RCM3750 RabbitCore™

MODEL | RCM3750 |

Microprocessor Core Module

Key Features

- Powerful Rabbit 3000 ® microprocessor @ 22.1 MHz
- 512K Flash / 512K SRAM
- 1 MB Serial Flash
- 10/100 Base-T, RJ-45 port
- 33 parallel digital I/O, alternate I/O bus
- 4 serial ports (IrDA, HDLC, asynch, sync, SPI)
- 3.3 V (with 5 V-tolerant I/O)
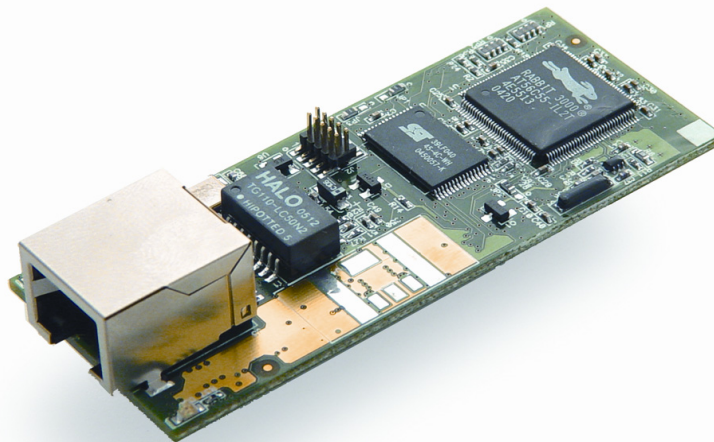- Small Footprint

Design Advantages

- Ready-made platform for fast time-to-market, up to three months integration time savings.
- Ideal for network-enabling security & access systems, remote automation, data logging, and industrial controls when coupled with RabbitWeb, FAT File System and SSL software modules.
- Complete microprocessor, on-board memory, royalty-free TCP/IP stack, and hundreds of sample programs reduces time-to-market by months.

Applications

- Network-Enabling Security
- Access Systems
- Building Automation
- HVAC Systems
- Industrial Controls
- Other Key Applications

Optional Software Modules

- Secure Socket Layer (SSL)
- FAT File System (FAT) (File Allocation Tables)
- RabbitWeb

RCM3750 RabbitCore – 10/100Base-T for embedded networking

The RCM3750 features 10/100Base-T connectivity, 512K Flash / 512K SRAM, 4 serial ports, and an extremely small footprint (2.95" × 1.20" / 75 × 30 mm). The RCM3750 is $61, at qty. 100. The development kit price starts at $329. Extensive demo programs, application templates, and optional software modules enable rapid development of secure network embedded systems.

The RCM3750 RabbitCore mounts directly onto a user-designed motherboard using a single dual-row IDC header and can interface with all CMOS-compatible digital devices. Digital I/O (shared with serial ports), power, and other signals are directly routed to the motherboard. Built-in low EMI features, including a clock spectrum spreader, practically eliminate EMI problems, which helps OEMs pass European CE and other regulatory RF emissions tests.
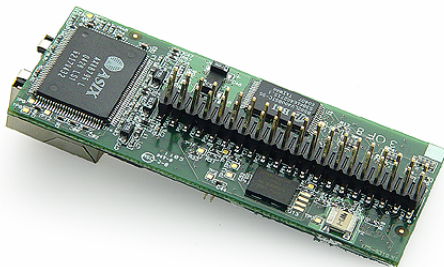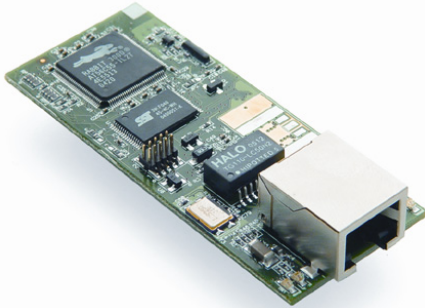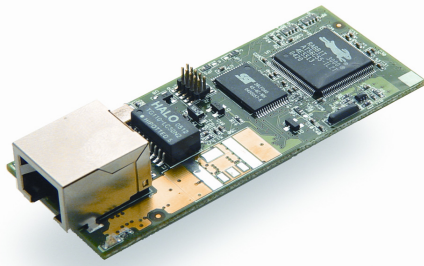
Programmed with Rabbit Semiconductor's Dynamic C®, the RCM3750 quickly executes math, logic, and I/O functions.

The Rabbit 3000 microprocessor, RCM3750, and Dynamic C are designed in a complementary fashion for maximum performance and ease of use. The industry-proven Dynamic C development system is a C language environment that includes an editor, compiler, and in-circuit debugger. User programs can be compiled, executed, and debugged using Dynamic C and a programming cable; no in-circuit emulator is required. An extensive library of drivers and sample programs is provided, including a royalty-free TCP/IP stack with source code.

The RCM3750 RabbitCore requires Dynamic C 9.24 or above.

RABBIT Semiconductor

RCM3750 RabbitCore Specifications & Features

FEATURE	RCM3750
Microprocessor	Rabbit 3000 at 22.1 MHz
Ethernet Connectivity	10/100Base-T, RJ-45, 3 LEDs
Flash	512K
SRAM	512K
Serial Flash	1MB
Backup Battery	Connection for user-supplied backup battery (to support RTC and SRAM)
General-Purpose I/O	33 digital I/O • 31 configurable I/O • 2 fixed outputs
Additional Input	Reset
Auxiliary I/O Bus	Can be configured for 8 data and 5 address lines (shared with parallel I/O lines), plus I/O read/write
Serial Ports	Four 3.3 V CMOS-compatible: • 4 configurable as asynchronous (with IrDA) • 3 as clocked serial (SPI) and 1 as HDLC (with IrDA), or 1 SPI and 2 SDLC/HDLC • 1 asynchronous serial port dedicated for programming
Serial Rate	Maximum asynchrnous baud rate = CLK/8
Slave Interface	A slave port allows the RCM3750 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 accpets inputs from external incremental encoder modules or • 1 quadrature decoder unit shared with 2 PWM channels
Power (with Ethernet active)	Input : 4.75-5.25 V DC, 175 mA @ 22.1 MHz ; 150 mA @ 11.05 MHz
Operating Temp.	-40°C to +70°C
Humidity	5–95%, noncondensing
Connectors	Single 2 x 20, 0.1" (2.54 mm) header
Board Size	2.95" × 1.20 " × 0.89" (75 × 30 × 23 mm)

RCM3750 RabbitCore Pricing

Pricing (qty. 1/100) Part Number	$74 / 61 101-1028
Development Kit Part Number	$329 U.S. 101-1049 Int'l 101-1050

Optional Software Modules

RabbitWeb Software	$159 Shipped CD 101-0900	$149 Download 101-0910
FAT File System Software	$159 Shipped CD 101-0905	$149 Download 101-0916
SSL Software	$299 Shipped CD 101-0896	$289 Download 101-0895

Development Kit includes:

- RCM3750 RabbitCore
- Development board with prototyping area
- AC adapter (U.S./Canada only)

- Dynamic C development system (not a trial version) and complete documentation on CD-ROM
- Serial cable for programming and debugging
- *Getting Started* manual

RCM3750 Shown