

# RS520A-E12-RS12U

## AMD Single Socket, High Performance 2U Server



Form Factor / 2U

CPU Number / 1

Memory Number / 24\*

\*2DPC support depends on AMD schedule

### 4th Generation AMD EPYC Processors with AMD 3D V-Cache technology

ASUS RS520A-E12-RS12U was designed to accelerate application performance leveraging accelerator cards and storage scalability. With the CPU and memory configured in a front parallel design that enables efficient airflow for excellent thermal performance, RS520A-E12-RS12U is optimized for rack placement. Featuring the single processor in a 2U chassis, RS520A-E12 series delivers the right-sized rack server dimensions for price sensitive applications and meets the demanding computing requirements.

### FEATURE

- 1 x AMD EPYC 9004 Series Processor with DDR5 Memory up to 4800Mhz
- PCIe Gen5 Ready
- Max 2x DW GPU cards supported
- Rack-optimized Design
- 12 x 3.5" Hot-swap HDD bays

### Industry-leading memory capability

With 24 x DIMM slots, RS520A-E12 Series supports total 6,144GB memory size. The CPU's memory controller supports 24 x DDR4 memory slots with 12 channels, up to 4800Mhz of RDIMMs or LRDIMMs/3DS. We deliver the industry-leading technology of server memory for our customers' business.

### AMD EPYC™ 9004 Series Processors

The RS520A-E12 Series is built on the latest AMD EPYC™ 9004 Series Processor, and designed for the demand of scale-out computing, and wide range of existing and emerging workloads.

### The best storage interface combination for software-defined storage management

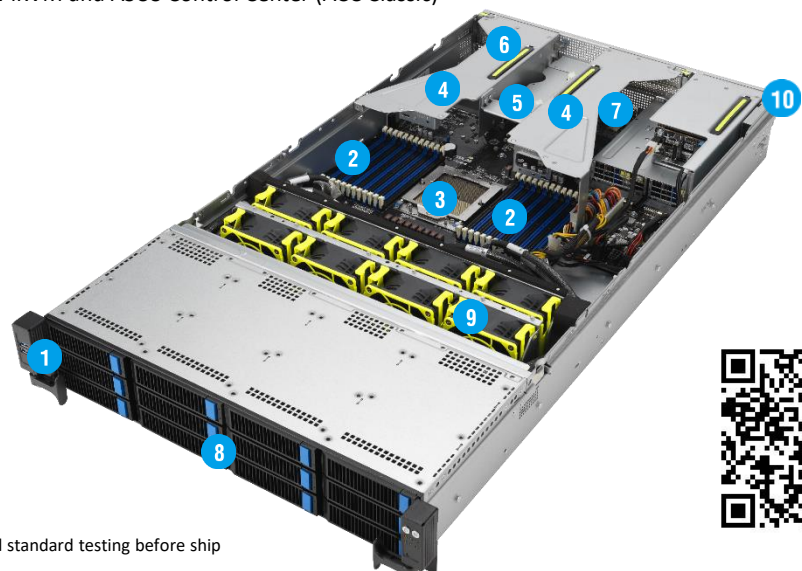
**Front:** 12 x 3.5" hot-swap storage bays (supports maximum 12 x 3.5" U.2/U.3 NVMe devices)  
**Rear:** 2 x 2.5" hot-swap storage bays (supports SATA devices)

### Comprehensive IT infrastructure management solution

ASMB11-iKVM and ASUS Control Center (ACC Classic)

### Target market

- Data center Storage Server
- Enterprise Application



1. Asset Tag
2. 24 x DIMM, DDR5-4800, RDIMM, LRDIMM, LRDIMM 3DS
3. AMD EPYC™ 9004 Processor Family (Up to 400W)
4. 2 x PCIe x16 slot(Gen5 x16 link, FHFL) or dual-slot GPU cards
5. 2 x PCIe x16 slot(Gen5 x8 link, LP)
6. 1 x OCP 3.0 Mezzanine (Gen5 x16 link)
7. 1+1 80 PLUS Titanium /Platinum PSUs
8. 12 x 3.5" Hot-swap HDD Bays
9. 4 x Redundant fans (optional)\*\*
10. 2 x Rear-bay support SATAIII



\*Please select it when purchasing order and we will have assembling and standard testing before ship

# RS520A-E12-RS12U

## SPECIFICATION

|  |                                      |   |
|--|--------------------------------------|---|
| <b>Processor Support.</b>  |                                      | 1 x Socket SP5 (LGA 6096)<br>Supports 4th Generation AMD EPYC Processors with AMD 3D V-Cache technology<br><br>Supports AMD EPYC™ 9004 series processors (up to 400W)   |
| <b>Core Logic</b>  |                                      | System on Chip (SOC)  |
| <b>Memory</b>  | <b>Total Slots</b>                   | 24 12-channel, 2 DIMM per channel   |
|  | <b>Capacity</b>                      | Maximum up to 6,144GB   |
|  | <b>Memory Type</b>                   | DDR4 4800 RDIMM/LR-DIMM/LR-DIMM 3DS<br>1DPC up to 4800<br>2DPC up to 4000(1R+1R)<br>2DPC up to 3600(1R+2R)/(2R+2R)  |
|  | <b>Memory Size</b>                   | 128GB, 64GB, 32GB, 16GB (RDIMM), 128GB, 64GB (LRDIMM),<br>256GB, 128GB, 64GB (LRDIMM 3DS)<br>*Refer to ASUS server AVL for the latest update  |
| <b>Expansion Slots</b>   | <b>Total PCIe Slots</b>              | Up to 5 PCIe Gen5 slots + 1 OCP3.0  |
|  | <b>Slot Type</b>                     | 2 x PCIe x16 slot(Gen5x16 link, FHFL) or dual-slot GPU cards or<br>4 x PCIe x16 slot(Gen5 x8 link, FHFL)<br>1 x PCIe x16 slot(Gen5 x8 link, LP)<br>1 x OCP 3.0 Mezzanine (Gen5 x16 link)  |
| <b>Disk Controller</b>   | <b>SATA Controller</b>               | CPU Integrated  |
|  | <b>SAS Controller</b>                | Optional kits:<br>Broadcom Mega RAID 9560-16i<br>ASUS PIKE II 3008 8-port SAS HBA card  |
| <b>Storage Bays</b>  |                                      | 12 x 3.5" hot-swap drive bays<br>12 x U.2/U.3 NVMe/SATA/SAS<br>*SAS support only from optional SAS HBA/RAID card<br><br>2 x 2.5" hot-swap drive bays (Rear-bay support SATAIII)<br>2 x M.2 socket (Gen4 x4 link or SATA mode, up to 22110 module)                                 |
| <b>Networking</b>  | <b>LAN</b>                           | 1 x Dual Port Intel I350-AM2 Gigabit LAN Controller,<br>1 x Dedicated Management port   |
| <b>Graphic</b>   | <b>VGA</b>                           | Aspeed AST2600 64MB   |
| <b>Front I/O Ports</b>   |                                      | 2 x USB 3.2 Gen1 ports  |
| <b>Rear I/O Ports</b>  |                                      | 2 x USB 3.2 Gen1 ports, 1 x VGA port, 2 x RJ-45 GbE LAN ports,<br>1 x RJ-45 Management LAN port   |
| <b>Switch/LED</b>  |                                      | <b>Front:</b><br>1 x Power Switch (w/ LED)<br>1 x Reset Switch<br>1 x Location Switch (w/ LED)<br>1 x HDD Access LED<br>1 x Message LED<br>LAN 1-2 LED<br><br><b>Rear:</b><br>1 x Port80 LED (Q-Code)<br>1 x Power Switch w/ LED<br>1 x Location Switch w/ LED<br>1 x Message LED |
| <b>OS Support</b>  |                                      | Please find the latest OS support from <a href="#">OS Compatibility Guide</a>   <a href="#">ASUS</a>  |
| <b>Management Solution</b>   | <b>Software</b>                      | ASUS Control Center (Classic)   |
|  | <b>Out of Band Remote Management</b> | On-Board ASMB11-iKVM for KVM-over-IP  |
| <b>Dimension</b>   |                                      | 840mm x 449mm x 88.1mm (2U)<br>33.07" x 17.68" x 3.47"  |
| <b>Net Weight Kg (CPU, DRAM &amp; HDD not included)</b>                    |                                      | 17.95 kg  |
| <b>Gross Weight Kg (CPU, DRAM &amp; HDD not included, Packing include)</b> |                                      | 25.14 kg  |
| <b>Power Supply (following different configuration by region)</b>          |                                      | 1+1 Redundant 1600W 80 PLUS Titanium Power Supply<br>1+1 Redundant 1200W/1600W 80 PLUS Platinum Power Supply  |
| <b>Environment</b>   |                                      | Operation temperature: 10°C ~ 35°C<br>Non operation temperature: -40°C ~ 70°C<br>Non operation humidity: 20% ~ 90% ( Non condensing)  |



# RS520A-E12 Series

# SPECIFICATION

| Series    | RS520A-E12 Series Support Matrix   |  |
|-----------|--|--|
| Model     | RS520A-E12-RS24U   | RS520A-E12-RS12U   |
| Processor | 1 x Genoa CPU  |  |
| GPU       | Up to 4 single-slot or 2 double-slot GPU cards<br>(RS520A-E12-RS24U, 24 NVMe SKU can't support GPU)  |  |
| Memory    | 24 x DIMM<br>DDR5 4800/4400/4000/3600 RDIMM/ 3DS RDIMM<br>1DPC up to 4800<br>2DPC up to 4000(1R+1R)<br>2DPC up to 3600(1R+2R)/(2R+2R)  |  |
| M.2       | 2 x PCIe x4 or 2 x SATA  |  |
| Fan       | Optional Redundant Fan<br>****optional, cannot be purchased separately   |  |
| Expansion | <p><b>[24 x NVMe]</b><br/>1 x PCIe Gen5 x8, LP + 1 x OCP3.0<br/>(can't support GPU)</p> <p><b>[16 x NVMe or 12x NVMe]</b><br/>up to 5 PCIe Gen5 slots + 1 OCP3.0<br/>2 x PCIe Gen5 x16, FHFL or 4 x PCIe Gen5 x8, FHFL<br/>1 x PCIe Gen4 x8, LP<br/>1 x OCP3.0 (PCIe Gen5 x16)</p>   | <p>up to 5 PCIe Gen5 slots + 1 OCP3.0<br/>2 x PCIe Gen5 x16, FHFL or<br/>4 x PCIe Gen5 x8, FHFL<br/>1 x PCIe Gen5 x8, LP<br/>1 x OCP3.0 (PCIe Gen5 x16)</p>  |
| Storage   | <p><b>24 x 2.5"</b> hot-swap drive bays (optional)<br/>-24 x U.2/U.3 NVMe<br/>-16 x U.2/U.3 NVMe + 8x SAS/SATA<br/>(must use RAID card)<br/>-12x U.2/U.3 NVMe + 12x SAS/SATA<br/>- 8 x U.2/U.3 NVMe + 16x SAS/SATA</p> <p><b>2 x 2.5"</b> hot-swap drive bays<br/>(Rear-bay support SATAIII)</p> <p>Support tri-mode Card (Broadcom)<br/>*SAS support only from optional SAS HBA/RAID card</p> | <p><b>12 x 3.5"</b> hot-swap drive bays<br/>-12 x U.2/U.3 NVMe + 12x SATA/SAS*</p> <p><b>2 x 2.5"</b> hot-swap drive bays<br/>(Rear-bay support SATAIII)</p> <p>Support tri-mode Card (Broadcom)<br/>*SAS support only from optional SAS HBA/RAID card</p> |
| NIC       | <p>2 x 1GbE RJ45 onboard LAN ports (Intel i350-AM2 controller)<br/>2 x 10Gb OCP Card (Optional)<br/>1 x Management LAN</p>   |  |

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