DESIGN OF CAR PARKING AID
USING JSN-SR04T ULTRASONIC SENSOR

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ABSTRACT

This research was conducted to provide more detailed information on parking aids on the market to car drivers to make it easier to park vehicles due to the limited information known to the driver in the back of the car. The purpose of this study was to determine the characteristics of the ultrasonic sensor JSN SR04T, as well as to make car parking aids that were applied directly to vehicles, and to conduct tests to determine the accuracy and precision of parking aids that had been made in three different fields. This study uses three methods, namely the manufacture of hardware, software development, and testing the accuracy and precision of this car parking tool. The results of the characterization of the two ultrasonic sensors in this study have a transfer function value of t = 168074857,1+56.3S s for the right-hand sensor and t=167659621.1+56.4S s, with a correlation coefficient of r = 0.99, and has a sensitivity value of 56.3 s/cm for the right sensor and 56.4 s/cm for the left sensor, while the repeatability value of the right sensor is 99.68% and left = 99.76%. And the percentage value of accuracy of all sensors in all obstacle objects is 99%. While the precision percentage value for the flat plane test of the two sensors has a value of 98%, the right sensor wavy object = 97% and the left sensor = 98%, while the test on the right sensor small object has a precision value of 97%.