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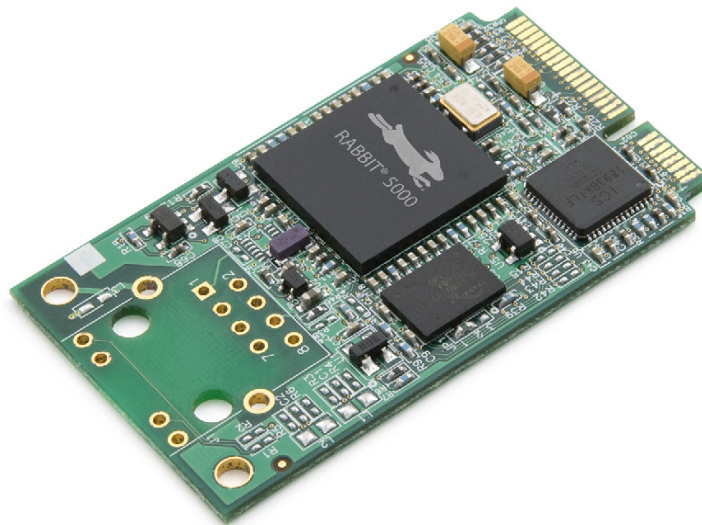
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PRODUCT MANUAL



# MiniCore<sup>®</sup> RCM5700/RCM6700

C-Programmable Ethernet Core Module

## User's Manual

90001191\_G

# MiniCore RCM5700/RCM6700 User's Manual

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# 1. INTRODUCTION

The RCM5700 and RCM6700 are compact modules in a mini PCI Express form factor, and incorporate the powerful Rabbit® 5000 and 6000 microprocessors with integrated 10/100Base-T Ethernet functionality and onchip SRAM. The Rabbit® 5000 and 6000 microprocessor features include hardware DMA, I/O lines shared with up to six serial ports and four levels of alternate pin functions that include variable-phase PWM, an external I/O bus, quadrature decoder, and input capture. This equates to a MiniCore module that is fast, efficient, and the ideal solution for a wide range of embedded applications.

Development Kits are available with the essentials that you need to design your own microprocessor-based system, and includes a complete Dynamic C software development system. The Development Kit also contains an Interface Board with USB and Ethernet connections that will allow you to evaluate the RCM5700 or RCM6700, and a Prototyping Board to help you to develop your own applications. You will also be able to write and test software for the RCM5700/RCM6700 modules, including Ethernet applications.

The RCM5700 has a Rabbit 5000 microprocessor operating at up to 50.0 MHz, flash memory, two clocks (main oscillator and real-time clock), and the circuitry necessary to reset and manage the Rabbit 5000. The RCM6700 has a Rabbit 6000 processor operating at up to 187.5 MHz and 1MB of internal SRAM. An edge connector brings out the MiniCore module user interface to a 52-pin mini PCI Express socket on the motherboard the core module is mounted on.

The RCM5700/RCM6700 receives its +3.3 V power from the motherboard on which it is mounted. The MiniCore module can interface with other CMOS-compatible digital devices through the motherboard.

## 1.1 RCM5700/RCM6700 Features

- Small size: ranges from 1.20" × 2.00" × 0.12" (30 mm × 51 mm × 3 mm) for the RCM5700/RCM6700 model to 1.20" × 2.00" × 0.73" (30 mm × 51 mm × 19 mm) for the RCM5760/RCM6760 model
- Microprocessor: RCM5700: Rabbit 5000 running at 50.0 MHz, RCM6700: Rabbit 6000 running at 187.5 MHz
- Up to 35 general-purpose I/O lines each configurable with up to four alternate functions
- 3.3 V I/O lines
- Six CMOS-compatible serial ports — four ports are configurable as a clocked serial port (SPI), and two ports are configurable as SDLC/HDLC serial ports
- Ethernet PHY interface chooses Ethernet interface automatically based on whether a crossover cable or a straight-through cable is used in a particular setup
- External I/O bus can be configured for 8 data lines, 8 address lines (shared with parallel I/O lines), and I/O read/write
- **RCM5700:** 128KB SRAM (on Rabbit 5000 chip) and 1MB flash memory, with 2MB serial flash and 512KB SRAM on RCM5750/RCM5760 models.  
**RCM6700:** 1MB SRAM (on Rabbit 6000 chip) and 1MB serial flash, with 4MB serial flash and additional 1MB external SRAM on RCM6750/6760 models.
- Real-time clock (battery-backable on all models except the RCM5750/5760)
- Watchdog supervisor

There are four RCM5700 production models. Table 1-1 summarizes their main features.

**Table 1-1. RCM5700 Features**

Feature	RCM5700	RCM5710	RCM5750	RCM5760
Microprocessor	Rabbit 5000 at 50.0 MHz			
Ethernet Port	10/100Base-T PHY only	10/100Base-T, RJ-45, 2 LEDs	10/100Base-T PHY only	10/100Base-T, RJ-45, 2 LEDs
External SRAM	—		512KB (8-bit)	
SRAM	128KB (Rabbit 5000 onchip)			
Flash Memory (program)	1MB			
Flash Memory (mass data storage)	—		2MB (serial flash)	
Serial Ports	6 shared high-speed, CMOS-compatible ports: 6 are configurable as asynchronous serial ports; 4 are configurable as clocked serial ports (SPI); 2 are configurable as SDLC/HDLC serial ports; 1 asynchronous serial port is used during programming			

The RCM5700 and RCM5750 models already have an Ethernet PHY device, the Integrated Circuit Systems ICS1893BK. The RCM5710 and RCM5760 are identical to the RCM5700 and RCM5750 respectively, except that they have an integrated 10/100 Base-T magnetic RJ-45 jack with two LEDs on the MiniCore printed circuit board.

There are four RCM6700 production models. Table 1-2 summarizes their main features.

**Table 1-2. RCM6700 Features**

Feature	RCM6700	RCM6710	RCM6750	RCM6760
Microprocessor	Rabbit 6000 at 162.5 MHz			
Ethernet Port	10/100Base-T PHY only	10/100Base-T, RJ-45, 2 LEDs	10/100Base-T PHY only	10/100Base-T, RJ-45, 2 LEDs
External SRAM	—		1MB (16-bit)	
RAM	<b>NOTE:</b> 1MB (Rabbit 6000 onchip)			
SRAM	32KB (Rabbit 6000 onchip, battery-backable)			
Flash Memory (mass data storage)	1MB (serial flash)		4 MB (serial flash)	
Serial Ports	6 shared high-speed, CMOS-compatible ports: 6 are configurable as asynchronous serial ports; 4 are configurable as clocked serial ports (SPI); 2 are configurable as SDLC/HDLC serial ports; 1 asynchronous serial port is used during programming			

The Rabbit 6000 has an Ethernet PHY built into the processor. The RCM6710 and RCM6760 are identical to the RCM6700 and RCM6750 respectively, except that they have an integrated 10/100 Base-T magnetic RJ-45 jack with two LEDs on the MiniCore printed circuit board.

Placing the RJ-45 Ethernet jack on the motherboard, which is what must be done with the RCM5700/RCM6700 and RCM5750/RCM6750 models, provides significant design advantages because the core module may then be placed anywhere on the motherboard. Rabbit's Technical Note TN266, *PCB Layout for the Ethernet PHY Interface*, provides complete design recommendations. If the RJ-45 Ethernet jack is on the MiniCore printed circuit board, as it is on the RCM5710/RCM5760/RCM6710/RCM6760 modules, the edge of the MiniCore module with the Ethernet jack must be positioned along the edge of the motherboard to allow access to the jack since the entire assembly will likely be inside a customer-designed enclosure.



All RCM5700/RCM6700 models are programmed through a USB connector on the motherboard using a USB cable supplied with the Development Kit. The RCM5750/RCM5760 may also be programmed remotely over an Ethernet link using the Remote Program Update library with Dynamic C v. 10.56 or later. The RCM67xx series may also be used with the Remote Program Update with Dynamic C v. 10.64 or later. See Application Note AN421, *Remote Program Update*, for more information.

**NOTE:** The RabbitLink cannot be used to program the RCM5700 or RCM6700.

Appendix A provides detailed specifications for the RCM5700 and RCM6700.

## **1.2 Advantages of the RCM5700 and RCM6700**

- Fast time to market using a fully engineered, “ready-to-run/ready-to-program” microprocessor core.
- Competitive pricing when compared with the alternative of purchasing and assembling individual components.
- Easy C-language program development and debugging
- Rabbit Field Utility to download compiled Dynamic C .bin files.
- Generous memory size allows large programs with tens of thousands of lines of code, and substantial data storage.
- Reference design allows integrated Ethernet port for network connectivity, with royalty-free TCP/IP software.

## 1.3 Development and Evaluation Tools

### 1.3.1 Standard Development Kit

The RCM5700/RCM6700 Standard Development Kit contains the hardware essentials you will need to use your RCM5700 or RCM6700 module. These items are supplied in the standard version of the Development Kit.

- RCM5700 or RCM6700 module.
- Interface Board with standoffs/connectors.
- Prototyping Board with standoffs/connectors.
- USB cable to program MiniCore via Interface Board.
- *Dynamic C* CD-ROM, including product documentation on disk.
- **Getting Started** instructions.
- Registration card.

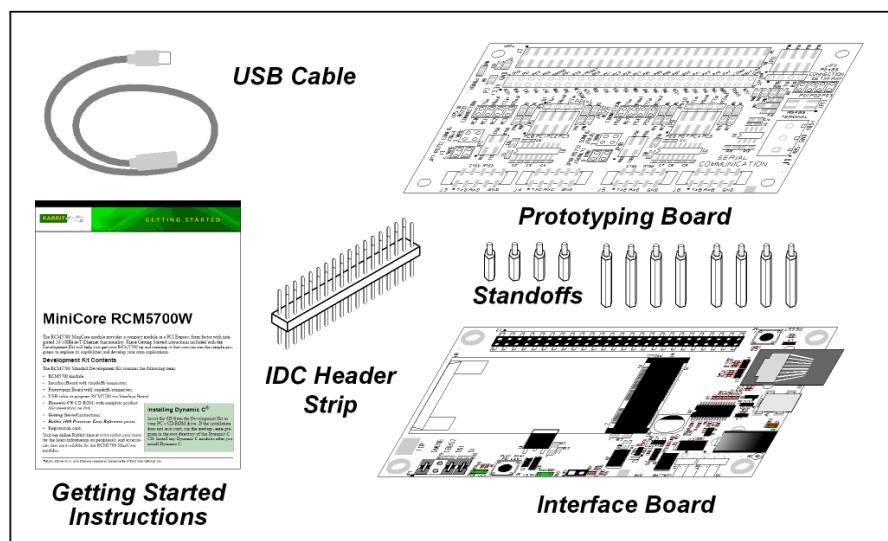


Figure 1-1. Standard Development Kit

### 1.3.2 Deluxe Development Kit

In addition to the items included in the standard Development Kit, the Deluxe Development Kit contains the following items.

- Universal AC adapter, 5 V DC, 2 A (includes Canada/Japan/U.S., Australia/N.Z., U.K., and European style plugs). Development Kits sold in North America may contain an AC adapter with only a North American style plug.
- Digital I/O and Serial Communication accessory boards for use with certain sample programs.
- CAT 5/6 Ethernet cable and DB9 to 10-pin header serial cable.
- *Rabbit 5000 or 6000 Processor Easy Reference* poster.

### 1.3.3 Software

The RCM5700/RCM5710 is programmed using version 10.44 or later of Dynamic C; the RCM5750/RCM5760 requires version 10.56 or later of Dynamic C; and the RCM6700 family requires version 10.64 or later. A compatible version is included on the Development Kit CD-ROM.

In addition to the Web-based technical support included at no extra charge, a one-year telephone-based technical support subscription is also available for purchase. For further information and complete documentation, contact your Rabbit sales representative or authorized distributor, or visit our Web site at [www.digi.com](http://www.digi.com).

### 1.3.4 Online Documentation

The online documentation is installed along with Dynamic C, and an icon for the documentation menu can be placed on the workstation's desktop. Double-click this icon to reach the menu. If the icon is missing, use your browser to find and load **default.htm** in the **docs** folder, found in the Dynamic C installation folder.

The latest versions of all documents are always available for download from our web site.

## 2. GETTING STARTED

This chapter describes the RCM5700/RCM6700 hardware in more detail, and explains how to set up and use the accompanying Interface Board.

**NOTE:** This chapter (and this manual) assume that you have the RCM5700/RCM6700 Development Kit. If you purchased an MiniCore module by itself, you will have to adapt the information in this chapter and elsewhere to your test and development setup.

### 2.1 Install Dynamic C

Dynamic C must be installed to develop and debug programs for the RCM5700/RCM6700 series of modules (and for all other Rabbit hardware). The latest version of Dynamic C is included on CD in the Development Kit and is also available for download on our website at [www.digi.com](http://www.digi.com).

If you have not yet installed Dynamic C, do so now by inserting the Dynamic C CD from the Development Kit in your PC's CD-ROM drive. If autorun is enabled, the CD installation will begin automatically.

If autorun is disabled or the installation does not start, use the Windows **Start | Run** menu or Windows Disk Explorer to launch `setup.exe` from the root folder of the CD-ROM.

The installation program will guide you through the installation process. Most steps of the process are self-explanatory.

Once your installation is complete, you will have up to three new icons on your PC desktop. One icon is for Dynamic C, another opens the documentation menu, and the third is for the Rabbit Field Utility, a tool used to download precompiled software to a target system.

If you have purchased any of the optional Dynamic C modules, install them after installing Dynamic C. The modules may be installed in any order. You must install the modules in the same folder where Dynamic C was installed.

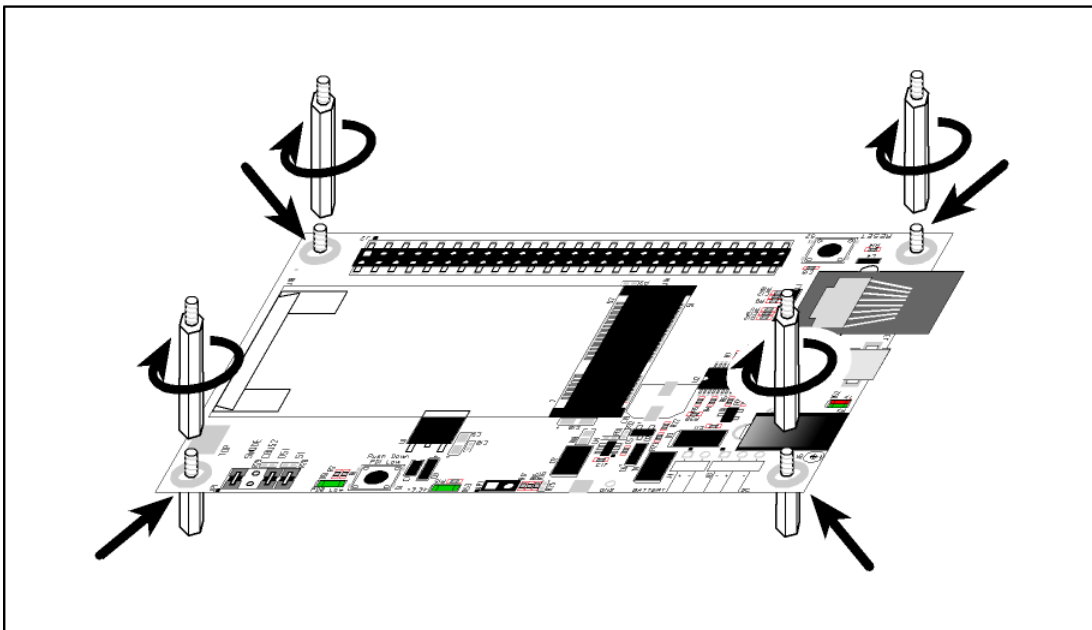
## 2.2 Hardware Connections

There are three steps to connecting the Interface Board for use with Dynamic C and the sample programs:

1. Insert standoffs/connectors on the Interface Board.
2. Install the MiniCore module on the Interface Board.
3. Connect the USB cable between the Interface Board and the workstation PC.

### 2.2.1 Step 1 — Prepare the Interface Board for Development

Insert a short plastic standoff supplied from the Development Kit in one of the corner holes from the bottom of the Interface Board, then secure it with a long plastic standoff from above as shown in Figure 2-2. Repeat this step so that plastic standoffs/connectors are in place at all four positions.

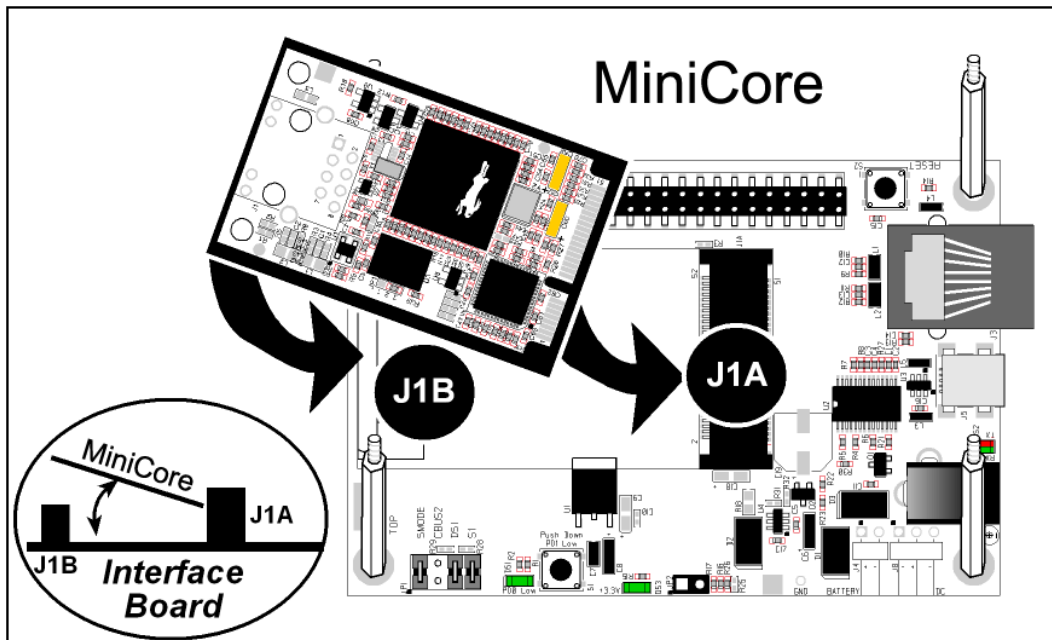


**Figure 2-2. Insert Standoffs/Connectors**



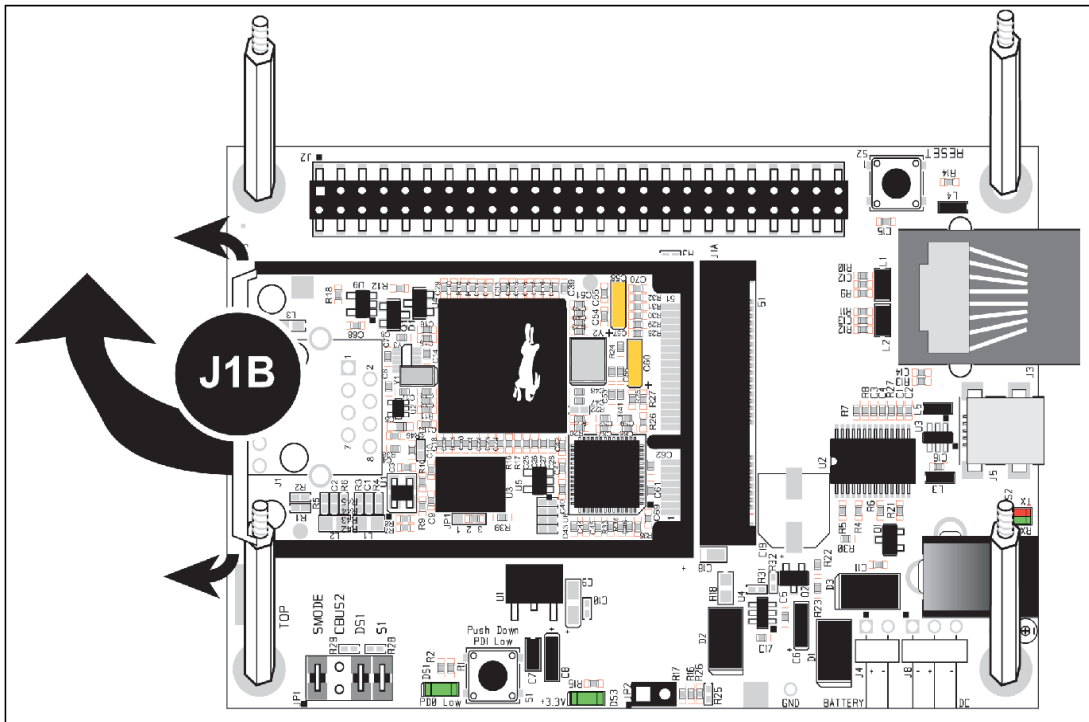
## 2.2.2 Step 2 — Install Module on Interface Board

Position the MiniCore module with the edge connectors facing the mini PCI Express socket J1A at an angle as shown in Figure 2-3 below. Insert the edge connectors into the mini PCI Express socket J1A, then press down on the opposite edge of the MiniCore module to snap it into place in holder J1B.



**Figure 2-3. Install the MiniCore Module on the Interface Board**

Should you need to remove the MiniCore module, use two fingernails to hold back the spring clip at J1B from the two MiniCore corners, lift up the edge of the MiniCore above J1B, then pull the MiniCore away to remove the edge connectors from the mini PCI Express socket.



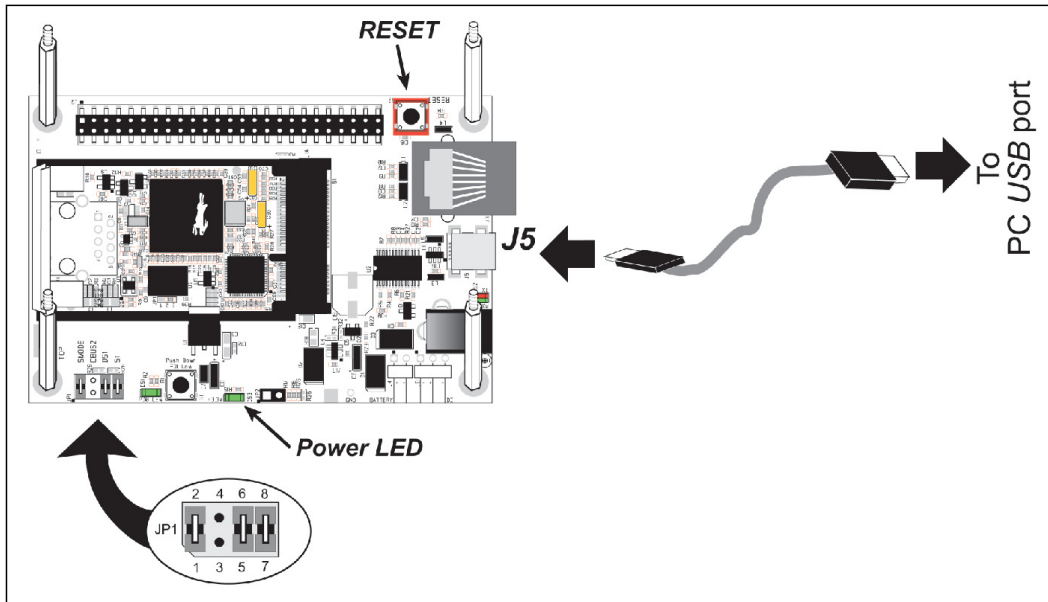
**CAUTION:**

Remove power before attempting to insert or remove the MiniCore in the mini PCI Express socket.

### 2.2.3 Step 3 — Connect USB Cable

The USB cable connects the RCM5700/RCM6700 to the PC running Dynamic C to download programs and to monitor the MiniCore module during debugging. It also supplies power to the Interface Board and the MiniCore via the USB interface.

Connect the USB cable between USB connector J5 on the Interface Board and your PC as shown in Figure 2-4. Note that the USB cable connectors are different at either end, so there is only one way to connect them between the PC and the Interface Board.



**Figure 2-4. Connect USB Cable**

Your PC should recognize the new USB hardware, and the LEDs next to the USB connector on the Interface Board will flash — if you get an error message, you will have to install USB drivers. Drivers for Windows XP are available in the Dynamic C `Drivers\Rabbit USB Programming Cable\WinXP_2K` folder — double-click `DPInst.exe` to install the USB drivers. Drivers for other operating systems are available online at [www.ftdichip.com/Drivers/VCP.htm](http://www.ftdichip.com/Drivers/VCP.htm).

The green power LED on the Interface Board should light up when you connect the USB cable. The MiniCore and the Interface Board are now ready to be used.

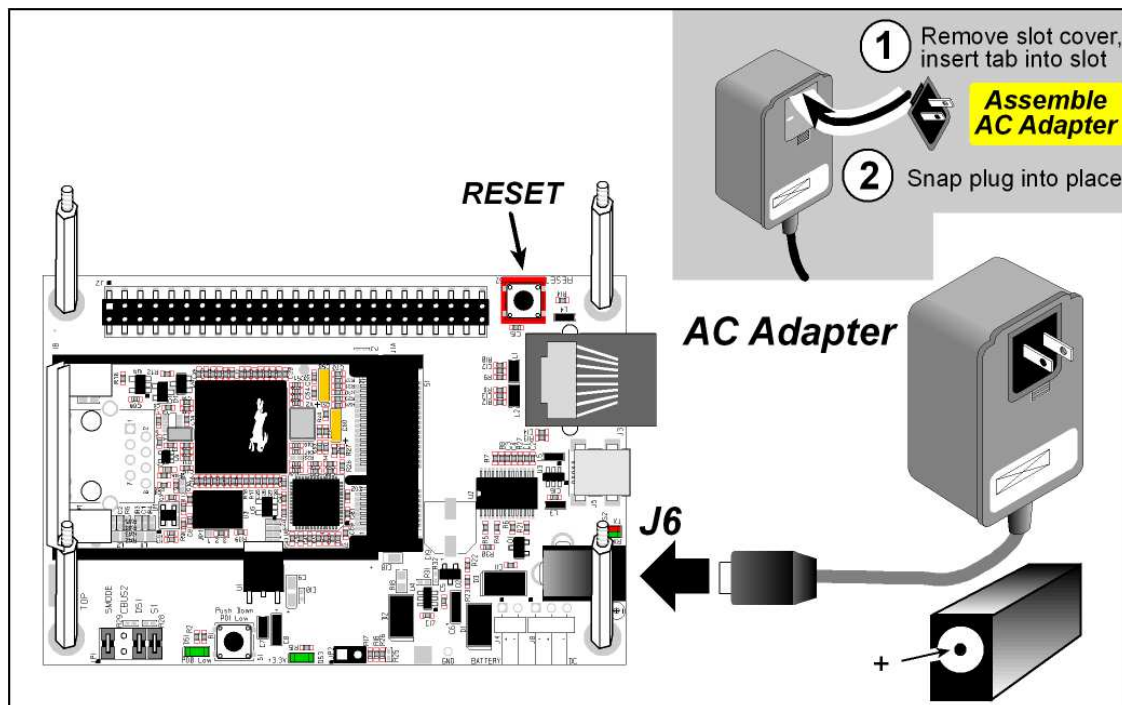
**NOTE:** A **RESET** button is provided on the Interface Board above the Ethernet jack to allow a hardware reset without disconnecting power.

**NOTE:** Pins 1–2 on header JP1 on the Interface Board must be jumpered to download and debug applications and sample programs with Dynamic C running. Pins 1–2 should be left unjumpered to *run* an program already loaded in flash memory.

**CAUTION:** Do not jumper pins 1–3 on header JP1 on the Interface Board.

### 2.2.3.1 Alternate Power Supply Connections — Deluxe Development Kit

The deluxe Development Kit contains a separate AC adapter that may be used to supply power to the Interface Board and the RCM5700/RCM6700 when the USB cable is not connected or when more power is needed than the 500 mA the USB cable is able to supply. The AC adapter may also be used to supply power when the USB cable is connected, in which case the power supply through the USB cable will be disconnected automatically.



**Figure 2-5. Alternate Power Supply Connections—Deluxe Development Kit**

First, prepare the AC adapter for the country where it will be used by selecting the plug. The deluxe Development Kit presently includes Canada/Japan/U.S., Australia/N.Z., U.K., and European style plugs. Snap in the top of the plug assembly into the slot at the top of the AC adapter as shown in Figure 2-5, then press down on the spring-loaded clip below the plug assembly to allow the plug assembly to click into place. Release the clip to secure the plug assembly in the AC adapter.

Connect the AC adapter to DC input jack J6 on the Interface Board as shown in Figure 2-5. Plug in the AC adapter. The green power LED on the Interface Board should light up. The MiniCore and the Interface Board are now ready to be used.

Note that the center pin of J6 is positive.

## 2.3 Starting Dynamic C

If you already have Dynamic C installed, you are now ready to test your programming connections by running a sample program. Start Dynamic C by double-clicking on the Dynamic C icon on your desktop or in your **Start** menu. Select **Store Program in Flash** on the “Compiler” tab in the Dynamic C **Options > Project Options** menu. Then click on the “Communications” tab and verify that **Use USB to Serial Converter** is selected to support the USB cable. Click **OK**.

You may have to select the COM port assigned to the USB cable on your PC. In Dynamic C, select **Options > Project Options**, then select this COM port on the “Communications” tab, then click **OK**.

## 2.4 Run a Sample Program

Find the file `PONG.C`, which is in the Dynamic C **SAMPLES** folder. To run the program, open it with the **File** menu, compile it using the **Compile** menu, and then run it by selecting **Run** in the **Run** menu. The **STDIO** window will open on your PC and will display a small square bouncing around in a box.

This program shows that the CPU is working.

### 2.4.1 Troubleshooting

If you receive the message `Could Not Open Serial Port`, check that the COM port assigned to the USB cable was identified and set up in Dynamic C as described above. This same error occurs when Windows has already allocated the COM port to another process.

If you receive the message `No Rabbit Processor Detected`, the USB cable may be connected to the wrong COM port, or the connection may be faulty. First, check both ends of the USB cable to ensure that it is firmly plugged into the PC and the USB connector in the Interface Board. Ensure that the module is firmly and correctly installed in its connector on the Interface Board.

If Dynamic C appears to compile the BIOS successfully, but you then receive a communication error message when you compile and load a sample program, it is possible that your PC cannot handle the higher program-loading baud rate. Try changing the maximum download rate to a slower baud rate as follows.

- Locate the **Serial Options** dialog on the “Communications” tab in the Dynamic C **Options > Project Options** menu. Select a slower Max download baud rate. Click **OK** to save.

If a program compiles and loads, but then loses target communication before you can begin debugging, it is possible that your PC cannot handle the default debugging baud rate. Try lowering the debugging baud rate as follows.

- Locate the **Serial Options** dialog on the “Communications” tab in the Dynamic C **Options > Project Options** menu. Choose a lower debug baud rate. Click **OK** to save.

Press **<Ctrl-Y>** to force Dynamic C to recompile the BIOS. You should receive a `Bios compiled successfully` message once this step is completed successfully.



## 2.5 Where Do I Go From Here?

If the sample program ran fine, you are now ready to go on to other sample programs and to develop your own applications. The source code for the sample programs is provided to allow you to modify them for your own use. The *RCM5700/RCM6700 User's Manual* also provides complete hardware reference information for the RCM5700/RCM6700, the Interface Board, the Prototyping Board, and the accessory boards in the Deluxe Development Kit.

For advanced development topics, refer to the *Dynamic C User's Manual*.

### 2.5.1 Technical Support

**NOTE:** If you purchased your MiniCore through a distributor or through a Rabbit partner, contact the distributor or partner first for technical support.

If there are any problems at this point:

- Use the Dynamic C **Help** menu to get further assistance with Dynamic C.
- Check the Rabbit Technical Bulletin Board and forums at [www.digi.com/support//forum/](http://www.digi.com/support//forum/).
- Use the Technical Support e-mail form at [www.digi.com/support/](http://www.digi.com/support/).

## 3. RUNNING SAMPLE PROGRAMS

To develop and debug programs for the RCM5700/RCM6700 (and for all other Rabbit hardware), you must install and use Dynamic C. This chapter provides a tour of its major features with respect to the RCM5700/RCM6700.

### 3.1 Introduction

To help familiarize you with the RCM5700/RCM6700 modules, Dynamic C includes several sample programs. Loading, executing and studying these programs will give you a solid hands-on overview of the RCM5700/RCM6700's capabilities, as well as a quick start with Dynamic C as an application development tool.

**NOTE:** The sample programs assume that you have at least an elementary grasp of ANSI C. If you do not, see the introductory pages of the *Dynamic C User's Manual* for a suggested reading list.

In order to run the sample programs discussed in this chapter and elsewhere in this manual,

1. Your RCM5700/RCM6700 must be installed on the Interface Board as described in Chapter 2, "Getting Started."
2. Dynamic C must be installed and running on your PC.
3. The USB cable must connect the Interface Board to your PC.
4. Power must be applied to the RCM5700/RCM6700 through the Interface Board.

Refer to Chapter 2, "Getting Started," if you need further information on these steps.

To run a sample program, open it with the **File** menu (if it is not still open), then compile and run it by selecting **Run** in the Run menu (or press **F9**). The RCM5700/RCM6700 must be in Program Mode (see Figure 4-12) and must be connected to a PC using the USB cable.

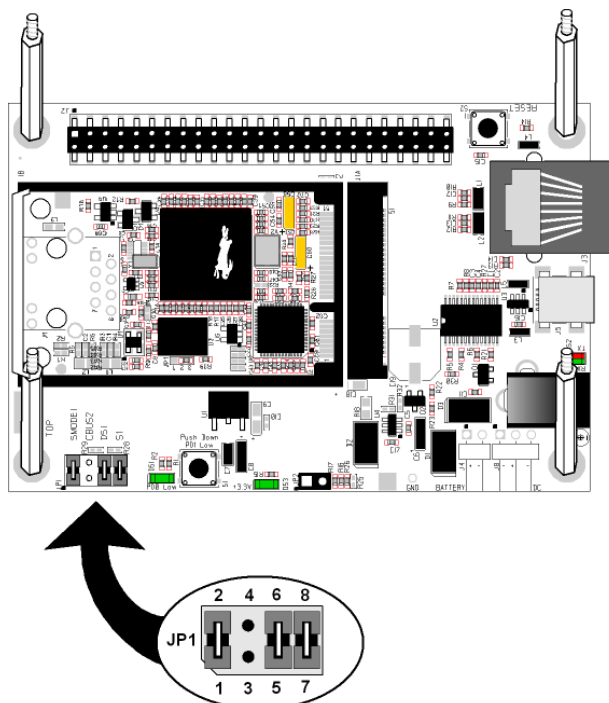
Complete information on Dynamic C is provided in the *Dynamic C User's Manual*.

## 3.2 Sample Programs

Of the many sample programs included with Dynamic C, several are specific to the RCM5700/RCM6700. These programs will be found in the `SAMPLES\RCM5700` or `SAMPLES\RCM6700` folder, depending on your MiniCore model. Sample programs in the `SAMPLES` folder one level up are generally generic samples that can be run on any Rabbit-based product.

Before you compile and run the following sample programs, make sure that pins 1–2, 5–6, and 7–8 on header JP1 of the Interface Board are jumpered. Each sample program has comments that describe the purpose and function of the program. Follow the instructions at the beginning of the sample program.

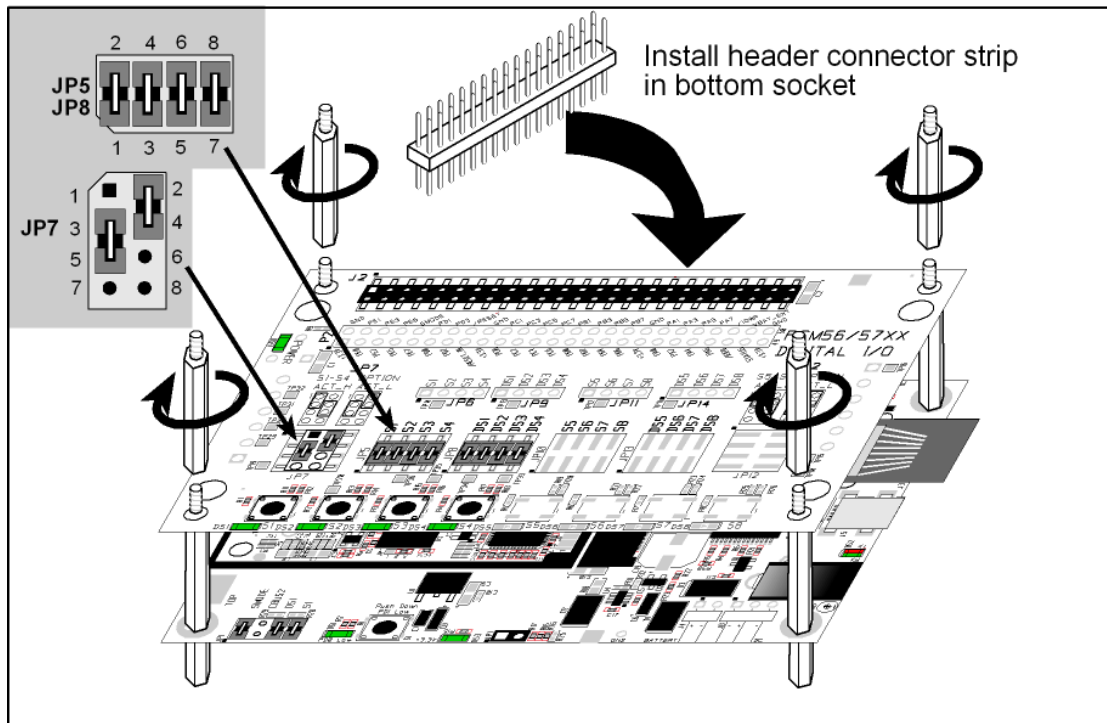
**CAUTION:** Do not jumper pins 1–3 on header JP1 on the Interface Board.



- `FLASHLED01.C`—demonstrates the use of costatements to flash LED DS1 on the Interface Board. PD0 on the MiniCore is used to drive the LED.
- `FLASHLED01A.C`—demonstrates the use of a state machine with standard C constructs to flash LED DS1 on the Interface Board. PD0 on the MiniCore is used to drive the LED.
- `FLASHLED02.C`—demonstrates the use of costatements to detect and debounce switch S1 being pressed on the Interface Board. LED DS1 flashes on the Interface Board, and the rate at which it flashes changes each time you press switch S1. I/O control for the LED is provided by PD0 on the MiniCore, and PD1 detects the activity on switch S1.
- `FLASHLED02A.C`—detects and debounces switch S1 being pressed on the Interface Board. LED DS1 flashes on the Interface Board, and the rate at which it flashes changes each time you press switch S1. I/O control for the LED is provided by PD0 on the MiniCore, and PD1 detects the activity on switch S1.

The Digital I/O accessory board needs to be installed to run the SWITCHLEDS.C and the SERIAL-TOSERIAL.C sample programs. This accessory board is included only with the Deluxe Development Kit.

To install the Digital I/O accessory board, insert the strip of header pins included with the accessory board into the socket at J12 on the bottom side of the Digital I/O accessory board. Then line up the Digital I/O accessory board with the Interface Board standoffs/connectors and install the Digital I/O accessory board pins into socket J2 on the Interface Board. Secure the Digital I/O accessory board with the long plastic standoffs/connectors from above as shown in Figure 3-6.



**Figure 3-6. Install Digital I/O Accessory Board**

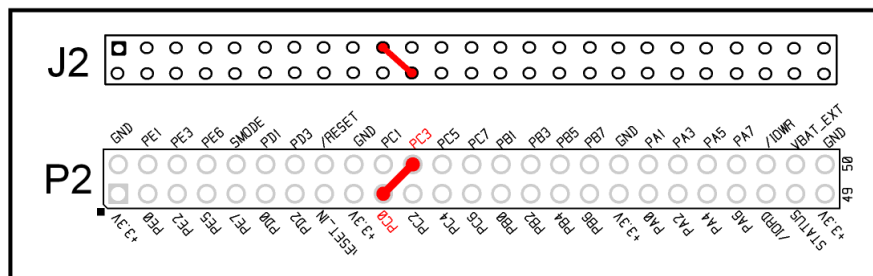
Pins 1–2, 3–4, 5–6, and 7–8 on headers JP5 and JP8 on the Digital I/O accessory board must be jumpered. Pins 2–4 and 3–5 on header JP7 on the Digital I/O accessory board must also be jumpered.

- SWITCHLEDS.C—monitors switches S1, S2, S3, and S4 on the Digital I/O accessory board and lights LEDs DS1–DS4 when the corresponding pushbutton switch is pressed. LEDs DS1–DS2 on the Digital I/O accessory board are controlled by PA4–PA7, and switches S1–S4 are controlled by PB4–PB7 respectively.

The SERIALTOSERIAL.C sample program is in the SAMPLES\RCM5700\SERIAL or SAMPLES\RCM6700\SERIAL folder, depending on your MiniCore model.

- SERIALTOSERIAL.C—monitors switches S1, S2, S3, and S4 on the Digital I/O accessory board and lights LEDs DS1–DS4 when the corresponding pushbutton switch is pressed. LEDs DS1–DS2 on the Digital I/O accessory board are controlled by PA4–PA7, and switches S1–S4 are controlled by PB4–PB7 respectively. The sample program sends messages from Serial Port D to Serial Port C to indicate that a switch was pressed. Messages received by Serial Port C are displayed in Dynamic C’s **STUDIO** window.

Before you compile and run this sample program, you will need to connect J2 pin 19 (PC0/TxD) to J2 pin 22 (PC3/RxC) *or* the corresponding holes on P2.

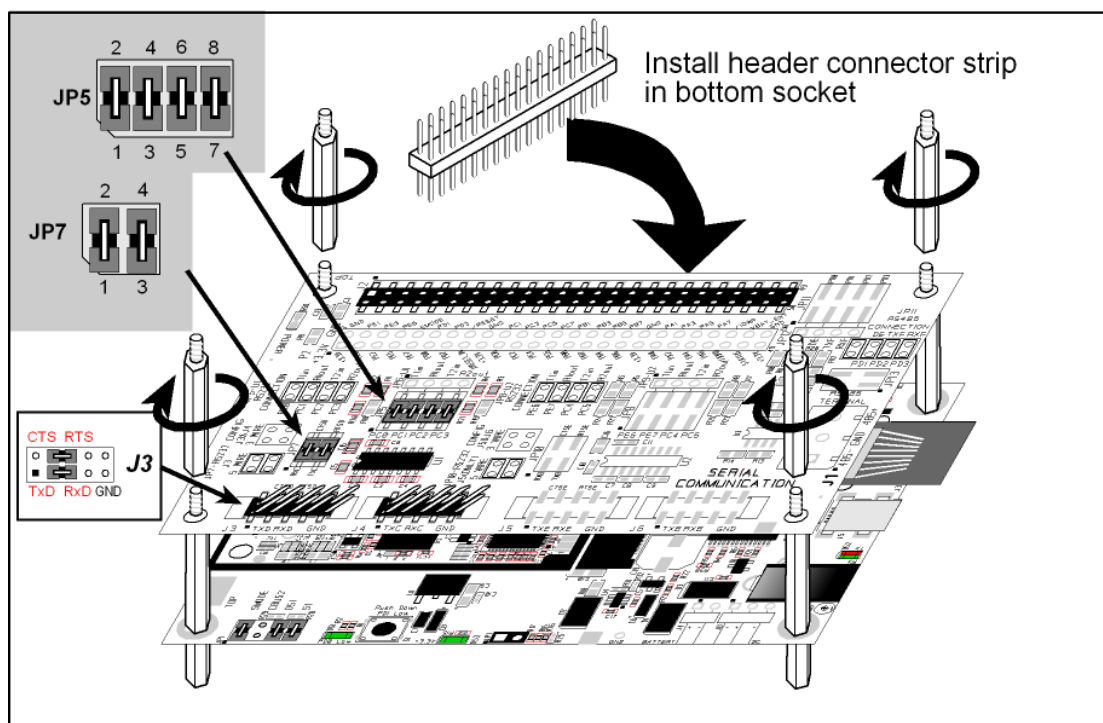


If you are using the Serial Communication Accessory Board, you should connect pin 3 (TXD) on header J3 to pin 5 (RXC) on header J4 instead.



The Serial Communication accessory board needs to be installed to run the following serial sample program in the `SAMPLES\RCM5700\SERIAL` or `SAMPLES\RCM6700\SERIAL` folder, depending on your MiniCore model. This accessory board is included only with the Deluxe Development Kit.

To install the Serial Communication accessory board, insert the strip of header pins included with the accessory board into the socket at J12 on the bottom side of the Serial Communication accessory board. Then line up the Serial Communication accessory board with the Interface Board or Digital I/O accessory board standoffs/connectors and install the Serial Communication accessory board pins into socket J2 on the Interface Board or the Digital I/O accessory board. Secure the Serial Communication accessory board with the long plastic standoffs/connectors from above as shown in Figure 3-6.



**Figure 3-7. Install Serial Communication Accessory Board**

Pins 1–2, 3–4, 5–6, and 7–8 on header JP5 on the Serial Communication accessory board must be jumpered. Pins 1–2 and 3–4 on header JP7 on the Serial Communication accessory board must also be jumpered.

- `SIMPLE5WIRE.C`—This program demonstrates 5-wire RS-232 serial communication with flow control on Serial Port C and data flow on Serial Port D.

To set up the Serial Communication accessory board, you will need to tie TxD and RxD on the RS-232 header at J3, then tie CTS and RTS, also on J3, using jumpers as shown in Figure 3-7.

Once you have compiled and run this program, you can test flow control by disconnecting the CTS jumper from RTS while the program is running. Characters will no longer appear in the **STDIO** window, and will display again once CTS is connected back to RTS.

Once you have loaded and executed these sample programs and have an understanding of how Dynamic C and the RCM5700/RCM6700 modules interact, you can move on and try the other sample programs, or begin developing your own application.

### 3.2.1 Use of Serial Flash (not supported for RCM5700/RCM5710)

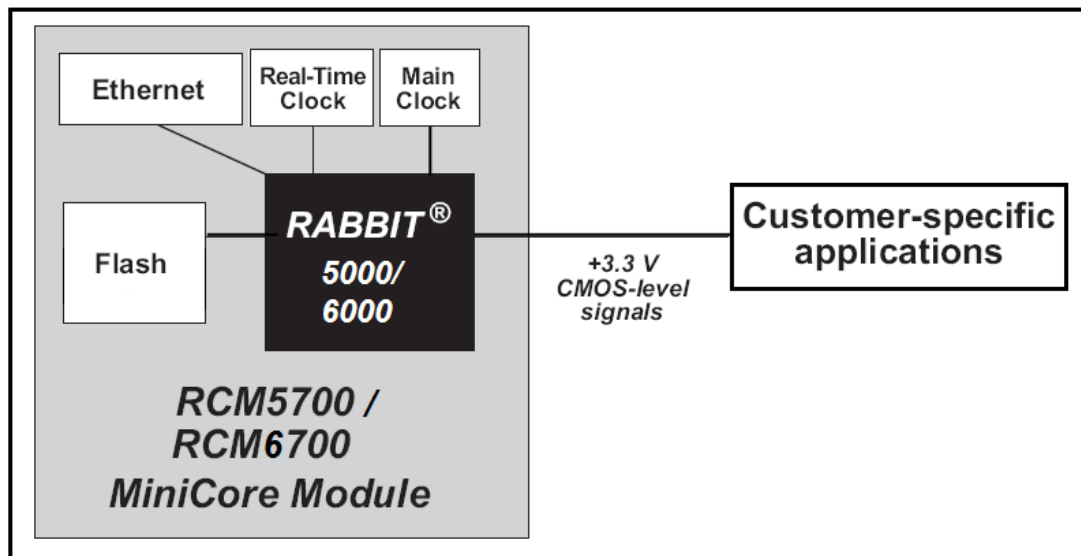
The following sample programs from the `SAMPLES\RCM5700\Serial_Flash` folder may be used with the RCM5750/RCM5760 models.

- `SERIAL_FLASHLOG.C`—This program runs a simple Web server and stores a log of hits on the home page of the serial flash “server.” This log can be viewed and cleared from a browser at <http://10.10.6.100/>. You will likely have to first “configure” your network interface card for a “10Base-T Half-Duplex,” “100Base-T Half-Duplex,” or an “Auto-Negotiation” connection on the “Advanced” tab, which is accessed from the control panel (**Start > Settings > Control Panel**) by choosing **Network Connections**.
- `SFLASH_INSPECT.C`—This program is a handy utility for inspecting the contents of a serial flash chip. When the sample program starts running, it attempts to initialize a serial flash chip on Serial Port B. Once a serial flash chip is found, the user can perform five different commands to print out the contents of a specified page, print out the contents of a range of pages, clear (set to zero) all the bytes in a specified page, set all bytes on the specified page to a given value, or save user-specified text to a selected page.

## 4. HARDWARE REFERENCE

Chapter 4 describes the hardware components and principal hardware subsystems of the RCM5700/RCM6700. Appendix A, “RCM5700/RCM6700 Specifications,” provides complete physical and electrical specifications.

Figure 4-8 shows the Rabbit-based subsystems designed into the RCM5700/RCM6700.



*Figure 4-8. RCM5700/RCM6700 Subsystems*