

## Human action sensing smart Vehicle

**Aim:** This project aims at designing control system for a CAR such that the unmanned vehicle is controlled by Human body action using wireless RF communication. In this project the controlling is done depending on the feedback provided by the sensors, which is the part of action detection circuit.

### **Description:**

The project contains different modules such as

- Action detection by body action detect sensor.
- Design of RF circuits for data transfer.

In the object detection module when the micro controller is powered up the motor starts any direction. The sensor is mounted on a human body. When an human action is detected by the body sensor the microcontroller sends the control value to the CAR by RF and the control be activate by stepper motor to all direction.

The Sensor will fix on the human body on Neck and Hand.

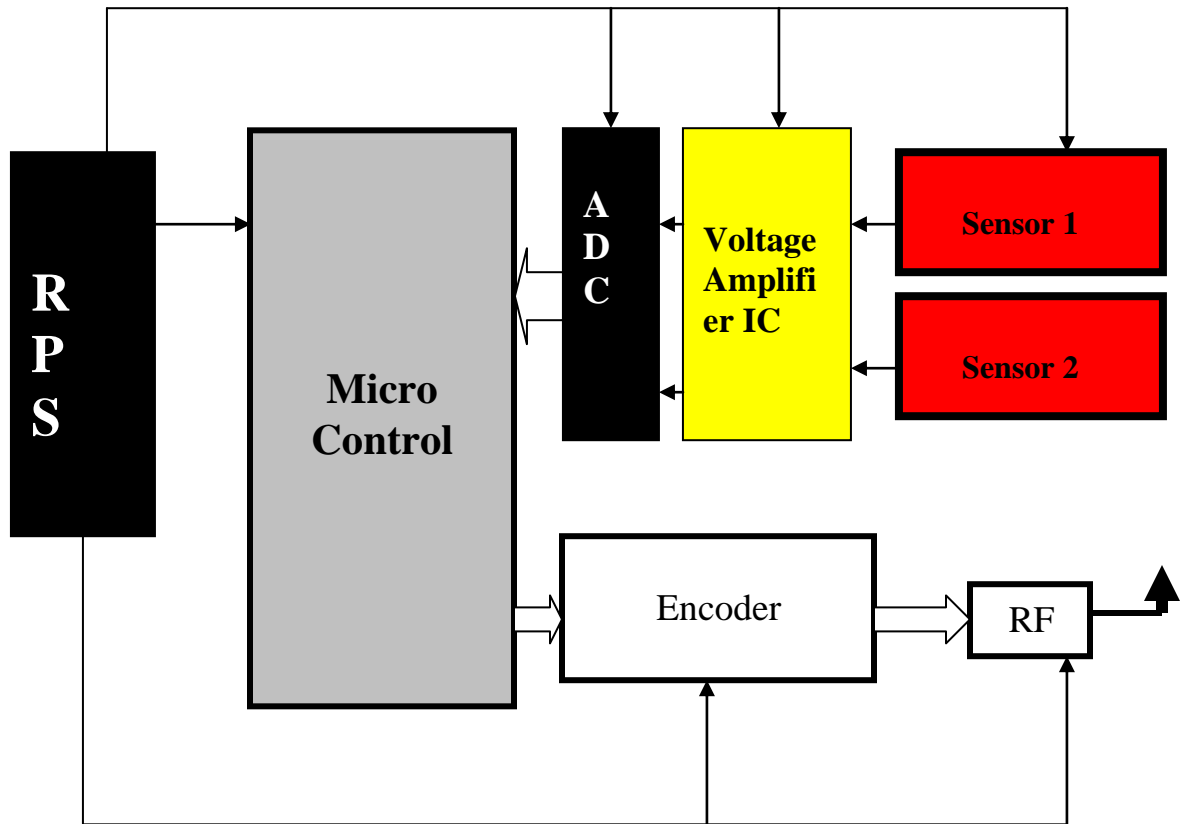
The action to be based on the sensor output.

Human Body Action:

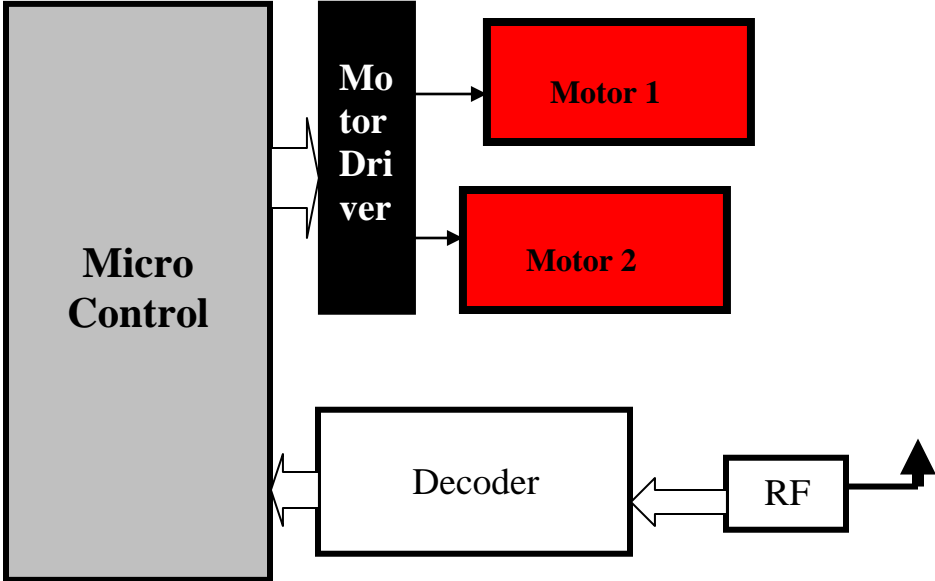
- 1) Forward – Hand in straight position
- 2) Reverse - Hand in 90 degree position
- 3) Stop - Hand in 45 degree position
- 4) Left - Head to turn on left position
- 5) Right – Head to turn on Right position

Depends on the human action the CAR will move and control.

Block Diagram of Human Body Action Reader/ Sensing Unit:



**BLOCK DIAGRAM OF VEHICLE CONTROLLER CIRCUITS:**



Here will store ID number then always will send the ID value through RF TX in 433MHZ frequency.

Start Bit-1	Data – 8 Bit	Stop Bit - 1
-------------	--------------	--------------

**Frame format of RFID**

Application:

- 1) dump
- 2) Industrial Automation

Advantages:

- 1) Moving Object Detection of Enemy and Obstacle.
- 2) Angle Detection
- 3) Speed Control
- 4) RF communication
- 5) Compact Vehicle
- 6) Real Time mode.

Future of this System:

- 1) Path finding and Tracking