TRENTON SYSTEMS®

3U BAM XRS

SWaP-optimzed with maximum storage capacity, processing power, and ruggedization, the 3U BAM XRS is the perfect mission-critical solution to accelerate and sustain ever-evolving applications for aerospace and defense.

LOTS OF STORAGE

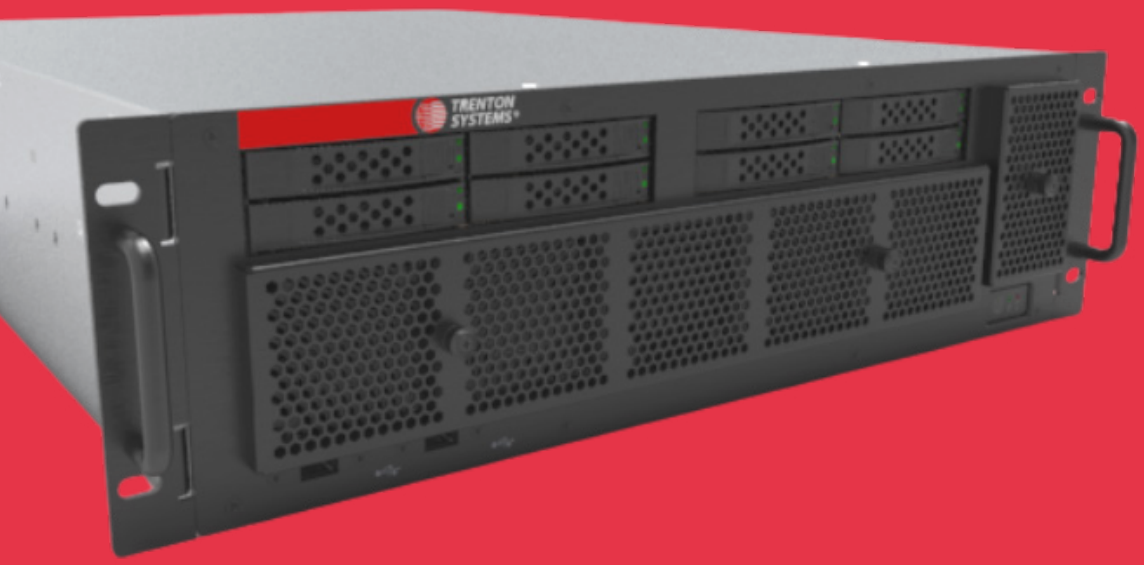
Supports up to 8 high-speed NVMe, SAS, and SATA SSDs to increase read/write speeds and reduce latency.

MADE IN THE USA

Our secure, high-performance computing solutions are made right here in the USA, customized from enclosure down to BIOS.

HIGH-END COMPUTE

Supports multiple double-wide, high-end NVIDIA A100 GPUs to accelerate AI/ML/DL workloads at the edge.



Overview

- Dual Intel® 3rd Gen Xeon® Ice Lake SP CPUs
- 11x PCIe Gen 4 slots
- 24x DDR4-3200 ECC RDIMM slots
- Up to 8 front-removable 2.5" (15mm) NVMe, SAS, SATA drives
- Designed to meet MIL-STD-461G, DO-160F, CE
- BMC to IPMI for integrated server control & management

intel.

NVIDIA.

CYBERSECURITY HIGHLIGHTS

Intel® PFR protects against firmware attacks using an Intel® MAX 10 Field-Programmable Gate Array (FPGA).

Intel® SGX includes predefined portions of memory that can better protect sensitive information.

Intel® Total Memory Encryption provides encryption of a computer system's physical memory.

Strict revision control is achieved through Trenton's approved vendor list (AVL), ensuring engineer-vetted parts.

Counterfeit Protection Program (CPP) helps Trenton detect, remove, and destroy counterfeit parts and components.

Vetted supply chain helps protect your system from potentially compromised counterfeit electronic parts and components.

45-Day Loaner Program lets customers verify that they're acquiring a cybersecure computing solution that integrates seamlessly into their vetted cybersecurity infrastructure.

TAA compliance is achieved because Trenton manufactures the 3U BAM, and its other solutions, in the United States.

CSfC, ITAR, and ISO9001 adherence and compliance allow Trenton to consistently provide secure, high-quality computing solutions.

LEARN MORE

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Ruggedized, high-end compute at the edge

MIL-STD-461G-certified supporting front-removable SSDs and double-wide NVIDIA GPUs, the 3U BAM XRS meets the most demanding technical, performance, and environmental specifications.

Increase read/write speeds, reduce latency, and limit I/O overhead with a mixture of NVMe, SAS, and SATA SSDs, ensuring reliability and durability at the edge.

Supports multiple NVIDIA A100 GPUs to enhance inferencing and data analytics, delivering actionable insights and helping you stay vigilant of emerging enemy threats.

With extra depth and an EMI-filtered power supply, reduce electromagnetic interference to avoid damaging critical components and interference with existing infrastructure.

MODEL NUMBER

BAC3008 (3U)

MOTHERBOARD

BAM8270

PROCESSORS (36 CORES PER PROCESSOR, 72 TOTAL)

Dual Intel® 3rd Gen Xeon® Scalable Processors (Ice Lake) up to 235W

MEMORY (UP TO 1.5 TB) | STORAGE (UP TO 128 TB)

24x DDR4-3200 ECC RDIMM slots

Supports up to 8 front-removable 2.5" (15mm) NVMe, SAS, SATA drives

ON-BOARD DEVICES

- **SATA:** 6x SATA ports
- **NVMe:** 2x NVMe ports
- **USB:** 1x USB3 headers
- **IPMI:**
  - IPMI 2.0 with virtual media over LAN and KVM-over-LAN support
  - ASPEED AST2500 BMC
- **Network Controller:**
  - Intel® i350 Gigabit Ethernet
- **Graphics:** ASPEED AST2500 VGA
- **TPM 2.0:** Infineon SLB9670

INPUT / OUTPUT

- **USB:** 4x USB 3.0 ports
- **Display:** 1x VGA port
- **LAN:** 1x RJ-45 Gigabit Ethernet port; 1x RJ-45 Gigabit Ethernet Shared IPMI port
- **Serial:** 1x RS232 serial port

PCIE GEN 4 SLOTS (CAN SUPPORT UP TO 3 NVIDIA 80GB A100 GPUS)

- 11x PCIe Gen 4 x16 mechanical slots
  - 5x PCIe Gen 4 x16 electrical slots
  - 6x PCIe Gen 4 x8 electrical slots
- I2C connectivity
  - monitors PCIe slots and NVIDIA cards via the I2C bus

DIMENSIONS

BAC3008: 19" x 5.25" x 24"
Weight: 36 lbs.

FRONT PANEL

The front panel comes with up to eight removable drive trays that support a mixture of front-removable drives.

SYSTEM COOLING

1x PWM CPU blower fan per CPU (1U and 2U fans)

3x mid-chassis fans to support optional GPUs and FPGAs

POWER / POWER SUPPLY

- **MIL-STD-461 removable power supply**
  - **220VAC:** output power = 2100W
  - **115VAC:** output power = 2100W

SYSTEM BIOS

- **BIOS Type:** 128Mb SPI NOR Flash with Insyde BIOS
- **BIOS Features:**
  - Plug and Play (PnP)
  - APM 1.2
  - PCI 2.2
  - ACPI 1.0 / 2.0
  - USB keyboard support
  - SMBIOS 2.3
  - UEFI

SYSTEM MANAGEMENT

ASPEED AST2500 baseboard management controller: rKVM, system monitoring, out-of-band management

ENVIRONMENTAL SPECIFICATIONS

- Operating Temperature: 0°C - 50°C
- Storage Temperature: -20°C - 70°C
- Operating Humidity: 5% - 95% non-condensing
- Non-Operating Humidity: 5% - 95% non-condensing
- Shock: 3 axis, 35g, 25ms
- Vibration: 4.76Grms, 10Hz to 2000 Hz (SSD)
- Altitude: 0 to 10,000 ft (3,048m)
- Non-Operating Altitude: 0 to 30,000 ft (9,144m)

**Preliminary numbers noted. Final numbers expected to outperform current specifications.*

**Conformal coating available upon request.*

COMPLIANCE

Designed to meet the following standards/certifications:

- MIL-STD-810H
- MIL-STD-461G
- MIL-STD-1310
- MIL-STD-464C
- DO-160F
- 2014/35/EU (LVD)
- 2014/30/EU (EMC)