

## ABSTRACT

Visible Light Communication is a data communication media using visible light as a medium for delivering information. Visible light (visible light) is not only as a medium of illumination, but can be as a medium for delivering information. efficient use of cables and can reduce cable usage. The Visible Light Communication communication system can make it possible to load voice information. Communication is very important for divers to deliver in the air. Today divers to only use sign language by hand is not effective.

In this project, the visible light communication system was seen to send audio signals in the air with the transmitter and receiver devices. This device consists of a laser that has a wavelength of 650nm as the transmitter. Laser power as the energy of the converter into light, and red diffuse as light energy that is converted into electricity. The voice of the data that has been paid will be continued to the speaker as a voice modifier.

From the results of testing the VLC system using a 650nm colorless laser as transmitter and a red diffuse led as receiver, the results obtained that the VLC system can be used for voice transmission communication with a larger number of diffuse external LEDs outside the 25cm air transmission media., Using the answer, the frequency is 300Hz - 20000Hz, the received angle reaches  $<10^\circ$ .

**Keywords :** *transmitter, 650 nm laser, visible light communication, communication in water, audio.*