

## **ABSTRACT**

*Sometimes we have difficulties when parking a car. To this issue, a system of automated device is designed with the title "Design and Realization Length Detection Based on Ultrasonic for Four Wheel Drive parking". It works based on input from ultrasonic distance sensor which will provide the distance data to the microcontroller. Output of this device are a display on LCD screen and a voice that says the distance in centimeters. The result of device testing, the percentage of error of 2% - 58% is found where the greater the distance measurement, the smaller the error. Measurement errors occur due to rounding value of ultrasonic waves travel time in calculation process which processed in software. Overall this tool is able to work well, but sometimes the reflection of ultrasonic waves suffer from getting interference from other wave or get reflections from other objects and cause inaccurate measurements*

*Keywords: Ultrasonic sensor, microcontroller, LCD, ISD2560*