

# 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

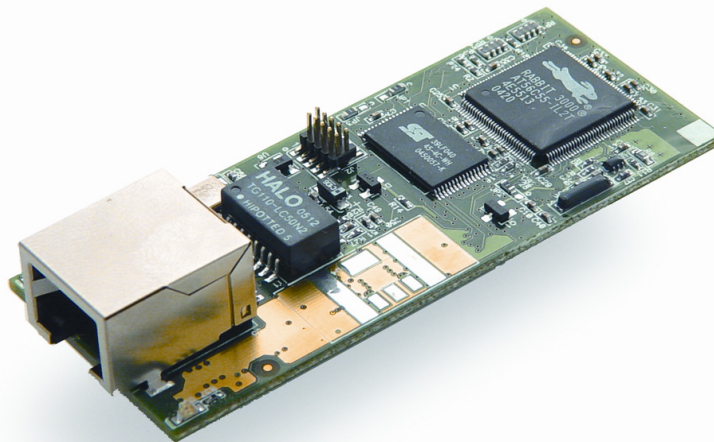
- Ready-made platform for fast time-to-market, up to three months integration time savings.
- Ideal for network-enabling security & access systems, remote automation, data logging, and industrial controls when coupled with RabbitWeb, FAT File System and SSL software modules.
- Complete microprocessor, 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.

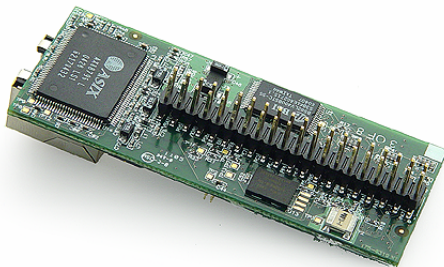
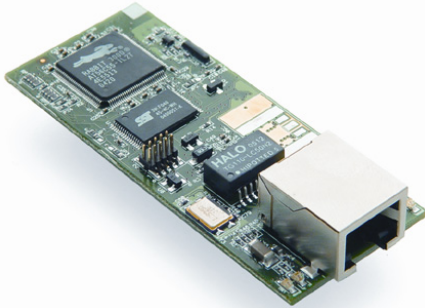
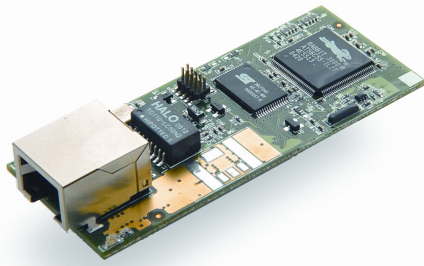
Programmed with Rabbit Semiconductor's Dynamic C®, the RCM3750 quickly executes math, logic, and I/O functions.

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.



[www.rabbitsemiconductor.com](http://www.rabbitsemiconductor.com)



RCM3750 Shown

## RCM3750 RabbitCore Specifications & Features

| FEATURE                                   | RCM3750                                                                                                                                                                                                                                                                                |
|-------------------------------------------|----------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------|
| <b>Microprocessor</b>                     | Rabbit 3000 at 22.1 MHz                                                                                                                                                                                                                                                                |
| <b>Ethernet Connectivity</b>              | 10/100Base-T, RJ-45, 3 LEDs                                                                                                                                                                                                                                                            |
| <b>Flash</b>                              | 512K                                                                                                                                                                                                                                                                                   |
| <b>SRAM</b>                               | 512K                                                                                                                                                                                                                                                                                   |
| <b>Serial Flash</b>                       | 1MB                                                                                                                                                                                                                                                                                    |
| <b>Backup Battery</b>                     | Connection for user-supplied backup battery (to support RTC and SRAM)                                                                                                                                                                                                                  |
| <b>General-Purpose I/O</b>                | 33 digital I/O <ul style="list-style-type: none"> <li>31 configurable I/O</li> <li>2 fixed outputs</li> </ul>                                                                                                                                                                          |
| <b>Additional Input</b>                   | Reset                                                                                                                                                                                                                                                                                  |
| <b>Auxiliary I/O Bus</b>                  | Can be configured for 8 data and 5 address lines (shared with parallel I/O lines), plus I/O read/write                                                                                                                                                                                 |
| <b>Serial Ports</b>                       | Four 3.3 V CMOS-compatible: <ul style="list-style-type: none"> <li>4 configurable as asynchronous (with IrDA)</li> <li>3 as clocked serial (SPI) and 1 as HDLC (with IrDA), or 1 SPI and 2 SDLC/HDLC</li> <li>1 asynchronous serial port dedicated for programming</li> </ul>          |
| <b>Serial Rate</b>                        | Maximum asynchronous baud rate = CLK/8                                                                                                                                                                                                                                                 |
| <b>Slave Interface</b>                    | 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.                                                                                                   |
| <b>Real-Time Clock</b>                    | Yes                                                                                                                                                                                                                                                                                    |
| <b>Timers</b>                             | Ten 8-bit timers (6 cascadable, 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 output channels with 10-bit free-running counter and priority interrupts                                                                                                                                                                                                         |
| <b>Input Capture / Quadrature Decoder</b> | 2-channel input capture can be used to time input signals from various port pins <ul style="list-style-type: none"> <li>1 quadrature decoder unit accpets inputs from external incremental encoder modules or</li> <li>1 quadrature decoder unit shared with 2 PWM channels</li> </ul> |
| <b>Power (with Ethernet active)</b>       | Input : 4.75-5.25 V DC, 175 mA @ 22.1 MHz ; 150 mA @ 11.05 MHz                                                                                                                                                                                                                         |
| <b>Operating Temp.</b>                    | -40°C to +70°C                                                                                                                                                                                                                                                                         |
| <b>Humidity</b>                           | 5–95%, noncondensing                                                                                                                                                                                                                                                                   |
| <b>Connectors</b>                         | Single 2 x 20, 0.1" (2.54 mm) header                                                                                                                                                                                                                                                   |
| <b>Board Size</b>                         | 2.95" x 1.20" x 0.89" (75 x 30 x 23 mm)                                                                                                                                                                                                                                                |

## RCM3750 RabbitCore Pricing

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

## Optional Software Modules

|                                 |                              |                            |
|---------------------------------|------------------------------|----------------------------|
| <b>RabbitWeb Software</b>       | \$159<br>Shipped CD 101-0900 | \$149<br>Download 101-0910 |
| <b>FAT File System Software</b> | \$159<br>Shipped CD 101-0905 | \$149<br>Download 101-0916 |
| <b>SSL Software</b>             | \$299<br>Shipped CD 101-0896 | \$289<br>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