

# X10DRT-P (For SuperServer Only)

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**16 DIMMs**  
**2400MHz DDR4**  
**2U Twin2**

## Key Features

1. Dual socket R3 (LGA 2011) supports Intel® Xeon® processor E5-2600 v3/v4 family; QPI up to 9.6GT/s
2. Intel® C612 chipset
3. Up to 2TB† ECC 3DS LRDIMM , up to DDR4- 2400†MHz; 16 DIMM slots
4. Expansion slots: 1 PCI-E 3.0 x16, 1 PCI-E 3.0 x8 (Proprietary slot), 1 PCI-E 3.0 x8 and 1 PCI-E 3.0 x16 (for Supermicro storage add-on card)
5. Intel® i350-AM2 Dual port GbE LAN
6. 10 SATA3 (6Gbps)
7. Integrated IPMI 2.0 and KVM with Dedicated LAN
8. 2 USB 3.0 ports (2 rear)

## Links & Resources

- [Tested Memory List](#)
- [Tested HDD / SSD List](#)
- [Tested AOC List](#)
- [Motherboard Manual](#)
- [Quick Reference Guide](#)
- [Update Your BIOS](#)
- [BMC Firmware](#)
- [Download the Latest Drivers and Utilities](#)
- [Download Driver CD](#)
- [OS Compatibility Optimization](#)

# Specifications

## Product SKUs

<b>MBD-X10DRT-P</b>	■ X10DRT-P
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## Physical Stats

<b>Form Factor</b>	■ Proprietary Twin
<b>Dimensions</b>	■ 6.8" x 18.86" (17.27cm x 47.9cm)

## Processor/Cache

<b>CPU</b>	<ul style="list-style-type: none"> <li>■ Intel® Xeon® processor E5-2600 v3, Intel® Xeon® processor E5-2600 v4.</li> <li>■ Dual Socket R3 (LGA 2011) supported, CPU TDP support Up to 145W</li> </ul>
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<b>Cores / Cache</b>	■ Up to 22 cores † / Up to 55MB† cache
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<b>Note</b>	■ † BIOS version 2.0 or above is required
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<b>Note</b>	■ ** Motherboard supports this maximum TDP. Please verify your system can thermally support.
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## System Memory

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

<b>Chipset</b>	■ Intel® C612
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<b>SATA</b>	■ Intel® C612 controller for 10 SATA3 (6 Gbps) ports; RAID 0,1,5,10
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<b>AHCI SATA</b>	■ SATA3 (6Gbps); RAID 0, 1, 5, 10
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<b>SCU SATA</b>	■ SATA3 (6Gbps); RAID 0, 1, 5, 10
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<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>
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<b>Network Controllers</b>	<ul style="list-style-type: none"> <li>■ Dual LAN with Intel® Ethernet Controller I350-AM2</li> <li>■ Single LAN with Virtual Machine Device Queues reduce I/O overhead</li> <li>■ Single LAN with Supports 10Base-T, 100BASE-TX, and 1000BASE-T, RJ45 output</li> <li>■ Single LAN with 1 Realtek RTL8211E PHY (dedicated IPMI)</li> </ul>
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## Expansion Slots

<b>PCI-E</b>	<ul style="list-style-type: none"> <li>■ 1 PCI-E 3.0 x16,</li> <li>■ 1 PCI-E 3.0 x8,</li> <li>■ 1 PCI-E 3.0 x8 connector for SMC add-on cards,</li> <li>■ 1 PCI-E 3.0 x16 connector for SMC add-on cards,</li> <li>■ (Both CPUs need to be installed for full access to PCI-E slots and onboard controllers. See manual block diagram for details.)</li> </ul>
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## System BIOS

<b>BIOS Type</b>	■ 128Mb SPI Flash EEPROM with AMI BIOS
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<b>BIOS Features</b>	<ul style="list-style-type: none"> <li>■ Plug and Play (PnP)</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>
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## Management

<b>Software</b>	■ IPMI2.0, NMI, SuperDoctor® 5, Watchdog
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<b>System Management Software</b>	<ul style="list-style-type: none"> <li>■ SPM</li> <li>■ SUM</li> <li>■ SSM</li> <li>■ SuperDoctor 5</li> </ul>
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<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>
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## PC Health Monitoring

<b>Voltage</b>	■ +12V, +3.3V, +5V, 3.3V standby, 6 Phase-switching voltage regulator, Memory Voltages, VBAT
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<b>FAN</b>	■ 2x 4-pin fan headers (up to 2 fans), 4 fans with tachometer monitoring, Pulse Width Modulated (PWM) fan connectors, Status monitoring for speed control
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<b>Temperature</b>	■ Monitoring for CPU and chassis environment, CPU thermal trip support, Thermal Control for 4 Fan Connectors (2 fans on backplane), Thermal Monitor 2 (TM2) support, PECI
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<b>LED</b>	■ CPU / System Overheat LED, Suspend static indicator LED, UID/Remote UID
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<b>Other Features</b>	■ RoHS
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## Operating Environment

<b>Operating Temperature Range</b>	■ 10°C - 35°C (50°F - 95°F)
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<b>Non-Operating Temperature Range</b>	■ -40°C - 70°C (-40°F - 158°F)
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<b>Graphics</b>	■ Aspeed AST2400 BMC
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Input / Output

<b>SATA</b>	■ 10 SATA3 (6Gbps) port
<b>LAN</b>	■ 2 RJ45 Gigabit Ethernet LAN ports ■ 1 RJ45 Dedicated IPMI LAN port
<b>USB</b>	■ 3 USB 3.0 ports (2 rear + 1 Type A)
<b>Video Output</b>	■ 1 VGA port
<b>TPM</b>	■ 1 TPM Header

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<b>Operating Relative Humidity Range</b>	■ 8% - 90% (non-condensing)
<b>Non-Operating Relative Humidity Range</b>	■ 5% - 95% (non-condensing)

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## Parts List

Parts List (Bulk Package)			
Name	Part Number	Qty	Description
Motherboard	MBD-X10DRT-P	1	X10DRT-P Motherboard

Optional Parts List			
Name	Part Number	Qty	Description
Heat Sink (optional, not included)		--	CPU Heat Sink reference
TPM security module (optional, not included)	AOM-TPM-9655V AOM-TPM-9655H	--	TPM 1.2 module with Infineon 9655, RoHS/REACH, PBF; Vertical or Horizontal depends on the server
TPM security module (optional, not included)	AOM-TPM-9655V-S AOM-TPM-9655H-S	--	TPM 1.2 module with Infineon 9655, RoHS/REACH, PBF; Vertical or Horizontal depends on the server, provision for TXT
TPM security module (optional, not included)	AOM-TPM-9665V AOM-TPM-9665H	--	TPM 2.0 module with Infineon 9665, RoHS/REACH, PBF; Vertical or Horizontal depends on the server
TPM security module (optional, not included)	AOM-TPM-9665V-S AOM-TPM-9665H-S	--	TPM 2.0 module with Infineon 9665, RoHS/REACH, PBF; Vertical or Horizontal depends on the server, provisioned for TXT
SuperDOM		--	Supermicro SATA DOM Solutions [Details]

### Chassis (Optimized for X10DRT-P)

Embedded Compact	1U	2U	3U	Mid/Mini-Tower	4U/Tower
		<ul style="list-style-type: none"> <li>● SC827HQ+-R2K02B</li> <li>● SC827HQ+-R2K02B</li> <li>● SC217HQ+-R2K02B</li> <li>1U</li> <li>Heatsink:SNK-P0047PSM (Rear)</li> <li>1U</li> <li>Heatsink:SNK-P0047PSM (Front)</li> <li>1U</li> <li>Heatsink:SNK-P0057PS (Rear)</li> <li>1U</li> <li>Heatsink:SNK-P0057PS (Front)</li> <li>2U: ● SC827HD+-R1K28B</li> <li>2U</li> <li>Heatsink:SNK-P0048PS</li> </ul>			

● = Most optimized Chassis for SuperServer Configuration  
 Blue color = Compatible  
 Green color = Global SKU & Compatible  
 Red dot & green color = Optimized + Global SKU

### Server (Optimized for X10DRT-P)

<b>Server Name</b>
<u>SYS-6028TP-HTR</u>
<u>SYS-2028TP-HC1R</u>
<u>SYS-2028TP-HC0R</u>
<u>SYS-2028TP-HTR</u>
<u>SYS-2028TP-DC1R</u>
<u>SYS-2028TP-DC0R</u>
<u>SYS-2028TP-DTR</u>
<u>SYS-6028TP-HC1R</u>
<u>SYS-6028TP-HC0R</u>
<u>SYS-2028TP-DNCR</u>
<u>SYS-6028TP-DNCR</u>
<u>SYS-2028TP-DECR</u>
<u>SYS-1028TP-DTR</u>
<u>SYS-1028TP-DC0R</u>
<u>SYS-1028TP-DC1R</u>