ULTRASONIC INSECT REPELLER

ABSTRACT

This project aimed at developing a device that is capable of emitting ultrasonic energy of varied mosquitoes, rodents, avian and noctumal insects by making them uncomfortable in their abode.

OBJECTIVES

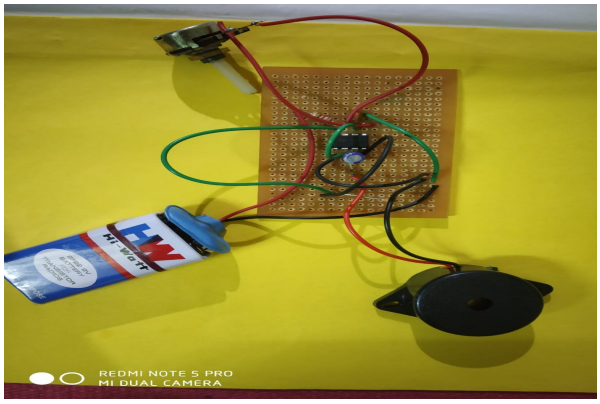
•To design a circuit using ultrasonic sensor that repelled the insects using its frequency hearing range.

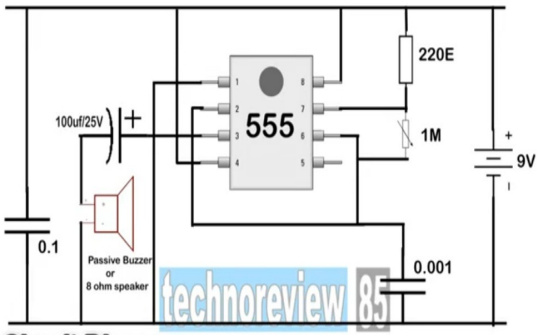
•The design will be a low cost portable sound frequency detector.

METHODOLOGY

Once the switch is closed, the 555 timer gets the power supply. As per the inner circuit, initially the capacitor voltage will be zero and hence voltage at threshold and trigger pin will be zero. As the capacitor charges through resistors Ra and Rb, at a certain point voltage at threshold pin is less than the capacitor voltage. This causes a change in timer output. The capacitor now starts discharging through resistor Rb, i.e. the discharge pin and continues so until the output voltage is back to the original. Thus the output signal is an oscillating signal with frequency 38 KHz. The output from this astable multivibrator circuit drives a 38 KHz piezo buzzer, producing ultrasound at regular repetitions. On varying the value of potentiometer, the output frequency can also be varied.

WORKING MODEL





Circuit Diagram

PROJECT OUTCOMES

1. This circuit can be used as a mosquito repellent. By certain modifications and changes in the value of resistors and capacitor.
2. Further, it can also be used as a simple buzzer alarm circuit.

STUDENTS

Name of Student	Semester	USN
Soumya Navi	III	2KL18EC09
Amruta Nagathan	III	2KL18EC01
Sukanya kolvekar	III	2KL18CH02
Shashikant masayal	III	2KL18EC08

Guide: Prof. S M Hungund