



Echo Toys Limited
力圖玩具有限公司

Model No: 60-4289 (49.860MHz)

CIRCUIT DESCRIPTION

In transmitter pushing Forward, Backward, Left, Right, Fire, Talk, Record, Send, Play key (IC input pin P1.0, P1.1 P1.2, P2.0, P2.1, P2.2) ,output of IC pin 4 (P3.0) control crystal oscillator's (Q2,X1) power supply, output of IC pin 1 (P3.3) control talk and record function, and output of IC pin 2 (p3.2) drives Q1, Which modulates the crystal 49.860MHz controlled oscillator Q2. Output of Q1 drives the transformer T1.This oscillator is the transmitter. The antenna is coupled to the modulator by the transformer.

In receive T1 turning 49.860MHz frequency And Q1 are RF amplifier and detector stages. U1 is a signal amplifier, U2 is a voice amplifier, U3 is a recorder, U5 is a oscillator (38KHz), and U4 is a decoder, it control receiver signal to output pin. Q2, Q34, Q35 & Q36 are regulator, Q3 converts RF signal to control IC function, Q4 control talk enable, Q5 drives infrared emitting diode, Q6 is a modulator, it controls Q5 output in pulse. Q8 is Gun LED driver, Q9 is Chest LED driver, and Q11 is Eyes LED driver. Q7, Q10, Q13, Q14, Q15, Q16, Q17, Q18, Q38 & Q39 are Left-leg motor driver, Q12, Q19, Q20, Q21, Q22, Q23, Q24, Q37, Q40 & Q41 are Right-leg motor driver, Q25, Q26, Q27, Q28, Q29 & Q30 are Arm motor driver, and Q31, Q32 & Q33 are Gun motor driver.

ANTENNA AND GROUND CIRCUITRY

This unit makes use of an external flexible 17 centimeters long antenna. The antenna is inductively coupled. The unit relies on the ground tract of the printed circuit board. No external ground is provided. Energy is supplied by a 9-volt battery.