RS501A-E12-RS4U AMD Turin 9005

AMD Single-socket, 1U Rack Server



Form Factor 1U | CPU Number 1 | Memory Number 24

5th Generation AMD EPYC Processors with AMD 3D V-Cache technology

ASUS RS501A-E12-RS4U was designed for general purpose application. With the front 4 hot-swap bays supporting 2.5” drives , RS501A-E12-RS4U is the economic design for rack placement.

FEATURE

- 1 x AMD EPYC 9005 Series Processor
- With 24*DDR5 DIMM up to 5200Mhz
- 2 x M.2 socket support
- 3 x PCIe + 1 x OCP expansion in 1U rack sever.

Target market

- General-purpose Rack Server
- Enterprise Application

AMD EPYC™ 9005 series processors support

RS501A-E12 series is built on the AMD platform to deliver incredible performance, and offer more CPU cores powered by AMD EPYC 9005 series processors.

Industry-leading memory capability

With 2 DIMM per channel design, RS501A-E12 Series supports up to 24 x DIMM slots. The CPU’s memory controller supports DDR5 memory with 12 channels up to 5200Mhz . We deliver the industry-leading technology of server memory for our customers’ business.

Comprehensive IT infrastructure management solution

ASUS RS501A-E12 features an embedded ASMB11-iKVM (BMC, AST2600) and is bundled with ASUS Control Center to provide comprehensive out-of-band and in-band management capability.



1. 4 x 2.5” Hot-swap Storage Bays
2. 1+1 80 PLUS Platinum/ Titanium CRPS CRPS
3. 1 x PCIe Gen5 x16 slot for full-height, half-length card
4. 1 x PCIe Gen5 x16 slot for low-profile card
5. 1 x PCIe Gen5 x16 slot for low-profile card
6. 1 x OCP 3.0 Mezzanine socket
7. AMD EPYC™ 9005 Processor Family (Up to 450W)
8. 24*DDR5 DIMM up to 5200Mhz

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RS501A-E12-RS4U

SPECIFICATION

Processor		1 x Socket SP5 (LGA 6096) Supports AMD EPYC™ 9005 series processors or AMD EPYC™ 9004 series processors, up to 450W, with AMD 3D V-Cache technology
Memory	**Total Slots**	**24,** 12-channel, 2 DIMM per channel
	Capacity	Up to 3,072GB
	Memory Type	AMD EPYC™ 9005 series processors DDR5 6400/5600 RDIMM/3DS RDIMM 2DPC (1 of 2) up to 5200 with "6400 RDIMM", other 4800 2DPC (2 of 2, 1R+1R) up to 4400, with "6400 RDIMM", other 4000 2DPC (2 of 2, 2R+2R) up to 4000, with "6400 RDIMM", other 3600 AMD EPYC™ 9004 series processors DDR5 4800 RDIMM/ 3DS RDIMM 2DPC (1 of 2) up to 4800, 2DPC (2 of 2, 1R+1R) up to 4000 2DPC (2 of 2, 2R+2R) up to 3600
	Memory Size	128GB, 96GB, 64GB, 32GB, 16GB (RDIMM), *Refer to ASUS server AVL for the latest update
Expansion Slots	**Total Slots**	3 PCIe Gen5 slots + 1 OCP3.0
	Slot Type	1 x PCIe x16 slot (Gen5 x16 link, FH, HL) 1 x PCIe x16 slot (Gen5 x16 link, LP, HL) 1 x PCIe x16 slot (Gen5 x8 link, LP, HL) 1 x OCP3.0 socket (Gen5 x16 link)
Storage Bays		Front: 4 x 2.5" Hot-swap Storage Bays (4 x NVMe/SATA/SAS Devices) 2 x M.2 socket (Gen4 x4 link or SATA mode, up to 22110 module)
Networking	**LAN**	1 x Dual Port Intel I350-AM2 Gigabit LAN controller 1 x Dedicated management port (BMC, AST2600)
Security		Optional TPM module Optional PFR module
Front I/O Ports		-
Rear I/O Ports		2 x USB 3.2 Gen1 ports 2 x Gigabit LAN ports (RJ45) 1 x Management port (RJ45) 1 x VGA port
Switch/LED		Front: 1 x Power Button/LED 1 x Location Button/LED 1 x Message LED 1 x HDD LED 4 x LAN LED (1-2 for on-board LAN, 3-4 for OCP LAN) Rear: 1 x Port80 LED (Q-Code) 1 x Power Switch w/ LED 1 x Location Switch w/ LED 1 x Message LED
OS Support		*Please find the latest OS support from https://www.asus.com/event/Server/OS_support_list/OS.html
Management Solution	**Software**	ASUS Control Center (in-band)
	Out of Band Remote Management	ASMB11-iKVM (BMC, AST2600)
Dimension		842.5mm x 449mm x 43.85mm (1U) 33.15" x 17.68" x 1.73"
Net Weight Kg **(CPU, DRAM & HDD not included)**		13.15 kg
Gross Weight Kg **(CPU, DRAM & HDD not included, Packing include)**		18.15 kg
Power Supply **(following different configuration by region)**		1+1 Redundant 1200W 80 PLUS Platinum Power Supply 1+1 Redundant 1600W 80 PLUS Titanium Power Supply
Environment		Operation temperature: 10°C ~ 35°C Non operation temperature: -40°C ~ 70°C Non operation humidity: 20% ~ 90% (Non condensing)

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RS501A-E12 Series

SPECIFICATION

Series	RS501A-E12 Series Support Matrix		
Model	**RS501A-E12-RS12U**	**RS501A-E12-RS4**	**RS501A-E12-RS4U**
Processor	1 x Turin CPU or 1 x Genoa CPU		
GPU	Up to 2 single-slot GPU cards		
Memory	24 x DIMM slots with AMD EPYC™ 9005 series processors DDR5 6400/5600 RDIMM/3DS RDIMM Maximum 3,072GB 2DPC (1 of 2) up to 5200 with "6400 RDIMM", other 4800 2DPC (2 of 2, 1R+1R) up to 4400, with "6400 RDIMM", other 4000 2DPC (2 of 2, 2R+2R) up to 4000, with "6400 RDIMM", other 3600 with AMD EPYC™ 9004 series processors DDR5 4800 RDIMM/ 3DS RDIMM Maximum 3,072GB 2DPC (1 of 2) up to 4800, 2DPC (2 of 2, 1R+1R) up to 4000 2DPC (2 of 2, 2R+2R) up to 3600		
M.2	2 x PCIe x4 or 2 x SATA		
Expansion	1 x PCIe x16 slot (Gen5 x16 link, FH, HL) 1 x PCIe x16 slot (Gen5 x16 link, LP, HL) 1 x PCIe x16 slot (Gen5 x8 link, LP, HL) 1 x OCP3.0 socket (Gen5 x16 link)		
Storage	**w mid-bay** Front bays: 12 x 2.5" Hot-Swap drive bays 12 x SATA/SAS/NVMe Mid-bay: 4 x 2.5" storage bays support NVMe /SATA *SAS support only from optional SAS HBA/RAID card **Internal Storage Bays is designated as build-to-order only, owing to quality or installation concerns. **w/o mid-bay** Front bays: 12 x 2.5" Hot-Swap drive bays 12 x SATA/SAS/NVMe *SAS support only from optional SAS HBA/RAID card	Front bays: 4 x 3.5"/2.5" Hot-Swap drive bays Support up to 4 x SATA/SAS/NVMe* *SAS support only from optional SAS HBA/RAID card *MCIO CABLE is required to support NVMe hard drives	Front bays: 4 x 2.5" Hot-Swap drive bays Support up to 4 x SATA/SAS /NVMe* *SAS support only from optional SAS HBA/RAID card
NIC	2 x 1GbE RJ45 onboard LAN ports (Intel i350-AM2 controller) 2 x 10Gb OCP Card (Optional) 1 x Management LAN		

* The total number of NVMe drives installed will affect the total number of GPUs that can be installed.

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