

SuperServer 2029BT-HNR (Complete System Only)



Integrated Board



Super X11DPT-B

Views: | [Angled View](#) | [Node View](#) |
| [Front View](#) | [Rear View](#) |

Complete System Only: To maintain quality and integrity, this product is sold only as a completely-assembled system (with minimum 2 CPUs, 2 DIMMs, 1 NVMe and 1 SIOM card per node).

► [Drivers & Utilities](#) ► [BIOS](#) ► [IPMI](#) ► [Tested Memory](#) ► [Tested M.2 List](#) ► [NVMe Options](#) ► [Manuals](#) ► [OS Certification Matrix](#) ► [Quick-References Guide](#) ► [Tested SIOM](#) ► [Network Card \(AOC\) Matrix](#)

Key Features

- Compute Intensive Application
- HPC, Data Center, Enterprise Server
- Hyperscale / Hyperconverged

Four hot-pluggable systems (nodes) in a 2U form factor. Each node supports the following:

1. Dual Socket P (LGA 3647) support
2nd Gen Intel® Xeon® Scalable processors (Cascade Lake/Skylake)[‡]
2. 24 DIMMs; up to 6TB 3DS ECC
DDR4-2933MHz[†] RDIMM/LRDIMM,
Supports Intel® Optane™ DCPMM^{††}
3. 2 PCI-E 3.0 x16 (LP) slot; 1 [SIOM](#)
card support (flexible networking)
Note: must bundle with Network card
4. 6 Hot-swap 2.5" NVMe drive bays;
2 M.2 SATA3 or NVMe support
5. 1 Carrier Card slot (M.2 support)
6. IPMI 2.0 + KVM with dedicated LAN
7. Video via Aspeed AST2500 BMC
8. 4 Heavy duty 8cm PWM fans with
air shroud
9. 2200W Redundant Power Supplies
Titanium Level (96%)



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

Specifications

Product SKUs

SYS-2029BT-HNR	■ SuperServer 2029BT-HNR (Black)
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Motherboard

Super X11DPT-B	
Processor/Cache (per Node)	
CPU	■ Dual Socket P (LGA 3647) ■ 2nd Gen Intel® Xeon® Scalable Processors and Intel® Xeon® Scalable Processors [‡] , Dual UPI up to 10.4GT/s ■ Support CPU TDP 70-205W*
Cores	■ Up to 28 Cores
Note	* 200W/205W CPUs are supported under certain configurations. Please contact Supermicro Technical Support for additional information about specialized system optimization
Note	[‡] BIOS version 3.2 or above is required to support 2nd Gen Intel® Xeon® Scalable processors (codenamed Cascade Lake-R). Extended thermal solutions may be required to support CPUs higher than 165W TDP, please contact Supermicro Technical Support for additional information.

System Memory (per Node)

Memory Capacity	■ 24 DIMM slots ■ Up to 6TB 3DS ECC DDR4-2933MHz [†] RDIMM/LRDIMM ■ Supports Intel® Optane™ DCPMM ^{††}
Memory Type	■ 2933 [†] /2666/2400/2133MHz ECC DDR4 RDIMM/LRDIMM
Note	[†] 2933MHz in two DIMMs per channel can be achieved by using memory purchased from Supermicro ^{††} Cascade Lake only. Contact your Supermicro sales rep for more info.

On-Board Devices

Chipset	■ Intel® C621 chipset
Network	■ Must bundle with at least one <u>SIOM</u> network card
IPMI	■ Support for Intelligent Platform Management Interface v.2.0 ■ IPMI 2.0 with virtual media over LAN and KVM-over-LAN support
Video	■ ASPEED AST2500 BMC

Input / Output (per Node)

LAN	■ 1 RJ45 Dedicated IPMI LAN port
USB	■ 2 USB 3.0 ports (rear)
Video	■ 1 VGA port
DOM	■ 1 Super <u>DOM</u> (Disk on Module) port
Others	■ M.2 and SATA DOM for boot drive only

System BIOS

BIOS Type	■ AMI 32Mb SPI Flash ROM
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Management

Software	■ Intel® Node Manager ■ <u>IPMI 2.0</u> ■ KVM with dedicated LAN ■ <u>SSM</u> , <u>SPM</u> , <u>SUM</u> ■ <u>SuperDoctor® 5</u> ■ Watch Dog
Power Configurations	■ ACPI / APM Power Management

PC Health Monitoring

CPU	■ Monitors for CPU Cores, Chipset Voltages, Memory. ■ 4+1 Phase-switching voltage regulator
FAN	■ Fans with tachometer monitoring ■ Status monitor for speed control ■ Pulse Width Modulated (PWM) fan connectors
Temperature	■ Monitoring for CPU and chassis environment ■ Thermal Control for fan connectors

Chassis

Form Factor	■ 2U Rackmount
Model	■ CSE-217BHQ+-R2K22BP2

Dimensions and Weight

Width	■ 17.6" (447mm)
Height	■ 3.47" (88mm)
Depth	■ 28.75" (730mm)
Package	■ 24.65" (H) x 9.76" (W) x 45.28" (D)
Weight	■ Gross Weight: 85 lbs (38.6kg) ■ Net Weight: 54.5 lbs (24.7 kg)
Available Colors	■ Black

Front Panel

Buttons	■ Power On/Off button ■ UID button
LEDs	■ Power status LED ■ HDD activity LED ■ Network activity LEDs ■ Universal Information (UID) LED

Expansion Slots (per Node)

PCI-Express	■ 2 PCI-E 3.0 (x16) Low-profile slots ■ 1 <u>SIOM</u> card support (must bundle with network card)
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Drive Bays / Storage (per Node)

Hot-swap	■ 6 Hot-swap 2.5" NVMe drive bays
M.2	■ 2 M.2 NVMe or SATA (2240/2260/2280) via optional AOC-SMG3-2H8M2-B

System Cooling

Fans	■ 4 Heavy duty 8cm PWM fans with air shroud
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Power Supply

2200W Redundant Power Supplies with PMBus	
Total Output Power	■ 1200W/1800W/1980W/2090/2200W
Dimension (W x H x L)	■ 45 x 40 x 480 mm
Input	■ 1200W: 100-127Vac / 50-60Hz ■ 1800W: 200-220Vac / 50-60Hz ■ 1980W: 220-230Vac / 50-60Hz ■ 2090W: 230-240Vac / 50-60Hz ■ 2090W: 180-220Vac (for UL/cUL only) ■ 2200W: 220-240Vac (for UL/cUL only) ■ 2090W: 230-240Vdc (for CCC only)
+12V	■ Max: 100A / Min: 0A (100-127Vac) ■ Max: 150A / Min: 0A (200-220Vac) ■ Max: 165A / Min: 0A (220-230Vac) ■ Max: 174.17A / Min: 0A (230-240Vac) ■ Max: 174.17A / Min: 0A (180-220Vac, UL/cUL only) ■ Max: 183.33A / Min: 0A (220-240Vac, UL/cUL only) ■ Max: 174.17A / Min: 0A (230-240Vdc, CCC only)
12Vsb	■ Max: 2.1A / Min: 0A
Output Type	■ Gold Finger
Certification	 Titanium Level [Test Report]

Operating Environment

RoHS	■ RoHS Compliant
Environmental Spec.	■ Operating Temperature: 10°C ~ 35°C (50°F ~ 95°F) ■ Non-operating Temperature: -40°C to 60°C (-40°F to 140°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
Motherboard / Chassis	MBD-X11DPT-B	4	Super X11DPT-B Motherboard
	CSE-217BHQ+-R2K22BP2	1	2U Chassis
Backplane	BPN-ADP-6NVME3-1UB	4	6x NVMe ports and 50A power sourcing daughter card for Big Twin
Backplane	BPN-NVME3-217BHQ	1	2U 24-Port 4-Node NVMe Backplane Support 6x2.5
Cable 1	CBL-PWCD-0578	2	PWCD,US,IEC60320 C14 TO C13,3FT,14AWG
Drive Tray(s)	MCP-220-00127-0B-BULK	24	Black gen3 Hotswap 2.5 NVMe drive tray, Orange tab/Lock/Bulk
Parts	MCP-240-21721-0N	1	217B BigTwin type I (Impact) BPN retention bkt assy
Air Shroud	MCP-310-21718-0B	4	Bigtwin air box for X11DPT-B(4pcs/set)
Air Shroud	MCP-310-21724-0B	4	Bigtwin 2U4N plastic air shroud (2pcs) for Cascade lake MB
Manual	MNL-1948-QRG	1	2029BT-H(N/T/NC0)R Quick Reference Guide
Riser Card	RSC-P-6	4	RSC-P-6 (1U LHS TwinPro RSC with 1 PCIe x16),RoHS
Riser Card	RSC-R1UTP-E16R	4	1U RHS TwinPro Riser card with one PCIe x16 slot
Heatsink / Retention	SNK-P0067PS	4	1U Passive CPU Heat Sink for X11 Purley Platform Equipped with a Narrow Retention Mechanism
Heatsink / Retention	SNK-P0067PSM	4	1U Passive CPU Heat Sink with a 26-mm Wide Middle Air Channel for X11 Purley Platform Equipped with a Narrow Retention Mechanism
Power Supply	PWS-2K22A-1R	2	1U 2200W Redundant Power Supply Titanium, 45(W) X 40(H) X 48

Optional Parts List

	Part Number	Qty	Description
TPM security module	AOM-TPM-9670H	1	SPI capable TPM 2.0 with Infineon 9670 controller, Horizontal form factor
TPM security module	AOM-TPM-9671H	1	SPI capable TPM 1.2 with Infineon 9670 controller, Horizontal form factor
Intel VROC RAID Key	AOC-VROCINTMOD	1	Intel VROC, RAID 0, 1, 5, 10 (Intel SSD Only)
	AOC-VROCSTNMOD	1	Intel VROC Standard, RAID 0, 1, 10
	AOC-VROCPREMOD	1	Intel VROC Premium, RAID 0, 1, 5, 10
Global Services & Support	QS4HR3/2/1	-	3/2/1-year onsite 24x7x4 service
	OSNBD3/2/1	-	3/2/1-year onsite NBD service
Software	SFT-OOB-LIC • eStore	1	OOB Management Package (per node license)
Software	SFT-DCMS-Single	1	DataCenter Management Package (per node license)
SuperDOM	-	-	Supermicro SATA DOM Solutions [Details]
Network Card(s)	AOC-S40G-i2Q	-	Standard LP 2-port 40GbE controller, based on Intel Fortville XL710
	AOC-SGP-i2	-	Standard LP, 2x GbE RJ45, PCIe x4, Intel i350AM2
	AOC-SGP-i4	-	Standard LP, 4x GbE RJ45, PCIe x4, Intel i350
	AOC-STG-b4S	-	Standard LP, 4x 10GbE SFP+, PCIe x8, Broadcom BCM57840S
	AOC-STGN-i2S	-	Standard LP, 2x 10GbE SFP+, PCIe x8, Intel 82599ES
	AOC-STGN-i1S	-	Standard LP, 1x 10GbE SFP+, PCIe x8, Intel 82599EN
	AOC-STG-i2T	-	Standard LP, 2x 10GbE RJ45, PCIe x8, Intel X540
	AOC-STG-i2	-	Standard LP, 2x 10GbE CX4, PCIe x8, Intel 82598EB
Carrier Card(s)	AOC-SMG3-2H8M2-B	-	2x Hybrid NVMe/SATA M.2 carrier for BigTwin,HF,RoHS
	AOC-SMG2-2TM2	-	2x SATA M.2 RAID 1 adapter for BigTwin,HF,RoHS