

ABSTRACT

Mosquitoes are animals that can cause various harmful diseases such example is malaria, dengue fever, and chikungunya. To repel mosquitoes usually people use insect repellent. Without realizing the danger of insect repellent that enters the body through breathing and skin is a poison that will circulate in the blood.

At the end of the project created a tool that serves as a medium to repel mosquitoes-based microcontroller AVR AT Mega 8. Working system of this instrument is microcontroller adjusts the output and generate ultrasonic frequencies using a timer of frequency 20 kHz - 65 kHz on a regular basis in accordance with which we want. If we want to increase the frequency then we must press up, and vice versa if we want to decrease the frequency so we have to push the button down, where in one presses the button will increase or decrease the frequency of 1 kHz. After that go to the amplifier circuit so that the output signal can emit ultrasonic waves through strong and weak sound speakers can also be set using the potentiometer. Then the LCD will display the value of the frequency and the speaker will emit ultrasonic sound.

The results obtained from the manufacture of tools by using mosquito repellent ultrasonic frequency-based microcontroller is able to emit a frequency of 20 kHz - 65 kHz, where the frequency is greatly disliked by mosquitoes. Programming timer timer 2 is used. Voltage Vcc, reset, and power amplifier issued is 5 volts (according to the 7805 regulator). OC2 is output voltage of 2.5 volts and the final voltage of up and down buttons are 4.45 volts.

Keywords: Mosquitoes, AT-MEGA AVR Microcontroller 8, Timer, Wave Ultrasonic Frequency, signal amplifiers.