

## **ABSTRACT**

*The wireless communication network becomes an alternative technology and is relatively easier to implement in the surrounding community. When wireless technology is connected to a device to listen to music, the device uses music loudspeakers such as loudspeakers. The use of loudspeakers using cables when listening to music, but this problem have an impact in limited use of cables and the amount of attenuation on the copper cable used. From these problems, the sender system of music information is made using visible light that utilizes LED lights as lighting light, then a transmitter is installed to transmit music information and has attenuation close to zero.*

*The design of this final project tool implements the transmitter and receiver of music information signals through visible light communication. In this device consists of LEDs in the transmitter section as an electric converter into light and a photodiode in the receiver as a light converter to be electric. Through the implementation of this tool it can be seen that the transmission of sound through visible light can be realized. The signal sent in this final project is the music information signal of the mp3 module, and on the side of the receiver received through the photodiode, the signal output will be sent using a mini speaker to display the sound of the music received.*

*The results in designing this tool can send music information signals through visible light at a distance of 4 meters with modulated LEDs. At the 0° angle, the gain value is 22.17 dB, with coverage of 32.15 m<sup>2</sup> and the attenuation obtained is -6.05 dB.*

**Keywords :** *Light Emmiting Diode, Transmitter, Receiver, Music.*