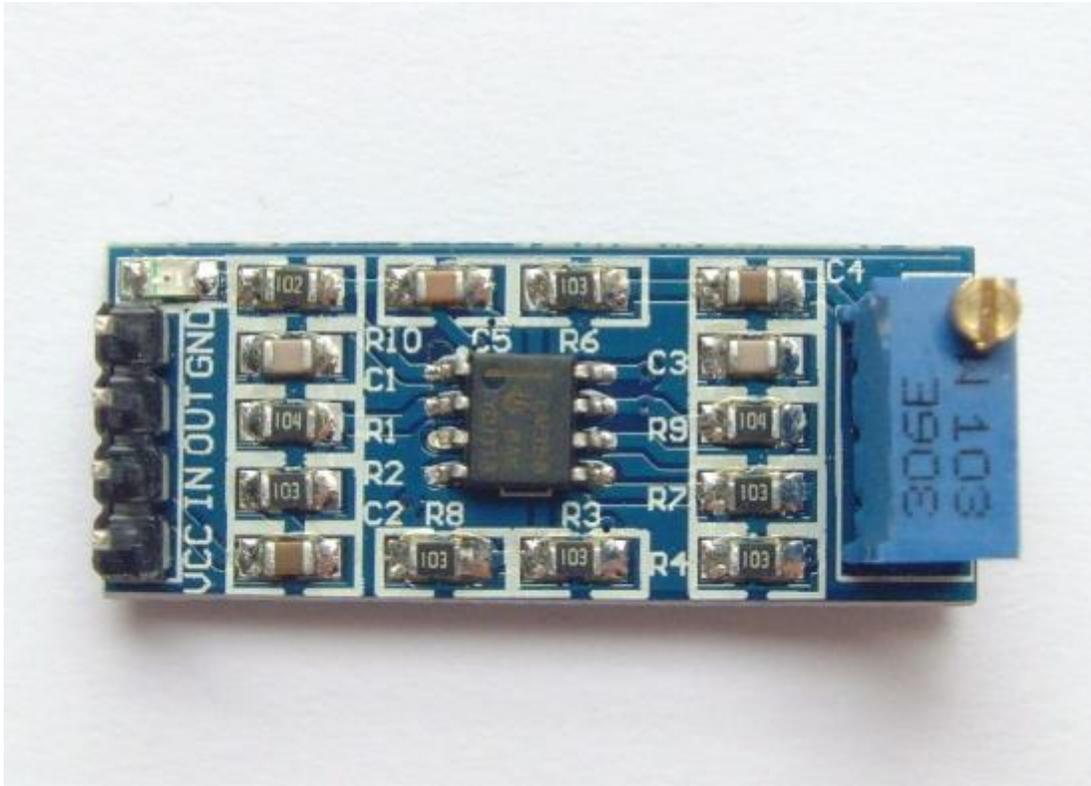


## LM358 100 GAIN OPERATIONAL AMPLIFIER MODULE



### Description

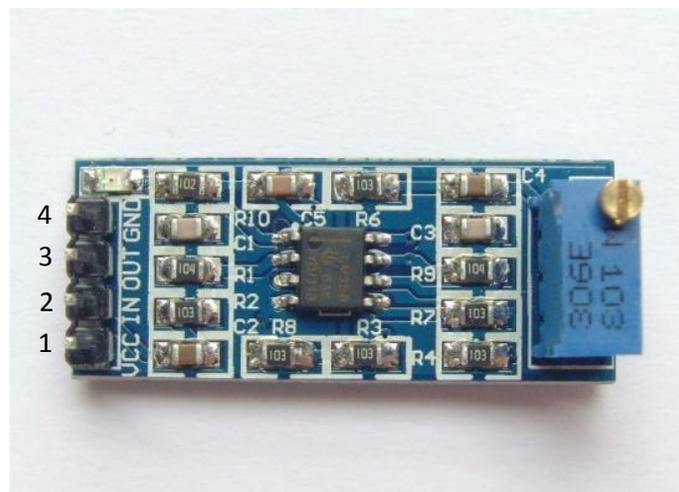
LM358 is a type of operational amplifier. It consists of two independent, high-gain, frequency-compensated operational amplifiers designed to operate from a single supply over a wide range of voltages.

When your project calls for a traditional op-amp function, now you can streamline your design with a simple single power supply. Use ordinary +5VDC common to practice any digital system or personal computer application, without requiring an extra 15V power supply just to have the interface electronics you need.

## Specifications

- Onboard LM358 Chip
- 100 times gain circuit design
- On-board 10K adjustable resistor, could adjust amplifier times
- On-board power indicator lamp
- All pins leads, directly Input/output signals
- Working voltage: 5V-12V DC
- PCB size: 32.7mm x 13.3mm

## Pin Configuration



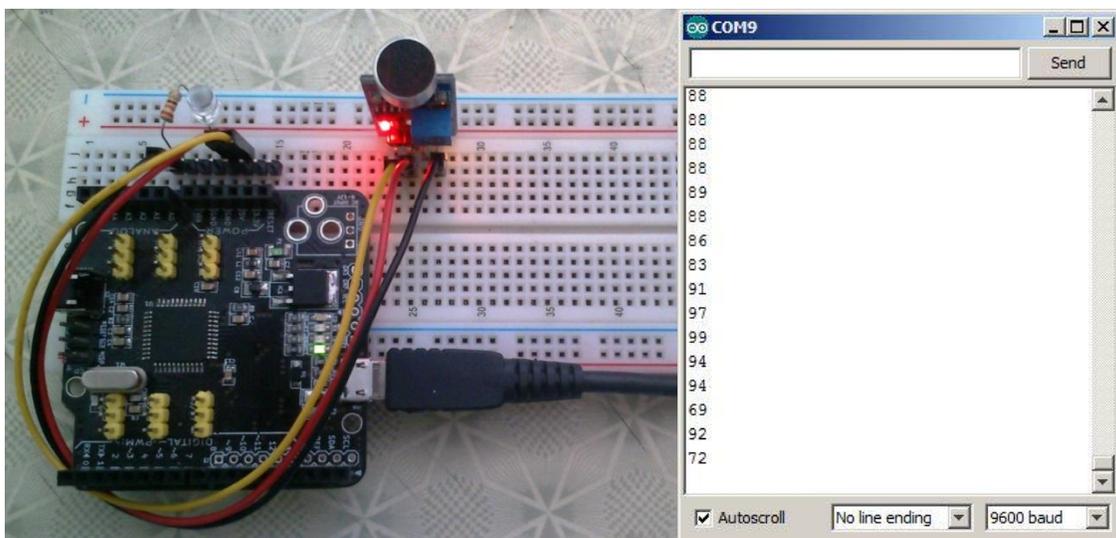
1. VCC: 5V-12V DC
2. IN: analog input
3. OUT: analog output
4. GND: ground



- USB cable
1. Since the sound sensor module has a very low analog output frequency signal, we can use the amplifier module to increase the signal output that can be read. Instead of directly connecting AO pin to the arduino, connect it to the IN pin of the amplifier module.
  2. Connect the components using pin connectors. VCC pins are connected to the 5V power supply, GND pins are connected to the GND, and the OUT pin is connected to an analog pin. Pin number will be based on the actual program code.
  3. After hardware connection, insert the sample sketch into the Arduino IDE.
  4. Using a USB cable, connect the ports from the microcontroller to the computer.
  5. Upload the program.
  6. See the results in the serial monitor.

## Testing Results

The image below shows the results when LM358 was not connected to the sound sensor. It reads a low output signal which was not enough to light up the LED when sound was detected.



The image below shows when the LM358 was connected. The output signal was amplified and the LED lights up when sound was detected.

