

### Circuit Description

#### In transmit mode

When power on, the control stick moved position value become A encode signal is transmitted. Q1 and crystal for osilator and modulation,Q2 is rf amp,Q3 is rf amp then signal through filter send by antenna.

#### Antenna and grond circuitry

This unit make use an extenal 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 9.6VDC 006P alkaline battery.

#### Background

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

#### Typical opeartion

Typical opeartion would innolve 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 steam 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.Tha main characteristics Of this configuration are shown as below:

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

#### Reference oscillator

A 27.145MHZ crystal oscillator is used to generate ths reference frequency It has a stability of +/-10ppm

#### Amplifier

Ths Oscillator is followed by 2stage amplifiers.These final output is 80dbuv/m max

#### Microcontroller

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

#### Oscillator

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