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Laser Light Security Alarm System

Dr.S.Sumathi[1] , T.Sanjay[2], V.Sreekanth[3], M RA.Sundararaj[4], S.Yesvanth[5]

Professor, Department of Electronics and Communication Engineering, Adhiyamaan College of Engineering, Krishnagiri District, Tamil Nadu, India [1],

U.G Scholars, Department of Electronics and Communication Engineering, Adhiyamaan College of Engineering, Krishnagiri District, Tamil Nadu, India. [2, 3, 4]

ABSTRACT: This project deals with a model of laser security alarm system design. Laser security systems used to be difficult to install and rarely available to anyone other than the super-rich. Now, there are dozens of different security systems on the market that utilize lasers and can effectively protect everything from small apartments and businesses to large areas of property. Most home laser security systems consist of two parts: a basic alarm unit and an infrared motion detector Laser based security system is a type of security and alarm system that uses laser light and a light sensor. Why a laser to be used? It is known that a laser light goes through long distance without any scattering effect (disturbing) and it is only visible at source and the destination point so it can be used as mediator between source and destination but to analyses the source a sensor is need, here the use of LDR is applicable. Just analysis is not enough alerting should be done in general alerting is sound effect so here buzzer act as alerting. Making use of this, a laser security system is designed. Its working: There is a laser diode that generates the laser beam which continuously strikes over the Light dependent resister sensors. When any person crosses the path, it inhibits laser to reach LDR and the sensor generate a low which is read by controller to power on the buzzer.

KEYWORDS: Laser light security alarm system, Internet of Things, Sensors.

I.INTRODUCTION

Welcome to the introduction of our exciting project on the Laser Light Alarm System! In an era where security and surveillance are paramount, our project aims to explore and develop a cutting edge solution to enhance safety in various environments. By harnessing the power of laser technology, we are creating an advanced alarm system that detects and alerts us to any unauthorized movement or intrusion. In this project, we will delve into the principles of laser optics and sensor technology, working towards designing a system that establishes an invisible shield of light. When this laser barrier is disrupted, whether by a person or an object, a carefully calibrated alarm will be triggered, instantly notifying us of potential security breaches. Throughout this journey, we will navigate the intricacies of laser beam alignment, sensitivity adjustments, and real-time data processing. Our team's dedication to innovation will ensure the system's reliability and effectiveness, even in challenging indoor and outdoor settings.

II. RELATED WORKS

The basic sensing components of an laser security system is an infrared motion detector. An motion detector works by using beam of infrared light to detect changes in heat. When a person moves into a beam of light the sensor is alerted by the alarm is located inside the entrance of house and it acts as a detector and it starts to triggers and that sound alarm helps the people to be alert. These alarm helps in their daily life to protect their money, valuable ornaments or things.

II. EXISTING METHOD

This shined across the path is some kind of receiver on the other side of the Path. When the laser beam is broken the alarm is triggered. The alarm can be located inside the house or it can even be a text message sent to your cell phone. The system senses the light emitted by the laser falling over the LDR connection with the circuit. Whenever the beam of light is interrupted by any means, it triggers alarm or siren.

III.PROPOSED SYSTEM

There are three essential components of a laser light security alarm system a laser, a LDR module, a Laser light. The laser is a concentrated light source that puts out a straight line, pencil beam, of a Light of a single color. The LDR is a sensitive to light. LDR is connected to the laser light.

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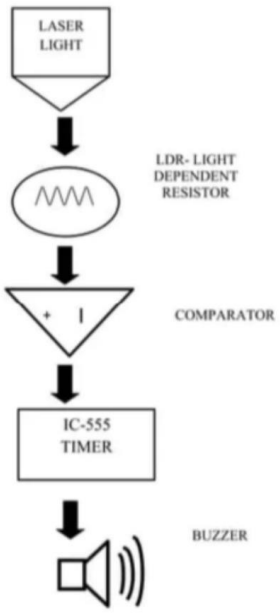
IV. BLOCK DIAGRAM

This circuit is based on LDR (Light Depended Resistor), a variable resistor in which the resistance varies according to the light intensity falling on it. The LDR and resistor R2 forms a potential divider network, which is the main part of our security alarm circuit. We have already discussed about how transistor acts as a switch, the same principle is used here. The voltage drop across the LDR is used to drive the transistor switch. When the voltage drop is above cut in voltage (0.6V), the transistor is turned ON. LDR has low resistance (mt) range) in the presence of light and high resistance (MX range) in the absence of light In our security alarm, a LASER light is allowed to fall on the LDR continuously Light from other sources should not be allowed to fall on the LDR. In this situation, the resistance offered by LDR is too low, since the LASER light is continuously allowed to fall on the LDR.



V. EXPERIMENTAL RESULTS

The LDR is sensitive to light and puts out when a voltage when the laser light hits it. When the Laser light is interrupted and can't reach LDR its voltage output changes, and eventually the alarm will ring . Laser security alarm is a device and the device is used for security purpose.

VI. FUTURE SCOPE

We can implement a person identification system like face recognition and finger print scanning And to provide stealthy home security that hard to burglars to get past. Depending upon the alarm System you setup the intruder may or may not even realise that has less triggered alarm which allow More time for the authorities to catch.It can check if pets or babies crossed a certain boundary.

VII. CONCLUSION

The manual switch dependent sensor and basic alarm system. Laser alarm security system a person Moves in front of the motion sensor the person body in front of the person body heat triggers the alarm system and the alarm signals the security monitoring company and local law enforcements.

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BIOGRAPHY

Dr. S.Sumathi, professor,
Head of the Department, Electronics and Communication Engineering Department,
Adhiyamaan college of Engineering,Hosur

T.Shanjay, Electronics and Communication Engineering Department, Adhiyamaan college of Engineering, Hosur

M RA.Sundararaj, Electronics and Communication Engineering Department, Adhiyamaan college of Engineering, Hosur

S.Yesvanth, Electronics and Communication Engineering Department, Adhiyamaan college of Engineering, Hosur

V.Sreekanth, Electronics and Communication Engineering Department, Adhiyamaan college of Engineering, Hosur

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