

ULTRASONIK RADAR PROTOTYPE BASED ON ARDUINO AS OBJECTS POSITION DETECTION

Radar is a device that can detect distance, angle, and the speed of the target by emitting radio waves to the target, then translating the reflected signal back from the target. This research makes a radar prototype by utilizing the SRF05 ultrasonic sensor as a distance detection object, servo motor as a determinant of the angle of the object, and Arduino Uno as input and output commands given to the *hardware* to be used. Measurement data obtained by the system will be processed by processing *software* and displayed on a monitor with a minimum distance of 3 cm and a maximum of 1 m. Measurements are made at an angle of 60 °, 90 °, and 150 ° at the distance of the object changed from 5 cm to 100 cm or top values. And the distance is changed from 100 cm to 5 cm or lower values. The results of distance measurements have an inaccuracy of 1-3 cm or with an average error rate of large diameter objects of 1.23% and small diameter objects of 1.45%.

Keywords: Radar, Ultrasonik Sencor, Servo Motor, Arduino