

## X12SPT-PT (For SuperServer Only)

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### TwinPro UP Serverboard

#### Key Features

1. 3rd Gen Intel® Xeon® Scalable processors  
Single Socket LGA-4189 (Socket P+) supported, CPU TDP supports Up to 270W TDP
2. Intel® C621A
3. Up to 2TB 3DS ECC RDIMM, DDR4-3200MHz; Up to 2TB 3DS ECC LRDIMM, DDR4-3200MHz  
Up to 2TB Intel® Optane™ Persistent Memory 200 Series, in 8 DIMM slots
4. 1 PCI-E 4.0 x16 Left Riser Slot,  
1 PCI-E 4.0 x16 Right Riser Slot,  
1 PCI-E 4.0 x8 Proprietary Storage adapter Slot
5. Intel® C621A controller for 6 SATA3 (6 Gbps) ports; RAID 0,1,5,10
6. Dual LAN with 10G SFP+
7. 1 VGA port

# Specifications

## Product SKUs

<b>MBD-X12SPT-PT</b>	<ul style="list-style-type: none"> <li>X12SPT-PT</li> </ul>
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## Physical Stats

<b>Form Factor</b>	<ul style="list-style-type: none"> <li>Proprietary</li> </ul>
<b>Dimension</b>	<ul style="list-style-type: none"> <li>6.8" x 18.86" (17.27cm x 47.9cm)</li> </ul>

## Processor

<b>CPU</b>	<ul style="list-style-type: none"> <li>3rd Gen Intel® Xeon® Scalable processors</li> <li>Single Socket LGA-4189 (Socket P+) supported, CPU TDP supports Up to 270W TDP</li> </ul>
<b>Core</b>	<ul style="list-style-type: none"> <li>Up to 40 cores</li> </ul>

## System Memory

<b>Memory Capacity</b>	<ul style="list-style-type: none"> <li>8 DIMM slots</li> <li>Up to 2TB Intel® Optane™ Persistent Memory 200 Series, DDR4-3200MHz</li> <li>Up to 2TB ECC LRDIMM, DDR4-3200MHz; Up to 2TB ECC RDIMM, DDR4-3200MHz</li> </ul>
<b>Memory Type</b>	<ul style="list-style-type: none"> <li>3200/2933/2666MHz ECC DDR4 LRDIMM, RDIMM</li> </ul>
<b>DIMM Sizes</b>	<ul style="list-style-type: none"> <li>8GB, 16GB, 32GB, 64GB, 128GB, 256GB</li> <li>LRDIMM: 32GB, 64GB, 128GB, 256GB</li> <li>RDIMM: 32GB, 64GB, 128GB, 256GB</li> </ul>
<b>Memory Voltage</b>	<ul style="list-style-type: none"> <li>1.2V</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® C621A</li> </ul>
<b>SATA</b>	<ul style="list-style-type: none"> <li>Intel® C621A controller for 6 SATA3 (6 Gbps) ports; RAID 0,1,5,10</li> </ul>
<b>IPMI</b>	<ul style="list-style-type: none"> <li>ASPEED AST2600 BMC</li> </ul>
<b>Graphics</b>	<ul style="list-style-type: none"> <li>ASPEED AST2600 BMC</li> </ul>
<b>Network Controllers</b>	<ul style="list-style-type: none"> <li>Dual LAN with 10G SFP+</li> </ul>

## Input / Output

<b>SATA</b>	<ul style="list-style-type: none"> <li>6 SATA3 (6Gbps) port(s)</li> </ul>
<b>LAN</b>	<ul style="list-style-type: none"> <li>2 10G SFP+ LAN ports</li> </ul>
<b>USB</b>	<ul style="list-style-type: none"> <li>2 USB 3.2 Gen1 port(s) (2 rear)</li> </ul>
<b>Video Output</b>	<ul style="list-style-type: none"> <li>1 VGA port(s)</li> </ul>

## Expansion Slots

<b>PCI-E</b>	<ul style="list-style-type: none"> <li>1 PCI-E 4.0 x16 Left Riser Slot,</li> <li>1 PCI-E 4.0 x16 Right Riser Slot</li> </ul>
<b>M.2</b>	<ul style="list-style-type: none"> <li>M.2 Interface: 2 PCI-E 4.0 x4</li> <li>Form Factor: 2280/22110</li> <li>Key: M-Key</li> </ul>

## System BIOS

<b>BIOS Type</b>	<ul style="list-style-type: none"> <li>AMI UEFI</li> </ul>
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## Management

<b>Software</b>	<ul style="list-style-type: none"> <li>SuperDoctor® 5, NMI, Intel® Node Manager, SPM, SUM, SSM, IPMI (Intelligent Platform Management Interface) v2.0 with KVM support, Watchdog</li> </ul>
<b>Power Configurations</b>	<ul style="list-style-type: none"> <li>ACPI Power Management</li> </ul>

## PC Health Monitoring

<b>Voltage</b>	<ul style="list-style-type: none"> <li>VBAT, PCH temperature, Memory temperature, CPU temperature, +5V standby, +5V, +3.3V, +12V, +1.8V, VRM temperature, Memory Voltages, CPU thermal trip support</li> </ul>
<b>LED</b>	<ul style="list-style-type: none"> <li>UID/Remote UID</li> <li>BMC/IPMI Heartbeat LED</li> </ul>
<b>Other Features</b>	<ul style="list-style-type: none"> <li>WOL, UID, RoHS, Node Manager Support, RoT, NCSI header</li> </ul>
<b>FAN</b>	<ul style="list-style-type: none"> <li>2x 4-pin fan headers (up to 2 fans)</li> </ul>

## Operating Environment

<b>Operating Temperature Range</b>	<ul style="list-style-type: none"> <li>10°C - 35°C (50°F - 95°F)</li> </ul>
<b>Non-Operating Temperature Range</b>	<ul style="list-style-type: none"> <li>-40°C - 70°C (-40°F - 158°F)</li> </ul>
<b>Operating Relative Humidity Range</b>	<ul style="list-style-type: none"> <li>8% - 90% (non-condensing)</li> </ul>
<b>Non Operating Relative Humidity Range</b>	<ul style="list-style-type: none"> <li>5% - 95% (non-condensing)</li> </ul>

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<b>Serial Port</b>	■ 1 COM Port(s) (1 header)
<b>DOM</b>	■ 2 SuperDOM (Disk on Module) port with build power
<b>TPM</b>	■ 1 TPM Header

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## Parts List

Parts List (Bulk Package)			
Name	Part Number	Qty	Description
Motherboard	MBD-X12SPT-PT	1	X12SPT-PT Motherboard

Optional Parts List			
Name	Part Number	Qty	Description
TPM security module (optional, not included)	<u>AOM-TPM-9671H</u>	1	SPI Capable Horizontal TPM 1.2 Module SPI capable TPM 2.0 with Infineon 9670 controller with horizontal form factor
	<u>AOM-TPM-9670H</u>	1	

