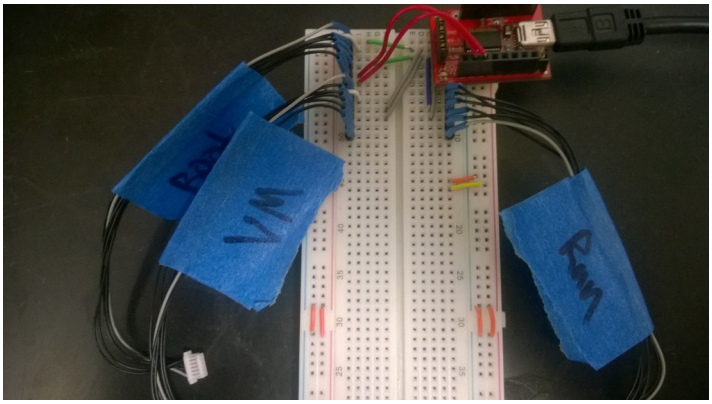
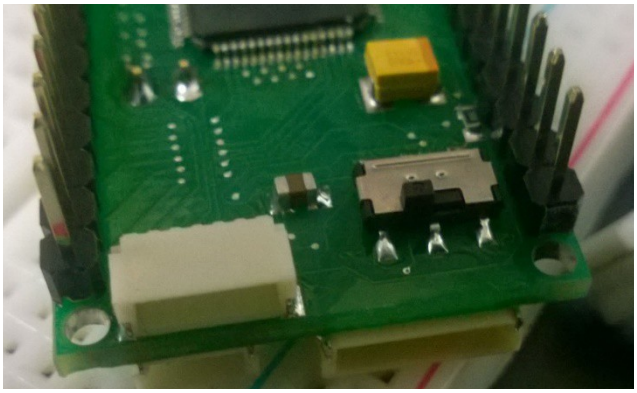
Newly Built App Board Testing Procedure

Written by Hunter Mills on 5/29
Based on Bootload/VM instructions for the now defunct Dev Board

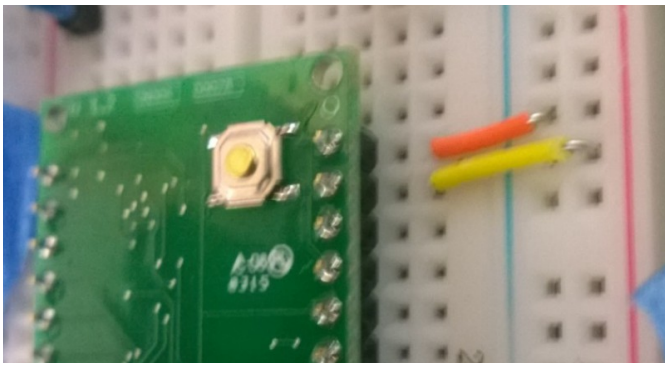
Bootloader Instructions



- Disconnect the Jumper, and flip the VM switch toward the 6-pin connector



- Plug the App Board into the Bootload/VM Board

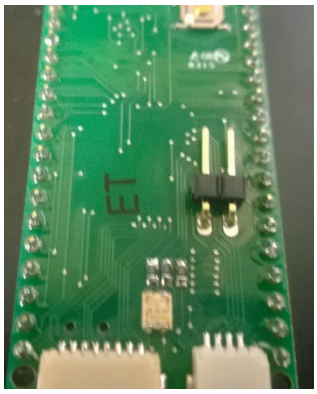
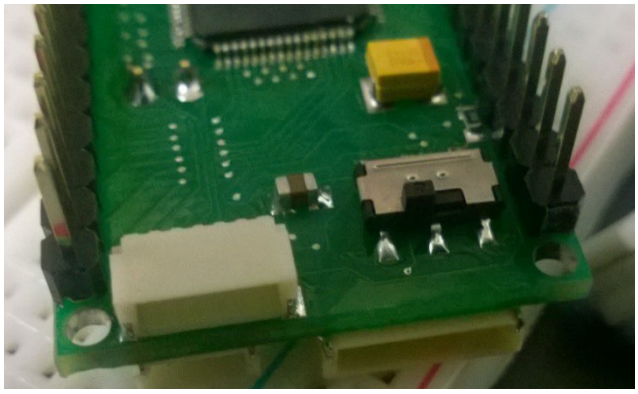


- Plug the Bootload/VM Board ‘s Boot cable into the App Board

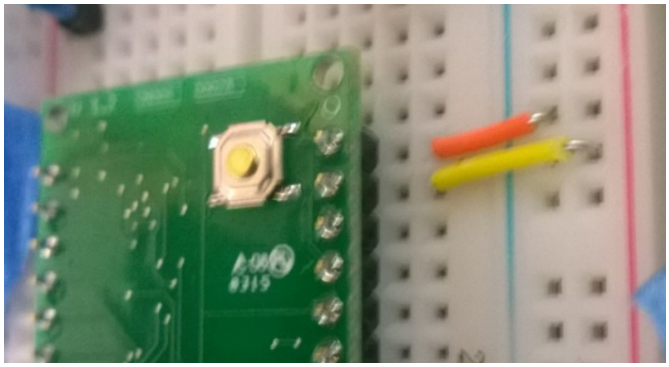
- Plug the Bootload/VM Board’s USB into the computer
- Load assembler.jar in the Bootloading Folder (Should be within Folder AppTest)
    - a java terminal should appear with a text box and two buttons labeled "asm" and "download"
- Type in "new-chip"
- This text should appear
    - enter-bsl
    - passwd v-erase
    - print r1 65502 4288 64
    - se [0 0] v-timints
    - ok
- Within this textbox click in "enter-bsl" and hit enter
    - The system should respond "ok"
- Select "passwd v-erase" and hit and enter
    - If it says "passwd FF", **STOP**, Something is wrong, check power, and swich locations. If you still get FF then stop and check solder connections on Dev-Board
    - if it says "passwd 90", then continue
- Select" print r1 4288 64" and hit enter
    - The system should respond with a bunch of integers between 0 and 255
    - If the system responds with all -1s, do not continue
- Select "w1 65502 se [0 0] v-timints" and hit enter
    - The system should respond "w1 FFDE 90"
- Click the "asm" button
    - The system should respond "368 bytes"
- Click the "download" button
    - The system should respond w1 FFDE 90, w1 FE00 90, w1 FE40 90, w1 FE80 90, w1 FEC0 90, w1 FF00 90, w1 FF40 90
- Unplug the USB and the Bootloading Cable from the App Board
- This Completes the Bootloading Process

VM Instructions

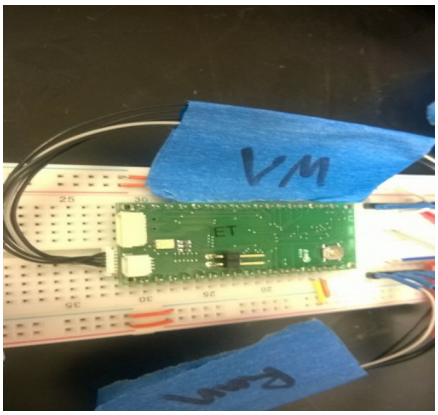
- Disconnect the Jumper, and flip the VM switch toward the 6-pin connector

- Plug the App Board into the Bootload/VM Board



- Plug the Bootload/VM Board ‘s VM cable into the App Board

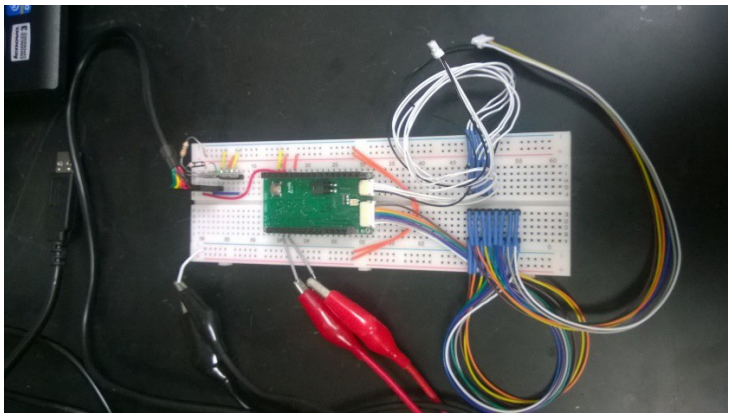


- Plug the Bootload/VM Board’s USB into the computer
- While in terminal execute the following steps
    - Enter the appropriate VM directory (normally the newest)
    - Run jl.sh
    - Type and Return "send $ff print recc"
        - This should be responded with and integer value of 36
    - Type and Return "asm"

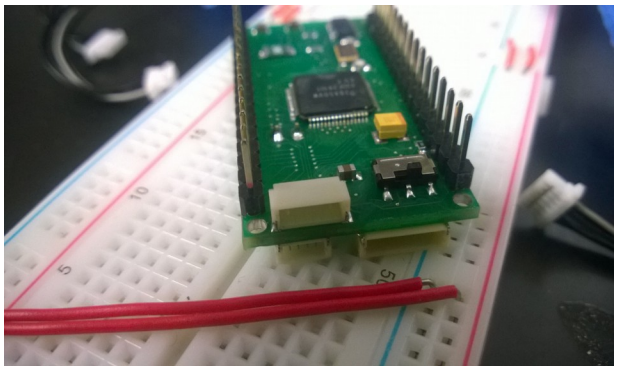
- Type and Return "download"
  - Lights should blink
- Type and Return "dump $1000 0"
- Type and Return "erase-seg $1000" -- Be Very Careful on This Step
- Type and Return "wfl $1000 [16]"
- Type and Return "dump $1000 0"
  - This should respond with the first entry as 16 (decimal) or 10 (hex) followed by multiple FFs
- Hit ctrl + c

- Unplug the Bootload/VM Board's USB into the computer
- This completes loading the VM

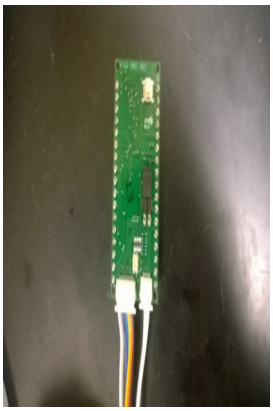
App Board Function Test

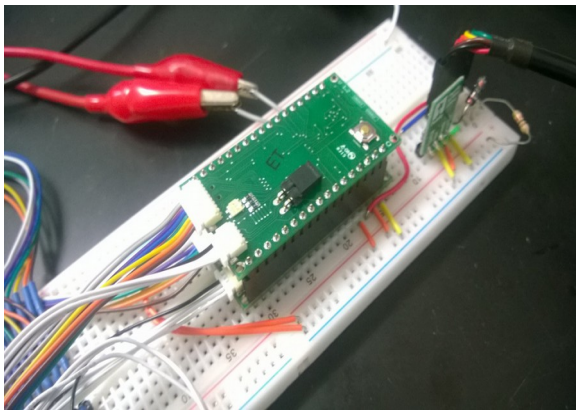


- Connect the Jumper, and flip the VM switch away from the 6-pin connector



- Connect the new App Board to the Tester Board





- Enter the “ulogo” folder
    - Run “jl.sh”
    - A terminal should open
    - Run the following command “.init-newboard”
        - This should compile and download the test code to the Board
    - Run the following command “.test-board”
    - Follow the onscreen instructions. This includes:
        - All pins are turned on and read by the tester (should return all 1’s)
        - All pins are turned off and read by the tester (should return all 0’s)
        - The on Board tri-color LED is tested by cycling through red blue and green
        - The DACs are tested by emulating a sine wave routing the signal to an Oscilloscope and test
- If there are any failures in the above procedure, check solder connections and test again.
- This completes testing the App Board. At this point the board is ready to use and should be cataloged.