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FLAT A-C, 21/F., CHEUNG HING SHING CENTRE,

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<b>Project Name:</b>	RC Vehicle
<b>Model No.:</b>	3301 - 3310
<b>Contact:</b>	Raymond Yuen
<b>Date:</b>	21-Aug-03
<b>Description:</b>	Introduction

#### R/C transmitter:

Operation: 9V battery

Drawing Ref.: RC Vehicle - TX

U1 (TX2) is a 5 functional remote encoder IC, with transistor Q1, Q2 and other components combined as RF transmitter circuit. The IC Pin 14, 1, 4 and 5 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, R3, C2, and L1.

RF power amplifier Q1, L2, C3, C4, R8 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: 6V AA Size battery

Drawing Ref.: RC Vehicle - RX

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 (R19, C17). 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 order the motors circuit.



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### Specification of RC Vehicle

<b>Model No:</b>	3301 - 3310		
<b>Description:</b>	(Front, Back, Left, Right, Stop) Full function radio control car		
<b>Radio Freq.:</b>	27.145MHz $\pm$ 30PPM at 25°C		
<b>Control Range:</b>	Over 10m control radius from R/C transmitter at open site		
<b>Power Supply</b>	Transmitter:	9V (6F22 battery)	
	Receiver:	6V (R6P/ SIZE AA x 4 battery)	
<b>Min. operation voltage:</b>	Transmitter:	7.2V	
	Receiver:	4.8V	
<b>Power consumption:</b>	Transmitter:	Standby-	170mW approx.
		Operating-	260mW approx.
	Receiver:	Standby-	280mW approx.
		Operating-	12W approx.