

Loading and Running Applications with UwTerminalX RM1xx Series

Application Note

v1.0

INTRODUCTION

Laird's *smartBASIC* is a language and application environment designed for hostless, automated use cases. It abstracts what could amount to hundreds of lines of C code into a number of condensed, purpose-built functions, dramatically reducing time to market for a wireless design.

Laird's *smartBASIC* development kits interface with your PC via UwTerminalX, Laird's terminal software. UwTerminalX is a cross-platform development terminal with built-in debugging functions, preset comms values, optional online compiler, and more.

This application note explains how to perform the following:

- Connect the DVK-RM1xx to your PC
- Establish communications with the DVK-RM1xx via UwTerminalX
- Compile, load, and run a sample application to the DVK-RM1xx via UwTerminalX

REQUIREMENTS

To perform the steps in this document, you'll need the following:

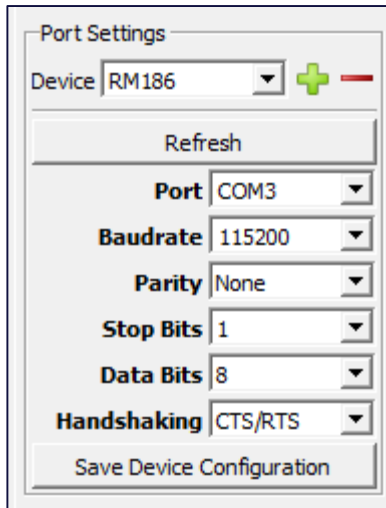
- DVK-RM186 or DVK-RM191 development board
- USB-A to USB-Micro cable (included with development board)
- UwTerminalX (v1.03 or later recommended), available at <https://github.com/LairdCP/UwTerminalX>
- RM1xx *smartBASIC* sample applications, available at <https://github.com/LairdCP/RM1xx-Applications>

HARDWARE AND TERMINAL SETUP

To begin, you must physically connect the DVK-RM1xx to your PC and connect to it via UwTerminalX. To do so, complete the following:

1. Connect the RM1xx development board to your PC via the included USB micro cable.
2. Power your development board.
3. Launch UwTerminalX.
4. From the Update tab within the UwTerminalX pane, click **Check for Updates** to ensure you're using the latest version of UwTerminalX with support for the RM1xx Series.
5. From the Config tab in the Device drop-down menu, select either **RM186** or **RM191** based on your setup.

Note: The RM186 and 191 do not appear in the drop down menu in UwTerminalX v1.02 and earlier. In these earlier versions, you must manually enter the correct settings (115200, N, 1, 8) as shown below:



6. Select the correct port to which your development board is connected.
7. Click **OK** to advance to the Terminal tab.
8. Hit **Enter** on your keyboard. If you see the return *00*, you are connected successfully.

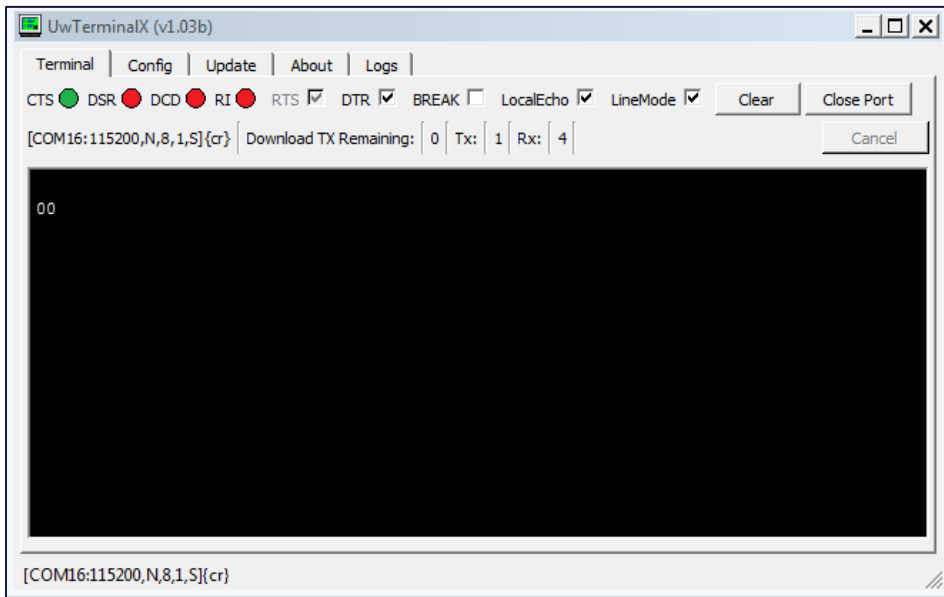


Figure 1: Terminal returns 00 if connected successfully

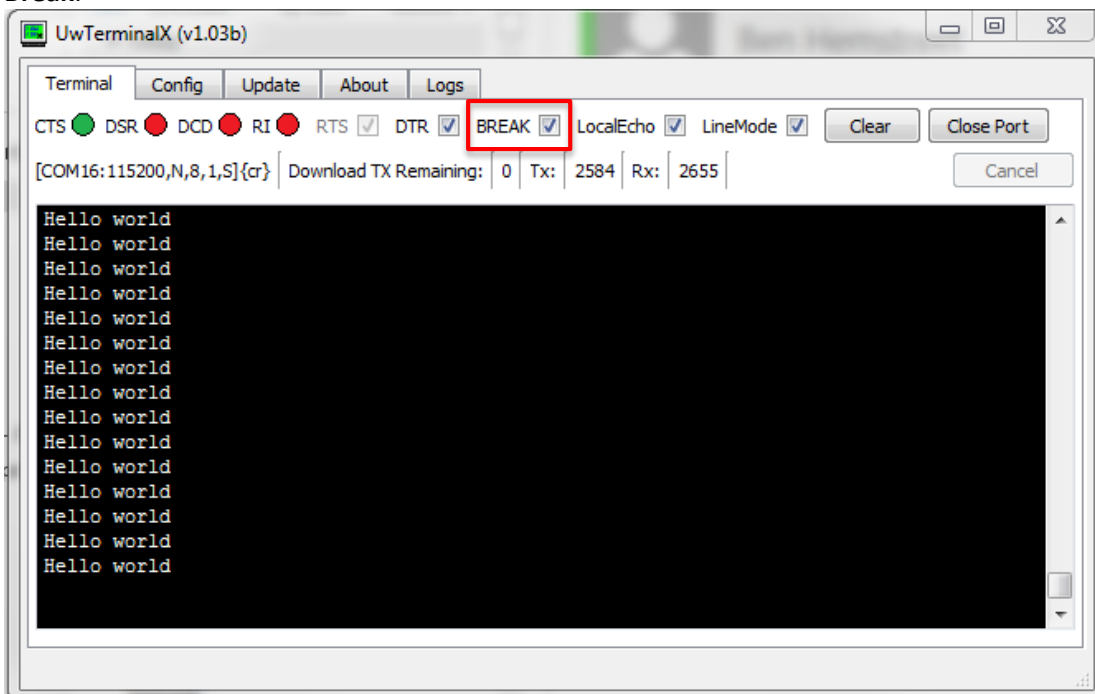
COMPILING, LOADING, AND RUNNING AN APPLICATION

Once you are successfully connected to the DVK-RM1xx over UwTerminalX, you may compile, load, and run applications on the RM1xx module.

Note: For cross-compiling *smartBASIC* applications, UwTerminalX must use a version-specific XCompiler that matches the firmware of your module. UwTerminalX, however, provides the option for using an online XCompiler. For supported firmware versions, this means that UwTerminalX finds the correct XCompiler over the internet, so that you don't need to maintain the XCompiler on your machine. This is enabled by default and can be disabled in the *Config* tab.

For this example, we use the HelloWorldLoop application in the RM1xx sample applications library. To compile, load, and run this application on your DVK-RM1xx, complete the following steps:

1. Download the HelloWorldLoop application from the RM1xx sample applications library (<https://github.com/LairdCP/RM1xx-Applications>) to a directory on your PC.
2. If you are not already, connect to the RM1xx in UwTerminalX.
3. Right-click in the terminal window and, in the context menu, click **XCompile + Load**.
4. In the file selector window, select HelloWorldLoop.sb and click **Open**.
5. When the terminal displays 00, the compiler has finished successfully.
6. Type *at+dir* and press **Enter**. You should see HelloWorldLoop in the file list.
7. To run the script, type HelloWorldLoop and press **Enter**.
8. Now that the application is running, the phrase "Hello World" is echoed to the terminal every 500 milliseconds.
9. To return the module to interactive mode, tick **Break** in the terminal for a few seconds and then untick **Break**.



10. Press **Enter** in the terminal. If the terminal returns 00, the module is returned successfully to interactive mode.

CONCLUSION

Laird’s library of sample *smart*BASIC applications are made available for you to use in your design, accelerating your development and simplifying your development of wireless applications. UwTerminalX, the RM1xx applications, and more are available at <http://www.github.com/lairdCP>.

REVISION HISTORY

Version	Date	Notes	Approver
1.0	18 May 2016	Initial Release	Jonathan Kaye

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