

# PERANCANGAN DAN IMPLEMENTASI SISTEM PARKIR OTOMATIS BERBASIS MIKROKONTROLLER

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## **ABSTRACT**

*Today the growing number of means of transport, especially road transport is the car. With increasing the means of transportation are made of parking becomes more narrow and the existing parking situation at this time the author hopes these parking lots can be utilized as fully as possible and be able to utilize a more efficient time to park the car. Park system currently does not present an empty parking location data causing vehicles entering the parking area must first find an empty parking space. The above causes the driver must be spinning in advance to find an empty parking lot that end up spending time and energy.*

*Thus the Final Project aims to create a parking system that can provide convenience for users of four-wheeled vehicles. At this parking system, consisting of a master microcontroller (1 fruit) and slave (4 pieces) connected with the principle of using the phone cord to use your work with regular cable. Ultrasonic sensors are used there are 4 pieces, which detects the presence or absence of a car and then the data is received by the master microcontroller is displayed on the LCD. This parking system can also provide information on the state of each floor that is in miniature the author made, the indicator is a red LED (full floor) and a green LED (floor still empty) and the display of the LCD to see the location of parking. Miniature is made consists of 2 floors and 4 blocks.*

*For the power supply system used is a parallel power supply system with voltage received by each microcontroller 5.0875 volts. By using the method queue (queuing method) is very effective because the booking system (reserved) can provide convenience for the user and the percentage of success of ultrasonic sensors to detect a car or not that is 100% with the surface of different objects. Delay sending data from the slave to the master that is 31.1 ms with a 0.5 meter long connecting cable. Parking system in the form of miniature bar is also equipped with entrance and exit. The motors are used as a doorstop is a servo motor with an average response of each servo motor is 53.7 ms.*

*Keyword : ATMEGA 8535, ATTiny13, Ultrasonic Sensor, Infrared Sensor, Servo Motor*