>	<ul style="list-style-type: none"> <li>Intel® Xeon® processor E5-2600 v4<sup>†</sup> / v3 family (up to 145W TDP) *</li> <li>Dual Socket R3 (LGA 2011)</li> </ul>
<b>Cores / Cache</b>	<ul style="list-style-type: none"> <li>Up to <b>22 Cores</b><sup>†</sup> / Up to <b>55MB</b><sup>†</sup> Cache</li> </ul>
<b>System Bus</b>	<ul style="list-style-type: none"> <li>QPI up to 9.6 GT/s</li> </ul>
<b>Note</b>	<ul style="list-style-type: none"> <li><sup>†</sup> BIOS version 2.0 or above is required</li> </ul>
<b>Note</b>	<ul style="list-style-type: none"> <li>* Please contact Supermicro Technical Support for additional information about frequency optimized CPUs and specialized system optimization.</li> </ul>

## System Memory

<b>Memory Capacity</b>	<ul style="list-style-type: none"> <li>16x 288-pin DDR4 DIMM slots</li> <li>Up to 2TB<sup>†</sup> ECC 3DS LRDIMM/RDIMM</li> </ul>
<b>Memory Type</b>	<ul style="list-style-type: none"> <li>2400<sup>†</sup>/2133/1866/1600MHz ECC DDR4 SDRAM 72-bit</li> </ul>
<b>DIMM Sizes</b>	<ul style="list-style-type: none"> <li>RDIMM: 32GB, 16GB, 8GB, 4GB</li> <li>LRDIMM: 64GB, 32GB</li> <li>3DS LRDIMM: 128GB</li> </ul>
<b>Memory Voltage</b>	<ul style="list-style-type: none"> <li>1.2 V</li> </ul>
<b>Error Detection</b>	<ul style="list-style-type: none"> <li>Corrects single-bit errors</li> </ul>

## On-Board Devices

<b>Chipset</b>	<ul style="list-style-type: none"> <li>Intel® C612 chipset</li> </ul>
<b>SATA</b>	<ul style="list-style-type: none"> <li>SATA3 via Intel® C610; RAID 0, 1</li> </ul>
<b>SAS</b>	<ul style="list-style-type: none"> <li>SAS3 (12Gbps) via Broadcom 3108</li> <li>RAID 0, 1, 5, 6, 10, 50, 60 support</li> <li>2GB DDR3 Cache</li> </ul>
<b>IPMI</b>	<ul style="list-style-type: none"> <li>Support for Intelligent Platform Management Interface v.2.0</li> <li>IPMI 2.0 with virtual media over LAN and KVM-over-LAN support</li> <li>ASPEED AST2400 BMC</li> </ul>
<b>Network Controllers</b>	<ul style="list-style-type: none"> <li>Intel® i350 Dual Port Gigabit Ethernet Controller</li> <li>Virtual Machine Device Queues reduce I/O overhead</li> <li>Supports 10BASE-T, 100BASE-TX, and 1000BASE-T, RJ45 output</li> <li>1x Realtek RTL8211E PHY (dedicated IPMI)</li> </ul>
<b>Graphics</b>	<ul style="list-style-type: none"> <li>ASPEED AST2400 BMC</li> </ul>

## Input / Output

<b>Serial ATA</b>	<ul style="list-style-type: none"> <li>2 SATA3 (6Gbps) ports</li> </ul>
<b>SAS</b>	<ul style="list-style-type: none"> <li>8 SAS3 (12Gbps) ports</li> </ul>

## Chassis

<b>Form Factor</b>	<ul style="list-style-type: none"> <li>1U Rackmount</li> </ul>
<b>Model</b>	<ul style="list-style-type: none"> <li><b>CSE-116AC2-R706WB</b></li> </ul>

## Dimensions and Weight

<b>Width</b>	<ul style="list-style-type: none"> <li>17.2" (437mm)</li> </ul>
<b>Height</b>	<ul style="list-style-type: none"> <li>1.7" (43mm)</li> </ul>
<b>Depth</b>	<ul style="list-style-type: none"> <li>23.5" (597mm)</li> </ul>
<b>Weight</b>	<ul style="list-style-type: none"> <li>Net Weight: 25.5 lbs (11.6 kg)</li> <li>Gross Weight: 39 lbs (17.7 kg)</li> </ul>
<b>Available Colors</b>	<ul style="list-style-type: none"> <li>Black</li> </ul>

## Front Panel

<b>Buttons</b>	<ul style="list-style-type: none"> <li>Power On/Off button</li> <li>UID button</li> </ul>
<b>LEDs</b>	<ul style="list-style-type: none"> <li>Power status LED</li> <li>HDD activity LED</li> <li>2 Network activity LEDs</li> <li>Universal Information (UID) LED</li> </ul>

## Expansion Slots

<b>PCI-Express</b>	<ul style="list-style-type: none"> <li>2 PCI-E 3.0 x16 full-height, Half-length slots</li> </ul>
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## Drive Bays

<b>Hot-swap</b>	<ul style="list-style-type: none"> <li>10 Hot-swap 2.5" SAS/SATA HDD trays (Default 8 SAS3, 2 SATA3)</li> </ul>
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## Backplane

SAS/SATA HDD Backplane
Optional 2x 2.5" NVMe drives

## System Cooling

<b>Fans</b>	<ul style="list-style-type: none"> <li>5x 4cm heavy-duty counter-rotating fans w/ air shroud and optimal fan speed control</li> </ul>
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## AC/DC240V Input Redundant Power Supply

700W/750W Redundant Power Supplies with PMBus

<b>Total Output Power</b>	<ul style="list-style-type: none"> <li>700W/750W</li> </ul>
<b>Dimension (W x H x L)</b>	<ul style="list-style-type: none"> <li>54.5 x 40.25 x 320 mm</li> </ul>
<b>Input</b>	<ul style="list-style-type: none"> <li>100 - 140Vac / 8 - 6A / 50-60Hz</li> <li>200 - 240Vac / 4.5 - 3.8A / 50-60Hz</li> <li>200 - 240Vdc / 4.5 - 3.8A (CCC Only)</li> </ul>
<b>+12V</b>	<ul style="list-style-type: none"> <li>Max: 58A / Min: 0.5A (100 - 140Vac)</li> <li>Max: 62A / Min: 0.5A (200 - 240Vac)</li> <li>Max: 62A / Min: 0.5A (200 - 240Vdc) (CB/CCC Only)</li> </ul>
<b>+5V sb</b>	<ul style="list-style-type: none"> <li>Max: 3A / Min: 0A</li> </ul>
<b>Output Type</b>	<ul style="list-style-type: none"> <li>Gold Finger Connector Mating with Molex 45984-4343</li> </ul>

<b>LAN</b>	<ul style="list-style-type: none"> <li>2 RJ45 Gigabit Ethernet LAN ports</li> <li>1 RJ45 Dedicated IPMI LAN port</li> </ul>
<b>USB</b>	<ul style="list-style-type: none"> <li>6 USB 3.0 ports (4 rear + 2 via header)</li> </ul>
<b>VGA</b>	<ul style="list-style-type: none"> <li>1 VGA port</li> </ul>
<b>Serial Port / Header</b>	<ul style="list-style-type: none"> <li>1 Fast UART 16550 header</li> </ul>
<b>DOM</b>	<ul style="list-style-type: none"> <li>2 SuperDOM (Disk on Module) ports</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>6x 4-pin fan headers (up to 6 fans)</li> <li>6x fans with tachometer monitoring</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>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>System Information 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>Chassis intrusion detection</li> <li>Chassis intrusion header</li> <li>SDDC Support</li> <li>RoHS</li> </ul>

<b>Certification</b>	 <b>Platinum Certified</b> <a href="#">[ Test Report ]</a>
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#### 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>BIOS resume hot keys</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>Watch Dog</li> <li>NMI</li> <li>IPMI 2.0</li> <li>Intel Node Manager</li> </ul>
<b>Power Configurations</b>	<ul style="list-style-type: none"> <li>ACPI / APM Power Management</li> <li>Power-on mode for AC power recovery</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: 10°C to 35°C (50°F to 95°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>

## Список деталей

### Parts List - (Items Included)

	Part Number	Qty	Description
<b>Motherboard / Chassis</b>	MBD-X10DRW-i	1	Super X10DRW-i Motherboard
	CSE-116AC2-R706WB	1	1U Chassis
<b>Add-on Card / Module</b>	AOM-S3108M-H8	1	LSI3108, SAS-3/Gen-3 12Gb/ROC
<b>Backplane</b>	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
<b>Cable 1</b>	CBL-CDAT-0662	1	CBL,SGPIO,2X4F TO 2X4F,P2.54,ROUND CABLE,61.5CM,28AWG
<b>Cable 2</b>	CBL-SAST-0550	1	MINI SAS HD,12G,INT,25CM,30AWG
<b>Cable 3</b>	CBL-0484L	2	SATA,INT,ROUND,ST-ST,55CM,30AWG
<b>Cable 4</b>	CBL-SAST-0568	1	MINI SAS HD,12G,INT,35CM,30AWG
<b>Label</b>	LBL-0108	1	CAUTION LABEL FOR REDUNDANT PWR SYSTEMS
<b>Manual</b>	MNL-1637-QRG	1	1028R-WC1R(T) QRG,HF
<b>Riser Card</b>	RSC-R1UW-2E16	1	1U LHS WIO Riser card with two PCI-E x16 slots
<b>Heatsink / Retention</b>	SNK-P0057PS	1	1U High Performance Passive CPU Heat Sink for X9, X10 Systems Equipped w/ a Narrow ILM MB
<b>Heatsink / Retention</b>	SNK-P0047PSC	1	1U Passive Front CPU Heat Sink w/ a Side Air Channel for X9, X10 Systems Equipped with a Narrow ILM MB
<b>Power Supply</b>	PWS-706P-1R	2	1U 750W redundant power width 54.5mm(Platinum),HF,RoHS/REACH,PBF
<b>Fan</b>	FAN-0101L4	5	40x56mm, 4 Pin PWM Fan
<b>Rail Set</b>	MCP-290-00063-0N	1 set	Rail set, quick/quick, default for 1U 17.2"W for SC113/SC116,RoHS/REACH

### Optional Parts List

	Part Number	Qty	Description
<b>NVMe Tray with Lock</b>	MCP-220-00127-0B	-	Black gen-3 2.5" NVMe drive tray, Orange tab with lock (for hotswap NVMe drive),HF,RoHS/REACH
<b>NVMe Controller Card &amp; Cable</b>	AOC-SLG3-2E4R & 2x CBL-SAST-0590	-	Supermicro 6.4GB/s dual-Port Gen-3 Internal NVMe Host Bus Adapter
<b>CacheVault(s)</b>	BTR-CV3108-1U1	1	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
	BTR-TFM8G-LSICVM02 & MCP-240-00127-0N	-	CacheVault for Broadcom 3108; SuperCap mounting bracket for 2.5" HDD location
<b>Network Card(s)</b>	AOC-SGP-i2	-	Standard LP, 2x GbE RJ45, PCI-E x4, Intel® i350AM2
	AOC-SGP-i4	-	Standard LP, 4x GbE RJ45, PCI-E x4, Intel® i350
	AOC-SG-i2	-	Standard LP, 2x GbE RJ45, PCI-E x4, Intel® 82575EB
	AOC-SG-i4	-	Standard LP, 4x GbE RJ45, PCI-E x8, Intel® 82576EB
	AOC-STG-b4S	-	Standard LP, 4x 10GbE SFP+, PCI-E x8, Broadcom® BCM57840S
	AOC-STGN-i2S	-	Standard LP, 2x 10GbE SFP+, PCI-E x8, Intel® 82599ES
	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
<b>Front Bezel</b>	MCP-210-11601-0B	1	Black Front Bezel for SC113, SC113M, SC116, SC119, SC119U, SC514 (No LED indicator support)
<b>Global Services &amp; Support</b>	<u>OS4HR3/2/1</u>	-	3/2/1-year onsite 24x7x4 service
	<u>OSNBD3/2/1</u>	-	3/2/1-year onsite NBD service
<b>Software</b>	<u>SFT-OOB-LIC</u> • eStore	1	OOB Management Package (per node license)
<b>Software</b>	<u>SFT-DCMS-Single</u>	1	DataCenter Management Package (per node license)