

VISVESVARAYA TECHNOLOGICAL UNIVERSITY
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VEHICLE ANTI- COLLISION USING ULTRASONIC SIGNALS

Submitted in partial fulfillment for the award of the degree

BACHELOR OF ENGINEERING

IN

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ABSTRACT

Nowadays so many accidents are happening in the roads. This will create time loss for passengers, huge traffic in the road and life loss for the accident person and vehicle damage. We can avoid these things by using ultrasonic anti-collision instrument. This instrument is fixed in front side of the vehicle. If any vehicle comes near by this vehicle immediately this instrument will give alarm and it will stop the vehicle.

The vehicle collision can be avoided by using ultrasonic signals. Opposite vehicles are sensed by using ultrasonic signals. The ultrasonic signals are sound waves that vibrate at a frequency higher than the frequency that can be heard by the human ear (or higher than about 20,000 hertz). The microcontroller switching on the ultrasonic transmitter and receive the output signal of ultrasonic receiver. By doing distance measurement calculation the system can find out the distance of opposite vehicle from our vehicle. If the distance is our set value, the controller will energize braking system. The buzzer will give warning beep. The beep duration is depends upon the distance between two vehicles.

Thus our objective is to incorporate an electronic system in the vehicle that will warn the driver about any kind of situations, which can lead to accidents, and give him simple time to divert from it.

The hardware tools required to implement vehicle anti-collision system are microcontroller, power supply unit, buzzer oscillator, liquid crystal display, SONAR range finder and relay driver.