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Project Name:	Disney Toy Story Radio Control Car (Buzz)
Model No.:	50004
Contact:	Raymond Yuen
Date:	10-May-04
Description:	Introduction

R/C transmitter:

Operation: 3V AA x 2 batteries

Drawing Ref.: Radio Control Vehicle (27.145MHz Transmitter)

U1 (TX2) is a 5 functional remote encoder IC, it's work with transistor Q1, Q2 and other components combined as RF transmitter circuit. The IC Pin 14, 1, 4 and 5 are control left, right, backward, forward and encoding signal output respectively. Data output from Pin 8 and modulate with 27.145MHz oscillator that achieved by Q2, Y1, R4, R6, C6, and L1.

RF power amplifier Q1, L2, C7, R5 is use to enlarge the transmission range, the output frequency through LC filter C3, C4 and L3, to eliminate the harmonic frequency then transmitted signal by aerial A1.

R/C receiver:

Operation: 3V AA x 2 batteries

Drawing Ref.: Radio Control Vehicle (27.145MHz Receiver)

Superregenerative receiver use a special type of detector, in a straight regenerative circuit, the input signal couples to the detector, and some of the output signal is fed back to its input, in phase. This repeatedly amplifies the input signal. The result is very high gain in a single stage.

Q1 provides RF gain and helps prevent the receiver from radiating its signal out the antenna. The data signal obtained by detector then couples to RX2 (U1) pin 14 through the LPF circuit (R10, C10). The IC provides two high effective amplifiers and enhances signal input recognition capacity to enhance remote control distance. The signal input to the decoding circuit by pin3 and then the latch circuit separates the function to pin 6, 7, 10, 11 to driving the motor circuits.