Welcome to E-XFL.COM

Understanding Embedded - Microcontroller, Microprocessor, FPGA Modules

Embedded - Microcontroller, Microprocessor, and FPGA Modules are fundamental components in modern electronic systems, offering a wide range of functionalities and capabilities. Microcontrollers are compact integrated circuits designed to execute specific control tasks within an embedded system. They typically include a processor, memory, and input/output peripherals on a single chip. Microprocessors, on the other hand, are more powerful processing units used in complex computing tasks, often requiring external memory and peripherals. FPGAs (Field Programmable Gate Arrays) are highly flexible devices that can be configured by the user to perform specific logic functions, making them invaluable in applications requiring customization and adaptability.

Applications of Embedded - Microcontroller,

Details	
Product Status	Not For New Designs
Module/Board Type	MPU Core
Core Processor	Rabbit 3000
Co-Processor	-
Speed	44.2MHz
Flash Size	512KB (Internal), 32MB (External), microSD Slot (External)
RAM Size	1MB
Connector Type	2 IDC Headers 2x17, 1 IDC Header 2x5, 1xmicroSD Card
Size / Dimension	1.85" x 2.73" (47mm x 69mm)
Operating Temperature	-20°C ~ 85°C
Purchase URL	https://www.e-xfl.com/product-detail/digi-international/20-101-1196

MICROPROCESSOR
CORE MODULE

RABBITCORE® 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® 3000's I/O bus lines, parallel ports and serial ports.

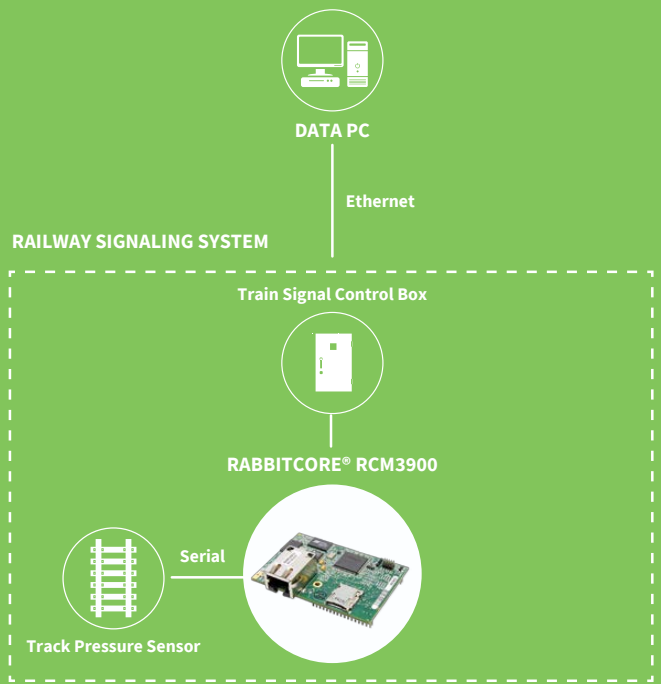
The RCM3900 modules' mass storage can use the Dynamic C® software FAT file system software component to store data and use the same directory file structure commonly used on PCs.

The microSD™ 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

APPLICATION EXAMPLE



RELATED PRODUCTS

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 –programable.	
BACKUP BATTERY	Connection for user-supplied backup battery (to support RTC and data SRAM)	
GENERAL-PURPOSE I/O	52 parallel digital I/O lines: • 4 configurable I/O • 4 fixed inputs • 4 fixed outputs	
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): • All 5 configurable as asynchronous (with IrDA) • 3 configurable as clocked serial (SPI) • 2 configurable as SDL/HDLC • 1 asynchronous serial port dedicated programming	
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 cascadable, 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	3.15-3.45 VDC 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)	

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

DIGI SERVICE AND SUPPORT / You can purchase with confidence knowing that Digi is always available to serve you with expert technical support and our industry leading warranty. For detailed information visit www.digi.com/support.

© 1996-2015 Digi International Inc. All rights reserved.
All trademarks are the property of their respective owners.

91001578
D1/915

DIGI INTERNATIONAL WORLDWIDE HQ
877-912-3444 / 952-912-3444 / www.digi.com

DIGI INTERNATIONAL FRANCE
+33-1-55-61-98-98 / www.digi.fr

DIGI INTERNATIONAL JAPAN
+81-3-5428-0261 / www.digi-intl.co.jp

DIGI INTERNATIONAL SINGAPORE
+65-6213-5380

DIGI INTERNATIONAL CHINA
+86-21-50492199 / www.digi.com.cn