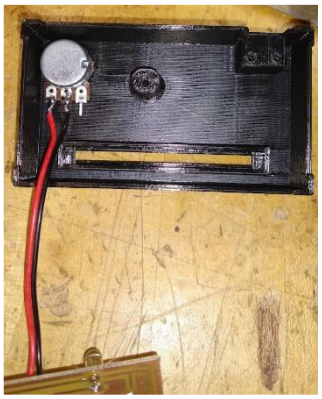
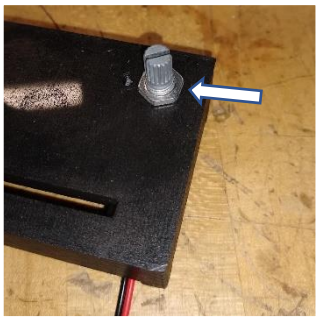
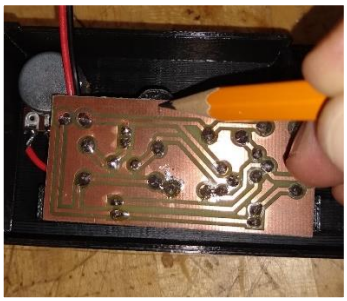
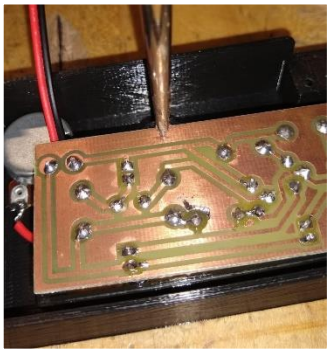
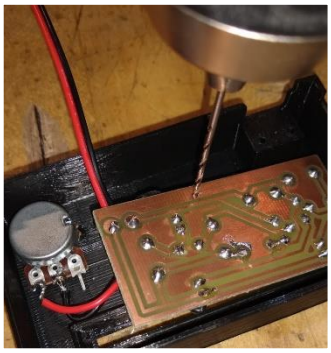
Sound Sensing LED Project
- Final Project Assembly Procedure -

1. Gather the following: 1. Cordless Drill 2. Drill Index 3. Your project stand	
2. Using the 1/16” drill bit and the 3D printed holes as guides, drill the two USB mounting holes and the one circuit board mounting hole to a depth of approximately ½” or 13 mm. The bit will pull downward while drilling. Take care not to drill through your project! Put the drill bit back in the drill index.	
3. Using a 5/64” drill to drill SLIGHT counterbores into the USB mounting holes. The larger starting holes will assist with getting the screws started later.	

4. Using a 3/32” drill bit, drill a pilot hole for the circuit board mounting screw to a depth of approximately ½” (13mm). As in step #2, the bit will pull downward while drilling. Take care not to drill through your project!	
5. Insert the potentiometer as shown taking care to align its tab with the hole in your stand. The tab prevents the potentiometer from rotating when it is adjusted.	
6. Secure the potentiometer with a nut. You may need to get this from your teacher.	
7. Place the circuit board in position. Take a look at the LED position through the slot and centre these in the slot.	
8. With the circuit board in position, make a pencil mark that indicates the position of the mounting hole. !	

9. With the circuit board held against its mounting hole for stability, use an awl to create a divot to assist with drilling.	
10. Using a 1/16” drill bit and with the circuit board slid slightly to the side and off of its mounting boss, drill through the board, then increase the hole size using a 7/64” drill bit .	
11. Obtain two 2mm x 10 mm Flat Head screws and use these to mount the USB port. This is where those counterbore holes come in handy as pressing the screws in should allow them to stay in place.	
12. Using a Phillips head screwdriver of appropriate size, turn in the USB mounting screws until the board remains in contact with the stand. DO NOT over tighten as the screws threads as the plastic can be easily stripped!	
13. Obtain a #4 x ½ Flat Head wood screw and use a #0 Robertson screwdriver to install the Circuit board. DO NOT over tighten the screw threads as the plastic can be easily stripped!	

14. Plug your project into a USB cable to ensure that it is still working (assuming you've previously tested as you should have) after final assembly. If not working, try unscrewing the circuit board and try again. Still not working? Try gently wiggling and pressing on connections to determine fault.	

Next

If you have yet to 3D print your potentiometer adjustment knob, you will need to do so. (*see class website*)

If you have yet to create and laser engrave/cut your display tile you will need to do so. (*see class website*)