X13 Server Solutions
Supporting 5th Gen Intel® Xeon® Processors
(Emerald Rapids)
INTRODUCING
SUPERMICRO X13 GENERATION
Accelerate Everything with 5th Gen Intel® Xeon® Processors
(Emerald Rapids)

The Supermicro X13 Advantage
Supermicro’s tried-and-tested Building Block Solutions® approach and industry-leading first-to-market advantage deliver optimized systems for the most demanding AI, Cloud, Storage and 5G/Edge workloads.

Supermicro Total IT Solutions
• Industry’s broadest portfolio of systems based on 5th Gen Intel Xeon processors
• Rack Scale plug-and-play service to deliver complete, validated solutions within weeks, not months
• Production capacity of up to 5,000 racks per month worldwide
• Made in the USA program with manufacturing in San Jose headquarters
• Industry standard compliance for hardware and silicon Root of Trust (RoT) and cryptographical attestation of components throughout the entire supply chain
• Supermicro liquid cooling including CPU/ GPU cold plate, Cooling Distribution Unit and Cooling Distribution Manifolds for a complete integrated solution

Optimized, Open Architectures
• More than 15 families of systems optimized for AI, Cloud, 5G Edge and more
• Resource saving architecture to reduce materials and energy usage
• Enhanced thermal capacity to support next-gen CPUs, GPUs and other components
• Flexible networking with Advanced I/O Modules (AIOM) up to 400G per card
• High ambient temperature operation up to 40°C with liquid cooling options
• Support for open and industry standards including OCP 3.0, OAM, ORV2, OFS, Open BMC and EDSFF

5th/4th Gen Intel® Xeon® Scalable Processors
• Up to 64 cores and 385W TDP per CPU
• Support for Intel Xeon® Max Series CPUs with High Bandwidth Memory
• Support for PCIe 5.0, DDR5 and CXL 1.1
• Built in accelerators:
  • Intel AMX
  • Intel® Dynamic Load Balancer
  • Intel® QuickAssist Technology (QAT)
  • Intel vRAN Boost
• Built on the Intel® 7 process

X13 AI Inference
Up to 67% performance gain vs Supermicro X13 with 4th Gen Intel Xeon®

INTRODUCING NEW 5TH GEN INTEL® XEON® PROCESSORS

Get impressive performance per watt gains across all workloads plus outsized performance and TCO in AI, database, networking, and HPC. 5th Gen Intel® Xeon® processors deliver more compute and faster memory at the same TDP as the previous generation. They’re software- and platform compatible with the previous generation, minimizing testing and validation when deploying new systems.

Average Performance

- Up to 87% performance gain vs 3rd Gen Intel Xeon®

AI Speech Recognition

- Up to 1.4x higher throughput (rec/sec)

AI Inference: NLP, Image/Speech Recognition

- Up to 1.4x performance increase

AI Training: Speech Recognition

- Up to 1.3x performance increase (rec/sec)

HPC: LAMMPS

- Up to 1.3x higher performance

Web: Server-side Java

- Up to 1.2x higher throughput

Media Transcode: FFmpeg

- Up to 1.2x aggregate FPS

Cloud: DeathStarBench socialNetwork

- Up to 36% greater max RPS

Cloud: DeathStarBench hotelReservation

- Up to 29% greater max RPS

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1. Average performance gain as measured by the geometric means of SPEC CPU rate, STREAM Triad, and LINPACK compared to 3rd Gen Intel® Xeon® processor. See G1 at intel.com/processorclaims: 5th Gen Intel Xeon Scalable processors. Results may vary.
4. Workload: SPECjbb2015 1.03, Compiler: jdk-17
5. Estimated performance: Workload: FMB2.0 24 use cases (x264, x265, SVT-HEVC, SVT-AV1)
6. DeathStarBench hotelReservation v1.0, score=289851 (req/s)

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3
ACCELERATE EVERYTHING
Supermicro X13 workload-optimized systems with Intel® Accelerator Engines

Built-in Intel Accelerator Engines improve performance across AI, data analytics, networking, storage, and HPC. By making the best use of CPU core resources, built-in accelerators can result in more efficient utilization and power efficiency advantages, helping businesses achieve their sustainability goals.

Intel AMX
(Advanced Matrix Extensions)

Deep Learning Inference
Up to 10x higher PyTorch real-time inference performance
(Intel® AMX) (BF16) vs. 3rd Gen Intel Xeon

Deep Learning Training
Up to 10x higher PyTorch training performance
(Intel® AMX) (BF16) vs. 3rd Gen Intel Xeon

Intel DSA
(Data Streaming Accelerator)

SPDK NVMe-oF (Large Transfer Size)
Up to 1.77x higher performance (IOPS) vs no DSA

Intel QAT
(Quick Assist Technology)

Network Secure Gateway
Up to 2.45x 7K requests per second vs no QAT

Up to 1.71x 77-78K requests per second vs no QAT

Intel IAA
(In-Memory Analytics Accelerator)

Database
Up to 1.2x higher RocksDB performance with 80/20 read-write
Up to 1.12x higher ClickHouse DB (SSB) performance

Up to 1.25x higher ClickHouse DB (Ontime) performance and 62% better compression vs no IAA

Up to 1.33x higher Cassandra performance with 80/20 read-write

1 See [A17] at intel.com/processorclaims: 5th/4th Gen Intel® Xeon® Scalable processors. Results may vary.
3 NGINX TLS 1.3 ECDHE-X25519-RSA2K on 5th Gen Xeon Platinum 8592+
4 NGINX TLS 1.3 ECDHE-X25519-RSA2K on 5th Gen Xeon Platinum 8592+
5 Offload CRC32 on 5th Gen Xeon Platinum 8992+ (w/ DSA device)
6 5th Gen Xeon Platinum 8592+ (w/4 IAA devices) vs 4th Gen Xeon Platinum 8490H
7 5th Gen Xeon Platinum 8592+ (w/4 IAA devices) vs 4th Gen Xeon Platinum 8490H (with LZ4)
8 5th Gen Xeon Platinum 8592+ (w/4 IAA devices) vs SW Compression (LZ4)
9 5th Gen Xeon Platinum 8592+ (w/4 IAA devices) vs SW Compression (ZStd)
Open, Modular, Standards-Based Universal GPU System

Supermicro X13 Universal GPU systems feature an open, modular, standards-based architecture designed for maximum flexibility. Support for multiple industry-standard GPUs allows organizations to take advantage of different GPU configurations based on workload while only deploying a single server architecture, reducing infrastructure complexity and simplifying future upgrades.

Designed for serviceability with hot-swappable, tool-less components in a modular construction, the chassis are optimized for thermal capacity, supporting next-generation GPUs up to 700W TDP.

Key Applications

- High Performance Computing
- AI/Deep Learning Training
- Industrial Automation
- Retail
- Healthcare
- Conversational AI
- Business Intelligence & Analytics
- Drug Discovery
- Climate and Weather Modeling
- Finance & Economics
Flexible Platform

Optimized for the next generation of HPC, action-oriented AI, 3D simulation, and advanced graphic design and rendering, Supermicro X13 PCIe accelerated solutions empower the creation of 3D worlds, digital twins, 3D simulation models and the Metaverse.

These systems support next-generation accelerators based on the industry-standard PCIe form factor, with up to 10 double-width GPUs in a 4U or 5U chassis.

Support for the latest industry-standard PCIe 5.0 provides unprecedented throughput for graphics accelerators, supporting the most demanding workloads, with CPU-direct U.2 NVMe bays ensuring maximum data throughput. Additional networking slots provide connectivity of up to 400Gb/s to create high performance clusters of up to 32 nodes. Liquid Cooling options are available for delivering superior efficiency for the most demanding performance.
X13 6U SuperBlade®
Memory-Optimized Multi-Node Architecture for EDA and Enterprise Applications

6U enclosure with 10 single-width or 5 double-width SuperBlade nodes, shared power, cooling and switches

Single or dual 5th/4th Gen Intel® Xeon® Scalable with air-cooled support for up to 350W TDP CPUs (optional liquid cooling available)

Up to 32 DIMM slots per node supporting DDR5-5600MT/s

Networking with up to 4 25G Ethernet switches per enclosure

Up to 4 double-width GPUs per double-width blade


**6U SuperBlade®**

**Key Applications**

- Enterprise Data Center
- EDA
- VDI
- Cloud
- CAE
**X13 8U SUPERBLADE®**

Ultra High-Density Multi-Node with High-Speed Networking for HPC Applications

8U enclosure with 20 single-width or 10 double-width SuperBlade nodes, shared power, cooling and switches

Single or dual 5th/4th Gen Intel Xeon Scalable with air-cooled support for up to 350W TDP CPUs (optional liquid cooling available)

Up to 16 DIMM slots per node supporting DDR5-5600MT/s

High performance networking with 400G NDR InfiniBand

Up to 4 GPUs per blade in a high-density, balanced architecture

High-performance NVMe support in E1.S, U.2 and M.2 form factors

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**High Efficiency Resource Saving Architecture**

Supermicro’s high performance, density-optimized, and energy-efficient SuperBlade® can significantly reduce initial capital and operational expenses for many organizations. SuperBlade® utilizes shared, redundant components including cooling fans, switches or passthru modules and power supplies to deliver the compute performance of a full server rack in a much smaller physical footprint.

Supermicro’s X13 8U SuperBlade architecture maximizes rack density for HPC workloads, with up to 100 single or dual processor nodes in a 42U rack. Support for InfiniBand networking provides high-speed interconnect and optional direct-to-chip liquid cooling reduced TCO while also allowing the use of high-TDP CPUs in dense configurations.

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**Key Applications**

- HPC
- AI
- Financial Services Industry
- HCI
- CDN
2U 4-Node single-socket architecture designed for maximum memory density
Flexible front storage bays support E1.S drives, PCIe Gen5 and CXL
Front-serviceable nodes reduce downtime for higher availability
Optional front I/O configuration with integrated GrandTwin module reduces cable complexity for space-constrained edge data centers

**Key Applications**
- MEC (Multi-Access Edge Computing)
- HPC
- Cloud Gaming
- Multi-Purpose CDN
- High-Availability Cache Cluster
- Telco Edge Cloud
- EDA (Electronic Design Automation)
- Mission-Critical Web Applications
Highly Modular Multi-Node Systems with Tool-Less Design

Supermicro X13 BigTwin® systems provide superior performance and serviceability with dual 5th/4th Gen Intel® Xeon® Scalable processors per node and hot-swappable tool-less design.

Superior modular mid-plane design with NVMe Gen 5 storage controller options. Optimized for density (2U4N) or storage (2U2N), BigTwin® systems with shared components can be more cost effective than standard 1U servers.
**X13 FatTwin®**
Advanced Multi-Node Architecture for HPC

Highly configurable 4U 8-node and 4-node systems

Single socket 5th/4th Gen Intel® Xeon® Scalable processors per node

16 DIMM slots per node supporting 4TB DDR5-5600MT/s

Front accessible service design for cold-aisle serviceability

Hot-swappable drive bays – interchangeable NVMe, SAS or SATA

Improved thermal management with new, optimized airflow designs

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**Innovative Twin Architecture to Maximize Serviceability and Reliability**

Supermicro X13 FatTwin® systems offer an advanced multi-node 4U twin architecture with 8 or 4 nodes. Front-accessible service design allows cold-aisle serviceability, with highly configurable systems optimized for data center compute or storage density. Supports all-hybrid hot-swappable NVMe/SAS/SATA hybrid drive bays with up to 6 drives per node (8-node) and up to 8 drives per node (4-node).

Supermicro X13 FatTwin® systems provide superior density, performance and front serviceability with 5th/4th Gen Intel® Xeon® Scalable processors per node and hot-swappable, tool-less design.

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**Key Applications**

- Hyperscale/Hyperconverged
- Cloud Optimized Servers
- Data Center Enterprise Applications
- Scale-out Storage Expansion
- Telcom Data Center
- Virtualization Server
X13 Hyper and Hyper-E
Best-in-class Performance and Flexibility Rackmount Server

1U and 2U optimized thermal designs for dual socket 5th/4th Gen Intel® Xeon® Scalable processors with liquid cooling options
32 DIMM slots per node supporting DDR5-5600MT/s NVMe SSD support with up to 24 drives in 2U
Optional 2.5”/E1.5 SSD hybrid configuration
Up to 3 PCIe 5.0 slots in 1U or 8 PCIe 5.0 slots in 2U
PCle 5.0 AIOM slots supporting up to 400G networking
Tool-less system for simplified maintenance

Ultimate Configurability for Enterprise and Telco Applications
The new X13 Hyper series brings next-generation performance to Supermicro’s range of rackmount servers, built to take on the most demanding workloads along with the storage & I/O flexibility that provide a custom fit for a wide range of application needs.

Telco-optimized configurations include short depth carrier grade (NEBS Level 3) and optional DC power options on selected models.

Maintenance-friendly design innovations eliminate the need for tools when servicing the system to simplify rollout and installation.

Key Applications
- 5G Core and Edge
- Telco Micro Data Center
- Enterprise Server
- Cloud Computing
- Big Data Analytics
- Hyperconverged Storage
- AI Inference and Machine Learning
- Network Function Virtualization
**X13 CLOUDDC**
All-in-one Rackmount Platform for Cloud Data Centers

Single and dual socket 5th/4th Gen Intel® Xeon® Scalable processors
16 DIMM slots per node supporting DDR5-5600MT/s
Up to 12 U.2 NVMe/SAS/SATA drives with all-hybrid options
2 PCIe 5.0 slots in 1U or 6 PCIe 5.0 slots in 2U
Dual PCIe 5.0 AIOM slots supporting up to 400G networking

**Key Applications**
- Cloud Computing
- Web Servers
- Hyper-Converged Storage
- Virtualization
- File Servers
- Head-Node Computing
- 5G Telco AI Inferencing

**High-density, Tool-less Mechanical Design for Rapid Cloud Deployment and Easy Maintenance**

Ultimate flexibility on I/O and storage with 2 or 6 PCIe 5.0 slots and dual AIOM slots (PCIe 5.0; OCP 3.0 compliant) for maximum data throughput. Supermicro X13 CloudDC systems are designed for convenient serviceability with tool-less brackets, hot-swap drive trays and redundant power supplies that ensure a rapid deployment and more efficient maintenance in data centers. High-efficiency Titanium Level redundant power supplies provide resiliency and lower carbon footprint.

Rich Security Features include Intel® SGX, TPM 2.0, signed firmware, Silicon Root of Trust, Secure Boot, System Erase, Runtime FW protection, FIPS Compliance and Trusted Execution Environment.
X13 All-Flash EDSFF
Revolutionary Petascale NVMe for Unprecedented Density and Capacity

Dual socket 5th/4th Gen Intel® Xeon® Scalable processors
32 DIMM slots per node supporting DDR5-5600MT/s
Dual PCIe 5.0 x16 Aiom slots and up to 2 PCIe 5.0 x16 expansion slots
Up to 24 EDSFF E1.5 or 16 EDSFF E3.5 drives in 1U
Up to 24 EDSFF E3.5 drives in 2U

Key Applications
- Data Intensive HPC/AI
- Private & Hybrid Cloud
- Software-Defined Storage
- NVMe Over Fabrics Solution
- In-Memory Computing
- Composable Infrastructure Platform

High Throughput, Low Latency All-flash Servers
X13 Petascale storage systems are ideal for deployments where storage throughput and latency are paramount, including generative AI, mission-critical databases, virtualization, next-gen big data, HPC, media & entertainment and hot-tier caching. Supermicro’s open architectures are designed to work with the widest range of software partners to create a solution to drive every application. The symmetrical dual-CPU architecture not only balances resources, it also reduces latency by minimizing the length of data paths and maximizes airflow over critical components for optimal thermal performance.

Get ahead of the competition with the latest industry-standard EDSFF E3.5 and E1.5 form factors designed specifically for high performance solid-state media, facilitating maximum performance from the X13 range’s PCIe 5.0 interconnects and ensuring compatibility with future iterations of the PCIe protocol. These systems support the new Gen 5 drives from all major vendors, giving customers the freedom to choose the best components for their specific application. Embracing the future, Supermicro X13 Petascale systems also support the industry’s first CXL expansion modules, which can add up to 1TB of DDR memory to the already powerful 32-DIMM solution. This emerging CXL technology is now available to add capacity and bandwidth for memory-bound applications.
**X13 ENTERPRISE STORAGE**
Cost-Effective Systems for Large-Scale Object Storage

As the amount of data produced by today's AI, HPC and Cloud applications continues to increase, cost-effective scale-out storage is essential for any organization's storage strategy. Supermicro X13 designs maximize the efficiency and cost effectiveness of large-scale data storage with intelligent, highdensity, economically optimized designs. The Simply Double family features a dual-layer front-loading design which can fit up to 24 drives in 2U or 36 drives in 4U. For full drive access without sliding systems out of the rack, X13 Front-Loading storage servers offer front access and double-sided storage bays providing exceptional density.

All Supermicro X13 storage solutions are based on open industry standards and can be paired with the widest range of operating system and software-defined storage applications, allowing users to create scale-up and scale out storage solutions perfect for their own specific needs.

**Large-Scale Storage Building Blocks**

Single/Dual 5th/4th Gen Intel® Xeon® Scalable processors

16 DIMM slots supporting DDR5-5600MT/s

Density-optimized architectures with up to 24 drives in 2U or 36 drives in 4U

Up to 5 PCIe 5.0 slots for expansion

Hardware RAID or IT Mode/HBA with JBOD expansion port

**Key Applications**

- Enterprise Server
- iSCSI SAN
- HPC, Data Center
- Database Processing & Storage
- Corporate Database
- Appliance Optimized Storage Building Blocks
X13 UP WIO
Industry’s Widest Variety of I/O Optimized Servers

Cost-effective systems supporting up to 4 PCIe 5.0 devices
Single socket 5th/4th Gen Intel® Xeon® Scalable processor
8 DIMM slots supporting DDR5-5600MT/s
Hot-swappable 2.5” or 3.5” storage
Up to 10 NVMe hybrid storage supported (optional)

Wide-Ranging Flexibility for any Enterprise Workload
Supermicro WIO systems offer a wide range of I/O options to deliver truly optimized systems for specific requirements. Users can optimize the storage and networking alternatives to accelerate performance, increase efficiency and find the perfect fit for their applications.

In addition to enabling customizable configurations and optimization for multiple application requirements, Supermicro WIO SuperServers® also provide attractive cost advantages and investment protection.

Key Applications
- Enterprise Applications
- Networking Appliance
- Firewall/Security Appliances
- General Purpose Computing
- Cloud Computing
- Media Entertainment
X13 **SUPEREDGE**

High-Density Computing and Flexibility at the Intelligent Edge

2U form factor with short-depth (430mm) 3-node or full-depth 4-node configuration

Single 5th/4th Gen Intel® Xeon® Scalable processor per node

Front-access hot-swappable nodes or front-accessible storage

Up to 8 DIMMs slots per node supporting DDR5-5600

Up to 3 PCIe 5.0 slots per node

3-node architecture optimized for operating temperatures from -5ºC to 55ºC (CPU TDP-dependent)

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**Data Center-Class Performance and Expandability at the Edge**

Supermicro’s SuperEdge is designed to handle increasing compute and I/O density requirements of modern edge applications. With 3 or 4 customizable single-processor nodes, SuperEdge delivers data center-class performance in a 2U form factor.

Three front-access hot-swappable nodes provide front to access I/O, making the system ideal for remote IoT, edge, or telco deployments, while the 4-node configuration provides front access to storage for easy maintenance. Each node can accommodate two or three PCIe 5.0 slots, enabling a wide range of add-on cards such as FPGA, DPU, eASIC, and TimeSync cards that allow the SuperEdge to be outfitted for networking.

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**Key Applications**

- 5G Open RAN/Flex-RAN
- C-RAN (vRAN)
- Telecom/Networking Appliance
- Multi-Access Edge Computing
- Edge Data Center
- Enterprise Edge Computing
Expanding our Product Portfolio to address 5G, Edge Computing and Emerging IoT Systems

Supermicro provides innovative and first-to-market technologies that are the building blocks for today’s embedded computing platforms. Rapid growth in embedded markets and open standards are driving the need for higher levels of product integration and optimization through virtualization, AI inferencing, network connectivity, remote management, mobile communication, expanded I/O, and device-to-device communications using space and power efficient configurations.

Supermicro’s family of high-performance embedded products are optimized for a wide range of applications and solutions. Supermicro offers many flexible and customized solutions for critical OEM projects, as well as advanced designs for stringent environments, firmware customization, BOM enhancements, and a wide range of legacy IO support.

Key Applications

- Multi-Access Edge Computing
- Flex-RAN/Open RAN
- Edge AI Outdoor 5G
X13 Multi-Processor Systems

Highest Performance and Flexibility for Enterprise Applications

4- and 8-way systems with 4th Gen Intel® Xeon® Scalable processors

Next-generation PCIe 5.0 for GPU/accelerator and high-speed network interface cards up to 12 double width GPU

Compute and hybrid storage-optimized configurations up to 24 drives

Large memory footprint with up to 64 DIMMs in 2U and 128 DIMMs in 6U supporting DDR5-4800MHz

Key Applications

- Artificial Intelligence (AI)
- Business Intelligence
- ERP
- CRM
- Scientific Virtualization
- In-Memory Database
- HCI
- SAP HANA

Maximum Configurability and Scalability

X13 multi-processor systems bring new levels of compute performance and flexibility with support for 4th Gen Intel® Xeon® Scalable processors to support mission-critical enterprise workloads.

A large memory footprint is ideal for large database and in-memory compute applications, with support for 12 double width GPU to enable even the most AI-intensive applications. Dynamic storage options support direct-attached full-hybrid all NVMe for lower latency with higher throughput and IOPS and up to 24x 2.5” hybrid NVMe/SAS3/SATA3 drive bays in a 2U/6U chassis. Flexible networking is available via AIOM slots supporting OCP 3.0 NIC devices.
X13 MAINSTREAM
Cost-effective Platforms for Enterprise Workloads

Dual 5th/4th Gen Intel® Xeon® Scalable processors
Flexible storage options with hot-swap support
DDR5 memory support
Onboard 1GbE or 10GbE LAN
Up to 6 next-generation PCIe 5.0 slots for accelerators and expansion

Ideal for Small and Medium Businesses
Supermicro’s X13 mainstream family has been specifically designed to deliver balanced compute power and storage flexibility in a cost-effective architecture. Rackmount systems with front-loading SATA bays allow for sufficient storage to handle most enterprise applications, while rear PCIe slots can provide ample networking for everyday workloads. For organizations that are not equipped for rackmount servers, the 4U tower form factor provides data center compute power in a compact and portable chassis that can be installed in offices, laboratories or field offices.

Supermicro Mainstream systems offer flexibility and value for everyday virtualization, enterprise and data serving workloads commonly required by small and medium organizations. Up to 6 rear PCIe 5.0 expansion slots offer flexibility for networking, acceleration or offload cards depending on workload. Up to 16 front-loading storage drives can support SAS or SATA RAID configurations, while optional NVMe drive support can be implemented for high-speed caching.

Key Applications
- Virtualization
- Enterprise Server
- Application and Data Serving
- Compute Intensive Applications
X13 UP WORKSTATION
Next-Gen Workstation for Creative Professionals

Single Intel® Xeon® W Series processor
Up to 4 double-width GPUs
Feature-rich front and rear I/O ports
Optional closed-loop liquid cooling and rack mount kits are available

Balanced Power and Efficiency for Intensive Visual Workloads
Supermicro X13 workstations bring data center CPU processing power and PCIe expandability to the desktop for AI, simulation, metaverse/Omniverse, and 3D media applications. Fuel your creative workflows and boost productivity with a single Intel® Xeon® W-3400 or W-2400 processor combined with lightning-fast M.2 NVMe PCIe 5.0 storage and up to 4TB of DDR5 RAM. The new Supermicro X13 SuperWorkstation offers configuration flexibility to meet your complex design and engineering demands.

Key Applications
- 2D/3D Content Creation
- VR Content Development
- Product Design
- Engineering Simulation
X13 DP WORKSTATION
Compact, High Performance Systems with GPU support

Deploy Data Center Power in a Range of Environments
Supermicro X13 workstations are designed to deliver high performance compute power in a compact form factor suitable for offices, schools, research laboratories and field offices, with efficient and quiet cooling reducing operating volume for convenient under-desk installation.

Designed for compute-intensive 3D design, content creation and engineering workloads, dual 5th Gen Intel Xeon processors deliver unrivaled compute power, complemented by support for the industry’s latest double-width GPUs. Extensive connectivity is available for peripherals and accessories, with both front and rear mounted USB and audio ports as well as flexible storage options including front-accessible hot-swap 2.5” drive bays.

Key Applications
- Rendering
- CAD
- Multimedia/Digital Content Creation
- Engineering/Scientific Research

Dual 5th/4th Gen Intel® Xeon® Scalable processors up to 350W
Support for up to 2 double-width GPUs
Up to 4 SATA/SAS drives with optional hot-swap 2.5” SSD bays
Additional 5.25” peripheral bays for expansion
Front USB and audio I/O access
Rack-mountable 5U tower form factor
Refer to PCIe GPU section for 4-GPU workstations
# X13 Universal GPU

## Processor Support
- 5th/4th Gen Intel® Xeon® Scalable processors
  - Dual Socket LGA-4677 (Socket E) supported
  - TDP up to 350W (air cooled)/385W (liquid cooled)

## Key Applications
- Finance & Economics
- Climate and Weather Modeling
- Drug Discovery
- Business Intelligence & Analytics
- Conversational AI
- Healthcare
- Industrial Automation, Retail
- AI/Deep Learning Training
- High Performance Computing

## Outstanding Features
- Highest GPU communication using NVIDIA® NVLINK™ + NVIDIA® NVSwitch™
- High density 8U system with NVIDIA® HGX™ H100 8-GPU
- 8 NVMe for GPU direct storage
- 8 NIC for GPU direct RDMA (1:1 GPU Ratio)
- 2 M.2 NVMe for boot drive only

## Serverboard
- SUPER® X13DEG-OAD

## Chipset
- Intel® C741

## System Memory (Max.)
- 32 DIMM slots
  - up to 8TB DDR5 5600MT/s

## Expansion Slots
- 8 PCIe 5.0 x16 LP, 2 FHFL PCIe 5.0 x16 Slots

## Onboard Storage Controller
- Intel® SATA

## Connectivity
- 2x 10GbE RJ45 with Intel® X550-AT2 (optional)
- 2x 10GbE RJ45 with Intel® X710-AT2 (optional)
- 2x 25GbE SFP28 with Broadcom® BCM57414 (optional)

## VGA/Audio
- 1 VGA port

## Management
- Intel® Node Manager; IPMI 2.0; KVM with dedicated LAN; NMI; OOB Management Package (SFT-OOB-LIC); Redfish API; SPM; SSM; SUM; SuperDoctor® 5; Watch Dog

## Drive Bays
- 20x 2.5" hot-swap NVMe/SATA drive bays; 8x 2.5" NVMe dedicated

## Peripheral Bays
- None

## Power Supply
- 6x 3000W (4+2) Redundant power supplies, Titanium Level

## Cooling System
- 10 heavy duty fan(s)

## Form Factor
- 8U Rackmount
  - Enclosure: 437 x 355.6 x 843.28mm (17.2” x 14” x 33.2”)
  - Package: 698 x 750 x 1300mm (27.5” x 29.5” x 51.2”)

## Model Comparison

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<th>SYS-821GE-TNHR</th>
<th>SYS-821GE-FTNHR</th>
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<td>Connectivity</td>
<td>2x 10GbE RJ45 with Intel® X550-AT2 (optional)</td>
<td>2x 10GbE RJ45 with Intel® X550-AT2 (optional)</td>
</tr>
<tr>
<td>Management</td>
<td>Intel® Node Manager; IPMI 2.0; KVM with dedicated LAN; NMI; OOB Management Package (SFT-OOB-LIC); Redfish API; SPM; SSM; SUM; SuperDoctor® 5; Watch Dog</td>
<td>Intel® Node Manager; IPMI 2.0; KVM with dedicated LAN; NMI; OOB Management Package (SFT-OOB-LIC); Redfish API; SPM; SSM; SUM; SuperDoctor® 5; Watch Dog</td>
</tr>
<tr>
<td>Drive Bays</td>
<td>20x 2.5&quot; hot-swap NVMe/SATA drive bays; 8x 2.5&quot; NVMe dedicated</td>
<td>24 hot-swap 2.5&quot; NVMe/SATA drive bays; 12 2.5&quot; NVMe dedicated</td>
</tr>
<tr>
<td>Peripheral Bays</td>
<td>None</td>
<td>None</td>
</tr>
<tr>
<td>Power Supply</td>
<td>6x 3000W (4+2) Redundant power supplies, Titanium Level</td>
<td>6x 3000W (4+2) Redundant power supplies, Titanium Level</td>
</tr>
<tr>
<td>Cooling System</td>
<td>10 heavy duty fan(s)</td>
<td>10 heavy duty fan(s)</td>
</tr>
<tr>
<td>Form Factor</td>
<td>8U Rackmount Enclosure: 437 x 355.6 x 843.28mm (17.2” x 14” x 33.2”) Package: 698 x 750 x 1300mm (27.5” x 29.5” x 51.2”)</td>
<td>8U Rackmount Enclosure: 437 x 355.6 x 843.28mm (17.2” x 14” x 33.2”) Package: 698 x 750 x 1300mm (27.5” x 29.5” x 51.2”)</td>
</tr>
</tbody>
</table>

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**X13 Server Solutions - December 2023**
# X13 Universal GPU

**NEW!** 5th/4th Gen Intel® Xeon® Scalable processors Supported

## Processor Support

<table>
<thead>
<tr>
<th>Model</th>
<th>SYS-821GV-TNR</th>
<th>SYS-421GU-TNXR</th>
</tr>
</thead>
<tbody>
<tr>
<td>4th Gen Intel® Xeon® Scalable processors; Dual Socket LGA-4677 (Socket E) supported; TDP up to 350W</td>
<td>5th/4th Gen Intel® Xeon® Scalable processors Dual Socket LGA-4677 (Socket E) supported TDP up to 350W</td>
<td></td>
</tr>
</tbody>
</table>

## Key Applications

- Finance Services and Fraud Detection
- Generative AI
- Biomedical
- Climate and Weather Modeling
- Business Intelligence & Analytics
- Industrial Automation
- AI/Deep Learning Training
- High Performance Computing
- Dual 4th Gen Intel® Xeon® Scalable processors With PCIE Gen 5 Platform
- GPU Memory Bandwidth: 3276.8 GB/s
- GPU Memory: 1TB HBM2
- GPU to GPU Interconnect: 742 GB/s XeLink Scale Up Bandwidth
- High Density Computing: 8 x Intel® Data Center GPU Max 1550 (600W) OAM
- Open Ecosystem with oneAPI
- AI/Deep Learning Training
- High Performance Computing
- Highest GPU communication using NVIDIA® NVLInk™
- High density 4U Universal GPU system with NVIDIA® HGX™ H100 4-GPU
- 8 NIC for GPU direct RDMA (1:1 GPU Ratio)

## Outstanding Features

- Dual 4th Gen Intel® Xeon® Scalable processors With PCIE Gen 5 Platform
- 8 PCIe 5.0 x16 LP Slots
- 2 FHHL PCIe 5.0 x16 Slots (optional)
- Intel® X13DGU
- 1 VGA port
- Intel® Node Manager; IPMI 2.0; KVM with dedicated LAN; NMI; OOB Management Package (SFT-OOB-LIC ); Redfish API; SPM; SSM; SUM; SuperDoctor® 5; Watch Dog
- None
- 6x 2.5” hot-swap NVMe/SATA drive bays; 6x 2.5” NVMe hybrid
- None
- 6x 2.5” hot-swap NVMe/SATA drive bays; 6x 2.5” NVMe hybrid
- None
- 6x 3000W Redundant Titanium Level power supplies
- 4x 3000W Redundant power supplies, Titanium Level
- 10 heavy duty fan(s)
- 5 heavy duty fan(s)
- 8U Rackmount Enclosure: 447 x 356 x 843mm (17.7” x 13.8” x 33.2”)
- Package: 1300 x 700 x 750mm (51” x 27.6” x 29.5”)
- 4U Rackmount Enclosure: 449 x 175.6 x 833mm (17.67” x 7.0” x 32.79”)
- Package: 700 x 370 x 1260mm (27.55” x 14.57” x 49.6”)

## Serverboard

- SUPER® X13DEG-PVC
- SUPER® X13DGU

## Chipset

- Intel® C741
- Intel® C741

## System Memory (Max.)

- 32 DIMM slots; up to 8TB DDR5 4800MT/s
- 32 DIMM slots; up to 8TB DDR5 5600MT/s

## Expansion Slots

- 8 PCIe 5.0 x16 LP, 2 FHHL PCIe 5.0 x16 Slots, 2 FHHL PCIe 5.0 x16 Slots (optional)
- 8 PCIe 5.0 x16 LP Slots

## Onboard Storage Controller

- Intel® SATA

## Connectivity

- 2x 10GbE RJ45 with Intel® X550-AT2 (optional)
- 2x 10GbE RJ45 port(s) with Intel® Ethernet Controller X710-AT2

## Power Supply

- 6x 3000W Redundant Titanium Level power supplies
- 4x 3000W Redundant power supplies, Titanium Level

## Cooling System

- 10 heavy duty fan(s)
- 5 heavy duty fan(s)

## Form Factor

- 8U Rackmount Enclosure: 447 x 356 x 843mm (17.7” x 13.8” x 33.2”)
- Package: 1300 x 700 x 750mm (51” x 27.6” x 29.5”)
- 4U Rackmount Enclosure: 449 x 175.6 x 833mm (17.67” x 7.0” x 32.79”)
- Package: 700 x 370 x 1260mm (27.55” x 14.57” x 49.6”)

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**X13 Server Solutions - December 2023**

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### Processor Support

**SYS-421GE-TNRT**
- 5th/4th Gen Intel® Xeon® Scalable processors
- Dual Socket LGA-4677 (Socket E) supported
- TDP up to 350W

**SYS-421GE-TNRT3**
- 5th/4th Gen Intel® Xeon® Scalable processors
- Dual Socket LGA-4677 (Socket E) supported
- TDP up to 350W

### Key Applications

- Diagnostic Imaging
- 3D Rendering
- Design & Visualization
- Animation and Modeling
- Cloud Gaming
- Media/Video Streaming
- AI/Deep Learning Training
- VDI
- High Performance Computing
- Flexible networking options

### Outstanding Features

- 8 NVMe for GPU direct storage
- 2 M.2 NVMe for boot drive only

### Serverboard

**SYS-421GE-TNRT**
- SUPER® X13DEG-OA

**SYS-421GE-TNRT3**
- SUPER® X13DEG-OA

### Chipset

**SYS-421GE-TNRT**
- Intel® C741

**SYS-421GE-TNRT3**
- Intel® C741

### System Memory (Max.)

**SYS-421GE-TNRT**
- 32 DIMM slots
- Up to 8TB DDR5-5600MT/s

**SYS-421GE-TNRT3**
- 32 DIMM slots
- Up to 8TB DDR5-5600MT/s

### Expansion Slots

**SYS-421GE-TNRT**
- 13 PCIe 5.0 x16 Slots

**SYS-421GE-TNRT3**
- 8 PCIe 5.0 x16 Slots

### Onboard Storage Controller

**SYS-421GE-TNRT**
- Intel® SATA

**SYS-421GE-TNRT3**
- Intel® SATA

### Connectivity

**SYS-421GE-TNRT**
- 2x 10GbE RJ45 port(s) with Intel® Ethernet Controller X710-AT2

**SYS-421GE-TNRT3**
- 2x 10GbE RJ45 port(s) with Intel® Ethernet Controller X710-AT2

### VGA/Audio

**SYS-421GE-TNRT**
- 1 VGA port

**SYS-421GE-TNRT3**
- 1 VGA port

### Management

**SYS-421GE-TNRT**
- Intel® Node Manager; IPMI 2.0; KVM with dedicated LAN; NMI; OOB Management Package (SFT-OOB-LIC); Redfish API; SPM; SSM; SUM; SuperDoctor® 5; Watch Dog

**SYS-421GE-TNRT3**
- Intel® Node Manager; IPMI 2.0; KVM with dedicated LAN; NMI; OOB Management Package (SFT-OOB-LIC); Redfish API; SPM; SSM; SUM; SuperDoctor® 5; Watch Dog

### Drive Bays

**SYS-421GE-TNRT**
- 24 hot-swap 2.5" NVMe/SATA/SAS drive bays (8 NVMe dedicated + 8 SATA dedicated)

**SYS-421GE-TNRT3**
- 24 hot-swap 2.5" NVMe/SATA/SAS drive bays (4 NVMe dedicated + 8 SATA dedicated)

### Peripheral Bays

**SYS-421GE-TNRT**
- None

**SYS-421GE-TNRT3**
- None

### Power Supply

**SYS-421GE-TNRT**
- 4x 2700W (2+2) Redundant Power Supplies, Titanium Level

**SYS-421GE-TNRT3**
- 4x 2700W (2+2) Redundant Power Supplies, Titanium Level

### Cooling System

**SYS-421GE-TNRT**
- 8 heavy duty fan(s)

**SYS-421GE-TNRT3**
- 8 heavy duty fan(s)

### Form Factor

**SYS-421GE-TNRT**
- 4U Rackmount
- Enclosure: 437 x 178 x 737mm (17.2” x 7” x 29”)
- Package: (27” x 26.57” x 41”)

**SYS-421GE-TNRT3**
- 4U Rackmount
- Enclosure: 437 x 178 x 737mm (17.2” x 7” x 29”)
- Package: (27” x 26.57” x 41”)
# X13 Server Solutions - December 2023

**X13 PCIe GPU**

**5U, 10 PCIe GPUs**

**4U Tower, 4 PCIe GPUs**

---

**NEW!**

5th/4th Gen Intel® Xeon® Scalable processors Supported

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## Model Comparison

<table>
<thead>
<tr>
<th>Model</th>
<th>SYS-521GE-TNRT</th>
<th>SYS-741GE-TNRT</th>
<th>SYS-751GE-TNRT</th>
</tr>
</thead>
<tbody>
<tr>
<td><strong>Processor Support</strong></td>
<td>5th/4th Gen Intel® Xeon® Scalable processors Dual Socket LGA-4677 (Socket E) supported TDP up to 350W</td>
<td>5th/4th Gen Intel® Xeon® Scalable processors Dual Socket LGA-4677 (Socket E) supported TDP up to 350W</td>
<td>5th/4th Gen Intel® Xeon® Scalable processors Dual Socket LGA-4677 (Socket E) supported TDP up to 350W, 4 UPI</td>
</tr>
</tbody>
</table>
| **Key Applications** | - Diagnostic Imaging  
- 3D Rendering  
- Design & Visualization  
- Animation and Modeling  
- Cloud Gaming  
- Media/Video Streaming  
- AI/Deep Learning Training  
- VDI  
- High Performance Computing | - AI Training  
- Diagnostic Imaging  
- 3D Rendering  
- Design & Visualization  
- Animation and Modeling  
- Cloud Gaming  
- Media/Video Streaming  
- AI/Deep Learning Training  
- VDI  
- High Performance Computing | - AI Training  
- AI/Deep Learning Training  
- AI/ML Researchers  
- Product Data Management (CAD Design)  
- High Performance Computing  
- Architecture, Engineering, and Construction (AEC)  
- Scientific Research Labs  
- Diagnostic Imaging  
- 3D Rendering  
- Design & Visualization  
- Animation and Modeling  
- M&E  
- Close-loop liquid cooled CPUs, GPUs, and memory  
- Low Acoustic Level “Idle” under 32dBA & “100% Load” under 50dBA  
- Flexible Solution: Workstation Tower or 5U Rackmountable System |
| **Outstanding Features** | - Flexible networking options  
- 8 NVMe for GPU direct storage  
- 2 M.2 NVMe for boot drive only | - Workstation or 4U Rackmountable System  
- Performance Anywhere  
- Innovate Faster  
- Flexible Solution | - Close-loop liquid cooled CPUs, GPUs, and memory  
- Low Acoustic Level “Idle” under 32dBA & “100% Load” under 50dBA  
- Flexible Solution: Workstation Tower or 5U Rackmountable System |
| **Serverboard** | SUPER® X13DEG-OA | SUPER® X13DEG-QT | SUPER® X13DEG-QT |
| **Chipset** | Intel® C741 | Intel® C741 | Intel® C741 |
| **System Memory (Max.)** | 32 DIMM slots  
Up to 8TB DDR5-5600MT/s | 16 DIMM slots  
Up to 1TB  
256GB DRAM | 16 DIMM slots  
Up to 128GB DRAM  
6 PCIe 5.0 x16 FHFL Slots  
- 4 PCIe 5.0 x16 for double-width GPU cards, support up to 4 liquid-cooled A100 GPUs  
- 2 PCIe 5.0 x16 for single-width High-Speed Network or RAID card |
| **Expansion Slots** | 13 PCIe 5.0 x16 Slots | 7 PCIe 5.0 x16 FHFL Slots | 8 hot-swap 2.5" NVMe/SATA/SAS drive bays  
8 hot-swap 2.5" NVMe/SATA/SAS drive bays  
2 M.2 NVMe slots  
2 M.2 NVMe slots |
| **Onboard Storage Controller** | Intel® SATA | Intel® SATA | Intel® SATA |
| **Connectivity** | 2x 10GbE RJ45 port(s) with Intel® Ethernet Controller X710-AT2  
1x 1GbE RJ45 port(s) with ASPEED AST2600  
2x 10GbE RJ45 port(s) with Intel® Ethernet Controller X550-AT2 | 2x 10GbE RJ45 port(s) with Intel® Ethernet Controller X550-AT2 | 1x 1GbE RJ45 port(s) with ASPEED AST2600  
2x 10GbE RJ45 port(s) with Intel® Ethernet Controller X550-AT2 |
| **VGA/Audio** | 1 VGA port  
1 VGA port | 1 VGA port  
1 VGA port | 1 VGA port  
1 VGA port |
| **Management** | Intel® Node Manager; IPMI 2.0; KVM with dedicated LAN; NMS; OOB Management Package (SFT-OOB-LIC); Redfish API; SPM; SSM; SUM; SuperDoctor® 5; WatchDog | Intel® Node Manager; IPMI 2.0; KVM with dedicated LAN; NMS; OOB Management Package (SFT-OOB-LIC); Redfish API; SPM; SUM; SuperDoctor® 5; WatchDog | Intel® Node Manager; IPMI 2.0; KVM with dedicated LAN; NMS; OOB Management Package (SFT-OOB-LIC); Redfish API; SPM; SSM; SUM; SuperDoctor® 5; WatchDog |
| **Drive Bays** | 24 hot-swap 2.5" NVMe/SATA/SAS drive bays  
(8 NVMe dedicated + 8 SATA dedicated) | 8 hot-swap 2.5" NVMe/SATA/SAS drive bays  
2 M.2 NVMe slots | 8 hot-swap 2.5" NVMe/SATA/SAS drive bays  
2 M.2 NVMe slots |
| **Peripheral Bays** | None | None | None |
| **Power Supply** | 4x 2700W (2+2) Redundant Power Supplies, Titanium Level | 2x 2000W (1+1) Redundant Power Supplies, Titanium Level | 1200W/2200W (1+1) Redundant Power Supplies, Titanium Level |
| **Cooling System** | 8 heavy duty fan(s)  
4 heavy duty fan(s) | | 3x 8, 12cm heavy duty fan(s)  
Tower or 5U Rackmount Enclosure: 454.7 x 218.4 x 701mm (17.9" x 8.6" x 27.6")  
Package: 388 x 655 x 956mm (15.3" x 25.8" x 37.6") |
| **Form Factor** | 5U Rackmount  
Enclosure: 437 x 222.5 x 737mm (17.2" x 8.85" x 29")  
Package: (27" x 26.57" x 41") | Tower Enclosure: 437 x 178 x 737mm (17.2" x 7" x 29")  
Package: 330.2 x 685.8 x 965.2mm (13" x 27" x 38") | Tower or 5U Rackmount Enclosure: 454.7 x 218.4 x 701mm (17.9" x 8.6" x 27.6")  
Package: 388 x 655 x 956mm (15.3" x 25.8" x 37.6") |

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### X13 SuperEdge

**Redundant AC power, RJ45 or SFP management port options**

**Redundant DC power, RJ45 or SFP management port options**

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#### MODEL | SYS-211SE-31A | SYS-211SE-31AS | SYS-211SE-31D | SYS-211SE-31DS
---|---|---|---|---
**Processor Support** | 5th/4th Gen Intel® Xeon® Scalable processors Single Socket LGA-4677 (Socket E) supported TDP up to 300W | 5th/4th Gen Intel® Xeon® Scalable processors Single Socket LGA-4677 (Socket E) supported TDP up to 300W | 5th/4th Gen Intel® Xeon® Scalable processors Single Socket LGA-4677 (Socket E) supported TDP up to 300W | 5th/4th Gen Intel® Xeon® Scalable processors Single Socket LGA-4677 (Socket E) supported TDP up to 300W
**Key Applications** | Enterprise Edge Computing Telecom DRAN, CRAN, and Edge Core Application | Enterprise Edge Computing Telecom DRAN, CRAN, and Edge Core Application | Enterprise Edge Computing Telecom DRAN, CRAN, and Edge Core Application | Enterprise Edge Computing Telecom DRAN, CRAN, and Edge Core Application
**Outstanding Features** | Three front hot-swappable nodes with single CPU socket and 8 DIMM design | Three front hot-swappable nodes with single CPU socket and 8 DIMM design | Three front hot-swappable nodes with single CPU socket and 8 DIMM design | Three front hot-swappable nodes with single CPU socket and 8 DIMM design
**Serverboard** | SUPER® X13SEED-F | SUPER® X13SEED-SF | SUPER® X13SEED-F | SUPER® X13SEED-SF
**Chipset** | Intel® C741 | Intel® C741 | Intel® C741 | Intel® C741
**System Memory** (Max.) | 8 DIMM slots; Up to 2TB DDR5-5600MT/s | 8 DIMM slots; Up to 2TB DDR5-5600MT/s | 8 DIMM slots; Up to 2TB DDR5-5600MT/s | 8 DIMM slots; Up to 2TB DDR5-5600MT/s
**Expansion Slots** | 2 PCIe 5.0 x16 FHHL 1 PCIe 5.0 x16 LP | 2 PCIe 5.0 x16 FHHL 1 PCIe 5.0 x16 LP | 2 PCIe 5.0 x16 FHHL 1 PCIe 5.0 x16 LP | 2 PCIe 5.0 x16 FHHL 1 PCIe 5.0 x16 LP
**Onboard Storage Controller** | Intel® SATA | Intel® SATA | Intel® SATA | Intel® SATA
**Connectivity** | 1x 1GbE RJ45 port(s) 1x 1GbE SFP port(s) | 1x 1GbE RJ45 port(s) 1x 1GbE SFP port(s) | 1x 1GbE RJ45 port(s) 1x 1GbE SFP port(s) | 1x 1GbE RJ45 port(s) 1x 1GbE SFP port(s)
**VGA/Audio** | 1 KVM dongle (output VGA x1, COM x1, USB 2.0 x2 through KVM cable) | 1 KVM dongle (output VGA x1, COM x1, USB 2.0 x2 through KVM cable) | 1 KVM dongle (output VGA x1, COM x1, USB 2.0 x2 through KVM cable) | 1 KVM dongle (output VGA x1, COM x1, USB 2.0 x2 through KVM cable)
**Management** | IPMI 2.0; SuperDoctor® S | IPMI 2.0; SuperDoctor® S | IPMI 2.0; SuperDoctor® S | IPMI 2.0; SuperDoctor® S
**Drive Bays** | N/A | N/A | N/A | N/A
**Peripheral Bays** | None | None | None | None
**Cooling System** | 4 heavy duty fan(s) | 4 heavy duty fan(s) | 4 heavy duty fan(s) | 4 heavy duty fan(s)
**Form Factor** | 2U Rackmount Enclosure: 449 x 88 x 430mm (17.7" x 3.5" x 16.9") Package: 750 x 240 x 590mm (29.5" x 9.5" x 23.2") | 2U Rackmount Enclosure: 449 x 88 x 430mm (17.7" x 3.5" x 16.9") Package: 750 x 240 x 590mm (29.5" x 9.5" x 23.2") | 2U Rackmount Enclosure: 449 x 88 x 430mm (17.7" x 3.5" x 16.9") Package: 750 x 240 x 590mm (29.5" x 9.5" x 23.2") | 2U Rackmount Enclosure: 449 x 88 x 430mm (17.7" x 3.5" x 16.9") Package: 750 x 240 x 590mm (29.5" x 9.5" x 23.2")
## MODEL | SYS-211TP-HPTR | SYS-211TP-HPTRD |
<table>
<thead>
<tr>
<th></th>
<th></th>
<th></th>
</tr>
</thead>
<tbody>
<tr>
<td>Processor Support</td>
<td>5th/4th Gen Intel® Xeon® Scalable processors</td>
<td>5th/4th Gen Intel® Xeon® Scalable processors</td>
</tr>
<tr>
<td></td>
<td>Single Socket supported</td>
<td>Single Socket supported</td>
</tr>
<tr>
<td></td>
<td>TDP up to 270W</td>
<td>TDP up to 270W</td>
</tr>
<tr>
<td>Key Applications</td>
<td>• Enterprise Edge Computing</td>
<td>• Enterprise Edge Computing</td>
</tr>
<tr>
<td></td>
<td>• Telecom DRAN, CRAN, and Edge Core Application</td>
<td>• Telecom DRAN, CRAN, and Edge Core Application</td>
</tr>
<tr>
<td></td>
<td>• Flex-RAN, Open-RAN vBBU</td>
<td>• Flex-RAN, Open-RAN vBBU</td>
</tr>
<tr>
<td></td>
<td>• Multi-Access Edge Computing</td>
<td>• Multi-Access Edge Computing</td>
</tr>
<tr>
<td>Outstanding Features</td>
<td>Four 24 front-access 2.5” hot-swap SATA drives (6 per node)</td>
<td>24 front-access 2.5” hot-swap SATA drives (6 per node)</td>
</tr>
<tr>
<td></td>
<td>• Up to 8 DIMMs slots per node supporting DDR5-5600Mhz</td>
<td>• Up to 8 DIMMs slots per node supporting DDR5-5600Mhz</td>
</tr>
<tr>
<td></td>
<td>• Up to 2 PCIe 5.0 HHHL slots per node</td>
<td>• Up to 2 PCIe 5.0 HHHL slots per node</td>
</tr>
<tr>
<td></td>
<td>• Operating temperatures from 0°C - 35°C (32°F - 95°F) (CPU TPD-dependent)</td>
<td>• Operating temperatures from 0°C - 35°C (32°F - 95°F) (CPU TPD-dependent)</td>
</tr>
<tr>
<td>Serverboard</td>
<td>SUPER® X13SET-PT</td>
<td>SUPER® X13SET-PT</td>
</tr>
<tr>
<td>Chipset</td>
<td>Intel® C741</td>
<td>Intel® C741</td>
</tr>
<tr>
<td>System Memory (Max.)</td>
<td>8 DIMM slots; Up to 2TB DDR5-5600MT/s</td>
<td>8 DIMM slots; Up to 2TB DDR5-5600MT/s</td>
</tr>
<tr>
<td>Expansion Slots</td>
<td>2x PCIe 5.0 x16 HHHL</td>
<td>2x PCIe 5.0 x16 HHHL</td>
</tr>
<tr>
<td>Onboard Storage Controller</td>
<td></td>
<td></td>
</tr>
<tr>
<td>Connectivity</td>
<td>2x 10GbE SFP+ port(s) with Intel® Ethernet Controller X710-BM2</td>
<td>2x 10GbE SFP+ port(s) with Intel® Ethernet Controller X710-BM2</td>
</tr>
<tr>
<td>VGA/Audio</td>
<td>1 onboard VGA port</td>
<td>1 onboard VGA port</td>
</tr>
<tr>
<td>Management</td>
<td></td>
<td></td>
</tr>
<tr>
<td>Drive Bays</td>
<td>6 hot-swap 2.5” drive bays</td>
<td>6 hot-swap 2.5” drive bays</td>
</tr>
<tr>
<td>Peripheral Bays</td>
<td>None</td>
<td>None</td>
</tr>
<tr>
<td>Power Supply</td>
<td>2000W AC Redundant power supplies (per enclosure)</td>
<td>2000W DC Redundant power supplies (per enclosure)</td>
</tr>
<tr>
<td>Cooling System</td>
<td>4 heavy duty 8cm fans (per enclosure)</td>
<td>4 heavy duty 8cm fans (per enclosure)</td>
</tr>
<tr>
<td>Form Factor</td>
<td>2U Rackmount Enclosure: 438 x 88 x 730mm (17.25” x 3.5” x 28.75”) Package: 526 x 250 x 965mm (20.7” x 9.8” x 38”)</td>
<td>2U Rackmount Enclosure: 438 x 88 x 730mm (17.25” x 3.5” x 28.75”) Package: 526 x 250 x 965mm (20.7” x 9.8” x 38”)</td>
</tr>
<tr>
<td>MODEL</td>
<td>SYS-111E-FWTR</td>
<td>SYS-111E-FDWR</td>
</tr>
<tr>
<td>---------------</td>
<td>--------------------------</td>
<td>--------------------------</td>
</tr>
<tr>
<td>Processor Support</td>
<td>Single 5th/4th Gen Intel® Xeon® Scalable processor up to 350W</td>
<td>Single 5th/4th Gen Intel® Xeon® Scalable processor up to 350W</td>
</tr>
</tbody>
</table>
| Key Applications | • Machine Learning (ML)  
• Artificial Intelligence (AI) on Edge  
• Flex-RAN, Open-RAN vBBU  
• Outdoor DU of 5G Application  
• Multi-Access Edge Computing  
• Redundant Power Supplies Design  
• Front access IO design, 16.9" (430mm) chassis depth  
• 5G Telecom, Flex-RAN, Open-RAN Optimized  
Redundant Power Supplies Design  
Front access IO design, 16.9" (430mm) chassis depth  
5G Telecom, Flex-RAN, Open-RAN Optimized | • Machine Learning (ML)  
• Artificial Intelligence (AI) on Edge  
• Flex-RAN, Open-RAN vBBU  
• Outdoor DU of 5G Application  
• Multi-Access Edge Computing  
• Redundant Power Supplies Design  
Front access IO design, 16.9" (430mm) chassis depth  
5G Telecom, Flex-RAN, Open-RAN Optimized | • Cloud Computing  
• Network Function Virtualization  
• AI Inference and Machine Learning  
• 5G Core and Edge  
• Designed with compliance to NEBS-Level 3 | • Cloud Computing  
• Network Function Virtualization  
• AI Inference and Machine Learning  
• 5G Core and Edge  
• Designed with compliance to NEBS-Level 3 |
| Outstanding Features | 4 heavy duty fans  
2 PCIe 5.0 x16 FHFL slots  
1 PCIe 5.0 x16 LP slot | 4 heavy duty fans  
2 PCIe 5.0 x16 FHFL slots  
1 PCIe 5.0 x16 LP slot | 4 heavy duty fans  
1 PCIe 5.0 x16 FHFL slots  
1 PCIe 5.0 x8 HHHL slot | 4 heavy duty fans  
1 PCIe 5.0 x16 FHFL slots  
1 PCIe 5.0 x8 HHHL slot |
| Serverboard | SUPER® X13SEW-TF | SUPER® X13SEW-TF | SUPER® X13SEM-TF | SUPER® X13SEM-TF |
| Chipset | Intel® C741 | Intel® C741 | Intel® C741 | Intel® C741 |
| System Memory (Max.) | 8 DIMM slots; Up to 2TB DDR5-5600MT/s | 8 DIMM slots; Up to 2TB DDR5-5600MT/s | 8 DIMM slots; Up to 2TB DDR5-5600MT/s | 8 DIMM slots; Up to 2TB DDR5-5600MT/s |
| Expansion Slots | 2 PCIe 5.0 x16 FHFL slots  
1 PCIe 5.0 x16 LP slot | 2 PCIe 5.0 x16 FHFL slots  
1 PCIe 5.0 x16 LP slot | 1 PCIe 5.0 x16 HHHL slot  
1 PCIe 5.0 x8 HHHL slot  
2 PCIe 5.0 x16 FHHL slots | 1 PCIe 5.0 x16 HHHL slot  
1 PCIe 5.0 x8 HHHL slot  
2 PCIe 5.0 x16 FHHL slots |
| Onboard Storage Controller | Intel® SATA | Intel® SATA | Intel® SATA | Intel® SATA |
| Connectivity | 2 10GbE ports | 2 10GbE ports | 2x 100GbE QSFP28 with Intel® E810-CAM2 (optional)  
2x 100GbEQSFP28 with Intel® X810-BM2 (optional)  
2x 200GbE QSFP56 with Mellanox® MT28908A0-XCCF-HVM (optional)  
2x 25GbE QSFP28 with Intel® E810-CAM1 (optional)  
2x 25GbE QSFP28 with Intel® XXV710 (optional)  
4x 10GbE RJ45 with Intel® X550 (optional) | 2x 100GbE QSFP28 with Intel® E810-CAM2 (optional)  
2x 100GbE QSFP28 with Intel® X710-BM2 (optional)  
2x 200GbE QSFP56 with Mellanox® MT28908A0-XCCF-HVM (optional)  
2x 25GbE QSFP28 with Intel® E810-CAM1 (optional)  
2x 25GbE QSFP28 with Intel® XXV710 (optional)  
4x 10GbE RJ45 with Intel® i350 (optional) | 2x 100GbE QSFP28 with Intel® E810-CAM2 (optional)  
2x 100GbE QSFP28 with Intel® X710-BM2 (optional)  
2x 200GbE QSFP56 with Mellanox® MT28908A0-XCCF-HVM (optional)  
2x 25GbE QSFP28 with Intel® E810-CAM1 (optional)  
2x 25GbE QSFP28 with Intel® XXV710 (optional)  
4x 10GbE RJ45 with Intel® X550 (optional) |
| VGA/Audio | 1 VGA port | 1 VGA port | 1 VGA port | 1 VGA port |
| Management | IPMI 2.0 | IPMI 2.0 | IPMI 2.0 | IPMI 2.0 |
| Drive Bays | 2 fixed internal 2.5" SATA drive bays | 2 fixed internal 2.5" SATA drive bays | 2 hot-swap 2.5" NVMe drive bays | 2 hot-swap 2.5" NVMe drive bays |
| Peripheral Bays | None | None | None | None |
| Power Supply | 800W AC Redundant PSU | 600W DC Redundant PSU | Redundant 800W AC 100-240Vac input, Platinum level | 2x 600W -48Vdc single output |
| Cooling System | 4 heavy duty fans  
1U Rackmount  
Enclosure: 436.88 x 44.5 x 429.3mm (17.2" x 1.7" x 16.9")  
Package: 683 x 203 x 609mm (27" x 8" x 24") | 4 heavy duty fans  
1U Rackmount  
Enclosure: 437 x 43 x 429mm (17.2" x 1.7" x 16.9")  
Package: 686 x 203 x 610mm (27" x 8" x 24") | 4 heavy duty fans  
2U Rackmount  
Enclosure: 436.88 x 88.9 x 298.8mm (17.2" x 3.5" x 11.8")  
Package: 490 x 188 x 590mm (19.3" x 7.4" x 23.3") | 4 heavy duty fans  
2U Rackmount  
Enclosure: 436.88 x 88.9 x 298.8mm (17.2" x 3.5" x 11.8")  
Package: 490 x 188 x 590mm (19.3" x 7.4" x 23.3") |
| Form Factor | 1U Rackmount  
Enclosure: 436.88 x 44.5 x 429.3mm (17.2" x 1.7" x 16.9")  
Package: 683 x 203 x 609mm (27" x 8" x 24") | 1U Rackmount  
Enclosure: 437 x 43 x 429mm (17.2" x 1.7" x 16.9")  
Package: 686 x 203 x 610mm (27" x 8" x 24") | 2U Rackmount  
Enclosure: 436.88 x 88.9 x 298.8mm (17.2" x 3.5" x 11.8")  
Package: 490 x 188 x 590mm (19.3" x 7.4" x 23.3") | 2U Rackmount  
Enclosure: 436.88 x 88.9 x 298.8mm (17.2" x 3.5" x 11.8")  
Package: 490 x 188 x 590mm (19.3" x 7.4" x 23.3") |
### Model Options

<table>
<thead>
<tr>
<th>MODEL</th>
<th>SYS-211E-FRN13P</th>
<th>SYS-211E-FRDN13P</th>
<th>SYS-E403-13E-FRN2T</th>
</tr>
</thead>
<tbody>
<tr>
<td><strong>Processor Support</strong></td>
<td>Single 5th/4th Gen Intel® Xeon® Scalable processor up to 270W</td>
<td>Single 5th/4th Gen Intel® Xeon® Scalable processor up to 270W</td>
<td>5th Gen Intel® Xeon®/4th Gen Intel® Xeon® Scalable processors Single Socket LGA-4677 (Socket E) supported TDP up to 350W</td>
</tr>
<tr>
<td><strong>Key Applications</strong></td>
<td>• GNSS &amp; IEEE1588 Sync-E Support</td>
<td>• GNSS &amp; IEEE1588 Sync-E Support</td>
<td>• Smart Retail/Medical Expert Systems, Machine Learning (ML), Artificial Intelligence (AI) on Edge, Industrial Automation, Universal Customer Premise Equipment (uCPE), Multi-Access Edge Computing (MEC)</td>
</tr>
<tr>
<td><strong>Outstanding Features</strong></td>
<td>• Design with compliance to NEBS-Level 3</td>
<td>• Design with compliance to NEBS-Level 3</td>
<td>• Design with compliance to NEBS-Level 3</td>
</tr>
<tr>
<td><strong>System Memory (Max.)</strong></td>
<td>8 DIMM slots; Up to 2TB DDR5-5600MT/s</td>
<td>8 DIMM slots; Up to 2TB DDR5-5600MT/s</td>
<td>8 DIMM slots Max Memory (2DPC); Up to 2TB 4800MT/s ECC DDR5 RDIMM</td>
</tr>
<tr>
<td><strong>Expansion Slots</strong></td>
<td>2 PCIe 5.0 x8 FHHL slots</td>
<td>2 PCIe 5.0 x8 FHHL slots</td>
<td>3 PCIe 5.0 x16 FHFL</td>
</tr>
<tr>
<td><strong>Connectivity</strong></td>
<td>12 25GbE QSFP28 ports with Intel® Ethernet Controller E810-CAM1 1 10GbE RJ45 ports with Intel® Ethernet Controller i210-AI</td>
<td>12 25GbE QSFP28 ports with Intel® Ethernet Controller E810-CAM1 1 10GbE RJ45 ports with Intel® Ethernet Controller i210-AI</td>
<td>2x 10GbE RJ45 port(s)</td>
</tr>
<tr>
<td><strong>Management</strong></td>
<td>1 shared BMC LAN port</td>
<td>1 shared BMC LAN port</td>
<td>IPMI 2.0; KVM with dedicated LAN; Redfish API; Super Diagnostics Offline; SuperDoctor® 5; Supermicro Power Manager (SPM); Supermicro Server Manager (SSM); Supermicro Update Manager (SUM)</td>
</tr>
<tr>
<td><strong>VGA/Audio</strong></td>
<td>1 VGA port</td>
<td>1 VGA port</td>
<td>1 1 VGA port</td>
</tr>
<tr>
<td><strong>Drive Bays</strong></td>
<td>2 fixed internal 2.5” SATA drive bays</td>
<td>2 fixed internal 2.5” SATA drive bays</td>
<td>2x 2.5” hot-swap NVMe drive bays;</td>
</tr>
<tr>
<td><strong>Peripheral Bays</strong></td>
<td>None</td>
<td>None</td>
<td>None</td>
</tr>
<tr>
<td><strong>Power Supply</strong></td>
<td>800W Redundant AC power supply</td>
<td>600W redundant short depth DC48V input power supply</td>
<td>800W Redundant Platinum Level power supplies</td>
</tr>
<tr>
<td><strong>Cooling System</strong></td>
<td>4 heavy duty fans</td>
<td>4 heavy duty fans</td>
<td>3 heavy duty fans(s)</td>
</tr>
<tr>
<td><strong>Form Factor</strong></td>
<td>2U Rackmount Enclosure: 436.88 x 88.9 x 298.8mm (17.2” x 3.5” x 11.8”) Package: 490 x 188 x 590mm (19.3” x 7.4” x 23.3”)</td>
<td>2U Rackmount Enclosure: 436.88 x 88.9 x 298.8mm (17.2” x 3.5” x 11.8”) Package: 490 x 188 x 590mm (19.3” x 7.4” x 23.3”)</td>
<td>Fan-based Embedded Rackmount Enclosure: 266.7 x 117.3 x 406.4mm (10.5” x 4.62” x 16”) Package: 416 x 264 x 660mm (16.4” x 10.4” x 26”)</td>
</tr>
</tbody>
</table>

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**Processor Support**: Single 5th/4th Gen Intel® Xeon® Scalable processor up to 270W

**Key Applications**: GNSS & IEEE1588 Sync-E Support, 5G CU/DU Edge Server, Cloud Computing, Network Function Virtualization

**Outstanding Features**: Design with compliance to NEBS-Level 3, Single Socket E (LGA-4677) 4th Gen Intel® Xeon® Scalable processors, 8 DIMM slots; Up to 2TB 3DS ECC DDR5-4800: RDIMM/LRDIMM, 2x PCIe 5.0 x8 FHHL expansion slots for Accelerator Add-On-Cards, Onboard 12x 25GbE SFP28 ports, 2x 2.5" drive bays for SSD drives, Redundant 800W AC Power Supplies, 1 x RJ45 for dry contact, Ultra short depth, 2U Front I/O Edge Server

**Chipset**: Intel® C741

**System Memory (Max.)**: 8 DIMM slots; Up to 2TB DDR5-5600MT/s

**Expansion Slots**: 2 PCIe 5.0 x8 FHHL slots

**Connectivity**: 12 25GbE QSFP28 ports with Intel® Ethernet Controller E810-CAM1 1 10GbE RJ45 ports with Intel® Ethernet Controller i210-AI

**VGA/Audio**: 1 VGA port

**Management**: Shared BMC LAN port

**Drive Bays**: 2 fixed internal 2.5” SATA drive bays

**Peripheral Bays**: None

**Power Supply**: 800W Redundant AC power supply

**Cooling System**: 4 heavy duty fans

**Form Factor**: 2U Rackmount Enclosure: 436.88 x 88.9 x 298.8mm (17.2” x 3.5” x 11.8")
# X13 8U SuperBlade®

## Enclosure

<table>
<thead>
<tr>
<th>Feature</th>
<th>SBE-820 Series</th>
</tr>
</thead>
<tbody>
<tr>
<td>Processor Blade</td>
<td></td>
</tr>
<tr>
<td>• Up to 20 hot-swappable, half-height, single-width blade servers</td>
<td></td>
</tr>
<tr>
<td>• Up to 10 hot-swappable, full-height, single-width blade servers</td>
<td></td>
</tr>
<tr>
<td>• Mixed configuration supported</td>
<td></td>
</tr>
<tr>
<td>LED Indicator</td>
<td></td>
</tr>
<tr>
<td>• Power LED, Fault LED</td>
<td></td>
</tr>
<tr>
<td>Infiniband Switch</td>
<td></td>
</tr>
<tr>
<td>• SBE-820H/H2 only: Single 200G HDR InfiniBand switch</td>
<td></td>
</tr>
<tr>
<td>• SBE-820C only: Single 100G EDR InfiniBand switch</td>
<td></td>
</tr>
<tr>
<td>Ethernet Switch / Pass-Thru Module</td>
<td></td>
</tr>
<tr>
<td>• SBE-820C/H/H2 only: Up to 2 hot-swap 25G Ethernet switches or pass-thru modules</td>
<td></td>
</tr>
<tr>
<td>• SBE-820J/J2 only: Up to 4 hot-swappable 25G Ethernet switches or pass-thru modules</td>
<td></td>
</tr>
<tr>
<td>• SBE-820L only: Up to 2 hot-swappable 10G Ethernet switches or pass-thru modules</td>
<td></td>
</tr>
<tr>
<td>Chassis Management Module (CMM)</td>
<td></td>
</tr>
<tr>
<td>• Single/Redundant CMM for remote system management with software</td>
<td></td>
</tr>
<tr>
<td>• SBE-820J/J2 only: Up to 2 hot-swappable CMMs for remote system management with software</td>
<td></td>
</tr>
<tr>
<td>Models</td>
<td></td>
</tr>
<tr>
<td>• SBE-820C/J/J2/L/H-822: Up to 8 hot-swappable 2200W Titanium (96% efficiency) power supplies</td>
<td></td>
</tr>
<tr>
<td>• SBE-820H2/J-830: Up to 8 hot-swap 3000W Titanium (96% efficiency) power supplies</td>
<td></td>
</tr>
<tr>
<td>Rack Unit</td>
<td>8 RU</td>
</tr>
<tr>
<td>Form Factor</td>
<td>356 x 447 x 813mm (14&quot; x 17.6&quot; x 32&quot;)</td>
</tr>
</tbody>
</table>
### X13 8U SUPERBLADE®

#### 5th/4th Gen Intel® Xeon® Scalable Processors Supported

### Model Specifications

<table>
<thead>
<tr>
<th>MODEL</th>
<th>SBI-421E-1T3N</th>
<th>SBI-421E-5T3N</th>
<th>SBI-411E-1G</th>
<th>SBI-411E-5G</th>
</tr>
</thead>
<tbody>
<tr>
<td>Server Nodes/Enclosure</td>
<td>20</td>
<td>10</td>
<td>20</td>
<td>10</td>
</tr>
<tr>
<td>Processor Support</td>
<td>Dual 5th/4th Gen Intel® Xeon® Scalable processors Up to 205W TDP (air cooled) or Up to 350W TDP (liquid cooled)</td>
<td>Dual 5th/4th Gen Intel® Xeon® Scalable processors Up to 205W TDP (air cooled) or Up to 350W TDP (liquid cooled)</td>
<td>Single 5th/4th Gen Intel® Xeon® Scalable processors Up to 205W TDP (air cooled) or Up to 350W TDP (liquid cooled)</td>
<td>Single 5th/4th Gen Intel® Xeon® Scalable processors Up to 350W TDP (air cooled)†</td>
</tr>
<tr>
<td>Chipset</td>
<td>Intel® C741 chipset</td>
<td>Intel® C741 chipset</td>
<td>Intel® C741 chipset</td>
<td>Intel® C741 chipset</td>
</tr>
<tr>
<td>System Memory (Max.)</td>
<td>Up to 4TB; 16 DDR5 DIMM slots, 1DPC speeds up to 5600 MT/s</td>
<td>Up to 4TB; 16 DDR5 DIMM slots, 1DPC speeds up to 5600 MT/s</td>
<td>Up to 2TB; 8 DDR5 DIMM slots, 1DPC speeds up to 5600 MT/s</td>
<td>Up to 2TB; 8 DDR5 DIMM slots, 1DPC speeds up to 5600 MT/s</td>
</tr>
<tr>
<td>PCIe Expansion</td>
<td>OCP 3.0 (PCIe 5.0 x16)</td>
<td>OCP 3.0 (PCIe 5.0 x16)</td>
<td>2 PCIe 5.0 slots</td>
<td>4 PCIe 5.0 slots</td>
</tr>
<tr>
<td>Storage &amp; RAID</td>
<td>4 M.2 NVMe with optional mezzanine card 1 M.2 NVMe drive 2 hot-swap U.2 NVMe/SATA3 drive bays &amp; 1 hot-swap SATA3 drive bay; RAID 0, 1 (VROC) Intel® PCH 3.0 SATA Controller</td>
<td>4 M.2 NVMe with optional mezzanine card 1 M.2 NVMe drive 2 hot-swap U.2 NVMe/SATA3 drive bays &amp; 1 hot-swap SATA3 drive bay; RAID 0, 1 (VROC) Intel® PCH 3.0 SATA Controller</td>
<td>4 M.2 NVMe with optional mezzanine card 2 E1.s drives 2 M.2 NVMe drives</td>
<td>4 M.2 NVMe with optional mezzanine card 2 E1.s drives 2 M.2 NVMe drives</td>
</tr>
<tr>
<td>Networking</td>
<td>OCP 3.0 network card with 400G NDR IB and other options</td>
<td>OCP 3.0 network card with 400G NDR IB and other options</td>
<td>Mezzanine options for 200G HDR / 100G EDR IB or dual 25GbE Dual 25GbE LOM</td>
<td>Mezzanine options for 200G HDR / 100G EDR IB or dual 25GbE Dual 25GbE LOM</td>
</tr>
<tr>
<td>Management</td>
<td>Open Industry Standard IPMI 2.0 / KVM over IP / Redfish API / TPM 2.0 / Signed Firmware / HW Root of Trust</td>
<td>Open Industry Standard IPMI 2.0 / KVM over IP / Redfish API / TPM 2.0 / Signed Firmware / HW Root of Trust</td>
<td>Open Industry Standard IPMI 2.0 / KVM over IP / Redfish API / TPM 2.0 / Signed Firmware / HW Root of Trust</td>
<td>Open Industry Standard IPMI 2.0 / KVM over IP / Redfish API / TPM 2.0 / Signed Firmware / HW Root of Trust</td>
</tr>
<tr>
<td>LED Indicators</td>
<td>Fault LED, network activity LED, power LED, UID</td>
<td>Fault LED, Network Activity LED, Power LED, UID</td>
<td>Fault LED, network LED Power, button, KVM/UID LED</td>
<td>Fault LED, network LED Power, button, KVM/UID LED</td>
</tr>
<tr>
<td>Form Factor</td>
<td>165 x 44.4 x 597mm (6.5” x 1.75” x 23.5”)</td>
<td>165 x 88.9 x 597mm (6.5” x 3.5” x 23.5”)</td>
<td>166 x 42 x 580 mm (6.55” x 1.69” x 22.84”)</td>
<td>166 x 86 x 580 mm (6.55” x 3.4” x 22.84”)</td>
</tr>
</tbody>
</table>

† CPUs with high TDP supported under specific conditions. Contact Technical Support for details.
## X13 6U SUPERBLADE®

![Image of X13 Server Solutions](image)

### Enclosure

<table>
<thead>
<tr>
<th>Processor Blade</th>
<th>SBE-610 Series</th>
</tr>
</thead>
<tbody>
<tr>
<td>• Up to 10 hot-swap, single-width blade servers</td>
<td></td>
</tr>
<tr>
<td>• Up to 5 hot-swap, double-width blade servers</td>
<td></td>
</tr>
<tr>
<td>• Mixed configuration supported</td>
<td></td>
</tr>
</tbody>
</table>

### LED Indicator

| • Power LED, Fault LED |

### Infiniband Switch

| N/A |

### Ethernet Switch / Pass-Thru Module

| • Up to 4 hot-swap 25G Ethernet switches, 10G Ethernet switches or pass-thru modules |

### Chassis Management Module (CMM)

| • Up to 2 hot-swap CMMs for remote system management with software |

### Models

| • SBE-610J/610J2-822: Up to 8 hot-swap 2200W Titanium (96% efficiency) power supplies |
| • SBE-610J2-830: Up to 8 hot-swap 3000W Titanium (96% efficiency) |

### Rack Unit

| 6 RU |

### Form Factor

| 267 x 447 x 813mm (10.5" x 17.6" x 32") |
# X13 6U SUPERBLADE®

*NEW!*

| 5th/4th Gen Intel® Xeon® Scalable processors Supported |

## X13 6U SUPERBLADE®

![Image of X13 6U SUPERBLADE®](image)

### Server Nodes/Enclosure

<table>
<thead>
<tr>
<th>MODEL</th>
<th>SBI-611E-1T2N</th>
<th>SBI-611E-1C2N</th>
<th>SBI-611E-5T2N</th>
</tr>
</thead>
<tbody>
<tr>
<td>Server Nodes/Enclosure</td>
<td>10</td>
<td>10</td>
<td>5</td>
</tr>
</tbody>
</table>

### Processor Support

<table>
<thead>
<tr>
<th>MODEL</th>
<th>SBI-611E-1T2N</th>
<th>SBI-611E-1C2N</th>
<th>SBI-611E-5T2N</th>
</tr>
</thead>
<tbody>
<tr>
<td>Single 5th/4th Gen Intel® Xeon® Scalable processor</td>
<td>Up to 250W TDP (air cooled)</td>
<td>Up to 250W TDP (air cooled)</td>
<td>Single 5th/4th Gen Intel® Xeon® Scalable processor</td>
</tr>
</tbody>
</table>

### Chipset

<table>
<thead>
<tr>
<th>MODEL</th>
<th>SBI-611E-1T2N</th>
<th>SBI-611E-1C2N</th>
<th>SBI-611E-5T2N</th>
</tr>
</thead>
<tbody>
<tr>
<td>Intel® C741 chipset</td>
<td>Intel® C741 chipset</td>
<td>Intel® C741 chipset</td>
<td></td>
</tr>
</tbody>
</table>

### System Memory (Max.)

<table>
<thead>
<tr>
<th>MODEL</th>
<th>SBI-611E-1T2N</th>
<th>SBI-611E-1C2N</th>
<th>SBI-611E-5T2N</th>
</tr>
</thead>
<tbody>
<tr>
<td>Up to 4TB; 16 DDR5 DIMM slots, 1DPC speeds up to 5600 MT/s or 2DPC speeds up to 4400 MT/s</td>
<td>Up to 4TB; 16 DDR5 DIMM slots, 1DPC speeds up to 5600 MT/s</td>
<td>Up to 4TB; 16 DDR5 DIMM slots, 1DPC speeds up to 5600 MT/s or 2DPC speeds up to 4400 MT/s</td>
<td></td>
</tr>
</tbody>
</table>

### PCIe Expansion

<table>
<thead>
<tr>
<th>MODEL</th>
<th>SBI-611E-1T2N</th>
<th>SBI-611E-1C2N</th>
<th>SBI-611E-5T2N</th>
</tr>
</thead>
<tbody>
<tr>
<td>1 PCIe Gen5 x16 slot, 1 PCIe Gen5 x8 slot, support 1 FHFL DW GPU or 2 SW PCIe cards</td>
<td>1 PCIe Gen5 x16 slot, 1 PCIe Gen5 x8 slot, support 1 FHFL DW GPU or 2 SW PCIe cards</td>
<td>2 PCIe Gen5 x16 slot, 2 PCIe Gen5 x8 slot, support 2 FHFL DW GPU or 4 SW PCIe cards</td>
<td></td>
</tr>
</tbody>
</table>

### Storage & RAID

<table>
<thead>
<tr>
<th>MODEL</th>
<th>SBI-611E-1T2N</th>
<th>SBI-611E-1C2N</th>
<th>SBI-611E-5T2N</th>
</tr>
</thead>
<tbody>
<tr>
<td>2 hot-swap U.2 NVMe/SATA drive bays</td>
<td>2 hot-swap U.2 NVMe/SATA drive bays</td>
<td>2 hot-swap U.2 NVMe/SATA drive bays</td>
<td>3 M.2 NVMe drives</td>
</tr>
<tr>
<td>2 E1.5 drives</td>
<td>2 E1.5 drives</td>
<td>2 E1.5 drives</td>
<td>Intel® PCH 3.0 SATA controller</td>
</tr>
<tr>
<td>1 M.2 NVMe drive</td>
<td>Broadcom 3108 HW RAID</td>
<td>Intel® PCH 3.0 SATA controller</td>
<td></td>
</tr>
</tbody>
</table>

### Networking

<table>
<thead>
<tr>
<th>MODEL</th>
<th>SBI-611E-1T2N</th>
<th>SBI-611E-1C2N</th>
<th>SBI-611E-5T2N</th>
</tr>
</thead>
<tbody>
<tr>
<td>Standard IB or GbE PCIe cards Mezzanine option for dual 25GbE dual 25GbE LOM</td>
<td>Standard IB or GbE PCIe cards Mezzanine option for dual 25GbE dual 25GbE LOM</td>
<td>Standard IB or GbE PCIe cards Mezzanine option for dual 25GbE dual 25GbE LOM</td>
<td></td>
</tr>
</tbody>
</table>

### Management

<table>
<thead>
<tr>
<th>MODEL</th>
<th>SBI-611E-1T2N</th>
<th>SBI-611E-1C2N</th>
<th>SBI-611E-5T2N</th>
</tr>
</thead>
<tbody>
<tr>
<td>Open Industry Standard IPMI 2.0 / KVM over IP / Redfish API / TPM 2.0 / Signed Firmware / HW Root of Trust</td>
<td>Redundant Chassis Management Modules, Open Industry Standard IPMI 2.0 / KVM over IP / Redfish API / TPM 2.0 / Signed Firmware / HW Root of Trust</td>
<td>Open Industry Standard IPMI 2.0 / KVM over IP / Redfish API / TPM 2.0 / Signed Firmware / HW Root of Trust</td>
<td></td>
</tr>
</tbody>
</table>

### LED Indicators

<table>
<thead>
<tr>
<th>MODEL</th>
<th>SBI-611E-1T2N</th>
<th>SBI-611E-1C2N</th>
<th>SBI-611E-5T2N</th>
</tr>
</thead>
<tbody>
<tr>
<td>Fault LED, network activity LED, power LED, UID</td>
<td>Fault LED, Network Activity LED, Power LED, UID</td>
<td>Fault LED, network activity LED, power LED, UID</td>
<td></td>
</tr>
</tbody>
</table>

### Form Factor

<table>
<thead>
<tr>
<th>MODEL</th>
<th>SBI-611E-1T2N</th>
<th>SBI-611E-1C2N</th>
<th>SBI-611E-5T2N</th>
</tr>
</thead>
<tbody>
<tr>
<td>248 x 44.4 x 597mm (9.75” x 1.75” x 23.5”)</td>
<td>248 x 44.4 x 597mm (9.75” x 1.75” x 23.5”)</td>
<td>248 x 44.4 597mm (9.75” x 1.75” x 23.5”)</td>
<td></td>
</tr>
</tbody>
</table>

### Enclosure

<table>
<thead>
<tr>
<th>MODEL</th>
<th>SBI-611E-1T2N</th>
<th>SBI-611E-1C2N</th>
<th>SBI-611E-5T2N</th>
</tr>
</thead>
<tbody>
<tr>
<td>SBE-610J2-430/630/830</td>
<td>SBE-610J2-430/630/830</td>
<td>SBE-610J2-430/630/830</td>
<td></td>
</tr>
</tbody>
</table>

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**X13 Server Solutions - December 2023**

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## X13 6U SUPERBLADE®

### New!
5th/4th Gen Intel® Xeon® Scalable processors Supported

### Model Specifications

<table>
<thead>
<tr>
<th>Model</th>
<th>SBI-621E-1T3N</th>
<th>SBI-621E-1C3N</th>
<th>SBI-621E-5T3N</th>
</tr>
</thead>
<tbody>
<tr>
<td><strong>Server Nodes/Enclosure</strong></td>
<td>10</td>
<td>10</td>
<td>5</td>
</tr>
<tr>
<td><strong>Processor Support</strong></td>
<td>Dual 5th/4th Gen Intel® Xeon® Scalable processors Up to 205W TDP (air cooled) Up to 350W TDP (liquid cooled)</td>
<td>Dual 5th/4th Gen Intel® Xeon® Scalable processors Up to 205W TDP (air cooled) Up to 350W TDP (liquid cooled)</td>
<td>Dual 5th/4th Gen Intel® Xeon® Scalable processors Up to 350W TDP (air cooled)</td>
</tr>
<tr>
<td><strong>Chipset</strong></td>
<td>Intel® C741 chipset</td>
<td>Intel® C741 chipset</td>
<td>Intel® C741 chipset</td>
</tr>
<tr>
<td><strong>System Memory (Max.)</strong></td>
<td>Up to 4TB; 32 DDR5 DIMM slots, 1DPC speeds up to 5600 MT/s</td>
<td>Up to 8TB; 32 DDR5 DIMM slots, 1DPC speeds up to 5600 MT/s or 2DPC speeds up to 4400 MT/s</td>
<td>32 DIMM slots DDR5-5600MT/s 1DPC speeds up to 5600 MT/s</td>
</tr>
<tr>
<td><strong>PCIe Expansion</strong></td>
<td>N/A</td>
<td>N/A</td>
<td>N/A</td>
</tr>
<tr>
<td><strong>Storage &amp; RAID</strong></td>
<td>3 hot-swap U.2 NVMe/SATA drive bays Intel® PCH 3.0 SATA controller</td>
<td>2 hot-swap U.2 NVMe/SAS drive bays &amp; 1 hot-swap SAS drive bay; HW RAID w/ 3108</td>
<td>3 hot-swap U.2 NVMe/SATA drive bays Intel® PCH 3.0 SATA Controller</td>
</tr>
<tr>
<td><strong>Networking</strong></td>
<td>Mezzanine option for dual 25GbE dual 25GbE LOM</td>
<td>Mezzanine option for Dual 25GbE Dual 25GbE LOM</td>
<td>Mezzanine option for Dual 25GbE Dual 25GbE LOM</td>
</tr>
<tr>
<td><strong>LED Indicators</strong></td>
<td>Fault LED, network activity LED, Power LED, UID</td>
<td>Fault LED, Network Activity LED, Power LED, UID</td>
<td>Fault LED, Network Activity LED, Power LED, UID</td>
</tr>
<tr>
<td><strong>Form Factor</strong></td>
<td>248 x 44.4 x 597mm (9.75” x 1.75” x 23.5”)</td>
<td>248 x 44.4 x 597mm (9.75” x 1.75” x 23.5”)</td>
<td>248 x 88.9 x 596.9mm (9.75” x 3.5” x 23.5”)</td>
</tr>
</tbody>
</table>
### X13 GrandTwin®

**2U 4-Node Front I/O**

### New!
5th/4th Gen Intel® Xeon® Scalable processors Supported

---

### Model Specifications

<table>
<thead>
<tr>
<th>MODEL</th>
<th>SYS-211GT-HNTF</th>
<th>SYS-211GT-HNC8F</th>
</tr>
</thead>
<tbody>
<tr>
<td>Processor Support</td>
<td>Single 5th/4th Gen Intel® Xeon® Scalable processor Up to 350W TDP (air cooled)</td>
<td>Single 5th/4th Gen Intel® Xeon® Scalable processor Up to 350W TDP (air cooled)</td>
</tr>
</tbody>
</table>
| Key Applications | • HPC  
• Mission Critical Web Applications  
• EDA (Electric Design Automation)  
• Telco Edge Cloud  
• High-availability Cache Cluster  
• Multi-Purpose CDN  
• MEC (Multi-Access Edge Computing)  
• Cloud Gaming | • HPC  
• Mission Critical Web Applications  
• EDA (Electric Design Automation)  
• Telco Edge Cloud  
• High-availability Cache Cluster  
• Multi-Purpose CDN  
• MEC (Multi-Access Edge Computing)  
• Cloud Gaming |
| Outstanding Features | • Single processor with 16 DIMM  
• Front I/O design  
• Four front access hot-swappable node in 2U  
• Flexible storage selection | • Single processor with 16 DIMM  
• SAS controller built-in  
• Front I/O design  
• Four front access hot-swappable node in 2U  
• Flexible storage selection |
| Serverboard | SUPER® X13SET-G | SUPER® X13SET-GC |
| Chipset | Intel® C741 | Intel® C741 |
| System Memory (Max.) | 16 DIMM slots; up to 4TB DDR5-4800MT/s | 16 DIMM slots; up to 4TB DDR5-4800MT/s |
| Expansion Slots | 2 PCIe 5.0 x16 AIO slots | 2 PCIe 5.0 x16 AIO slots |
| Onboard Storage Controller | Intel® SATA | Broadcom® Broadcom® 3808 |
| Connectivity | via AIO | via AIO |
| VGA/Audio | 1 VGA port | 1 VGA port |
| Management | SuperCloud Composer; SuperDoctor® 5 (SDS); Supermicro Diagnostics Offline (SDO); Supermicro Intelligent Mgmt (BMC Resources); Supermicro IPMI Utilities; Supermicro Power Manager (SPM); Supermicro Server Manager (SSM); Supermicro Server Mgmt (Redfish® API); Supermicro Thin-Agent Service (TAS); Supermicro Update Manager (SUM) | SuperCloud Composer; SuperDoctor® 5 (SDS); Supermicro Diagnostics Offline (SDO); Supermicro Intelligent Mgmt (BMC Resources); Supermicro IPMI Utilities; Supermicro Power Manager (SPM); Supermicro Server Manager (SSM); Supermicro Server Mgmt (Redfish® API); Supermicro Thin-Agent Service (TAS); Supermicro Update Manager (SUM) |
| Drive Bays | 4 hot-swap 2.5" NVMe/SATA drive bays; 4x 2.5" NVMe dedicated; optional RAID support via Intel® PCH | 4 hot-swap 2.5" NVMe/SATA/SAS drive bays; 4x 2.5" NVMe dedicated; optional RAID support via Broadcom® 3808 AOC |
| Peripheral Bays | None | None |
| Power Supply | Redundant 2200W Titanium level (96%) | Redundant 2200W Titanium level (96%) |
| Cooling System | 2 heavy duty 8cm fans | 2 heavy duty 8cm fans |
| Form Factor | 2U Rackmount  
Enclosure: 449 x 88 x 711.2mm (17.67” x 3.46” x 28")  
Package: 626 x 248 x 1150mm (24.65” x 9.76” x 45.28") | 2U Rackmount  
Enclosure: 449 x 88 x 711.2mm (17.67” x 3.46” x 28")  
Package: 626 x 248 x 1150mm (24.65” x 9.76” x 45.28") |
## 2U 4-Node Rear I/O

### MODEL SUMMARY

<table>
<thead>
<tr>
<th>MODEL</th>
<th>SYS-211GT-HNTR</th>
<th>SYS-211GT-HNC8R</th>
</tr>
</thead>
<tbody>
<tr>
<td>Processor Support</td>
<td>Single 5th/4th Gen Intel® Xeon® Scalable processor Up to 300W TDP (air cooled)†</td>
<td>Single 5th/4th Gen Intel® Xeon® Scalable processor Up to 300W TDP (air cooled)†</td>
</tr>
<tr>
<td>Key Applications</td>
<td>• HPC • Mission Critical Web Applications • EDA (Electric Design Automation) • Telco Edge Cloud • High-availability Cache Cluster • Multi-Purpose CDN • MEC (Multi-Access Edge Computing) • Cloud Gaming</td>
<td>• HPC • Mission Critical Web Applications • EDA (Electric Design Automation) • Telco Edge Cloud • High-availability Cache Cluster • Multi-Purpose CDN • MEC (Multi-Access Edge Computing) • Cloud Gaming</td>
</tr>
<tr>
<td>Outstanding Features</td>
<td>• Single processor with 16 DIMM • Four front access hot-swappable node in 2U • 6x NVMe/SATA drives per node</td>
<td>• Single processor with 16 DIMM • Four front access hot-swappable node in 2U • 6x NVMe/SATA drives per node</td>
</tr>
<tr>
<td>Serverboard</td>
<td>SUPER® X13SET-G</td>
<td>SUPER® X13SET-GC</td>
</tr>
<tr>
<td>Chipset</td>
<td>Intel® C741</td>
<td>Intel® C741</td>
</tr>
<tr>
<td>System Memory (Max.)</td>
<td>16 DIMM slots; up to 4TB DDR5-4800MT/s</td>
<td>16 DIMM slots; up to 4TB DDR5-4800MT/s</td>
</tr>
<tr>
<td>Expansion Slots</td>
<td>2 PCIe 5.0 x16 AIOM slots</td>
<td>2 PCIe 5.0 x16 AIOM slots</td>
</tr>
<tr>
<td>Onboard Storage Controller</td>
<td>Intel® SATA</td>
<td>Broadcom® Broadcom® 3808</td>
</tr>
<tr>
<td>Connectivity</td>
<td>via AIOM</td>
<td>via AIOM</td>
</tr>
<tr>
<td>VGA/Audio</td>
<td>1 VGA port</td>
<td>1 VGA port</td>
</tr>
<tr>
<td>Management</td>
<td>SuperCloud Composer; SuperDoctor® 5 (SDS); Supermicro Diagnostics Offline (SDO); Supermicro Intelligent Mgmt (BMC Resources); Supermicro IPMI Utilities; Supermicro Power Manager (SPM); Supermicro Server Mgmt (SSM); Supermicro Server Mgmt (Redfish® API); Supermicro Thin-Agent Service (TAS); Supermicro Update Manager (SUM)</td>
<td>SuperCloud Composer; SuperDoctor® 5 (SDS); Supermicro Diagnostics Offline (SDO); Supermicro Intelligent Mgmt (BMC Resources); Supermicro IPMI Utilities; Supermicro Power Manager (SPM); Supermicro Server Mgmt (SSM); Supermicro Server Mgmt (Redfish® API); Supermicro Thin-Agent Service (TAS); Supermicro Update Manager (SUM)</td>
</tr>
<tr>
<td>Drive Bays</td>
<td>6x 2.5” hot-swap NVMe/SATA drive bays; 6x 2.5” NVMe dedicated; Optional RAID support via Intel® PCH</td>
<td>6x 2.5” hot-swap NVMe/SATA/SAS drive bays; 6x 2.5” NVMe dedicated; Optional RAID support via Broadcom® 3808 AOC</td>
</tr>
<tr>
<td>Peripheral Bays</td>
<td>None</td>
<td>None</td>
</tr>
<tr>
<td>Power Supply</td>
<td>Redundant 2200W Titanium level (96%)</td>
<td>Redundant 2200W Titanium level (96%)</td>
</tr>
<tr>
<td>Cooling System</td>
<td>2 heavy duty 8cm fans</td>
<td>2 heavy duty 8cm fans</td>
</tr>
<tr>
<td>Form Factor</td>
<td>2U Rackmount Enclosure: 449 x 88 x 711.2mm (17.67” x 3.46” x 28”) Package: 626 x 248 x 1150mm (24.65” x 9.76” x 45.28”)</td>
<td>2U Rackmount Enclosure: 449 x 88 x 711.2mm (17.67” x 3.46” x 28”) Package: 626 x 248 x 1150mm (24.65” x 9.76” x 45.28”)</td>
</tr>
<tr>
<td>MODEL</td>
<td>SYS-621BT-DNTR</td>
<td>SYS-621BT-DNC8R</td>
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<tr>
<td>-----------------</td>
<td>--------------------------------------------------------------</td>
<td>---------------------------------------------------------------</td>
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<tr>
<td>Processor Support</td>
<td>Dual 5th/4th Gen Intel® Xeon® Scalable processors</td>
<td>Dual 5th/4th Gen Intel® Xeon® Scalable processors</td>
</tr>
<tr>
<td></td>
<td>Up to 300W TDP (air cooled)</td>
<td>Up to 350W TDP (liquid cooled)</td>
</tr>
<tr>
<td>Key Applications</td>
<td>• Back-up &amp; Recovery</td>
<td>• Back-up &amp; Recovery</td>
</tr>
<tr>
<td></td>
<td>• Scale-Out Object Storage</td>
<td>• Scale-Out Object Storage</td>
</tr>
<tr>
<td></td>
<td>• Hyperconverged Infrastructure</td>
<td>• Hyperconverged Infrastructure</td>
</tr>
<tr>
<td></td>
<td>Outstanding Features</td>
<td>Outstanding Features</td>
</tr>
<tr>
<td></td>
<td>• Tool-less support for swapping AOC cards</td>
<td>• Tool-less support for swapping AOC cards</td>
</tr>
<tr>
<td></td>
<td>• Supports Liquid Cooling up to 350W TDP</td>
<td>• Supports Liquid Cooling up to 350W TDP</td>
</tr>
<tr>
<td></td>
<td>• Supports 2x PCIe 5.0 NVMe and 4x PCIe 4.0 NVMe/SATA per node</td>
<td>• Supports 2x PCIe 5.0 NVMe and 4x PCIe 4.0 NVMe/SAS per node</td>
</tr>
<tr>
<td></td>
<td>(Drive Bays)</td>
<td>(Drive Bays)</td>
</tr>
<tr>
<td></td>
<td>• Optional TPM 1.2 or 2.0 module</td>
<td>• Optional TPM 1.2 or 2.0 module</td>
</tr>
<tr>
<td></td>
<td>• HW Boot Controller for NVMe M.2 drives</td>
<td>• HW Boot Controller for NVMe M.2 drives</td>
</tr>
<tr>
<td>Serverboard</td>
<td>SUPER® X13DET-B</td>
<td>SUPER® X13DET-B</td>
</tr>
<tr>
<td>Chipset</td>
<td>Intel® C741</td>
<td>Intel® C741</td>
</tr>
<tr>
<td>System Memory (Max.)</td>
<td>16 DIMM slots; up to 4TB DDR5-5600MT/s</td>
<td>16 DIMM slots; up to 4TB DDR5-5600MT/s</td>
</tr>
<tr>
<td>Expansion Slots</td>
<td>2 M.2 (22x110mm) slots for boot drive or caching</td>
<td>2 M.2 (22x110mm) slots for boot drive or caching</td>
</tr>
<tr>
<td></td>
<td>1 PCIe 5.0 x16 LP slot</td>
<td>1 PCIe 5.0 x16 LP slot</td>
</tr>
<tr>
<td></td>
<td>2 PCIe x8 LP slots</td>
<td>2 PCIe x8 LP slots</td>
</tr>
<tr>
<td>Onboard Storage Controller</td>
<td>Intel® SATA</td>
<td>Broadcom® 3808</td>
</tr>
<tr>
<td>Connectivity</td>
<td>via AIOM</td>
<td>via AIOM</td>
</tr>
<tr>
<td>VGA/Audio</td>
<td>1 onboard VGA port</td>
<td>1 onboard VGA port</td>
</tr>
<tr>
<td>Management</td>
<td>Intel® Node Manager; IPMI 2.0; KVM with dedicated LAN; SPM; SSM; SUM; Supemicro Out of Band (OOB) License; SuperCloud Composer; SuperDoctor® 5; Watch Dog</td>
<td>Intel® Node Manager; IPMI 2.0; KVM with dedicated LAN; SPM; SSM; SUM; Supemicro Out of Band (OOB) License; SuperCloud Composer; SuperDoctor® 5; Watch Dog</td>
</tr>
<tr>
<td>Drive Bays</td>
<td>6 hot-swap 3.5” NVMe/SATA drive bays; RAID support via Intel® PCH</td>
<td>6 hot-swap 3.5” NVMe/SAS drive bays; HBA support via SAS3808 Adapter</td>
</tr>
<tr>
<td>Peripheral Bays</td>
<td>None</td>
<td>None</td>
</tr>
<tr>
<td>Power Supply</td>
<td>1U 2200W Redundant Power Supply Titanium with C14 inlet, 45(W) X 40(H) X 480(L)</td>
<td>1U 2200W Redundant Power Supply Titanium with C14 inlet, 45(W) X 40(H) X 480(L)</td>
</tr>
<tr>
<td>Cooling System</td>
<td>4 heavy duty 14.9K RPM 8cm fans</td>
<td>4 heavy duty 14.9K RPM 8cm fans</td>
</tr>
<tr>
<td>Form Factor</td>
<td>2U Rackmount; Enclosure: 449 x 88 x 774mm (17.68” x 3.47” x 30.5”) Package: 626 x 248 x 1150mm (24.65” x 9.76” x 45.28”)</td>
<td>2U Rackmount; Enclosure: 449 x 88 x 774mm (17.68” x 3.47” x 30.5”) Package: 626 x 248 x 1150mm (24.65” x 9.76” x 45.28”)</td>
</tr>
</tbody>
</table>
## Processor Support
- Dual 5th/4th Gen Intel® Xeon® Scalable processors
- Up to 350W TDP (air cooled)
- Up to 350W TDP (liquid cooled)

## Key Applications
- Big Data Analytics and AI
- Scale Out All-Flash NVMe Storage
- Diskless HPC Clusters
- High-Performance File System

## Outstanding Features
- Tool-less support for swapping AOC cards
- Supports Liquid Cooling up to 350W TDP
- Supports 2x PCIe 5.0 NVMe and 10x PCIe 4.0 NVMe/SATA per node (Drive Bays)
- Optional TPM 1.2 or 2.0 module
- HW Boot Controller for NVMe M.2 drives

## Serverboard
- SUPER® X13DET-B

## Chipset
- Intel® C741

## System Memory (Max.)
- 16 DIMM slots; up to 4TB DDR5-5600MT/s
- 16 DIMM slots; up to 4TB DDR5-5600MT/s

## Expansion Slots
- 2 M.2 (22x110mm) slots for boot drive or caching
- 1 PCIe 5.0 x16 LP slot
- 2 PCIe x8 LP slots
- 2 M.2 (22x110mm) slots for boot drive or caching
- 1 PCIe 5.0 x16 LP slot
- 2 PCIe x8 LP slots

## Onboard Storage Controller
- Intel® SATA
- Broadcom® 3816

## Connectivity
- via AIOM
- via AIOM

## VGA/Audio
- 1 onboard VGA port
- 1 onboard VGA port

## Management
- Intel® Node Manager; IPMI 2.0; KVM with dedicated LAN; SPM; SSM; SUM; Supemicro Out of Band (OOB) License; SuperCloud Composer; SuperDoctor® S; Watch Dog
- Intel® Node Manager; IPMI 2.0; KVM with dedicated LAN; SPM; SSM; SUM; Supemicro Out of Band (OOB) License; SuperCloud Composer; SuperDoctor® S; Watch Dog

## Drive Bays
- 12 hot-swap 2.5” NVMe/SATA drive bays; RAID support via Intel® PCH
- 12 hot-swap 2.5” NVMe/SAS drive bays; Optional HBA support via SAS3816 AOC

## Peripheral Bays
- None
- None

## Power Supply
- 1U 2200W Redundant Power Supply Titanium with C14 inlet, 45(W) X 40(H) X 480(L)
- 1U 2200W Redundant Power Supply Titanium with C14 inlet, 45(W) X 40(H) X 480(L)

## Cooling System
- 4 heavy duty 16.5K RPM 8cm fans
- 4 heavy duty 16.5K RPM 8cm fans

## Form Factor
- 2U Rackmount
  - Enclosure: 449 x 88 x 730mm (17.68” x 3.47” x 28.75”)
  - Package: 626 x 248 x 1150mm (24.65” x 9.76” x 45.28”)
- 2U Rackmount
  - Enclosure: 449 x 88 x 730mm (17.68” x 3.47” x 28.75”)
  - Package: 626 x 248 x 1150mm (24.65” x 9.76” x 45.28”)
## X13 BiGTwin®

### 2U 4-Node

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<thead>
<tr>
<th>MODEL</th>
<th>SYS-621BT-HNTR</th>
<th>SYS-621BT-HNC8R</th>
</tr>
</thead>
<tbody>
<tr>
<td><strong>Processor Support</strong></td>
<td>Dual Socket 5th/4th Gen Intel® Xeon® Scalable processors</td>
<td>Dual Socket 5th/4th Gen Intel® Xeon® Scalable processors</td>
</tr>
<tr>
<td></td>
<td>Up to 185W TDP (air cooled)</td>
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</tr>
<tr>
<td></td>
<td>Up to 350W TDP (liquid cooled)</td>
<td>Up to 350W TDP (liquid cooled)</td>
</tr>
<tr>
<td><strong>Key Applications</strong></td>
<td>• Scale-Out File Server</td>
<td>• Container Storage</td>
</tr>
<tr>
<td></td>
<td>• Container Storage</td>
<td>• Scale-Out File Storage</td>
</tr>
<tr>
<td></td>
<td>• Hyperconverged Infrastructure</td>
<td>• Hyperconverged Infrastructure</td>
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<td></td>
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<td><strong>Serverboard</strong></td>
<td>SUPER® X13DET-B</td>
<td>SUPER® X13DET-B</td>
</tr>
<tr>
<td><strong>Chipset</strong></td>
<td>Intel® C741</td>
<td>Intel® C741</td>
</tr>
<tr>
<td><strong>System Memory (Max.)</strong></td>
<td>16 DIMM slots; up to 4TB DDR5-5600MT/s</td>
<td>16 DIMM slots; up to 4TB DDR5-5600MT/s</td>
</tr>
<tr>
<td><strong>Expansion Slots</strong></td>
<td>2 M.2 (22x110mm) slots for boot drive or caching</td>
<td>2 M.2 (22x110mm) slots for boot drive or caching</td>
</tr>
<tr>
<td></td>
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<td>2 PCIe 5.0 x16 LP slots</td>
</tr>
<tr>
<td><strong>Onboard Storage Controller</strong></td>
<td>Intel® SATA</td>
<td>Broadcom® 3808</td>
</tr>
<tr>
<td><strong>Connectivity</strong></td>
<td>via AIOM</td>
<td>via AIOM</td>
</tr>
<tr>
<td><strong>VGA/Audio</strong></td>
<td>1 onboard VGA port</td>
<td>1 onboard VGA port</td>
</tr>
<tr>
<td><strong>Management</strong></td>
<td>Intel® Node Manager; IPMI 2.0; KVM with dedicated LAN; SPM; SSM; SUM; Supemicro Out of Band (OOB) License; SuperCloud Composer; SuperDoctor® 5; Watch Dog</td>
<td>Intel® Node Manager; IPMI 2.0; KVM with dedicated LAN; SPM; SSM; SUM; Supemicro Out of Band (OOB) License; SuperCloud Composer; SuperDoctor® 5; Watch Dog</td>
</tr>
<tr>
<td><strong>Drive Bays</strong></td>
<td>3 hot-swap 3.5&quot; NVMe/SATA drive bays; RAID support via Intel® PCH</td>
<td>3 hot-swap 3.5&quot; NVMe/SAS drive bays; HBA support via SAS3808 Adapter</td>
</tr>
<tr>
<td><strong>Peripheral Bays</strong></td>
<td>None</td>
<td>None</td>
</tr>
<tr>
<td><strong>Power Supply</strong></td>
<td>1U 3000W Redundant Power Supply Titanium with C22 inlet, 45(W) X 40(h) X 480(L)</td>
<td>1U 3000W Redundant Power Supply Titanium with C22 inlet, 45(W) X 40(h) X 480(L)</td>
</tr>
<tr>
<td><strong>Cooling System</strong></td>
<td>4 heavy duty 14.9K RPM 8cm fans</td>
<td>4 heavy duty 14.9K RPM 8cm fans</td>
</tr>
</tbody>
</table>
| **Form Factor** | 2U Rackmount
Enclosure: 449 x 88 x 774mm (17.68" x 3.47" x 30.5")
Package: 626 x 248 x 1150mm (24.65" x 9.76" x 45.28") | 2U Rackmount
Enclosure: 449 x 88 x 774mm (17.68" x 3.47" x 30.5")
Package: 626 x 248 x 1150mm (24.65" x 9.76" x 45.28") |

---

**NEW!**

5th/4th Gen Intel® Xeon® Scalable processors Supported

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X13 Server Solutions - December 2023
###型号 | SYS-221BT-HNC8R | SYS-221BT-HNC9R
--- | --- | ---
**处理器支持** | 双5代/4代Intel® Xeon®可扩展处理器 | 双5代/4代Intel® Xeon®可扩展处理器
 | 至多205W TDP（气冷） | 至多350W TDP（液冷）

**关键应用** | 全闪存Hyperconverged Infrastructure | 高密度存储RAID阵列
 | 无盘HPC集群 | 虚拟化大数据分析
 | Container-as-a-service; Application Accelerator | 任务关键HPC

**出色特性** | 无工具支持更换AOC卡 | 无工具支持更换AOC卡
 | 支持液冷至350W TDP | 支持液冷至350W TDP
 | 支持每节点2x PCIe 5.0 NVMe和4x PCIe 4.0 NVMe/SAS | 支持每节点2x PCIe 5.0 NVMe和4x PCIe 4.0 NVMe/SAS
 | 可选TPM 1.2或2.0模块 | 可选TPM 1.2或2.0模块
 | HW Boot Controller for NVMe M.2 drives | HW Boot Controller for NVMe M.2 drives

**主板** | SUPER® X13DET-B | SUPER® X13DET-B

**芯片组** | Intel® C741 | Intel® C741

**系统内存** | 16 DIMM插槽；
 | 4TB DDR5-5600MT/s | 16 DIMM插槽；
 | up to 4TB DDR5-5600MT/s | up to 4TB DDR5-5600MT/s

**扩展插槽** | 2 M.2 (22x110mm)插槽用于引导驱动或缓存
 | 2 PCIe 5.0 x16 LP插槽

**扩展存储控制器** | Broadcom® 3808 | Broadcom® 3908

**连接** | 通过AIOM | 通过AIOM

**VGA/Audio** | 1个板载VGA端口 | 1个板载VGA端口

**管理** | Intel® Node Manager; IPMI 2.0; KVM with dedicated LAN; SPM; SSM; SUM; Supermicro Out of Band (OOB) License; SuperCloud Composer; SuperDoctor® 5; WatchDog | Intel® Node Manager; IPMI 2.0; KVM with dedicated LAN; SPM; SSM; SUM; Supermicro Out of Band (OOB) License; SuperCloud Composer; SuperDoctor® 5; WatchDog

**硬盘** | 6个热插拔2.5” NVMe/SAS硬盘；
 | HBA支持通过SAS3808适配器 | 6个热插拔2.5” NVMe/SAS硬盘；
 | HBA支持通过SAS3808适配器 | 可选RAID支持通过Broadcom® 3908 AOC

**外围设备** | 无 | 无

**电源** | 1U 3000W冗余电源供应Titanium与C22 inlet, 45(W) X 40(H) X 480(L) | 1U 3000W冗余电源供应Titanium与C22 inlet, 45(W) X 40(H) X 480(L)

**冷却系统** | 4x 16K RPM反向旋转8cm风扇 | 4x 16K RPM反向旋转8cm风扇

**外形尺寸** | 2U机架
 | 包装: 449 x 88 x 730mm (17.68” x 3.47” x 28.75”)
 | 包装: 626 x 248 x 1150mm (24.65” x 9.76” x 45.28”)

**X13 BiGTwin®**

5th/4th Gen Intel® Xeon® Scalable processors Supported

NEW!

2U 4-Node

2U 4-Node
### Processor Support

<table>
<thead>
<tr>
<th>MODEL</th>
<th>SYS-221BT-HNTR</th>
<th>SYS-221BT-HNR</th>
</tr>
</thead>
<tbody>
<tr>
<td>Processor Support</td>
<td>Dual 5th/4th Gen Intel® Xeon® Scalable processors</td>
<td>Dual 5th/4th Gen Intel® Xeon® Scalable processors</td>
</tr>
<tr>
<td></td>
<td>Up to 205W TDP (air cooled)</td>
<td>Up to 205W TDP (air cooled)</td>
</tr>
<tr>
<td></td>
<td>Up to 350W TDP (liquid cooled)</td>
<td>Up to 350W TDP (liquid cooled)</td>
</tr>
</tbody>
</table>

### Key Applications

<table>
<thead>
<tr>
<th>MODEL</th>
<th>SYS-221BT-HNTR</th>
<th>SYS-221BT-HNR</th>
</tr>
</thead>
<tbody>
<tr>
<td>Key Applications</td>
<td>• Diskless HPC Clusters</td>
<td>• Diskless HPC Clusters</td>
</tr>
<tr>
<td></td>
<td>• High-Performance File System</td>
<td>• High-Performance File System</td>
</tr>
<tr>
<td></td>
<td>• Container-as-a-Service; Application Accelerator</td>
<td>• Container-as-a-Service; Application Accelerator</td>
</tr>
<tr>
<td></td>
<td>• All-Flash NVMe Hyperconverged Infrastructure</td>
<td>• All-Flash NVMe Hyperconverged Infrastructure</td>
</tr>
<tr>
<td></td>
<td>• Tool-less support for swapping AOC cards</td>
<td>• Tool-less support for swapping AOC cards</td>
</tr>
<tr>
<td></td>
<td>• Supports Liquid Cooling up to 350W TDP</td>
<td>• Supports Liquid Cooling up to 350W TDP</td>
</tr>
<tr>
<td></td>
<td>• Supports 2x PCIe 5.0 NVMe and 4x PCIe 4.0 NVMe/SATA per node</td>
<td>• Optional TPM 1.2 or 2.0 module</td>
</tr>
<tr>
<td></td>
<td>(Drive Bays)</td>
<td>• HW Boot Controller for NVMe M.2 drives</td>
</tr>
<tr>
<td></td>
<td>• Optional TPM 1.2 or 2.0 module</td>
<td>• All NVMe PCIe 5.0 Flash</td>
</tr>
</tbody>
</table>

### Outstanding Features

<table>
<thead>
<tr>
<th>MODEL</th>
<th>SYS-221BT-HNTR</th>
<th>SYS-221BT-HNR</th>
</tr>
</thead>
<tbody>
<tr>
<td>Outstanding Features</td>
<td>• Tool-less support for swapping AOC cards</td>
<td>• Tool-less support for swapping AOC cards</td>
</tr>
<tr>
<td></td>
<td>• Supports Liquid Cooling up to 350W TDP</td>
<td>• Supports Liquid Cooling up to 350W TDP</td>
</tr>
<tr>
<td></td>
<td>• Optional TPM 1.2 or 2.0 module</td>
<td>• Optional TPM 1.2 or 2.0 module</td>
</tr>
<tr>
<td></td>
<td>• HW Boot Controller for NVMe M.2 drives</td>
<td>• HW Boot Controller for NVMe M.2 drives</td>
</tr>
</tbody>
</table>

### Serverboard

<table>
<thead>
<tr>
<th>MODEL</th>
<th>SYS-221BT-HNTR</th>
<th>SYS-221BT-HNR</th>
</tr>
</thead>
<tbody>
<tr>
<td>Serverboard</td>
<td>SUPER® X13DET-B</td>
<td>SUPER® X13DET-B</td>
</tr>
</tbody>
</table>

### Chipset

<table>
<thead>
<tr>
<th>MODEL</th>
<th>SYS-221BT-HNTR</th>
<th>SYS-221BT-HNR</th>
</tr>
</thead>
<tbody>
<tr>
<td>Chipset</td>
<td>Intel® C741</td>
<td>Intel® C741</td>
</tr>
</tbody>
</table>

### System Memory (Max.)

<table>
<thead>
<tr>
<th>MODEL</th>
<th>SYS-221BT-HNTR</th>
<th>SYS-221BT-HNR</th>
</tr>
</thead>
<tbody>
<tr>
<td>System Memory (Max.)</td>
<td>6 DIMM slots; up to 4TB DDR5-5600MT/s</td>
<td>6 DIMM slots; up to 4TB DDR5-5600MT/s</td>
</tr>
</tbody>
</table>

### Expansion Slots

<table>
<thead>
<tr>
<th>MODEL</th>
<th>SYS-221BT-HNTR</th>
<th>SYS-221BT-HNR</th>
</tr>
</thead>
<tbody>
<tr>
<td>Expansion Slots</td>
<td>2 M.2 (22x110mm) slots for boot drive or caching</td>
<td>2 M.2 (22x110mm) slots for boot drive or caching</td>
</tr>
<tr>
<td></td>
<td>2 PCIe 5.0 x16 LP slots</td>
<td>2 PCIe 5.0 x16 LP slots</td>
</tr>
</tbody>
</table>

### Onboard Storage Controller

<table>
<thead>
<tr>
<th>MODEL</th>
<th>SYS-221BT-HNTR</th>
<th>SYS-221BT-HNR</th>
</tr>
</thead>
<tbody>
<tr>
<td>Onboard Storage Controller</td>
<td>Intel® SATA</td>
<td>Intel® SATA</td>
</tr>
</tbody>
</table>

### Connectivity

<table>
<thead>
<tr>
<th>MODEL</th>
<th>SYS-221BT-HNTR</th>
<th>SYS-221BT-HNR</th>
</tr>
</thead>
<tbody>
<tr>
<td>Connectivity</td>
<td>via AION</td>
<td>via AION</td>
</tr>
</tbody>
</table>

### VGA/Audio

<table>
<thead>
<tr>
<th>MODEL</th>
<th>SYS-221BT-HNTR</th>
<th>SYS-221BT-HNR</th>
</tr>
</thead>
<tbody>
<tr>
<td>VGA/Audio</td>
<td>1 onboard VGA port</td>
<td>1 onboard VGA port</td>
</tr>
</tbody>
</table>

### Management

<table>
<thead>
<tr>
<th>MODEL</th>
<th>SYS-221BT-HNTR</th>
<th>SYS-221BT-HNR</th>
</tr>
</thead>
<tbody>
<tr>
<td>Management</td>
<td>Intel® Node Manager; IPMI 2.0; KVM with dedicated LAN; SPM; SSM; SUM; Supermicro Out of Band (OOB) License; SuperCloud Composer; SuperDoctor® 5; Watch Dog</td>
<td>Intel® Node Manager; IPMI 2.0; KVM with dedicated LAN; SPM; SSM; SUM; Supermicro Out of Band (OOB) License; SuperCloud Composer; SuperDoctor® 5; Watch Dog</td>
</tr>
</tbody>
</table>

### Drive Bays

<table>
<thead>
<tr>
<th>MODEL</th>
<th>SYS-221BT-HNTR</th>
<th>SYS-221BT-HNR</th>
</tr>
</thead>
<tbody>
<tr>
<td>Drive Bays</td>
<td>6 hot-swap 2.5” NVMe/SATA drive bays; RAID support via Intel® PCH</td>
<td>6 hot-swap 2.5” NVMe Gen5 drive bays</td>
</tr>
</tbody>
</table>

### Peripheral Bays

<table>
<thead>
<tr>
<th>MODEL</th>
<th>SYS-221BT-HNTR</th>
<th>SYS-221BT-HNR</th>
</tr>
</thead>
<tbody>
<tr>
<td>Peripheral Bays</td>
<td>None</td>
<td>None</td>
</tr>
</tbody>
</table>

### Power Supply

<table>
<thead>
<tr>
<th>MODEL</th>
<th>SYS-221BT-HNTR</th>
<th>SYS-221BT-HNR</th>
</tr>
</thead>
<tbody>
<tr>
<td>Power Supply</td>
<td>1U 3000W Redundant Power Supply Titanium with C22 inlet, 45(W) X 40(H) X 480(L)</td>
<td>1U 3000W Redundant Power Supply Titanium with C22 inlet, 45(W) X 40(H) X 480(L)</td>
</tr>
</tbody>
</table>

### Cooling System

<table>
<thead>
<tr>
<th>MODEL</th>
<th>SYS-221BT-HNTR</th>
<th>SYS-221BT-HNR</th>
</tr>
</thead>
<tbody>
<tr>
<td>Cooling System</td>
<td>4 16K RPM 8cm counter-rotating fans</td>
<td>4 16K RPM 8cm counter-rotating fans</td>
</tr>
</tbody>
</table>

### Form Factor

<table>
<thead>
<tr>
<th>MODEL</th>
<th>SYS-221BT-HNTR</th>
<th>SYS-221BT-HNR</th>
</tr>
</thead>
<tbody>
<tr>
<td>Form Factor</td>
<td>2U Rackmount; Enclosure: 449 x 88 x 730mm (17.68” x 3.47” x 28.75”) Package: 626 x 248 x 1150mm (24.65” x 9.76” x 45.28”)</td>
<td>2U Rackmount; Enclosure: 449 x 88 x 730mm (17.68” x 3.47” x 28.75”) Package: 626 x 248 x 1150mm (24.65” x 9.76” x 45.28”)</td>
</tr>
</tbody>
</table>
**X13 FaTTwin®**

<table>
<thead>
<tr>
<th>MODEL</th>
<th>SYS-F511E2-RT</th>
<th>SYS-F521E3-RTB</th>
</tr>
</thead>
<tbody>
<tr>
<td><strong>Processor Support</strong></td>
<td>Single 5th/4th Gen Intel® Xeon® Scalable processor Up to 350W TDP (air cooled)†</td>
<td>Single 5th/4th Gen Intel® Xeon® Scalable processor Up to 350W TDP (air cooled)†</td>
</tr>
<tr>
<td><strong>Key Applications</strong></td>
<td>• Hyperscale / Hyperconverged</td>
<td>• Hyperscale / Hyperconverged</td>
</tr>
<tr>
<td></td>
<td>• Telco Data Center and ETSI certified</td>
<td>• Telco Data Center and ETSI certified</td>
</tr>
<tr>
<td></td>
<td>• Data Center Enterprise Applications</td>
<td>• Data Center Enterprise Applications</td>
</tr>
<tr>
<td></td>
<td>• HPC and Big Data</td>
<td>• HPC and Big Data</td>
</tr>
<tr>
<td></td>
<td>• Shared power architecture for best efficiency</td>
<td>• Shared power architecture for best efficiency</td>
</tr>
<tr>
<td></td>
<td>• Redundant cooling and power configurations for high availability</td>
<td>• Redundant cooling and power configurations for high availability</td>
</tr>
<tr>
<td></td>
<td>• Optimized designs for storage and compute density</td>
<td>• Optimized designs for storage and compute density</td>
</tr>
<tr>
<td></td>
<td>• HDD hot-swap capability</td>
<td>• HDD hot-swap capability</td>
</tr>
<tr>
<td></td>
<td>• 16 DIMMs Up to 4TB DDR5</td>
<td>• 16 DIMMs Up to 4TB DDR5</td>
</tr>
<tr>
<td><strong>Serverboard</strong></td>
<td>SUPER® X13SEFR-A</td>
<td>SUPER® X13SEFR-A</td>
</tr>
<tr>
<td><strong>Chipset</strong></td>
<td>Intel® C741</td>
<td>Intel® C741</td>
</tr>
<tr>
<td><strong>System Memory (Max.)</strong></td>
<td>16 DIMM slots; up to 4TB DDR5-5600MT/s</td>
<td>16 DIMM slots; up to 4TB DDR5-5600MT/s</td>
</tr>
<tr>
<td><strong>Expansion Slots</strong></td>
<td>2 AIOM slots</td>
<td>2 AIOM slots</td>
</tr>
<tr>
<td></td>
<td>1 PCIe 5.0 x16 LP slot</td>
<td>1 PCIe 5.0 x16 LP slot</td>
</tr>
<tr>
<td></td>
<td>2 M.2 slots</td>
<td>2 M.2 slots</td>
</tr>
<tr>
<td><strong>Onboard Storage Controller</strong></td>
<td>Intel® SATA</td>
<td>Intel® SATA</td>
</tr>
<tr>
<td><strong>Connectivity</strong></td>
<td>1 1GbE RJ45 (BMC) port via AIOM</td>
<td>1 1GbE RJ45 (BMC) port via AIOM</td>
</tr>
<tr>
<td><strong>VGA/Audio</strong></td>
<td>1 VGA port, Aspeed AST2600 BMC</td>
<td>1 VGA port, Aspeed AST2600 BMC</td>
</tr>
<tr>
<td><strong>Management</strong></td>
<td>Intel® Node Manager; IPMI 2.0; KVM with dedicated LAN; SPM; SSM; SUM; SuperDoctor® 5; Watch Dog</td>
<td>Intel® Node Manager; IPMI 2.0; KVM with dedicated LAN; SPM; SSM; SUM; SuperDoctor® 5; Watch Dog</td>
</tr>
<tr>
<td><strong>Drive Bays</strong></td>
<td>6 hot-swap 2.5&quot; NVMe/SATA/SAS drive bays; 8x 2.5&quot; NVMe hybrid; 8x 2.5&quot; 7mm drive bays</td>
<td>8 hot-swap 3.5&quot; NVMe/SATA/SAS drive bays; 8x 2.5&quot; NVMe hybrid; 8x 2.5&quot; 7mm drive bays</td>
</tr>
<tr>
<td><strong>Peripheral Bays</strong></td>
<td>None</td>
<td>None</td>
</tr>
<tr>
<td><strong>Power Supply</strong></td>
<td>Redundant 2000W Titanium level (96%)</td>
<td>Redundant 2000W Titanium level (96%)</td>
</tr>
<tr>
<td><strong>Cooling System</strong></td>
<td>4 heavy duty 4cm fans</td>
<td>4 heavy duty 4cm fans</td>
</tr>
<tr>
<td><strong>Form Factor</strong></td>
<td>4U Rackmount Enclosure: 448 x 177 x 737mm (17.63” x 6.96” x 29”) Package: (28.3” x 15” x 42.4”)</td>
<td>4U Rackmount Enclosure: 448 x 177 x 737mm (17.63” x 6.96” x 29”) Package: (28.3” x 15” x 42”)</td>
</tr>
</tbody>
</table>

**NEW!**
5th/4th Gen Intel® Xeon® Scalable processors Supported

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**X13 Server Solutions - December 2023**

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## X13 CloudDC

**NEW!**

5th/4th Gen Intel® Xeon® Scalable processors Supported

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### High Density Cloud Storage

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### MODEL | SYS-621C-TN12R | SYS-521C-NR
---|---|---
**Processor Support** | Dual 5th/4th Gen Intel® Xeon® Scalable processors Up to 350W TDP (air cooled) | Dual 5th/4th Gen Intel® Xeon® Scalable processors Up to 350W TDP (air cooled)
**Key Applications** | • CDN, Edge Nodes | • Database/Storage
• DNS & Gateway Servers, Firewall Application | • AI inferencing, ML training
• Cloud Computing, Compact Server | • Network Appliance
• Data Center Optimized, Value IaaS | • Data Center Optimized
• Web Server, Firewall Application | • Cloud Computing
• Up to 12x NVMe/SATA/SAS hybrid tool-less drive bays | • Support powerful double-width GPUs
• Optional hot-swappable 2.5” rear drive bays | • Flexible Configurations. Support 6 PCIe 5.0 expansion slots + 2x AIOM slots in 2U
• Flexible expansion with up to 2x PCIe 5.0 x16 and 4x PCIe 5.0 x8 (convertible to 2x PCIe 5.0 x16) slots | •
• Dual sockets up to 350W TDP | •
• Dual NVMe M.2 (2280) | •
• Dual FHFLDW PCIe 4.0 GPU support | •
• Dual AIOM with NCSI (OCP 3.0 NIC) | •
• Compact server with tool-less drive trays | •
• Balanced architecture in compact chassis (25.6”) | •
• 3.5” tool-less drive trays also support 2.5” drives | •
**Outstanding Features** | • Up to 12x NVMe/SATA/SAS hybrid tool-less drive bays | •
• Optional hot-swappable 2.5” rear drive bays | •
• Flexible expansion with up to 2x PCIe 5.0 x16 and 4x PCIe 5.0 x8 (convertible to 2x PCIe 5.0 x16) slots | •
• Dual sockets up to 350W TDP | •
• Dual NVMe M.2 (2280) | •
• Dual FHFLDW PCIe 4.0 GPU support | •
• Dual AIOM with NCSI (OCP 3.0 NIC) | •
• Compact server with tool-less drive trays | •
• Balanced architecture in compact chassis (25.6”) | •
| **Serverboard** | SUPER® X13DDW-A | SUPER® X13SEDW-F
**Chipset** | Intel® C741 | Intel® C741
**System Memory (Max.)** | 16 DIMM slots; up to 4TB DDR5-5600MT/s | 16 DIMM slots; up to 4TB DDR5-5600MT/s
**Expansion Slots** | Slot 1: PCIe 4.0 x8 FHHL (optional x16 by merging slot 2) | Slot 1: PCIe 5.0 x8 FHHL (optional x16 by merging slot 2)
Slot 2: PCIe 4.0 x8 FHHL | Slot 2: PCIe 5.0 x8 FHHL
Slot 3: PCIe 4.0 x16 FHHL | Slot 3: PCIe 5.0 x16 FHHL
Slot 4: PCIe 4.0 x8 FHHL | Slot 4: PCIe 5.0 x8 FHHL
Slot 5: PCIe 4.0 x8 FHHL (optional x16 by merging slot 4) | Slot 5: PCIe 5.0 x8 FHHL (optional x16 by merging slot 4)
Slot 6: PCIe 4.0 x16 FHHL | Slot 6: PCIe 5.0 x16 FHHL
Slot A1: PCIe 4.0 x16 OCP 3.0 Mezzanine NIC | Slot A1: PCIe 5.0 x16 OCP 3.0 AIOM NIC
Slot A2: PCIe 4.0 x16 OCP 3.0 Mezzanine NIC | Slot A2: dummy AIOM slot
**Onboard Storage Controller** | Intel® SATA | Intel® SATA
**Connectivity** | with Via Advanced IO Module, AIOM (OCP 3.0 NIC, refer to AIOM Network Card(s) under Optional Parts List for NIC options) via AIOM | via AIOM
**VGA/Audio** | 1 VGA port | 1 onboard VGA port
**Management** | Intel® Node Manager; IPMI 2.0; KVM with dedicated LAN; NMI; Redfish API; SCC; SPM; SSM; SUM; SuperDoctor® 5; Watch Dog | Intel® Node Manager; IPMI2.0; KVM with dedicated LAN; NMI; Redfish API; SPM; SSM; SUM
**Drive Bays** | 12 hot-swap 3.5” NVMe/SATA/SAS hybrid drive bays; Optional RAID support via RAID controller AOC | 12 hot-swap 3.5” SATA/SAS drive bays; 2x 3.5” NVMe hybrid
**Peripheral Bays** | None | None
**Power Supply** | Redundant 1200W Titanium level (96%) | Redundant 1200W Titanium level (96%)
**Cooling System** | 3 heavy duty 8cm fans | 3 (8cm x 8cm x 3.8cm) heavy duty fan(s)
**Form Factor** | 2U Rackmount | 2U Rackmount
---|---|---
Enclosure: 437 x 89 x 648mm (17.2” x 3.5” x 25.5”)
Package: 678 x 290 x 876mm (26.7” x 11.4” x 34.5”)

---

X13 Server Solutions - December 2023
## X13 CloudDC

### Compact Cloud Compute

#### MODEL

<table>
<thead>
<tr>
<th>Processor Support</th>
<th>SYS-121C-TN10R</th>
<th>SYS-111C-NR</th>
</tr>
</thead>
<tbody>
<tr>
<td>Dual 5th/4th Gen Intel® Xeon® Scalable processors</td>
<td>Single 5th/4th Gen Intel® Xeon® Scalable processor</td>
<td></td>
</tr>
<tr>
<td>Up to 270W TDP (air cooled)</td>
<td>Up to 350W TDP (air cooled)</td>
<td></td>
</tr>
</tbody>
</table>

#### Key Applications

- CDN, Edge Nodes
- DNS & Gateway Servers, Firewall Application
- Cloud Computing, Compact Server
- Data Center Optimized, Value IaaS
- Web Server, Firewall Application
- Compact server with tool-less drive trays
- Balanced architecture in compact chassis (23.5")
- Up to 10x NVMe/SATA/SAS hybrid tool-less drive bays
- Dual sockets up to 270W TDP
- Dual NVMe M.2 (2280)
- Dual AIOM with NCSI (OCP 3.0 NIC)
- HPC
- Virtualization
- Storage Headnode
- Data Center Optimized
- Cloud Computing
- CDN, Edge Nodes
- Max 10x PCIe 5.0 NVMe drives supported in 1U Form Factor
- Flexible Configurations. Support 2x 16 PCIe 5.0 expansion slots + 2x AIOM in 1U

#### Outstanding Features

- Up to 10x NVMe/SATA/SAS hybrid tool-less drive bays
- Dual sockets up to 270W TDP
- Dual NVMe M.2 (2280)
- Dual AIOM with NCSI (OCP 3.0 NIC)
- Compact server with tool-less drive trays
- Balanced architecture in compact chassis (23.5")

#### Expansion Slots

- 2 PCIe 5.0 x16 FHHL slots
- Slot 1: PCIe 5.0 x16 FHHL
- Slot 2: PCIe 5.0 x16 FHHL
- Slot A1: PCIe 5.0 x16 OCP 3.0 AIOM NIC
- Slot A2: PCIe 5.0 x16 OCP 3.0 AIOM NIC

#### Onboard Storage Controller

- Intel® SATA
- Intel® SATA

#### Connectivity

- with Via Advanced IO Module, AIOM (OCP 3.0 NIC, refer to AIOM Network Card(s) under Optional Parts List for NIC options) via AIOM
- via AIOM

#### VGA/Audio

- 1 VGA port
- 1 onboard VGA port

#### Management

- Intel® Node Manager; IPMI 2.0; KVM with dedicated LAN; NMI; Redfish API; SCC; SPM; SSM; SUM; SuperDoctor® 5; Watch Dog
- Intel® Node Manager; IPMI2.0; KVM with dedicated LAN; NMI; Redfish API; SPM; SSM; SUM

#### Drive Bays

- 10 hot-swap 2.5” NVMe/SATA/SAS hybrid drive bays
- Optional RAID support via RAID controller AOC
- 10 hot-swap 2.5” NVMe/SATA/SAS drive bays

#### Peripheral Bays

- None
- None

#### Power Supply

- Redundant 860W Platinum level (94%)
- Redundant 860W Platinum level (94%)

#### Cooling System

- 6 heavy duty 4cm fans
- 6 (4cm x 4cm x 5.6cm) heavy duty fans

#### Form Factor

- 1U Rackmount
  - Enclosure: 437 x 43 x 597mm (17.2” x 1.7” x 23.5”)
  - Package: 605 x 197 x 822mm (23.8” x 7.8” x 32.4”)
- 1U Rackmount
  - Enclosure: 437 x 43 x 597mm (17.2” x 1.7” x 23.5”)
  - Package: 602 x 195.6 x 807.7mm (23.7” x 7.7” x 31.8”)

---

**NEW!**

5th/4th Gen Intel® Xeon® Scalable processors Supported
# X13 CloudDC

**General Purpose Balanced**

**Compact Storage Optimized**

<table>
<thead>
<tr>
<th>MODEL</th>
<th>SYS-121C-TN2R</th>
<th>SYS-611C-TN4R</th>
</tr>
</thead>
<tbody>
<tr>
<td><strong>Processor Support</strong></td>
<td>Dual 5th/4th Gen Intel® Xeon® Scalable processors Up to 270W TDP (air cooled)</td>
<td>Dual 5th/4th Gen Intel® Xeon® Scalable processors Up to 270W TDP (air cooled)</td>
</tr>
</tbody>
</table>
| **Key Applications** | • CDN, Edge Nodes  
• DNS & Gateway Servers, Firewall Application  
• Cloud Computing, Compact Server  
• Data Center Optimized, Value IaaS  
• Web Server, Firewall Application | • CDN, Edge Nodes  
• DNS & Gateway Servers, Firewall Application  
• Cloud Computing, Compact Server  
• Data Center Optimized, Value IaaS  
• Web Server, Firewall Application |
| **Outstanding Features** | • Up to 8x SATA/SAS w/ 2x NVMe tool-less drive bays  
• Optional DVD ROM support  
• Dual sockets up to 270W TDP  
• Dual NVMe M.2 (2280)  
• Dual AIOM with NICI (OCP 3.0 NIC)  
• Compact server with tool-less drive trays  
• Balanced architecture in compact chassis (23.5") | • Up to 4x SATA/SAS/NVMe tool-less drive bays  
• Optional fixed 2.5" 7 mm drive bays  
• Dual sockets up to 270W TDP  
• Dual NVMe M.2 (2280)  
• Dual AIOM with NICI (OCP 3.0 NIC)  
• Compact server with tool-less drive trays  
• Balanced architecture in compact chassis (25.6")  
• 3.5" tool-less drive trays also support 2.5" drives |
| **Serverboard** | SUPER® X13DDW-A | SUPER® X13DDW-A |
| **Chipset** | Intel® C741 | Intel® C741 |
| **System Memory (Max.)** | 16 DIMM slots; up to 41TB DDR5-5600MT/s | 16 DIMM slots; up to 41TB DDR5-5600MT/s |
| **Expansion Slots** | 2 PCIe 5.0 x16 FHHL slot(s) | 2 PCIe 5.0 x16 FHHL slot(s) |
| **Onboard Storage Controller** | Intel® SATA | Intel® SATA |
| **Connectivity** | with Via Advanced IO Module, AIOM (OCP 3.0 NIC, refer to AIOM Network Card(s) under Optional Parts List for NIC options) via AIOM | with Via Advanced IO Module, AIOM (OCP 3.0 NIC, refer to AIOM Network Card(s) under Optional Parts List for NIC options) via AIOM |
| **VGA/Audio** | 1 VGA port | 1 VGA port |
| **Management** | Intel® Node Manager; IPMI 2.0; KVM with dedicated LAN; NMI; Redfish API; SCC; SPM; SSM; SUM; SuperDoctor® 5; Watch Dog | Intel® Node Manager; IPMI 2.0; KVM with dedicated LAN; NMI; Redfish API; SCC; SPM; SSM; SUM; SuperDoctor® 5; Watch Dog |
| **Drive Bays** | 8 hot-swap 2.5" NVMe/SATA/SAS hybrid drive bays; Optional RAID support via RAID controller AOC | 4 hot-swap 3.5" NVMe/SATA/SAS hybrid drive bays; Optional RAID support via RAID controller AOC |
| **Peripheral Bays** | 1x DVD-ROM (optional) | 2 fixed 2.5" 7mm peripheral bays (optional) |
| **Power Supply** | Redundant 860W Platinum level (94%) | Redundant 860W Platinum level (94%) |
| **Cooling System** | 6 heavy duty 4cm fans | 6 heavy duty 4cm fans |
| **Form Factor** | 1U Rackmount Enclosure: 437 x 43 x 597mm (17.2" x 1.7" x 23.5")  
Package: 605 x 197 x 822mm (23.8" x 7.8" x 32.4") | 1U Rackmount Enclosure: 437 x 43 x 650mm (17.2" x 1.7" x 25.6")  
Package: 605 x 197 x 878mm (23.8" x 7.8" x 34.6") |
## X13 ALL-FLASH EDSFF

1U High-performance All-Flash

### New! 5th/4th Gen Intel® Xeon® Scalable processors Supported

### MODEL | SSG-121E-NES24R | SSG-121E-NE316R | SSG-221E-NE324R
--- | --- | --- | ---
#### Processor Support
Dual 5th/4th Gen Intel® Xeon® Scalable processors; Up to 270W TDP (air cooled)
- In-Memory Computing
- Software-defined Storage
- NVMe Over Fabrics Solution
- Private & Hybrid Cloud
- Data Intensive HPC
- Two PCIe 5.0 x16 slots & two Aiom connectors (OCP 3.0 SFF compliant)
- Supports 32 DIMMs with 2DPC, up to 127B memory capacity with 16 DIMMs of 256GB 3DS RDIMM/RDIMM DDR5 ECC memory and 16 DIMMs of 512GB Redundant Titanium 2000W Power Supplies
- Dual Socket E (LGA-4677) 5th/4th Generation Intel® Xeon® Scalable processors. Up to 270W TDP.
- Composable Infrastructure Platform
- 24x hot-swap E1.5 (9.5mm or 15mm) NVMe drive bays

#### Key Applications
- In-Memory Computing
- Software-defined Storage
- NVMe Over Fabrics Solution
- Private & Hybrid Cloud
- Data Intensive HPC
- Two PCIe 5.0 x16 slots & two Aiom connectors (OCP 3.0 SFF compliant)
- Supports 32 DIMMs with 2DPC, up to 8TB memory capacity with 32 DIMMs of 256GB 3DS RDIMM/RDIMM DDR5 ECC memory
- Dual Socket E (LGA-4677) 5th/4th Generation Intel® Xeon® Scalable processors. Up to 270W TDP.
- Composable Infrastructure Platform

#### Outstanding Features
- Two PCIe 5.0 x16 slots & two AIOM connectors (OCP 3.0 SFF compliant)
- Supports 32 DIMMs with 2DPC, up to 8TB memory capacity with 32 DIMMs of 256GB 3DS RDIMM/RDIMM DDR5 ECC memory
- Dual Socket E (LGA-4677) 5th/4th Generation Intel® Xeon® Scalable processors. Up to 350W TDP.
- Composable Infrastructure Platform

### Serverboard
- SUPER® X13DSF-A
- SUPER® X13DSF-A
- SUPER® X13DSF-A
- Chipset
  - Intel® C741
  - Intel® C741
  - Intel® C741
- System Memory (Max.)
  - 32 DIMM slots; Up to 8TB DDR5-4800MT/s
  - 32 DIMM slots; Up to 8TB DDR5-4800MT/s
  - 32 DIMM slots; Up to 8TB DDR5-4800MT/s
- Expansion Slots
  - 2 PCIe 5.0 x16 FHHL slots or 4 PCIe 5.0 x8 FHHL slots; 2 PCIe 5.0 x 16 AIOM slots
  - 2 PCIe 5.0 x16 AIOM slots
  - 2 PCIe 5.0 x16 AIOM slots
- Onboard Storage Controller
  - Intel® SATA
  - Intel® SATA
  - Intel® SATA
- Connectivity
  - via AIOM
  - via AIOM
  - via AIOM
- VGA/Audio
  - 1 VGA port
  - 1 VGA port
  - None
- Management
  - IPMI 2.0; NMI; SUM; SuperDoctor® 5; Watch Dog
  - IPMI 2.0; KVM with dedicated LAN; Redfish API; Super Diagnostics Offline; SuperDoctor® 5; Supermicro Power Manager (SPM); Supermicro Server Manager (SSM); Supermicro Update Manager (SUM)
  - IPMI 2.0; KVM with dedicated LAN; Redfish API; Super Diagnostics Offline; SuperDoctor® 5; Supermicro Power Manager (SPM); Supermicro Server Manager (SSM); Supermicro Update Manager (SUM)
- Drive Bays
  - 24 hot-swap E1.5 NVMe drive slots
  - 16 hot-swap E3.5 NVMe drive slots
  - 24 hot-swap E3.5 NVMe drive slots
- Peripheral Bays
  - None
  - None
  - None
- Power Supply
  - 2000W Redundant Power Supplies with PMBus
  - 1600W Redundant Power Supplies with PMBus
  - Redundant 750W Platinum level (94%)
- Cooling System
  - 8 heavy duty 8cm fans
  - 8 heavy duty 4cm fans
  - 8 heavy duty 4cm fans
- Form Factor
  - 1U Rackmount Enclosure: 438.4 x 43.6 x 773.25mm (17.2” x 1.7” x 30.4”)
  - Package: 604.774 x 199.898 x 1029.97mm (23.81” x 7.87” x 40.55”)
  - 1U Rackmount Enclosure: 438.4 x 43.6 x 773.25mm (17.2” x 1.7” x 30.4”)
  - Package: 604.774 x 199.898 x 1029.97mm (23.81” x 7.87” x 40.55”)
  - 2U Rackmount Enclosure: 438.4 x 89.8 x 789.9mm (17.2” x 3.5” x 30.8”)
  - Package: 673.1 x 254 x 1098.55mm (26.5” x 10” x 43.25”)

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X13 Server Solutions - December 2023
## X13 Enterprise Storage

### Outstanding Features
- **Model:** SSG-621E-ACR12H
- **Processor Support:** 5th Gen Intel® Xeon®/4th Gen Intel® Xeon® Scalable processors
- **Key Applications:**
  - Server remote management: IPMI 2.0/KVM over LAN/Media over LAN
  - Dual Socket LGA-4677 (Socket E)
  - 4 PCIe 5.0 x16 Slots

- **System Memory:**
  - 16 DIMM slots
  - 2x 10GbE RJ45 port(s)

- **Chipset:** Intel® C741

- **Management:**
  - IPMI 2.0; KVM with dedicated LAN
  - Redfish API; Super Diagnostics Offline; SuperDoctor®
  - SuperMicro Server Manager (SSM); SuperMicro Update Manager (SUM)

- **Drive Bays:**
  - 12x 3.5" hot-swap SATA3/SAS3 drive bays; 6x 2.5" NVMe hybrid

- **Peripheral Bays:** None

- **Power Supply:** 1200W Redundant Titanium Level power supplies

- **Cooling System:**
  - 3x 8cm heavy duty fan(s)

### X13 Enterprise Storage

<table>
<thead>
<tr>
<th>MODEL</th>
<th>SSG-621E-ACR12H</th>
<th>SSG-621E-ACR12L</th>
<th>SSG-621E-ACR16H</th>
<th>SSG-621E-ACR16L</th>
</tr>
</thead>
<tbody>
<tr>
<td>Key Applications</td>
<td>• Application Optimized Storage Building Blocks</td>
<td>• Application Optimized Storage Building Blocks</td>
<td>• Application Optimized Storage Building Blocks</td>
<td>• Application Optimized Storage Building Blocks</td>
</tr>
<tr>
<td>Outstanding Features</td>
<td>• System Memory: 16 DIMM slots</td>
<td>• System Memory: 16 DIMM slots</td>
<td>• System Memory: 16 DIMM slots</td>
<td>• System Memory: 16 DIMM slots</td>
</tr>
<tr>
<td>Serverboard</td>
<td>SUPER® X13DEI-T</td>
<td>SUPER® X13DEI-T</td>
<td>SUPER® X13DEI-T</td>
<td>SUPER® X13DEI-T</td>
</tr>
<tr>
<td>Chipset</td>
<td>Intel® C741</td>
<td>Intel® C741</td>
<td>Intel® C741</td>
<td>Intel® C741</td>
</tr>
<tr>
<td>System Memory (Max.)</td>
<td>16 DIMM slots</td>
<td>16 DIMM slots</td>
<td>16 DIMM slots</td>
<td>16 DIMM slots</td>
</tr>
<tr>
<td>Expansion Slots</td>
<td>2 PCIe 5.0 x8 LP slot(s)</td>
<td>4 PCIe 5.0 x16 LP slot(s)</td>
<td>2 PCIe 5.0 x8 LP slot(s)</td>
<td>4 PCIe 5.0 x16 LP slot(s)</td>
</tr>
<tr>
<td>Onboard Storage Controller</td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>Connectors</td>
<td>2x 10GbE RJ45 port(s)</td>
<td>2x 10GbE RJ45 port(s)</td>
<td>2x 10GbE RJ45 port(s)</td>
<td>2x 10GbE RJ45 port(s)</td>
</tr>
<tr>
<td>Management</td>
<td>IPMI 2.0; KVM with dedicated LAN</td>
<td>IPMI 2.0; KVM with dedicated LAN</td>
<td>IPMI 2.0; KVM with dedicated LAN</td>
<td>IPMI 2.0; KVM with dedicated LAN</td>
</tr>
<tr>
<td>Drive Bays</td>
<td>12x 3.5&quot; hot-swap SATA3/SAS3 drive bays; 6x 2.5&quot; NVMe hybrid</td>
<td>None</td>
<td>12x 3.5&quot; hot-swap SATA3/SAS3 drive bays; 6x 2.5&quot; NVMe hybrid</td>
<td>None</td>
</tr>
<tr>
<td>Peripheral Bays</td>
<td>None</td>
<td>None</td>
<td>None</td>
<td>None</td>
</tr>
<tr>
<td>Power Supply</td>
<td>1200W Redundant Titanium Level power supplies</td>
<td>1200W Redundant Titanium Level power supplies</td>
<td>1600W Redundant Titanium Level power supplies</td>
<td>1600W Redundant Titanium Level power supplies</td>
</tr>
<tr>
<td>Cooling System</td>
<td>3x 8cm heavy duty fan(s)</td>
<td>3x 8cm heavy duty fan(s)</td>
<td>4x 8cm heavy duty fan(s)</td>
<td>4x 8cm heavy duty fan(s)</td>
</tr>
<tr>
<td>Form Factor</td>
<td>2U Rackmount Enclosure: 437 x 89 x 650mm (17.2&quot; x 3.5&quot; x 25.6&quot;)</td>
<td>2U Rackmount Enclosure: 437 x 89 x 650mm (17.2&quot; x 3.5&quot; x 25.6&quot;)</td>
<td>2U Rackmount Enclosure: 437 x 89 x 705mm (17.2&quot; x 3.5&quot; x 27.7&quot;)</td>
<td>2U Rackmount Enclosure: 437 x 89 x 705mm (17.2&quot; x 3.5&quot; x 27.7&quot;)</td>
</tr>
</tbody>
</table>

**NEW!**

5th/4th Gen Intel® Xeon® Scalable processors Supported
# X13 Enterprise Storage

## 3U 16-Bay Front Loading

### NEW!

- **5th/4th Gen Intel® Xeon® Scalable processors Supported**

## Model Comparison

<table>
<thead>
<tr>
<th></th>
<th>SSG-631E-E1CR16H</th>
<th>SSG-631E-E1CR16L</th>
</tr>
</thead>
<tbody>
<tr>
<td><strong>Processor Support</strong></td>
<td>Dual 5th/4th Gen Intel® Xeon® Scalable processors up to 270W TDP (air cooled)</td>
<td>Dual 5th/4th Gen Intel® Xeon® Scalable processors up to 270W TDP (air cooled)</td>
</tr>
</tbody>
</table>
| **Key Applications**     | • Appliance Optimized Storage Building Blocks  
  • Corporate Database  
  • Database Processing & Storage  
  • HPC, Data Center  
  • iSCSI SAN  
  • Enterprise Server | • Appliance Optimized Storage Building Blocks  
  • Corporate Database  
  • Database Processing & Storage  
  • HPC, Data Center  
  • iSCSI SAN  
  • Enterprise Server |
| **Outstanding Features** | • Up to 4TB 3DS ECC RDIMM, DDR5-4800MT/s (1DPC) in 16 DIMM slots  
  • Server remote management: IPMI 2.0/KVM over LAN/Media over LAN  
  • Dual socket 4th Gen Intel® Xeon® Scalable processors  
  • 4 PCIe 5.0x16 slots + 2 PCIe 5.0x8 slots  
  • 2x onboard M.2 NVMe  
  • 16x Hot-swap 3.5" SAS3/SATA3 drive bays | • Up to 4TB 3DS ECC RDIMM, DDR5-4800MT/s (1DPC) in 16 DIMM slots  
  • Server remote management: IPMI 2.0/KVM over LAN/Media over LAN  
  • Dual socket 4th Gen Intel® Xeon® Scalable processors  
  • 4 PCIe 5.0x16 slots + 2 PCIe 5.0x8 slots  
  • 2x onboard M.2 NVMe  
  • 16x Hot-swap 3.5" SAS3/SATA3 drive bays |
| **Serverboard** | SUPER® X13DEI-T | SUPER® X13DEI-T |
| **Chipset**           | Intel® C741 | Intel® C741 |
| **System Memory (Max.)** | 16 DIMM slots; up to 4TB DDR5-5600MT/s | 16 DIMM slots; up to 4TB DDR5-5600MT/s |
| **Expansion Slots**   | 2 PCIe 5.0x8 FH slots  
  4 PCIe 5.0x16 FH slots | 2 PCIe 5.0x8 FH slots  
  4 PCIe 5.0x16 FH slots |
| **Onboard Storage Controller** | Intel® SATA Broadcom® AOC-S3908L-HBIR | Broadcom® 3808 |
| **Connectivity**       | 2x 10GbE RJ45 port(s) with Broadcom BCM57416 | 2x 10GbE RJ45 port(s) with Broadcom BCM57416 |
| **VGA/Audio**          | 1 VGA port | 1 VGA port |
| **Management**         | IPMI 2.0; KVM with dedicated LAN; Redfish API; Super Diagnostics Offline; SuperDoctor® 5; Supermicro Power Manager (SPM); Supermicro Server Manager (SSM); Supermicro Update Manager (SUM) | IPMI 2.0; KVM with dedicated LAN; Redfish API; Super Diagnostics Offline; SuperDoctor® 5; Supermicro Power Manager (SPM); Supermicro Server Manager (SSM); Supermicro Update Manager (SUM) |
| **Drive Bays**         | 16 front hot-swap 3.5" SATA/SAS drive bays  
  2 hot-swap 2.5" SATA rear drive bays | 16 front hot-swap 3.5" SATA/SAS drive bays  
  2 hot-swap 2.5" SATA rear drive bays |
| **Peripheral Bays**    | None | None |
| **Power Supply**       | 1200W Redundant Power Supplies with PMBus | 1200W Redundant Power Supplies with PMBus |
| **Cooling System**     | 5 heavy duty 8cm fans | 5 heavy duty 8cm fans |
| **Form Factor**        | 3U Rackmount  
  Enclosure: (17.2" x 5.2" x 25.5")  
  Package: (27" x 13" x 35") | 3U Rackmount  
  Enclosure: (17.2" x 5.2" x 25.5")  
  Package: (27" x 13" x 35") |

---

**X13 Server Solutions - December 2023**
## X13 Enterprise Storage

### 4U 24-Bay Front Loading

**Model:** SSG-641E-E1CR24H  
**Processor Support:** Dual 5th/4th Gen Intel® Xeon® Scalable processors up to 270W TDP (air cooled)  
**Key Applications:**  
- Application Optimized Storage Building Blocks  
- Corporate Database  
- Database Processing & Storage  
- HPC, Data Center  
- iSCSI SAN  
- Enterprise Server  
**Outstanding Features:**  
- Up to 4TB 3DS ECC RDimm, DDR5-4800MT/s(1DPC) in 16 DIMM slots  
- Server remote management: IPMI 2.0/KVM over LAN/Media over LAN  
- Dual socket 4th Gen Intel® Xeon® Scalable processors  
- 4 PCIe 5.0x16 Slots + 2 PCIe 5.0x8 Slots  
- 2 onboard M.2 NVMe  
- 24 hot-swap 3.5" SAS3/SATA3 drive bays  
**Serverboard:** SUPER® X13DEI-T  
**Chipset:** Intel® C741  
**System Memory (Max.):** 16 DIMM slots; up to 4TB DDR5-5600MT/s  
**Expansion Slots:** 2 PCIe 5.0x8 FH slots  
**Onboard Storage Controller:** Broadcom® 3908  
**Connectivity:** 2x 10GbE RJ45 port(s) with Broadcom BCM57416  
**VGA/Audio:** 1 VGA port  
**Power Supply:** 1200W Redundant Power Supplies with PMBus  
**Cooling System:** 5 heavy duty 8cm fans  
**Form Factor:** 4U Rackmount  

### 4U 24-Bay Front Loading

**Model:** SSG-641E-E1CR24L  
**Processor Support:** Dual 5th/4th Gen Intel® Xeon® Scalable processors up to 270W TDP (air cooled)  
**Key Applications:**  
- Application Optimized Storage Building Blocks  
- Corporate Database  
- Database Processing & Storage  
- HPC, Data Center  
- iSCSI SAN  
- Enterprise Server  
**Outstanding Features:**  
- Up to 4TB 3DS ECC RDimm, DDR5-4800MT/s(1DPC) in 16 DIMM slots  
- Server remote management: IPMI 2.0/KVM over LAN/Media over LAN  
- Dual socket 4th Gen Intel® Xeon® Scalable processors  
- 4 PCIe 5.0x16 Slots + 2 PCIe 5.0x8 Slots  
- 24 hot-swap 3.5" SAS3/SATA3 drive bays  
**Serverboard:** SUPER® X13DEI-T  
**Chipset:** Intel® C741  
**System Memory (Max.):** 16 DIMM slots; up to 4TB DDR5-5600MT/s  
**Expansion Slots:** 2 PCIe 5.0x8 FH slots  
**Onboard Storage Controller:** Broadcom® 3908  
**Connectivity:** 2x 10GbE RJ45 port(s) with Broadcom BCM57416  
**VGA/Audio:** 1 VGA port  
**Power Supply:** 1200W Redundant Power Supplies with PMBus  
**Cooling System:** 5 heavy duty 8cm fans  
**Form Factor:** 4U Rackmount  

### 4U 36-Bay Double-Sided

**Model:** SSG-641E-E1CR36H  
**Processor Support:** Dual 5th/4th Gen Intel® Xeon® Scalable processors up to 270W TDP (air cooled)  
**Key Applications:**  
- Application Optimized Storage Building Blocks  
- Corporate Database  
- Database Processing & Storage  
- HPC, Data Center  
- iSCSI SAN  
- Enterprise Server  
**Outstanding Features:**  
- Up to 4TB 3DS ECC RDimm, DDR5-4800MT/s(1DPC) in 16 DIMM slots  
- Server remote management: IPMI 2.0/KVM over LAN/Media over LAN  
- Dual socket 4th Gen Intel® Xeon® Scalable processors  
- 4 PCIe 5.0x16 Slots + 2 PCIe 5.0x8 Slots  
- 36 hot-swap 3.5" SAS3/SATA3 drive bays  
**Serverboard:** SUPER® X13DEI-T  
**Chipset:** Intel® C741  
**System Memory (Max.):** 16 DIMM slots; up to 4TB DDR5-5600MT/s  
**Expansion Slots:** 2 PCIe 5.0x8 FH slots  
**Onboard Storage Controller:** Broadcom® 3908  
**Connectivity:** 2x 10GbE RJ45 port(s) with Broadcom BCM57416  
**VGA/Audio:** 1 VGA port  
**Power Supply:** 1200W Redundant Power Supplies with PMBus  
**Cooling System:** 5 heavy duty 8cm fans  
**Form Factor:** 4U Rackmount  

### 4U 36-Bay Double-Sided

**Model:** SSG-641E-E1CR36L  
**Processor Support:** 4th Gen Intel® Xeon® Scalable processors up to 270W TDP (air cooled)  
**Key Applications:**  
- Application Optimized Storage Building Blocks  
- Corporate Database  
- Database Processing & Storage  
- HPC, Data Center  
- iSCSI SAN  
- Enterprise Server  
**Outstanding Features:**  
- Up to 4TB 3DS ECC RDimm, DDR5-4800MT/s(1DPC) in 16 DIMM slots  
- Server remote management: IPMI 2.0/KVM over LAN/Media over LAN  
- Dual socket 4th Gen Intel® Xeon® Scalable processors  
- 4 PCIe 5.0x16 Slots + 2 PCIe 5.0x8 Slots  
- 36 hot-swap 3.5" SAS3/SATA3 drive bays  
**Serverboard:** SUPER® X13DEI-T  
**Chipset:** Intel® C741  
**System Memory (Max.):** 16 DIMM slots; up to 4TB DDR5-5600MT/s  
**Expansion Slots:** 2 PCIe 5.0x8 FH slots  
**Onboard Storage Controller:** Broadcom® 3908  
**Connectivity:** 2x 10GbE RJ45 port(s) with Broadcom BCM57416  
**VGA/Audio:** 1 VGA port  
**Power Supply:** 1200W Redundant Power Supplies with PMBus  
**Cooling System:** 5 heavy duty 8cm fans  
**Form Factor:** 4U Rackmount
### X13 SIMPLY DOUBLE

<table>
<thead>
<tr>
<th>MODEL</th>
<th>SSG-521E-E1CR24H</th>
<th>SSG-521E-E1CR24L</th>
</tr>
</thead>
<tbody>
<tr>
<td><strong>Processor Support</strong></td>
<td>Single 5th/4th Gen Intel® Xeon® Scalable processor Up to 300W TDP (air cooled)</td>
<td>Single 5th/4th Gen Intel® Xeon® Scalable processor Up to 300W TDP (air cooled)</td>
</tr>
</tbody>
</table>
| **Key Applications** | • Appliance Optimized Storage Building Blocks  
• Corporate Database  
• Database Processing & Storage  
• HPC, Data Center  
• iSCSI SAN  
• Enterprise Server | • Appliance Optimized Storage Building Blocks  
• Corporate Database  
• Database Processing & Storage  
• HPC, Data Center  
• iSCSI SAN  
• Enterprise Server |
| **Outstanding Features** | • | • |
| **Serverboard** | SUPER® X13SEDW-F | SUPER® X13SEDW-F |
| **Chipset** | Intel® C741 | Intel® C741 |
| **System Memory (Max.)** | 16 DIMM slots; up to 4TB DDR5-5600MT/s | 16 DIMM slots; up to 4TB DDR5-5600MT/s |
| **Expansion Slots** | 2 PCIe 5.0 x16 AIOM slot(s)  
2 PCIe 5.0 x16 FH slot(s)  
4 PCIe 5.0 x8 FH slot(s) | 2 PCIe 5.0 x16 AIOM slot(s)  
2 PCIe 5.0 x16 FH slot(s)  
4 PCIe 5.0 x8 FH slot(s) |
| **Onboard Storage Controller** | Broadcom® 3908 | Broadcom® 3808 |
| **Connectivity** | via AIOM | via AIOM |
| **VGA/Audio** | 1 VGA port | 1 VGA port |
| **Management** | IPMI 2.0; KVM with dedicated LAN, Redfish API, Super Diagnostics Offline, SuperDoctor® 5, Supermicro Power Manager (SPM), Supermicro Server Manager (SSM), Supermicro Update Manager (SUM) | IPMI 2.0; KVM with dedicated LAN, Redfish API, Super Diagnostics Offline, SuperDoctor® 5, Supermicro Power Manager (SPM), Supermicro Server Manager (SSM), Supermicro Update Manager (SUM) |
| **Drive Bays** | 24 hot-swap 3.5” SATA/SAS drive bays | 24 hot-swap 3.5” SATA/SAS drive bays |
| **Peripheral Bays** | None | None |
| **Power Supply** | Redundant 1600W Titanium level (96%) | Redundant 1600W Titanium level (96%) |
| **Cooling System** | 4 heavy duty 8cm fans | 4 heavy duty 8cm fans |
| **Form Factor** | 2U Rackmount  
Enclosure: (17.2” x 3.5” x 34”)  
Package: (29” x 12” x 12”) | 2U Rackmount  
Enclosure: (17.2” x 3.5” x 34”)  
Package: (29” x 12” x 12”) |
### X13 HYPER-E

**NEW!**

5th/4th Gen Intel® Xeon® Scalable processors Supported

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### NEW!

2U Hyper-E
Optimized for 5G and Telco

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### NEW!

2U Hyper-E
Optimized for 5G and Telco

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### Table: SYS-221HE-FTNR vs SYS-221HE-FTNRD

<table>
<thead>
<tr>
<th>MODEL</th>
<th>SYS-221HE-FTNR</th>
<th>SYS-221HE-FTNRD</th>
</tr>
</thead>
<tbody>
<tr>
<td>Processor Support</td>
<td>Dual 5th/4th Gen Intel® Xeon® Scalable processors Up to 350W TDP (air cooled)</td>
<td>Dual 5th/4th Gen Intel® Xeon® Scalable processors Up to 350W TDP (air cooled)</td>
</tr>
</tbody>
</table>
| Key Applications | • Cloud Computing  
• Network Function Virtualization  
• AI Inference and Machine Learning  
• Telecom Micro Data Center  
• 5G Core and Edge  
• Tool-less system design for east maintenance  | • Cloud Computing  
• Network Function Virtualization  
• AI Inference and Machine Learning  
• Telecom Micro Data Center  
• 5G Core and Edge  
• Tool-less system design for east maintenance  |
| Outstanding Features | • Storage configurations up to 6x 2.5" hot-swap NVMe/SATA drive bays  
• Flexible networking options with 2 AIOM networking slots (OCP NIC 3.0 compatible) | • Storage configurations up to 6x 2.5" hot-swap NVMe/SATA drive bays  
• Flexible networking options with 2 AIOM networking slots (OCP NIC 3.0 compatible) |
| Serverboard | SUPER® X13DEM | SUPER® X13DEM |
| Chipset | Intel® C741 | Intel® C741 |
| System Memory (Max.) | 32 DIMM slots; up to 8TB DDR5-5600MT/s | 32 DIMM slots; up to 8TB DDR5-5600MT/s |
| Expansion Slots | Configurable PCIe slot options up to 8 SW PCIe 5.0 x8 (6 FHFL+ 2 FHHL) or 4 DW PCIe 5.0 x16 (3 FHFL + FHHL) | Configurable PCIe slot options up to 8 SW PCIe 5.0 x8 (6 FHFL+ 2 FHHL) or 4 DW PCIe 5.0 x16 (3 FHFL + FHHL) |
| Onboard Storage Controller | Intel® SATA | Intel® SATA |
| Connectivity | 2x 100GbE QSFP28 with Broadcom® BCM57508 (optional)  
2x 100GbE QSFP28 with Intel® E810-CAM2 (optional)  
2x 100GbE QSFP28 with Mellanox® CX-6 DX (optional)  
2x 25GbE SFP28 with Broadcom® BCM57414 (optional)  
4x 10GbE RJ45 with Intel® X550 (optional)  
4x 10GbE SFP+ with Intel® X710-BM2 (optional) via AIOM | 2x 100GbE QSFP28 with Broadcom® BCM57508 (optional)  
2x 100GbE QSFP28 with Intel® E810-CAM2 (optional)  
2x 100GbE QSFP28 with Mellanox® CX-6 DX (optional)  
2x 25GbE SFP28 with Broadcom® BCM57414 (optional)  
4x 10GbE RJ45 with Intel® X550 (optional)  
4x 10GbE SFP+ with Intel® X710-BM2 (optional) via AIOM |
| VGA/Audio | 1 VGA port | 1 VGA port |
| Management | Intel® Node Manager; iPMI 2.0; KVM with dedicated LAN; NMI; Redfish API; SPM; SSM; SUM; SuperDoctor® 5; Watch Dog | Intel® Node Manager; iPMI 2.0; KVM with dedicated LAN; NMI; Redfish API; SPM; SSM; SUM; SuperDoctor® 5; Watch Dog |
| Drive Bays | 6 hot-swap 2.5" NVMe/SAS/SATA drive bays; 6x 2.5" NVMe hybrid; Optional RAID support via RAID Controller AOC | 6 hot-swap 2.5" NVMe/SAS/SATA drive bays; 6x 2.5" NVMe hybrid; Optional RAID support via RAID Controller AOC |
| Peripheral Bays | None | None |
| Power Supply | Redundant 2000W Titanium level (96%) | 2x 1300W -48Vdc single output |
| Cooling System | 6 heavy duty fans | 6 heavy duty fans |
| Form Factor | 2U Rackmount  
Enclosure: 436.88 x 88.9 x 574mm (17.2” x 3.5” x 22.6”)  
Package: 598 x 247 x 938mm (23.5” x 9.7” x 36.9”) | 2U Rackmount  
Enclosure: 436.88 x 88.9 x 574mm (17.2” x 3.5” x 22.6”)  
Package: 598 x 247 x 938mm (23.5” x 9.7” x 36.9”) |

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**X13 Server Solutions - December 2023**
## Model Specifications

### Processor Support
- **SYS-221H-TNR**: Dual 5th/4th Gen Intel® Xeon® Scalable processors
- **SYS-221H-TN24R**: Dual 5th/4th Gen Intel® Xeon® Scalable processors
- Up to 350W TDP (air cooled)
- Up to 385W TDP (liquid cooled)

### Key Applications
- Software-defined Storage
- Virtualization
- Enterprise Server
- Cloud Computing
- AI Inference and Machine Learning

### Outstanding Features
- Tool-less system design for easy maintenance
- Storage configurations up to 16x 2.5” hot-swap NVMe/SATA/SAS drive bays
- Flexible networking options with AIOM/OCP NIC 3.0 support

### Serverboard
- **SYS-221H-TNR**: SUPER® X13DEM
- **SYS-221H-TN24R**: SUPER® X13DEM

### Chipset
- **SYS-221H-TNR**: Intel® C741
- **SYS-221H-TN24R**: Intel® C741

### System Memory
- **SYS-221H-TNR**: 32 DIMM slots; Up to 8TB DDR5-5600MT/s
- **SYS-221H-TN24R**: 32 DIMM slots; Up to 8TB DDR5-5600MT/s

### Expansion Slots
- Configurable PCIe slot options up to 8 PCIe 5.0 x8 or 4 PCIe 5.0 x16 FH, 10.5”L

### Onboard Storage Controller
- **SYS-221H-TNR**: Intel® SATA
- **SYS-221H-TN24R**: Intel® SATA

### Connectivty
- **SYS-221H-TNR**: 2x 100GbE QSFP28 with Broadcom® BCM57508 (optional)
- 2x 10GbE RJ45 with Intel® X550-AT2 (optional)
- 2x 10GbE SFP+ with Intel® X710-BM2 (optional)
- 2x 1GbE RJ45 with Intel® I350-AM2 (optional)
- 2x 25GbE SFP28 with Broadcom® BCM57414 (optional)
- 4x 10GbE RJ45/SFP+ with Intel® X710-TM4 (optional)
- 4x 10GbE SFP+ with Intel® XL710-BM1 (optional)
- 4x 1GbE RJ45 or 4x 1GbE SFP with Intel® I350-AM4 (optional)
- 4x 25GbE RJ45/SFP28 with Mellanox® CX-4 Lx EN Intel® X550-AT2 (optional) via AIOM
- **SYS-221H-TN24R**: 2x 100GbE QSFP28 with Broadcom® BCM57508 (optional)
- 2x 10GbE RJ45 with Intel® X550-AT2 (optional)
- 2x 10GbE SFP+ with Intel® X710-BM2 (optional)
- 2x 1GbE RJ45 with Intel® I350-AM2 (optional)
- 2x 25GbE SFP28 with Broadcom® BCM57414 (optional)
- 4x 10GbE RJ45/SFP+ with Intel® X710-TM4 (optional)
- 4x 10GbE SFP+ with Intel® XL710-BM1 (optional)
- 4x 1GbE RJ45 or 4x 1GbE SFP with Intel® I350-AM4 (optional)
- 4x 25GbE RJ45/SFP28 with Mellanox® CX-4 Lx EN Intel® X550-AT2 (optional) via AIOM

### VGA/Audio
- **SYS-221H-TNR**: 1 VGA port
- **SYS-221H-TN24R**: 1 VGA port

### Management
- **SYS-221H-TNR**: Intel® Node Manager; IPMI 2.0; KVM with dedicated LAN; NMI; Redfish API; SPM; SSM; SUM; SuperDoctor® 5; Watch Dog
- **SYS-221H-TN24R**: Intel® Node Manager; IPMI 2.0; KVM with dedicated LAN; NMI; Redfish API; SPM; SSM; SUM; SuperDoctor® 5; Watch Dog

### Drive Bays
- **SYS-221H-TNR**: 8 hot-swap 2.5” NVMe/SATA/SAS drive bays; Optional RAID support via RAID Controller AOC
- **SYS-221H-TN24R**: 24 hot-swap 2.5” NVMe/SATA/SAS drive bays; Optional RAID support via RAID Controller AOC

### Peripheral Bays
- **SYS-221H-TNR**: None
- **SYS-221H-TN24R**: None

### Power Supply
- **SYS-221H-TNR**: Redundant 1200W Titanium level (96%)
- **SYS-221H-TN24R**: Redundant 1600W Titanium level (96%)

### Cooling System
- **SYS-221H-TNR**: 4 heavy duty 8cm fans
- **SYS-221H-TN24R**: 4 heavy duty 8cm fans

### Form Factor
- **SYS-221H-TNR**: 2U Rackmount
  - Enclosure: 437 x 88.9 x 760mm (17.2” x 3.5” x 29.9“)
  - Package: 605 x 263 x 1107mm (23.8” x 10.4” x 43.6”)
- **SYS-221H-TN24R**: 2U Rackmount
  - Enclosure: 437 x 88.9 x 760mm (17.2” x 3.5” x 29.9“)
  - Package: 605 x 263 x 1107mm (23.8” x 10.4” x 43.6”)
## X13 HYPER

**Optimized for Storage Capacity**

### 2U Hyper

- **Processor Support**
  - Dual 5th/4th Gen Intel® Xeon® Scalable processors
  - Up to 350W TDP (air cooled)
  - Up to 385W TDP (liquid cooled)

- **Key Applications**
  - Software-defined Storage
  - Virtualization
  - Enterprise Server
  - Cloud Computing
  - AI Inference and Machine Learning

- **Outstanding Features**
  - Tool-less system design for easy maintenance
  - Flexible networking options with AIOM/OCP NIC 3.0 support
  - 12x 3.5’’/2.5’’ hot-swap NVMe/SATA/SAS drive bays

### 1U Hyper

- **Processor Support**
  - Dual 5th/4th Gen Intel® Xeon® Scalable processors
  - Up to 350W TDP (air cooled)
  - Up to 385W TDP (liquid cooled)

- **Key Applications**
  - Software-defined Storage
  - Virtualization
  - Enterprise Server
  - Cloud Computing
  - AI Inference and Machine Learning

### Serverboard

- **Supermicro® X13DEM**
  - **Chipset** Intel® C741
  - **System Memory**
    - 32 DIMM slots:
      - Up to 8TB DDR5-5600MT/s
  - **Expansion Slots**
    - Configurable PCIe slot options up to 8 PCIe 5.0 x8 or 4 PCIe 5.0 x16 FH, 10.5’’L
  - **Onboard Storage Controller**
    - Intel® SATA
  - **Connectivity**
    - 2x 100Gbe QSFP28 with Broadcom® BCM57508 (optional)
    - 2x 10Gbe RJ45 with Intel® X550-AT2 (optional)
    - 2x 10Gbe SFP+ with Intel® X710-BM2 (optional)
    - 2x 1Gbe RJ45 with Intel® i350-AM2 (optional)
    - 2x 25Gbe SFP28 with Broadcom® BCM57414 (optional)
    - 4x 10Gbe RJ45/SFP+ with Intel® X710-TM4 (optional)
    - 4x 10Gbe SFP+ with Intel® XL710-BM1 (optional)
    - 4x 1Gbe RJ45 or 4x 1Gbe SFP with Intel® i350-AM4 (optional)
    - 4x 25Gbe RJ45/SFP28 with Mellanox® CX-4 Lx EN Intel® X550-AT2 (optional) via AIOM
  - **VGA/Audio**
    - 1 VGA port
  - **Management**
    - Intel® Node Manager; IPMI 2.0; KVM with dedicated LAN; NMI; Redfish API; SPM; SSH; SUM; SuperDoctor® S; Watch Dog
  - **Drive Bays**
    - 12 hot-swap 3.5’’ NVMe/SATA/SAS drive bays;
      - Optional RAID support via RAID Controller AOC
  - **Peripheral Bays**
    - None
  - **Power Supply**
    - Redundant 1200W Titanium level (96%)
  - **Cooling System**
    - 4 heavy duty 8cm fans
  - **Form Factor**
    - 2U Rackmount
      - Enclosure: 437 x 43 x 747mm (17.2’’ x 1.7’’ x 29.4’’)
      - Package: 605 x 206 x 1032mm (23.8’’ x 8.1’’ x 40.6’’)

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### SYS-621H-TN12R

- **Processor Support**
  - Dual 5th/4th Gen Intel® Xeon® Scalable processors
  - Up to 350W TDP (air cooled)
  - Up to 385W TDP (liquid cooled)

- **Key Applications**
  - Software-defined Storage
  - Virtualization
  - Enterprise Server
  - Cloud Computing
  - AI Inference and Machine Learning

- **Outstanding Features**
  - Tool-less system design for easy maintenance
  - Flexible networking options with AIOM/OCP NIC 3.0 support
  - 12x 3.5’’/2.5’’ hot-swap NVMe/SATA/SAS drive bays

### SYS-121H-TNR

- **Processor Support**
  - Dual 5th/4th Gen Intel® Xeon® Scalable processors
  - Up to 350W TDP (air cooled)
  - Up to 385W TDP (liquid cooled)

- **Key Applications**
  - Software-defined Storage
  - Virtualization
  - Enterprise Server
  - Cloud Computing
  - AI Inference and Machine Learning

- **Outstanding Features**
  - Tool-less system design for easy maintenance
  - Storage configurations up to 12x 2.5’’ hot-swap NVMe/SATA/SAS drive bays
  - Flexible networking options with AIOM/OCP NIC 3.0 support

### Serverboard

- **Supermicro® X13DEM**
  - **Chipset** Intel® C741
  - **System Memory**
    - 32 DIMM slots:
      - Up to 8TB DDR5-5600MT/s
  - **Expansion Slots**
    - Configurable PCIe slot options up to 8 PCIe 5.0 x8 or 4 PCIe 5.0 x16 FH, 10.5’’L
  - **Onboard Storage Controller**
    - Intel® SATA
  - **Connectivity**
    - 2x 100Gbe QSFP28 with Broadcom® BCM57508 (optional)
    - 2x 10Gbe RJ45 with Intel® X550-AT2 (optional)
    - 2x 10Gbe SFP+ with Intel® X710-BM2 (optional)
    - 2x 1Gbe RJ45 with Intel® i350-AM2 (optional)
    - 2x 25Gbe SFP28 with Broadcom® BCM57414 (optional)
    - 4x 10Gbe RJ45/SFP+ with Intel® X710-TM4 (optional)
    - 4x 10Gbe SFP+ with Intel® XL710-BM1 (optional)
    - 4x 1Gbe RJ45 or 4x 1Gbe SFP with Intel® i350-AM4 (optional)
    - 4x 25Gbe RJ45/SFP28 with Mellanox® CX-4 Lx EN Intel® X550-AT2 (optional) via AIOM
  - **VGA/Audio**
    - 1 VGA port
  - **Management**
    - Intel® Node Manager; IPMI 2.0; KVM with dedicated LAN; NMI; Redfish API; SPM; SSH; SUM; SuperDoctor® 5; Watch Dog
  - **Drive Bays**
    - 8 hot-swap 2.5’’ NVMe/SATA/SAS drive bays;
      - Optional RAID support via RAID Controller AOC
  - **Peripheral Bays**
    - None
  - **Power Supply**
    - Redundant 1200W Titanium level (96%)
  - **Cooling System**
    - 8 heavy duty 4cm fans
  - **Form Factor**
    - 1U Rackmount
      - Enclosure: 437 x 43 x 747mm (17.2’’ x 1.7’’ x 29.4’’)
      - Package: 605 x 206 x 1032mm (23.8’’ x 8.1’’ x 40.6’’)

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**NEW! 5th/4th Gen Intel 'Xeon' Scalable processors Supported**
### X13 UP WIO

#### New! 5th/4th Gen Intel® Xeon® Scalable processors Supported

**X13 Server Solutions - December 2023**

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#### MODEL | SYS-511E-WR | SYS-111E-WR | SYS-521E-WR
--- | --- | --- | ---
**Processor Support** | Single 5th/4th Gen Intel® Xeon® Scalable processor  Up to 300W TDP (air cooled) | Single 5th/4th Gen Intel® Xeon® Scalable processor  Up to 300W TDP (air cooled) | Single 5th/4th Gen Intel® Xeon® Scalable processor  Up to 300W TDP (air cooled)

**Key Applications**
- Virtualization
- Value IaaS
- Entry GPU server
- Data Center Optimized
- Cloud Computing
- Virtualization
- Entry GPU server
- Data Center Optimized
- Cloud Computing
- Entry GPU server
- Database/Storage
- Network Appliance
- Data Center Optimized

**Outstanding Features**
- Maximum I/O. Support 3 x16 expansion slots in 1U form factor.
- Cost optimized 1U X13 solution
- Maximum I/O. Support 3 x16 expansion slots in 1U form factor
- Max 10x PCIe 5.0 NVMe drives supported in 1U Form Factor
- Max 4x hybrid PCIe 5.0 NVMe drives supported at front
- Flexible I/O expansion

**Serverboard** | SUPER® X13SEW-F | SUPER® X13SEW-F | SUPER® X13SEW-F

**Chipset**
- Intel® C741
- Intel® C741
- Intel® C741

**System Memory (Max.)**
- 8 DIMM slots; Up to 2TB DDR5 5600MT/s
- 8 DIMM slots; Up to 2TB DDR5 5600MT/s
- 8 DIMM slots; Up to 2TB DDR5 5600MT/s

**Expansion Slots**
- Slot 1: PCIe 5.0 x16 FHFL
- Slot 2: PCIe 5.0 x16 FHFL
- Slot 3: PCIe 5.0 x8 (in x16) LP
- Slot 1: PCIe 5.0 x16 FHFL
- Slot 2: PCIe 5.0 x16 FHFL
- Slot 3: PCIe 5.0 x8 (in x16) LP
- Slot 1: PCIe 5.0 x16 FHFL
- Slot 2: PCIe 5.0 x16 FHFL
- Slot 3: PCIe 5.0 x8 (in x16) LP
- Slot 6: PCIe 5.0 x8 LP

**Onboard Storage Controller**
- Intel® SATA
- Intel® SATA
- Intel® SATA

**Connectivity**
- 2x 1GbE RJ45 port(s) with Intel® Ethernet Controller i210
- 2x 1GbE RJ45 port(s) with Intel® Ethernet Controller i210
- 2x 1GbE RJ45 port(s) with Intel® Ethernet Controller i210

**VGA/Audio**
- 1 onboard VGA port
- 1 onboard VGA port
- 1 onboard VGA port

**Management**
- Intel® Node Manager; IPMI2.0; KVM with dedicated LAN; NMI; Redfish API; SPM; SSM; SUM
- Intel® Node Manager; IPMI2.0; KVM with dedicated LAN; NMI; Redfish API; SPM; SSM; SUM
- Intel® Node Manager; IPMI2.0; KVM with dedicated LAN; NMI; Redfish API; SPM; SSM; SUM

**Drive Bays**
- 10 hot-swap 2.5" NVMe/SATA/SAS drive bays; 10 2.5" NVMe hybrid
- 4 hot-swap 3.5" SATA/SAS drive bays; Optional slim DVD module
- 8 hot-swap 3.5" SATA/SAS drive bays; 4 3.5" NVMe hybrid; 2 optional 2.5" hot-swap SATA drive bays (rear); Optional slim DVD module

**Power Supply**
- Redundant 860W Platinum level (94%)
- Redundant 860W Platinum level (94%)
- Redundant 920W platinum level

**Cooling System**
- 5 heavy duty 4cm fans (1 optional fan)
- 5 heavy duty 4cm fans (1 optional fan)
- 3 heavy duty 8cm fans

**Form Factor**
- 1U Rackmount  Enclosure: 437 x 43 x 650mm (17.2" x 1.7" x 25.6")  Package: 596.9 x 215.9 x 855.98mm (23.5" x 8.5" x 33.7")
- 1U Rackmount  Enclosure: 437 x 43 x 597mm (17.2" x 1.7" x 23.5")  Package: 609.6 x 203.2 x 812.8mm (24" x 8" x 32")
- 2U Rackmount  Enclosure: 437 x 89 x 647mm (17.2" x 3.5" x 25.5")  Package: 673.1 x 279.4 x 863.6mm (26.5" x 11" x 34")
# X13 MP SYSTEMS

- **NEW!**: 2U 4-way Compute-optimized
- **NEW!**: 2U 4-way Storage-optimized
- **NEW!**: 6U 8-way GPU-optimized

## Processor Support
- **SYS-241H-TNRTTP**: 5th/4th Gen Intel® Xeon® Scalable processors Quad Socket LGA-4677 (Socket E) supported TDP up to 350W; 3 UPI up to 16GT/s
- **SYS-241E-TNRTTP**: 5th/4th Gen Intel® Xeon® Scalable processors Quad Socket LGA-4677 (Socket E) supported TDP up to 250W; 3 UPI up to 16GT/s
- **SYS-681E-TR**: 5th/4th Gen Intel® Xeon® Scalable processors Octa Socket LGA-4677 (Socket E) supported TDP up to 350W; 4 UPI up to 16GT/s

## Key Applications
- **SYS-241H-TNRTTP**: SAP HANA, HCI, In-Memory Database, Scientific Virtualization, ERP, CRM, Business Intelligence, Artificial Intelligence (AI), Scientific Virtualization, E R P, CRM, Business Intelligence, Artiﬁcial Intelligence (AI)
- **SYS-241E-TNRTTP**: SAP HANA, HCI, In-Memory Database, Scientific Virtualization, ERP, CRM, Business Intelligence, Artificial Intelligence (AI), Scientific Virtualization, ERP, CRM, Business Intelligence, Artificial Intelligence (AI)
- **SYS-681E-TR**: Scale-up HPC, Research Lab/National Lab, Virtualization, ERP, CRM, In-Memory Database

## Outstanding Features
- **SYS-241H-TNRTTP**: up to 12 PCIe expansion provides scalability as business grows
- **SYS-241E-TNRTTP**: Support up to 2 double-width GPU/FPGA to accelerate AI workloads
- **SYS-681E-TR**: up to 26 PCIe expansion provides scalability as business grows

## Serverboard
- **SYS-241H-TNRTTP**: SUPER® X13QEH+
- **SYS-241E-TNRTTP**: SUPER® X13QEH+
- **SYS-681E-TR**: SUPER® X13QEH+

## Chipset
- **SYS-241H-TNRTTP**: Intel® C741
- **SYS-241E-TNRTTP**: Intel® C741
- **SYS-681E-TR**: Intel® C741

## System Memory (Max.)
- **SYS-241H-TNRTTP**: 64 DIMM slots
- **SYS-241E-TNRTTP**: 64 DIMM slots
- **SYS-681E-TR**: 128 DIMM slots

## Expansion Slots
- **SYS-241H-TNRTTP**: 2 PCIe 5.0 x8 FHHL slot(s)
- **SYS-241E-TNRTTP**: 2 PCIe 5.0 x8 FHHL slot(s)
- **SYS-681E-TR**: 12 PCIe 5.0 x16 FHHL slot(s)

## Onboard Storage Controller
- **SYS-241H-TNRTTP**: Intel® SATA
- **SYS-241E-TNRTTP**: Intel® SATA
- **SYS-681E-TR**: Intel® SATA

## Connectivity
- **SYS-241H-TNRTTP**: via AIOM
- **SYS-241E-TNRTTP**: via AIOM
- **SYS-681E-TR**: via AIOM

## V GA/Audio
- **SYS-241H-TNRTTP**: 1 VGA port(s), 1 DisplayPort(s)
- **SYS-241E-TNRTTP**: 1 VGA port(s), 1 DisplayPort(s)
- **SYS-681E-TR**: 1 VGA port(s), 1 DisplayPort(s)

## Management
- **SYS-241H-TNRTTP**: Intel® Node Manager; IPMI 2.0; NMI; SPM; SSM; SUM; SuperDoctor® 5; Watch Dog
- **SYS-241E-TNRTTP**: Intel® Node Manager; IPMI 2.0; NMI; SPM; SSM; SUM; SuperDoctor® 5; Watch Dog
- **SYS-681E-TR**: Intel® Node Manager; IPMI 2.0; NMI; SPM; SSM; SUM; SuperDoctor® 5; Watch Dog

## Drive Bays
- **SYS-241H-TNRTTP**: 8x 2.5” hot-swap NVMe/SAS3/SATA3 drive bays; Optional RAID support via RAID controller AOC
- **SYS-241E-TNRTTP**: 24x 2.5” NVMe hybrid; Optional RAID support via RAID controller AOC
- **SYS-681E-TR**: 24x 2.5” NVMe hybrid; Optional RAID support via RAID controller AOC

## Peripheral Bays
- **SYS-241H-TNRTTP**: None
- **SYS-241E-TNRTTP**: None
- **SYS-681E-TR**: None

## Power Supply
- **SYS-241H-TNRTTP**: Redundant 2700W Titanium level (96%)
- **SYS-241E-TNRTTP**: Redundant 1600W Titanium level (96%)
- **SYS-681E-TR**: Redundant 2600W Titanium level (96%)

## Cooling System
- **SYS-241H-TNRTTP**: 3x 8cm and 2x 6cm heavy duty fan(s)
- **SYS-241E-TNRTTP**: 6x 6cm heavy duty fan(s)
- **SYS-681E-TR**: 10x 8cm heavy duty fan(s)

## Form Factor
- **SYS-241H-TNRTTP**: 2U Rackmount; Enclosure: 438.4 x 879 x 812.9mm (17.3” x 3.5” x 32”); Package: 672 x 250 x 1100mm (26.5” x 9.75” x 43.5”)
- **SYS-241E-TNRTTP**: 2U Rackmount; Enclosure: 438.4 x 879 x 849.3mm (17.3” x 3.5” x 33.4”); Package: 672 x 250 x 1100mm (26.5” x 9.75” x 43.5”)
- **SYS-681E-TR**: 6U Rackmount; Enclosure: 449 x 265 x 841mm (17.68” x 10.4” x 33.1”); Package: 720 x 922 x 1080mm (28.34” x 36.3” x 42.5”)

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X13 Server Solutions - December 2023
## X13 MAINSTREAM

**NEW!** 5th/4th Gen Intel® Xeon® Scalable processors Supported

### Processor Support
- Dual 5th/4th Gen Intel® Xeon® Scalable processors up to 300W

### Key Applications
- Virtualization
- Compute Intensive Applications
- Application and data serving
- Enterprise Server

### Outstanding Features
- Cost effective all-purpose 2U rackmount server

### Serverboard
- TR: SUPER® X13DEI
- TRT: SUPER® X13DEI-T
- C9R: SUPER® X13DEI
- C9RT: SUPER® X13DEI-T

### Chipset
- Intel® C741

### System Memory (Max.)
- 16 DIMM slots; Up to 4TB DDR5-5600MT/s

### Expansion Slots
- 2 PCIe 5.0 x8 LP slots
- 4 PCIe 5.0 x16 LP slots

### Connectivity
- TR: 2 1GbE ports
- TRT: 2 10GbE ports
- C9R: 2 1GbE ports
- C9RT: 2 10GbE ports

### VGA/Audio
- 1 VGA port

### Management
- Intel® Node Manager; IPMI2.0; KVM with dedicated LAN; NMI; Redfish API; SPM; SSM; SUM; Supermicro Out of Band (OOB) License

### Drive Bays
- 8 hot-swap 3.5" SATA drive bays (optional SAS/NVMe)
- 16 hot-swap 2.5" SATA drive bays (optional 8 SAS/4 NVMe)

### Peripheral Bays
- 1x slim DVD (optional)
- 1x (slim or 5.25") DVD (optional)

### Power Supply
- Redundant 1200W Titanium level (96%)

### Cooling System
- 3 center mounted 8cm fans

### Form Factor
- 2U Rackmount
- Enclosure: 437 x 89 x 647mm (17.2" x 3.5" x 25.5")
- Package: 678 x 290 x 876mm (26.7" x 11.4" x 34.5")

### SYS-621P-TR
<table>
<thead>
<tr>
<th>MODEL</th>
<th>SYS-621P-TR</th>
<th>SYS-621P-TRT</th>
</tr>
</thead>
<tbody>
<tr>
<td>Processor</td>
<td>Dual 5th/4th Gen Intel® Xeon® Scalable processors up to 300W</td>
<td>Dual 5th/4th Gen Intel® Xeon® Scalable processors up to 300W</td>
</tr>
<tr>
<td>Key Applications</td>
<td>Virtualization</td>
<td>Virtualization</td>
</tr>
<tr>
<td></td>
<td>Compute Intensive Applications</td>
<td>Compute Intensive Applications</td>
</tr>
<tr>
<td></td>
<td>Application and data serving</td>
<td>Application and data serving</td>
</tr>
<tr>
<td></td>
<td>Enterprise Server</td>
<td>Enterprise Server</td>
</tr>
<tr>
<td>Serverboard</td>
<td>TR: SUPER® X13DEI</td>
<td>TR: SUPER® X13DEI-T</td>
</tr>
<tr>
<td></td>
<td>C9R: SUPER® X13DEI</td>
<td>C9RT: SUPER® X13DEI-T</td>
</tr>
<tr>
<td>Chipset</td>
<td>Intel® C741</td>
<td>Intel® C741</td>
</tr>
<tr>
<td>System Memory (Max.)</td>
<td>16 DIMM slots; Up to 4TB DDR5-5600MT/s</td>
<td>16 DIMM slots; Up to 4TB DDR5-5600MT/s</td>
</tr>
<tr>
<td>Expansion Slots</td>
<td>2 PCIe 5.0 x8 LP slots</td>
<td>1 PCIe 5.0 x8 LP slots</td>
</tr>
<tr>
<td></td>
<td>4 PCIe 5.0 x16 LP slots</td>
<td>4 PCIe 5.0 x16 LP slots</td>
</tr>
<tr>
<td>Connectivity</td>
<td>TR: 2 1GbE ports</td>
<td>C9R: 2 1GbE ports</td>
</tr>
<tr>
<td></td>
<td>TRT: 2 10GbE ports</td>
<td>C9RT: 2 10GbE ports</td>
</tr>
<tr>
<td>VGA/Audio</td>
<td>1 VGA port</td>
<td>1 VGA port</td>
</tr>
<tr>
<td>Management</td>
<td>Intel® Node Manager; IPMI2.0; KVM with dedicated LAN; NMI; Redfish API; SPM; SSM; SUM; Supermicro Out of Band (OOB) License</td>
<td>Intel® Node Manager; IPMI2.0; KVM with dedicated LAN; NMI; Redfish API; SPM; SSM; SUM; Supermicro Out of Band (OOB) License</td>
</tr>
<tr>
<td>Drive Bays</td>
<td>8 hot-swap 3.5&quot; SATA drive bays (optional SAS/NVMe)</td>
<td>16 hot-swap 2.5&quot; SATA drive bays (optional 8 SAS/4 NVMe)</td>
</tr>
<tr>
<td>Peripheral Bays</td>
<td>1x slim DVD (optional)</td>
<td>1x (slim or 5.25&quot;) DVD (optional)</td>
</tr>
<tr>
<td>Power Supply</td>
<td>Redundant 1200W Titanium level (96%)</td>
<td>Redundant 1200W Titanium level (96%)</td>
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<td>Cooling System</td>
<td>3 center mounted 8cm fans</td>
<td>3 heavy duty 8cm fans</td>
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<tr>
<td>Form Factor</td>
<td>2U Rackmount</td>
<td>2U Rackmount</td>
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<tr>
<td></td>
<td>Enclosure: 437 x 89 x 647mm (17.2&quot; x 3.5&quot; x 25.5&quot;)</td>
<td>Enclosure: 437 x 89 x 630mm (17.2&quot; x 3.5&quot; x 24.8&quot;)</td>
</tr>
<tr>
<td></td>
<td>Package: 678 x 290 x 876mm (26.7&quot; x 11.4&quot; x 34.5&quot;)</td>
<td>Package: 737 x 279 x 983mm (29&quot; x 11&quot; x 38.7&quot;)</td>
</tr>
</tbody>
</table>

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X13 Server Solutions - December 2023
### Processor Support
- Dual 5th/4th Gen Intel® Xeon® Scalable processors up to 300W
- Dual 5th/4th Gen Intel® Xeon® Scalable processors up to 300W

### Key Applications
- Virtualization
- Compute Intensive Applications
- Application and data serving
- Enterprise Server
- Virtualization
- Compute Intensive Applications
- Application and data serving
- Enterprise Server

### Outstanding Features
- Cost-effective general purpose tower/4U rackmount server
- Cost-effective general purpose tower/4U rackmount server

### Serverboard
- SUPER® X13DEI-T (10GbE)
- SUPER® X13DEI-T (1GbE)
- SUPER® X13DEI-T (10GbE)
- SUPER® X13DEI-T (1GbE)

### Chipset
- Intel® C741
- Intel® C741

### System Memory (Max.)
- 16 DIMM slots; Up to 4TB DDR5-5600MT/s
- 16 DIMM slots; Up to 4TB DDR5-5600MT/s

### Expansion Slots
- 2 PCIe 5.0 x8 FH slots
- 4 PCIe 5.0 x16 FH slots
- 2 PCIe 5.0 x8 FH slots
- 4 PCIe 5.0 x16 FH slots

### Onboard Storage Controller
- Intel® C741
- Intel® C741

### Connectivity
- 2 1GbE ports
- 2 10GbE ports

### VGA/Audio
- 1 VGA port
- 1 VGA port

### Management
- IPMI 2.0; KVM with dedicated LAN; Redfish API; Super Diagnostics Offline; SuperDoctor® 5; Supermicro Power Manager (SPM); Supermicro Server Manager (SSM); Supermicro Update Manager (SUM)
- IPMI 2.0; KVM with dedicated LAN; Redfish API; Super Diagnostics Offline; SuperDoctor® 5; Supermicro Power Manager (SPM); Supermicro Server Manager (SSM); Supermicro Update Manager (SUM)

### Drive Bays
- 8 hot-swap 3.5" SATA drive bays (optional 8 SAS/4 NVMe)
- 8 hot-swap 3.5" SATA drive bays (optional 8 SAS/4 NVMe)

### Peripheral Bays
- 3x 5.25" DVD (optional)
- 3x 5.25" DVD (optional)

### Power Supply

### Cooling System
- 2 rear/3 middle fans
- 2 rear/3 middle fans

### Form Factor
- Tower/4U Rackmount
  - Enclosure: 178 x 452 x 647mm (7" x 17.8" x 25.5")
  - Package: 356 x 625 x 795mm (14" x 24.6" x 31.3")
- Tower/4U Rackmount
  - Enclosure: 178 x 452 x 647mm (7" x 17.8" x 25.5")
  - Package: 356 x 625 x 795mm (14" x 24.6" x 31.3")
# X13 Workstations

**NEW!**

5th/4th Gen Intel® Xeon® Scalable processors Supported

---

## Processor Support
- **5th/4th Gen Intel® Xeon® Scalable Processors**
- Dual Socket LGA-4677 (Socket E) supported
- TDP up to 350W; 4UPI

## Key Applications
- Engineering/scientific research
- Multimedia/Digital Content creation
- CAD
- Rendering

## Outstanding Features
- PCIe 5.0 supporting up to 2 double width active GPU cards
- Dual PCIe Gen5 M.2 expansion slots
- Up to 4 PCIe Gen5 NVMe U.2 drives with optional cables and converter trays
- IPMI support
- Dual 10Gbps Ethernet ports

## Serverboard
- **SYS-751A-I**: SUPER® X13DAI-T
- **SYS-531A-I**: SUPER® X13SRA-TF
- **SYS-551A-T**: SUPER® X13SWA-TF

## Chipset
- **Intel® C741**
- **Intel® W790**

## System Memory
- 16 DIMM slots
- Up to 2TB: 16x 128GB DRAM

## Expansion Slots
- 1 PCIe 5.0 x8 FHHL slot(s)
- 5 PCIe 5.0 x16 FHFL slot(s)

## Onboard Storage Controller
- Intel® SATA
- Intel® W790

## Connectivity
- 2x 10GbE port(s)
- 1x 10GbE RJ45 port(s) with Marvell AQC113
- 1x 1GbE RJ45 port(s) with Intel® Ethernet Controller I210-AT

## VGA/Audio
- 1 VGA port

## Management
- IPMI 2.0; KVM with dedicated LAN; NMI; Redfish API; SPM; SUM; SuperDoctor® S; Watch Dog

## Drive Bays
- 4x 3.5" SATA/NVMe drive bays; 4x 2.5" NVMe hybrid:
  - Optional RAID support via RAID controller AOC

## Peripheral Bays
- 2x 5.25" (optional)

## Power Supply
- 2000W Platinum level (92%)
- 1200W Platinum level (92%)
- 2000W Platinum level (92%)

## Cooling System
- 3x 12cm heavy duty fan(s)

## Form Factor
- Tower or 5U Rackmount Enclosure: 221 x 536 x 574mm (8.7" x 21.1" x 22.6")
- Package: 371 x 701 x 711mm (14.6" x 27.6" x 28.2")
### Model Comparison

<table>
<thead>
<tr>
<th>MODEL</th>
<th>X13DAI-T</th>
<th>X13DEI</th>
<th>X13DEI-T</th>
</tr>
</thead>
<tbody>
<tr>
<td><strong>Processor</strong></td>
<td>5th/4th Gen Intel® Xeon® Scalable processors Dual Socket LGA-4677 (Socket E) supported, CPU TDP supports Up to 350W TDP</td>
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<td><strong>Chipset</strong></td>
<td>Intel® C741</td>
<td>Intel® C741</td>
<td>Intel® C741</td>
</tr>
<tr>
<td><strong>Form Factor</strong></td>
<td>EATX, 12.1&quot; x 13.1&quot; (30.74cm x 33.27cm)</td>
<td>EATX, 12.1&quot; x 13.05&quot; (30.74cm x 33.15cm)</td>
<td>EATX, 12.1&quot; x 13.05&quot; (30.74cm x 33.15cm)</td>
</tr>
<tr>
<td><strong>Memory Capacity &amp; Slots</strong></td>
<td>Up to 4TB 3DS ECC RDIMM, DDR5-5600MT/s, in 16 DIMM slots</td>
<td>Up to 4TB 3DS ECC RDIMM, DDR5-5600MT/s, in 16 DIMM slots</td>
<td>Up to 4TB 3DS ECC RDIMM, DDR5-5600MT/s, in 16 DIMM slots</td>
</tr>
<tr>
<td><strong>Expansion Slots</strong></td>
<td>1 PCIe 5.0 x8, 5 PCIe 5.0 x16, 4 PCIe 5.0 x4 NVMe M.2 Interface: 2 PCIe 5.0 x4 Form Factor: 2280/22110 M.2 Key: M-Key</td>
<td>2 PCIe 5.0 x8, 4 PCIe 5.0 x16 M.2 Interface: 2 PCIe 4.0 x2 Form Factor: 2280/22110 M.2 Key: M-Key</td>
<td>2 PCIe 5.0 x8, 4 PCIe 5.0 x16 M.2 Interface: 2 PCIe 4.0 x2 Form Factor: 2280/22110 M.2 Key: M-Key</td>
</tr>
<tr>
<td><strong>Onboard RAID Controller</strong></td>
<td>Intel® C741 controller for 8 SATA3 ports; RAID N/A; Internal Port(s)</td>
<td>Intel® C741 controller for 8 SATA3 ports; via SlimSAS Intel® C741 controller for 2 SATA3 ports; RAID Port(s); Internal Port(s)</td>
<td>Intel® C741 controller for 8 SATA3 ports; via SlimSAS Intel® C741 controller for 2 SATA3 ports; Internal Port(s)</td>
</tr>
<tr>
<td><strong>Onboard LAN</strong></td>
<td>Dual LAN with Broadcom BCM57416 10GBase-T</td>
<td>Dual LAN with Broadcom BCM5720 1GBase-T Single LAN with Realtek RTL8211F PHY</td>
<td>Dual LAN with Broadcom BCM57416 10GBase-T Single LAN with Realtek RTL8211F PHY</td>
</tr>
<tr>
<td><strong>Onboard VGA</strong></td>
<td>1 VGA D-Sub Connector port(s)</td>
<td>1 VGA D-Sub Connector port(s)</td>
<td>1 VGA D-Sub Connector port(s)</td>
</tr>
<tr>
<td><strong>USB Ports</strong></td>
<td>2 USB 2.0 port(s) (2 via header)</td>
<td>6 USB 3.2 Gen1 port(s) (2 via header; 4 rear)</td>
<td>6 USB 3.2 Gen1 port(s) (2 via header; 4 rear)</td>
</tr>
<tr>
<td><strong>Other Onboard I/O Devices</strong></td>
<td>Onboard TPM and TPM header 2 COM Port(s) (1 header; 1 rear)</td>
<td>3 USB 2 port(s) (1 Type A; 2 via header)</td>
<td>3 USB 2 port(s) (1 Type A; 2via header)</td>
</tr>
<tr>
<td><strong>Manageability</strong></td>
<td>SPM, SUM, SSM, IPMI (Intelligent Platform Management Interface) v2.0 with KVM support, Watchdog, SMCP/MITool, Trusted Platform Module (TPM), CPU thermal trip support for processor protection, Wake-on-LAN System temperature, PCH temperature, Memory temperature, CPU temperature, +5V standby, +3.3V, +12V, CPU thermal trip support, +3.3V standby, Vcore, Vmem, Peripheral temperature, Platform Environment Control Interface (PECI)(TSI)</td>
<td>System temperature, PCH temperature, Memory temperature, CPU temperature, +5V standby, +3.3V, +12V, CPU thermal trip support, +3.3V standby, Vcore, Vmem, Peripheral temperature, Platform Environment Control Interface (PECI)(TSI)</td>
<td>System temperature, PCH temperature, Memory temperature, CPU temperature, +5V standby, +3.3V, +12V, CPU thermal trip support, +3.3V standby, Vcore, Vmem, Peripheral temperature, Platform Environment Control Interface (PECI)(TSI)</td>
</tr>
<tr>
<td><strong>PC Health Monitoring</strong></td>
<td>13x 4-pin fan headers (up to 13 fans) Fan speed control, Overheat LED indication, CPU thermal trip support, 13x fans with tachometer monitoring, Thermal Monitor 2 (TM2) support, PECI Monitoring for CPU and chassis environment</td>
<td>8x 4-pin fan headers (up to 8 fans) Fan speed control Overheat LED indication 8 fans with tachometer monitoring</td>
<td>8x 4-pin fan headers (up to 8 fans) Fan speed control Overheat LED indication 8 fans with tachometer monitoring</td>
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<tr>
<td><strong>Thermal Control</strong></td>
<td>13x 4-pin fan headers (up to 13 fans) Fan speed control, Overheat LED indication, CPU thermal trip support, 13x fans with tachometer monitoring</td>
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</tr>
<tr>
<td><strong>Other Features</strong></td>
<td>Node Manager Support M.2 NGFF connector Control of power-on for recovery from AC power loss Chassis intrusion detection, ACPI power management</td>
<td>UID, Node Manager Support, M.2 NGFF connector, Control of power-on for recovery from AC power loss, Chassis intrusion detection, ACPI power management</td>
<td>UID, Node Manager Support, M.2 NGFF connector, Control of power-on for recovery from AC power loss, Chassis intrusion detection, ACPI power management</td>
</tr>
<tr>
<td><strong>BIOS</strong></td>
<td>AMI 32MB AMI UEFI</td>
<td>AMI 32MB AMI UEFI</td>
<td>AMI 32MB AMI UEFI</td>
</tr>
</tbody>
</table>
# X13 UP Serverboards

**NEW!**

5th/4th Gen Intel® Xeon® Scalable processors Supported

![Image of X13 UP serverboards](image-url)

**X13 SEI-F**

**X13 SEI-TF**

<table>
<thead>
<tr>
<th>MODEL</th>
<th>X13SEI-F</th>
<th>X13SEI-TF</th>
</tr>
</thead>
<tbody>
<tr>
<td>Processor</td>
<td>5th/4th Gen Intel® Xeon® Scalable processors, CPU TDP supports up to 350W TDP</td>
<td>5th/4th Gen Intel® Xeon® Scalable processors, CPU TDP supports up to 350W TDP</td>
</tr>
<tr>
<td>Chipset</td>
<td>Intel® C741</td>
<td>Intel® C741</td>
</tr>
<tr>
<td>Form Factor</td>
<td>EATX, 12.3” x 10.3” (31.24cm x 26.16cm)</td>
<td>EATX, 12.3” x 10.3” (31.24cm x 26.16cm)</td>
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<tr>
<td>Memory Capacity &amp; Slots</td>
<td>Up to 2TB 3DS ECC RDIMM, DDR5-5600MT/s, in 8 DIMM slots</td>
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</tr>
<tr>
<td>Expansion Slots</td>
<td>2 PCIe 5.0 x16, 3 PCIe 5.0 x8, 2 PCIe 5.0 x8 PCIe5.0 MCIO connector, M.2 Interface: 2 PCIe 5.0 x4, M.2 Key: M-Key</td>
<td>2 PCIe 5.0 x16, 3 PCIe 5.0 x8, 2 PCIe 5.0 x8 PCIe5.0 MCIO connector, M.2 Interface: 2 PCIe 5.0 x4, M.2 Key: M-Key</td>
</tr>
<tr>
<td>Onboard RAID Controller</td>
<td>Intel® C741 controller for 10 SATA3 (6 Gbps) ports</td>
<td>Intel® C741 controller for 10 SATA3 (6 Gbps) ports</td>
</tr>
<tr>
<td>Onboard LAN</td>
<td>Dual LAN with 1Gbe with Intel® I210</td>
<td>Dual LAN with 10GbE-T with Intel® X550</td>
</tr>
<tr>
<td>Onboard VGA</td>
<td>1 VGA D-Sub Connector port(s)</td>
<td>1 VGA D-Sub Connector port(s)</td>
</tr>
<tr>
<td>USB Ports</td>
<td>2 USB 2 port(s) (2 rear), 4 USB 3.2 Gen1 port(s) (2 rear; 1 type A; 1 via header)</td>
<td>2 USB 2 port(s) (2 rear), 4 USB 3.2 Gen1 port(s) (2 rear; 1 type A; 1 via header)</td>
</tr>
<tr>
<td>Other Onboard I/O Devices</td>
<td>1 COM Port(s) (1 header), 2 SATA DOM (Disk on Module) power connector support, TPM 2 Header</td>
<td>1 COM Port(s) (1 header), 2 SATA DOM (Disk on Module) power connector support, TPM 2 Header</td>
</tr>
<tr>
<td>Manageability</td>
<td>SuperDoctor® 5, SPM, SUM, SSPM, IPMICFG, IPMIView for Linux/Windows, SMCPIMTool, Trusted Platform Module (TPM), Chassis Intrusion Detection</td>
<td>SuperDoctor® 5, SPM, SUM, SSPM, IPMICFG, IPMIView for Linux/Windows, SMCPIMTool, Trusted Platform Module (TPM), Chassis Intrusion Detection</td>
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<tr>
<td>PC Health Monitoring</td>
<td>VBAT, System level control, Supports system management utility, Monitors CPU voltages, Chipset Voltage, Chassis intrusion header, 6-fan status, +5V standby, +3.3V, +12V, Memory Voltages</td>
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<tr>
<td>Thermal Control</td>
<td>Fan speed control, Overheat LED indication, 7 fans with tachometer status monitoring</td>
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</tr>
<tr>
<td>Other Features</td>
<td>WOL, UID, Node Manager Support, M2 NGFF connector, Control of power-on for recovery from AC power loss, Chassis intrusion detection, ACPI power management</td>
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### X13 Server Solutions - December 2023

#### X13 Server Boards

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<thead>
<tr>
<th>MODEL</th>
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<td></td>
<td>Single Socket LGA-4677 (Socket E) supported, CPU TDP supports Up to 350W TDP</td>
<td>Single Socket LGA-4677 (Socket E) supported, CPU TDP supports Up to 350W TDP</td>
<td>Single Socket LGA-4677 (Socket E) supported, CPU TDP supports Up to 350W TDP</td>
<td>Single Socket LGA-4677 (Socket E) supported, CPU TDP supports Up to 350W TDP</td>
</tr>
<tr>
<td><strong>Chipset</strong></td>
<td>Intel® C741</td>
<td>Intel® C741</td>
<td>Intel® C741</td>
<td>Intel® C741</td>
</tr>
<tr>
<td><strong>Form Factor</strong></td>
<td>Proprietary WIO, 1U/3AO</td>
<td>Proprietary WIO, 1U/3AO</td>
<td>Proprietary WIO, 1U/3AO</td>
<td>Proprietary WIO, 1U/3AO</td>
</tr>
<tr>
<td><strong>Memory Capacity &amp; Slots</strong></td>
<td>Up to 128GB DDR5-5600MT/s, in 8 DIMM slots</td>
<td>Up to 256GB DDR5-5600MT/s, in 8 DIMM slots</td>
<td>Up to 128GB DDR5-5600MT/s, in 8 DIMM slots</td>
<td>Up to 256GB DDR5-5600MT/s, in 8 DIMM slots</td>
</tr>
<tr>
<td><strong>Expansion Slots</strong></td>
<td>1 PCIe 5.0 x16 slot, 5 PCIe 5.0 x8 PCIe5.0 MCIO connector</td>
<td>1 PCIe 5.0 x16 slot, 5 PCIe 5.0 x8 PCIe5.0 MCIO connector</td>
<td>1 PCIe 5.0 x16 slot, 5 PCIe 5.0 x8 PCIe5.0 MCIO connector</td>
<td>1 PCIe 5.0 x16 slot, 5 PCIe 5.0 x8 PCIe5.0 MCIO connector</td>
</tr>
<tr>
<td><strong>Onboard LAN</strong></td>
<td>Dual LAN with 1GbE with Intel® X550</td>
<td>Dual LAN with 1GbE with Intel® X550</td>
<td>Dual LAN with 1GbE with Intel® X550</td>
<td>Dual LAN with 1GbE with Intel® X550</td>
</tr>
<tr>
<td><strong>Form Factor</strong></td>
<td>Intel® C741</td>
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<td>Intel® C741</td>
</tr>
<tr>
<td><strong>Form Factor</strong></td>
<td>Dual LAN with 1GbE with Intel® X550</td>
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<td>Dual LAN with 1GbE with Intel® X550</td>
<td>Dual LAN with 1GbE with Intel® X550</td>
</tr>
<tr>
<td><strong>Onboard VGA</strong></td>
<td>Dual LAN with 1GbE with Intel® X550</td>
<td>Dual LAN with 1GbE with Intel® X550</td>
<td>Dual LAN with 1GbE with Intel® X550</td>
<td>Dual LAN with 1GbE with Intel® X550</td>
</tr>
<tr>
<td><strong>USB Ports</strong></td>
<td>6x USB 2 port(s) (2 via header; 4 rear)</td>
<td>6x USB 2 port(s) (2 via header; 4 rear)</td>
<td>6x USB 2 port(s) (2 via header; 4 rear)</td>
<td>6x USB 2 port(s) (2 via header; 4 rear)</td>
</tr>
<tr>
<td><strong>Other Onboard I/O Devices</strong></td>
<td>2 COM Port(s) (1 header; 1 rear)</td>
<td>2 COM Port(s) (1 header; 1 rear)</td>
<td>2 COM Port(s) (1 header; 1 rear)</td>
<td>2 COM Port(s) (1 header; 1 rear)</td>
</tr>
<tr>
<td><strong>Other Features</strong></td>
<td>WOL, UID, Node Manager Support, M.2 NGFF connector, Control of power-on for recovery from AC power loss, Chassis intrusion detection, ACPI power management</td>
<td>WOL, UID, Node Manager Support, M.2 NGFF connector, Control of power-on for recovery from AC power loss, Chassis intrusion detection, ACPI power management</td>
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<td>WOL, UID, Node Manager Support, M.2 NGFF connector, Control of power-on for recovery from AC power loss, Chassis intrusion detection, ACPI power management</td>
</tr>
<tr>
<td><strong>BIOS</strong></td>
<td>AMI UEFI</td>
<td>AMI UEFI</td>
<td>AMI UEFI</td>
<td>AMI UEFI</td>
</tr>
</tbody>
</table>

#### PC Health Monitoring
- **VBAT**, System level control, Supports system management utility, Monitors CPU voltages, Chipset Voltage, Chassis intrusion header, 6 fans status, +5V standby, +3.3V, +12V, Memory Voltages 6x 4-pin fan headers (up to 6 fans)
- **Thermal Control**
  - 6 fans with tachometer status monitoring
  - Fan speed control
  - Fan speed control
  - Fan speed control
  - Fan speed control
- **Overheat LED Indication**
- **Other Features**
  - WOL, UID, Node Manager Support, M.2 NGFF connector, Control of power-on for recovery from AC power loss, Chassis intrusion detection, ACPI power management

#### Manageability
- **SuperDoctor® S, SPM, SUM, SSM, IPMICFG, IPMICFGView** for Linux/Windows, SMICPMITool, Trusted Platform Module (TPM), Chasis Intrusion Detection
- **PC Health Monitoring**
  - **VBAT**, System level control, Supports system management utility, Monitors CPU voltages, Chipset Voltage, Chassis intrusion header, 6 fans status, +5V standby, +3.3V, +12V, Memory Voltages 6x 4-pin fan headers (up to 6 fans)
  - **Thermal Control**
    - 6 fans with tachometer status monitoring
    - Fan speed control
    - Fan speed control
    - Fan speed control
    - Fan speed control
  - **Overheat LED Indication**
- **Other Features**
  - WOL, UID, Node Manager Support, M.2 NGFF connector, Control of power-on for recovery from AC power loss, Chassis intrusion detection, ACPI power management

#### BIOS
- AMI UEFI
- AMI UEFI
- AMI UEFI
- AMI UEFI

---

**NEW!**
5th/4th Gen Intel® Xeon Scalable processors Supported

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**NEW!**
5th/4th gen Intel® Xeon® Scalable processors Supported

---

**NEW!**
5th/4th gen Intel® Xeon® Scalable processors Supported
### X13 UP Serverboards

#### Processor
- **Model**: Intel® Xeon® E-2400/Pentium® Processor
- **Support**: Single Socket LGA-1700 (Socket V0) supported, CPU TDP supports Up to 95W TDP
- **Specific Models**:
  - X13SCH-F
  - X13SCH-LN4F
  - X13SCD-F

#### Chipset
- **Model**: Intel® C266

#### Form Factor
- **MicroATX**: 9.6” x 9.6” (24.38cm x 24.38cm)
- **Proprietary**: 4.75” x 15.69” (12.07cm x 39.85cm)

#### Memory Capacity & Slots
- **Capacity**: Up to 128GB Unbuffered ECC UDIMM, DDR5-4400MHz
- **Slots**: In 4 DIMM slots

#### Expansion Slots
- **PCIe**: 1 PCIe 5.0 x16, 2 PCIe 4.0 x4 (in x8 slot)
- **M.2 Interface**: 2 PCIe 4.0 x4
- **Form Factor**: 2280/22110
  - **M.2 Key**: M-Key

#### Onboard RAID Controller
- **Controller**: Intel® C266 controller for 8 SATA3 (6 Gbps) ports; RAID 0,1,5,10; via SlimSAS

#### Onboard LAN
- **Dual LAN with 1GbE with Intel® I210**
- **Quad LAN with 1GbE with Intel® I210**
- **N/A**

#### Onboard VGA
- **1 VGA D-Sub Connector port(s)**
  - 1 Aspeed AST2600 BMC port(s)

#### USB Ports
- **6 USB 2.0 port(s)**
  - (4 via header; 2 rear)
  - 5 USB 3.2 Gen1 port(s)
  - (2 via header; 2 rear; 1 type A)

#### Other Onboard I/O Devices
- **2 COM Port(s)**
  - (1 header; 1 rear)
  - **TPM 2 Header**

#### Manageability
- **N/A**

#### PC Health Monitoring
- **VBAT, System level control**, Supports system management utility, Monitors CPU voltages, Chipset Voltage, Chassis intrusion header, +5V standby, +5V, +3.3V, +12V, Memory Voltages, 7-fan status, +3.3V standby
- **N/A**

#### Thermal Control
- **7x 4-pin fan headers** (up to 7 fans)
  - Fan speed control
  - Overheat LED indication
  - 7 fans with tachometer status monitoring

#### Other Features
- **WOL, UID, M.2 NGFF connector**, Control of power-on for recovery from AC power loss, Chassis intrusion header, ACPI power management
- **N/A**

#### BIOS
- **AMI 32MB AMI UEFI**
- **AMI 32MB AMI UEFI**
- **AMI 32MB AMI UEFI**
## X13 UP Serverboards

<table>
<thead>
<tr>
<th>MODEL</th>
<th>X13SCW-F</th>
<th>X13SCL-F</th>
<th>X13SCL-IF</th>
</tr>
</thead>
<tbody>
<tr>
<td><strong>Processor</strong></td>
<td>Intel® Xeon® E-2400/Pentium® Processor Single Socket LGA-1700 (Socket V0) supported, CPU TDP supports Up to 95W TDP *Pentium® G7400 and G7400T</td>
<td>Intel® Xeon® E-2400/Pentium® Processor Single Socket LGA-1700 (Socket V0) supported, CPU TDP supports Up to 95W TDP *Pentium® G7400 and G7400T</td>
<td>Intel® Xeon® E-2400/Pentium® Processor Single Socket LGA-1700 (Socket V0) supported, CPU TDP supports Up to 95W TDP *Pentium® G7400 and G7400T</td>
</tr>
<tr>
<td><strong>Chipset</strong></td>
<td>Intel® C266</td>
<td>Intel® C262</td>
<td>Intel® C262</td>
</tr>
<tr>
<td><strong>Memory Capacity &amp; Slots</strong></td>
<td>Up to 128GB Unbuffered ECC UDIMM, DDR5-4400MHz, in 4 DIMM slots</td>
<td>Up to 128GB Unbuffered ECC UDIMM, DDR5-4400MHz, in 4 DIMM slots</td>
<td>Up to 64GB Unbuffered ECC UDIMM, DDR5-4400MHz, in 2 DIMM slots</td>
</tr>
<tr>
<td><strong>Expansion Slots</strong></td>
<td>2 PCIe 4.0 x4 NVMe Port(s)</td>
<td>1 PCIe 5.0 x16 (in x16) slot</td>
<td>1 PCIe 5.0 x16, 1 PCIe 4.0 x4 SlimSAS, 2 PCIe 4.0x4 or 1 PCIe 4.0x4 &amp; 4 SATA</td>
</tr>
<tr>
<td><strong>Form Factor</strong></td>
<td>Proprietary WIO, 8” x 13” (20.32cm x 33.02cm)</td>
<td>microATX, 9.6” x 9.6” (24.38cm x 24.38cm)</td>
<td>Mini-ITX, 6.7” x 6.7” (17.02cm x 17.02cm)</td>
</tr>
<tr>
<td><strong>Onboard RAID Controller</strong></td>
<td>Intel® C266 controller for 8 SATA3 (6 Gbps) ports; RAID 0,1,5,10, via SlimSAS</td>
<td>Intel® C262 controller for 8 SATA3 (6 Gbps) ports; RAID 0,1,5,10</td>
<td>Intel® C262 controller for 6 SATA3 (6 Gbps) ports; RAID 0,1,5,10</td>
</tr>
<tr>
<td><strong>Onboard LAN</strong></td>
<td>Dual LAN with 1GbE with Intel® I210</td>
<td>Dual LAN with 1GbE with Intel® I210</td>
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<td><strong>Onboard VGA</strong></td>
<td>1 VGA D-Sub Connector port(s)</td>
<td>1 VGA D-Sub Connector port(s)</td>
<td>1 VGA D-Sub Connector port(s)</td>
</tr>
<tr>
<td><strong>USB Ports</strong></td>
<td>4 USB 2.0 port(s) (2 rear; 2 via header)</td>
<td>4 USB 2.0 port(s) (4 via header; 2 rear)</td>
<td>2 USB 2.0 port(s) (2 rear)</td>
</tr>
<tr>
<td><strong>BIOS</strong></td>
<td>AMI 32MB AMI UEFI</td>
<td>AMI 32MB AMI UEFI</td>
<td>AMI 32MB AMI UEFI</td>
</tr>
<tr>
<td><strong>Manageability</strong></td>
<td>N/A</td>
<td>N/A</td>
<td>N/A</td>
</tr>
<tr>
<td><strong>Health Monitoring</strong></td>
<td>VBAT, System level control, Supports system management utility, Monitors CPU voltages, Chipset Voltage, Chassis intrusion header, 6-fan status, +5V standby, +5V, +3.3V, +12V, Memory Voltages, +3.3V standby</td>
<td>VBAT, System level control, Supports system management utility, Monitors CPU voltages, Chipset Voltage, Chassis intrusion header, 7-fan status, +5V, +3.3V, +12V, Memory Voltages, +3.3V standby</td>
<td>VBAT, System level control, Supports system management utility, Monitors CPU voltages, Chipset Voltage, Chassis intrusion header, 4-fan status, +5V standby, +5V, +3.3V, +12V, Memory Voltages, +3.3V standby</td>
</tr>
<tr>
<td><strong>Thermal Control</strong></td>
<td>6x 4-pin fan headers (up to 6 fans)</td>
<td>7x 4-pin fan headers (up to 7 fans)</td>
<td>4x 4-pin fan headers (up to 4 fans)</td>
</tr>
<tr>
<td><strong>Other Features</strong></td>
<td>WOL, UID, M.2 NGFF connector, Control of power-on for recovery from AC power loss, Chassis intrusion detection, ACPI power management</td>
<td>WOL, UID, M.2 NGFF connector, Control of power-on for recovery from AC power loss, Chassis intrusion header, ACPI power management</td>
<td>WOL, UID, M.2 NGFF connector, Control of power-on for recovery from AC power loss, Chassis intrusion header, ACPI power management</td>
</tr>
</tbody>
</table>

*New!* 5th/4th Gen Intel® Xeon® Scalable Processors Supported
System Management Software
Leverage Supermicro’s Management Software Suite to Meet Your IT Infrastructure Challenges

With a comprehensive range of high-end software solutions, Supermicro gives IT administrators the tools to optimize the management of IT systems and increase the utilization of computing and storage infrastructure. Whether you are looking to manage individual systems, optimize server lifecycle processes, or streamline operations for an entire data center, Supermicro has the right software to help you accomplish your goals.

System Management Software Suite Bundles
Supermicro’s System Management Software Suite consists of a set of specialized applications. These are available in the following bundles.

<table>
<thead>
<tr>
<th>Suite Bundle</th>
<th>Standard</th>
<th>Basic</th>
<th>Advanced</th>
<th>Enterprise</th>
</tr>
</thead>
<tbody>
<tr>
<td>Description</td>
<td>Covers all core functionality to effectively set up, manage, and monitor your Supermicro systems. These features are available to all Supermicro users.</td>
<td>Extends the core functionality and makes system management easier with additional features, such as remote BIOS management and system updates.</td>
<td>Delivers a broad set of tools to help administrators improve the performance, up-time, and monitoring of Supermicro systems.</td>
<td>Offers an extensive platform to manage large data centers and coordinate automated lifecycle management, software-defined infrastructure, and more in a single pane of glass.</td>
</tr>
<tr>
<td>License</td>
<td>No license required</td>
<td>SFT-OOB-LIC</td>
<td>SFT-DCMS-SINGLE</td>
<td>SFT-DCMS-SINGLE + SFT-SDDC-SINGLE</td>
</tr>
<tr>
<td>Key Features*</td>
<td>Secure remote console (KVM/HTML5)</td>
<td>Remote BMC management</td>
<td>Remote OS deployment</td>
<td>3rd Party vendor support</td>
</tr>
<tr>
<td></td>
<td>System temperature monitoring</td>
<td>Remote BIOS management</td>
<td>Auto-discovery</td>
<td>POD &amp; Rack-level management</td>
</tr>
<tr>
<td></td>
<td>System power thresholds &amp; alerts</td>
<td>Out-of-Band systems checks</td>
<td>Power capping</td>
<td>SDI Lifecycle management</td>
</tr>
<tr>
<td></td>
<td>Component monitoring</td>
<td>TPM Provisioning</td>
<td>RAID monitoring and configuration</td>
<td>Manage Composable Dissagregated Infrastructure</td>
</tr>
<tr>
<td></td>
<td>Email alerting</td>
<td>Mount/Unmount ISO images from Samba/HTTP</td>
<td>HHD monitoring</td>
<td>Zero-touch provisioning for network configuration</td>
</tr>
<tr>
<td></td>
<td>Remote configuration</td>
<td>Basic Redfish APIs</td>
<td>Advanced Redfish APIs</td>
<td>Single pane of glass for data center deployment</td>
</tr>
<tr>
<td></td>
<td>Offline diagnostics</td>
<td>CIM management</td>
<td>FW update policy</td>
<td>Rich analytics &amp; telemetry</td>
</tr>
<tr>
<td></td>
<td>Crash dump</td>
<td>SysLog</td>
<td>System lock down</td>
<td>User defined role-based access control</td>
</tr>
<tr>
<td></td>
<td>License management</td>
<td></td>
<td>Crash screen/video capture</td>
<td></td>
</tr>
</tbody>
</table>

* For detailed information, please check with your Supermicro sales representative or refer to Supermicro website: https://www.supermicro.com/en/solutions/management-software
World Class Total IT Solutions
Rack Plug and Play

Rack Scale Solutions/ Design/ Production/Validation/ Logistics and Service, The capacity of 3000 Integrated Rack Solutions per month, including up to 1000 Liquid Cooled Racks per month

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America
- Supermicro’s Headquarters expansion: Over 1.5 million square foot Green Computing Park in San Jose, California signals the company’s increasing leadership in the IT industry
- One of the largest high-tech R&D, manufacturing, and business hubs in Silicon Valley
- East Coast Sales and Service Office

APAC
Supermicro’s Asia Science and Technology Park is a key milestone in the company’s growth as a true global leader in the development of advanced, power saving computing technologies

Silicon Valley
Expanded manufacturing, command center

EMEA
Supermicro’s system integration facility and services in The Netherlands serves the dynamic, rapidly growing EMEA market with localized supply and time-to-market advantages

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Fax: +82-2-554-0146
Sales Inquiry: Sales-Asia@supermicro.com.tw

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One of the largest high-tech R&D, manufacturing, and business hubs in Silicon Valley.

East Coast Sales and Service Office.

Asia Science and Technology Park is a key milestone in the company’s growth as a true global leader in the development of advanced, power saving computing technologies.

The Netherlands serves the dynamic, rapidly growing EMEA market with localized supply and time-to-market advantages.
Better
Better Performance
Per Watt and Per Dollar

Faster
First-to-Market Innovation with the
Highest Performance Server Designs

Greener
Reduced Environmental Impact and Lower TCO

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