

# SuperStorage Server 6028R-E1CR16T



SAS3 HW RAID controller



Integrated Board

Super X10DRH-CT

## 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. 1x PCI-E 3.0 x16, 6x PCI-E 3.0 x8
4. Dual 10GBase-T LAN w/ Intel® X540
5. 16x 3.5" Hot-swap SAS3 drive bays; 2x 2.5" optional Hot-swap drive bays (rear)
6. SAS3 via LSI 3108 controller, HW RAID
7. Server remote management: IPMI 2.0 / KVM over LAN / Media over LAN
8. 4x 8cm hot-swap redundant PWM cooling fans
9. 1000W Redundant Power Supplies Titanium Level

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

## Specifications

### Product SKUs

- SSG-6028R-E1CR16T ■ SuperServer 6028R-E1CR16T (Black)

### Motherboard

Super X10DRH-CT

### Processor/Cache

- CPU ■ Intel® Xeon® processor E5-2600 v4<sup>†</sup>/ v3 family (up to 145W TDP) \*  
 ■ Dual Socket R3 (LGA 2011)

- Cores / Cache ■ Up to 22 Cores<sup>†</sup> / Up to 55MB<sup>†</sup> Cache

- System Bus ■ QPI up to 9.6 GT/s

Note <sup>†</sup> 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 ■ 16x 288-pin DDR4 DIMM slots  
 ■ Up to 2TB<sup>†</sup> ECC 3DS LRDIMM, 512 ECC RDIMM

### Chassis

- Form Factor ■ 2U Rackmount  
 Model ■ CSE-829HTS-R1K02LPB

### Dimensions

- Width ■ 17.2" (437mm)  
 Height ■ 3.5" (89mm)  
 Depth ■ 25.5" (647mm)  
 Weight ■ Gross Weight: 58 lbs (26.3 kg)  
 ■ Net Weight: 34 lbs (15.4 kg)

- Available Colors ■ Black

### Front Panel

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

### Expansion Slots

- PCI-Express ■ 1x PCI-E 3.0 x16 slot  
 ■ 6x PCI-E 3.0 x8 slots

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

#### On-Board Devices

Chipset	<ul style="list-style-type: none"> <li>Intel® C612 chipset</li> </ul>
SAS	<ul style="list-style-type: none"> <li>SAS3 (12Gbps) via LSI 3108 controllers; HW RAID</li> </ul>
IPMI	<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>
Network Controllers	<ul style="list-style-type: none"> <li>Intel® X540 Dual Port 10GbE</li> <li>Virtual Machine Device Queues reduce I/O overhead</li> <li>Supports 10GBASE-T, 100BASE-TX, and 1000BASE-T, RJ45 output</li> <li>1x Realtek RTL8201N PHY (dedicated IPMI)</li> </ul>
Graphics	<ul style="list-style-type: none"> <li>ASPEED AST2400 BMC</li> </ul>

#### Input / Output

SAS	<ul style="list-style-type: none"> <li>16x SAS3 (12Gbps) ports</li> </ul>
LAN	<ul style="list-style-type: none"> <li>2x RJ45 10GBase-T LAN ports</li> <li>1x RJ45 Dedicated IPMI LAN port</li> </ul>
USB	<ul style="list-style-type: none"> <li>2x USB 3.0 ports (rear)</li> <li>2x USB 2.0 ports (rear)</li> <li>1x Type A</li> </ul>
VGA	<ul style="list-style-type: none"> <li>1x VGA port</li> </ul>
Serial Port / Header	<ul style="list-style-type: none"> <li>1x Fast UART 16550 port / 1 Header</li> </ul>

#### Drive Bays

Hot-swap	<ul style="list-style-type: none"> <li>16x 3.5" Hot-swap SAS3 drive bays</li> </ul>
Optional	<ul style="list-style-type: none"> <li>2x 2.5" Hot-swap drive bays (rear)</li> </ul>

#### Backplane

SAS3 expander backplane

#### System Cooling

Fans	<ul style="list-style-type: none"> <li>4x 8cm hot-swap redundant PWM cooling fans</li> </ul>
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#### Power Supply with Digital Switching Control

1000W Redundant Titanium Level (96%) Single Output Power Supplies

AC Input	<ul style="list-style-type: none"> <li>100-127 V, 50-60 Hz</li> <li>200-240 V, 50-60 Hz</li> </ul>
+12V	<ul style="list-style-type: none"> <li>Max: 62.5A &amp; Min: 0A (100Vac-127Vac)</li> <li>Max: 83A (200Vac-240Vac) &amp; Min: 0A</li> </ul>
12V SB	<ul style="list-style-type: none"> <li>Max: 2.1A</li> <li>Min: 0A</li> </ul>

Certification	  Titanium Level [ <a href="#">Test Report</a> ]
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#### System BIOS

BIOS Type	<ul style="list-style-type: none"> <li>128Mb SPI Flash EEPROM with AMI BIOS</li> </ul>
BIOS Features	<ul style="list-style-type: none"> <li>Plug and Play (PnP)</li> <li>APM 1.2</li> <li>PCI 2.2</li> <li>ACPI 1.0 / 2.0</li> <li>USB Keyboard support</li> <li>SMBIOS 2.3</li> <li>UEFI</li> </ul>

#### Operating Environment / Compliance

RoHS	<ul style="list-style-type: none"> <li>RoHS Compliant</li> </ul>
Environmental Spec.	<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>

## Parts List

Parts List - (Items Included)			
	Part Number	Qty	Description
<b>Motherboard / Chassis</b>	MBD-X10DRH-CT	1	Super X10DRH-CT Motherboard
	CSE-829HTS-R1K02LPB	1	2U Chassis
<b>Backplane</b>	BPN-SAS3-826EL1-N4	1	12-Port 2U Backplane with Expander support up to 8 x 3.5" SAS3/SATA3 HDD/SDD and 4 x SAS3/SATA3/NVMe Storage Devices, HF, RoHS/REACH
<b>Backplane</b>	BPN-SAS3-829HA-A4	1	4-Port 12Gbps Backplane for 4x3.5" Internal SAS3/SATA3 HDD/SSD
<b>Cable 1</b>	CBL-SAST-0568	2	Internal Mini-SAS HD to Mini-SAS HD 35cm, 30AWG, 12Gb/s, HF, RoHS/REACH, PBF
<b>Label</b>	LBL-0108	1	CAUTION LABEL FOR REDUNDANT PWR SYSTEMS
<b>Parts</b>	MCP-260-00042-0N	1	STD I/O shield for X9 socket R server MB with Gasket.
<b>Heatsink / Retention</b>	SNK-P0048AP4	1	2U Active CPU Heat Sink for Intel R2/R3/B2/B3 and AMD C32
<b>Heatsink / Retention</b>	SNK-P0047PS	1	1U Passive CPU Heat Sink for X9, X10 Systems Equipped w/ a Narrow ILM MB
<b>Parts</b>	MCP-220-82609-0N	1	Rear 2.5 x 2 Hot swap HDD kit for 216B/826B/417B/846X/847B
<b>Power Supply</b>	PWS-1K02A-1R	2	1U 1000W Redundant Power Supply 73.5mm width Titanium Level, RoHS/REACH
<b>Drive Tray(s)</b>	MCP-220-00075-0B	12	Black 3.5" HDD tray
<b>Drive Tray(s)</b>	MCP-220-82903-0N	4	Internal mid tray with handle for SC829H
<b>Power Supply</b>	PWS-1K02A-1R	2	1U 1000W Redundant Power Supply 73.5mm width Titanium Level

Optional Parts List			
	Part Number	Qty	Description
<b>3108 Cache Protection</b>	BTR-TFM8G-LSICVM02	1	SuperCap Module
	MCP-240-00127-0N	1	Convert Kit
	BKT-BBU-BRACKET-05	1	Mounting PCIe Card
<b>Rear Window</b>	MCP-220-82609-0N	-	Rear hot-swap drive bay for 2x 2.5" drives
<b>Onsite Service Program</b>	<a href="#">OS4HR3/2/1</a>	-	3/2/1-year onsite 24x7x4 service
<b>Onsite Service Program</b>	<a href="#">OSNBD3/2/1</a>	-	3/2/1-year onsite NBD service
<b>Software</b>	SFT-OOB-LIC	1	OOB Management Package (per node license)
<b>Software</b>	SFT-DCMS-Single	1	DataCenter Management Package (per node license)