



REMOTELY CONTROLLED JAMMER USING 555 TIMER IC

Priyanshu Kumar Patro, Dept. Of ECE, 22ece105.priyanshukumarpatro@giet.edu
Subhendu Sekhar Sabat, Dept. Of ECE, 22ece073.subhendusekharsabat@giet.edu
Ramkrushna Sahu, Dept. Of ECE, 22ece090.ramkrushnasahu@giet.edu
Akash Chandra Das, Dept. Of ECE, 22ece048.akashchandradas@giet.edu
Ashish Tiwary, Dept. Of ECE, ashishtiwary@giet.edu

Abstract: Today's modern devices can be wirelessly operated from any short distance with a remote control. Using a TV remote jammer circuit will disable the TV's remote control. Anyone can stop someone else from switching the TV. He is free to watch his preferred channel without any outside interference. A TV remote jammer is an infrared jammer that uses a transmitter's carrier frequency to send out continuous infrared pulses that mislead a TV's infrared receiver. So, the signal from the remote will not be accepted by the receiver. As a result, nothing will be done. IR led, 555 timer IC, capacitor, resistor, potentiometer, and other components are used in its design. It was tuned to generate a 38 kHz signal. This project is based on Signal Jamming. We can design other circuit for other purposes for instance like mobile signal jamming, radar jamming and etc.

Keywords—555 TIMER IC, IR LED, Remote control, TV Remote Jammer, Transistor.

1. Introduction

Nowadays, most of the people are living in the world of technology. Also, we can say that due to rise in technology, now all things are done through a remote control or through AI. From changing the channels of TV to turning the volume min to max. even the remote controlling is now taking place in most of the place, like for the movement of wheelchair they can use remote control to move wheelchair, controlling the music systems volume or changing the track. Here the use of remote controller jammer is to make of someone fun while watching TV or to get control at particular situation where the environment is noisy.

2. Literature Review

In the Paper Development of TV remote jammer by Umme Afruz, TV remote jammer was developed by the same 555 timer IC [1] and InfraRed LED [2] and same principal as disrupting signal between TV receiver and remote. The objective of the paper was to avoid unnecessary change in TV channel and loud noise. She developed the circuit in low cost



and easy way. The only demerit of the project is that it has to be adjusted to 38KHz and only works for disrupting signal between TV only [3]. Blocking of signal using signal jammer by Saurabh Singh, Krishana Yadav, Rishabh Singh, Akash Soni, Harjeet Matharuf, Pranay Rao, a GSM jammer is developed using a Voltage Controlled Oscillator, Tuning circuit, Antenna and RF amplifier from jammer circuit. The circuit is completed and observed using electronic software. The jammer transmits the signal at same frequency through which the GSM system get operated. the projects works effectively when the GSM phone operates between the 890MHz to 960MHz frequency band. The objective of the project is to prevent usage of mobile phone inside the coverage area of the jammer without interfering the communication outside the range of the coverage. This project is a cheap reliable way to prevent usage of mobile phones in restricted area it blocks internet connectivity and call channels [4]. Signal jamming and Modern Application of jamming by Alaparthi Pardhasaradhi, Rayala Ravi Kumar they provided the methods for Jamming a device and its future aspects and also merits and demerits. Different types of jamming are Mechanical Jamming, Electrical jamming, Spot jamming, sweep jamming, Barrage jamming, DRFM jamming [5]. Analysis of Jammer Circuit by Chirag Gupta and Nitin Garg provides the technologies used in jamming a device. By analyzing certain circuit design used in jamming. Usage of Antenna, RF Generator, Tuning Circuit, RF amplifier, Voltage Controlled Oscillator in the jamming circuit [6]. 'Smart' jammer for Mobile Phone Systems by Sami Azzam, Ahmad Hijazi, Ali Mahmoudy says that 'smart jammer' addresses cost, durability and health concerns. Max2364 was used as a cellular transmitter; thus, lowering the overall cost for the jammer system; and having an average output power lower than that of commercial designs improves the system's durability. This lower total output power is in line with the recommendations made by many medical organizations (SFMS) and other organizations (ACA) regarding reducing the amount of electromagnetic radiation emitted into the environment [7]. FPGA based wireless jamming networks by Krishnaiah N. R., Brundavani P. provides knowledge of jamming signals by any devices using various technological equipment to deliver the result effectively such components used are FPGA, RF Transmitter, RF Receiver and various other also. This project circuit is designed by using VLSI Technology for effective Jamming [8].

3. Design and Simulation

To design/access this remote controller we need to elaborate how this works. At first the block diagram/working process is given below. We have to supply power to the design. The circuits main components are 555 timer and the infrared LED, where 555 timer delays the rays passing through the remote which was being used Due to which the TV receiver

will not receive the signal from the remote and the transmission across remote and TV will stop working.

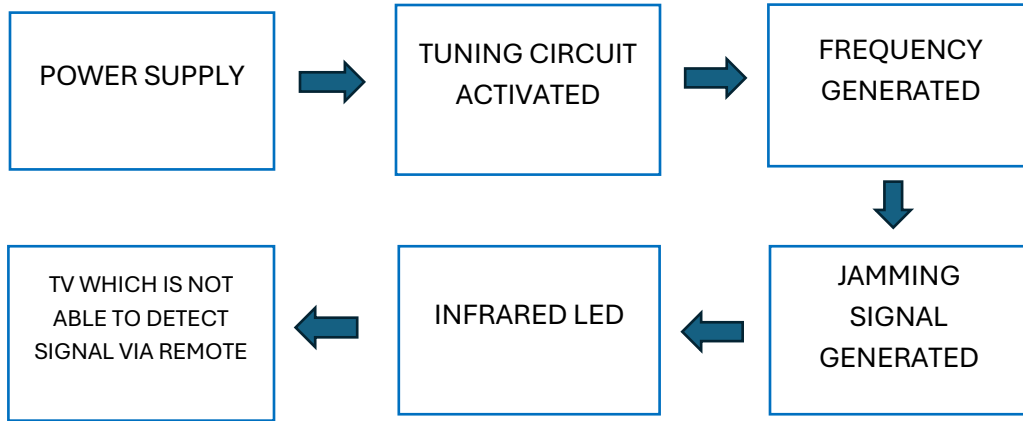


Figure 1: Block Diagram of REMOTELY CONTROLLED JAMMER USING 555 TIMER IC

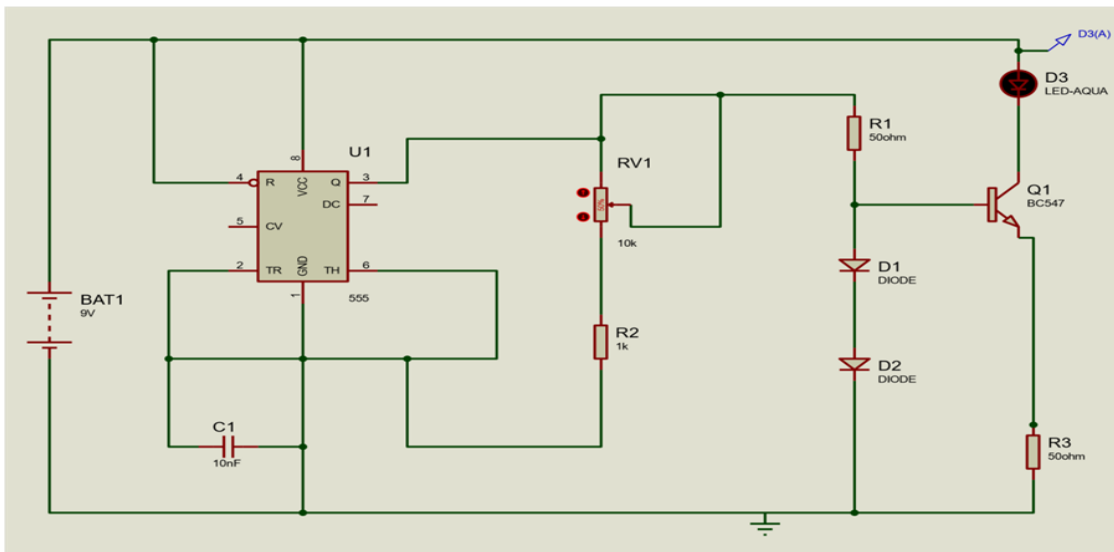


Figure 2: Circuit Design in Proteus when source is not applied



4. Simulation Parameter

Table 1: Components Required for Designing the Circuit

Sl. No.	Components	Specifications
1	Battery Cell	1(0V-9V)
2	555 Timer	1
3	Capacitors	1(10nF)
4	Resistors	3(50Ohm,1kOhm,56Ohm)
5	POT-HG	1(0-10) k Ohm
6	Transistor (BC547)	1
7	Diode [9]	2
8	LED	1

5. Working Procedure

When a specific button on a TV remote is pressed, an IR remote that transmits an infinite number of IR pulses is activated. A LED, which is connected to the remote's front-end surface, acts as the remote's transmitting component. Each specific button on the remote has a different setting for the pulses that are emitted. The TV, on the other hand, is built up such that it can recognize every distinct sequence and execute the appropriate action. As a result, each call is handled by the TV remote using a separate button. The 555 timers used in the project being considered and are placed in an A-stable mode. This astable circuit has the ability to generate a series of pulses that turn voltage pulses into infrared light. It is simple to construct this jammer circuit on a breadboard. To obtain the precise result from the greatest distance, the 10K potentiometer is adjusted. Either a 9V power supply or a 9V battery is used to power this circuit. To drive an IR LED, the transistor receives the 555 timer's output. The signal difference between the TV and remote are overlapped by the pulses produced by the LED. This prevents communication between the transmitter and receiver, which allows us to block the transmission. The majority of TV remote controls operate at 38 KHz. Because of this, the 38KHz IR pulse confuses the TV receiver. This

project uses a 555 timer to create a circuit that functions like an A-stable multi-vibrator. This project can easily jam all IR remote controls using the 38KHz frequency. In this project, a 555-timer is employed, and the circuit is designed to produce a frequency of 38 KHz.

6. Result Analysis

We have successfully completed the circuit design and when we gave a supply to the circuit it produces working of our device and it worked effortlessly and constant IR pulses which interrupt any signals coming, we are able to block the signals from TV remote to TV. transmitting to the TV receiver.

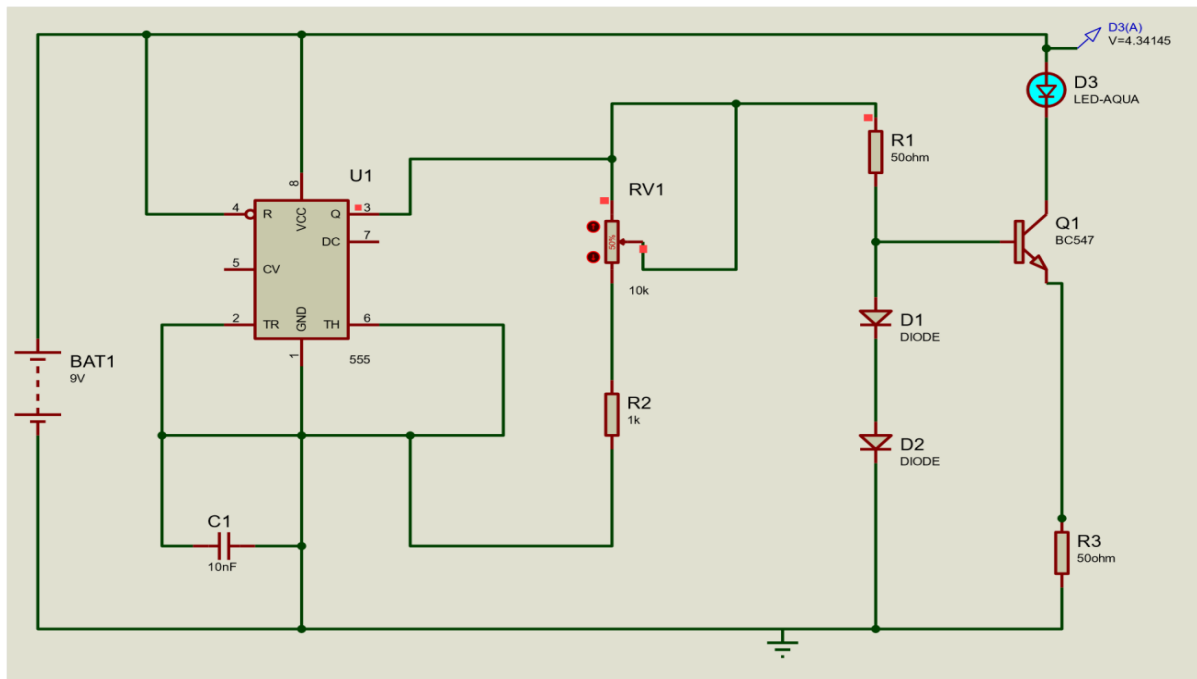


Figure 3: Circuit Design in Proteus 8 when source is applied



7. Conclusion

In this paper, we successfully developed a Remote-Control jammer using the 555 timer IC, again it is very cheap, components are easy to source and also easy to build and design. This is also a DIY (do-it yourself) type of Activity. By doing this device we will able to watch our favorite channel without interruption from anyone. The only limitation of this project is that we have to tune it to exactly 38KHz to make it work effortlessly. The concept of this paper is the jamming the signal from the acceptor's end to successful work of the circuit. We can also design circuits and tune it to certain frequency to Jamm other Appliances or Electronic equipment like AC, remote controlled fans etc.

8. Acknowledgement

We would also like to acknowledge the support of the academic community, the resources provided by the institution, and the insightful literature that informed our research. Our heartfelt thanks go to Mentor: Mr. Ashish Tiwary, Assistant Professor, Dept. of ECE, Gandhi Institute of Engineering & Technology, Gunupur, Rayagada, for providing valuable guidance, expertise, and continuous support throughout the project.

Co-authors Priyanshu Kumar Patro, Subhendu Sekhar Sabat, Ramkrushna Sahu, Akash Chandra Das B.Tech. Students, Dept. of ECE, Gandhi Institute of Engineering & Technology, Gunupur, Rayagada, for their dedicated efforts, enthusiasm, and collaborative spirit in contributing to the design, simulation, and analysis phases.

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Manuscript received 26th April, 2024; revised 29th April, 2024; Accepted 30th April 2024.

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