1U BAM FM

Lightweight yet durable in austere environments, the 1U front-modular blade solution is US-made, configurable and flexible to address various use cases across military, aerospace, and the Defense Industrial Base.

SWAP-C OPTIMIZED SOLUTION

Two modular blades equipped with long-life components and a 1200W removable power supply in a short-depth, 1U ruggedized, lightweight chassis.

MADE IN THE UNITED STATES OF AMERICA

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

CUSTOMIZABLE. FLEXIBLE. ADAPTABLE.

Easily remove the blades and customize the I/O board to support the evolving nature of mission-critical systems deployed at the tactical edge.

OVERVIEW

Dual Intel® 3nd Gen Xeon® Ice Lake SP CPUs per processor board

24x PCIe Gen 4 electrical links on I/O board

12x DDR4-3200 ECC RDIMM sockets (6 DIMMs per CPU)

Designed to meet MIL-STD-810, MIL-STD-461, DO-160, CE

BMC to IPMI for integrated server control & management

SOLUTION 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 1U BAM, and its other solutions, in the United States.

CSfC, ISO9001, and AS9100D adherence and compliance allow Trenton to consistently provide secure, high-quality computing solutions.

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LEARN MORE
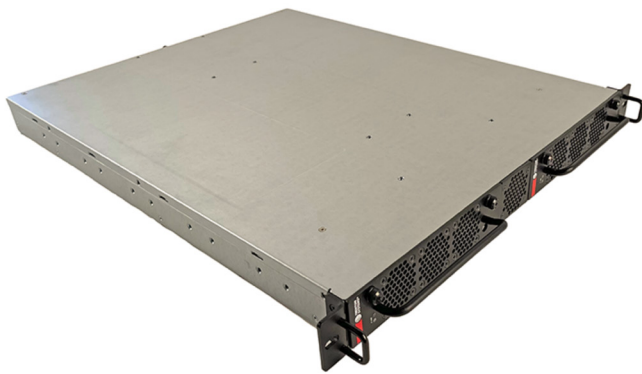
Powerful. Configurable. Secure.

With swappable blades and a customizable I/O board, the 1U BAM FM allows you to easily remove, upgrade, and troubleshoot parts and components to minimize downtime and sustain evolving workloads.

Enable virtualized, low-latency networking with 5G technology that enhances compute power and connectivity in the harshest of communications-denied and -contested environments.

Reduce footprint and total cost of ownership by running multiple applications on the same SWaP-optimized server hosting two systems.

With an encrypted hardware, firmware, software, and network layer stack, guard critical data at-rest, in-transit, and in-use against the most sophisticated of cyberattacks.

The 1U BAM FM provides the adaptability, compute density, and security needed to accelerate mission-critical applications at the edge.

PROCESSORS

Dual Intel® 3rd Gen Xeon-SP (Ice Lake) Embedded SKU CPUs, up to 185W
28 cores maximum per CPU. Supported CPU wattage relates to operating temperature requirement.

MEMORY

12x DDR4-3200 ECC RDIMM sockets (6 DIMMs per CPU)

ON-BOARD DEVICES (Processor Board)

► **CHIPSET:** Intel® C621 Lewisburg PCH
► **SATA:** SATA interface routed to rear I/O connector
► **SAS:** Dual HD MiniSAS internal connectors
► **USB:** 4x USB3 headers
► **BMC:** ASPEED AST2500 BMC for Intelligent Platform Management Interface
  • IPMI 2.0 with virtual media over LAN and KVM-over-LAN support
  • VGA graphics from AST2500 routed to rear I/O connector
  • RS232 Serial routed to rear I/O connector
► **TPM 2.0:** Secure cryptoprocessor that helps you with actions such as generating, storing, and limiting use of cryptographic keys

ON-BOARD DEVICES (I/O Board)

► **USB:** 2XUSB3 headers
► **Network Controllers**
  • 2x Intel x710 Dual 10Gigabit Ethernet SFP+
  • 2x Intel i350 Dual Gigabit Ethernet RJ-45
    • 1x RJ-45 Gigabit Ethernet IPMI shared

DIMENSIONS & WEIGHT

Dimensions: 19" x 1.75" x 22" (48.26 cm x 4.45 cm x 55.88 cm)
Weight: Less than 35 lbs. (~15.88 kg)

FRONT & REAR PANELS (per blade)

Front: 2x front-removable ILM8296 processor boards (blades)

Rear: 2x USB3 ports, 2x 10 Gbps SFP+ ports, 2x 1GbE ports
    (1x IPMI shared), 1x Serial Port, 1x VGA port

*Each modular blade is configurable to spec The 1U BAM FM can house two different I/O blades to accommodate various applications or use cases.

SYSTEM COOLING

6x 40mm x 56mm PWM fans, front to rear airflow

REMOVABLE POWER SUPPLY

1200W Rear Removable, MIL-461 certified, 90-264VAC autoranging, 47-400Hz, PMBUS

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
  • POH Counter

SYSTEM MANAGEMENT

AST2500 Baseband Management Controller: rKVM, System Monitoring, Out of Band Management

ENVIRONMENTAL SPECIFICATIONS

► Operating Temperature: 0°C - 40°C
► Storage Temperature: -20°C - 70°C
► Operating Humidity: 5% - 90% non-condensing
► Non-Operating Humidity: 5% - 95% non-condensing
► Shock: 3 axis, 35g, 25ms
► Vibration: 2.8 Grms, 10Hz to 2,000Hz
► Altitude: 0 to 10,000 ft (3,048m)
► Non-Operating Altitude: 0 to 30,000 ft (9,144m)
► EMI: Designed to FCC Class A as a minimum
Contact us for more information.

COMPLIANCE

Designed to meet the following standards/certifications:

► MIL-STD-810H
► MIL-STD-461F
► DO-160G
► CE

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BLOCK DIAGRAM