



**Echo Toys Limited**  
力圖玩具有限公司

Model No: 60-4286 (27MHZ)

## CIRCUIT DESCRIPTION

In transmitter pushing IC input pin High Speed F and High Speed B, High Speed L High Speed R and High F+Left/Right=Low Speed. High B +Left/Right=Low Speed key, Output of IC pin 6 drives Q5.Q3 Switch Transistor. Use Power Amplifier power supply. Other Q4 is IC Restructure Power Supply Transistor, output of Q1 drives the transformer L1 Which modulates the crystal 27.145Mhz controlled oscillator Q2. This oscillator is the transmitter. The antenna is transformer coupled to the oscillator.

In receive L1 turning 27.145Mhz frequency And Q1 are RF amplifier and detector stages. IC1 is advance signal amplifier, Q3, Q4 is signal drive amplifier, Q5 is shaping. IC2 is decoding, control receiver signal to output pin F, B, L and R. Q9, Q10 and Q17.Q18 to driver Q12, Q13, Q11, Q14 and Q20, Q21, Q19, Q22 become driving the motor. Other Q6 is IC2 Restructure power supply Transistor.

## ANTENNA AND GROUND CIRCUITRY

This unit makes use of an external flexible 21 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.