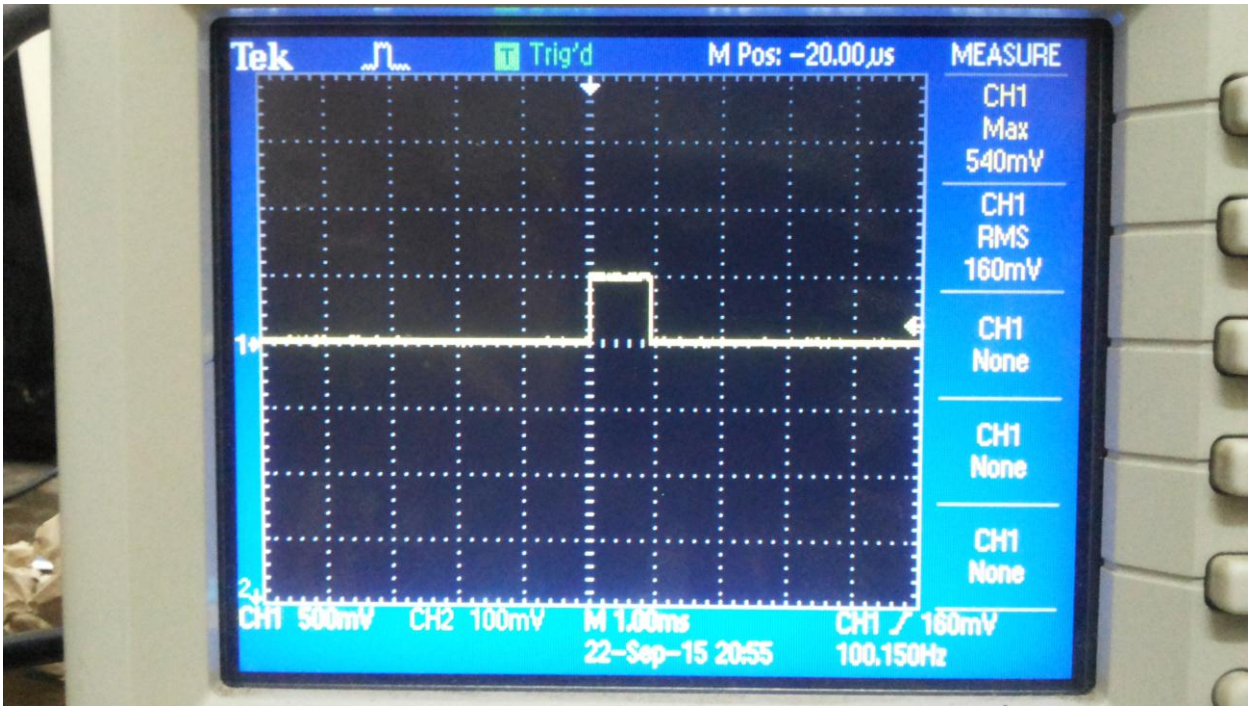


IRled = IRL81A - 100 hz signal 10% duty cycle PWM pin3 from arduino

Program

```
#include <PWM.h>

int32_t frequency = 100;

float val = 0.0;             //variable to store the value coming

float Bit = 1023.0;          //set value for amount of bits

float volt = 0.0;          //set value to store calculated voltage

float SensorData;

const int SensorPin = A0;

#define PIN 3

void setup() {

 pinMode(PIN, OUTPUT);

 int DUTY = 10;

 InitTimersSafe();                // won't touch timer0

 SetPinFrequencySafe(PIN, frequency); // again, not timer0

 pwmWrite(PIN, DUTY * 256 / 100);

  pinMode(A0, INPUT);

  Serial.begin(9600);

}


void loop()

{

 val = analogRead(A0);
```

```
volt = val * (5.0 / 1023.0); //equation to convert incoming value to voltage

SensorData = volt;


Serial.print("Voltage received from Sensor is:\n");

Serial.println(SensorData, 4);

delay(500);


} // END void loop...
```

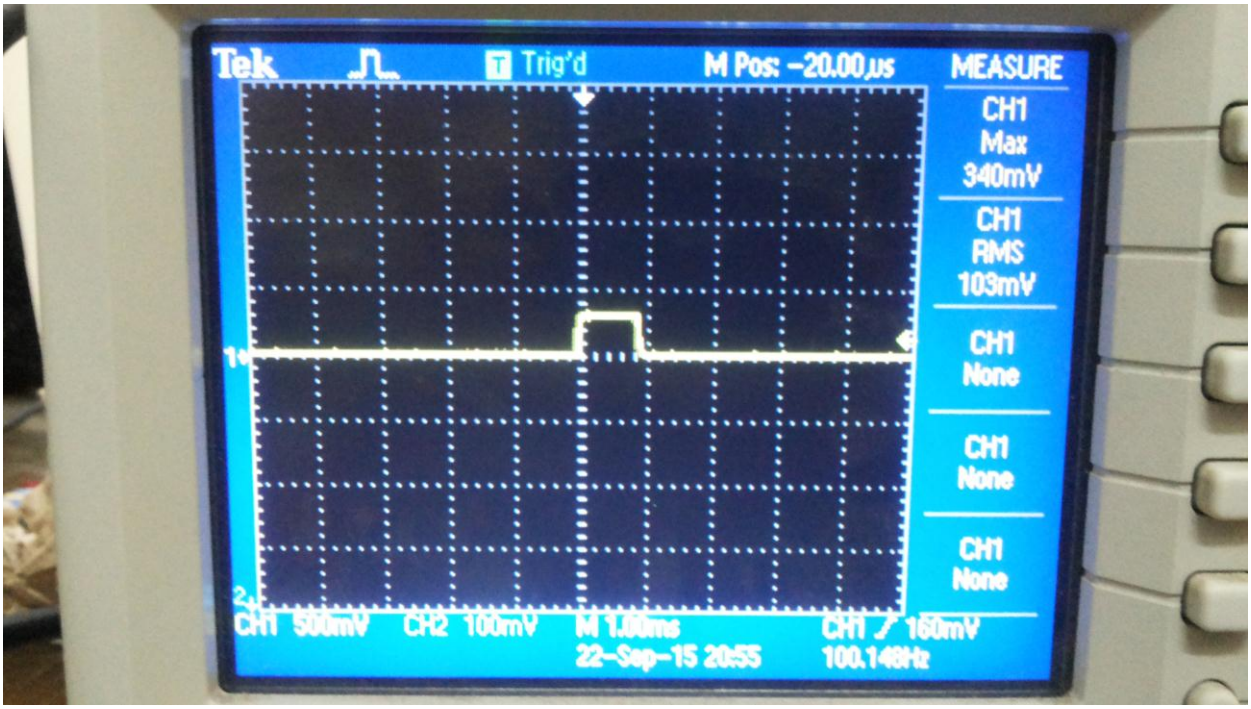
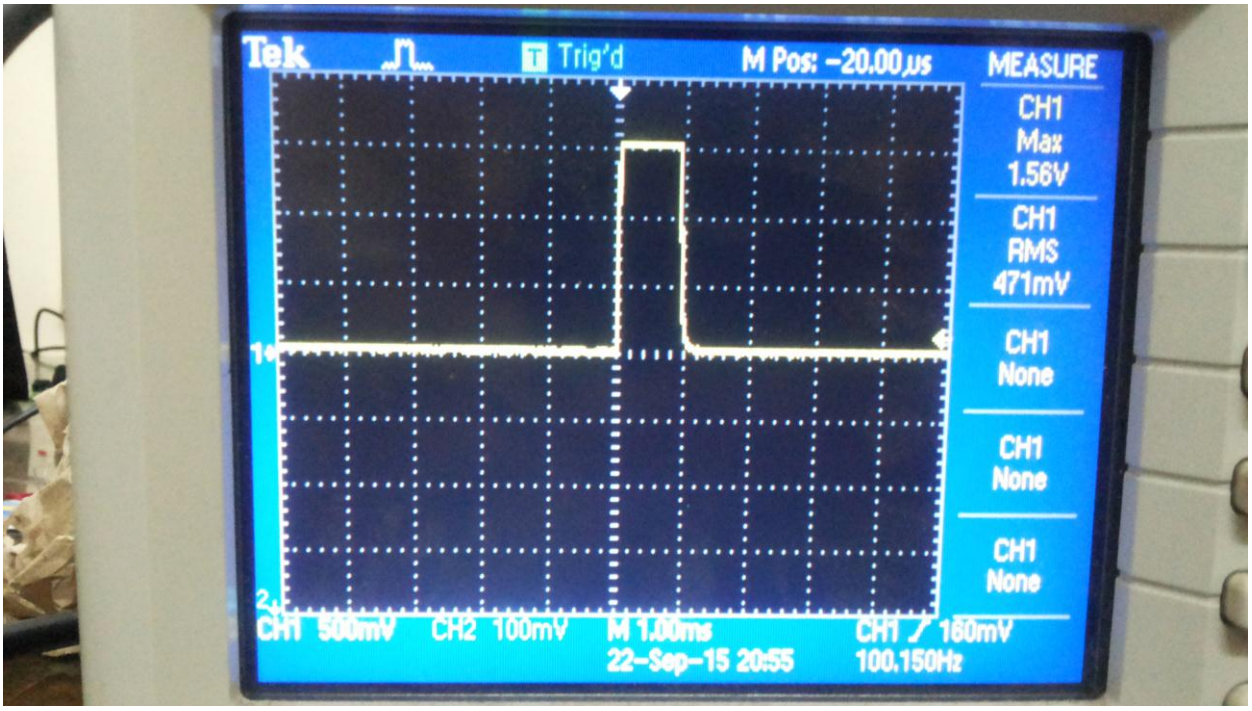
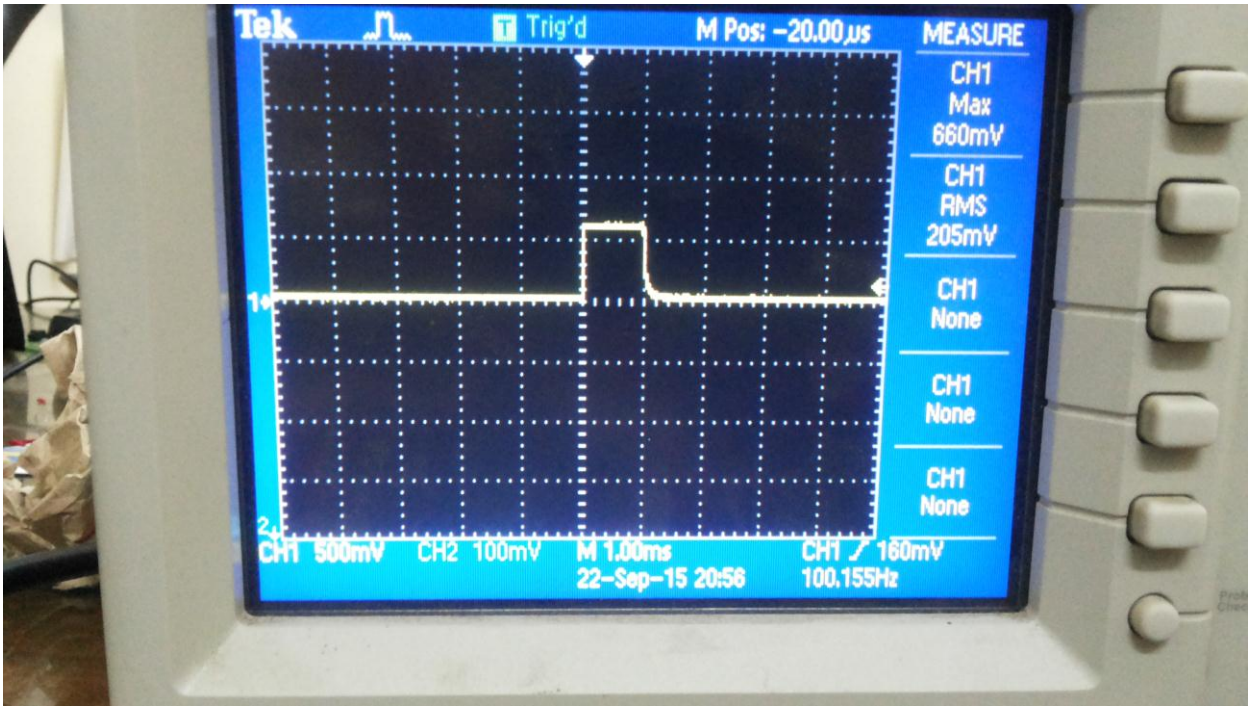


Photo Darlington OP560c output across 100ohm resistor

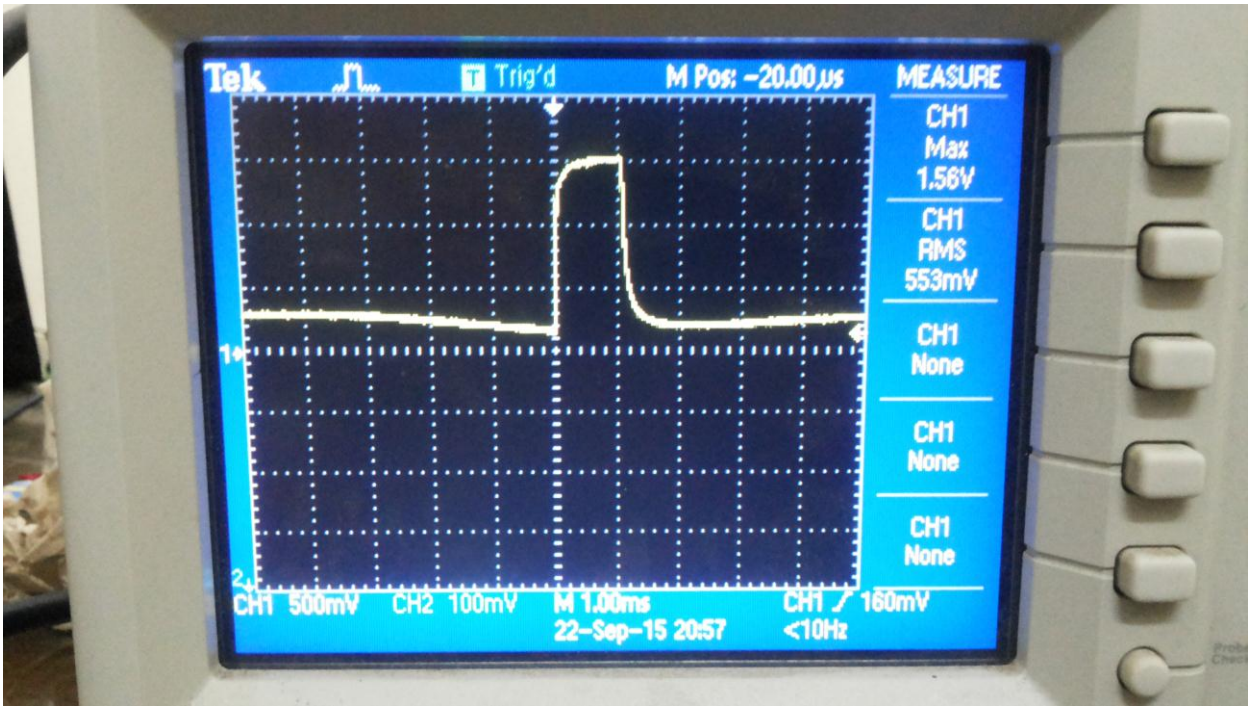


OPamp 741 output gain 101

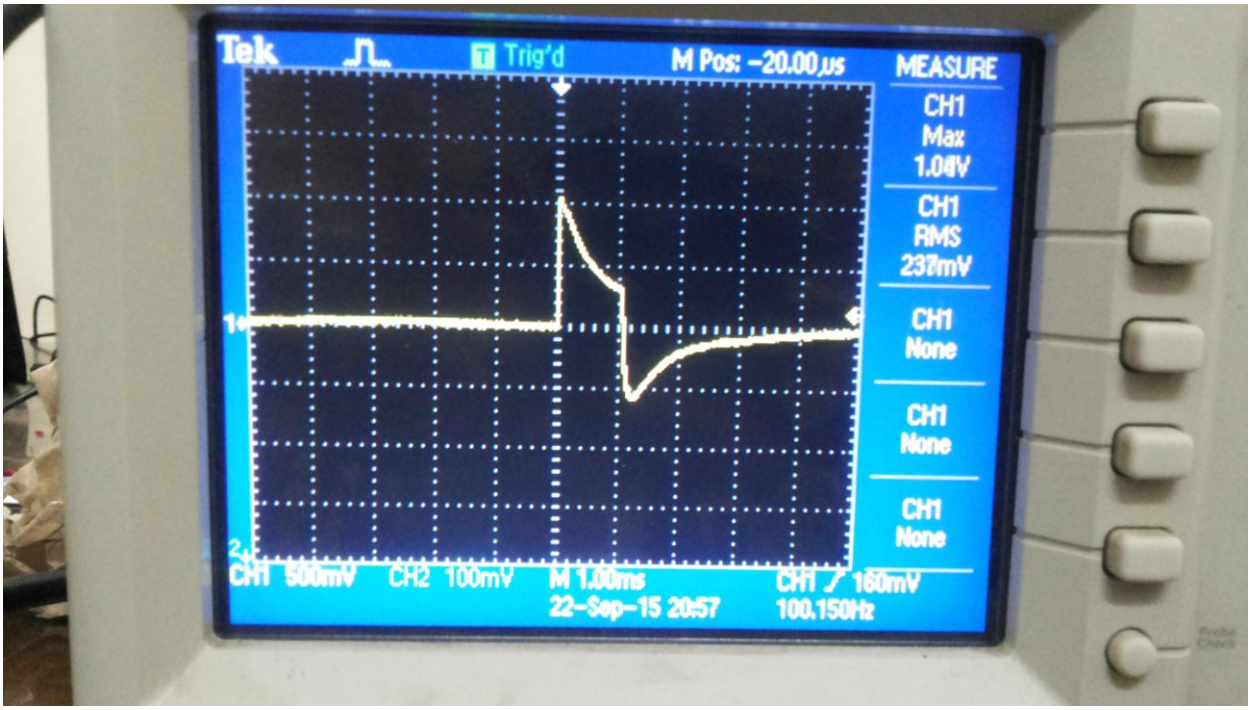


Demodulator AD630 output

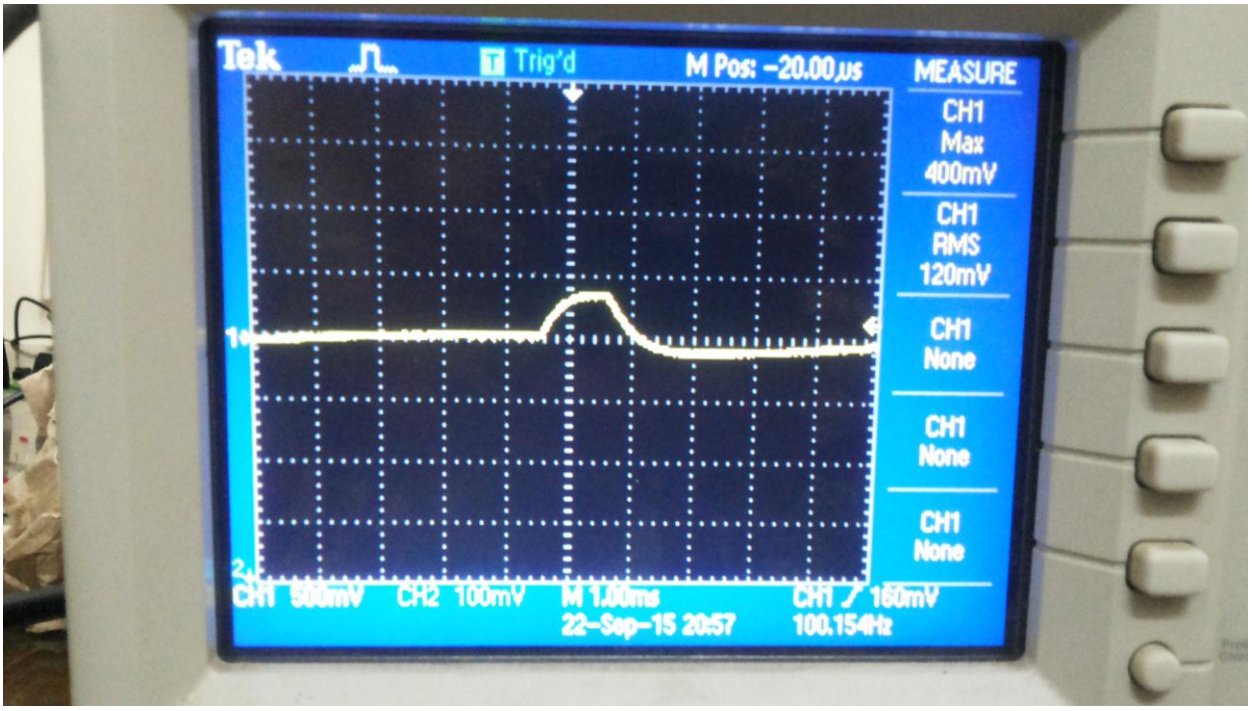
Reference input given to the demodulator is LED input (100hz 10% dutycycle)



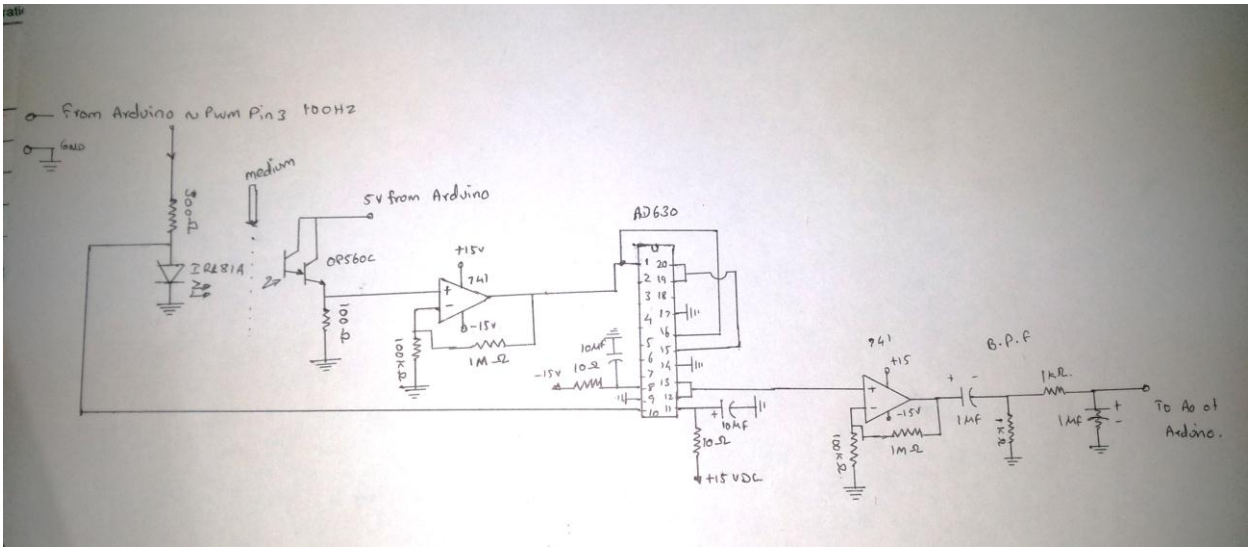
Opamp output gain 100



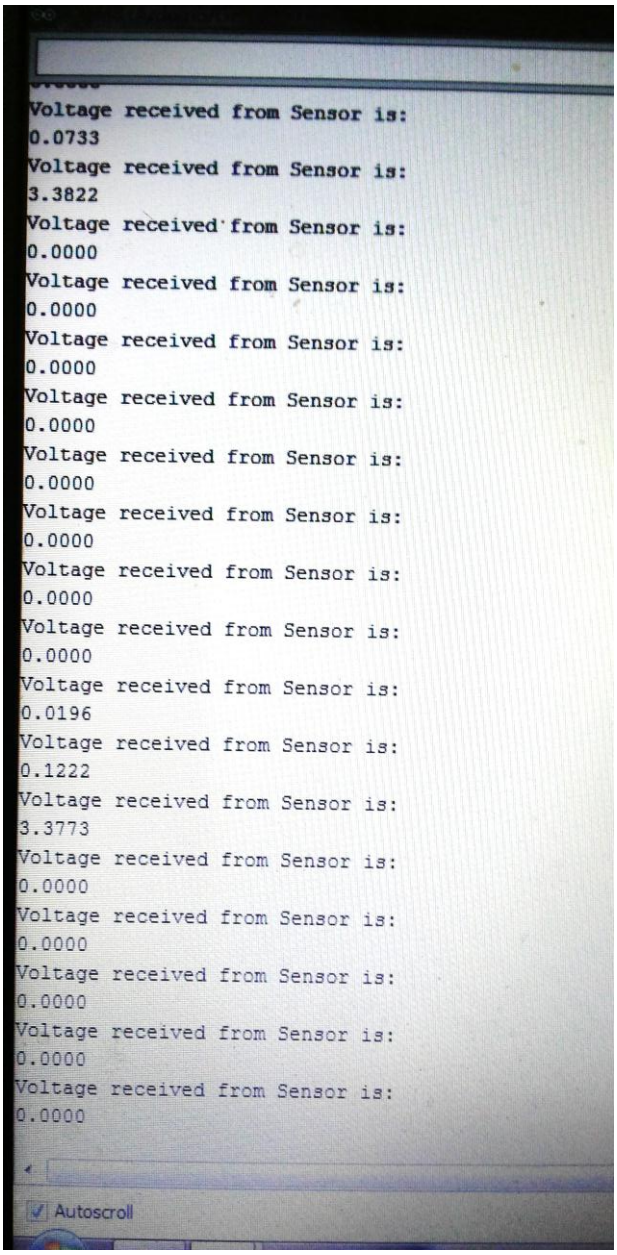
High pass Filter output 160HZ



Low pass filter output 72.5HZ



Schematics of my Circuit



Serial output from Ao PIN