

# RabbitCore<sup>®</sup> RCM3900 Series

Microprocessor Core Module

Combines Fast Ethernet, extended temperature and mass storage to bring versatility to embedded design.

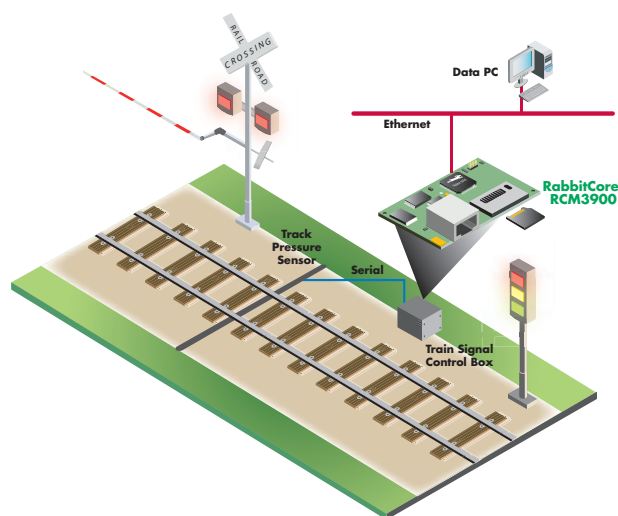


## Overview

The RabbitCore RCM3900 series of core modules has fast program execution SRAM and data SRAM, Flash memory and the circuitry necessary for reset and management of battery backup for its internal real-time clock and data SRAM. Two 34-pin headers bring out the Rabbit 3000's I/O bus lines, parallel ports and serial ports.

The RCM3900 modules' mass storage can use the Dynamic C<sup>®</sup> software FAT file system software component to store data and use the same directory file structure commonly used on PCs. The microSD<sup>™</sup> Card can be hot-swapped to transfer data quickly using a standardized file system that can be read directly from the RCM3900 module, or removed and read using a microSD card reader.

## Application Highlight



**Potential Applications:** Data archiving, tank monitoring, automatic meter reading, remote energy management, security and surveillance.

## Features/Benefits

- Rabbit<sup>®</sup> 3000 microprocessor at 44 MHz
- Extended operating temperature range: -20° C to +80° C
- 10/100Base-T Ethernet
- Up to 1 GB microSD hot-swappable storage
- Lower-risk design of embedded systems applications
- Software debugging directly on target hardware



Specifications		RCM3900	RCM3910
Features			
Microprocessor	Rabbit® 3000 at 44 MHz		
EMI Reduction	Spectrum spreader for reduced EMI (radiated emissions)		
Ethernet Port	10/100Base-T, RJ-45, 3 LEDs		
SRAM	512K program (fast SRAM) + 512K data		
Flash Memory (Program)	512K		
Memory (Data Storage)	32 MB (fixed NAND flash) + 128 MB – 1 GB microSD™ Card	128 MB – 1 GB microSD Card	
LED Indicators	LINK/ACT (link/activity) FDX/COL (full-duplex/ collisions) SPEED (on for 100Base-T Ethernet connection) CE/BSY (NAND flash enabled/user –programmable.		
Backup Battery	Connection for user-supplied backup battery (to support RTC and data SRAM)		
General-Purpose I/O	52 parallel digital I/O lines: <ul style="list-style-type: none"><li>• 44 configurable I/O</li><li>• 4 fixed inputs</li><li>• 4 fixed outputs</li></ul>		
Additional Inputs	Startup mode (2), rest in		
Additional Outputs	Status, rest out		
External I/O Bus	Can be configured for 8 lines and 5 address lines (shared with parallel I/O lines)		
Serial Ports	Five 3.3V, CMOS-compatible ports(shared with I/O) <ul style="list-style-type: none"><li>• All 5 configurable as asynchronous (with IrDA)</li><li>• 3 configurable as clocked serial (SPI)</li><li>• 2 configurable as SDL/HDLC</li><li>• 1 asynchronous serial port dedicated programming</li></ul>		
Serial Rate	Maximum asynchronous baud rate = CLK/8		
Slave Interface	A slave port allows the RCM3900/RCM3910 to be used as an intelligent peripheral device slaved to a master processor, which may either be another Rabbit 3000 or any other type of processor		
Real-Time Clock	Yes		
Timers	Ten 8-bit timers (6 cascable, 3 reserved for internal peripherals, one 10-bit timer with 2 match registers)		
Watchdog/Supervisor	Yes		
Pulse-Width Modulators	4 PWM registers with 10-bit free-running counter and priority interrupts		
Input Capture	2-channel input capture can be used to time input signals from various port pins		
Quadrature Decoder	2-channel quadrature decoder accepts inputs from external incremental encoder modules		
Power	3.15-3.45VDC 325 mA @ 44.2 MHz, 3.3V		
Operating Temperature	-20° C to +85° C		
Humidity	5% to 95%, non-condensing		
Connectors	Two 2 x 17, 2 mm pitch One microSD Card socket		
Board Size	1.850" x 2.725" x 0.86" (47 mm x 69 mm x 22 mm)		
Pricing			
Price and Part Number	\$105; 20-101-1196		\$98; 20-101-1197
Development Kit and Part Number	\$399; 101-1226		

Visit [www.digiembedded.com](http://www.digiembedded.com) for part numbers.

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