

## CIRCUIT DESCRIPTION

In transmit mode, the RC car is switched so that it is connected to the input of the audio amplifier Q1. Q1 is the oscillator composed of Q2 and Q3, which generates the low reference frequency. This oscillator is the transmitter. The antenna is transformer coupled to the oscillator. In receive Q1 and Q2 are the RF amplifier and the signals pass through Q3, which drives the transformers Q4, Q6 and stop the transformers Q5, Q7. At this stage, the motor moves forward whilst without receiving the signals, Q3 drives transformers Q5, Q7 and stop the transformers Q4, Q6. The motor moves backward.

## ANTENNA AND GROUND CIRCUITRY

This unit makes use of an external flexible xx centimeter long antenna. No external ground is provided. The power is supplied by a 9Volt battery.

### Background

The device described herein is a remote controller, which transmit the signals from the antenna to the receiver connected to the car.

### Typical Operation

The user would simply first turn on the remote controller and the switch on the car. The car would go forward when it receive the signal transmitted from the remote controller. It would go backward when no signal is received.

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### VCO

Voltages control the oscillator so as to modulate and stabilize the output of the frequency. The signal is decoded in the receiver and drives the motor to move.

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### **Frequency Oscillator**

A 27.145 MHz crystal oscillator is used to generate the reference frequency and output from the antenna.

### **Amplifiers**

The signals are amplified and decoded for the two groups of transformers Q4 and Q6, Q5 and Q7 for motion.

### **Antenna**

This is an external antenna used to connect the input and output of the signals for further motion of the motor.

### **Power Supply**

The power is supplied by a 9V battery, which supplies energy to the amplifiers, oscillator and the remote controller.