

# Ensemble 2-Slot MicroTCA Chassis

## Building Block for Small Form-Factor, Low-Cost, High-Performance Solutions

- Supports two RapidIO®-interfacing AMCs
- Cross-platform software
- Cost-effective application development platform
- Flexible and easy to implement



The Ensemble™ 2-Slot MicroTCA Chassis from Mercury Computer Systems is a basic building block for small form-factor, low-cost, high-performance standard solutions. This so-called PicoTCA chassis is approximately the size of a standard laptop computer, with two RapidIO®-interfacing AMC bays that support a wide range of fabric and clock implementations. The chassis provides developers of telecommunications and embedded computing applications with a cost-effective, easy-to-use, and flexible architecture for evaluating and deploying a MicroTCA® system.

### Fully Featured 1U System

A MicroTCA backplane within the 2-Slot MicroTCA Chassis supports two single-width, full-height or extended full-height Rapid-IO enabled AMCs. The backplane has cross-connected base channel and fabric connectivity, eliminating the need for a MicroTCA switch card. The chassis also includes a system manager with MCH-like features, supporting intelligent platform management interface (IPMI) management and control for installed AMCs, as well as JTAG headers for both AMC slots. The system manager also contains an integrated power converter that provides the proper power to the AMCs.

### Building Development Packages

With its compact size and inherent flexibility, the 2-Slot MicroTCA Chassis can be used as the base for a wide variety of application development configurations. Users can select from Mercury's wide range of processor AMCs, including Xilinx® FPGAs, TI® DSPs, PowerQUICC™ and PowerPC® 8641D processors, and Intel® Core™ 2 Duo multicore processors. For example, selecting an Ensemble MPC-102 and an Ensemble MTI-203 enables application development targeting the dual-core 8641D, TCI6482 DSPs, and a Xilinx Virtex™-4 FPGA.

Development software is packaged in the Ensemble RapidIO Platform Middleware, a set of software utilities, libraries, and APIs

for ATCA and MicroTCA platforms. This middleware package enables application developers to use the RapidIO switch fabric without investing large amounts of time learning about the fabric infrastructure or how to program switches and endpoints. The results are faster application development, better quality applications, and more efficient use of the RapidIO fabric for high-bandwidth data movement.

### Ensemble MicroTCA Application Platform

The 2-Slot MicroTCA Chassis is part of the Ensemble RapidIO MicroTCA Platform, which is a standards-based solution built around the power, functionality, and scalability of RapidIO®, AdvancedMC®, and MicroTCA®. The platform supports a variety of I/O sources and heterogeneous processing endpoints, thereby reducing integration costs, improving efficiency, and minimizing risks in design of next-generation applications.

The Ensemble MicroTCA Platform has many advantages that accelerate application development activities:

- The MicroTCA architecture accepts AMCs directly in the chassis, eliminating the need for carrier cards for cost-effective, scalable, high-performance applications.
- The variety of heterogeneous Ensemble AMCs allows developers to customize applications with options to plug in a wide array of processing elements.
- Ensemble offers developers the flexibility to easily expand specific processing nodes to address application performance bottlenecks.
- Additional FPGA or DSP modules communicating over RapidIO can be used to support specific application requirements.
- The homogeneous RapidIO interconnect among processing nodes enables ease of programming of DSPs, communication processors, and FPGAs.

## Specifications

### Dimensions (1U)

Height	1.75 in
Width	10.3 in
Depth	7.7 in

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### Power Supply

External	100-240 VAC to 48 VDC
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### Backplane Support

AMC.0, AMC.1, AMC.2, AMC.3, AMC.4

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### Backplane Slots

Two single-wide, full-height or extended full-height AMCs

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### Integrated Components

Air filter, fan, and front-replaceable fan tray

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For office locations and contact information, please call the corporate headquarters or visit our Web site at [www.mc.com](http://www.mc.com).