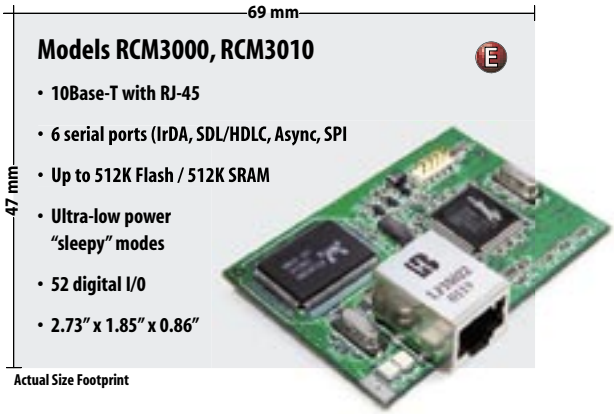
## Models RCM3000, RCM3010

- 10Base-T with RJ-45
- 6 serial ports (IrDA, SDL/HDLC, Async, SPI
- Up to 512K Flash / 512K SRAM
- Ultra-low power "sleepy" modes
- 52 digital I/O
- 2.73" x 1.85" x 0.86"

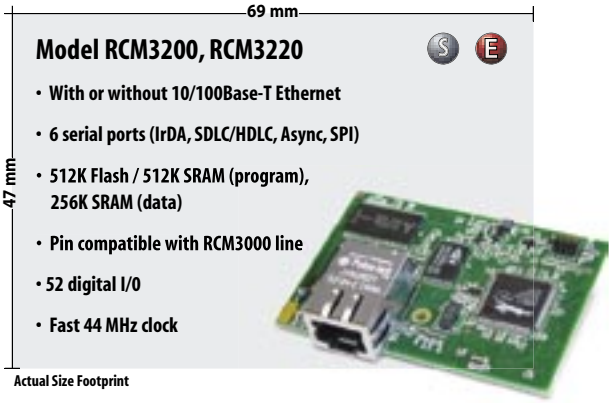



## Models RCM3100, RCM3110

- Up to 512K Flash / 512K SRAM
- 6 serial ports (IrDA, SDLC/HDLC, Async, SPI)
- Pin compatible with RCM3000 line
- Ultra-low poser "sleepy" mode
- 54 digital I/O
- 1.85" x 1.65" x 0.48"


## Model RCM3200, RCM3220

- With or without 10/100Base-T Ethernet
- 6 serial ports (IrDA, SDLC/HDLC, Async, SPI)
- 512K Flash / 512K SRAM (program), 256K SRAM (data)
- Pin compatible with RCM3000 line
- 52 digital I/O
- Fast 44 MHz clock




## Models RCM3400, RCM3410

- Reference design for 10/100Base-T
- Up to 512K Flash / 512K SRAM
- 5 serial ports (IrDA, SDLC/HDLC, Async, SPI)
- 47 digital I/O, alternate I/O bus
- 8 channel 12-bit A/D with programmable gain
- 1.38" x 1.16" x 0.31"


## Rabbit 3000-based Core Modules

| Feature | RCM3000 | RCM3010 | RCM3100 | RCM3110 | RCM3200 | RCM3220 | RCM3400 | RCM3410 |
|---|---|---|---|---|---|---|---|---|
| CPU Speed | 29.4 MHz | | | | 44.2 MHz | | 29.4 MHz | |
| Ethernet Port | 10Base-T, RJ-45, 2 LEDs | | None | | 10/100Base-T, RJ-45, 3 LEDs | None | Reference Design for 10/100Base-T Mac ID installed | |
| Flash Memory | 512K *(2 x 256K)* | 256K | 512K *(2 x 256K)* | 256K | 512K | | 512K | 256K |
| SRAM | 512K | 128K | 512K | 128K | 512K program + 256K data | | 512K | 256K |
| Analog Inputs | None | | | | | | 8 channels single-ended *(11-bit)* or 4 channels differ. *(12-bit)*, Prog. gain 1, 2, 4, 5, 8, 10, 16, and 20 V/V. | |
| General Purpose I/O* | 52 digital I/O<br>• 44 configurable I/O<br>• 4 fixed inputs<br>• 4 fixed outputs | | 54 digital I/O<br>• 46 configurable I/O<br>• 4 fixed inputs<br>• 4 fixed outputs | | 52 digital I/O<br>• 44 configurable I/O<br>• 4 fixed inputs<br>• 4 fixed outputs | | 47 digital I/O<br>• 41 configurable I/O<br>• 3 fixed inputs<br>• 3 fixed outputs | |
| Add't Inputs | 2 Startup Mode, Reset | | | | | | 2 Startup Mode, Reset In, CONVERT | |
| Add't Outputs | Status, Reset | | | | | | Status, Reset Out, BVREF | |
| External I/O | 6 address (*shared with I/O*), 8 data, plus I/O Read-Write | | | | | | | |
| Serial Ports | Six 3.3 V CMOS-compatible:<br>• 6 configurable as asynchronous *(with IrDA)*<br>• 4 configurable as clocked serial *(SPI)*<br>• 2 configurable as SDLC/HDLC | | | | | | Five 3.3 V CMOS-compatible:<br>• 4 configurable as asynchronous *(with IrDA)*, 3 as clocked serial *(SPI)*, 2 as SDLC/HDLC *(with IrDA)*<br>• 1 asynchronous serial port *(programming)*<br>• Support for MIR/SIR IrDA transceiver | |
| Power | 3.15–3.45 V DC • 150 mA | | 3.15–3.45 V DC • 75 mA | | 3.15–3.45 V DC • 255 mA | | 3.0–3.45 V DC • 97 mA @ 29.4 MHz/<br>2.8–3.45 V DC • 57 mA @ 14.7 MHz | |
| Operating Temp. | –40°C to +70°C | | –40°C to +85°C | | –40°C to +70°C | | –40°C to +85°C | |
| Board Size | 2.73" × 1.85" × 0.86"<br>*(69 × 47 × 22 mm)* | | 1.85" × 1.65" × 0.48"<br>*(47 × 42 × 12 mm)* | | 2.73" × 1.85" × 0.86"<br>*(69 × 47 × 22 mm)* | | 1.38" × 1.16 " × 0.31"<br>*(35 × 29 × 7.4 mm)* | |
| Connectors | 2 x 17, 2 mm IDC headers | | | | | | 2 x 17, 1.27 mm IDC Headers | |
| Part Number | 101-0507 | 101-0508 | 101-0517 | 101-0518 | 101-0520 | 101-0522 | 101-0561 | 101-0562 |
| Development Kit<br>Part Number | U.S.101-0523<br>Int'l 101-0524 | | U.S.101-0533<br>Int'l 101-0534 | | U.S.101-0552<br>Int'l 101-0553 | | U.S.101-0587<br>Int'l 101-0588 | |

* Grouped in 8-bit ports and shared with serial ports

# RabbitCore Modules

The RabbitCore family of microprocessor core modules is designed to facilitate rapid development and implementation of embedded systems. RabbitCores are powered by high-performance Rabbit microprocessors with extensive integrated features and a C-friendly instruction set designed for use with the Dynamic C® development system. The RabbitCore mounts on a user-designed motherboard and acts as the controlling microprocessor for the user's system. Small in size but packed with powerful features, these core modules give designers a complete package for control and communication. RabbitCores can also offer massive reductions in development time—60-90 day time-to-market for some OEM products and applications.

### Ethernet/Internet Control and Monitoring

Interchangeable models with or without Ethernet and various amounts of memory provide the flexibility OEMs need to offer a number of options to their customers. The optional Ethernet interface (10 Mbps or 10/100 Mbps) allows easy connection to local networks or the Internet. Powerful software allows TCP/IP communication including sending e-mail and serving web pages. Users can program/debug over Ethernet/Internet using appropriate accessory hardware and/or application software.

### Programming RabbitCores

Each RabbitCore is designed for programming with Z•World's industry-proven Dynamic C® software, the first integrated software development system specifically designed for embedded control. This proven integration of hardware and software substantially reduces OEM development time and cost. An extensive library of drivers and sample programs is provided, along with our royalty-free TCP/IP stack with source code. All RabbitCores are programmed via a serial interface.

### CE Mark Information

RabbitCore modules are components for OEM products and systems, because EMC testing of the final product would be completed by the integrator. Our RabbitCores feature low-EMI Rabbit processors to help OEMs pass CE and regulatory RF emissions testing.

### Shared Features of RabbitCores

| Feature | RCM2XXX | RCM3XXX |
|---|---|---|
| EMI Reduction | Spectrum spreader for reduced EMI *(radiated emissions)* | |
| Serial Rate | Max. asynchronous burst rate = CLK/32 | Max. asynchronous burst rate = CLK/8 |
| Backup Battery | Connection for user-supplied battery *(to support RTC and SRAM)* | |
| Slave Interface | Permits use as master or intelligent peripheral with Rabbit-based or other master controller | |
| Real-Time Clock | Yes, battery backable | |
| Timers | Five 8-bit timers *(four cascadable from the first)* and one 10-bit timer with 2 match registers | Ten 8-bit timers *(six cascadable from the first)* and one 10-bit timer with 2 match registers |
| Watchdog | Yes | |
| Humidity | 5–95%, non-condensing | |
| Pulse-Width Modulation | N/A | 8-bit free running counter and four 10-bit pulse-width registers |
| Input Capture | N/A | 2-channel input capture can be used to time input signals from various port pins. |
| Quadrature Decoder | N/A | 2-channel quadrature decoder accepts inputs from external incremental encoder modules. |

### Key Applications

- **Building / Home Automation**
- **Handheld Devices**
- **Industrial Automation**
- **Point-of-Sale / Barcode Scanners**
- **Telecom Systems**
- **Wireless Devices**
- **Security Access / Biometric Systems**
- **GPS Systems**
- **Food Service Equipment**
- **Medical Devices**
- **Packaging Equipment**
- **Utility Metering Devices**
- **Ethernet / Internet Interfacing**
- **Point-of-Sale / Barcode Scanners**
- **Robotics Control**
- **Military / Transportation Systems**
- **Semiconductor Manufacturing Equipment**
- **Service Processor / Device Monitors**
- **Marine Systems**
- **Test Equipment**
- **Remote Monitoring Systems**

### Development Kits

Jump-start your evaluation and design efforts with one of our many development kits, which include a RabbitCore module, prototyping board, AC adapter (U.S./Canada only), Dynamic C development software and complete documentation on CD-ROM, serial cable for programming and debugging, and Getting Started manual.

N4 NEMA 4 compliant  S Serial Only/Non-Ethernet  E Ethernet and Serial Communication  LP Low-Power