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AUTO HONKING CONTROL SYSTEM FOR VEHICLES

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ABSTRACT

The rising noise pollution levels are a major concern for both the atmosphere and human health. Honking excessively near residential areas, schools and hospitals is mostly affected and strongly desired. We propose a new honking mechanism, would considerably reduce the noise caused due to the blowing of horns. Our system doesn't negotiation people's safety in and around the vehicle. Our proposed system uses the same horn system used in the vehicle. In our system we are using transmitter in the silent zone and receiver on the vehicle so that transmitting a signal will be received in the receiver it will automatically switched to the low volume horn. So, the sound of horn will be reduced in the silent zone.

KEYWORDS Silent zone, RF Transmitter/ Receiver, low volume horn.

1. INTRODUCTION

Honking is a common occurrence in both urban and semi-urban areas, regardless of traffic, type of roads and conditions. The reason of using a horn is to alert the vehicles or people near the vehicle. A needless use of the honking creates a noise signal of high intensity. This sound can shake up or have an adverse effect on the active drivers and passengers of surrounding vehicles, pedestrians and people living in the area. If the sound level is greater than 120 dB, it has been found out that it may result in undesirable diseases like Hypertension and Insomnia. Certain aspects of the driving mindset such as impatience, anxiety, over accelerating, sudden braking, abiding traffic rules may also aggravate unnecessary honking. The objective of the study is to assess and quantify noise, and the impact of honking on the urban environment.

2. EXISTING METHODOLOGIES

Fabien Mieyeville, Wan Du, Idris Daikh, David Navarro Ecole Centrale Lyon [1] suggested that the low-frequency noise within the car interior is reduced by using Wireless Sensor Networks (WSN) for active control where the data flow rate generated by each network mode exceeds Khz. They deployed WSN for high-speed automotive applications in two ways, established a mechatronic system specification for the design of a preliminary wireless sensor network, and then used the WSN framework to explore the design space and identify the bottleneck in the use of WSN for active control.

Atmadip Dey , Arka Majumdar, Raktim Pratihar, Bansari Deb Majumder[2],they developed a low-cost honking method for calculating the number of horn been pressed. If the horn number reaches the limit then the user will be alerted by an alarm. The user will receive a monthly bill charged on the Honking. If the count reaches the threshold then they must pay the excess charge.

Nikhil Nerkar , Mrunal Nerkar they have sent a data signal between two vehicles. They transmit the signals using different ways.(i) Infrared Communication: Installing theinfrared trans-receiver to communicate the horn between the two vehicles.(ii)Bluetooth communication: Install a Bluetooth module for transmitting the data signal between two vehicles to communicate the horn.(iii)Radio waves to communicate: Installing a trans-receiver radio frequency to coordinate the horn between the two vehicles.(iv)A combination of GPS and radio wave:Installing a Global Positioning System (GPS) module for synchronization with thetrans-receiver Radio Frequency (RF). The GPS module updates the location of the vehicle in real time. Any time the driver presses the horn, the RF transmitter transmits the location of the vehicle in the surrounding area. Other vehicles fitted with receivers that receive the signal and compare it to the current location of their vehicle, along with the signal strength. Using this

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analogy, the module would show the location and direction of the transmitter for the driver, along with the approximate distance between the two vehicles.

Sharaddha Sanap, Pooja Mane and Vaishali Sanap they have examined the prevention of road accidents. He or she aims to reduce the accident by means of a beep sound along with a visual signal that even enables the person with hearing impairment to drive easily.

3. PROPOSED METHOD

Our system is based on the connectivity or wireless transmission. In existing method, they used transmitter and receiver by removing the horn completely but in our system we are going to control the horn along with new features. We use the Receiver and RF Transmitter(fig1&2). RF transmitter is stationed in such places as hospitals, schools etc. Because it is non-ionizing electromagnetic radiation, it will not cause harm to humans. The transmitter will detect the vehicle ahead and send signals to the receiver in the vehicle. The receiver and driver can receive the information and our processor can sets the horn automatically to a low level mode operation.

4. SYSTEM DIAGRAM

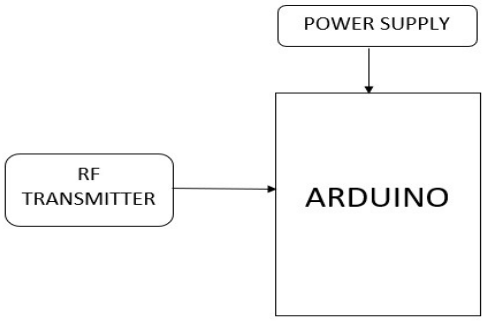

Fig : 1 TRANSMITTER SECTION:

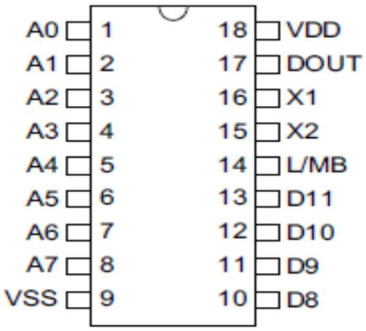

Fig : 2 TRANSMITTER(ENCODER HT12E)

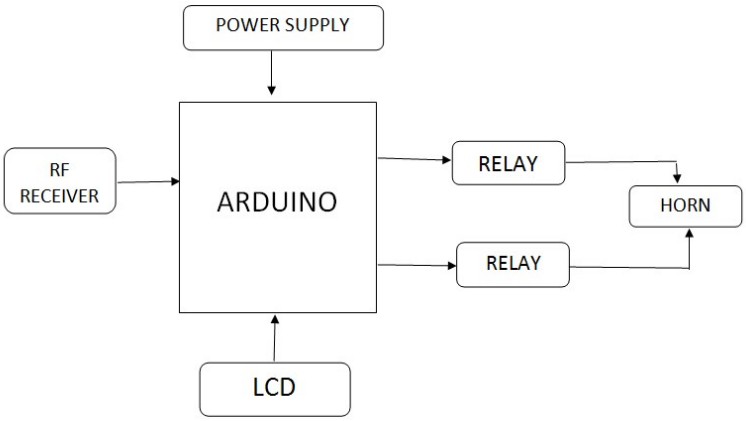

Fig : 3 RECEIVER SECTION

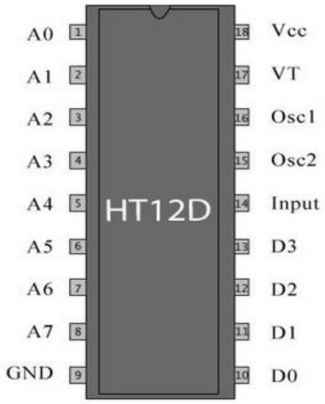

Fig : 4 RECEIVER (DECODER HT12D)

The system diagram is a working model of our proposed system. Here we are using the transmitter in the silent zones and receiver in the vehicle. When the vehicle enters the silent zone the transmitter which is placed in the silent zone will transmit a signal. The transmitted signal is received by the receiver placed in the vehicle. After receiving the signal, switching device which we are using will automatically changes the volume of the horn to a low level horn.

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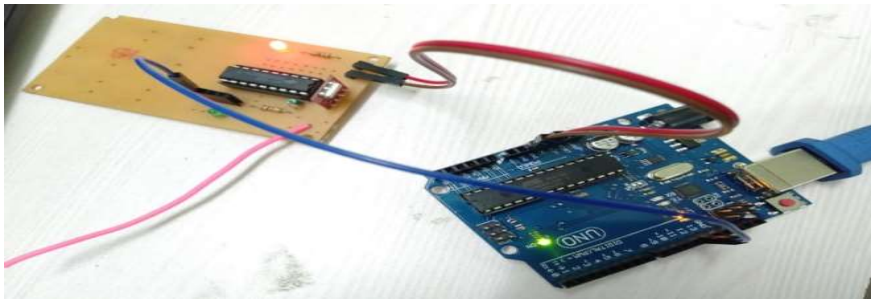
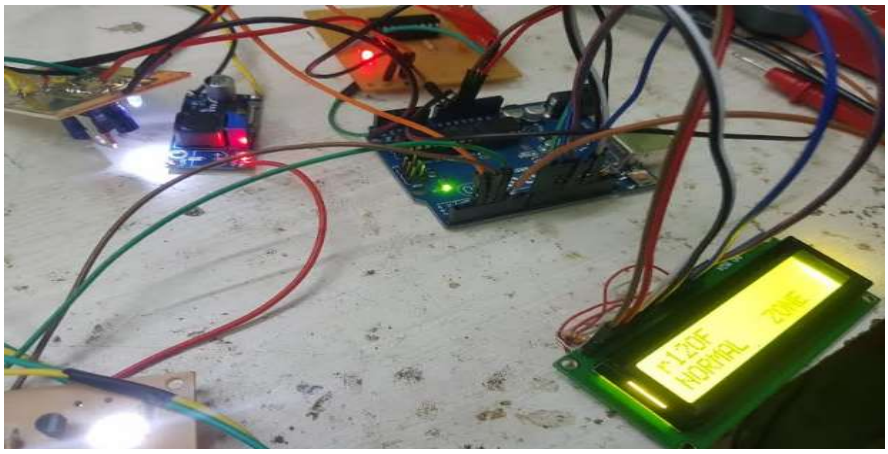
This RF module comprises of an RF Transmitter and an RF Receiver. The transmitter / receiver (Tx/Rx) pair operates at a frequency of 434 MHz.

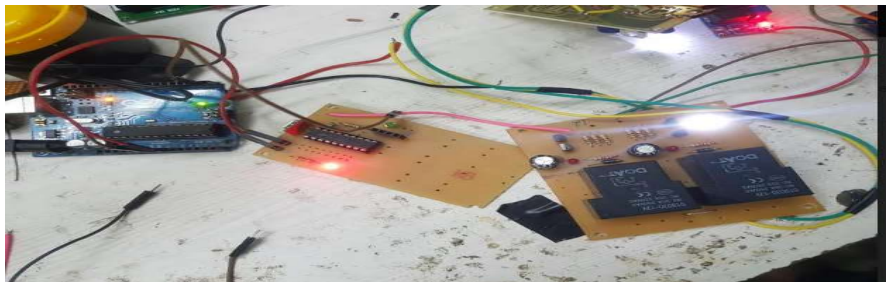
Working Prototype model

Transmitter section



Receiver section





5. CONCLUSION

Noise pollution seems to be a general issue, but it is a major issue when viewed from a global perspective. Using our system Honking is minimized unnecessarily, resulting in a peaceful environment and less tension for the everyday travelers. Driving is a part of every human's day-to-day life, so when noise is eliminated due to unnecessary honking humans can effectively sleep, concentrate and improvise their memory. Therefore, this initiative will reduce overall stress and noise in environment.

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