



## FEATURES

### CPU

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

### Environmental

- -40°C to 75° C fanless operation
- MIL-810F Shock and vibration
- Integrated, Fail-safe shock “cradling system”

### Power

- 8V to 42V mobile power supply
- Load dump, transient, reverse voltage, and brown-out protection
- Meets SAE J1113-11, ISO-7637-2-2004 and MIL-1275B

### Modular/Expandable

- PC/104 and Mini PCI expansion
- Optional modules: UPS, 32GB - 128GB Flash Drive, 802.11 b/g WiFi, 16-channel GPS

### Connectivity & I/O

- COM, USB, Digital I/O, Ethernet, Audio, Video

### Mechanical

- Marine grade extrusion, powder coated paint and stainless steel hardware
- MIL-C-26482 connectors

### Supported Operating Systems

- Windows® XP or Linux

### Applications

- Military
- Security
- Mesh Networks
- Industrial
- Transportation

## DESCRIPTION

The **RMB-C1** is a rugged mobile server designed for applications where severe environments and high performance meet. As a member of our CORE Systems™ product line, it tightly integrates the electrical, thermal and mechanical components into a complete system with no compromise to any one segment.

The **RMB-C1** can be used as a central server, a stand-alone CPU, or a remote terminal. A full complement of I/O and expansion is provided. The back panel contains three TNC connectors for GPS and wireless communications options. The RMB-C1's modularity enables custom functionality with COTS convenience without large up-front costs.

**Long term reliability** is at the core of our design philosophy. Power supply failure has been eliminated by the best-in-class power supply. It rejects load dumps, repeated transients and over voltage. The marine grade extrusion is environmentally sealed to protect against dust and moisture. The unique thermal design allows for fanless operation over a -40°C to 75° C range.

The RMB-C1 excels in applications for bulkhead mounting on military equipment and heavy machinery. The careful circuit design, component selection, testing and superior heat dissipation maximize reliability and minimize costly downtime whether on a haul truck, dozer, tank or mining drill. The high shock and vibration ratings make it ideal for use in mining, transportation and military environments.

The RMB-C1 is a fully-developed platform designed to accelerate your design process. It can be supplied with Windows XPe or Linux installed. Contact our sales department to spec out your application.

## **SPECIFICATIONS**

### **Low-Power Processor**

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

### **DRAM Memory**

- 2 GB DDR2, industrial grade

### **CompactFlash**

- 4 GB, industrial grade, error-correcting

### **Serial Ports**

- Three RS-232, four-wire
- One RS-232/485

### **USB Ports**

- Five 2.0 ports

### **CAN Bus**

- CAN 1.2 and 2.0 compatible, up to 1 Mbps

### **Digital I/O**

- Four output lines with ground
- Eight input lines, 3V to 42V

### **Ethernet Ports**

- Two 10/100 Base-T ports

### **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, ISO-7637-2-2004 and MIL-1275B
- Load dump, reverse voltage, brown-out, and transient protection
- 2A of filtered battery power for displays, etc.
- Conducted emissions minimized by internal filter

### **Power consumption**

- 16-22W at 27VDC input depending upon operating conditions. Standby 3.6 W at 28VDC.

### **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

### **Easy Mounting Release**

Quick release in tight situations. Simply loosen screws, slide upwards and pull forward.

### **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: 340 x 170 x 122 mm (12x6.7x4.8in)
- Weight: 8.7 lbs (4.0 kg)
- Meets FCC & CE Class A requirements
- IP65 dust/moisture rating
- Finish: Marine grade, power coated paint
- Connectors: MIL-C-26482

### **Optional modules**

- UPS: internal battery-backup
- Flash Drive: 32GB – 128GB with SATA interface
- 802.11 b/g Wifi: FCC part 15.247 & certified with mini PCI interface
- 16-channel GPS: -158 dBm sensitivity with PC/104 - Plus interface

## **ORDERING INFORMATION**

- #7758 - RMB-C1 with 1.5 GHz CPU, 2 GB industrial, DDR2 DRAM and 4 GB of industrial grade, CompactFlash, GPS, WiFi and UPS function

**Contact Octagon for information on the optional Mini PCI cards, PC/104 cards, and SATA drives.**