H12 Ultra Servers
Industry-Leading IOPS, Energy Efficiency, and Flexibility

1U A+ Server 1024US-TRT (SATA)

1U A+ Server 1124US-TNRP (NVMe)

2U A+ Server 2024US-TRT (SATA)

2U A+ Server 2124US-TNRP (NVMe)

Enterprise-focused platform designed for utmost performance and flexibility

Gain high performance, flexibility, scalability and serviceability to demanding IT environments, and to power mission-critical enterprise workloads:

- Two 2nd or 3rd Gen AMD EPYC™ processors
- Up to 32 DIMMs for up to 8 TB of DDR4-3200 memory
- Flexible NVMe and SATA3 drive options
- Dual 10 Gigabit Ethernet connectivity
- Titanium-Level efficiency power supplies

The biggest enemy of datacenter productivity is complexity. The more you have one-off servers performing unique functions, the more you have to maintain different firmware revisions, BIOS settings, and operating system patches where configuration errors or oversights can imperil application availability and even security. What you need is a base platform that can deliver all the performance you need but with with a consistent foundation that can support all of your applications.

Introducing H12 Ultra Servers

We designed H12 Ultra servers to be your flagship datacenter systems, certified to run the major enterprise applications. The product line is built to deliver a flexible range of computing, networking, storage, and expansion capacities, with options for hard-disk and NVMe drives offering a range of I/O operations per second (IOPS). Every one of our Ultra servers is based on the same H12DSU-iN motherboard with two AMD EPYC™ processors and 32 DDR-3200 DIMMs for up to 8 TB of main memory. Consistency means you have only one set of firmware, BIOS settings, and operating system patches to manage. Every system built on this motherboard is designed for reliability, availability and serviceability so that if a problem occurs, your applications can be back up and running quickly.

Best of all, every H12 Ultra server is engineered to accommodate every processor in the 3rd Gen AMD EPYC processor product

line, including those consuming up to 280W per CPU. AMD EPYC processors, with up to 64 cores of computing power and up to 768 MB of L3 cache per CPU, deliver the fastest integer and floating point performance in the industry, predicting ultra-fast performance for your enterprise applications. With a consistent set of features across the product line, you choose the number of cores your workloads need without having to step up the product line to gain additional features. The CPU's 128 lanes of PCI-E 4.0 bandwidth enables direct connectivity between the CPU and the newest U.2 NVMe drives with no intervening switching for extremely low storage latency.

Designed for Enterprise Applications

You want ultra performance for your enterprise applications, and the flexible selection of density and storage capacity gives you a server for every purpose, including:

- Enterprise applications including database, customer relationship management, and enterprise resource planning
- Virtualization and cloud, including virtual desktop infrastructure with GPU acceleration
- Hyperconverged infrastructure
- High performance computing clusters

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## Flexible Storage Configurations

As the tables below indicate, the four servers enjoy common features from the H12DSU-iN motherboard, and depending on their form factor and storage configuration, they offer varying sizes and types of storage:

- The AS -1024US-TRT and AS -2024US-TRT servers support 4 and 12 3.5" SAS or SATA drives (respectively) for the maximum amount of storage capacity, supporting hyperconverged infrastructure, enterprise databases, streaming, and big data applications.

- The AS -1124US-TNRP and AS -2124US-TNRP servers support the new U.2 NVMe drives with 12 in the 1U server and up to 24 in the 2U server, supporting mission-critical enterprise and low-latency financial applications; virtualized, cloud, and hyperconverged environments. Additional 10 Gigabit Ethernet SFP+ ports supports data-intensive clusters.
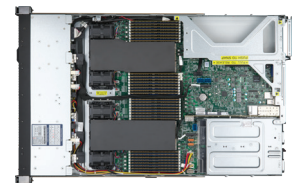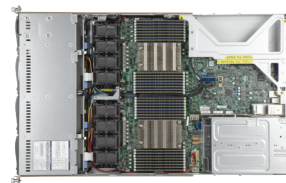
Consistent Management

You can manage all of your Ultra servers from a single pane of glass with Supermicro® SuperCloud Composer with open-source Redfish® compatibility.
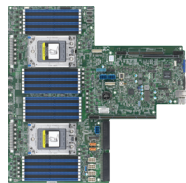
H12 Generation	Common H12DSU-iN Motherboard Features
Processor Support	• Single SP3 socket for one AMD EPYC™ 7002 or 7003 Series processor including those with AMD 3D V-Cache™ technology • Up to 64 cores, up to 280W TDP†
Memory Slots & Capacity	• 32 DIMM slots for DDR4-3200 MHz RDIMM/ LRDIMM • Up to 8 TB registered ECC
On-Board Devices	• System on Chip • IMPI 2.0 with virtual-media-over-LAN and KVM-over-LAN support • ASPEED AST2500 BMC graphics
I/O Ports	• Integrated IPMI 2.0 + KVM with dedicated LAN • 3 USB 3.0 ports (2 rear plus 1 Type A) • 1 VGA, 1 COM port • 1 TPM 2.0 header
BIOS and BIOS features	• AMI 128Mb SPI Flash EEPROM • Plug and Play (PnP) • DMI 2.3 • PCI 2.2 • ACPI 5.1 • USB Keyboard Support • SMBIOS 3.1.1
Front Panel	• Power On/Off and System Reset buttons • Power status, HDD activity, network activity, system overheat, fan failure, and UID LEDs
System Management	• Integrated IPMI 2.0 plus KVM with dedicated LAN • Redfish APIs • Supermicro SuperCloud Composer

† Certain CPUs with high TDP may be supported only under specific conditions. Please contact Supermicro Technical Support for additional information about specialized system optimization

1U Servers	Dual-Socket AS -1024US-TRT	Dual-Socket AS -1124US-TNRP
Form Factor	• 1U rackmount	• 1U rackmount
Drive Bays	• 4 hot-swap 3.5" SATA3 drives or 4 NVMe (via optional drive tray) or 4 SAS3 (via optional SAS kit)	• 12 Hot-swap 2.5" U.2 NVMe drives or 12 SATA3/SAS3 (via optional SAS kit)
Expansion Slots	• 2 PCI-E 4.0 x16 (FH / 9.5"L) slots • 1 PCI-E 4.0 x16 (LP) slot • 1 PCI-E 4.0 x16 (internal proprietary LP slot)	• 2 PCI-E 4.0 x16 (FH / 9.5"L) slots • 1 PCI-E 4.0 x16 (LP) slot • 1 PCI-E 4.0 x16 (internal proprietary LP slot)
Networking	• Dual 10GBase-T LAN ports	• Dual 10GBase-T and 10G SFP+ ports
Power & Cooling	• 1000W Redundant Power Supplies (Titanium Level)	• 1200W Redundant Power Supplies (Titanium Level)

2U Servers	Dual-Socket AS -2024US-TRT	Dual Socket AS -2124US-TNRP
Form Factor	• 2U rackmount,	• 2U rackmount
Drive Bays	• 12 hot-swap 3.5" SATA 3 drives or 8 SATA3 + 4 NVMe via optional tray or 12 SAS3 via optional SAS kit	• 24 hot-swap 2.5" U.2 NVMe drives or or up to 24 SATA/SAS drive support via optional SAS kit
Expansion Slots	• 2 PCI-E 4.0 x16 (FH, 10.5"L) slots, • 1 PCI-E 4.0 x16 (FH, 9.5"L) slot, • 1 PCI-E 4.0 x16 (LP) slot, • 1 PCI-E 4.0 x8 (FH, 9.5"L, in x16) slot, • 1 PCI-E 4.0 x8 (internal proprietary LP in x16) slot	• 1 PCI-E 4.0 x16 slot (FH, 9.5"L)
Networking	• Dual 10GBase-T LAN ports	• Dual 10GBase-T and 10G SFP+ ports
Power & Cooling	• 1600W Redundant Power Supplies (Titanium Level)	• 1600W Redundant Power Supplies (Titanium Level)

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