

ABSTRACT

Technology in any case always been progressing very rapidly, not least in the field of communication technologies in the transmission of information. One of the technology in the field of communication that is under development is visible light communication. Visible Light Communication is a communication technology that utilizes visible light emitting from lights in communication systems. Currently many lighting lamps use LEDs. Meanwhile, theoretically illumination light can also be used as a transmission medium for efficient use of the cable on the transmission media and the use of lighting.

In this study, developed a visible light communication system for sending audio signal electric acoustic guitar. Visible light communication technology in communication systems to be implemented in the form of an audio signal originating from the electric acoustic guitar. This communication communication visible light system consists of transmitter and receiver devices. The transmitter device used is a light source from Light Emmiting Diode. And the receiver device is a light detector using Solar Cell. The audio signal is sent through the luxeon LED on the transmitter block. Then received by block reciever by using solar cell as receiver of information sent by transmitter block.

The results of this study can be shown that the audio signal can be through the VLC system with a distance of 1.4 meters. With optimal output level between transmittter and reciever $\leq 20^\circ$. Delay generated at the time of sending the audio signal from the transmitter to the reciever of 2 ms at 256 lumen, 105 lumen condition of 109 μs , and 45 lumen condition of 102 μs .

Kata Kunci : *visible light communication, light emmiting diode, solar cell, audio.*