

# RES AI XR6 3U

21" deep, 16 drive, rear I/O rugged High Performance Computing (HPC) rack mountable server

- Up to four NVIDIA® Tesla® GPGPUs or Quadro® GPUs
- Up to two Intel® Xeon® Scalable processors with 28 cores
- Up to 4TB DDR4 ECC memory
- Up to 480TB of storage and 6 PCIe 3.0 cards
- MIL-STD: 810G



Engineered to handle massive workloads anywhere, Mercury's *EnterpriseSeries™* RES AI 3U server employs the latest NVIDIA® Tesla® GPUs and Intel® Xeon® Scalable processors to accelerate compute-heavy mission-critical applications such as Signal Intelligence (SIGINT), cryptography, deep learning, Artificial Intelligence (AI), surveillance, sensor fusion, visualization, image processing, tracking and big data analytics.

## Tackle Challenging Workloads at the Edge

Powered by the latest NVIDIA Volta, Pascal™ and Turing™ architecture GPUs, the RES AI 3U harnesses parallel processing to maximize throughput, boost productivity and push the boundaries of compute-heavy applications at the edge. To optimize performance in a small footprint, it densely packs multiple expansion slots, **two Intel® Xeon® Scalable processors**, 4TB DDR4 ECC memory and sixteen disk drives in a 50lb, 21" deep rugged form-factor.

## Fully Configurable to Your HPC Application

Equipped with numerous PCIe 3.0 slots that accommodate a mix of GPUs, FPGA accelerators and other expansion cards, RES AI accelerates an array of High Performance Computing (HPC) workloads by tailoring to unique performance, speed and storage requirements.

*Mercury Systems is a leading commercial provider of secure sensor and safety-critical processing subsystems. Optimized for customer and mission success, Mercury's solutions power a wide variety of critical defense and intelligence programs.*

## Supercomputing Designed for the Field

Built from the ground up to provide edge computing capability previously reserved for the datacenter, field-deployable RES AI servers incorporate innovative patented technologies and design features to withstand shock, vibration, dust, sand, and temperature extremes. To ensure uptime, availability and sustained optimal performance in almost any environment, servers feature **dual redundant, hot swappable AC or DC power supplies** and are certified to multiple military (MIL-STD) and commercial (IEC) environmental specifications. Compatible with multiple operating systems, applications and software, RES AI scales supercomputing from the Cloud to the Edge.

## Proven Performance from a Trusted Partner

Mercury's EnterpriseSeries RES Servers are trusted worldwide for their high-performance, **long life cycles**, thermal resiliency, compatibility with industry standards, and **SWaP optimization**. With over 30 years of technical expertise, Mercury Systems works closely with customers to design computing solutions that are easy to integrate, affordable and reliable for years to come.



ACQUIRE



DIGITIZE



PROCESS



STORAGE



EXPLOIT



DISSEMINATE



## Modified COTS Expertise

For customized space, environmental, and performance requirements email [tms@mrchy.com](mailto:tms@mrchy.com)

### Technical Specifications

2 Intel® Xeon® Scalable CPUs with up to 26 cores per processor  
Up to 4 double-wide NVIDIA Tesla or Quadro GPU accelerators  
Up to 4TB memory with 16 DIMM slots, 2933MHz RDIMM/LRDIMM

### Management and Operating System

Windows®, Linux®, VMWARE® and other hypervisors  
IPMI v2.0, Redfish option available  
TPM 2.0 support  
Onboard RAID controller  
supports SAS3/HBA controller or SATA drive onboard controller

### Expansion and Modular Maintainability

2 Disk on Module (up to 128GB per DOM)  
7 PCIe 3.0 card options:  
6 PCIe x16 GPU slots + 1 PCIe x4 (in a x8 slot)

### Input/Output Versatility

**Front Access**  
16 removable, hot pluggable drives, 2.5" SATA/SAS3, U.2 NVME option available  
1 power switch

**Rear Access**  
2 10GBaseT Ethernet Ports (RJ45)  
2 USB 3.0  
2 USB 2.0  
1 IPMI 2.0  
1 VGA graphic port  
1 COM port

### Power Supply Options

Single or Redundant 100/240V VAC (47/63Hz, 400Hz)  
Single or Redundant 28 VDC, 800W  
Single or Redundant 48 VDC, 1100W  
MIL-STD 461

### Environmental\*

#### Operating

Temperature: 0°C to 40°C  
Extended temperature: -15°C to 65°C  
Humidity: 8% to 95% (non-condensing)  
Shock: 3 axis, 35g, 25ms  
Vibration: 4.76Grms, 10Hz to 2000 Hz (SSD)

#### Non-Operating

Temperature: -40°C to 70°C  
Humidity: 5% to 95% (non-condensing)

### Additional Options

Shock pins  
Front door filter  
Slide rails

### Mechanical

Height: 3U or 5.25" inches (133.35mm)  
Width: 17 inches (433.3mm)  
Depth: 21 inches (530mm)  
Weight (Typical)\*: 50 pounds (22kg)  
19" rackmountable

\* Mercury Systems designs all products to meet or exceed listed data sheet specifications. Some specifications including I/O profiles, weight, and thermal profiles are configuration dependent. Contact Mercury for information specific to your desired configuration requirements.



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