

Sound Switch

In this circuit sound is converted into electrical energy that is amplified to switch a LED on and indicates sound waves were detected.

NOTE: After the completion of this project leave the project for a couple of minutes the capacitors need to charge up before the Sound Switch start to work.

You will also need to adjust the trim pot until the circuit pick up load sound waves.

Happy building if you have any questions please contact us.

Tools required

1. Electronic Workstation
2. Flat screwdriver 2mm
3. Flat screwdriver 1.5mm
4. Side cutter 125mm
5. Sharp nose pliers 130mm

Component identification

The following instructions will help you build a Sound Switch on to your Electronic Workstation. But you will only be able to follow these instructions if you can identify the electronic components used in these instructions.

I have created a electronic component document dedicated to the identification of electronic components. You can download this document from the foot section of our web site (www.electronics123.co.za)

Component preparation

Variable resistor: When viewed from the bottom the terminal's will look like this (I) now bend it all three terminals like this (/) bending the terminals at 45° will insure the terminal enter deep into the breadboard sockets.

Resistors: Cut the paper strip of the resistor this will ensure that no glue is left on the terminal the glue can cause the terminal not to conduct electricity!

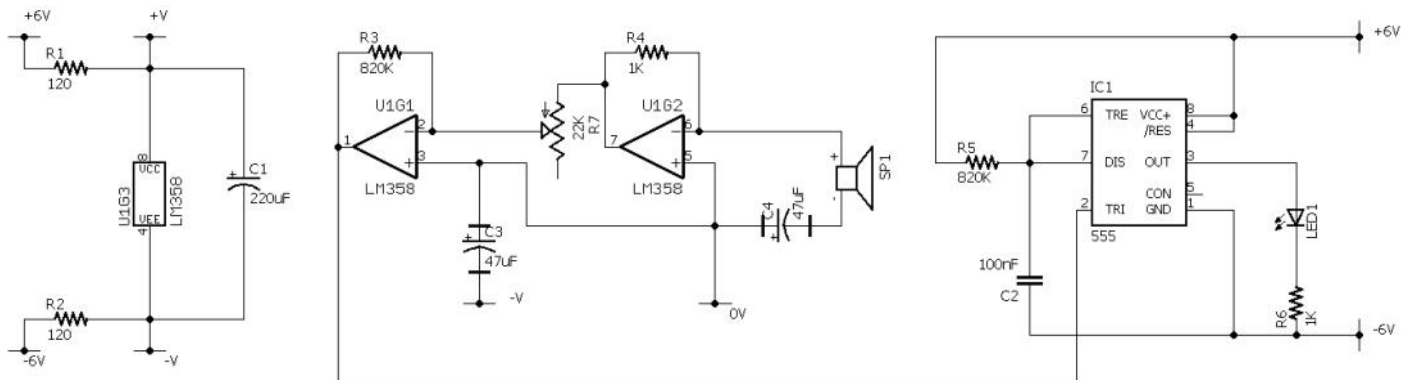
Electrolytic Capacitors: Cut the terminals of the electrolytic capacitor to equal lengths you will still be able to find the negative (-) by the white stripe on the body of the electrolytic capacitor.

LED: Cut the terminals of the LED to equal lengths you will still be able to find the negative by looking for a small flat side on the body of the LED.

IC: The terminal of the IC is at a slight angel bend them to a 90° angel.

Components required

4cm Yellow connecting wire	x1
4cm Black connecting wire	x2
4cm Red connecting wire	x3



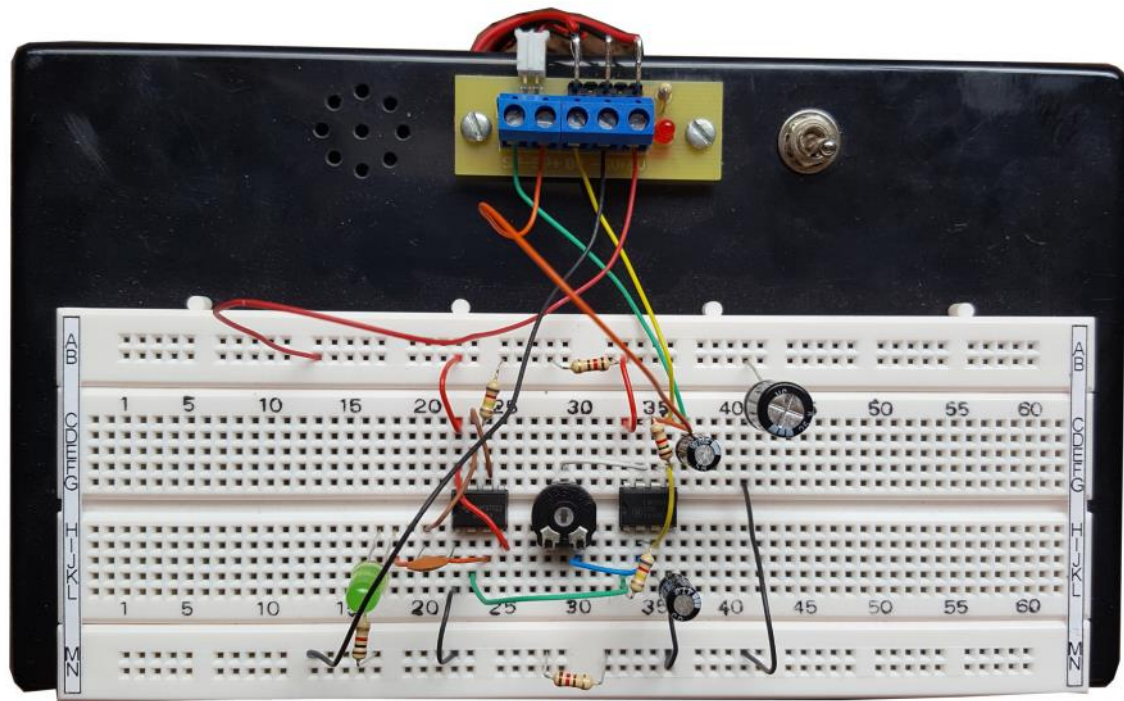
4cm Blue connecting wire	x1
4cm Brown	x2
4cm Orange	x1
4cm White	x1
7cm Green connecting wire	x1
7cm Black connecting wire	x1
15cm Red connecting wire	x1
15cm Black connecting wire	x1
15cm Orange connecting wire	x1
15cm Green	x1
15cm Yellow	x1
LM358 Microchip (DIP8)	HB084 x1
555 Microchip (DIP8)	HB100 x1
22K Ω Variable Resistor	DB300 x1
1K Ω Resistor 1/4 Watt 5% (brown, black, red, gold)	DB056 x2
820K Ω Resistor 1/4 Watt 5% (grey, red, yellow, gold)	DB091 x2
120 Ω Resistor 1/4 Watt 5% (brown, red, brown, gold)	DB045 x2
100nF 50V Ceramic Capacitor	DB202 x1
47 μ F 16V Electrolytic Capacitor	HB185 x2
220 μ F 16V Electrolytic Capacitor	HB187 x1
5mm Green LED	HB078 x1

Configuration table

LM358 Microchip (reference mark must show towards the left)

Pin1	H33
Pin8	G33
555 Microchip (reference mark must show towards the left)	
Pin1	H22
Pin8	G22
100nF Ceramic Capacitor (104)	I20 - I22
22K Ω Variable Resistor	
T1	I28
T2	G29
T3	I30
1K Ω Resistor 1/4 Watt 5% (brown, black, red, gold)	C34 - F35
1K Ω Resistor 1/4 Watt 5%	

(brown, black, red, gold)	K17 - M17
820K Ω Resistor 1/4 Watt 5% (grey, red, yellow, gold)	B25 - C24
820K Ω Resistor 1/4 Watt 5% (grey, red, yellow, gold)	I34 - L33
120 Ω Resistor 1/4 Watt 5% (brown, red, brown, gold)	B28 - B32
120 Ω Resistor 1/4 Watt 5% (brown, red, brown, gold)	M28 - M32
47 μ F Electrolytic Capacitor (-) Terminal	E37
47 μ F Electrolytic Capacitor (+) Terminal	E36



(-) Terminal	K36
(+) Terminal	K35
220 μ F Electrolytic Capacitor	
(-) Terminal	C41
(+) Terminal	B41
5mm Green LED	
Cathode (-) flat side	H17
Anode (+)	H18
4cm Yellow connecting wire	F36 - I35
4cm Black connecting wire	L22 - M22
4cm Black connecting wire	L36 - M36
4cm Red connecting wire	B22 - C22
4cm Red connecting wire	B33 - C33
4cm Red connecting wire	F22 - I25
4cm Blue connecting wire	J30 - J34
4cm Brown connecting wire	C23 - F24
4cm Brown connecting wire	E23 - H20
4cm Orange connecting wire	J18 - J24
4cm White connecting wire	F29 - F34
15cm Green connecting wire	C37 - SP-
7cm Green connecting wire	K23 - K33
15cm Yellow connecting wire	C36 - 0V
7cm Black connecting wire	G41 - M41
15cm Red connecting wire	B13 - 6V+
15cm Black connecting wire	M13 - 6V-
15cm Orange connecting wire	C35 - SP+

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