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RF Controlled Vehicle with Metal Detection

Wrushali Deshmukh[1], Dhananjay Kedare[2], Neelam Jadhav[3], Kirtesh Shinde[4], Prathamesh Dhage[5]
Lecturer, Department of Electronics & Telecommunication[1]
Students, Department of Electronics & Telecommunication[2,3,4,5]
Bharati Vidyapeeth Institute of Technology, Navi Mumbai, Maharashtra, India
wrushali.deshmukh@reddifmail.com, dkedare0000@gmail.com, neelamjadhav337@gmail.com,
kirteshshinde2002@gmail.com, prathameshdhage03@gmail.com

Abstract: *The project is intended to cultivate a robotic vehicle that can sense metals ahead of it on its path similar to detecting land mines. The robot is controlled by a remote using RF technology. It consists of a metal detector circuit interfaced to the control unit that alarms the user behind it about a doubted land mine ahead. For controlling the movement of robot either to forward, backward & right or left commands are sent to the receiver by using push buttons of the transmitter. At the receiving end two motors are interfaced to the microcontroller where they are used for the movement of the vehicle. The RF transmitter acts as a RF remote control that has the advantage of sufficient range (up to 200 meters) with proper antenna, while the receiver decodes before serving it to another microcontroller to drive DC motors via motor driver IC for necessary work. A metal detector circuit is attached on the robot body and its operation is carried out automatically on sensing any metal underneath. The instant the robot senses this metal it produces an alarm sound through buzzer. This is to aware the operator of a probable metal ahead on its path. Further the project can be enhanced by mounting a wireless camera on the robot so that the operator can govern the movement of the robot remotely by observing it on a screen.*

Keywords: Buzzer, Land mines, Microcontroller, Metal Detector circuit, RF Technology.

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