

TB Monitor Programming Procedure

Firmware Rev 4.2.0, August 13, 2017

Programming Cable Adapter

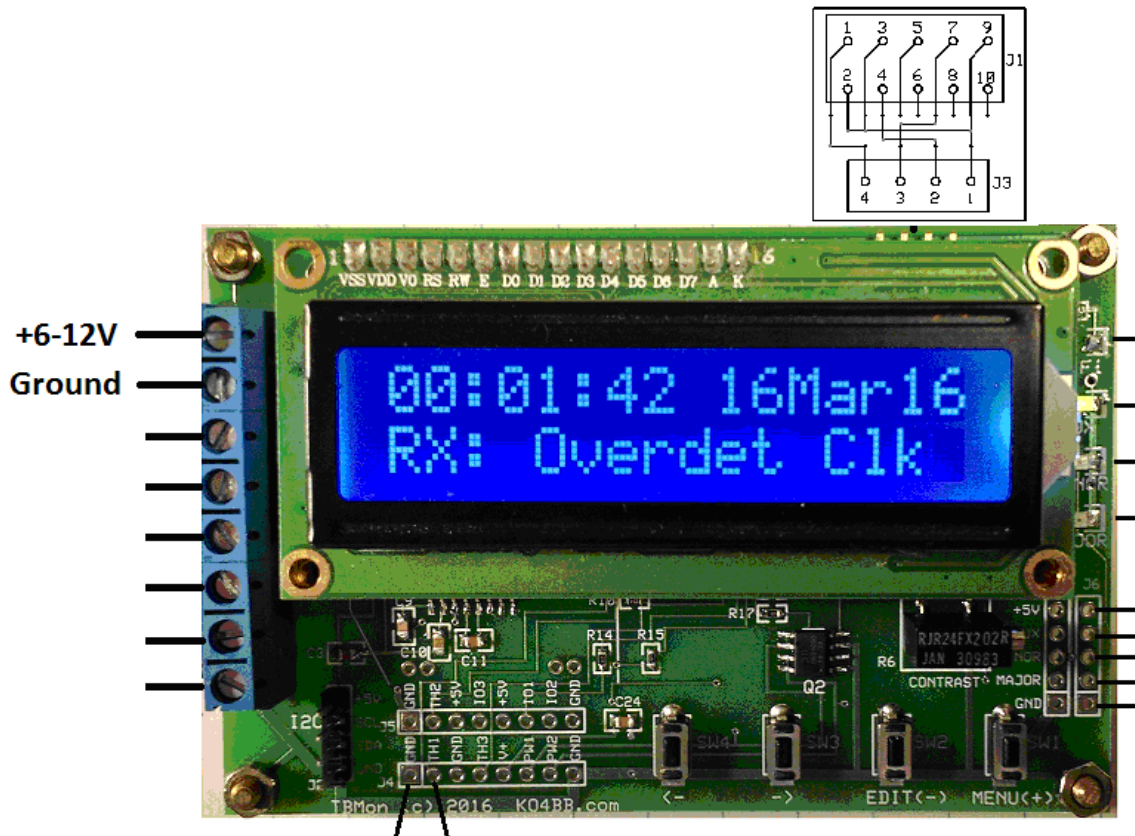


Figure 1: Programming Setup

- 1.1 The Programming Cable Adapter is necessary to convert the 10 pin connector of the EC6 Programming Adapter to the 4 pin J3 pin header of the Thunderbolt Monitor. Make sure J1-pin 1 is connected to the red wire in the cable and that J3-pin 1 is plugged into the corresponding pin of the monitor (near the mounting screw).

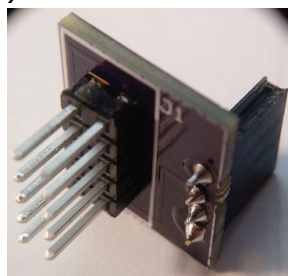


Figure 2: The Programming Cable Adapter

When building the Programming Cable Adapter, make sure the connectors are soldered on the correct side. Refer to Figure 2 for guidance.

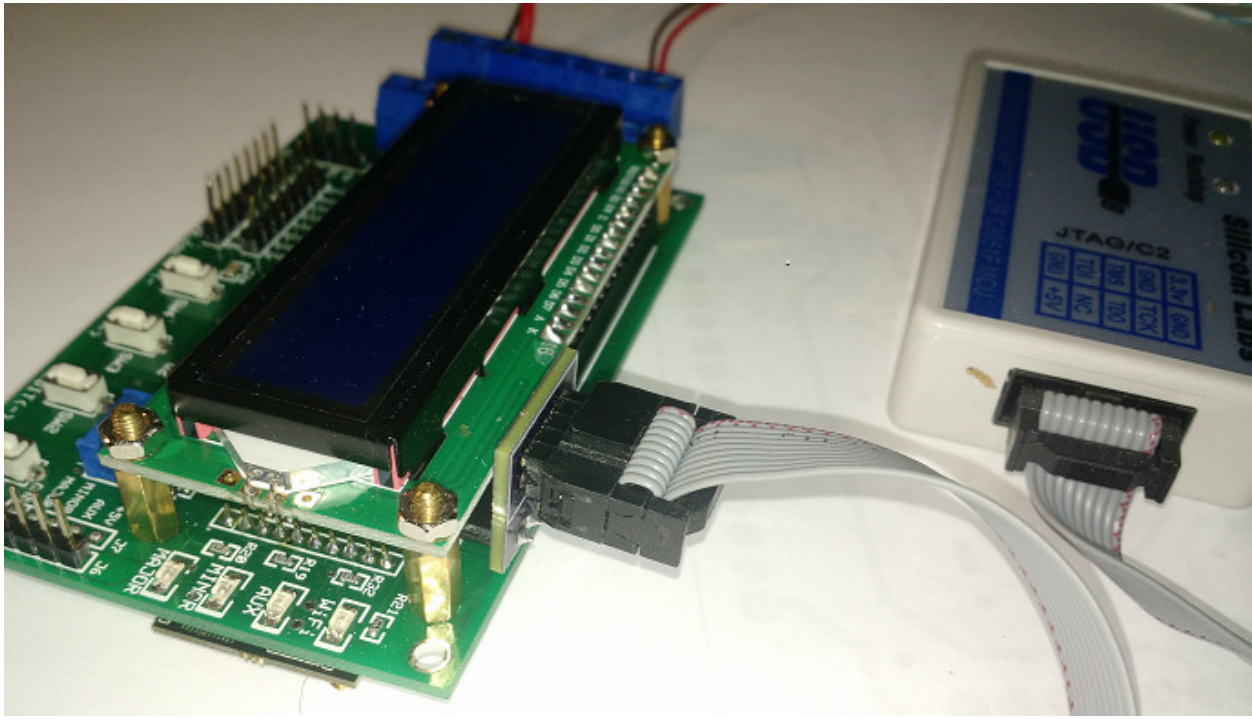


Figure 3: Programming Cable Adapter installed

PROGRAMMING PROCEDURE

1) Download and install the Silabs Flash Programming Utility:

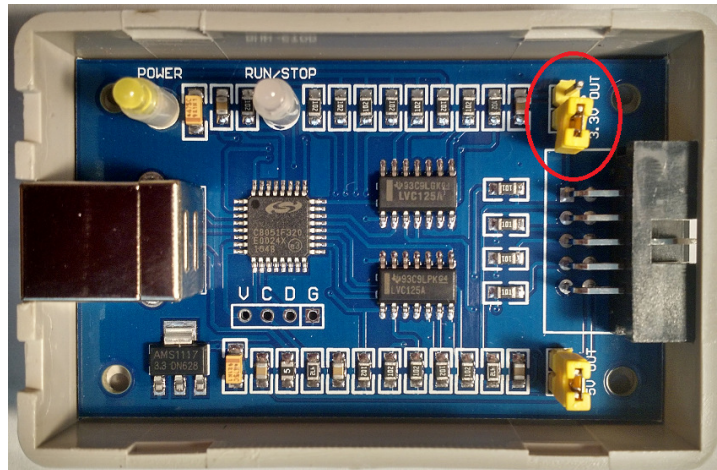
<https://www.silabs.com/documents/login/software/utildll.exe>

As of August 12, 2017, the Programming Utility is at version 4.74.00 but this procedure should still work if the software is updated.

2) Copy the TBMon_v4.2.0.hex file to a convenient location on your computer. Make a note of the location where you saved the file.

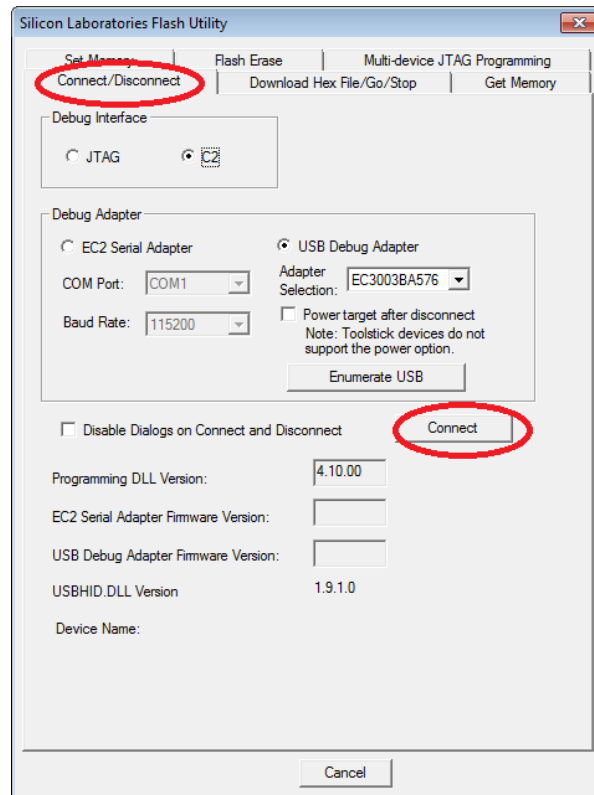
3) Disconnect the 3.3V jumper in the EC6 Programming Adapter

(I simply move it so that it's still there if I need it later)

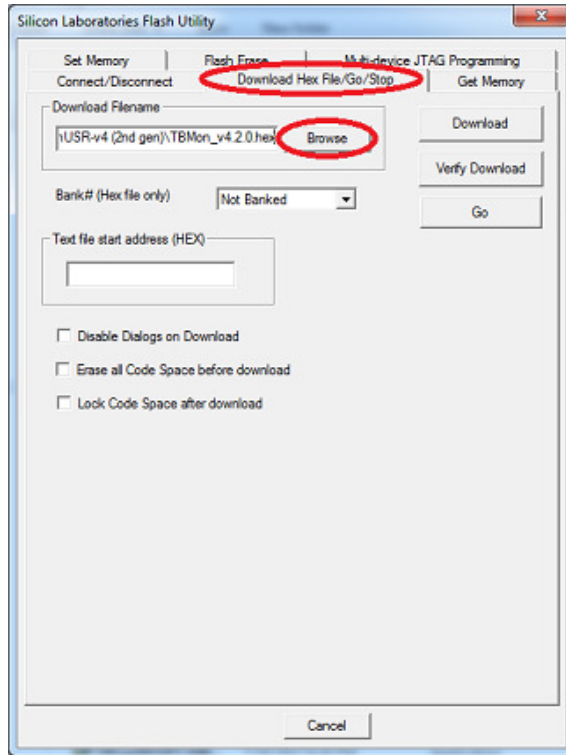


- 4) Install the programming cable adapter into J3 of the TBMon board. Pin 1 is near the mounting screw.
- 5) Connect the cable from the EC6 Programming Adapter into J1 of the Programming Cable Adapter.
- 6) Connect the EC6 Programming Adapter to one of the PC's USB port.
- 7) Apply the supply voltage 6 to 12V and ground to the TBMon kit. Verify polarity. Verify that the LCD powers up (backlight on).
- 8) Start the Flash Programming Utility, refer to pictures below.
- 9) In the Connect/Disconnect tab, select Connect

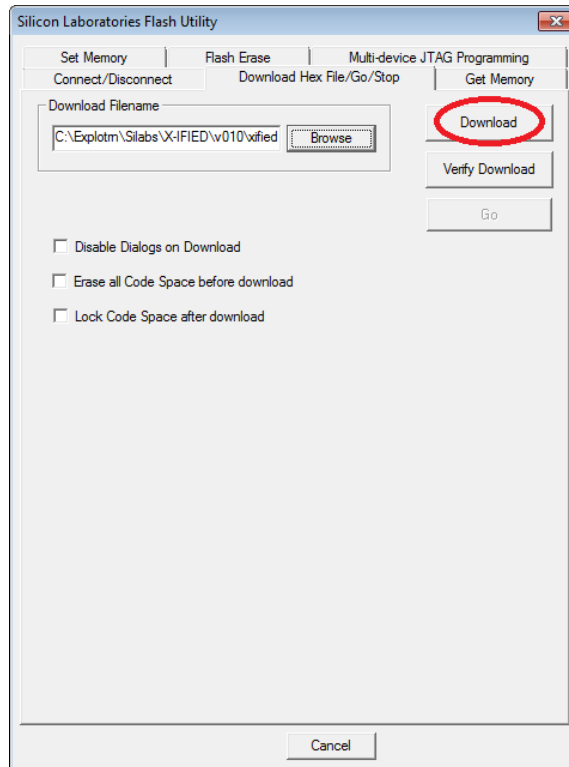
Note: if you start the Programming Utility before connecting the EC6 and applying power to the TBMon kit, the program may not connect. If so, close and re-open the Programming Utility.



10) In the "Download Hex File/Go/Stop" tab, click on Browse and navigate to the file "TBMon_v4.2.0.hex" file.

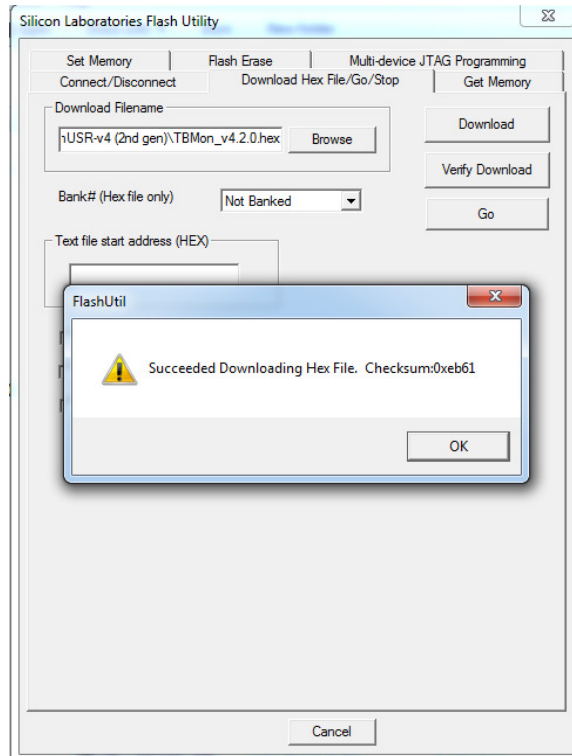


11) Click "Download"



12) Verify that the operation completes without error.

13) It should display "Succeeded Downloading Hex File. Checksum:0xeb61"



14) Close the Flash Programming Utility.

15) Turn off the power supply.

16) Disconnect the programming cable.

You should be ready to check the new firmware.

Note that the Monitor reverted to default settings, so you probably want to go in the menu and check. Refer to the User's Manual if necessary.

Revisions:

- 1.1 August 13, 2017: added picture of EC6 jumper setting, renumbered paragraphs