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ULTRASONIC MOTION DETECTOR

MOHD LUTFI MD RADZI

NOR AZURA SAMSUDIN

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ABSTRACT

Ultrasonic motion detector is a simple circuit, which is used to detect the movement object example, human. When a moving object passes through the transducer than have the LED will light on for a few second and the same time the sound of doorbell on. This project is suitable used for every house because this gives some advantages for the both sides. As for the person, he will know automatically if there is stranger around the house. This circuit also safe to use because it used low voltage. It also is inexpensive because it just used simple electronic devices.

The motion is detected by 40 kHz ultrasonic transmitting transducer in the transmitter section which also consists of 40 kHz crystal oscillator and 4069 hex inverter IC. 40 kHz receiving transducer in the receiver section then detect any reflect sound produce by transmitting. This section is also consists of TL 084 quad operational amplifier, which is used to amplify the signal, and turns ON the transistor Q1 and light this LED.

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CHAPTER 1

INTRODUCTION

1.1 BACKGROUND

The ultrasonic motion detector is use to detect human or animal when they enter the house. The ultrasonic motion detector can detect any human or animal with any way.

The specific objectives are ultrasonic transducers can detect motion in an area where there are not supposed to be any moving objects. Something is out there on the porch, in the driveway, or behind the shed. Or maybe it is inside in the garage, or basement. Perhaps it's just your teenager sneaking in from a late night out. Possibly it is only the neighborhood cat.

Whatever is going on, you can know if something is going on because you just installed the Ultrasonic Motion Detector. It contains a complete ultrasonic (40-kHz) crystal-controlled transmitter and a supersensitive receiver on a printed-circuit board that measures only 1-1/2 by 3 inch. The device detects motion from 2 to 4- meters away and when it occurs, a red LED will switch on lights. But with additional circuitry attached to the output, the detector can turn on lights, sound buzzers, trip a recording device, or even call the police.

Also, the circuit can be made to sound off with a message when anyone moves within its field of detection. Using various voice recording and playback circuits, you