MICROPROCESSOR
CORE MODULE



RABBITCORE® RCM3700 SERIES

Family of compact modules comes in three versions with varying memory sizes, providing a cost-competitive multi-serial to Ethernet solution

The RabbitCore RCM3700 series extends beyond standard serial to Ethernet devices by providing up to six serial ports along with a rich embedded I/O control feature set such as PWM and Quadrature Decoder Inputs. Additionally, the modules include a backup battery for protected data storage and for the real-time clock.

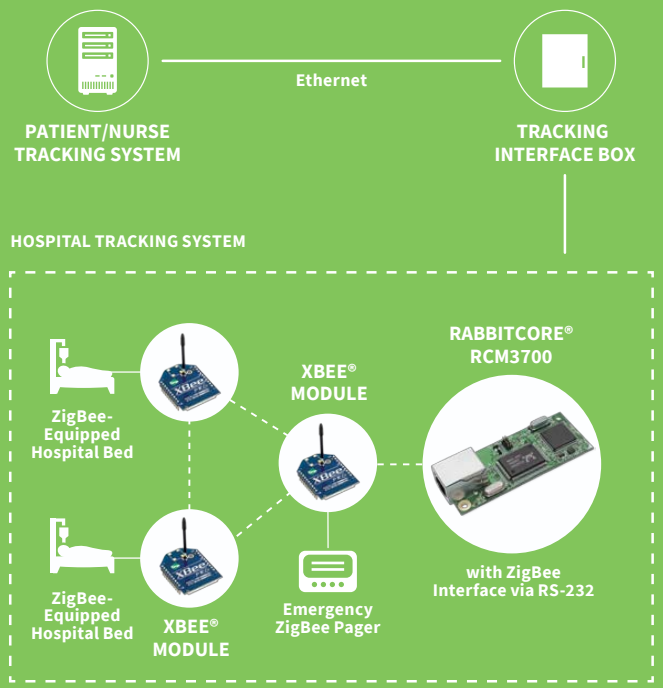
The software environment for the RCM3700 series offers an excellent platform for developing applications with web server capabilities, especially for remote monitoring and control. With a 1 MB on-board serial Flash, the RCM3700 series can store additional web pages or be used as a datalogger.

The RCM3700 easily mounts onto a user-designed motherboard, making it ideal for new and existing applications. With an integrated hardware and software solution, the RCM3700 series ensures your product gets to market faster with lower development costs.

BENEFITS

- Up to 4 serial ports for multiple device connectivity
- 10Base-T with optional 10/100Base-T Ethernet
- Up to 512K Flash for code and up to 512K SRAM for data
- 1 MB of on-board serial Flash utilizing FAT file support for reliable data storage
- Embedded web server capability for remote monitoring and control
- Exceptionally fast performance for math, logic and I/O

APPLICATION EXAMPLE



RELATED PRODUCTS



RabbitCore® RCM3000 Series | Rabbit MiniCore® RCM6700 | RabbitCore® RCM3209 Series | RabbitCore® RCM3600 Series | Dynamic C®

SOFTWARE

The Dynamic C® integrated development environment reduces the time and effort to write real-time software for embedded systems that use a Rabbit microprocessor, enabling easy development of a wide range of applications.

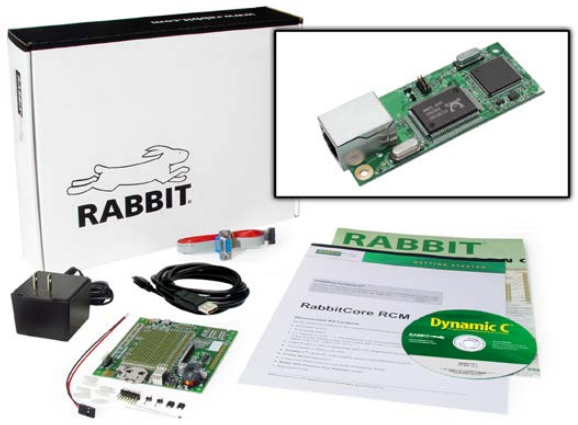
Rabbit products and Dynamic C integrate editing, compiling, linking, loading and debugging into a single development environment as one function. There are no compatibility issues when moving from one stage to another. Once the design is complete, you can debug it on the target hardware and see how your code works. Because it is a dialect of C, the Dynamic C language has all the statements and constructions of traditional C, plus extensions that make it easier to write reliable, real-time multi-tasking software. The Dynamic C integrated development environment allows for easy hardware migration, moving from a single-board computer to chip level production.

Dynamic C also includes highly useful software components that can add functionality and value to your applications. This functionality includes web server capability, filing system, remote firmware updates, and wired and wireless security. Compatible software components are listed below.

SOFTWARE COMPONENTS

COMPONENT	DESCRIPTION
RABBITWEB	System of HTML tags used to easily create web interfaces to monitor and control embedded applications
REMOTE PROGRAM UPDATE (RPU)	Allows for remote firmware updates from anywhere in the world using an Internet connection
FILE ALLOCATION TABLE (FAT)	Popular network-accessible file system for flashed based memories
SECURE SOCKETS LAYER (SSL) / TRANSPORT LAYER SECURITY (TLS)	The industry standard for web security in embedded applications
ADVANCED ENCRYPTION STANDARD (AES)	128-bit encryption for transferring sensitive data

RABBITCORE® RCM3700 DEVELOPMENT KIT



THE RCM3700 DEVELOPMENT KIT CONTENTS:

- RCM3700 module
- Prototyping board with standoffs/connectors
- USB cable to program RCM3700 via interface board
- Universal power supply
- Dynamic C CD-ROM, including product documentation on disk
- Getting Started instructions
- Registration card

SPECIFICATIONS

RabbitCore® RCM3700 Specifications

FEATURES	RCM3700	RCM3710	RCM3720
MICROPROCESSOR	Low-EMI Rabbit® 3000 at 22 MHz		
ETHERNET PORT	10Base-T interface, RJ-45, 2 LEDs		
FLASH MEMORY	512K	256K	512K
SRAM	512K	128K	256K
SERIAL FLASH MEMORY	1 MB		
BACKUP BATTERY	Connection for user-supplied backup battery (to support RTC and SRAM)		
GENERAL-PURPOSE I/O	33 parallel digital I/0 lines: • 31 configurable I/O • 2 fixed outputs		
ADDITIONAL I/O	Reset		
EXTERNAL I/O BUS	Can be configured for 8 data lines and 5 address lines (shared with parallel I/O lines), plus I/O read/write		
SERIAL PORTS	Four 3.3V CMOS-compatible ports configurable as: • 4 asynchronous serial ports (with IrDA) or • 3 clocked serial ports (SPI) plus 1 HDLC (with IrDA) or • 1 clocked serial port (SPI) plus 2 HDLC serial ports (with IrDA)		
SERIAL RATE	Maximum asynchronous baud rate = CLK/8		
SLAVE INTERFACE	A slave port allows the RCM3700 series 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 output channels with 10-bit free-running counter and priority interrupts		
INPUT CAPTURE/ QUADRATURE DECODER	2-channel input capture can be used to time input signals from various port pins • 1 quadrature decoder unit accepts inputs from external incremental encoder modules or • 1 quadrature decoder unit shared with 2 PWM channels		
POWER	4.75–5.25 VDC 100 mA @ 22.1 MHz, 5V; 78 mA @ 11.05 MHz, 5V		
OPERATING TEMPERATURE	–40° C to +70° C		
HUMIDITY	5% to 95%, non-condensing		
CONNECTORS	One 2 x 20, 0.1” pitch		
BOARD SIZE	1.20” × 2.95” × 0.89” (30 mm × 75 mm × 23 mm)		

PART NUMBERS

DESCRIPTION

20-101-1305	RCM3700
20-101-1328	RCM3710
20-101-1329	RCM3720
101-0681	RCM3700 RabbitCore Development Kit

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