

Security Check Point for Military Purpose

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ARTICLE INFO

Article History:

Accepted: 10 April 2023

Published: 20 May 2023

Publication Issue

Volume 10, Issue 3

May-June-2023

Page Number

170-173

ABSTRACT

Security check point for military purpose and implementations. Each of these offers unique strengths and limitations. An important metric for security check point is their tracking performance. This poster abstract presents some thoughts on a generic model of touch sensors and touch-sensitive surfaces. In it, a sensor is characterized by its range/precision dependency. This may allow to compare different touch-sensitive surfaces and predict performance of new sensor systems.

This research focuses on detection of unauthorized access to residential and commercial buildings when the residents are far away from the access gate of the house. The system is a simple and reliable touch activated security system and uses sensor technology to revolutionize the standards of living. The system provides a best solution to most of the problems faced by house owners in their daily life. Due to its simple electronic components nature, it is more adaptable and cost-effective. The system is divided into three units; the power supply unit which employs the use of both DC battery and mains supply to ensure constant power supply to the circuit, the trigger unit which is responsible for activating the alarm unit and designed to have much time and period and moderate sensitivity in order to reduce the rate of false alarm, and the alarm amplitude unit which main function is to produce amplitude alarm sound when triggered by the trigger unit with the aim of producing a large audible sound that can alert the entire neighbourhood or scare an intruder away. The design of the system was achieved by considering some factors such as economy, availability of components and research materials, efficiency, compatibility and portability and also durability in the design process. The performance of the system after test met design specifications. This system works on the principle of touch sensor. The overall system was constructed and tested and it work perfectly.

I. INTRODUCTION

The 2019 Pulwama attack occurred on 14 February 2019, when a convoy of vehicles carrying Indian security personnel on the Jammu–Srinagar National Highway was attacked by a vehicle-borne suicide bomber at Lethapora in the Pulwama district of the erstwhile state of Jammu and Kashmir. The attack killed 40 Indian Central Reserve Police Force (CRPF)[a] personnel as well as the perpetrator—Adil Ahmad Dar—who was a local Kashmiri youth from the Pulwama district. The responsibility for the attack was claimed by the Pakistan-based Islamist terrorist group, Jaish-e-Mohammed. India blamed neighbouring Pakistan for the attack, while the latter condemned the attack and denied having any connections to it. The attack dealt a severe blow to India–Pakistan relations, consequently resulting in the 2019 India–Pakistan military standoff. Subsequently, Indian investigations identified 19 accused. By August 2021, the main accused along with six others had been killed, and seven had been arrested.

2019 Pulwama attack Part of the insurgency in Jammu and Kashmir A buzzer is a loud noise-making device. Civil defence buzzes are mounted in fixed locations and used to warn when the unauthorized car enter in military area . Sirens are used on emergency service vehicles such as ambulances, police cars, and fire trucks. There are two general types: mechanical and electronic. Many fire sirens (used for calling the volunteer fire fighters) serve double duty as tornado or civil defence sirens, alerting an entire community of impending danger. Most fire sirens are either mounted on the roof of a fire station or on a pole next to the fire station. Fire sirens can also be mounted on or near government buildings, on tall structures such as water towers, as well as in systems where several sirens are distributed around a town for better sound coverage.

Most fire sirens are single tone and mechanically driven by electric motors with a rotor attached

to the shaft. Some newer sirens are electronically driven speakers. Although there is no standard signalling of fire sirens, some utilize codes to inform firefighters of the location of the fire. Civil defence sirens also used as fire sirens often can produce an alternating "hi-lo" signal (similar to emergency vehicles in many European countries) as the fire signal, or attack (slow wail), typically 3x, as to not confuse the public with the standard civil defence signals of alert (steady tone) and fast wail (fast wavering tone). Fire sirens are often tested once a day at noon and are also called "noon sirens" or "noon whistles".

The first emergency vehicles relied on a bell. Then in the 70s, they switched to a duotone airhorn, which was itself overtaken in the 80s by an electronic wail.

Touch Sensitive Siren is a DIY project useful for many applications. By just placing your hand on the touch plates, the circuit will immediately sound a siren. Hence, this simple electronic project device is useful as a touch sensitive door bell, soil moisture alarm, rain alarm etc. The main components of this DIY project are resistors, capacitors, transistors, a speaker, a siren, power supply and PCB Board. Students and all electronic aspirants can experiment this easily.

The concept used for the touch-based alarm is using radiation signals. This touch sensitive alarm is based on the generation of an AC hum signal. When someone touches the touch plate, low-power AC hum (the same as induced from AC wiring of the house) is generated on the touch plate. So our team have decided and choice to do the project on “Security check point for Military purpose” Our project aims to study the security check points and helps to provide the more security to military areas.

II. BLOCK DIAGRAM

This section will discuss the design procedure and the basic theory of components used for this work:

1) Battery

- 2) Trigger Circuit
- 3) Sensor Circuit
- 4) Speaker

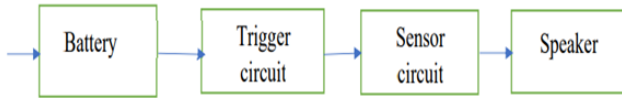


Fig 1: Block diagram

BLOCK DIAGRAM EXPLANATION

➤ **Battery:**

It gets input from both mains supply and battery supply. Input provide 9v to the battery electric battery is a source of electric power consisting of one or more cells with sensor.

➤ **Trigger Circuit:**

Battery provide the connection to. triggered circuit. It is an active circuit which converts an analog input signal to a digital output signal.

➤ **Sensor Cicuit:**

Sensor converts the physical action to be measured into digital form and processes it so that the signals can be easily sent to the speaker.

➤ **Speaker:**

Buzzer is a sounding device that can convert audio signals into sound signals. Provide output form of speaker

- In normal conditions, no current flows through transistors and the potential across capacitors is almost 0V. If the two touch plates are touched together by a finger in this DIY project, the siren is enabled and it will reset after a few min.
- Transistors T2 and T3 here forms a complimentary pair amplifier, with positive feedback given to the base of transistor T3 via R3 and C2. Power supply required is about 9V DC.
- This DIY project is an ultra-simple hobby circuit. The siren here will provide a quite loud audio output into the speaker. Also, we can easily experiment this DIY project with different component values to make our own special alarm.
- PCB board and soldering quality must be ensured to be of good quality. The speaker and transistor connections must be given properly to avoid damages

III. CIRCUIT DIAGRAM

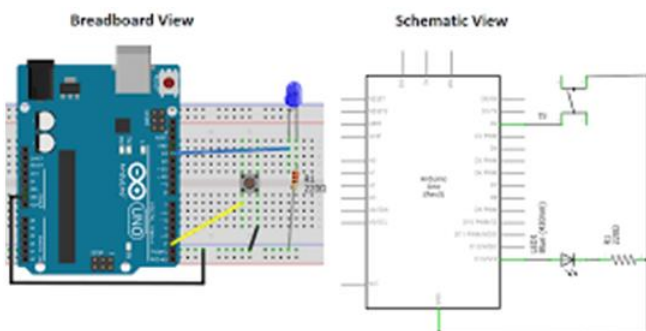


Fig 2: Circuit Diagram

Actual image -



IV. ADVANTAGES

- Easy to operate
- Fast response.
- Smaller in size.
- Low power consumption

V. APPLICATION

- Can be used as an Military Purpose
- At Railway crossing
- Toll-plaza.
- Parking area

VI. CONCLUSION

- It can be concluded that the sole aim of carrying out the design, analysis and implementation of a touch sensitive siren was achieved, in that the aim was to develop a cheap, affordable, reliable and efficient security system, which was successfully realized at the end of the design process. One factor that accounts for the cheapness of the product was the proper choice of components used

VII. REFERENCES

- [1]. Testing sirens, Swiss Federal Office for Civil Protection (page visited on 7 September 2013)
- [2]. Charles Cagniard de la Tour (1819) "Sur la Sirène, nouvelle machine d'acoustique destinée à mesurer les vibrations de l'air qui contient la son"
- [3]. <http://www.mepits.com>