



Starting Dynamic C

Once the RCM3010 is connected as described in the preceding pages, start Dynamic C by double-clicking on the Dynamic C icon or by double-clicking on `dcrab_XXXX.exe` in the Dynamic C root directory, where `XXXX` are version-specific characters. Dynamic C uses the serial port specified during installation.

If you are using a USB port to connect your computer to the RCM3010, choose **Options > Project Options** and select "Use USB to Serial Converter." You may have to determine which COM port was assigned to the RS-232/USB converter.

Run a Sample Program

Use the **File** menu to open the sample program `PONG.C`, which is in the Dynamic C `SAMPLES` folder. Press function key **F9** to compile and run the program. The **STDIO** window will open on your PC and will display a small square bouncing around in a box.

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 *RCM3000 User's Manual* on the Dynamic C CD also provides complete hardware reference information and describes the software function calls for the RCM3000 RabbitCore modules and the Prototyping Board.

Troubleshooting

If Dynamic C cannot find the target system (error message "**No Rabbit Processor Detected.**"):

- Check that the RCM3010 is powered correctly — the red **POWER** LED on the Prototyping Board should be lit when the RCM3010 is mounted on the Prototyping Board and the AC adapter is plugged in.
- Check both ends of the programming cable to ensure that they are firmly plugged into the PC and the **PROG** connector, not the **DIAG** connector, is plugged in to the programming port on the RCM3010.
- Ensure that the RCM3010 module is firmly and correctly installed in its socket on the Prototyping Board.
- Select a different COM port within Dynamic C. From the **Options** menu, select **Project Options**, then select **Communications**. Select another COM port from the list, then click OK. Press **<Ctrl-Y>** to force Dynamic C to recompile the BIOS. If Dynamic C still reports it is unable to locate the target system, repeat the above steps until you locate the active COM port.

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.

- Locate the **Serial Options** dialog in the Dynamic C **Options > Project Options > Communications** menu. Choose a lower debug baud rate.

If there are any other problems:

- Use the Dynamic C **Help** menu to get further assistance with Dynamic C.
- Check the Rabbit Semiconductor Technical Bulletin Board at www.rabbit.com/support/bb/.
- Use the Technical Support e-mail form at www.rabbit.com/support/.

NOTE: If you purchased your RCM3000 Development Kit through a distributor or through a Rabbit Semiconductor partner, contact the distributor or partner first for technical support.

Installing Dynamic C®

Insert the CD from the Development Kit in your PC's CD-ROM drive. If the installation does not auto-start, run the `setup.exe` program in the root directory of the Dynamic C CD. Install any Dynamic C modules after you install Dynamic C.

RabbitCore RCM3000

Development Kit Contents

The RCM3000 Development Kit contains the following items:

- RCM3010 module with Ethernet port, 256K flash memory, and 128K SRAM.
- Prototyping Board.
- AC adapter, 12 V DC, 1 A. (Included only with Development Kits sold for the North American market. A header plug leading to bare leads is provided to allow overseas users to connect their own power supply with a DC output of 8–24 V.)
- 10-pin header to DB9 programming cable with integrated level-matching circuitry.
- *Dynamic C*® CD-ROM, with complete product documentation on disk.
- *Getting Started* instructions.
- A bag of accessory parts for use on the Prototyping Board.
- *Rabbit 3000 Processor Easy Reference* poster.
- Registration card.

Hardware Connections

Attach Module to Prototyping Board

Turn the RCM3010 module so that the Ethernet connector end of the module extends off the Prototyping Board, as shown in Figure 1 below. Align the pins from headers J1 and J2 on the bottom side of the module into header sockets RCM2JA and RCM2JB on the Prototyping Board (these sockets were labeled J12 and J13 on earlier versions of the Prototyping Board).

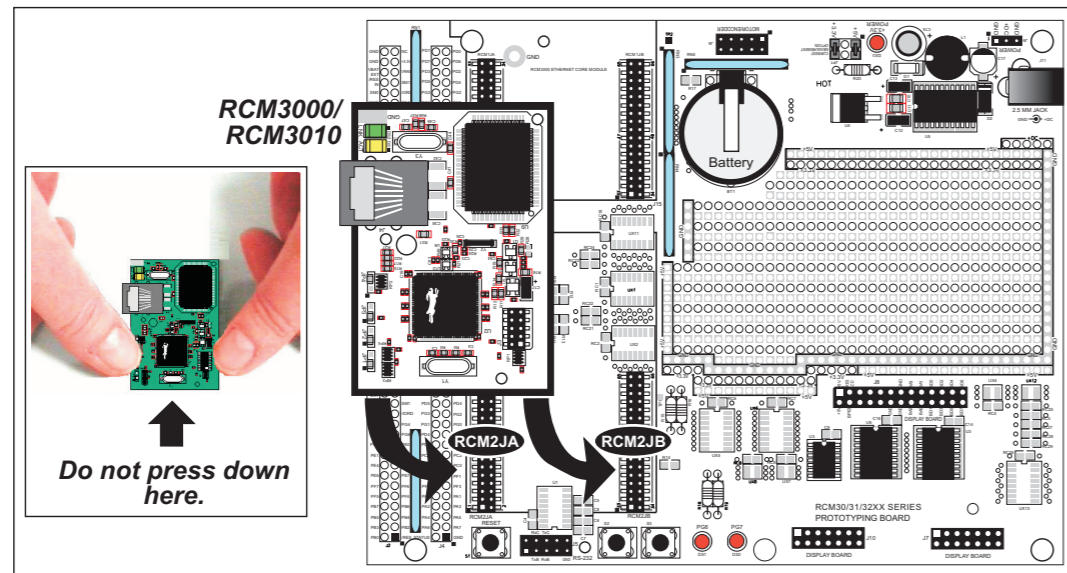


Figure 1. Install the RCM3010 Module on the Prototyping Board

Although you can install a single module into either the **MASTER** or the **SLAVE** position on the Prototyping Board, all the Prototyping Board features (switches, LEDs, serial port drivers, etc.) are connected to the **MASTER** position — install a single module in the **MASTER** position.

NOTE: It is important that you line up the pins on headers J1 and J2 of the RCM3010 module exactly with the corresponding header sockets RCM2JA and RCM2JB on the Prototyping Board. The header pins may become bent or damaged if the pin alignment is offset, and the module will not work. Permanent electrical damage to the module may also result if a misaligned module is powered up.

Press the module's pins firmly into the Prototyping Board header sockets—press down in the area above the header pins using your thumbs or fingers over the connectors as shown in Figure 1. Do **not** press down on the middle of the RCM3010 module to avoid flexing the module, which could damage the module or the components on the module.

Should you need to remove the RCM3010 module, grasp it with your fingers along the sides by the connectors and gently work the module up to pull the pins away from the sockets where they are installed. Do **not** remove the module by grasping it at the top and bottom.

Connect Programming Cable

The programming cable connects the RCM3010 to the PC running Dynamic C to download programs and to monitor the RCM3010 module during debugging.

Connect the 10-pin connector of the programming cable labeled **PROG** to header J3 on the RCM3010 as shown in Figure 2. Be sure to orient the marked (usually red) edge of the cable towards pin 1 of the connector. (Do not use the **DIAG** connector, which is used for a normal serial connection.)

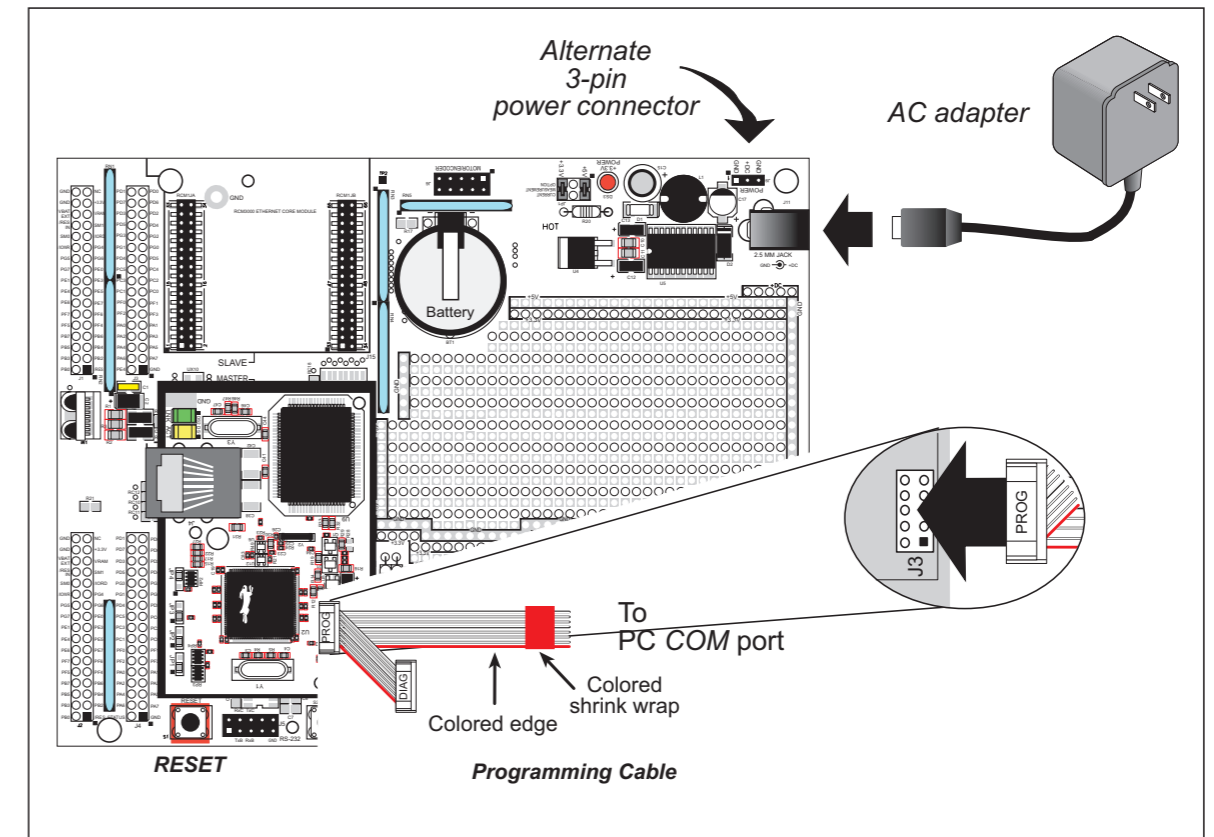


Figure 2. Connect Programming Cable and Power Supply

NOTE: Be sure to use the programming cable (part number 101-0513) supplied with this Development Kit—the programming cable has red shrink wrap around the RS-232 converter section located in the middle of the cable. Programming cables with blue or clear shrink wrap from other Rabbit Semiconductor kits are not designed to work with RCM3000 modules.

Connect the other end of the programming cable to a COM port on your PC.

NOTE: Some PCs now come equipped only with a USB port. It may be possible to use an RS-232/USB converter (Part No. 540-0070) with the programming cable supplied with the RCM3000 Development Kit. Note that not all RS-232/USB converters work with Dynamic C.

Connect Power

Once all the other connections have been made, you can connect power to the Prototyping Board. Connect the AC adapter to jack J11 on the Prototyping Board as shown in Figure 2 above.

Plug in the AC adapter. The **POWER** LED on the Prototyping Board should light up. The RCM3010 and the Prototyping Board are now ready to be used.

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

Alternate Power-Supply Connections

Development kits sold outside North America include a header connector that may be used to connect your power supply to 3-pin header J9 on the Prototyping Board. The connector may be attached either way as long as it is not offset to one side—the center pin of J9 is always connected to the positive terminal, and either edge pin is ground. The power supply should deliver 8 V–24 V DC at 8 W.