

ABSTRACT

lights, can help police officers easier in doing their work in handling congestion. Another case if there is not a traffic light, of course riders, the public and police officers also participate restless in doing their daily activities on the trip. With it in various worlds apply traffic lights to prevent the occurrence of noise, congestion and unwanted by the rider. In this final project using Arduino microcontroller controller as master and slave, infrared sensor and photodiode are used to detect object, LED as indicator of traffic light and lamp time indicator, and 16x2 LCD to display ZigBee object and communication. From the overall test, this Final Project has been working as expected where it can run using the working principle that sends the color indicator light traffic light and timer from each light traffic light indicator from the master microcontoler circuit delivered to the slave microcontroller circuit. In this final project there is ZigBee communication that serves to intermediate or communicate between master and slave. From the results of ZigBee testing on this final task can be concluded that between master and slave there is a range of maximum distance 5 cm, then in terms of photodiode sensor has been tested with distance per 20 cm. Maximum distance of the sensor up to a distance of 80 cm. On the sensor in this final task has a function as a detection of the object passing.

Keywords: Traffic Light, Arduino Microcontroller, Infrared sensor and photodiode, LED, 16x2 LCD and ZigBee communication.