

# TN259

## Updating Your Application from the RCM3305/RCM3315 to the RCM3309/RCM3319

### Introduction

Rabbit is changing our product offerings to respond to both market requirements and the components available to us.

We can no longer obtain certain components for the RCM3305/RCM3315 RabbitCore modules that support the originally specified  $-40^{\circ}\text{C}$  to  $+70^{\circ}\text{C}$  temperature range. Instead of changing the design of the RCM3305/RCM3315 RabbitCore modules to handle available components specified for the original temperature range, we decided to develop a new product line — the RCM3309/RCM3319 — based on the RCM3900/RCM3910 RabbitCore modules that were released for the same reason.

We are introducing the RCM3309/RCM3319 RabbitCore modules in June, 2008. These new modules are identical in form, dimensions, and function to the RCM3305/3315 modules. We strongly recommend that existing RCM3305/3315 customers and designers of new systems consider using the new RCM3309/RCM3319 RabbitCore modules.

This Technical Note compares the two series of RabbitCore modules, and provides complete information on how to port your application developed for the RCM3305/RCM3315 to the equivalent RCM3309/RCM3319 RabbitCore modules.

### Comparing the RCM3305/RCM3315 and the RCM3309/RCM3319

#### Temperature Specifications

RCM3305/RCM3315 RabbitCore modules manufactured after May, 2008, are specified to operate at  $0^{\circ}\text{C}$  to  $+70^{\circ}\text{C}$ . The RCM3309/RCM3319, rated for  $-40^{\circ}\text{C}$  to  $+85^{\circ}\text{C}$ , are available starting in June, 2008.

#### Ethernet Chip

A different Ethernet controller chip is used on the RCM3309/RCM3319. The Ethernet chip is able to detect automatically whether a crossover cable or a straight-through cable is being used in a particular setup, and will configure the signals on the Ethernet jack interface.

#### Maximum Current

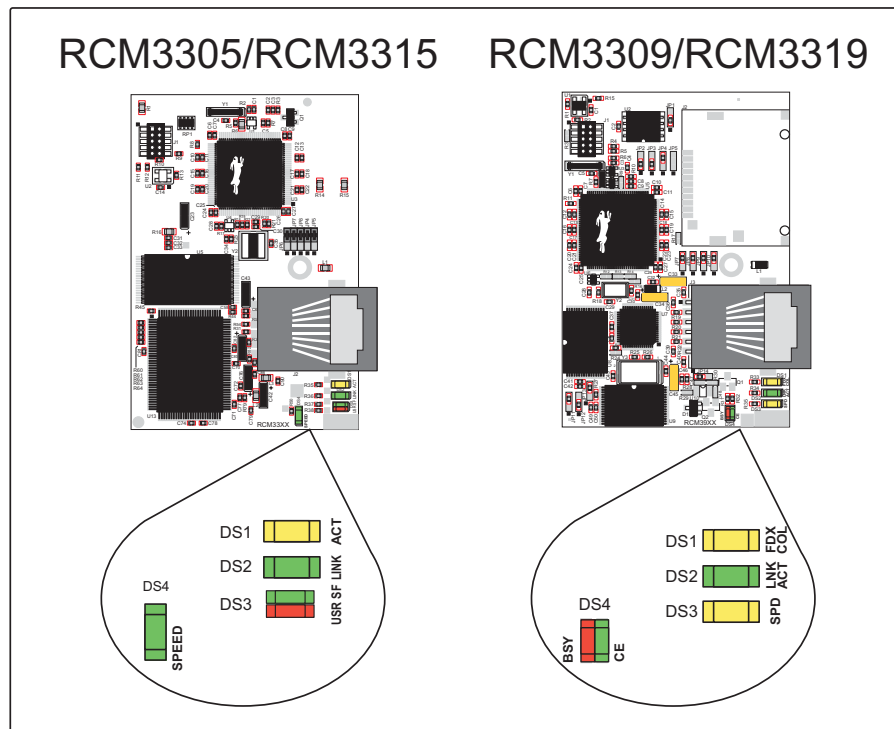
The RCM3305/RCM3315 draws 250 mA vs. the 325 mA required by the RCM3309/RCM3319.

## LEDs

The **SPEED** and user (**USR/BSY**) LED locations have been swapped between the RCM3305/RCM3315 and the RCM3309/RCM3319, the **LNK/ACT** LEDs have been combined to one LED on the RCM3309/RCM3319, and the RCM3309/RCM3319 has an **FDX/COL** LED instead of the **SF** LED on the RCM3305/RCM3315. The **SF** LED on the RCM3305/RCM3315 blinks when data are being written to or read from the serial flash. The **FDX/COL** LED on the RCM3309/RCM3319 indicates whether the Ethernet connection is in full-duplex mode (steady on) or that a half-duplex connection is experiencing collisions (blinks).

**NOTE:** The change in LED indicators means that there is no indication on the RCM3309/RCM3319 when data are being written to or read from the serial flash.

Figure 1 compares the RCM3305/RCM3315 and the RCM3309/RCM3319 component layouts. The LED placements on the boards remain unchanged.



**Figure 1. RCM3305/RCM3315 and RCM3309/RCM3319 LED Layouts**

## Dynamic C

As long as no low-level FAT file system calls were used in your application developed for the RCM3305/RCM3315, you may run that application on the RCM3309/RCM3319 after you recompile it using Dynamic C v. 9.60.

Dynamic C v. 9.60 now has many of the previously optional modules included in the standard release. Table 1 compares the Dynamic C features available for the two series of RabbitCore modules.

**Table 1. Comparison of Dynamic C Resources**

Dynamic C	RCM3305/RCM3315	RCM3309/RCM3319
Standard Release	v. 9.25	v. 9.60
Optional Modules (purchased separately)	<ul style="list-style-type: none"> <li>• FAT File System</li> <li>• RabbitWeb</li> <li>• Point-to-Point Protocol (PPP)</li> <li>• Simple Network Management Protocol (SNMP)</li> <li>• <math>\mu</math>C/OS-II Real-Time Kernel</li> <li>• Library Encryption Executable</li> <li>• Modbus TCP</li> </ul>	Included in Standard Release
Optional Security Modules (purchased separately)	<ul style="list-style-type: none"> <li>• Advanced Encryption Standard (AES)</li> <li>• Secure Sockets Layer (SSL)</li> </ul>	<ul style="list-style-type: none"> <li>• Rabbit Embedded Security Pack</li> </ul>
Other Optional Modules (available separately)	<ul style="list-style-type: none"> <li>• Rabbit Field Utility source code</li> <li>• One-Year Telephone Technical Support Subscription</li> </ul>	<ul style="list-style-type: none"> <li>• Rabbit Field Utility source code</li> <li>• One-Year Telephone Technical Support Subscription</li> </ul>

## Summary

Table 2 summarizes the features for the two series of RabbitCore modules.

**Table 2. Feature Comparison**

Parameter	RCM3305	RCM3315	RCM3309	RCM3319
SRAM	512K program (fast SRAM) + 512K data		512K program (fast SRAM) + 512K data	
Flash Memory (program)	512K		512K	
Memory (data storage)	8MB (serial flash)	4MB (serial flash)	8MB (serial flash)	4MB (serial flash)
Operating Temperature	-40°C to +70°C (up to May, 2008) 0°C to +70°C (after May, 2008)		-40°C to +85°C	
Board Size	1.850" × 2.725" × 0.86" (47 mm × 69 mm × 22 mm)			
Dynamic C	v. 9.25 (standard release)		v. 9.60 (standard release)	

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