

Circuit Description

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In transmit mode

When the control key is pressed, A encode signal is transmitted. Q1 and crystal for oscillator, Q3 is rf amp then signal through filter send by antenna. The Q4 is modulation encode signal for rf.

In receive mode

Q1 is rf super-regeneration receiver and output encoded signal to q2 for amplifier, Signal to U1 DECODE then output motor driver signal. U5 is motor driver ic.

Antenna and ground circuitry

This unit make use an external antenna, This antenna is inductively coupled. This unit relies on the ground trace of the printed circuit board. No external ground is provided. energy is supplied by 6pcs aa alkaline battery.

Background

The device described herein a wireless(RF)TOY AEROPLANE CONTROLLER TRANSMITTER For use with the toy aeroplane controlled receiver. It has only one channel of Operation which the user may choose only. And is used to send button-status data from The controller to a wireless receiver connected with motors.

Typical operation

Typical operation would involve the user turning on the unit to the toy game when turned on, The unit comes up on the default channel and transmits a continuously stream data. The user can not, At will. Change to any other of the predefined channel.

Configuration

The transmitted rf circuitry consists of a crystal controlled oscillator, Follow by rf amplifier & filter and antenna. The main characteristics Of this configuration are shown as below:

Frequency ranges	27.145MHZ
Occupied bandwidth(-26db)	<100KHZ MAX
Frequency stability	+/- 20PPM
Modulation method	AM
Output power	80DBuv/m

Reference oscillator

A 27.145MHZ crystal oscillator is used to generate this reference frequency It has a stability of +/-20ppm

Amplifier

This Oscillator is followed by amplifiers. These final output is 80dbuv/m max

Microcontroller

The tx system is controlled by a small microcontroller running with 4mhz +/-5% Oscillator

The rx system is controlled by a small microcontroller running with internal 16mhz Oscillator +/-5%.