

3U BAM SERVER

The industry's leading cybersecure, ruggedized, made-in-USA, high-performance computing solution, designed with aerospace and defense at top of mind



HARSH ENVIRONMENT PROTECTION

All key components are stress-tested to pass stringent military standards, ensuring stability in harsh environments.



MADE IN THE USA

Trenton Systems' secure, high-performance computing solutions are designed, manufactured, assembled, integrated, tested, and supported in the USA.



FULL CONTROL & CUSTOMIZATION

Our in-house software engineers can tweak BIOS source code to bolster firmware security and configure to your exact needs.



Overview



Dual Intel® 3rd Gen Xeon® Scalable Processors



11x Gen 4.0 PCIe Slots



24x DDR4-3200 ECC RDIMM slots



6x SATA ports to connect storage devices at 6 Gbps



Designed to meet MIL-STD-810, DO-160

CYBERSECURITY HIGHLIGHTS



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



Strict Revision Control - achieved through Trenton Systems' approved vendor list (AVL), ensuring engineer-vetted parts.



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



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



Counterfeit Protection Program helps Trenton avoid, inspect, detect, remove, and replace suspected counterfeit electronics.



TAA Compliance is achieved because Trenton Systems manufactures its solutions in the United States.



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



Vetted Supply Chain helps protect your system from potentially compromised counterfeit electronic parts and components.



CSfC, ITAR, & ISO9001 adherence and compliance allows Trenton Systems to consistently provide high-quality computing solutions.

The BAM: Powerful, Durable, Protected

Ruggedized to withstand the world's harshest conditions, the BAM Server is power, high-speed PCIe expansion, and smooth application performance at its most robust.

The BAM's x16 slots are double-spaced apart for improved incorporation of double-wide GPUs and its PCIe slots have no switches for maximum throughput.

Protected by a trusted supply chain and advanced hardware, firmware, and software security suite, the BAM is holistically protected and designed to meet your exact requirements.



MODEL NUMBER

BAC3000 (3U)

MOTHERBOARD

BAM8270

PROCESSORS

Intel® 3rd Gen Xeon® Scalable Processors (IceLake) up to 235W

MEMORY

24x DDR4-3200 ECC RDIMM slots

ON-BOARD DEVICES

- ▶ **SATA:** 6x SATA ports
- ▶ **NVMe:** 2x NVMe ports
- ▶ **USB:** 3x 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

- ▶ 11x PCIe Gen 4 x16 mechanical slots
 - 5x PCIe Gen 4 x16 electrical slots
 - 6x PCIe Gen 4 x8 electrical slots

DIMENSIONS

BAC3000: 19" x 5.25" x 20"

Weight: 34 lbs.

FRONT PANEL

The front panel comes with three drive bays that support a mixture of front-removable drives and optical drive bay carriers.

SYSTEM COOLING

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

POWER / POWER SUPPLY

- ▶ **N+1 redundant power supply**
 - **220VAC:** output power = 2850W
 - **115VAC:** output power = 1900W

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

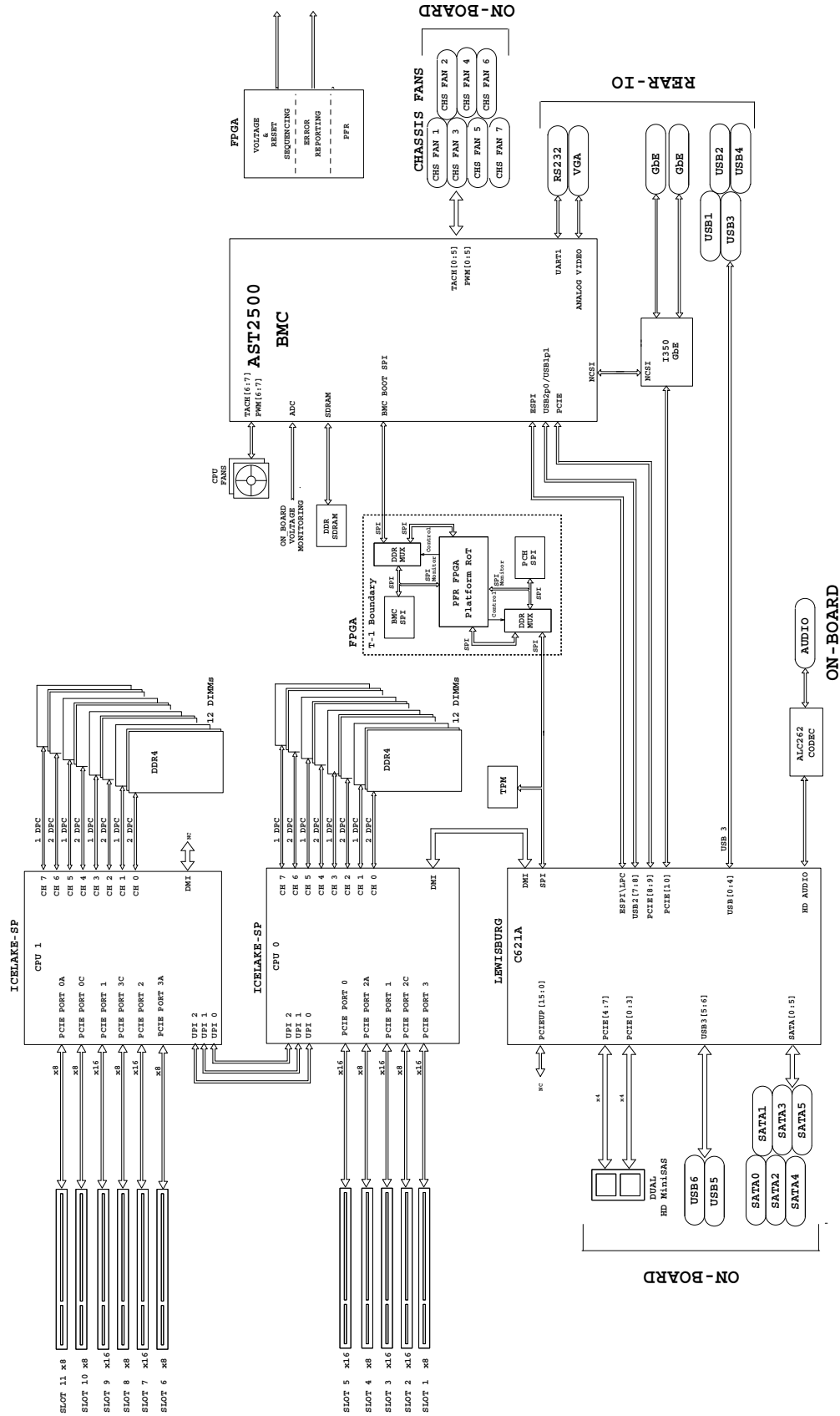
**Preliminary numbers noted. Final numbers expected to outperform current specifications.*

COMPLIANCE

Designed to meet the following standards/certifications:

- ▶ MIL-STD-810H, DO-160
 - Shock: 3 axis, 35g, 25ms
 - Vibration: 4.76Grms, 10Hz to 2000 Hz (SSD)
 - Altitude: 0 to 10,000 ft (3,048m)
 - Altitude: 0 to 30,000 ft (9,144m)

3U BAM BLOCK DIAGRAM





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