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MOBILE PHONE DETECTOR USING CA3130

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Abstract: Despite the fact that people are connected to one another, there are circumstances or locations where its use is forbidden for security or health risks reasons. Investigations into cell phone detection have been ongoing for a while. There are methods for detecting cell phones that have been developed or suggested. RF system and common phone components, and investigate potential applications for these as a foundation for mobile phone detection. A circuit is utilised to identify signals between 0.9GHz and 3GHz.

Keywords: **Cell phone, Phone Detector, GSM Signal, Buzzer, 555 timer, IC CA3130**

I. INTRODUCTION

In this chapter we will see mainly the circuit testing on bread-board and working of cell phone detector in the quick operation of a cell phone detector. Having an active cell phone in the room served as the initial test for this phone detector. With the detector close by, a call was made after turning on the cell phone. Not a single sound emerged from the headphones that were connected. In order to diagnose and resolve this issue, the circuit was examined using a spectrum analyser and signal Worldwide, a lot of people use cell phones. Despite the fact that people are connected to one another, there are circumstances or locations where its use is forbidden for security or health risks reasons. Investigations into cell phone detection have been ongoing for a while.

Certain methods have been developed or suggested on how ESSARIES EDUCATION SOCIETY A bandpass test was used to determine if the circuit was resonating at 900MHz. carried out by ramping the frequency from 600 MHz to 1.2 GHz at 100 MHz intervals. Although the amplitude varied at each interval, it was really lower and lacked a bandpass response at 900 MHz.

The circuit's impedance may have changed as a result of wire wrapped connections.Upon testing this cell phone detector, it was found that the spectrum analyser could only identify the phone with a 500 MHz probe. At 832 MHz, the spectrum analyser surged when using the cell phone. This cell phone's frequency range is within the range of GSM phones, hence it was designed around it.

II. LITERATURE REVIEW

The moment the Bug detects RF transmission signal from an activated mobile phone, it starts sounding a big alarm and the LED blinks. The alarm continues until the signal transmission cases. Assemble the circuit on a general purpose PCB as compact as possible and enclose in a small box

[1] The use of intelligent mobile phone detector is needed. This work concentrates in designing a system that will dictate the presence of GSM signals from an unauthorized user in restricted areas

[2] The prototype, however, has a limited-range of detection, of only about 4 meters, therefore future and more-deeper-research on improvements should be conducted, so as to make the device more- efficient

[3] There are existing models for the cell phone detectors which works when some transmission occurs from the phone. In this paper, we are proposing a detector which works even when the mobile phone is just in the switched on mode but not being used for any kind of transmission

[4] Work concentrates in designing a system that will dictate the presence of GSM signals from an unauthorized user in restricted areas which will in turn trigger another device to restrict the user from service

[5] When mobile receive the signal at the particular place, the alarm makes the sound for indication of the mobile and one LED will glow for the indication then with this device GSM Module is attached to send the Short Message service (SMS) to the registered number in the microcontroller

[6] The detector emits a buzzer and blinks an LED to indicate that it has discovered an activated cell phone nearby. It does this instantly upon detecting radio frequency (RF) transmission signals from a mobile phone.

[7] Use RF with a 30 cm wavelength and 872–2170 MHz, meaning the signal has a high frequency and a significant amount of energy. A signal in the shape of a sine wave travels over space when a mobile phone is in operation. The audio/video signal that has been encoded includes electromagnetic radiation, which is detected by the base station's receiver, has been encoded

[8] Human life is divided into day periods as a main, periods which consist of a day and night phase. Most of humans need to sleep a eight hours in a minimum to have their body and all the body function ready in day phase of a day. The second very important thing (instead of 8 hour sleep) is a phase of sleep in which a human is wake up. Waking up of a human in deep sleep phase lead to a very "unhappy" morning and not so nice spend of day. We are trying to develop algorithms to detect mild sleep stages which are the most suitable to human wake up. Actually we use microphone input to record and process sound near the monitored user

[9] The work presented in this paper intended to design and implement a new security system which can be used to protect important places by calling the place owner through a mobile phone to indicate him that the protected place is impenetrate.

[10] The system consists of five hardware parts: sensing system (laser circuit and control circuit), Digital Video Recorder (DVR) system, calling circuit, delay and ignition circuit and reset circuit.

III METHODOLOGY

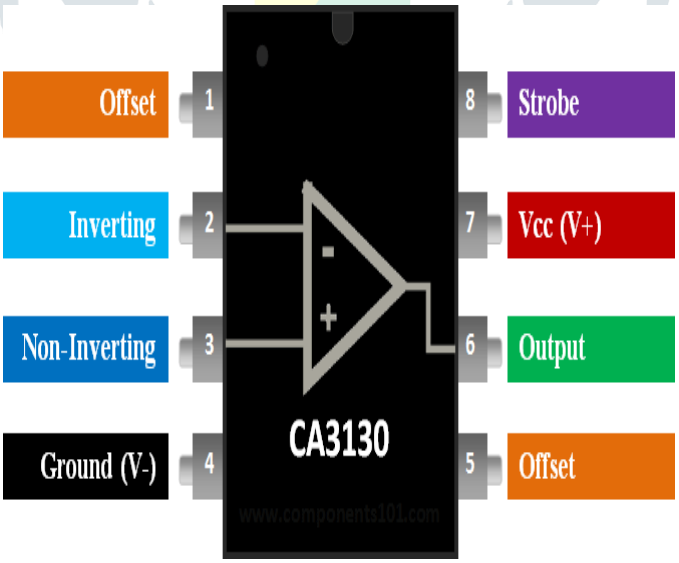
A technological tool known as a cell phone detector may identify whether or not cell phones are present in a certain space or within a predetermined operational range. This cell phone detector sounds an alert and asks the owner of the phone to turn it off as soon as it detects the presence of a phone.

The cell phone detector can notify the user of the phone in a number of methods, including by ringing, sending an alert message, or beeping the detector once. This device's user can create a personalized text or record an audio message. message that will be delivered to each phone that is found. This is a fantastic method of discouraging cell phone use in study halls, places of worship, private spaces, etc. One further strategy for controlling cell phones in the classroom is to employ a phone detector.

In addition to being able to locate mobile devices in conversation mode, cell phone detectors can also be used to locate devices that are turned on or in standby mode. The use of a smartphone detector is crucial in sensitive locations like houses of worship, libraries, and other sites because it is not always practicable to screen everyone entering. The government will utilise them to remove everything that is undesirable and to employ them as rescue tools.

A circuit known as a "mobile phone detector" can identify the existence of a mobile phone within a predetermined range. When an SMS is delivered or received, an incoming call, an outgoing call, or both, this circuit identifies the phone. Another name for it is a frequency detector. The LED turns on to indicate that the circuit has detected an RF signal from a mobile phone that has been turned on detects an RF signal from an activated mobile phone, it gives indication by switching ON the LED.

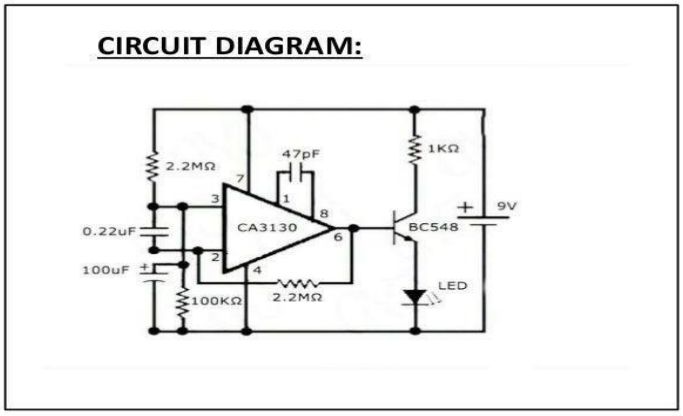
CMOS version gate-protected P- channel MOSFET. Acts as a Differential Amplifier Used in circuit as a current to voltage converter Provides very high input impedance, very low input current and very high speed of performance Operates at supply voltage ranging from 5V to 16V.



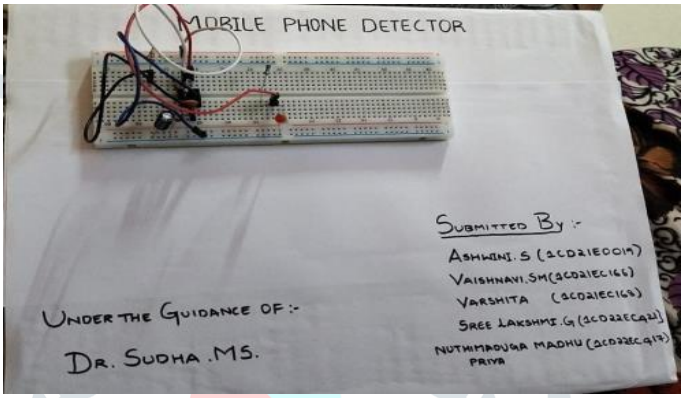
IV. WORKING

Mobile phone transmission frequencies vary from 0.9 to3.3 to 10 cm, has a wavelength of 3.3 to 10 cm up to 3GHz. Here, an RF signal from the mobile phone is captured using a 0.22µF disc capacitor 6. This functions as a 5 GHz loop antenna, together with the leads, When the mobile phone radiates high frequency radiation, capacitor oscillates and release energy in vibrates and releases energy in the IC's inputs. The flashing of the signal indicates this oscillation.

V. CIRCUIT DIAGRAM



VI. RESULTS



VII. CONCLUSION:

This compact mobile transmission detector, often known as a sniffer, can identify when a mobile cell is operational. phone from a distance of one and-a-half meters. A cell phone that is in use could be detected by the detector as long as it is operating in the frequency band of 0.9GHz to 3.0GHz. The LED was flickering to show that this phone was being used. as demonstrated by. as shown by the LED's blinking.

As a result, it can be used to forbid using cell phones in private spaces like exam rooms. It is also helpful in identifying instances of unapproved video transmission and weaves dropping via mobile phones.

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