

Mobile Device Jammer Circuit

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Abstract- Mobile Jammer is one of the instruments used to prevent the cellular phones from receiving signals from Base Stations. Cell Phone Jammers are very useful to the society from the anti social elements by using the mobile jammers. So, in this paper we are designing a new Mobile Jammer unit which is capable of blocking the cell phone working not the signal receiving from Base Station, which make effective use of the situation where jammers actually used. By using the FPGA and RF technology to implement low cost jammers is implemented

Keywords- Jammers, Mobile Jammer, FPGA, RF Transmitter, RF Receiver, LCD

I. INTRODUCTION

Cell phones are everywhere these days. According to the Cellular Telecommunications and Internet Association, almost 195 million people in the United States had cellphone service in October 2005. And cell phones are even more ubiquitous in Europe. Cell phones are everywhere these days. According to the Cellular Telecommunications and Internet Association, almost 169 million people in the United States had cell-phone service in January 2004. And cell phones are even more ubiquitous in Europe. It's great to be able to call anyone at any time. Unfortunately, restaurants, movie theaters, concerts, shopping malls and churches all suffer from the spread of cell phones because not all cell phone users know when to stop talking. Who hasn't seethed through one side of a conversation about an incredibly personal situation as the talker shares intimate details with his friend as well as everyone else in the area? While most of us just grumble and move on, some people are actually going to extremes to retaliate. Cell phones are basically handheld two-way radios. And like any radio, the signal can be disrupted, or jammed

II. HISTORY

Mobile Jammer were originally developed for law enforcement and the military to interrupt communications by criminals and terrorists. Some were also designed to foil the use of certain remotely detonated explosives.

Mobile Phone



Inside mobile jammer

Electronically speaking, cell-phone jammers are very basic devices. The simplest just have an on/off switch and a light that indicates it's on. More complex devices have switches to activate jamming at different frequencies.

Circuitry

The main electronic components of a jammer are:

- **Voltage-controlled oscillator** - Generates the radio signal that will interfere with the cell phone signal and causes disruption
- **Tuning circuit** - Controls the frequency at which the jammer broadcasts its signal by sending a particular voltage to the oscillator
- **Noise generator** - Produces random electronic output in a specified frequency range to jam the cell-phone network signal (part of the tuning circuit)
- **RF amplification (gain stage)** - Boosts the power of the radio frequency output to high enough levels to jam a signal

Jamming Basics AND working

Disrupting a cell phone is the same as jamming any other type of radio communication. A cell phone works by communicating with its service network through a cell tower or base station. Cell towers divide a city into small areas, or cells. As a cell-phone user drives down the street, the signal is handed from tower to tower. Disrupting a cell phone is the

same as jamming any other type of radio communication A cell phone works by communicating with its service network through a cell tower or base station. Cell towers divide a city into small areas, or cells. As a cell-phone user drives down the street, the signal is handed from tower to tower. Jamming devices overpower the cell phone by transmitting a signal on the same frequency and at a high enough power that the two signals collide and cancel each other out. Cell phones are designed to add power if they experience low-level interference, so the jammer must recognize and match the power increase from the phone. Cell phones are full-duplex devices, which means they use two separate frequencies, one for talking and one for listening simultaneously. Some jammers block only one of the frequencies used by cell phones, which has the effect of blocking both. The phone is tricked into thinking there is no service because it can receive only one of the frequencies.

Less complex devices block only one group offrequencies, while sophisticated jammers can block several types of networks at once to head off dual-mode or tri-modephones that automatically switch among different network types to find an open signal. Some of the high-end devices block all frequencies at once, and others can be tuned to specific frequencies. To jam a cell phone, all you need is a device that broadcasts on the correct frequencies. Although different cellular systems process signals differently, all cell-phone networks use radio signals that can be interrupted. GSM, used in digital cellular and PCS-based systems, operates in the 900-MHz and 1800-MHz bands in Europe and Asia and in the 1900-MHz (sometimes referred to as 1.9-GHz) band in the United States. Jammers can broadcast on any frequency and are effective against AMPS, CDMA, TDMA, GSM, PCS, DCS, iDEN and Nextel systems.

Old fashioned analog cell phones and today's digital devices are equally susceptible to jamming. The actual range of the jammer depends on its power and the local environment, which may include hills or walls of a building that block the jamming signal. Low-powered jammers block calls in a range of about 30 feet (9 m). Higher-powered units create a cell-free zone as large as a football field. Units used by law enforcement can shut down service up to 1 mile (1.6 km) from the device.

A jamming device transmits on the same radio frequencies as the phone, disrupting the communication between the phone and the cell-phone base station in the tower. It's called a **denial-of-service attack**. The jammer denies service of the radio spectrum to the cell-phone users within range of the jamming device

III. PROBLEMS IN EXISTING JAMMERS

The Common Problems are listed below: The person didn't even get the notification of a call or message when he is in the jammer coverage area.

- The person cannot be contacted for some Nearly the mobile phone will be in Switch Off state.
- There will not be any notification that the user mobile has been jammed.
- Vip may not attend imp calls
- Some people might get affected with it
- urgent information also.

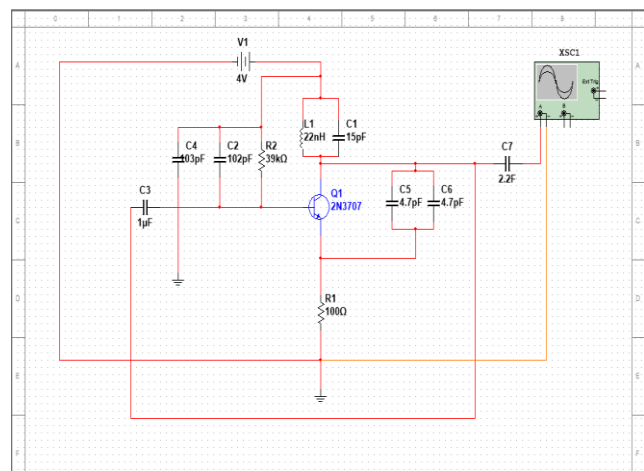
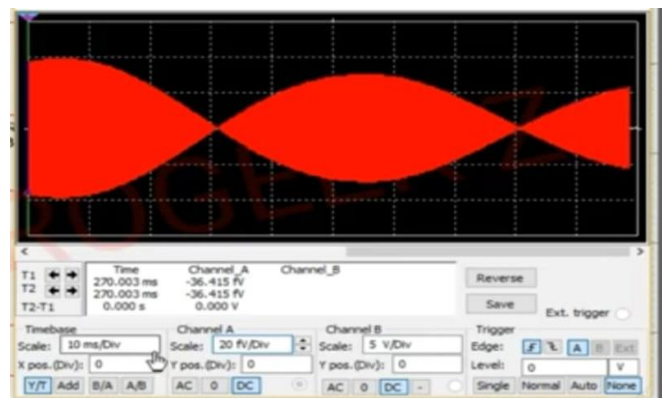
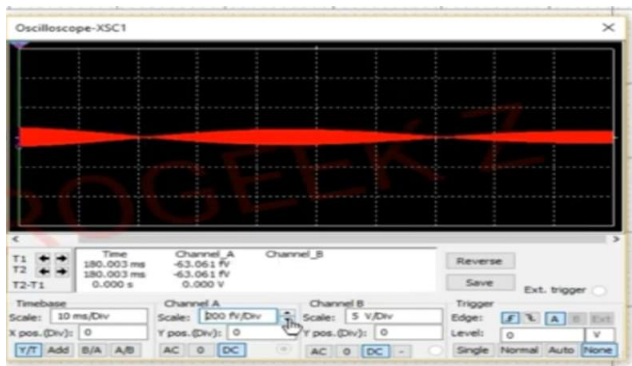


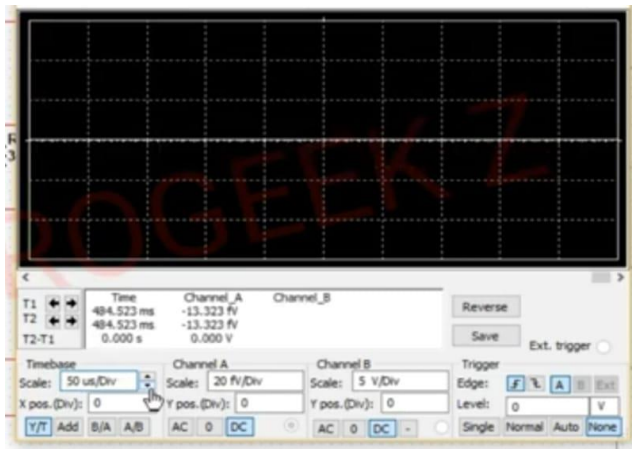
Figure 2: Mobile Jammer General Diagram



As we have small valued components we have to vary time per division and volts per division to small value.



we can see the distorted and variable waveform with noise is produced here.



IV. APPLICATIONS

Cell phone jamming devices were originally developed for law enforcement and the military to interrupt communications by criminals and terrorists. The bombs that blew up commuter trains in Spain in March 2004, as well as blasts in Bali in October 2002 and Jakarta in August 2003, all relied on cell phones to trigger explosives. It has been widely reported that a cell-phone jammer thwarted an assassination attempt on Pakistani President using jammers to protect the president's motorcade through London.

V. ADVANTAGES

1. It is very necessary using cell phone jammers in the most divine temples like Tirumala.
2. We can provide security to VIPs from the anti-social elements.
3. By using cell phone jammers we can maintain law and order for maintaining peace.
4. By cell phone jammers we can't disturb other people in public places like restaurants, shopping places.
5. It is very necessary to use cell phone jammers in naxal places. This helps the authorities to work their duty softly.
6. By using cell phone jammers in vehicles, we can overcome accidents which is very helpful to the people

VI. DISADVANTAGES

1. Cost oriented.
2. Requires special hardware.
3. People feel inconvenience.
4. V.I.P.'s may lose some important calls.

VII. FUTURE SCOPE

1. While the law clearly prohibits using a device to actively disrupt a cell-phone signal, there are no rules against passive cell-phone blocking.
2. Companies are working on devices that control a cell phone but don't jam the signal.

VIII. LEGAL ISSUES

In most countries, it is illegal for private citizens to jam cell-phone transmission, but some countries are allowing businesses and government organizations to install jammers in areas where cell-phone use is seen as a public nuisance. In December 2004, France legalized cell-phone jammers in movie theaters, concert halls and other places with performances. France is finalizing technology that will let calls to emergency services go through. India has installed jammers in parliament and some prisons. It has been reported that universities in Italy have adopted the technology to prevent cheating. Students were taking photos of tests with their camera phones and sending them to classmates

IX. CONCLUSION

Our projected Mobile jammer is functioning utterly while not moving the signals from the network. In order that the user will be able to get the notifications relating to Calls and messages (SMS, MMS). The notifications regarding the calls are given to the user. Cell phone jammers are very useful to society from anti-social elements. We can save our national leaders. We can restrict the communication network between the anti-social elements by using the cell phone jammers. Cell phone jammers prevent the students from carrying cell phones to the colleges. As everything goes fine, it is very necessary to implement in all the colleges.

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