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Circuit Description

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In receive mode

Q1 is the untuned amplifier

ic1 is the superheterodyne IC that contains local oscillator, mixer, and IF amplifier, and signal detector
, Signal to ic2 DECODE then output motor driver signal.

IC6 is motor driver IC. IC5 is battery management IC.

Antenna and ground circuitry

This unit makes use of 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 a 3.7V Li-battery.

Background

The device described herein is 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 continuous stream
of data. The user can not, at will, change to any other of the predefined channels.

Configuration

The receiver circuit has included one LC oscillator for reference frequency

Some signal through antenna let out. The main characteristics

Of this configuration are shown as below:

Frequency ranges 49.890MHz

Occupied bandwidth(-26dB) 1MHz MAX

Frequency stability +/- 0.5mhz

Modulation method FM

Output power 80dBuV/m max

Reference oscillator

A 49.435mhz crystal oscillator is used to generate this reference frequency

It has a stability of +/-10ppm

Amplifier

This RF signal needs an amplifier to transmit.

Microcontroller

The rx system is controlled by a small microcontroller running with internal 16mhz

Oscillator +/-5%.