

## FEATURES

### CPU

- 1.5 GHz low-power, VIA C7 with dynamic frequency scaling

### Environmental

- -40°C to 70° C fanless operation
- MIL-810F shock and vibration
- Internal temperature software readable

### Power Supply

- 8V to 42V Input voltage
- Extensive transient protection
- Ignition switch input for smart OS shutdown
- Meets ISO-7637-2-2004 & MIL-1275B
- ATX mode compatible

### Wireless

- 16-channel GPS, optional
- 802.11 b/g WiFi, FCC certified, Mini-PCI, optional

### UPS Option

- Super-capacitor UPS module
- Orderly OS shutdown after power failure

### Modular/Expandable

- PC/104 and Mini PCI expansion
- 32GB - 128GB Flash Drive option

### Connectivity and I/O

- COM – four RS-232 & RS-232/RS-485
- USB – five ports, 3 internal & 2 external
- Digital I/O – 12 lines, up to 42V operation
- Ethernet – One port, 10/100 Base-T, two ports optional
- Audio – line in/out, mic & speaker
- Video – CRT displays to 1920 x 1440
- CAN bus - CAN 1.2 and 2.0 compatible

### Supported Operating Systems

- Windows® XPe or Linux
- Can be shipped pre-configured with drivers installed

### Applications

- Military
- Security
- Mining
- Pipelines
- Industrial
- Mesh
- Transportation
- Energy generation



## DESCRIPTION

**Long term reliability** is at the core of our design philosophy. The best-in-class power supply successfully addresses the electrical havoc present in vehicular power systems. It rejects load dumps, repeated transients and over voltage. The high density extrusion becomes the heat sink for the CPU and other heat producing components. Environmental sealing blocks dust and moisture entry. The unique thermal design and industrial grade components allow fanless operation over a -40° C to 75° C range.

**A unique design tightly integrates** the electrical, thermal and mechanical components into a complete system with no compromise to any one segment. It was designed for applications where severe environments and high performance meet.

**The RMB-C2 excels in demanding** applications like military, mining, drilling, energy generation systems and other applications where the cost of failure can be unacceptably high. The careful circuit design, component selection, testing and superior heat dissipation maximize reliability and minimize costly downtime.

**Shock and vibration are blunted** by a shock plate design based on more than 20 million field hours with CORE Systems products. The shock plate employs a sophisticated “cradling” system to deal with 24/7 vibration. The custom mechanism includes both absorbing and dissipative material to reduce component fatigue, pushing the envelope on reliability in extreme applications.

**The fully developed & proven platform** accelerates your design process. It can be supplied with Windows XPe or Linux installed with all drivers.

**Customs versions** can be readily developed to meet your specific applications with the use of 18 pin unpopulated option connector. The modularity of the RMB-C2 enables custom functionality with COTS ruggedness without large up-front costs.

**Contact our Sales Department to see how easy it is for our team to meet your project requirements.**

## SPECIFICATIONS

### Low-Power Processor

- VIA C7, 1.5 GHz
- Front-side Bus speed: 400 MHz
- Watchdog timer

### DRAM Memory

- 2 GB DDR2, industrial temperature grade

### CompactFlash

- 4 GB, industrial grade, error-correcting, optional
- 8 GB, industrial grade, error-correcting, optional
- 16 GB, industrial grade, error-correcting, optional

### Serial Ports

- Four RS-232, four-wire
- One RS-232/485, configurable under software control

### USB Ports

- Two 2.0 ports, external, three internal

### CAN Bus

- CAN 1.2 and 2.0 compatible, up to 1 Mbps

### Digital I/O

- Four output lines with common ground, sink 100 mA @ 42V
- Eight input lines, 3V to 42V

### Ethernet Ports

- One 10/100 Base-T port, an additional port under OEM contract

### Wireless Ports

- 802.11 b/g Wifi: FCC part 15.247 & CE certified
- 16-channel GPS: -158 dBm sensitivity, 50 channel GPS under OEM contract
- WiFi, FCC certified option
- Spare "N" connectors for added functionality

### Audio

- AC 97: line in, line out, microphone and speaker

### Video

- CRTs up to 1920 x 1440 x 24 bpp resolution

### Keyboard and Mouse

- Supported through USB ports
- Wake-on keyboard supported

### Power Supply

- 8-42VDC input voltage (10-36 VDC continuous)
- Meets SAE J1113-11 and ISO-7637-2-2004 and MIL-1275B
- Protection - load dump, reverse voltage, brown-out, and transient protection
- 1.2A of filtered battery power for displays, etc.
- Conducted emissions minimized by internal filter
- ATX mode compatible

### Environmental

- -40°C to +75°C ambient air temperature (brief excursions outside range are well tolerated)
- CPU case and internal air temperature sensors
- Fanless operation over the full temperature range
- Allow 50 mm on five of six sides for natural convection when used in ambients above 50°C

### Shock

- 25g, 3 axis per MIL-STD 810F, Method 516.5 (composite wheeled vehicle)

### Vibration

- 5g, 3 axis per MIL-810F, Method 514.5 (Composite wheeled vehicle) worst case applied to three axes

### Mechanical

- Size: 389 x 170 x 147 mm (15.3 x 6.7 x 5.8 in.)
- Weight: 5.7 kg (12.6 lbs), 6.0 kg (13.3 lbs) with UPS
- Meets FCC & CE Class A requirements
- IP65 dust/moisture rating
- Internal finish: MIL STD iridite
- External Finish: Powder coat paint
- Connectors: MIL-C-26482

### Ordering Information

- #8235A RMB-C2 with 1.5 GHz, 2 GB industrial, DDR2 DRAM, 4 GB of industrial grade compact flash, GPS, WiFi, with standard shock and vibration isolation mounting system
- #8339 Power connector with 1M cable
- #4907914 - 4 GB compact flash, industrial grade
- #4908229 - 8 GB compact flash, industrial grade
- #4908498 - 16 GB compact flash, industrial grade
- #9338326X SuperCap UPS
- #9338201X 16 channel GPS
- #9338221X WiFi
- 8018X Windows XPe

Contact Octagon for information on the optional Mini PCI cards, PC/104 cards, and SATA devices and extra cabling.