



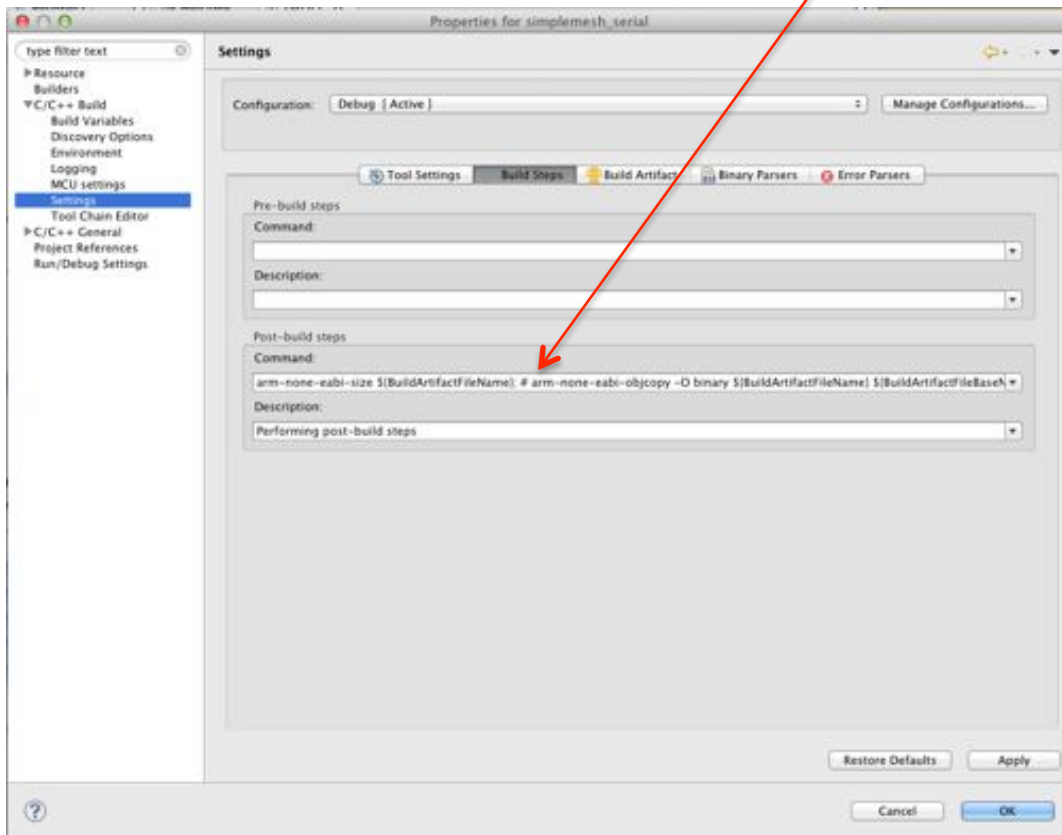
Bootloading RadioBlocks using the JIB, and U2U

Building from the command line

1. Download and install: <https://launchpad.net/gcc-arm-embedded>
2. Make sure you have “make” installed
3. Run make like so: `..\SimpleMesh\apps\serial\build> make`

Building from within the Ipcpresso Code Red IDE

1. You need to change the properties by removing the “#” comment shown in the properties window below:



2. Then “clean” and “build” to compile new images. With the “#” removed, Ipcpresso will produce both debug and binary files. If you are building “Debug” versions (this is the default setting in the assembla repository) you’ll find both `simplemesh_serial.axf` (debug file that can be downloaded and used for debugging via JTAG) and `simplemesh_serial.bin`. The `simplemesh_serial.bin` file is used for bootloading!

RadioBlock Bootload

1. Python must be installed, we recommend 2.7: <http://python.org/download/releases/2.7.3/>
2. You’ll need to install `PySerial`: <http://pyserial.sourceforge.net/>
3. You’ll need our `lpc111xisp.py` module:

Run the Python module (lpc111xisp.py) as Follows:

- `python lpc111xisp.py simplemesh.bin -p COM3 -b 115200 -e`
- `python lpc111xisp.py simplemesh.bin -p COM3 -b 115200 -e -d` (for debug output)
- Note: Replace COM3 with the COM port your U2U is connected to!
- See example below!

Connecting the pieces

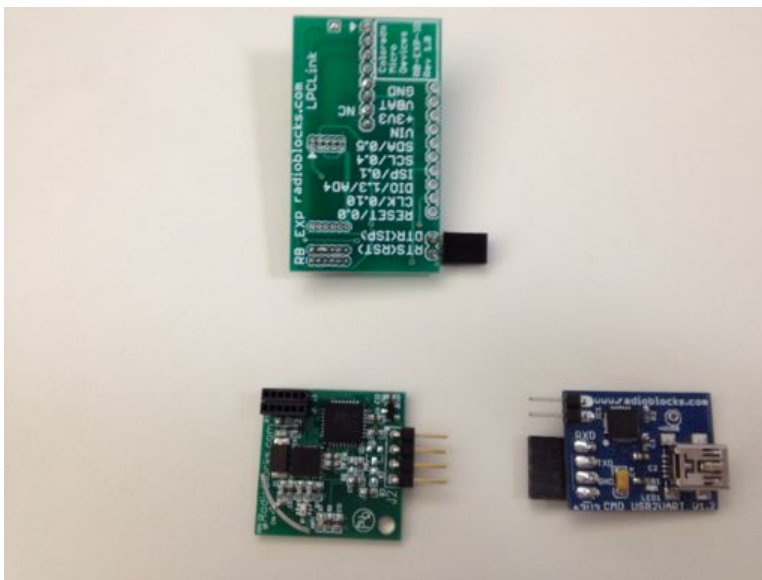
The necessary items needed to bootload binary images into a RadoBlock are:

1. RadioBlock (either RBM or RBB)
 - a. RBM = RadioBlock *Mains* powered
 - b. RBB = RadioBlock *Battery* powered
 - i. If bootloading the RBB you will need the connector kit (RBCK)
2. USB2UART (U2U)
3. JTAG/ISP board (JIB)

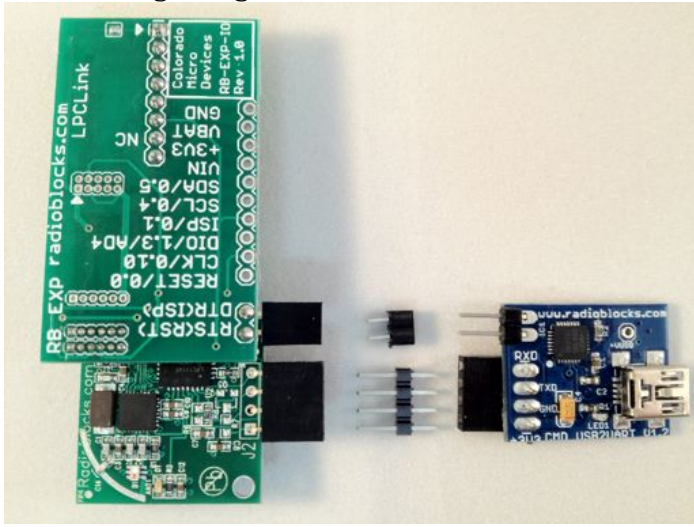
Additionally, you'll need the *.bin file you want to load and the CMD `lpc111xisp.py` file that works with Python2.7.x to load that code. This implies that you have installed Python2.7.x and adjusted any PATH variables for your particular OS.

Pieces and parts

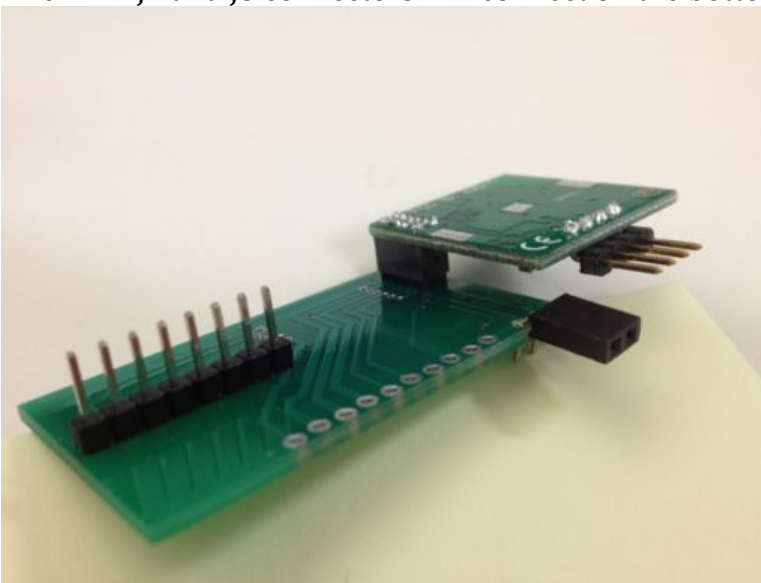
Here are some photographs of the necessary pieces. In this example we are using the RBM.



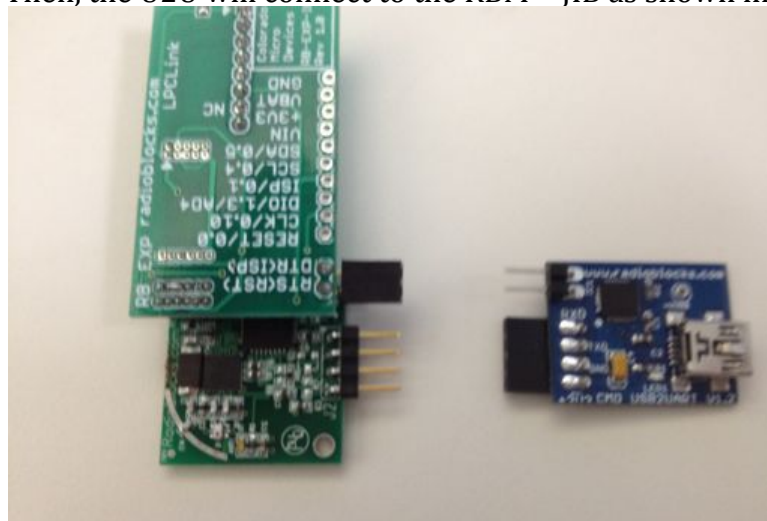
For completeness we show this picture, which shows the parts necessary for bootloading using the RBB:



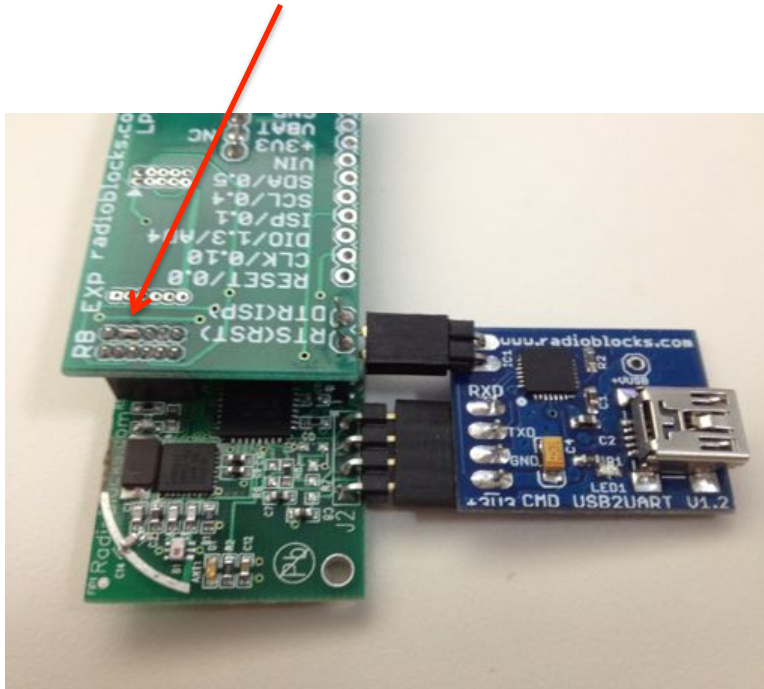
The RBM J1 and J3 connectors will connect on the bottom side of the JIB like so:



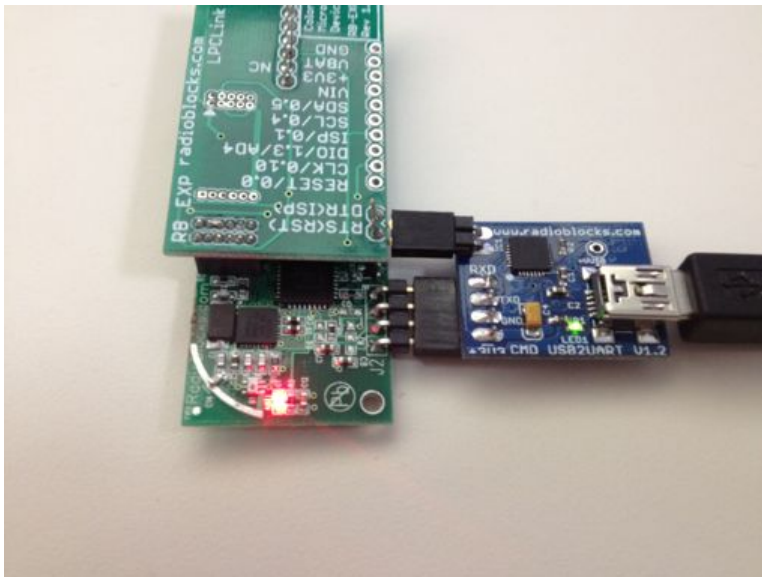
Then, the U2U will connect to the RBM + JIB as shown in the next images:



All connected! Make sure you connect the three boards **before** you connect via USB to your PC. Also, when bootloading the RBB, note the solder jumper on the JIB shown by the red arrow.



Now, plug in your USB cable:




```

BootLoad Example
<- B 5:11-2073 480101'200'5/7200CZTT'B'480101'BP'T5E''A''H41"
> 78259
<- 78259
<- OR
> M4T'<P7_MU^_0>:0B'—'BB'J'-5'000'15B'<'BP'70P101'0505'BC3BP<
<- M4T'<P7_MU^_0>:0B'—'BB'J'-5'000'15B'<'BP'70P101'0505'BC3BP<
> M7006'709005'64.5'0+—<'B/B'7'1'627'3:0101'10'14'
<- M7006'709005'64.5'0+—<'B/B'7'1'627'3:0101'10'14'
> M 7.....0610'36'288'600'227'103E'00<
<- M 7.....0610'36'288'600'227'103E'00<
> M.....
<- M.....
> 7911
<- 7911
<- OR
> P 1 1
<- P 1 1
<- B
> C 6144 268435968 1024
<- C 6144 268435968 1024
<- B
> M 268435968 100
<- M 268435968 100
<- B
> M000''>06''0=0P''VAR''>27''>0P''21<'<6<7''120P''B''110'<
<- M000''>06''0=0P''VAR''>27''>0P''21<'<6<7''120P''B''110'<
> M.....
<- M.....
> M.....
<- M.....
> M.....
<- M.....
> 1658
<- 1658
<- OR
> P 1 1
<- P 1 1
<- B
> C 7168 268435968 1024
<- C 7168 268435968 1024
<- B
> C B 0
<- C B 0
<- B
C:\msb>non iff ee>\Rad to B To c k e S n iff ee>\@ebug>

```