**IMPLEMENTATION OF A MINI - SIZE SEARCH ROBOT**

**AIM:**

The main aim of this project is to design and develop a remote controlled mini size search robot.

**PURPOSE:**

The purpose of the project to design a mini size search robot which is novel and could be extremely valuable as a search platform to carry out such tasks as searching some narrow areas of city.

**TRANSMITER SECTION**

**BATTERY**

**RF TX**

**KEYPAD**

**HT12E**

**ENCODER**

**ROBOT SECTION:**

**MICRO CONTROLLER**

**(AT89S52)**

**RF RX**

**LCD DISPLAY**

**BATERRY**

**L293D MOTOR DRIVER**

**MOTORS**

**PIR SENSOR**

**BUZZZER**

**DESCRIPTION:**

In this project we have two sections, control and robot sections. In control section we have keypad and RF transmitter. From control section we can press any key to give the directions and can control the robot section. The information about the direction is transmitted from control section to robot section using RF technology. In robot section we have RF receiver and L293D motor drivers. These motor drives are used to move the robot in different directions. From keypad we can give directions like front, back, left, right and stop. The direction of the robot is displayed on LCD. In robot section we have a PIR SENSOR attached to the robot; this PIR will search of the surroundings of the robot in its direction.

**RF:**

RF is new wireless technology guided by IEEE 802.15.4 Personal Area Network standard. It is primarily designed for the wide range controlling applications and to replace the existing non-standard technologies. It currently operates in 868 MHz band at a data rate of 20Kbps in Europe, 914MHz band at 40kbps in USA, and the 2.4GHz ISM bands Worldwide at a maximum data-rate of 250kbps. It is used to verify whether user’s truncation is possible or not. One of the main advantages of this RF communication is that it provides a noise free communication; the amount of noise added in this type of communication is very less compared to the other wireless communications.

**HARDWARE COMPONENTS**:

1. Micro controller(AT89S52)
2. RF wireless technology
3. Keypad
4. L293D driver motors.
5. LCD
6. PIR sensor

**SOFTWARE COMPONENTS:**

1. Keil uvision
2. Embedded C
3. Express PCB
4. ISP

**RESULT:**

Thus we have developed a mini size search robot which is controlled remotely.