

ABSTRACT

Communication in water currently uses optical fiber, radio waves and acoustic waves. In this study a communication device in water was developed using visible light or Visible Light Communication. Visible Light Communication system can make it possible to send information in the form of images. The light media used is laser light. The use of visible light as communication in water is a good choice in terms of costs and maintenance.

This device can support underwater communication using light communication technology (VLC) that uses two transceiver devices in the form of laptops as senders and receivers. In this device requires Hardware and Software. The Transceiver block uses HyperTerminal software and USB to UART, Laser, Photodiode hardware.

The results of this study are the transmitter system can send information in the form of images in water with the capacity of the images sent 18.4 Kb and 31.5 Kb at a distance of \pm 70 cm. In sending images in water, a delay occurs with an average delay of 3 seconds at a baud rate of 9600 bps and 8 second at a baud rate of 1200 bps. counted throughput of 997.2 bps in images measuring 18.4 Kb and 978.8 bps with a size of 31.5 Kb. In this study the farther the transmit distance of the sender sends receiver information, the resulting light decreases and the sending time is relatively longer.

keyword: visible light communication, 650nm laser, hyperterminal, photodetector array