EE16A Lab: Touchscreen 1
Friday 11am-2pm

GSI: Seiya

Lab Assistants: Cameron, Ed, Ryan

Announcements

- ✘ Lab Cycle now Monday - Friday!
- ✘ New check off procedure
  - ✗ View lab grades on **gradescope** (not updated yet)
  - ✗ Each partner will fill out a form **individually**

Semester Outline

~~Imaging Module~~

Touchscreen Module

Locationing Module

Today's Lab: Touchscreen

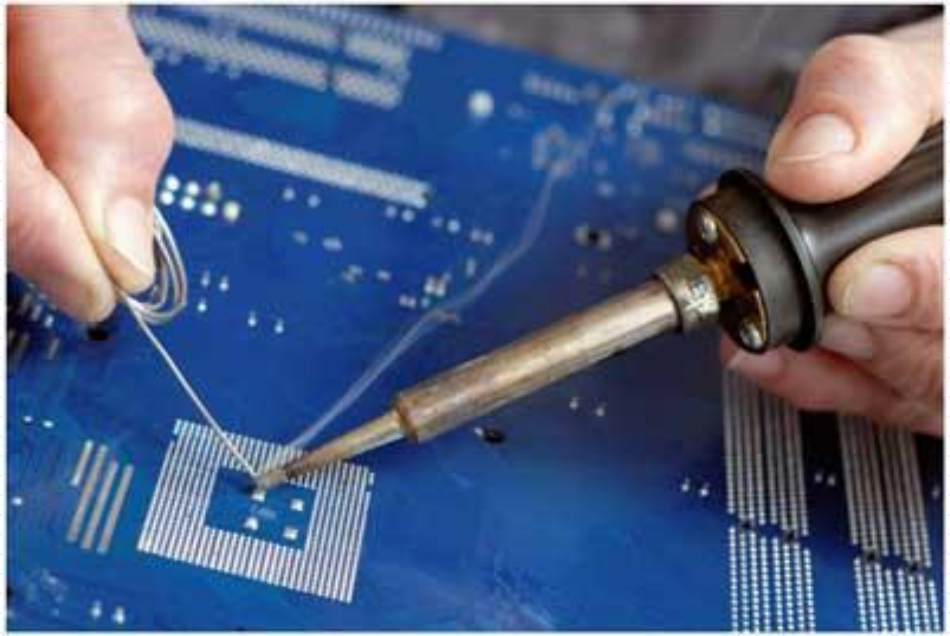
- ✘ Learn to solder
- ✘ Build simple LED fader circuit
- ✘ Automate LED fading

Equipment For Today:

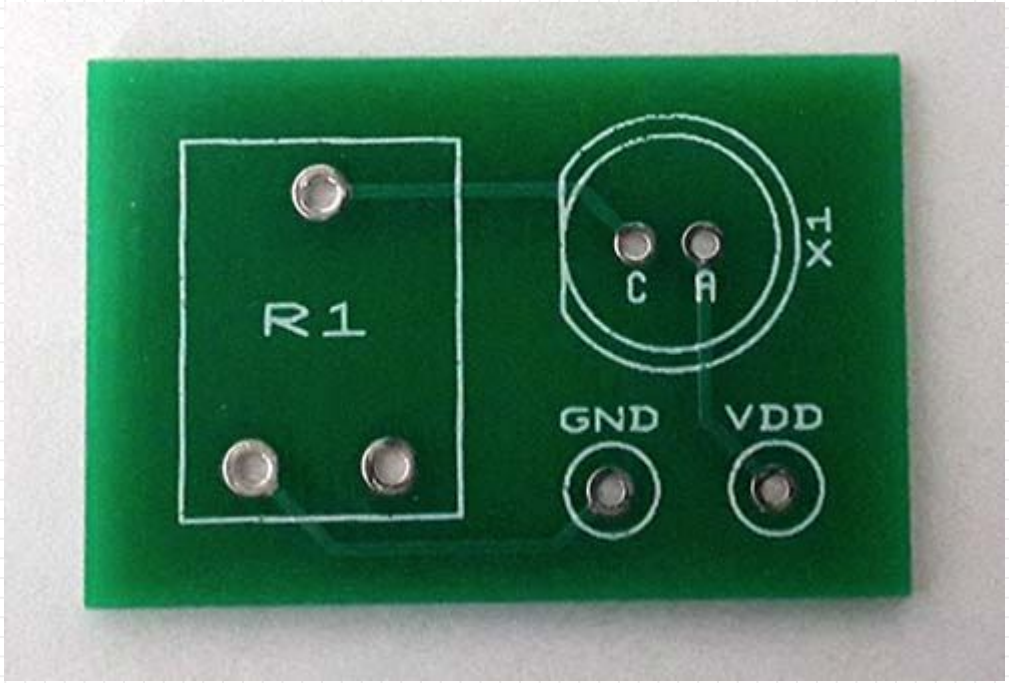
- ✘ Power Supply
- ✘ Function Generator
- ✘ Multimeter
- ✘ Soldering Iron
- ✘ Launchpad

Soldering

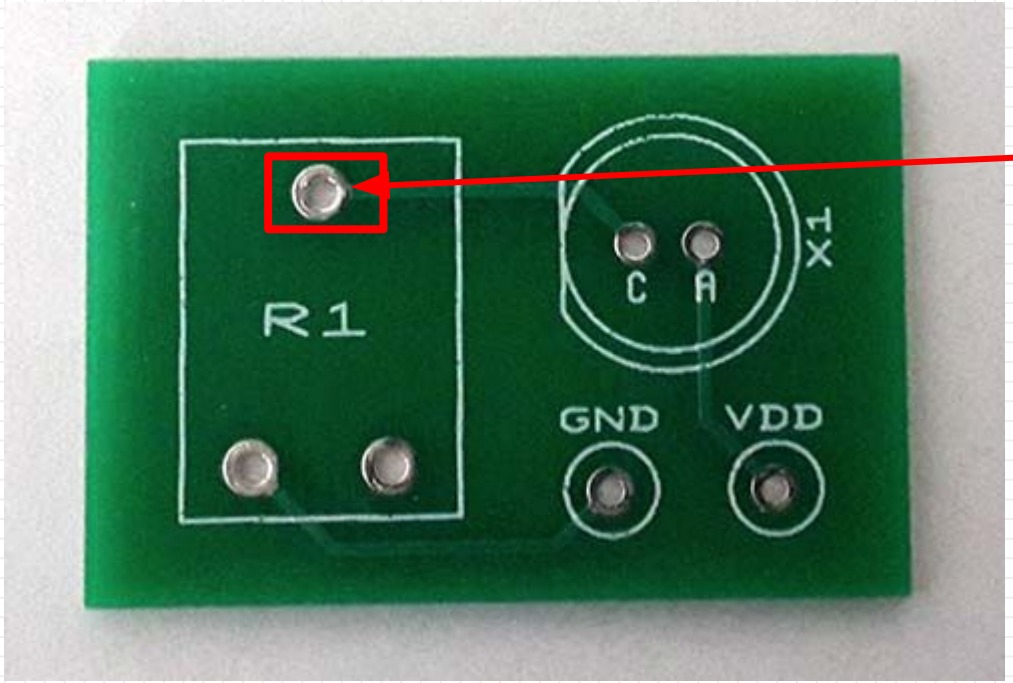
- Like hot glue for circuits



PCB (Printed Circuit Board)

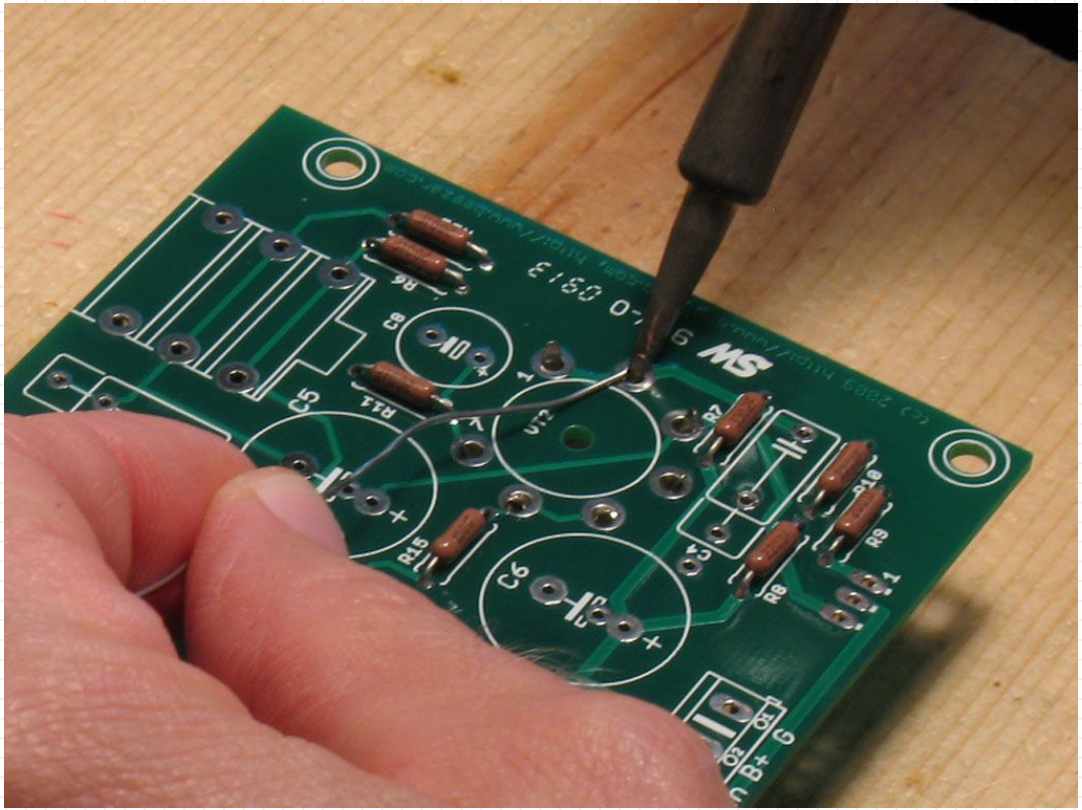


PCB (Printed Circuit Board)

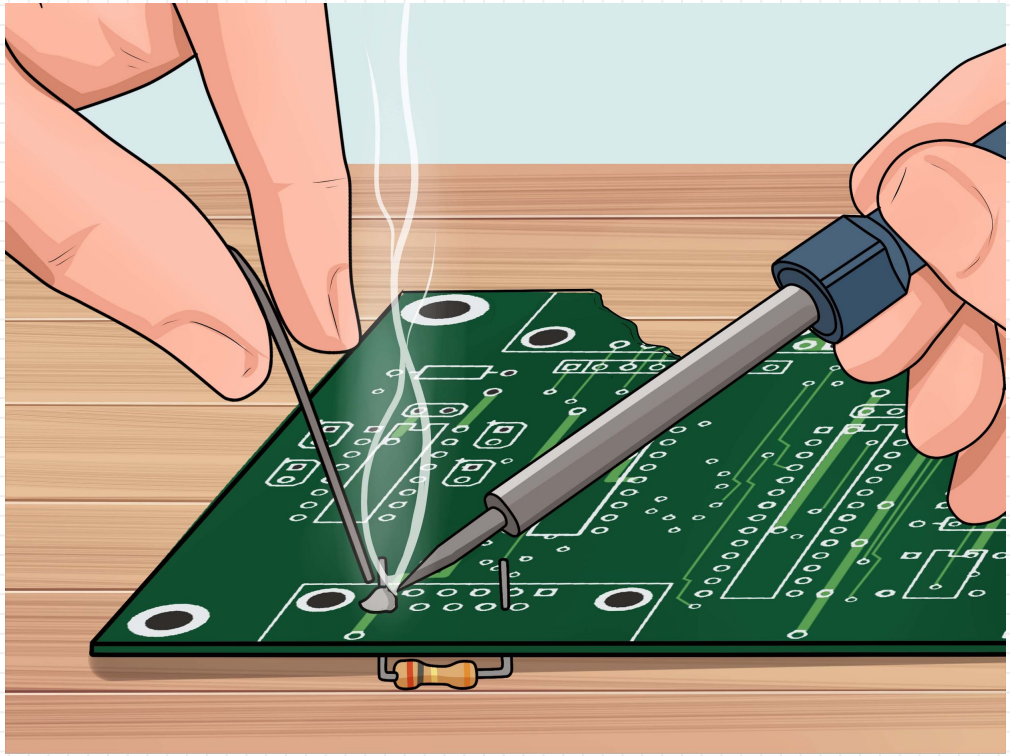


Pad
(Copper plate)

Soldering



Soldering



Component should be flesh to the board

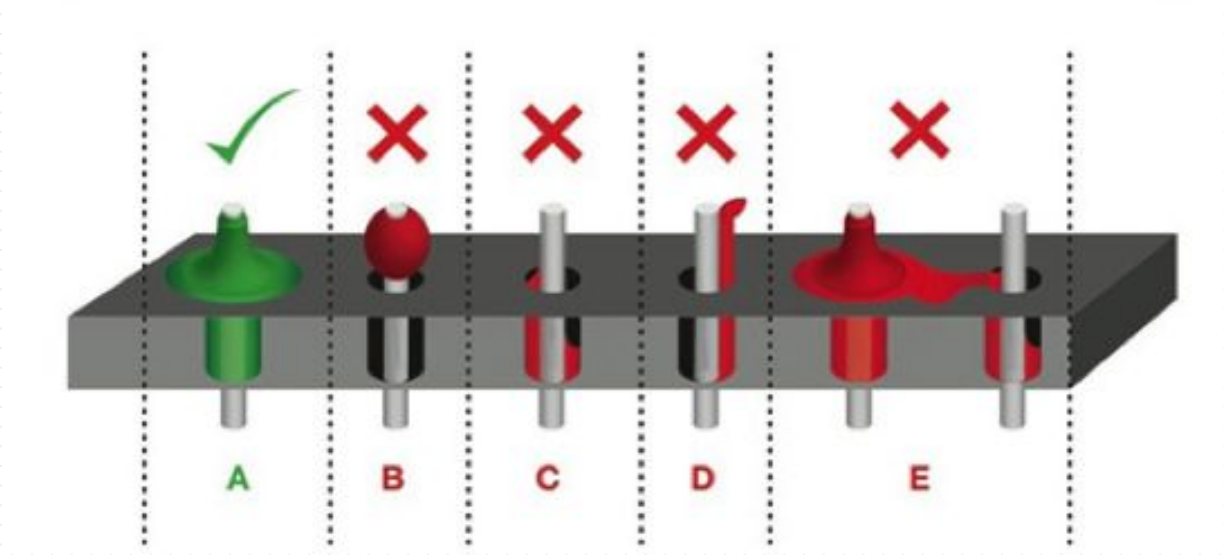
… why?

Soldering

Video tutorial of Soldering (only watch ~3 minutes of the video):

https://youtu.be/fYz5nIHH0iY?t=1m56s

Actual Soldering occurs @3:47 - 4:18

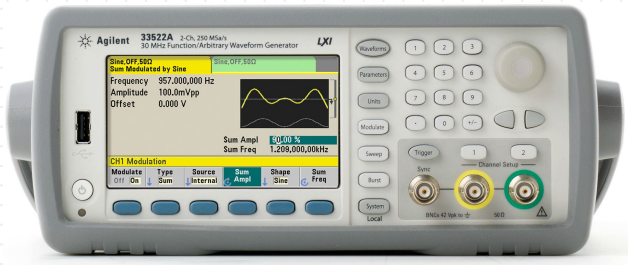

A
B
C
D
E

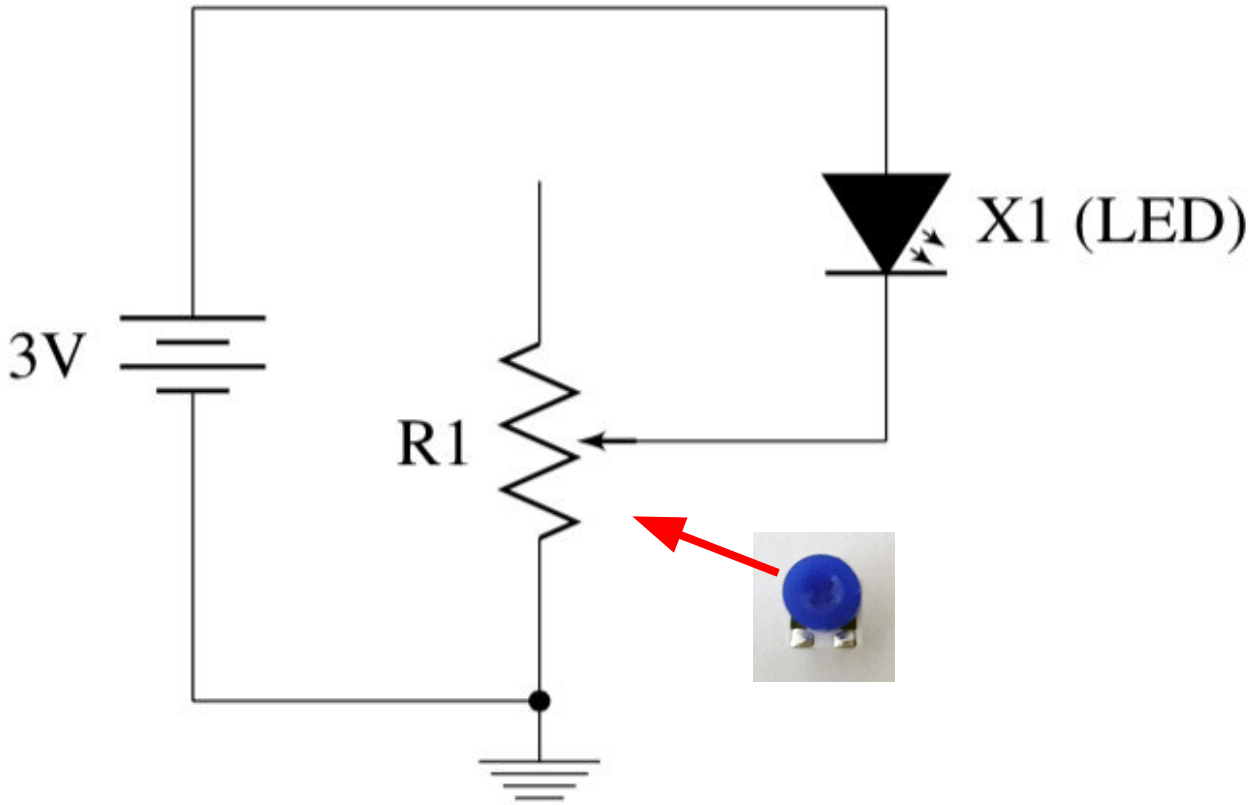
Soldering Tips

- ✘ Wet the sponge, clean the tip, and tin when you start.
- ✘ Use the clamp: components should be stable before you start soldering.
- ✘ Be careful, don't burn yourself.
- ✘ Ask if you feel unsure of what you're doing.

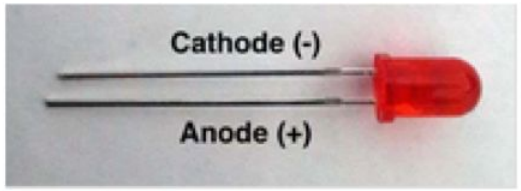
Function Generator

- ✘ Produces time-varying voltages
- ✘ AC version of power supply (which is DC)



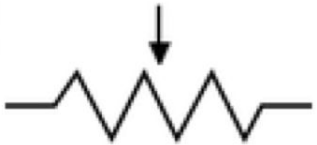

3V
R1
X1 (LED)

New Circuit Elements



- LED

Potentiometer -



Notes

- ✘ LED: polarity matters -> Longer one is positive
- ✘ Only need few inches of solder (@TA desk)
- ✘ Water squirters for sponge is also @TA desk
- ✘ You **each** should make one fader circuit
  - ✗ But you can help each other out & work together
- ✘ The lab says to show me things at each step...
  - ✗ Don't worry about it~ checkoff at the end
- ✘ **Check off**: tinyurl.com/16a-lab-checkoff
- ✘ **Form:** tinyurl.com/lab108-q