

Wireless RF Controlled LPG Detecting Robot for underground and mining Applications

Technical Specifications:

Title of the project	:	Wireless RF Controlled LPG Detecting Robot for underground and mining Applications
Domain	:	Robotics, Wireless Communication
Software	:	Embedded C, Keil, Proload
Microcontroller	:	AT89S52
Power Supply	:	+5V Regulated Power Supply, 9V battery
Crystal	:	11.0592MHz
Communication Device	:	RF Module
Transmitter	:	STT – 433MHz
Receiver	:	STR – 433MHz
Applications	:	Industries, Process Control, Natural Gas Detection
Developed By	:	M/S Wine Yard Technologies
Phone	:	040-6464 6363, www.WineYardProjects.com

Wireless RF Controlled LPG Detecting Robot for underground and mining Applications

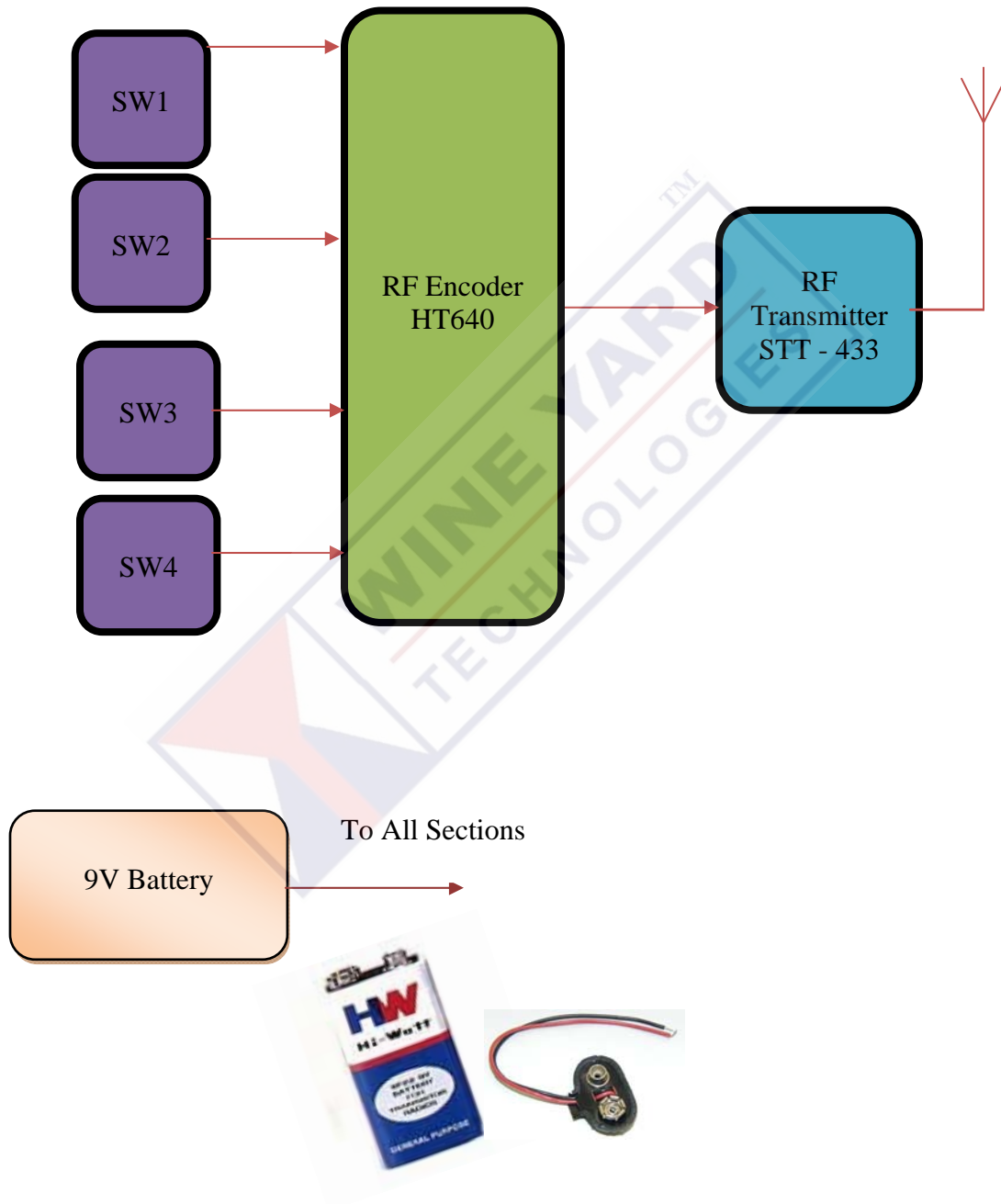
LPG Detecting robots play vital role in Natural Gas and LPG based process industries. This robot is controlled by an RF remote. This can be moved forward and reverse direction using geared motors of 60RPM. Also this robot can take sharp turnings towards left and right directions. This project uses AT89S52 MCU as its controller. A high sensitive LPG detector is designed using LPG sensor and fixed to this robot.

When the robot is moving on a surface, the system produces a beep sound when LPG is detected. For LPG detection we are using LPG Sensor which can able to detect presence of gas and is driven to microcontroller with the help of LPG driver circuit.

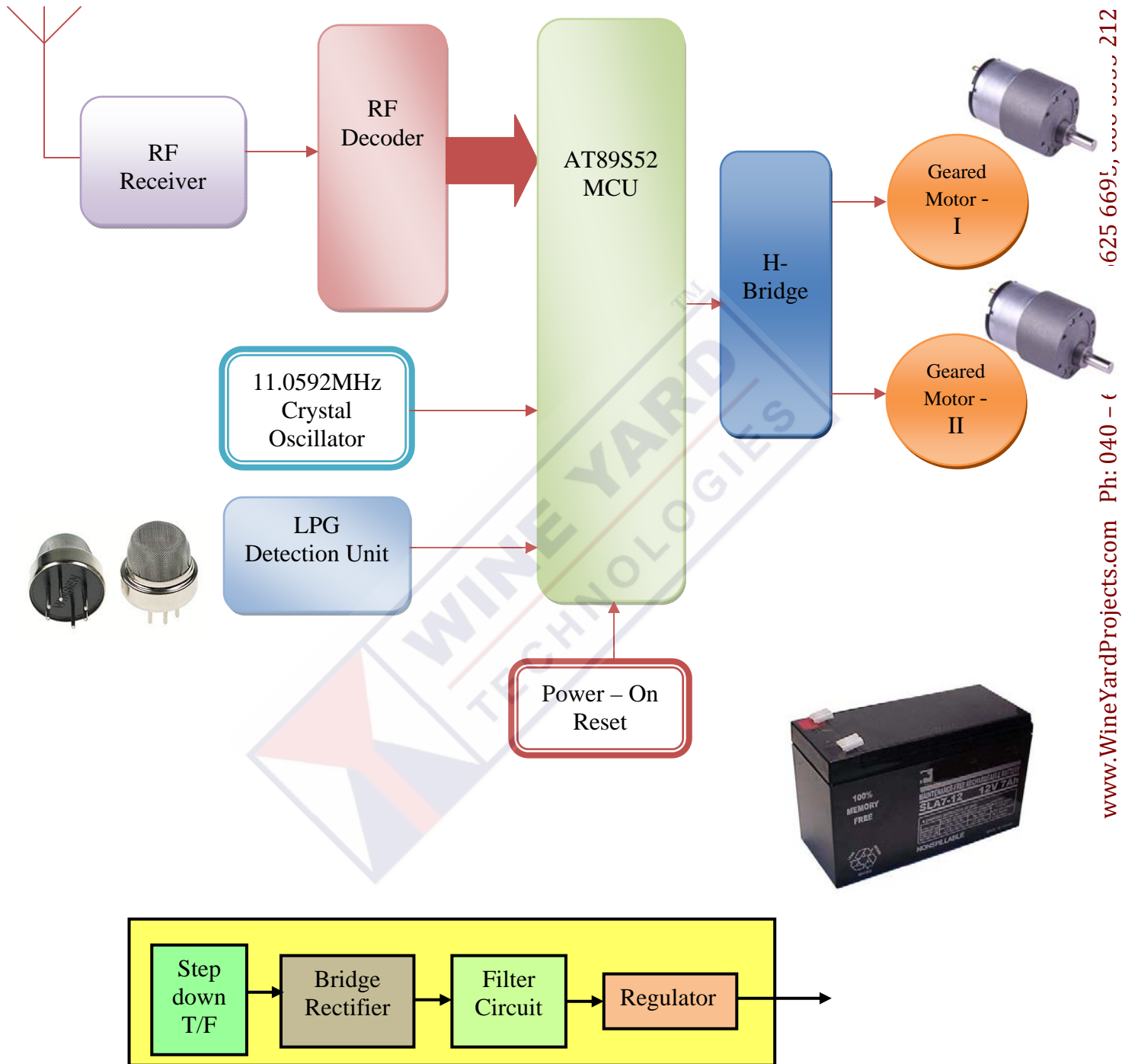
The RF modules used here are STT-433 MHz Transmitter, STR-433 MHz Receiver, HT640 RF Encoder and HT648 RF Decoder. The three switches are interfaced to the RF transmitter through RF Encoder. The encoder continuously reads the status of the switches, passes the data to the RF transmitter and the transmitter transmits the data.

This project uses 9V battery. This project is much useful for mines detection and surveillance applications. It is also using Conventional power supply by using 12 V Lead acid rechargeable battery for 5V regulated power supply for all sections

Block Diagram: Transmitter



Block Diagram: Receiver



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