

CELLPHONE DETECTOR WITH SIGNAL JAMMER

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Abstract:

This research have been done to restrict the use of cellphones in restricted areas and to increase security. Sometimes people go to the extent of using mobiles in prohibited areas, due to such acts the security policies of those places are hindered and the effects might be hazardous. Therefore to find an answer to that problem with the help of this study a solution can be derived. A device can be set up which will consist of a cell phone detector with signal jammer. In the current market, basically these are two separate devices i.e., a cell phone detector and a signal jammer but they don't serve the purpose completely as the detector can only detect signals but they can't block them whereas the jammer can only jam the signals but they cannot detect it, and we cannot let the jammer turned on continuously as it may harm the environment. But if we combine these two devices and make it a single handy device then our purpose can be served.

Index Terms:- cellphone, detector, signal, jammer, calls, blocked, device, transmissions, interference.

1. Introduction

In the present world every person is so engrossed in their mobile phones that they carry it themselves almost everywhere which also includes the restricted areas like examination halls, conference halls, meeting rooms, court rooms, petrol pumps and many more places. This hampers the privacy and security of that place. This can be prevented by installing jammers in these places, but when left active for long time it can be dangerous for the environment as it emits radiations. To overcome this issue we can use a detector which activates the jammer only when it senses any cellphone signals in that place.

In this device there will be two major blocks, one will be the detector block and the other will be the jammer block which will be controlled by a PIC microcontroller and operated by a relay switch.

1.1 : Objective

The main objectives of this project are as follows:

- To restrict the use of phones in prohibited areas.

- To prevent the sending and receiving of confidential data.
- To serve the purpose of both detector and jammer in a single device.

1.2 Block diagram

Mobile signal detector and jammer

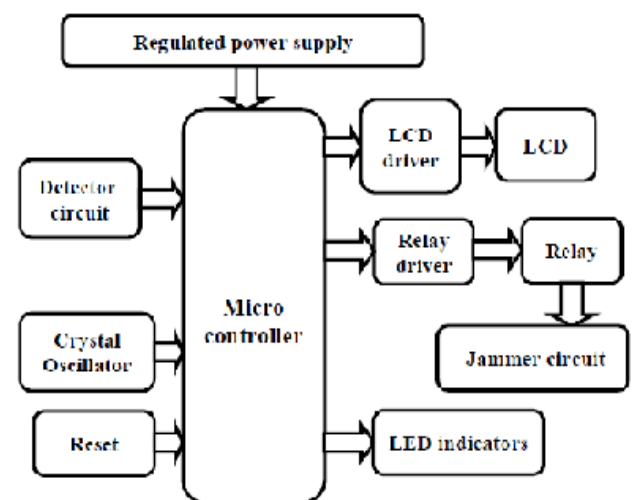


Figure 1.1: Block diagram of jammer with controller

The various blocks of cell phone jammer is shown in below Figure 2.2.

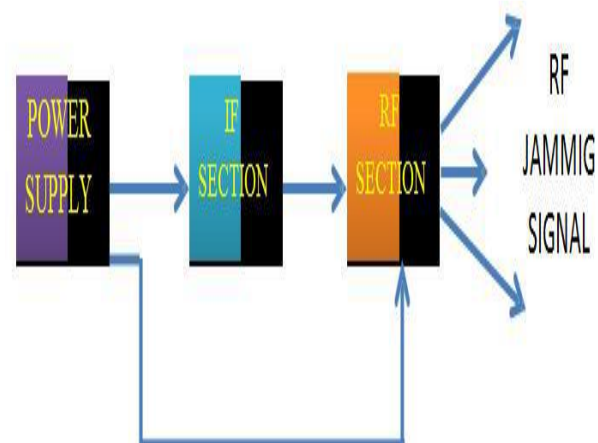


Figure 1.2: Jamming Block Diagram

We have followed the above block diagrams for proper working and implementation of our circuits.

1.3 : Hardware Used

- 1) REGULATED POWER SUPPLY: To get a regulated DC output.

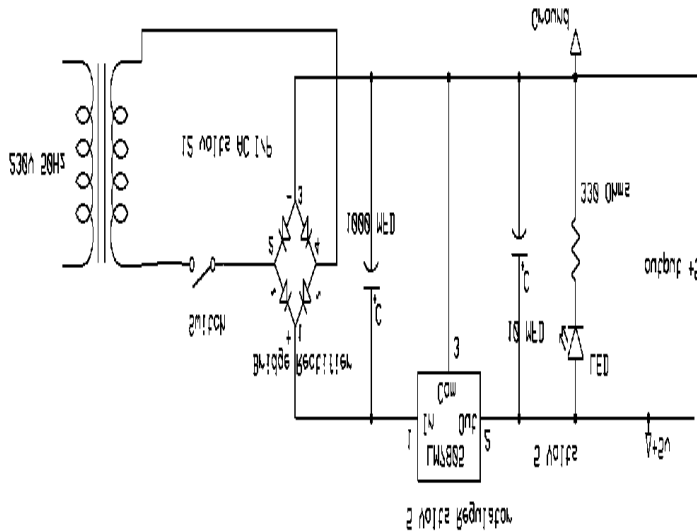


Figure 1.3: Circuit diagram of regulated power supply

- 2) MICROCONTROLLER: PIC1650 microcontroller for device coding.
- 3) CRYSTAL OSCILLATOR: For frequency selective feedback network.
- 4) ON CHIP RTC: To keep track of date and time.
- 5) LCD DISPLAY: To display the power supply voltage.
- 6) RELAY: To switch the control from detector circuit to jammer circuit.
- 7) JAMMER BLOCK: The circuit used for jamming the signals.

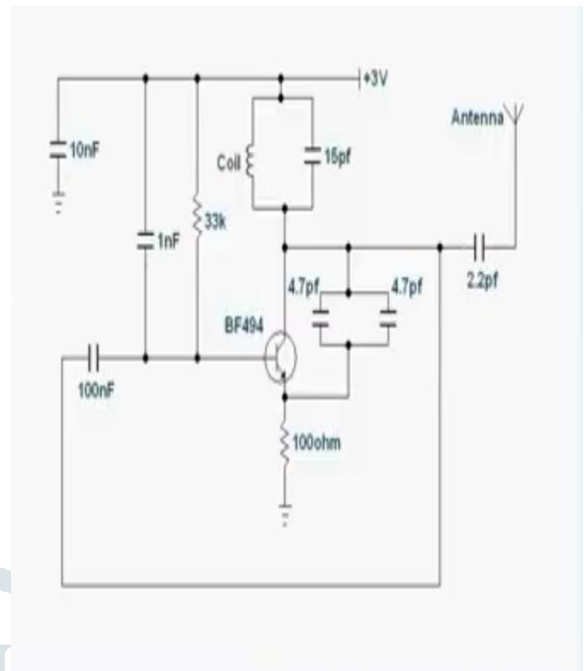


Figure 1.4: Jammer Circuit

- 8) DETECTOR CIRCUIT: The circuit used for detecting the signals.

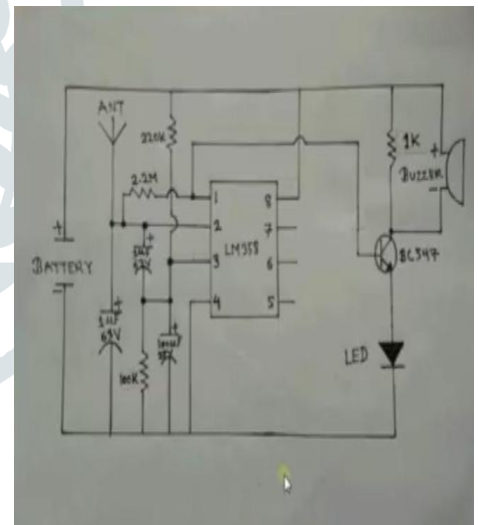


Figure 1.4: detector circuit

1.4 : Software Used

PIC C compiler

PIC compiler is software is used to write and compile program code which is to be dumped into the microcontroller for further processing.

Proteus 7

Proteus is software which converts the machine code into a hex file which has to be dumped into the microcontroller.

1.5: BASIC CONCEPT AND WORKING OF CELLPHONE DETECTOR

PURPOSE OF THE CIRCUIT

This circuit is designed to detect the transmission of signals in a particular area and block it with the help of jammer. This will help in securing the privacy of those places.

HOW THE CIRCUIT WORKS?

The detector block is a device which detects modulated radio frequency, in this block, tuned LC (inductor-capacitor) circuit is used which can detect low frequency but fail to detect higher ones, therefore; it detects RF (Radio Frequency) from mobile phones. Once it detects the signal, the Led in the circuit starts glowing which indicates the microcontroller to shift the control to the jammer block. The microcontroller sends signal to the relay, which in turn switches the power to the jammer circuit. The Jammer block produces signals of approximately 450MHz frequency which is as that of the mobile phone and hence interference takes place. Due to this interference the cellphones fail to receive the signal and is unable to transmit any data. After the signal is blocked the connection can be re-established once the jammer is turned off. We can even time the microcontroller for blocking and re-establishment of the network.

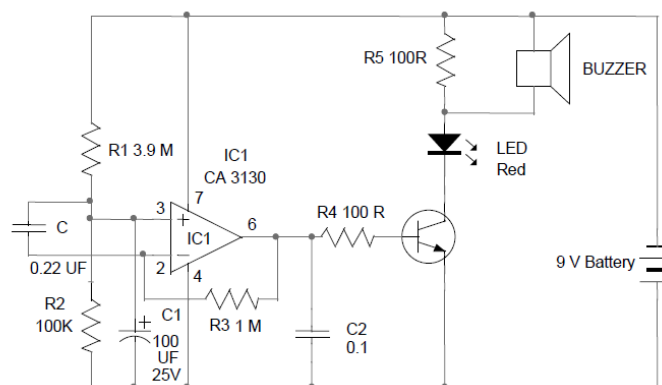


Figure 1.5 Circuit diagram

2. Conclusion

This device “Cellphone detector with signal jammer” is designed to help in security. The hardware used in this device are user-friendly, i.e., easy to use. Integrating features of the hardware has been developed and the

presence of every block is explained and programmed effectively for its successful implementation.

Future Scope:

- It can be used in Government sectors for the preservation of useful documents.
- It can be used in examination halls, conference halls, meeting rooms and courtrooms.
- It can be used in explosive chemical warehouses, oil refineries and petrol pumps to prevent harmful radiations which can cause explosions.
- It can be used in army places for securing confidential informations.
- It can also be used in recovery of stolen cellphones.

3. Acknowledgement

First and foremost, we take this opportunity to express our sincere thanks to Prof. (Dr.) Shailendra Tahilyani, **Head of Department** for providing the necessary facilities in the department and every other possible support.

we would like to extend our gratitude to our guide Ms. Yamini Yadav, **Assistant Professor**, for her criticisms, suggestions and support. We felt privileged in working under her guidance and her constant motivation and support encouraged us a lot.

Last but not the least, I extend my gratitude to the Almighty for giving me strength and wisdom in completing this research.

4. References

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