



MICROPROCESSOR  
CORE MODULE



# RABBITCORE<sup>®</sup> RCM3900 SERIES

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

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<sup>®</sup> 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.

## BENEFITS

- Rabbit 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

## RELATED PRODUCTS



RabbitCore<sup>®</sup>  
RCM4300  
Series



RabbitCore<sup>®</sup>  
RCM3209  
Series



RabbitCore<sup>®</sup>  
RCM3000  
Series

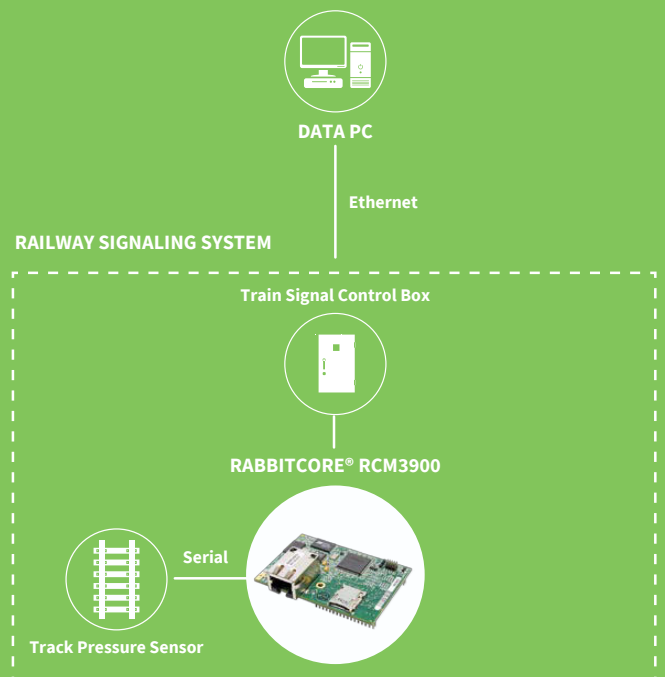


Rabbit MiniCore<sup>®</sup>  
RCM6700  
Series



Dynamic C<sup>®</sup>

## APPLICATION EXAMPLE



## SPECIFICATIONS

RCM3900

RCM3910

## FEATURES

<b>MICROPROCESSOR</b>	Rabbit® 3000 at 44 MHz	
<b>EMI REDUCTION</b>	Spectrum spreader for reduced EMI (radiated emissions)	
<b>ETHERNET PORT</b>	10/100Base-T, RJ-45, 3 LEDs	
<b>SRAM</b>	512K program (fast SRAM) + 512K data	
<b>FLASH MEMORY (PROGRAM)</b>	512K	
<b>MEMORY (DATA STORAGE)</b>	32 MB (fixed NAND flash) + 128 MB – 1 GB microSD™ Card	128 MB – 1 GB microSD Card
<b>LED INDICATORS</b>	LINK/ACT (link/activity) FDX/COL (full-duplex/ collisions) SPEED (on for 100Base-T Ethernet connection) CE/BSY (NAND flash enabled/user-programmable).	
<b>BACKUP BATTERY</b>	Connection for user-supplied backup battery (to support RTC and data SRAM)	
<b>GENERAL-PURPOSE I/O</b>	52 parallel digital I/O lines: <ul style="list-style-type: none"> <li>• 4 configurable I/O</li> <li>• 4 fixed inputs</li> <li>• 4 fixed outputs</li> </ul>	
<b>ADDITIONAL INPUTS</b>	Startup mode (2), rest in	
<b>ADDITIONAL OUTPUTS</b>	Status, rest out	
<b>EXTERNAL I/O BUS</b>	Can be configured for 8 lines and 5 address lines (shared with parallel I/O lines)	
<b>SERIAL PORTS</b>	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>	
<b>SERIAL RATE</b>	Maximum asynchronous baud rate = CLK/8	
<b>SLAVE INTERFACE</b>	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	
<b>REAL-TIME CLOCK</b>	Yes	
<b>TIMERS</b>	Ten 8-bit timers (6 cascable, 3 reserved for internal peripherals, one 10-bit timer with 2 match registers)	
<b>WATCHDOG/SUPERVISOR</b>	Yes	
<b>PULSE-WIDTH MODULATORS</b>	4 PWM registers with 10-bit free-running counter and priority interrupts	
<b>INPUT CAPTURE</b>	2-channel input capture can be used to time input signals from various port pins	
<b>QUADRATURE DECODER</b>	2-channel quadrature decoder accepts inputs from external incremental encoder modules	
<b>POWER</b>	3.15-3.45 VDC 325 mA @ 44.2 MHz, 3.3V	
<b>OPERATING TEMPERATURE</b>	-20° C to +85° C	
<b>HUMIDITY</b>	5% to 95%, non-condensing	
<b>CONNECTORS</b>	Two 2 x 17, 2 mm pitch ; One microSD Card socket	
<b>BOARD SIZE</b>	1.850" x 2.725" x 0.86" (47 mm x 69 mm x 22 mm)	

## PART NUMBERS

## DESCRIPTION

20-101-1196	RCM3900. Replacement for the RCM3365
20-101-1197	RCM3910. Replacement for the RCM3375

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