

# SuperStorage Server 6048R-E1CR36L



SAS3 IT controller Storage Expandable

## Integrated Board



Super X10DRH-iT

## Key Features

1. Dual socket R3 (LGA 2011) supports Intel® Xeon® processor E5-2600 v3 family; QPI up to 9.6GT/s
2. Up to 1TB ECC DDR4 2133MHz; 16x DIMM slots
3. 1 PCI-E 3.0 x16, 6 PCI-E 3.0 x8 (slot 1 & 2 occupied by controller and JBOD expansion port)
4. Dual 10GBase-T LAN w/ Intel® X540
5. 36x 3.5" Hot-swap SAS3/SATA3 drive bays (24 front + 12 rear); 2x 2.5" optional Hot-swap drive bays (rear); 4x 2.5" internal fixed drive bays
6. SAS3 via LSI 3008 controller; IT mode
7. Server remote management: IPMI 2.0 / KVM over LAN / Media over LAN
8. 7x 80mm middle cooling fans
9. 1280W Redundant Power Supplies **Platinum Level (94%)**

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

## Specifications

### Product SKUs

- SSG-6048R-E1CR36L** ■ SuperServer 6048R-E1CR36L (**Black**)

### Motherboard

#### Super X10DRH-iT

### Processor/Cache

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

- Cores / Cache** ■ Up to 18 Cores / Up to 45MB Cache

- System Bus** ■ QPI up to 9.6 GT/s

**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 1TB ECC LRDIMM, 512GB ECC RDIMM

### Chassis

- Form Factor** ■ 4U Rackmount

- Model** ■ **CSE-847BE1C-R1K28LPB**

### Dimensions and Weight

- Width** ■ 17.2" (437mm)

- Height** ■ 7" (178mm)

- Depth** ■ 27.5" (699mm)

- Weight** ■ Gross Weight: 102.5 lbs (46.4 kg)  
■ Net Weight: 65.5 lbs (29.7 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

<b>Memory Type</b>	<ul style="list-style-type: none"> <li>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> </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>SAS</b>	<ul style="list-style-type: none"> <li>SAS3 (12Gbps) via LSI 3008</li> <li>IT mode firmware</li> </ul>
<b>SATA</b>	<ul style="list-style-type: none"> <li>SATA3 (6Gbps) with RAID 0, 1, 5, 10</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® X540 Dual Port Gigabit Ethernet</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>
<b>Graphics</b>	<ul style="list-style-type: none"> <li>ASPEED AST2400 BMC</li> </ul>

#### Input / Output

<b>LAN</b>	<ul style="list-style-type: none"> <li>2x RJ45 10GBase-T LAN ports</li> <li>1x RJ45 Dedicated IPMI LAN port</li> </ul>
<b>USB</b>	<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>
<b>VGA</b>	<ul style="list-style-type: none"> <li>1x VGA port</li> </ul>
<b>Serial Port / Header</b>	<ul style="list-style-type: none"> <li>1x Fast UART 16550 port / 1 Header</li> </ul>

- 1x PCI-E 3.0 x16 slot
- 6x PCI-E 3.0 x8 slots
- Slot 1 & 2 occupied by controller and JBOD Expansion Port

#### Drive Bays

- 36x 3.5" Hot-swap SAS3/SATA3 drive bays
- Double-sided: 24 front + 12 rear drive bays
- 2x 2.5" Hot-swap HDD bays (rear)
- Fixed internal Drive Bracket supports 1x 3.5 or 2x 2.5" devices

#### Backplane

SAS3/SATA3 single expander per backplane

#### System Cooling

- 7x 80mm middle cooling fans
- Redundant cooling

#### Power Supply with Digital Switching Control & PMBus 1.2

1280W High-Efficiency (95%+) power supply

- AC Input**
  - 1000W Output @ 100-140V, 12-8A, 50-60Hz
  - 1280W Output @ 180-240V, 8-6A, 50-60Hz
- DC Output**
  - 1000W: +12V/83A; +5Vsb/4A
  - 1280W: +12V/106.7A, +5Vsb/4A

#### Certification



**Platinum Certified**  
[ Test Report ]

#### System BIOS

- BIOS Type**
  - 128Mb SPI Flash EEPROM with AMI BIOS
- BIOS Features**
  - Plug and Play (PnP)
  - APM 1.2
  - PCI 2.2
  - ACPI 1.0 / 2.0
  - USB Keyboard support
  - SMBIOS 2.3
  - UEFI

#### 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

Parts List - (Items Included)			
	Part Number	Qty	Description
<b>Motherboard / Chassis</b>	MBD-X10DRH-iT	1	Super X10DRH-iT Motherboard
	CSE-847BE1C-R1K28LPB	1	4U Chassis
<b>Backplane</b>	BPN-SAS3-826EL1	1	SAS 12G single expander backplane, with LSI SAS3x28 expander, support 12x 3.5
<b>Backplane</b>	BPN-SAS3-846EL1	1	SAS 12G single expander backplane, with LSI SAS3 expander, support 24x 3.5
<b>Cable 1</b>	CBL-SAST-0531-01	4	Internal Mini-SAS HD to Mini-SAS HD 80cm,30AWG,12Gb/s [FCI],RoHS/REACH
<b>Cable 2</b>	CBL-SAST-0532	2	Internal Mini-SAS HD to Mini-SAS HD 50cm,30AWG,12Gb/s,HF,RoHS/REACH,PBF
<b>Cable 3</b>	CBL-0296L	3	4 pin to 4 pin fan extension cord, for PWM fan. 23cm. 24AWG
<b>Heatsink / Retention</b>	SNK-P0048PS	2	2U Passive CPU Heat Sink for X9, X10 Generation Systems Equipped w/ a Narrow ILM MB
<b>Power Supply</b>	PWS-1K28P-SQ	2	1U 1280W, redundant single output power supply
<b>Add On Card</b>	AOC-S3008L-L8E-O-P	1	12Gbps SAS3/HBA/ 2 internal HD connectors/STD Gen3 PCI/122 HD support
<b>Add On Module</b>	AOM-SAS3-8I8E-LP	1	8-port Mini SAS HD Int-to-Ext cable adapter w/ LP bracket

Optional Parts List			
	Part Number	Qty	Description
<b>Drive Tray</b>	MCP-220-84701-0N	1	Internal drive tray for one 3.5" HDD or two 2.5" HDD
	CBL-0179L	2	SATA cable 70cm
	CBL-0082L	1	Y split SATA power extension
<b>Peripheral Drives</b>	MCP-220-82609-0N	-	Rear 2 X 2.5" HDD kit (cables & backplane included)
<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)