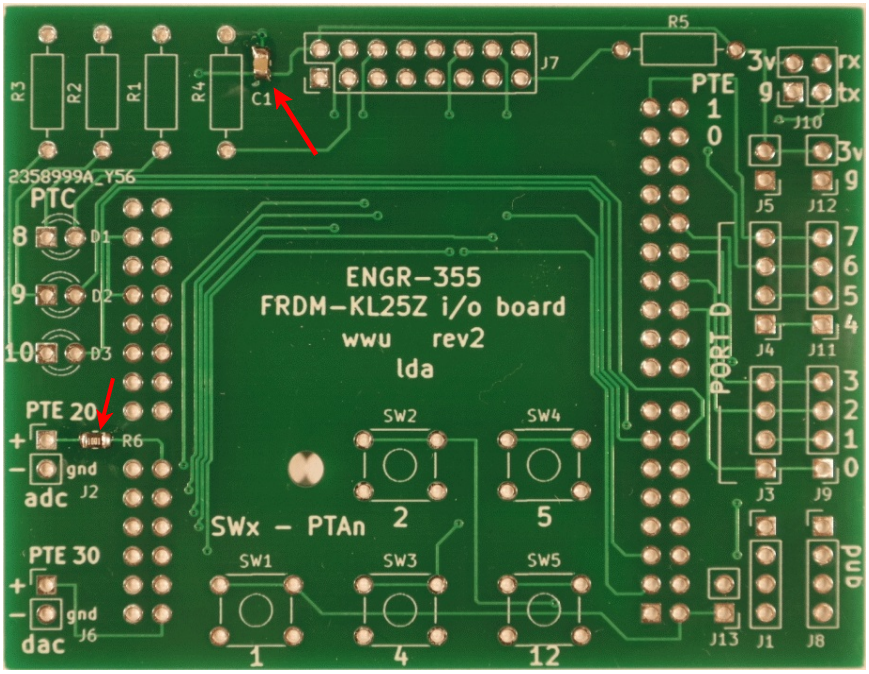
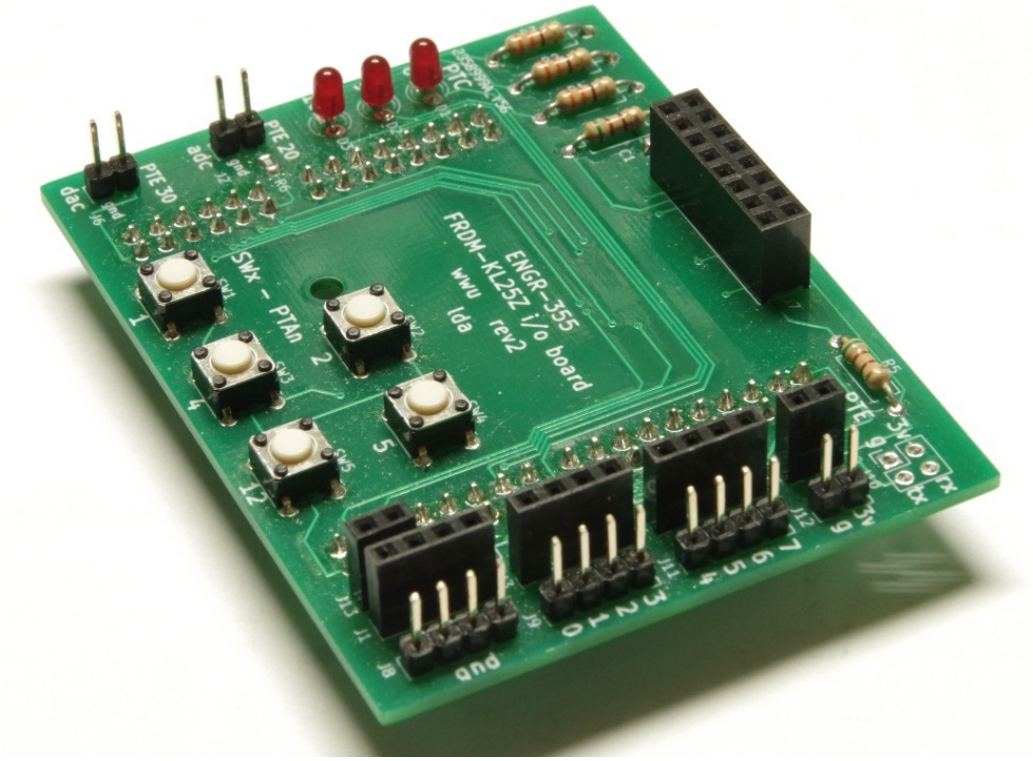
ENGR-355
KL25 I/O Board Assembly Information

This note describes a recommended assembly sequence for the WWU KL25 Inpu/Output circuit board.

This is the circuit board with only the two surface mount parts installed.

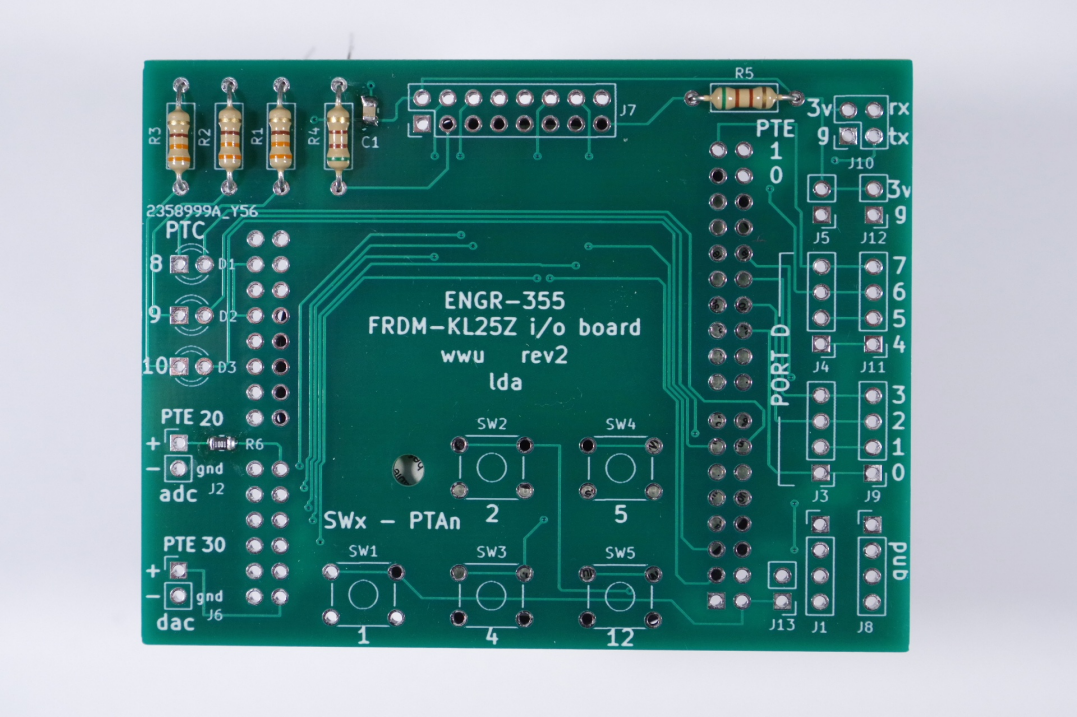


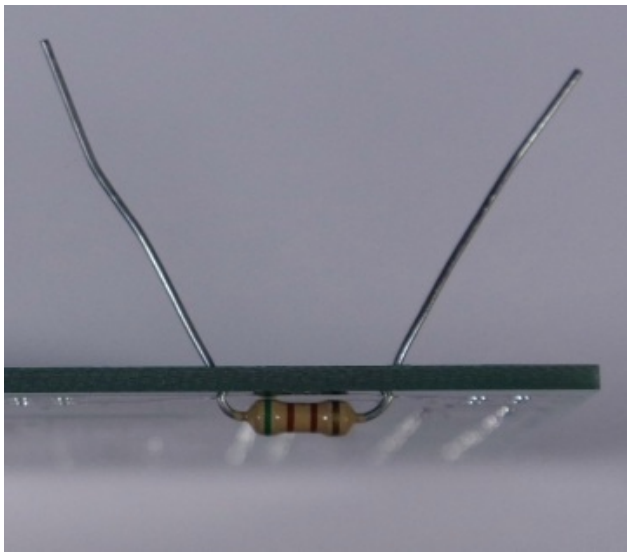
And below is what the assembled board looks like:



1) Install five 1/4 watt resistors. R1, R2, R3 = 360 ohms. R4 and R5 = 510 ohms.

- Bend leads and push resistors through holes.
- On the back side, spread leads to hold resistors in place.
- Set board upside down on counter and solder.

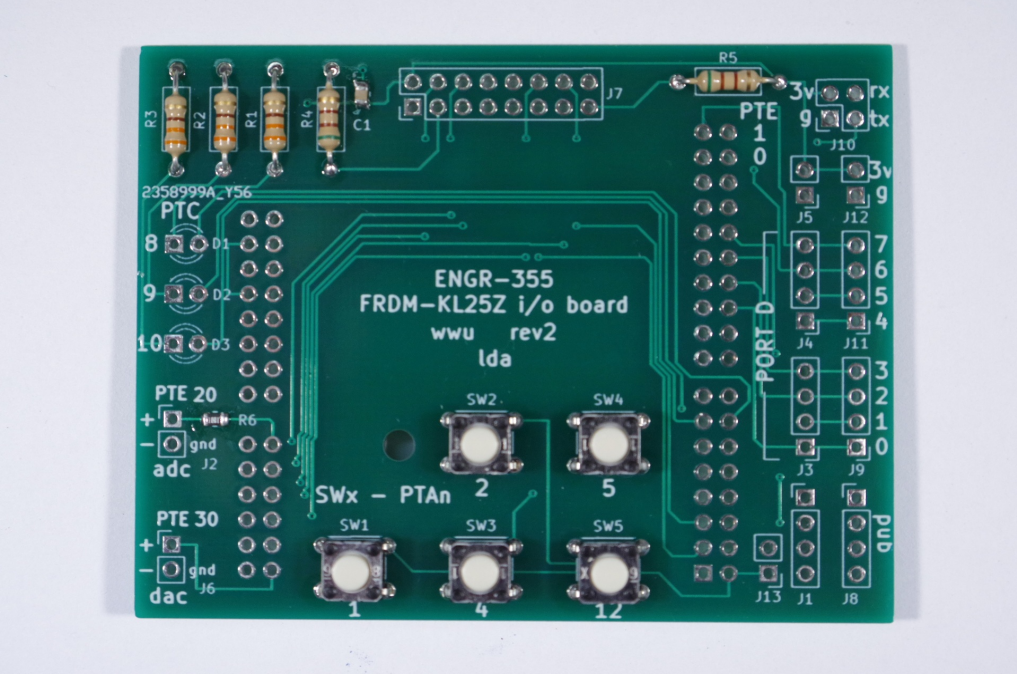




- Using side cutters, clip off the excess lead length.

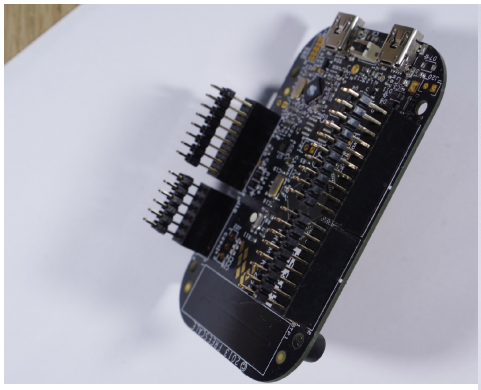
2) Insert the five push button switches.

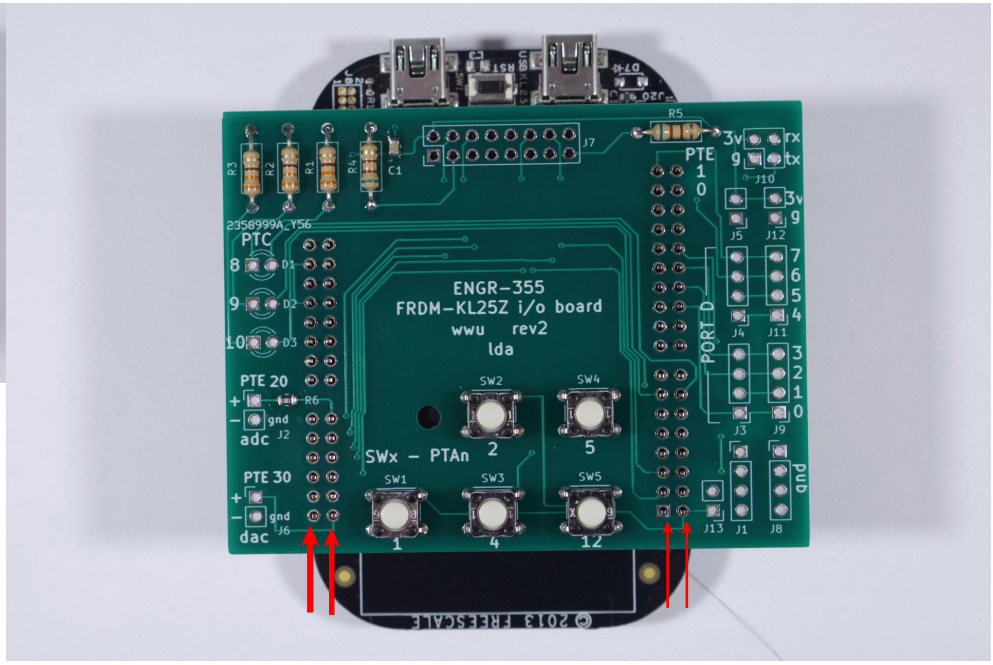
- Align a button's 4 leads with holes (NOTE: leads are further apart in one direction than the other).
- Gently press button inward until its bottom is flat against the circuit board.
- Buttons should stay in place, so all buttons can be pressed in.
- Turn board upside down and solder.



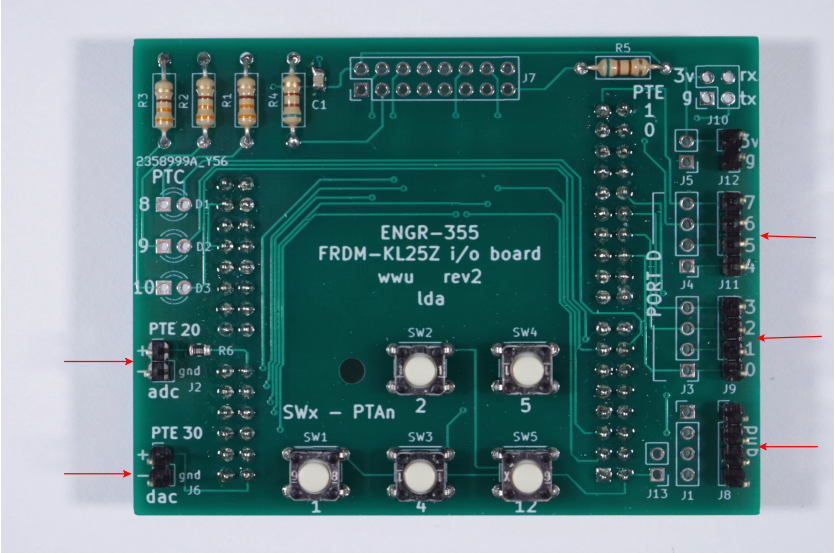
3) Install the four dual-row male headers (one 2x6, two 2x8, and one 2x10).

- set the header pins on the sockets of a Freedom board (don't press the pins into the freedom board sockets) to keep the headers properly aligned. Solder.





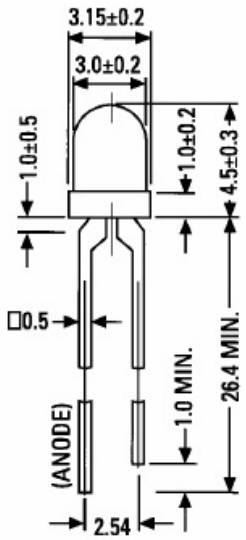
4) Install five male headers. 2-pin for adc and dac; 4-pin for j8, j9, & j11

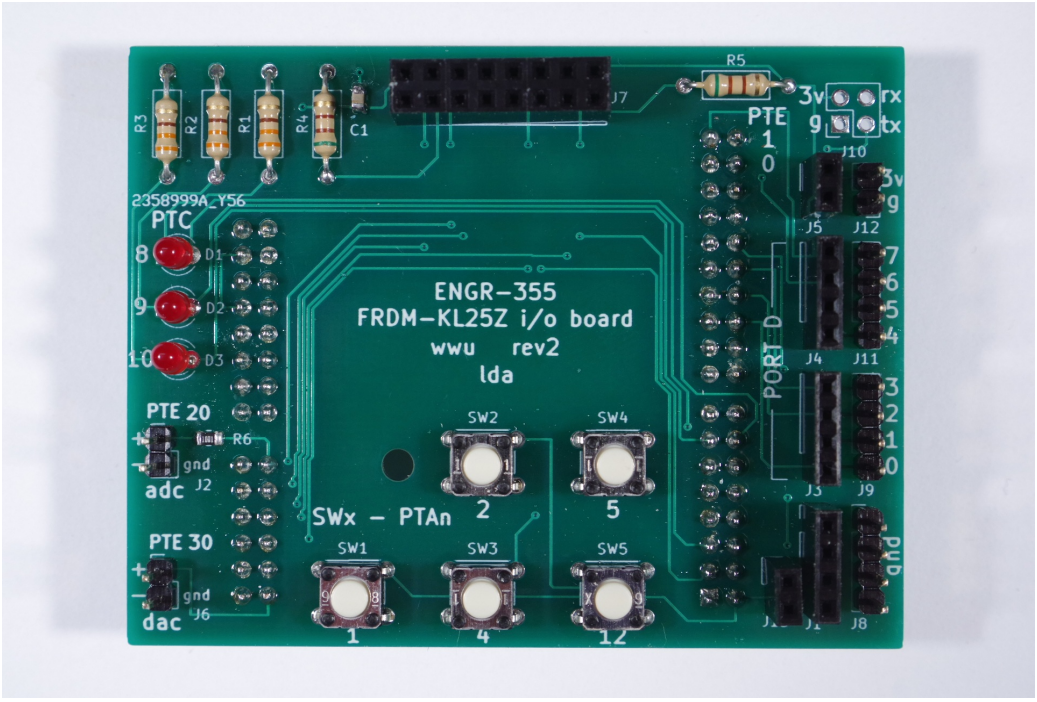


- After setting header pins in place on the circuit board, take another bare circuit board and align with header pins and slide it in place over the pins of these 5 headers. Hold the two boards together and flip upside down on the counter (NOT on the anti-static mats). Solder all the header pins.

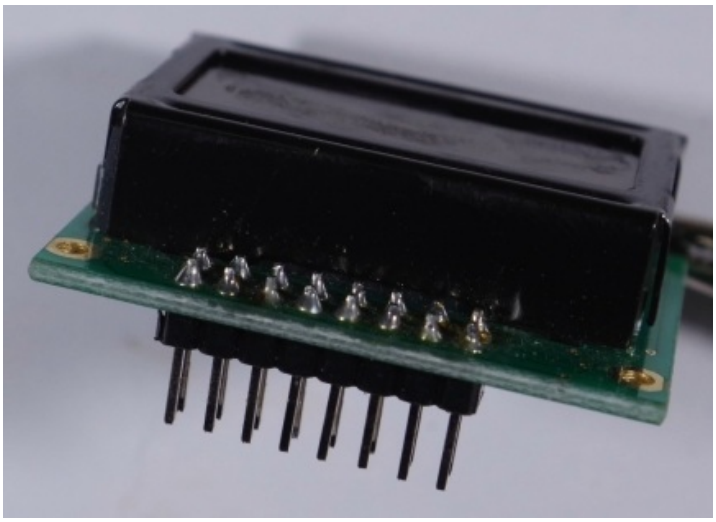
5) Install sockets on the top side of the board. 2-pin for j13 & j5; 4-pin for j1, j3, & j4; 2x8 pin for j7

6) Install three LEDs. Note that the longer lead of the LED is the Anode or more positive terminal. In this design it connects to the microcontroller I/O pin. The other terminal, the cathode (negative end), connects to ground via a resistor. Looking down at the board, the anode end (longer) is to the right and cathode to the left.





7) Install a 2x8 header on the LCD display as shown below:



8) The completed board connected to the Freedom board with display plugged in.