SUBRAT KUMAR MALLIK

4 channel RF remote

KUMAR DEEP

This FM based remote control circuit used very popular encoder-decoder chips HT12E & HT12D. This ICs are widely used in many remot application. Here two 433Mhz Tx and Rx fm modules are used

Transmitting section

As shown in figure-1 all the address lines A0-A7 (1-9 PINS) are connected to ground. This is done because address lines of both tx and rx should be same. Resistor R1(1k) is connected between oscillator pins (Osc1 & Osc2) to set, transmitter frequency = Receiver Frequency. Micro switches are connected to the data lines through the diodes. The other terminal of all the switches is connected with ground. The TE pin (transmission enable) is also connected to all the switches through four different diodes D5-D8. The Dout pin of HT12E is connected to Din pin of 433.92MHz serial data transmitter. 9V standard battery supplies power to the circuit.

For transmitting you may use a whip antenna (radio antenna) for better operation.

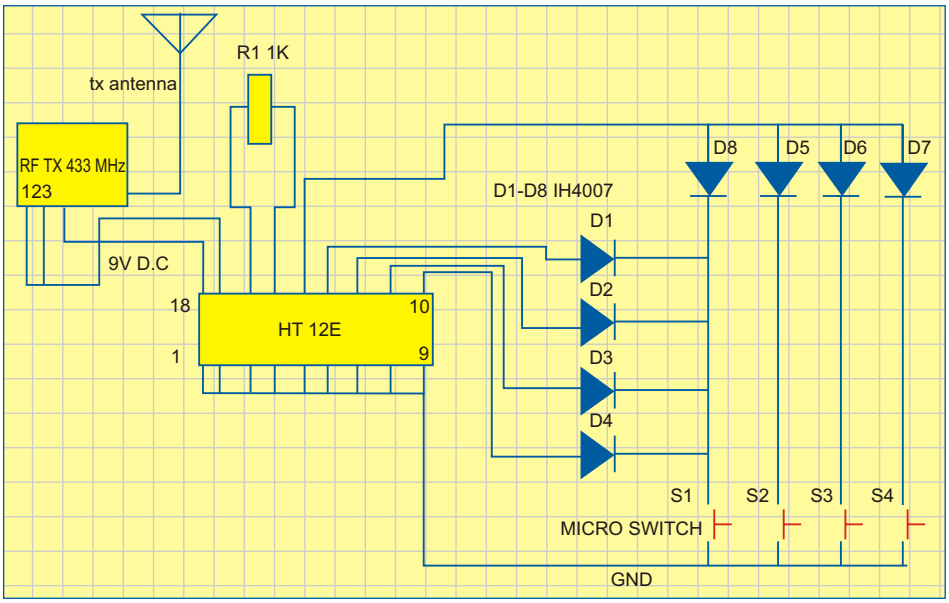

Fig. 1. Tx Circuit diagram

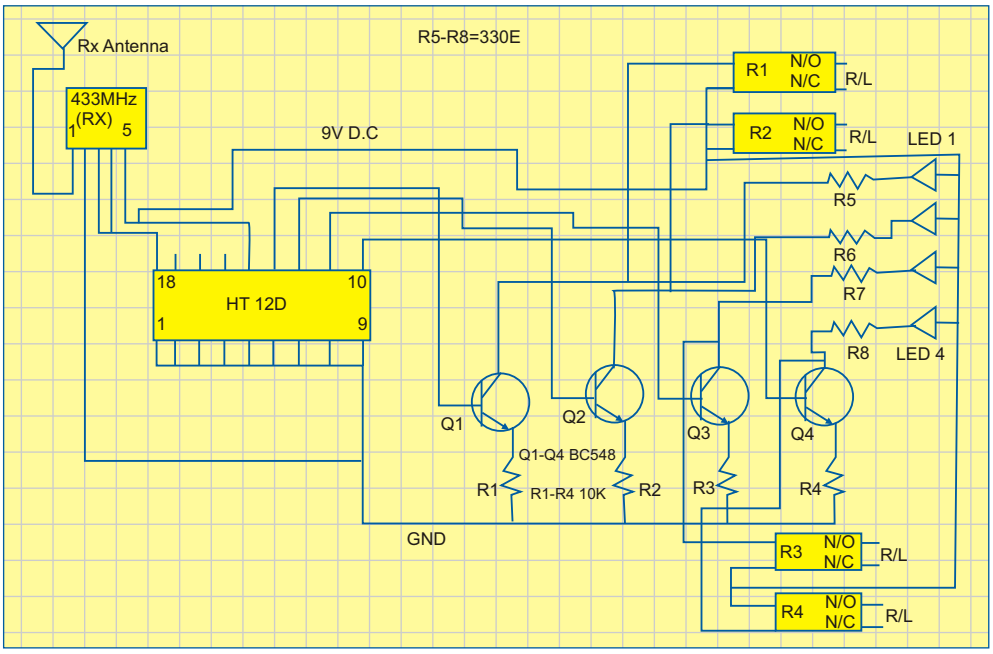

Fig. 2. Rx Circuit diagram

Receiver section

As the fig2 shows all the data line D0-D3 are connected to transistors q1-q4. At the collector pin of the relay and leds has been connected. The out put will be taken from the relay. Leds are used to identity which relay is on position. Here all the address lines are grounded as transmitting section.

When you press any switch the respective data will be transmitted from HT12E .The 433mhz RF module receives the modulated data serially and provides data to HT12D

Suppose you pressed s1, the transmitting data will be 0111. the blue led will active low and r1 will on.