# Digi - 101-0961 Datasheet



**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 | Obsolete |
| Module/Board Type | MPU Core |
| Core Processor | Rabbit 3000 |
| Co-Processor | - |
| Speed | 22.1MHz |
| Flash Size | 512KB (Internal), 1MB (External) |
| RAM Size | 256KB |
| Connector Type | IDC Header 2x20 |
| Size / Dimension | 1.2" x 2.95" (30mm x 75mm) |
| Operating Temperature | -40°C ~ 70°C |
| Purchase URL | https://www.e-xfl.com/product-detail/digi-international/101-0961 |

# RCM3700 RabbitCore® Series

MODELS | RCM3700 | RCM3710 | RCM3720 |

*Microprocessor Core Module*

**Key Features**

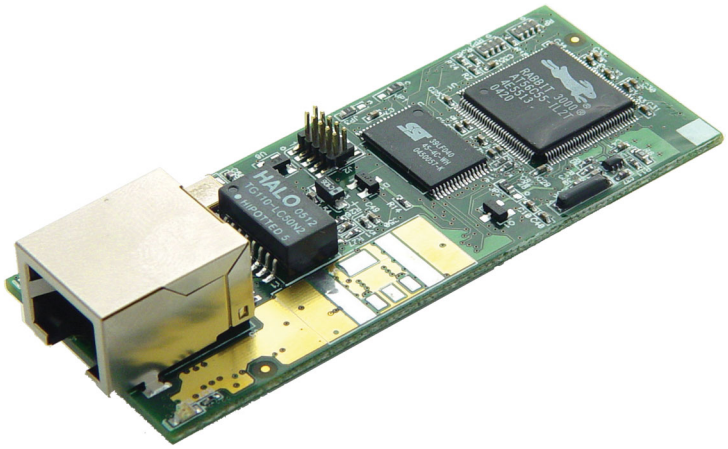
- Powerful Rabbit® 3000 microprocessor at 22.1 MHz
- On board RJ-45 10Base-T Ethernet
- Small footprint: half the size of a credit card
- Up to 512K Flash/512K SRAM, 1 MB Serial Flash
- 33 digital I/O, auxiliary I/O bus
- 4 serial ports capable of (IrDA, HDLC, asynch, sync, SPI)

**Design Advantages:**

- Low-cost Ethernet connectivity
- Ready-made platform for fast time-to-market, up to 3 months design integration time savings
- Royalty-free TCP/IP stack in source code
- Integrated development environment with abundant samples and libraries
- Ethernet security software add on modules available
- Embedded Ethernet in tight spaces

**Applications**

- Serial to Ethernet conversion
- Device monitoring and data logging
- POS systems
- Handheld devices
- Commercial and industrial control applications



## RCM3700 – Low-cost Ethernet Module

The RCM3700 RabbitCore Family is a low-cost Rabbit 3000 microprocessor based core module designed for Ethernet/Internet applications. The RCM3700 features 512K Flash/512K SRAM or 256K Flash/256K SRAM, 4 serial ports, and an extremely small footprint.

Three versions offer varying memory sizes to provide customers the most effective solution. Extensive demo programs and software application templates make it easy to get the RCM3700 up and running in no time. Software bundles added to the development kit enable rapid development of secure web browser interfaces for embedded system control.

This RabbitCore mounts directly on a user-designed motherboard with a single 0.1" (2.54 mm) 2x20 dual-row IDC header and can interface with all types of CMOS-compatible digital devices. 33 digital I/O (shared with serial ports), power, and other signals are routed directly to the motherboard. Built-in low-EMI features, including a clock spectrum spreader, practically eliminate EMI problems, helping OEMs pass European CE and other regulatory RF emissions tests.

The RCM3700, programmed with Rabbit Semiconductor's Dynamic C, executes math, logic, and I/O quickly. The Rabbit 3000 microprocessor, RCM3700, and Dynamic C were designed in a complementary fashion for maximum performance and ease of use in embedded systems. Rabbit Semiconductor's

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 royalty-free TCP/IP stack with source code. The optional software modules expands the functionality of the RCM3700, providing you with greater control over your embedded solution.

## Dynamic C Add-on Modules

Dynamic C Add-on modules provide added functionality and customization to your embedded applications. Software is available via download or CD-ROM.

**RabbitWeb**
Easily create web interfaces to monitor and control embedded applications

**Secure Socket Layer**
Industry standard web security for embedded applications

**Fat File System**
Popular, network-accessible file system for flash memories

## RCM3700 and RCM3720 Development Kit comes complete with:

- RCM3700 or RCM3720 RabbitCore
- Development board with prototyping area
- AC adapter (U.S./Canada only)
- Dynamic C development system (not a trial version)
- Complete documentation on CD-ROM
- Serial cable for programming and debugging
- Getting Started manual

| RCM3700 RabbitCore Specifications | | | |
|---|---|---|---|
| Features | RCM3700 | RCM3710 | RCM3720 |
| Microprocessor | Low-EMI Rabbit 3000®at 22.1 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:<br>• 31 configurable I/O<br>• 2 fixed outputs | | |
| Additional I/O | Reset | | |
| Auxiliary 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 3.3 V CMOS-compatible ports configurable as:<br>• 4 asynchronous serial ports (with IrDA) or<br>• 3 clocked serial ports (SPI) plus 1 HDLC (with IrDA) or<br>• 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 to be used as an intelligent peripheral device slaved to a master processor, which may be a Rabbit 3000 or another 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<br>• 1 quadrature decoder unit accepts inputs from external incremental encoder modules<br>or<br>• 1 quadrature decoder unit shared with 2 PWM channels | | |
| Power | 4.75–5.25 V DC 100 mA @ 22.1 MHz, 5 V; 78 mA @ 11.05 MHz, 5 V | | |
| 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) | | |
| **Pricing** | | | |
| Pricing (qty 1/100)<br>Part Number | $59 / 49<br>20-101-0674 | $57 / 47<br>20-101-0675 | $55 / 45<br>20-101-0961 |
| Development Kit<br>Part Number | $299<br>U.S. 101-0680 Int'l. 101-0681 | | $199<br>U.S. 101-0963 Int'l.101-0964 |
| Secure Embedded Web Kit<br>Part Number | $699<br>U.S. 101-0897 Int'l. 101-0898 | | |
| RabbitWeb Module<br>Part Number | $159<br>Shipped CD 101-0900 | | $149<br>Download 101-0910 |
| FAT FILE System Module<br>Part Number | $159<br>Shipped CD 101-0905 | | $149<br>Download 101-0916 |
| SSL Module<br>Part Module | $299<br>Shipped CD 101-0896 | | $289<br>Download 101-0895 |

## Secure Embedded Web Application Kit comes complete with:

- RCM3720 Development Kit Contents
- RabbitWeb Software Module
- Secure Socket Layer (SSL) Software Module
- FAT File System Software Module

RABBIT™

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