

RMB-C2B

Rugged Mobile Computer

FEATURES

- -40° C to 75° C fanless operation
- MIL-810F shock and vibration
- Internal temperature software readable

CPU

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

Power Supply

- 8V to 36V input voltage
- Extensive transient protection
- Ignition switch input for smart OS shutdown
- ATX mode compatible

Wireless

- 50-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

- PCI/104, PC104 Plus and Mini PCI expansion

Connectivity and I/O

- COM - Three RS-232, one RS-232/485
- USB - Five ports, 3 internal & 2 external
- Digital I/O - seven lines, up to 36V operation
- Ethernet - One port, 10/100 Base-T, (one port optional)
- Audio - line in/out, mic & speaker (3W)
- Video - CRT displays to 1920 x 1440 x 24
- CAN bus - CAN 1.2 and 2.0 compatible

Supported Operating Systems

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

Applications

- | | |
|-------------|---------------------|
| • Military | • Industrial |
| • Security | • Mesh |
| • Mining | • Transportation |
| • Pipelines | • 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-C2B 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 millions of 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.

Custom versions can be readily developed to meet your specific applications with the use of an 18 pin unpopulated option connector. The modularity of the RMB-C2B enables custom functionality with COTS ruggedness without large up-front costs.

Call Octagon Sales for help in optimizing a solution
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SPECIFICATIONS

CPU

- 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

- Three RS-232, four-wire, two internal, two external
- One RS-232/485, configurable under software control

USB Ports

- Two 2.0 ports, external, three optional

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
- 50-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 port with 3W amplifier

Video

- CRTs up to 1920 x 1440 x 24 bpp resolution

Keyboard and Mouse

- Supported through USB ports
- Wake-on keyboard supported

Power Supply

- 8-36 VDC input voltage (10-36 VDC continuous)
- 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

UPS Option

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

Environmental

- -40°C to +75°C ambient air temperature (brief excursions outside range are well tolerated)
- Humidity: 5-95% non-condensing
- 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
- For user-added electronics derate 2°C/W of added dissipation

Shock

- 30g, 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: 361 x 200 x 146 mm (14.2" x 7.9" x 5.8")
- Weight: 5.7 kg (12.6 lbs), 6.0 kg (13.3 lbs) with UPS
- IP65 dust/moisture rating
- Internal finish: MIL STD iridite
- External Finish: Powder coat paint
- Connectors: MIL-C-26482

ORDERING INFORMATION

- #8235B RMB-C2B with 1.5 GHz, 2 GB industrial, DDR2 DRAM
- #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
- #9338018X Windows XPe

Represented by:

Rev 5 03/2013