Pulsed Light Source Info for 520 Lab 3

Before Operating (IMPORTANT)

- Never touch the driver board or LED when it is plugged in, always unplug first!
- **Always run fan** while driver board is plugged in or the board/LED may burn out
- Do not change the settings on the waveform generator unless they get reset (settings are written down next to waveform generator on table)

Procedure:

- Connect the labeled 12 and 24 V barrel connectors to their respective plugs, check that the fan is running
- Check that there is a BNC cable running from the waveform generator output to the TRIG IN port of the board
- Check that the waveform generator settings are as they are written on the paper next to it
- Turn on the LED by pressing the output button on the waveform generator
    - o LED should turn on, if it does not, double check all of the connections and settings, then ask a TA for help
- Turn on the camera, and make sure that it is in manual mode (M on top left dial)
    - o Check that the frame rate matches the LED repetition rate setting
    - o Turn into video mode and check that the red light from the LED is visible in the camera

- Required camera settings
  - Frame rate 54.9 fps
  - Shutter Speed: 1/20
  - Exposure/gain (-3)

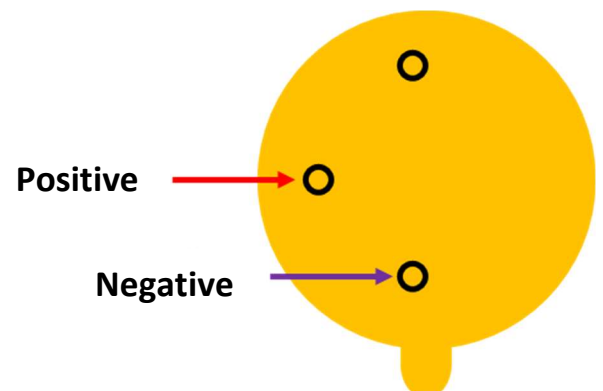Bad photo but it should look something like this

Shutdown procedure:

- Turn off output from waveform generator
- Unplug both 12 V and 24 V barrel plugs
- DO NOT turn off delay generator

Replacing the LEDs

- Sometimes the LEDs burn out after a period of use, it may or may not happen during this lab week
  - If it does, there are spare LEDs next to the light source
- Pull both the board and mounted LED out of their optical post mounts at the same time, then disconnect the LED
- The LED mount has a small retaining ring holding in the LED
  - Unscrew the ring with the small screwdriver and replace LED
- Connect the LED pins to the positive (top) and negative (bottom) holes of the white socket on the pulser board
- Reinstall the LED mount and board mount in the optical post mounts (at the same time)
- If LED still not working → contact TAs

Pin connections on the back of the LED