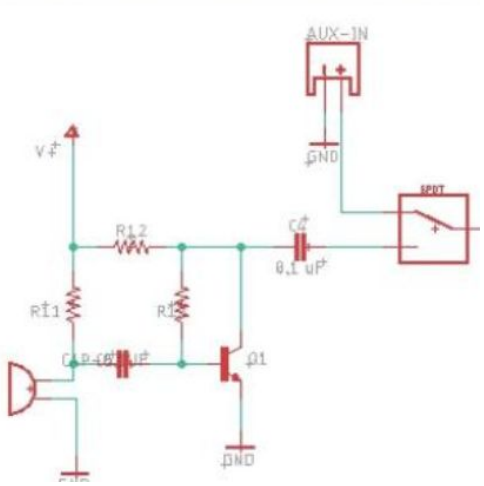
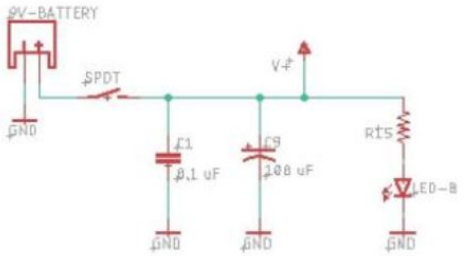
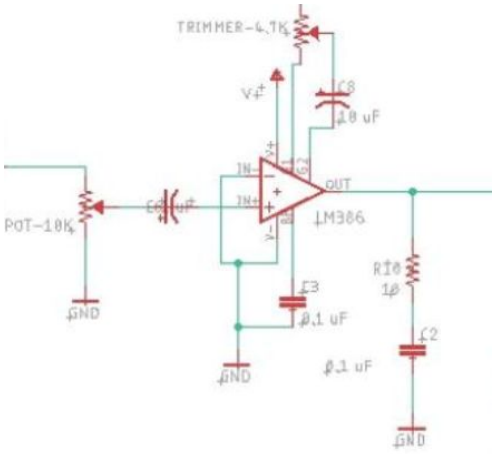
Analysis



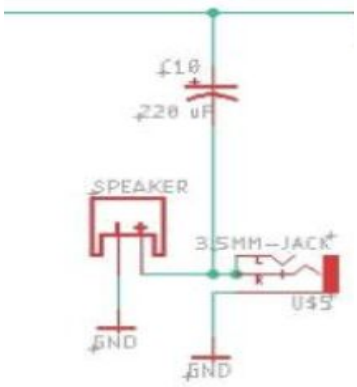
- This is the input circuit and takes in two different types of Input
- Microphone takes in sound input and goes through a CE amplifier topology
- Capacitor at the Collector of the transistor is used in order to filter out AC noise
- Capacitor at the Base of the Transistor and Microphone INPUT is used for sound waves at range of frequencies will be picked by the microphone
- The SPDT Switch allows to switch from microphone input or AUX Input where the Aux cable can be hooked onto a phone or a laptop



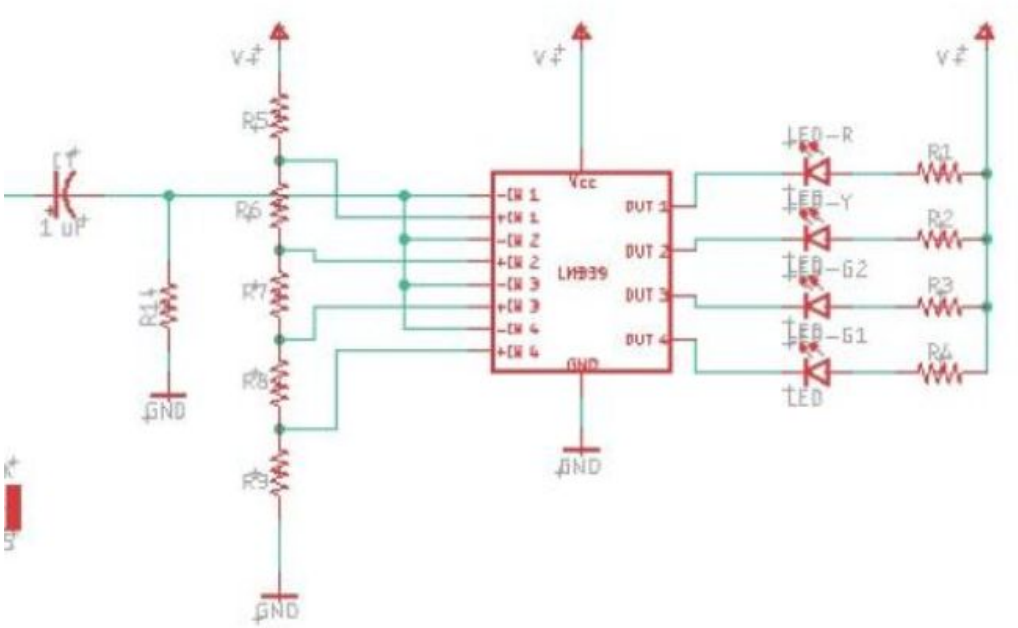
- This circuit is used to turn ON or OFF the circuit and the LED B represents that the Circuit is ON



- The 10k pot resistor is used to adjust the voltage input
- LM386 is used for low power audio frequency amplifier and used to amplify the signal (20 to 200 times)
- 4.7 k pot are used to create gain adjustments which is attached to Pin 8
- Bypass capacitor is used at Pin 7
- RC Low pass circuit is at the Vout of the LM386 in order to filter out the Higher Frequencies
- Pin6 is the terminal which receives the positive DC voltage in order for the OpAmp to amplify the signal



- The amplified Signal is passed through a Bypass capacitor and into a speaker or an AUX oUT device



- This part of the circuit is represented as a volume level indicator
- LM339N is a quad comparator (4 Op-amps)
- +CH1, +CH2,+CH3, +CH4 are attached to a voltage divider rail that contains certain node voltages to be compared with the input voltage from Vout of the LM386 which are attached to -CH1, -CH2,-CH3, -CH4
- The quad comparator will compare with positive channel node voltages and based on this comparison the LEDs will turn ON or turn OFF

  Ex.
  - If (+CH) - (-CH) > 0, OUT = VCC, which will cause the LED to turn OFF
  - If (+CH) - (-CH) < 0. OUT = GND. which will cause the LED to turn ON