Signal Jammer for Remote Security using Microcontroller

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Abstract:
SIGNAL JAMMER FOR REMOTE SECURITY USING MICROCONTROLLER aims at jamming the incoming signal from the transmitter and makes the receiver unintelligent of the incoming signal. For the purpose of jamming we use a PIC MICROCONTROLLER. We are using a Direct Receive and Transmit Jammer.

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Keywords: Jammer, Transmitter, Reciever, PIC Microcontroller.

Introduction:

Signal jammer(s) used for the specific purpose usually jams the signaling channels or disables the signal frequency or systems in certain locations for which the examples are meeting rooms, hospitals instead of having serious concerns of a policy, which may jam such devices to jam licensed services in order to address something.

Related work: Some jamming operations include prevention of signal frequency use and abuse. Jammers are working with all radio frequency bands used by the following service providers like mobile phones, radars etc. The potential for interference to other radio communication services in these bands is difficult to quantify because it depends on the related design.

Proposed method: For the purpose of jamming we uses a PIC MICROCONTROLLER. We employ a “DIRECT RECEIVE AND TRANSMIT JAMMER”.

Jammer module Algorithm:
Step 1: Includes the header files.
Step2: Initialize the variables cnt,freq
Step3: Initialize the required input and output port.
Step4: Enable the receiver and set the following bits SPEN, CREN
Step5: Determine the frequency of incoming data.
Step6: If frequency is less than or equal to 433.92 MHZ consider it as a low frequency and invert it.
Step7: Else if the frequency greater than 433.92 MHZ consider it as high frequency and invert it.

Transmitter Algorithm:
Step1: Initialize the input and output ports.
Step2: Set high Baud rate.
Step3: Enable [TXSTA] and set the BRGH, SPEN bits.
Step4: Data is transmitted under interrupt control to transmit register [TXREG] and then it is delivered to the output ports.
Microcontroller: A Microcomputer built on a single chip is called Microcontroller.

PIC Microcontroller Core Features:
1.Programmable Code protection
2.Watchdog timer
3.High performance RISC CPU
4.Interrupt Capability
5.Eight level deep hardware stack

Architectural features:
PIC micro devices have following architectural features to attain the high performance.
1.Harvard architecture
2.Instruction pipelining

Microprocessor VS Microcontroller
1.Microprocessor don't in-built peripherals but Microcontroller has.
2.Microcontroller works faster than microprocessor
3.In microcontroller all instructions are single word.

Timer 0:
The Timer0 module has the following features:
1. 8 bit timer/counter
2.Readable and writable
3.8-bit software programmable pre-scaler
4.clock source selectable to be external or internal
5.Interrupt on overflow from FFH to ooh
6.Edge select for external clock

Wireless Transmitter:
Features:
1.This transmitter has 6 pins. There is no external component and no tuning required
2.It generates 433.92MHZ frequency

Oscillator:
The internal oscillator circuit is used to generate the device clock. The device clock is required for the device to execute instructions and for the device to execute instructions and for the peripherals to function. Four device clock periods generate one internal instruction clock (TCY) cycle. There are upto 8 different modes, which the oscillator may have. There are two

modes which allow the selection of the internal RC oscillator clock out (CLKOUT) to be driven on an I/O pin, are allowed that I/O pin to be used for general purpose function.

Oscillator Configurations:
1.LP low frequency crystal
2.XT crystal/resonator
3.HS high speed crystal/resonator
4.RC external resonator/capacitor
5.EXTRC external resistor/capacitor
6.EXTRC external resistor/capacitor with CLKOUT
7.INTRC internal 4MHZ resistor/capacitor
8.INTRC internal 4MHZ resistor/capacitor with CLKOUT

Program Memory:
The program memory window can display locations in the range of program memory for the Currently selected processor. The program memory window open at all times and moves and resizes the window.

Stopwatch:
The system stopwatch counts the number of clock cycles that the processor executes. The counting occurs with real-time execution and polled execution. The timer triggers on every cycle of an instruction. The stopwatch allows us to measure code execution time.
The level of personal mobile communication technology has been greatly improved. 3G and 4G technologies are widely used. In areas such as prisons and detention centers, smartphones perform poorly. It is imminent to install cell phone jammers in prisons. Each base station has a different power and number of channels. The distance from each base station to the prison may be different. We recommend that you do not install base stations within 2-300 m of the surveillance area. If the distance between the base stations is too close, the signal may have a great influence between the signals.
Ever wondered what kind of device can be controlled with the remote control? Remote controls are used for machines such as TVs and cars. With the help of the remote control, operation can be as easy as ever. You will get a lot of convenience. Mobile phone jammers also have this feature. As you know, there are many 4G mobile phone jammers on the market. It has the function of blocking telephone signals, GPS signals and WiFi signals. It also has a remote-control function. The operation uses a simple design.
If you are looking for a 4G signal jammer, please consider a remote jammer with strong shielding capabilities to meet your needs. There are jammers suitable for specific locations. The maximum intercept range is 40 meters.
Prevent 4G in the 5 signal bands CDMA, GSM, DCS, PCS. Equipped with a remote control, you do not have to be nearby when turning the power on / off. Suitable for home, office or church. Shielding devices are very popular, and many different types of shielding devices are commercially available. Have you heard of devices such as jammers? The effective signal blocking area is a circular area in the center of the screen. The jammer avoids a strong source of electromagnetic waves to ensure a lasting blocking effect. Remove the antenna so as not to

interfere with the interference effect of the WiFi jammer. Portable personal jammers are available to enable their owners to prevent others in their immediate vicinity (up to 60-80 feet away) from using cell phones. Similar equipment is manufactured to block signals in environments where Wi-Fi and cell phone and activity may not be desirable, such as theatres, churches, secure sever rooms and operating rooms. At present, many enterprises are also beginning to purchase such products.

A Wireless Spy Camera Jammer will allow you a feature to stop the incoming frequency of your cellular phone related network service supplier wherever you go and there is no require to have switch off your cell phone to keep away from incoming calls as well signals and your visitor will find automated a tone of voice message from their related network service provider if the receiver is out of network coverage region. GPS jamming devices – they are also pretty useful because in that way nobody will be able to track you down and since there are rumours that the governments want to spy on us, the GPS blockers started to become more and more popular in the recent years. jammer is a very helpful when you are running on main project or driving on a busy road so that you could focus on that unique project as well on driving to avoid any tragedy while talking on the mobile phone. It also maintains when you are conducting any special business discussion or any conference with so that no one can disturb you. The mobile jammer can also be very useful at house while you are sleeping or when you are in washroom or bath because in such kinds of circumstances you just could not pick the mobile phone and in such cases many people get too angry if an urgent call comes in that circumstances. Cigarette mobile Jammer is too helpful in many times when you are in a night club party because in such enjoyable movements you want to avoid and take full pleasure of the attractive moments without receiving any dull calls from your house calling urgently you back or your company boss. There are many other areas you could have need a mobile phone jammer for instance-when you are with your favourite one and need top secret you would definitely like to block your mobile arriving calls from network service contributor.

Conclusion:

A data at 433.92 MHZ was transmitted and was jammed by the introduction of the jammer module using PIC16F877 Microcontroller thus the receiver was made unintelligent of the signal transmitted and the concept of remote security was achieved.

References:

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