



Mt. Collins — Dual Socket 1U Rack Server

The Ampere® Mt. Collins platform provides a balance of performance and power that can scale up with ease. Available in a dual socket configuration in a 1U form-factor with the Ampere Altra® and Altra® Max processors, Mt. Collins provides 160 cores with predictable performance that is ideal for independent VMs and containers. The 1U Mt. Collins rack server is an excellent fit for rack environments that require peak memory and lower TCO.

Efficiency

The Ampere Altra and Altra Max processor-based Mt. Collins dual socket rack servers provide high performance with industry leading power efficiency per core.

The versatile platform offers 160 PCIe Gen4 lanes for flexible I/O connectivity via PCIe slots and another 16 PCIe Gen4 lanes for OCP 3.0 networking.

Memory, Storage, and Networking

Mt. Collins supports thirty-two DDR4 3200 MT/s DIMMS with a maximum memory capacity of 8 TB.

It also supports OCP NIC 3.0 connector with multi-host support to capitalize on the mechanical, thermal, manageability, and security benefits.

In addition, Mt. Collins includes one internal M.2 NVMe storage interface for ultra-fast reads/writes, eliminating PCIe switch adapters.

Platform Management

Mt. Collins includes MegaRAC®, BMC, and Aptio® V BIOS support. Key features include dynamic fan control, temperature monitoring, and TPM 2.0 for security. The platform includes two redundant power supplies providing the reliability required for datacenters. BMC includes support for IPMI and Redfish protocols for remote management.

Processor Subsystem

- 80 Arm v8.2+ 64-bit CPU cores up to 3.30 GHz maximum
- 64 KB L1 I-cache, 64 KB L1 D-cache per core
- 1 MB L2 cache per core
- 32 MB System Level Cache (SLC)
- 2x full-width (128b) SIMD
- Coherent mesh-based interconnect
 - Distributed snoop filtering

Memory

- 8x 72-bit DDR4-3200 channels
- ECC, Symbol-based ECC, and DDR4 RAS features
- Up to 16 DIMMs and 4 TB/socket

System Resources

- Full interrupt virtualization (GICv3)
- Full I/O virtualization (SMMUv3)
- Enterprise server-class RAS



AMPERE®

Specifications

Model	Mt. Collins
Form Factor	1U Rack Server
Number of Processors	2x Ampere Altra CPUs, 80 Arm v8.2+ 64-bit CPU cores at 3.30 GHz maximum
Memory	<ul style="list-style-type: none"> 8x 72-bit DDR4-3200 channels: up to 16 DIMMs per socket (2DPC) Up to 4 TB of DRAM memory support
Expansion Slots Configuration	Up to 2x FHHL PCIe Gen4 x16
Storage Drive Bays (NVMe SSDs)	<ul style="list-style-type: none"> Front: 12x NVMe U.2 SSDs Onboard: 1x PCIe Gen4 x4 M.2 NVMe SSD
OCP NIC	OCP 3.0 mezzanine card with multi-host support
Network Interfaces	<ul style="list-style-type: none"> Onboard: Intel i350 dual 1 GbE BMC: Realtek RTL8211E manageability port
Power Supply	Dual 80 PLUS Platinum redundant PSUs, up to 2000 W with PMBus 1.2 support
Security	TPM 2.0 connector
Systems Management	<ul style="list-style-type: none"> IPMI 2.0, Redfish, and WebUI Serial-Over-LAN (SOL) Remote KVM Hardware health monitor
Supported Operating Systems	CentOS 8.2+
Firmware Support	<ul style="list-style-type: none"> UEFI: Aptio® V BMC: MegaRAC®
BMC	ASPEED Technologies AST2600 Baseboard Management Controller
Dimensions	33.36" (Length) x 17.24" (Width) x 1.7" (Height)

Ampere Computing reserves the right to make changes to its products, its datasheets, or related documentation, without notice and warrants its products solely pursuant to its terms and conditions of sale, only to substantially comply with the latest available datasheet. Ampere, Ampere Computing, the Ampere Computing and 'A' logos, Altra, and eMAG are registered trademarks of Ampere Computing.

Arm is a registered trademark of Arm Limited (or its subsidiaries) in the US and/or elsewhere. All other trademarks are the property of their respective holders.

©2021 Ampere Computing. All rights reserved.

Ampere_Mt._Collins_1U_PB_v0.50_20210223