

TECHNICAL DATASHEET

SUPERMICRO · TOWER SERVERS & WORKSTATIONS

Supermicro 4U SuperWorkstation Server SYS-542T-2R

UP full rackmount tower workstation for media/video live-streaming, broadcasting, and CDN applications

SKU SYS-542T-2R

4U

LGA4710

Supermicro



FORM FACTOR

4U

MAX POWER (BASE)

349 W

HEAT OUTPUT

1,191 BTU/h

PRICE

On request**CONFIGURE & QUOTE ONLINE**serverinvest.com/product/sys-542t-2r

01 Product overview

The Supermicro SYS-542T-2R is a 4U SuperWorkstation Server built on Intel Xeon 6.

UP full rackmount tower workstation for media/video live-streaming, broadcasting, and CDN applications.

The chassis accepts up to 1 GPU accelerators for AI, rendering and HPC workloads.

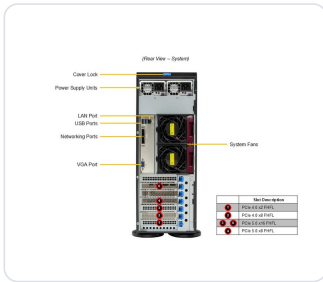
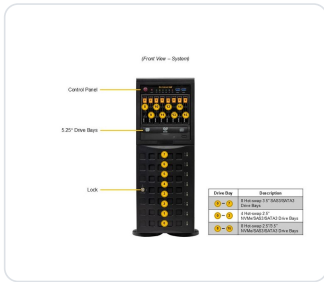
ServerInvest configures every SYS-542T-2R to order, updates BIOS and BMC firmware, installs your operating system on request and runs a 48-hour burn-in test before delivery. Every system includes a 3-year warranty.

HIGHLIGHTS

- Intel Xeon 6
- Total 8 bays 8 front fixed 3.5"/2.5" 24G SAS*/NVMe/SAS*/SATA drive bays
- Up to 1 GPUs
- Power: 2x 1200W
- Networking: 2 QSFP28 100GbE with Intel SoC

KEY SPECIFICATIONS

Form factor	4U
Processor	Intel Xeon 6
Socket	LGA4710
Memory	4 DIMM slots
Memory type	DDR5-6400 ECC RDIMM
Drive bays	32 (32 NVMe)
GPU	Up to 1 GPUs
Power supply	2× 1200 W
Typical power draw	900 W
Networking	2 QSFP28 100GbE with Intel SoC
Dimensions (W×H×D)	437 × 178 mm



02 Base configuration

Components included in the listed base price — every part can be changed in the online configurator

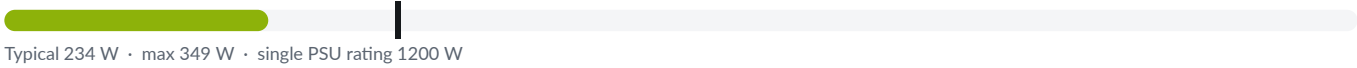
COMPONENT	DESCRIPTION	QTY
Base system	Supermicro 4U SuperWorkstation Server SYS-542T-2R	1
Processor	Intel Xeon 6505P Processor 12 Cores (48M Cache, 2.20Ghz) 150W	1
Memory	16GB 6400MT/s DDR5 ECC Registered DIMM Module	2
Warranty & support	3-year return-to-base warranty (included)	1

Price on request — contact us for a tailored quotation

03 Power & thermal

Calculated for the base configuration

IDLE	TYPICAL	MAXIMUM	HEAT (MAX)	COOLING	PSU LOAD
107 W	234 W	349 W	1,191 BTU/h	0.3 kW	29%



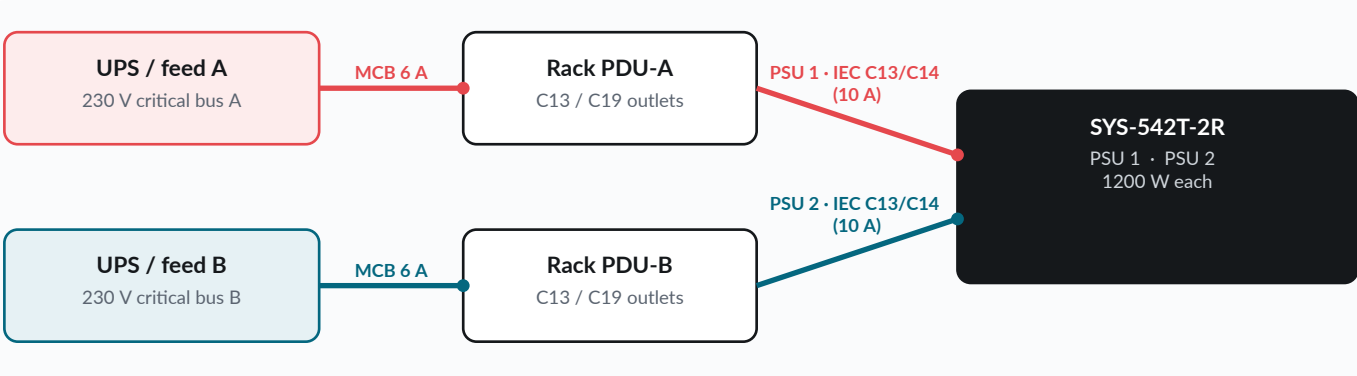
Annual IT energy (24/7)	1,716 kWh
Annual facility energy (PUE 1.5)	2,574 kWh
Annual energy cost	€343 IT · €515 incl. cooling (at 0.20 €/kWh)
CO ₂ emissions / year	0.67 t (grid factor 0.26 kg/kWh)
Power supplies	2× 1200 W redundant (N+1)

POWER BY COMPONENT	IDLE	TYPICAL	MAX
Chassis, motherboard, fans, BMC	72 W	112 W	160 W
CPU — Intel Xeon 6505P Processor 12 Cores	23 W	98 W	150 W
2× Memory 16 GB DIMM	6 W	10 W	18 W

DC loads converted to wall power at 94% PSU efficiency; typical load assumed 70% of the time. Engineering estimates — confirm with the manufacturer's power calculator for critical designs.

04 Power connection diagram

Dual-feed (A/B) connection for redundant power supplies



- Connect PSU 1 to PDU-A and PSU 2 to PDU-B (independent feeds) using IEC C13/C14 (10 A) power cords.
- Maximum current per feed: 1.6 A at 230 V — each feed must be able to carry the full load if the other fails.
- Recommended protection per PDU circuit: MCB 6 A, curve C; RCD according to local regulations.
- Heat to remove at full load: 349 W = 1,191 BTU/h (0.3 kW).

05 Full specifications

MOTHERBOARD

Super X14SDI-36C-SP3F

PROCESSOR

CPU	Intel Xeon 6 SoC
Core Count	36C/72T; 144MB Cache

Note Supports up to 235W TDP CPUs (Air Cooled)

GPU

Max GPU Count	Up to 1 triple-width GPU
Supported GPU	NVIDIA PCIe: NVIDIA RTX PRO 4000 Blackwell, NVIDIA RTX PRO 5000 Blackwell, NVIDIA RTX PRO 6000 Blackwell Max-Q Workstation Edition, NVIDIA RTX PRO 6000 Blackwell Workstation Edition NVIDIA: GeForce RTX 5080, GeForce RTX 5090 Intel: Arc Pro B50 Graphics, Arc Pro B60 Graphics (DW)

SYSTEM MEMORY

Memory	Slot Count: 4 DIMM slots Max Memory (1DPC): 2TB 6400MT/s ECC DDR5 RDIMM View Memory Options
Memory Voltage	1.1V

ON-BOARD DEVICES

SATA	SATA (6Gbps)
SAS	SAS (12Gbps) ; RAID 0/1/5/6/10/50/60 support
Network Connectivity	2 QSFP28 100GbE with Intel SoC 1 RJ45 1GbE with Intel I210-IT View AOC Options

INPUT / OUTPUT

LAN	1 RJ45 1 GbE LAN port (Intel I210-IT) (IPMI shared on LAN port 1) 2 QSFP28 100 GbE LAN ports (Intel SOC)
USB	2 USB 3.2 Gen1 Type-A ports (rear) 2 USB 3.2 Gen1 Type-A ports (front)
Video	1 VGA port

MANAGEMENT

Software	SuperCloud Composer (SCC) Supermicro Server Manager (SSM) Supermicro Update Manager (SUM) Supermicro SuperDoctor 5 (SD5) Super Diagnostics Offline (SDO) Supermicro Thin-Agent Service (TAS) SuperServer Automation Assistant (SAA) New!
Power configurations	ACPI/APM Power Management

SECURITY

Hardware	Trusted Platform Module (TPM) 2.0 Silicon Root of Trust (RoT) – NIST 800-193 Compliant
Features	Cryptographically Signed Firmware Secure Boot Secure Firmware Updates Automatic Firmware Recovery Supply Chain Security: Remote Attestation Runtime BMC Protections System Lockdown

PC HEALTH MONITORING

CPU	Monitors for CPU Cores, Chipset Voltages, Memory.
Fan	Pulse Width Modulated (PWM) fan connectors Status monitor for speed control
Temperature	Monitoring for CPU and chassis environment Thermal Control for fan connectors

CERTIFICATIONS

Operating Systems	RHEL 9.6, RHEL 10.0, Windows Server 2022, Windows Server 2025 View all OS Compatibility and Certification Matrix
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CHASSIS

Form Factor	4U Rackmount
Model	CSE-745BTS-R000NDBP2

DIMENSIONS AND WEIGHT

Height	17.8" (452 mm)
Width	7" (178 mm)
Depth	25.5" (647 mm)
Package	24.6" (H) x 14" (W) x 31.3" (D)
Weight	Gross Weight: 62 lbs (28.12 kg) Net Weight: 59 lbs (26.76 kg)
Available Color	Black

EXPANSION SLOTS

PCI-Express (PCIe) Configuration	Default 2 PCIe 5.0 x16 FHFL slots 1 PCIe 4.0 x8 FHFL slot 1 PCIe 4.0 x2 (in x4) FHFL slot View AOC Options
M.2	1 M.2 PCIe 4.0 x4 slot (M-key 2280/22110) 1 M.2 PCIe 4.0 x2 slot (M-key 2280/22110)

DRIVE BAYS / STORAGE

Drive Bays Configuration	Default: Total 8 bays 8 front fixed 3.5"/2.5" 24G SAS*/NVMe*/SAS*/SATA drive bays Option A: Total 16 bays 8 front fixed 3.5"/2.5" 24G SAS*/SAS/SATA drive bays 8 front fixed 2.5" 24G SAS*/NVMe*/SAS/SATA drive bays (*24G SAS/NVMe/SAS support may require additional storage controller and/or cables, please see the optional parts list for details)
M.2	2 M.2 NVMe slots (M-key 2280/22110; VROC required for RAID) View M.2 Options
Peripheral Bays	1 DVD bay

SYSTEM COOLING

Fans	1 Exterior 80mm Fan(s) (optional) 5 Acoustic Optimized  Hot Swap  80mm Fan(s) 5 Heavy Duty  Hot Swap  80mm Fan(s) (optional)
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POWER SUPPLY

2x 1200W
2x 2200W
2x 1200W
2x 1200W Redundant (1 + 1) Titanium Level (96%) Hot-plug power supplies
Dimension (WxHxL)
76 x 40 x 336 mm

OPERATING ENVIRONMENT

Environmental Spec.

Operating Temperature: 10°C to 35°C (50°F to 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)

06 Built, tested & supported by ServerInvest

Engineered configuration

Every option validated for socket, memory channels, PCIe lanes, power and cooling.

48-hour burn-in

Assembled, firmware-updated and stress-tested before it leaves our workshop.

3-year warranty

Standard on every system, with on-site next-business-day upgrades available.

Rack-ready delivery

Rails, cable management and labelling included — delivered across Europe.



Ready to order or need changes?

Configure this system online or talk to a solutions engineer — we reply within one business day.

office@serverinvest.com

Official manufacturer datasheet: serverinvest.com/product/sys-542t-2r/datasheet/manufacture

