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Wireless Communication Using Li-Fi Technology in Transmission of Audio Signal

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ABSTRACT

In our day to day life the usage of wireless communication has been increased in restricted area such as example of underwater, internet in aircraft, disaster management and wireless in transmission of audio. Li-Fi (Light fidelity) which is a technology attached to the visible light communication having more benefits and results to the function posed in the final decade. The li-fi signal are transmitted from LED during the audio signal transmission .The detector will detect the transmitted signal and then it is given input Microcontroller. It will turn ON the data is transmitted and the information will be receiver the audio signal. Also sends the message transferred using wireless communication of li-fi technology.

Keywords: Li-Fi, LED, Microcontroller and Audio amplifier.

1. INTRODUCTION

In recent years, there has been increasing issues relating to the use of wireless communication using LI-FI areas. Data rates of wireless having number of devices accessing the internet higher develop to last decade. Then unfortunately LED increase in internet of voice increasing without noise. Inadequate wireless of light used in increased Audio amplifier of increased frequency of interference. Wireless communication using new method of speed and security on LI-FI technology. New technology are developed from wireless communication of LI-FI using in easy to audio signal. When using Audio amplifier for reducing noise to sound signal based on wireless system. The data speed also increased in high speed communication. Light always provide to spread of change in communication environment of deflection of light rays. The data can be moved only light source of LED using in transmitted the audio signal. The light varies data can be increased in high speed communication of Light source of LED .They LED have a started at attract for wireless communication of system. When the wavelength of source can be visible to light on data transferred are one data to another data. Where light source can provided a high brightness and low power consumption of life long time service.

The sound signal will be provided by the exhibit on propagation. In addition of white LEDs can very high brightness of source light, Decreased power of long life. A result of LED can serve two purposed at same time on transmitting in data high speed communication. The two purpose available in our communication at wireless data. The Audio signal are information passed through a sound signal of no limits of organization. When it is emitting light used in LED of data source.

2. EXISTING SYSTEM

In existing system, interference and noise of the signal is high. Power consumption of existing system is high compared to proposed system. Installation cost and environmental hazards are high compared to proposed system .Further Studies should now determine whether it can improve audio signal without noise and reduce noise. It can li-fi used in only data transmission and stored an audio signal only sending to speaker .hen only 64 bits are stored in memory. They allowed only next to next of audio signal. The improvement on data speed.

3. PROPOSED SYSTEM

The main purpose of system is detect to transmitter and receiver using light source only. The audio amplifier used amplifying signal from Li-Fi source. They present in atmospheric and underwater where the signals are stored in number of microcontroller. Li-Fi signal used for easy to transmission of audio signal and it is displayed with help of LCD module.

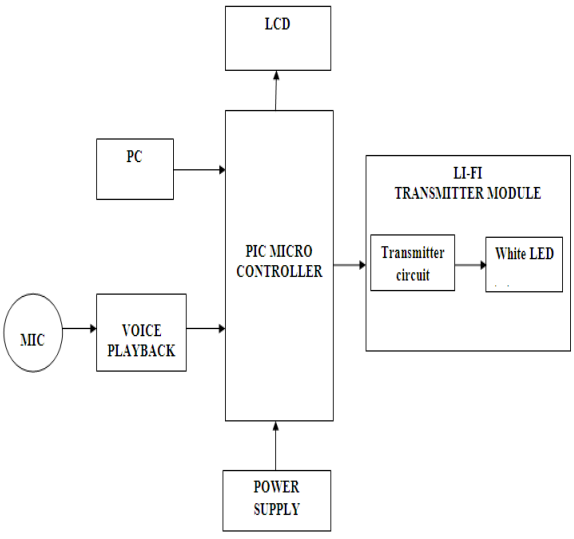

Fig.1. Block Diagram (Transmission section)

Transmitter is components of PIC microcontroller LI-FI technology, audio amplifier and li-fi transmitter module. The communication from li-fi technology when passed through a power supply from 5V.

In this paper, wireless using lifi technology in transmitter and receiver by audio signal transmission .The non-linearity of the LED is reduced. Proposed system can be used in situations where a household has many appliances with audio output. Good perceptible audible quality PCM streaming. Installation cost and environmental hazards are less in proposed system. They using li-fi developed at audio signal in researching going process to video signal of transmission in system.

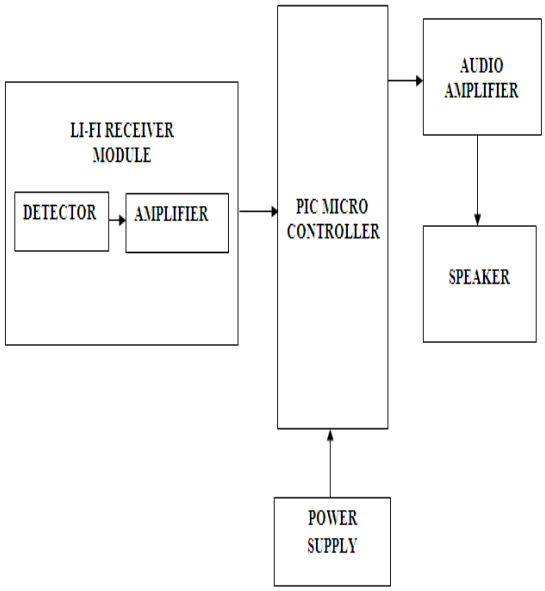

Fig.2. Block diagram of receiver

The term of use in li-fi paper having a receiver parts of PIC microcontroller audio amplifier and li-fi receiver module. The principle followed to transmission from transmitter of audio signal. When output are arranged from speaker. Two purpose of lightening used in li-fi, they arranged by transmitter and receiver.

3.1 Principle of Li-Fi Function

The magnitude also easily from change to light in principle based on function. Another principle based on transmit data from the Light of modulation. In LED is ON, it bit rate is 1 and LED is off, it bit rate is 0. The frequency easy to changes remains fill in continues white light from the human eye continuing observe to receive signal of light source. When the frequency rate on high speed of data. They using from audio amplifier in data transmit. Then demodulated section using in LED on li-fi. LED is communication of signal from LI-FI technology. The bulbs are easy to transmit from LI-FI.

3.2 LCD Display

Liquid Crystal Display is the material, which have the molecular structure and flows like a liquid. LCD module is a low power device. Properties of the molecular structure are associated with the solid structure. The power requirement for LCD is in the order of microwatts. LCD's are subjected to chemical degradation, so it is operated at the temperature range from 0 to 60 degree Celsius and the lifetime is short. Classification of LCD:

1. Dynamic-scattering LCDs
2. Field-effect LCDs

Fig.3. 16×2 LCD Display

Apart from scattering type LCD, all others absorb less power source but their cost is high and height is up to 2 inches, while dynamic scattering LCDs are available at 8 inches height. The ON and OFF time of the LCD is one of the important consideration in all displays. LCDs response time is up to 100 to 300ms. Standard lifetime is beyond 1000+hours.

3.3 Standardization of Li-Fi

The team of working in communication by visible light 802.15.7 steady completed the project development of the physical layer (PHY) and the media Access Control (MAC) for VLC in LI-FI technology.

3.4 Li-Fi Technology

The part of my subject, carried by a transmission of PWM is based on transmit audio signal. When my sawtooth signal will created by PWM at base of the electronic components are creating. When lifi is more speed than Wi-Fi. So depend on high speed data in transfer to audio signal have reached data rates of over 500 megabytes per second. A consortium called Li-Fi Consortium 'was formed in October 2011 by a group of companies and industry groups to promote high-speed optical wireless systems and overcome the limited amount of radio based wireless spectrum. According to the Li-Fi Consortium, it is possible to achieve more than 10 Gbps of speed, theoretically which would allow a high-definition film to be downloaded in just 30 seconds.

Fig.4. LIFI vs WIFI

3.5 Microcontroller

A microcontroller is an integrated circuit or a chip with a processor and other support devices like program memory,

data memory, I/O ports, serial communication interface etc integrated together. Unlike a microprocessor (ex: Intel 8085), a microcontroller does not require any external interfacing of support devices.

Microcontroller differs from a microprocessor in many ways. First and the most important is its functionality. In order for a microprocessor to be used, other components such as memory, or components for receiving and sending data must be added to it. In short that microprocessor is the very heart of the computer. On the other hand, microcontroller is designed to be all of that in one.

4. CONCLUSION

LI-FI technology in wireless communication of audio signal transmission. The future requirements on lifi is passed through the video signal. When search on my analog signal will be required on next generation. It is targeted by optical communication on telecommunication operators. Then it is high efficiency and various innovation need from LI-FI. The ability to light from transmit of information. They provide to testing or stored an audio signal by light. Large number of researches improvement of technology from LIFI technology. I'm interested in the implementation of video signal and digital system that is suitable to this technology. The frequency achieved to greater than 1Gbits/s and guided or helped the VLC system to the bidirectional transmission.

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