

# A Review of Literature on Automated Vehicle Horn Control System

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## Abstract:

Each year there are thousands of highway deaths and tens of thousands of serious injuries due to "Run-Off-road" accidents. The features that are proposed in the existing system are automatic collision notification, vehicle security, speed control and alcoholic detection system. But Lack of proper implementation of these led to the invention of other Traffic control systems hence in this paper, we make an attempt to propose a new automated vehicle horn control system. Automation of the driving control of any vehicle is one of the most vital need of the hour. Our proposed system can check for obstacle, by the help of sensor it detects the closer vehicle in any direction and frequency horn will be reduced based on location and vehicle speed.

**Keywords — Horn control, Automation, Frequency**

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## I. INTRODUCTION

Noise pollution is caused when the level of noise increases more than the normal level. As the world is advancing at a rapid rate, so is the noise pollution. It is increasing creating an unsafe environment. Such unpleasant sound causes several disturbances and creates an imbalance in the environment. The ever-increasing use of automobiles is a major cause of this pollution. People honk unnecessarily in the traffic which creates high level of noise. It has a serious impact on the lives of living beings. It causes a number of hearing problems, and also affects our psychological health. As the vehicles are increasing, the noise pollution is also increasing. [1]. mentions that the major cause of noise pollution is

due to the honking of vehicles. Studies have shown that in Kolkata, the vehicles honk every 8 second and the frequency of the horn is twice during the daytime. Not just in one city but this has been the major concern in all the countries. Honking contributes majorly to the noise pollution. Honking also depends on the mentality of the people, some tend to honk unnecessarily. Therefore the noise increases along with the increase in vehicles.

## II. EXISTING SYSTEM

Though horn is very necessary component in a vehicle. It is one of the major reasons for noise pollution. In areas like hospitals, educational institutions, zoo's etc honking is prohibited by regulation. A combination of GPS and radio waves

were used to predict the approximate distance between the two vehicles. The GPS updates the location. Whenever the driver presses the horn, the radio waves transmits the signal of the vehicles in the vicinity. Honking is the major problem in the traffic signals. To reduce this police of Mumbai came with a solution called "the punishing signal". They installed a light system which resets the red traffic signal if the honking sound goes beyond 85 decibels. The usage of infrared light has been implemented to reduce the noise pollution caused due to honking. This signal is used to transmit data between the vehicles and reduces the intensity of the horn.

### **III. DEMERITS OF EXISTING SYSTEM**

- The usage of horn is not completely controlled in the restricted areas like hospitals, schools zoo's etc in spite of rules and regulations. Though many awareness program was conducted against honking, the honking has not completely stopped in these silent zones.
- The cost required to install global positioning system and the radio waves is relatively vey high and it also requires the changes in hardware for implementation.
- The implementation of "punishing signals" may cause more impatience and stress in people. In case of emergency situation like ambulance with patients should ait for long time in signals.
- The receiver used in infrared system should be in a straight line and sync with the transmitter in order to catch and process the signals. This cannot be the case every time as vehicle don't travel in a straight line.

### **IV. LITERATURE SURVEY**

[1] The noise pollution caused by vehicles is increasing. Multi tone horns have been banned but are still being used by heavy vehicles, such horns have high decibel level. IR transmitters and receivers are used to reduce the noise pollution. When a vehicle needs way (has to honk), the driver

just needs to press a button which will enable IR transmitter to transmit the signal which is received by the IR receiver. IR receiver feeds the signal to the microcontroller which detects the type of vehicle and displays it on the dashboard using LED lights. When the vehicle is blocking the way of other vehicles, in the absence of the driver the signal received by IR transmitter sends a message to the driver's phone through GSM. Pyro electric infrared sensor is used to detect humans and other animals. When humans are detected, the vehicle changes to horn mode.

[2]In this paper the traditional honking mechanism can be replaced with a combination of a low frequency horn along with trans-receivers. The honking noise will be spread as a signal which will be caught by the surrounding vehicles. When the driver wants to honk in order to alert the vehicles, instead of producing a high frequency, this system will produce a low-frequency sound, just enough to alert pedestrians and two-wheelers. Along with this sound, the transmitter will repeatedly send a signal which will be caught on by the receivers in other vehicles within range, adjusting to the surroundings and traffic frequency. The range will be lower when the vehicle is moving in a city in a slow traffic, whereas it would be much higher on highways or speedy roads.

[3]In this paper aims to provide a solution in form one of an embedded module, in which inter vehicular communication is done using Radio Frequency signals with equivalent range, frequency involved and cost of equipment. This system prevents accidents occurring because of loud music playing inside the vehicle. The smart honking system aims to develop the measure for unwanted honking. During the traffic signal, noise pollution occurs that causes irritation to the public nearby and people living in residential areas, schools and hospitals. This problem can be solved by this system efficiently as no horns would be heard in the surroundings. The source car sends RF signals which produces a beep sound inside the receiver's car instead of horn in surroundings. The driver can't hear the horn is because of the loud music in the car.

Integrating with the stereo system of the car that automatically stops stereo system and allows the beep to be heard which results in avoidance of road accidents. Along with the beep, a visual signal appears that helps the person with hearing impairment to drive easily. There is provision of switching to conventional horn in certain situations such as sudden appearance of humans or animals via dual purpose switch.

[4]In this paper they have taken an example of modern car horns they are electric driven. Horns will be having a steel diaphragm and electromagnet based mechanism. There will be contact points they interrupt the current which is to electromagnet which is attached to diaphragm. When the diaphragm springs back in opposite direction the circuit completes again. This closing and opening of circuit results in buzzer which is amplified further to produce horn.

[5]In this paper, a horn system is proposed which uses the keypad and buzzer which produces the sound. Let us assume ,if horn is pressed more than five times in an hour it exceeds the limit ,the audio intimates that the speaker is off and charges are uploaded in the servers. Cameras are used for recording emergency situation. DC motors are used to represent if the car is in off or on state. The due date is monitored using Wi-Fi and SMS are sent to the owner. If the user delays to pay the bills ,the car gets automatically locked as the DC motor stops working.

[6]In this paper, Noise is playing an ever increasing role in our lives and seems a regrettable, but ultimately avoidable by cutting edge technology. This paper deals with establishing a vehicle to vehicle communication using IR transmitters and receivers, green corridor for emergency vehicles and helps to reduce bad parking. This paper deals with the methodologies to reduce noise caused by honking of vehicles. Hardware equipment's like IR receivers and transmitters, Microcontrollers, GSM module, Human detector sensors, Horn speakers are used here. Series of IR transmitter is fixed in front of an automobile and IR receiver is fixed on the sides and at back of an automobile as a form of strip.

In case of an emergency vehicle, automobile in front of it gets to know about it and in a smart way the IR transmitter of the automobile which is in front of emergency vehicle transmit the same pattern of IR beam produced by the emergency vehicle this goes on from one automobile to another. This proposed method reduces the noise pollution on and around 30-40% caused by automobiles, the proposed Green corridor for emergency vehicles result in saving of many peoples life on emergency cases.

[7]In this paper, there is a honking decibel which indicates the frequency of horn and another device decibel level zone detects in which location the car is present. GPS is used to track location of the vehicle. When driver honks the frequency of horn will be constant which is fed to comparator, comparator sends signal to the processor when honking decibel level exceeds decibel level of zone. The processor calculates the difference in their value this value will be fed as input to filters which draw requires frequency of horn.

## V. COMPARISON

### A. Table

TABLE I  
COMPARISON

Existing System	Proposed System
The noise pollution is increasing due to honking in the existing system.	The noise pollution caused by honking is reduced.
The horn cannot be disabled or enabled based on the location.	The horn will not work in no honking zones.
Radio waves are used to determine the distance between vehicles.	Proximity sensors are used to determine the distance between vehicles.
Infrared Light is used instead of horn to reduce noise pollution.	The frequency of the horn is controlled, to reduce the noise pollution. When the vehicles are closer, the horn intensity decreases.

## VI. CONCLUSION

The proposed system controls the frequency of the horn. When a vehicle is closer to the other, the frequency of the horn decreases and when the vehicle is far, the frequency increases. The horn

will be disabled when the vehicle is in the traffic signal (when the speed is zero), hence avoiding unnecessary honking. GPS is used to track the vehicle location and disable the horn in no honking zones such as schools, hospitals, etc. which avoids disturbances caused by noise. All these contribute in reducing honking which in turn reduces the noise pollution effectively.

## **REFERENCES**

- [1] "Honking -Its Influence on Noise Pollution" T.K. Roy, A.R. Mukhopadhyay, S.K. Ghosh and G. Majumder.
- [2] Nikhil Nerkar,Mrunal Nerkar, "International Journal for Research in Applied Science & Engineering Technology".
- [3] "A Novel Approach to Reduce the Noise Pollution Caused by Honking of Vehicles" Akshay A Palankar,Gopi N,Manoj Hegde,Naveen M R.
- [4] "Green Horn :Novel Design of Honking to Reduce The Effect of Noise Pollution",Nikil Nerkar,Mrunal Nerkar.
- [5] "Adaptive Honking for No Honking Zone",Shraddha Sanap,Pooja Mane,Vaishnavi Sanap.
- [6] "Design of a Smart Real-Excessive Honking Control System",Atmadip Dey,Raktim Prathihar.
- [7] K.Jeevitha,A.Ishwariya,V.RamKumar,V.Praveen Kumar-"IOT based Horn Control And Oil Purity Monitoring System in Vehicles."
- [8] Akshay A Palankar,Gopi N ,Manoj Hedge,Naveen M R ,Anguraj-"a novel approach to reduce noise pollution caused by honking of vehicles, ijret.